Financial constraints and employee satisfaction

Financial Constraints and Employee Satisfaction

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Abstract

Using over 120,000 employee reviews collected by Glassdoor between 2008 and 2015, we investigate whether firm financial constraints reduce employee satisfaction. We find that employee satisfaction is substantially lower in financially constrained firms. Decomposing employee ratings, we find that firm financial constraints are associated with employees' concerns regarding work-life balance, senior leadership, and career progression. Our study implies that employee satisfaction could be an important channel through which financial constraints reduce firm value.

JEL classification: G3, J2

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1. Introduction

Employees constitute a key element of the human capital assets of a firm and their satisfaction is a primary driver of firm value (Edmans, 2011; Green et al., 2019). Satisfied employees are more motivated, productive and loyal, which in turn, improves firm performance (Edmans, 2012). It is thus essential for firms to ensure the wellbeing of employees and the satisfaction of their work lives.

Maintaining employee satisfaction could, however, depend on a firm's access to finance. Financially constrained firms with limited access to external financing could see a reduction in investment in employee-friendly human resource policies and a deteriorating workplace culture, leading to worse employee satisfaction (Cohn and Wardlaw, 2016). For instance, employees may be forced to work overtime and lose on-the-job perks, face increasing pressure from their superiors resulting in lower morale and confidence, and have uncertain career progression. We thus hypothesize that financial constraints have a negative impact on employee satisfaction.

Using various proxies and empirical strategies to capture firm financial constraints, we find that financial constraints are associated with lower employee satisfaction. Further analysis reveals that lower satisfaction is driven by decreasing employee assessments of *Work-life Balance*, lower confidence in *Senior Leadership* and worse *Career Opportunity*. Consequently, less satisfied employees are less likely to *Recommend* the firm in the labor market, leading to challenges in the recruitment of talent.

This is the first study that examines the effect of firm financial constraints on employee satisfaction at the individual level. Our contributions are twofold. First, we contribute to the emerging literature on the real effects of financial constraints. Cohn and Wardlaw (2016) document that financial constraints increase workplace injuries, while our study shows that

financial constraints can have a much broader impact on employee wellbeing. Second, our study is related to the increasing literature on corporate culture (e.g. Guiso et al., 2015). We show that certain dimensions of corporate culture, such as work-life balance, are sensitive to changes in financial constraints.

An important implication of this study is that under-investment in intangible assets (e.g., employee satisfaction) can be a channel through which financial constraints reduce firm value, particularly in the long run. Our results caution against reducing investments in intangible assets when financing is tight. Moreover, given the importance of employee satisfaction for firm performance, our results imply that firms should be prudent in their financing choice. Maintaining financial slack (i.e. spare debt capacity and cash reserve) could play an important role in sustaining employee satisfaction.

2. Data and Empirical Model

Glassdoor is an employee review website where employees can anonymously assess their company on various aspects such as overall satisfaction, work-life balance, senior leadership, career opportunities, and recommend.[1] We merge employee level Glassdoor reviews, which include employee characteristics, to U.S. public firms listed on the NYSE, NASDAQ, and AMEX for the period 2008-2015. Firm financial data is from Compustat. Following Hales et al. (2018) we exclude reviews from former employees and firms with less than 50 reviews over the sample period. Our final sample comprises 848 firms with 120,610 employee reviews.

Our baseline model of the relation between financial constraints (FC) and employee satisfaction is as follows:

[1] The definitions of Glassdoor variables are presented in the Appendix.

$$Employee\ Satisfaction_{ijt} = \alpha + \beta_1 FC_{jt} + \boldsymbol{X}'_{ijt}\Phi + \varepsilon_{ijt} \quad (1)$$

where *i* denotes individual review, *j* denotes the firm, and *t* denotes the fiscal year respectively. $Employee\ Satisfaction_{ijt}$ is the *Overall Rating* expressed in individual reviews. FC_{jt} is measured using the WW index (Whited and Wu, 2006) and text-based measures of financing constraints in the equity and debt markets (Hoberg and Maksimovic, 2014). We also examine the moderating effect of exogenous state-level corporate tax increases (that increases a firm's demand for debt) on constrained firms (Heider and Ljungqvist, 2015).[2] $\boldsymbol{X}$ are firm and employee characteristics. Firm and year fixed effects are included. This eliminates any systematic firm or year unobservable factors that could bias our results such as corporate culture.

3. Results

3.1 Descriptive Statistics

Table 1 Panel A reports summary statistics of employee reviews. The mean of *Overall Rating* is 3.440, while other sub-category ratings vary. T-tests of means reveal that constrained firms have substantially lower overall and sub-category ratings than unconstrained firms.[3] The rows (columns) in Panel B report the average number of reviews per firm for various percentiles of the distribution in a year (across the years). As observed, there exists substantial variation both within, and across, firms on a year-to-year basis.

[2] Refer to the Supplementary Appendix (SA) for a discussion of the various common measures, and additional results for financial constraints.
[3] Unconstrained and constrained firms are defined as the top and bottom terciles of the WW index.

Table 1: Descriptive Statistics

Panel A	# of Reviews	Mean	SD	Unconstrained	Constrained	Difference
Overall Rating	120,610	3.440	1.162	3.586	3.294	0.292***
Work-life Balance	113,465	3.413	1.236	3.632	3.176	0.456***
Senior Leadership	112,832	3.038	1.275	3.153	2.931	0.222***
Career Opportunity	113,660	3.254	1.207	3.358	3.157	0.201***
Recommend	101,857	1.680	0.467	1.740	1.618	0.122***

Panel B: avg. # reviews per firm for the nth percentile	5%	25%	50%	75%	95%
2008	1	4	7	12.5	40
2009	9	13	22	40	106
2010	8	13	19	44	147
2011	2	5	8	14	49
2012	8	14	25.5	48	182
2013	11	21	31	61	237
2014	14	25	37	72	316
2015	9	16	26	47.5	228

3.2 Regression Analysis

Table 2 shows the estimation results of equation (1). The dependent variable is *Overall Rating*. Columns (1)-(2) examine the relation between overall rating and financial constraints measured by the WW index with different combinations of firm and employee level controls. Columns (3)-(4) employ text-based measures that separately capture financial constraints in the equity and debt market. Finally, in Column (5), we interact state-level corporate tax increases with the WW index. A negative sign on the interaction term *FC*Tax Shock* suggests that constrained firms become more constrained in periods when raising debt is optimal (following tax increases when the marginal benefit of using debt increases). Throughout all the analysis, we show that the financial constraints of a firm have adverse effects on employee satisfaction levels. [4, 5]

[4] We also employ the ordered probit estimator, and obtain consistent results.

[5] We also investigate the individual components of the WW index on our findings. Refer to the SA for results and discussions.

Specifically, a one-standard-deviation increase of financial constraints measured by the WW index, decreases employee satisfaction by 3.3% relative to the mean.

Table 2: Financial Constraints and Employee Overall Rating

Dependent Variable:	Overall Rating				
	WW Index	WW Index	Equity Constraints	Debt Constraints	Tax Shock* WW Index
	(1)	(2)	(3)	(4)	(5)
FC	**-1.350*** **	**-1.330*** **	**-0.732** **	**-0.596*** **	**-1.431*** **
	(-3.43)	**(-3.50)**	**(-2.26)**	**(-2.68)**	**(-2.85)**
FC*Tax Shock					**-0.288*** **
					(-2.88)
Tax Shock					-0.002
					(-0.04)
Employee Educ.		0.057***	0.059***	0.059***	0.023
		(4.44)	(3.53)	(3.53)	(1.35)
Employee Age		-0.011***	-0.010***	-0.010***	-0.011***
		(-11.01)	(-7.92)	(-7.87)	(-9.12)
ROA	0.069	0.056	-0.017	-0.033	-0.329
	(0.34)	(0.29)	(-0.06)	(-0.13)	(-0.98)
Size	0.032	0.035	0.122	0.146*	0.102
	(0.51)	(0.56)	(1.47)	(1.80)	(1.07)
Leverage	0.003	-0.000	-0.089	-0.070	0.144
	(0.03)	(-0.00)	(-0.65)	(-0.48)	(0.94)
Market-to-Book	-0.001	-0.001	-0.002	-0.001	-0.001
	(-0.44)	(-0.52)	(-0.89)	(-0.45)	(-0.43)
Firm & Year FE	Yes	Yes	Yes	Yes	Yes
N	120,610	120,610	77,129	77,129	67,956
R-sq	0.014	0.022	0.022	0.022	0.030

Note: Firm-clustered SEs in parentheses, ***p<0.01, **p<0.05, *p<0.1. FC is the abbreviation of Financial Constraints.

In Table 3 we analyze the relationships between sub-category ratings and financial constraints (measured by the WW index). Employees in constrained firms report a deteriorating *Work-life Balance*, worse assessments of *Senior Leadership* and a less optimistic view of *Career*

Opportunity. Consequently, these employees are less likely to *Recommend* their firm in the labor market, impeding the recruitment of talent.[6]

Table 3: Financial Constraints and Employee Sub-Ratings

Dependent Variable:	Sub-category Ratings			
	Work-life Balance	Senior Leadership	Career Opportunity	Recommend
	(1)	(2)	(3)	(4)
FC	**-0.903*** **	**-1.073*** **	**-1.357*** **	**-0.315* **
	(-2.80)	**(-2.73)**	**(-3.60)**	**(-1.73)**
Controls	Yes	Yes	Yes	Yes
Firm & Year FE	Yes	Yes	Yes	Yes
N	113,465	112,832	113,660	101,857
R-sq	0.014	0.014	0.016	0.020

Note: Firm-clustered SEs in parentheses, ***p<0.01, **p<0.05, *p<0.1. FC is the abbreviation of Financial Constraints measured by WW index.

4. Conclusions

Using over 120,000 employee reviews from Glassdoor for the period 2008-2015, we find employees in financially constrained firms report lower satisfaction levels. Lower satisfaction levels are driven by decreasing assessments of work-life balance, senior leadership and career progression. Our findings caution against "squeezing" employees when financial resources are tight given the importance of intangible assets (i.e., employee satisfaction) for firm value.

[6] To alleviate concerns of over/under-sampling due to the distribution of employee reviews, we also use weighted least squares (by the # of reviews per firm), exclude the top/bottom 5 and 10 firms with the most/least reviews in the SA and find similar results.

Appendix: Variable Definitions

Employee Satisfaction Ratings	
Overall Rating	Employee's overall rating of employer ranked on a five-point scale, with 5 being very satisfied.
Work-life Balance	Employee's assessment of work-life balance ranked on a five-point scale, with 5 being very satisfied.
Senior Leadership	Employee's assessment of employer's senior leadership ranked on a five-point scale, with 5 being very satisfied.
Career Opportunity	Employee's assessment of the opportunities for career advancement ranked on a five-point scale, with 5 being very satisfied.
Recommend	Recommend this employer to a friend? (No=1, Yes=2)
Financial Constraints	
WW index	–0.091 [(*ib* + *dp*)/*at*] – 0.062[indicator set to one if *dvc* + *dvp* is positive] + 0.021[*dltt/at*] – 0.044[log(*at*)] + 0.102[average industry sales growth] – 0.035[sales growth] (see Whited and Wu (2006))
Equity Constraints	Text-based measure of equity financing constraints (Hoberg and Maksimovic, 2014).
Debt Constraints	Text-based measure of debt financing constraints (Hoberg and Maksimovic, 2014).
Tax Shock	Tax shock dummy equals one if a state experiences a corporate tax increase in a fiscal year (see Heider and Ljungqvist (2015) for more details).
Controls	
Leverage	Total debt divided by assets
Size	Natural logarithm of sales
ROA	Net Income divided by sales
Market-to-Book	Market value of equity divided by book value of equity
Employee Educ.	Equals one if the highest degree of employee is over bachelor
Employee Age	Age of employee

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Supplementary Appendix

Financial Constraints and Employee Satisfaction

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This appendix contains information and tabulated results of additional tests from: Financial Constraints and Employee Satisfaction

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1. Weighted Least Squares Regression

To alleviate concerns of over/under-sampling due to the distribution of employee reviews, we replicate our main results (Tables 2-3) using a Weighted Least Squares regression: weighting the regression by the number of reviews per firm scaled by total reviews. The results are consistent with the findings displayed in the paper.

Table SA.1: Financial Constraints and Employee Overall Rating

Dependent Variable:	Overall Rating				
	WW Index	WW Index	Equity Constraints	Debt Constraints	Tax Shock* WW Index
	(1)	(2)	(3)	(4)	(5)
FC	**-0.997*** **	**-1.428*** **	**-0.206** **	**-1.060*** **	**-0.817*** **
	(-7.02)	**(-10.00)**	**(-1.99)**	**(-9.31)**	**(-4.43)**
FC*Tax Shock					**-0.322*** **
					(-3.00)
Tax Shock					-0.103***
					(-2.94)
Employee Educ.		0.096***	0.057***	0.047***	0.039**
		(7.03)	(3.42)	(2.83)	(2.30)
Employee Age		-0.012***	-0.012***	-0.013***	-0.012***
		(-22.55)	(-19.96)	(-20.22)	(-18.28)
ROA	0.424***	0.255***	0.560***	0.462***	0.252***
	(5.44)	(3.30)	(5.49)	(4.59)	(2.60)
Size	-0.072***	-0.083***	-0.012***	-0.013***	-0.054***
	(-9.25)	(-10.56)	(-2.74)	(-2.90)	(-5.36)
Leverage	-0.908***	-0.891***	-0.452***	-0.404***	-0.740***
	(-28.05)	(-27.66)	(-11.72)	(-10.49)	(-16.90)
Market-to-Book	0.006***	0.007***	-0.004***	-0.003**	0.007***
	(6.98)	(7.83)	(-3.10)	(-2.14)	(4.78)
Firm Fixed Effect	No	No	No	No	No
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes
N	120,610	120,610	77,129	77,129	67,956
R-sq	0.037	0.048	0.048	0.049	0.058

Note: Firm-clustered SEs in parentheses, ***p<0.01, **p<0.05, *p<0.1. FC is the abbreviation of Financial Constraints.

Table SA.2: Financial Constraints and Employee Sub-Ratings

Dependent Variable:	Sub-category Ratings			
	Work-life Balance	Senior Leadership	Career Opportunity	Recommend
	(1)	(2)	(3)	(4)
FC	**-5.627*** **	**-0.753*** **	**-1.105*** **	**-0.454*** **
	(-35.03)	**(-4.56)**	**(-7.14)**	**(-6.88)**
Controls	Yes	Yes	Yes	Yes
Firm Fixed Effect	No	No	No	No
Year Fixed Effect	Yes	Yes	Yes	Yes
N	113,465	112,832	113,660	101,857
R-sq	0.035	0.028	0.033	0.047

Note: Firm-clustered SEs in parentheses, ***p<0.01, **p<0.05, *p<0.1. FC is the abbreviation of Financial Constraints measured by WW index.

2. Robustness Check: Excluding firms with extremely large and small numbers of reviews

We exclude the top/bottom ten firms with the largest/smallest numbers of reviews. The results are qualitatively similar. The results are also similar if we exclude the top/bottom five firms.

Table SA.3: Financial Constraints and Employee Overall Rating

Dependent Variable:	Overall Rating				
	WW Index	WW Index	Equity Constraints	Debt Constraints	Tax Shock* WW Index
	(1)	(2)	(3)	(4)	(5)
FC	**-1.410*** **	**-1.394*** **	**-0.921** **	**-0.481***	**-1.426** **
	(-3.02)	**(-3.09)**	**(-2.39)**	**(-1.74)**	**(-2.56)**
FC*Tax Shock					**-0.298*** **
					(-2.97)
Tax Shock					-0.001
					(-0.02)
Employee Educ.		0.050***	0.054***	0.054***	0.020
		(3.43)	(2.80)	(2.76)	(1.04)
Employee Age		-0.011***	-0.010***	-0.010***	-0.010***
		(-8.82)	(-6.21)	(-6.15)	(-7.45)
ROA	-0.102	-0.115	-0.282	-0.280	-0.422
	(-0.39)	(-0.46)	(-0.79)	(-0.86)	(-1.06)
Size	0.054	0.059	0.153	0.178*	0.123
	(0.69)	(0.77)	(1.40)	(1.66)	(1.13)
Leverage	-0.016	-0.022	-0.171	-0.139	0.078
	(-0.13)	(-0.17)	(-1.05)	(-0.79)	(0.46)
Market-to-Book	0.000	0.000	-0.001	-0.000	-0.002
	(0.09)	(0.06)	(-0.60)	(-0.07)	(-0.64)
Firm Fixed Effect	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes
N	95,496	95,496	59,379	59,379	55,713
R-sq	0.015	0.024	0.023	0.023	0.031

Note: Firm-clustered SEs in parentheses, ***p<0.01, **p<0.05, *p<0.1. FC is the abbreviation of Financial Constraints.

Table SA.4: Financial Constraints and Employee Sub-Ratings

Dependent Variable:	Sub-category Ratings			
	Work-life Balance	Senior Leadership	Career Opportunity	Recommend
	(1)	(2)	(3)	(4)
FC	**-1.213*** **	**-1.179** **	**-1.451*** **	**-0.391***
	(-3.14)	**(-2.54)**	**(-3.21)**	**(-1.76)**
Controls	Yes	Yes	Yes	Yes
Firm Fixed Effect	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes
N	89,817	89,325	89,975	80,321
R-sq	0.014	0.013	0.017	0.018

Note: Firm-clustered SEs in parentheses, ***p<0.01, **p<0.05, *p<0.1. FC is the abbreviation of Financial Constraints measured by WW index.

3. Other Financial Constraint Measures and Employee Ratings

In our paper we use the WW index as the main "accounting based" measure of financial constraints because it has several important advantages. First, the WW index is constructed using a structural model and thus avoids sample selection, simultaneity and measurement-error issues that are common in linear based models such as the KZ (Kaplan and Zingales, 1997) index (Whited and Wu, 2006). Second, the WW index appears to have the benefit of more accurately identifying firm characteristics that are correlated with financial constraints as compared to the KZ index. Specifically, Whited and Wu (2006) show that firms that are classified as constrained by the WW index are firms we would expect to have difficult access to external finance: firms that hold more cash (to facilitate investment) and firms that belong to high sales growth industries but have low firm sales growth (face more competitive pressure on their cash inflow). In contrast, the KZ index classifies firms as constrained when they are larger (when we would in fact expect them to be smaller because size should be positively related to the ease of raising external capital), have low cash holdings (when we should expect firms that have difficulty in raising funds to hold more precautionary cash) and firms that have high sales growth operating in industries with low sales growth. Third, due to its construction, the WW index has "sufficient" time-series variation (compared with the HP (Hadlock and Pierce, 2010) index) that we can exploit even when we include firm fixed effects.

We use the KZ index and the HP index as alternative measures of financial constraints in Tables SA.5 and SA.6, respectively. The coefficients on these two measures are insignificant, except in Column (2) in Table SA.5 where the KZ index has a significantly negative impact on Work-life Balance at the 5% level. The weak results based on the KZ index can be attributed to its limitations as discussed in the recent literature. The literature (Whited and Wu, 2006; Hadlock and Piece, 2010; Farre-Mensa and Ljunqvist, 2015) suggests that while the KZ measure is a useful starting point in pioneering the literature on financial constraints, it does seem to face some difficulties in accurately portraying constrained firms. For example, Whited and Wu (2006) show that the KZ index fails to accurately identify firm characteristics that are expected to be correlated with financial constraints. Hadlock and Pierce (2010) and Farre-Mensa and Ljunqvist (2015) also point out that the KZ index is an "outlier" (in terms of correlation) to common measures of financial constraints (such as the WW index). The insignificant results based on the HP index is not surprising due to the fact that the index relies on firm age and size, both of which are relatively time-invariant and would, therefore, be absorbed by firm fixed effects.

Table SA.5: KZ Index and Employee Ratings

	Overall Rating	Work-life Balance	Senior Leadership	Career Opportunity	Recommend
	(1)	(2)	(3)	(4)	(5)
KZ index	-0.0004	-0.0024**	0.0000	-0.0009	0.0007
	(-0.41)	(-2.08)	(0.02)	(-0.80)	(1.60)
Employee Educ.	0.0490***	0.0738***	0.0966***	0.0206	0.0256***
	(3.77)	(3.93)	(6.40)	(1.24)	(4.30)
Employee Age	-0.0109***	-0.0133***	-0.0130***	-0.0117***	-0.0046***
	(-10.53)	(-12.92)	(-12.23)	(-12.33)	(-9.32)
ROA	0.1561	-0.1583	0.4299**	0.1864	0.1238
	(0.78)	(-1.12)	(2.44)	(0.99)	(1.40)
Size	0.0903	0.1416***	0.0884	0.1433**	0.0262

	(1.38)	(2.58)	(1.33)	(2.38)	(0.84)
Leverage	-0.0114	-0.1493	-0.0558	0.0134	0.0350
	(-0.09)	(-1.08)	(-0.41)	(0.10)	(0.64)
Market-to-Book	-0.0015	-0.0011	-0.0003	-0.0007	-0.0006
	(-0.98)	(-0.94)	(-0.18)	(-0.39)	(-0.79)
Firm Fixed Effect	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes
N	111,143	104,537	103,946	104,724	93,744
R-sq	0.023	0.015	0.014	0.016	0.019

Note: Firm-clustered SEs in parentheses, ***p<0.01, **p<0.05, *p<0.1. KZ index is defined as –1.001909[(ib + dp)/lagged ppent] + 0.2826389[(at + prcc_f×csho - ceq - txdb)/at] + 3.139193[(dltt + dlc)/(dltt + dlc + seq)] – 39.3678[(dvc +dvp)/lagged ppent] – 1.314759[che/lagged ppent].

Table SA.6: HP Index and Employee Ratings

	Overall Rating	Work-life Balance	Senior Leadership	Career Opportunity	Recommend
	(1)	(2)	(3)	(4)	(5)
HP index	-0.0607	-0.3216	-0.3194	-0.1745	0.0723
	(-0.19)	(-1.32)	(-1.10)	(-0.61)	(0.48)
Employee Educ.	0.0569***	0.0762***	0.1000***	0.0263	0.0287***
	(4.43)	(4.22)	(6.88)	(1.63)	(4.99)
Employee Age	-0.0108***	-0.0131***	-0.0130***	-0.0116***	-0.0046***
	(-11.07)	(-13.38)	(-12.93)	(-12.72)	(-9.85)
ROA	0.1712	-0.0984	0.4191***	0.1690	0.1116
	(0.91)	(-0.75)	(2.58)	(0.98)	(1.30)
Size	0.0804	0.0619	0.0382	0.1237**	0.0370
	(1.39)	(1.12)	(0.62)	(2.11)	(1.52)
Leverage	0.0006	-0.1141	-0.0987	0.0009	0.0278
	(0.01)	(-0.93)	(-0.79)	(0.01)	(0.57)
Market-to-Book	-0.0006	-0.0004	0.0003	0.0001	-0.0005
	(-0.45)	(-0.39)	(0.18)	(0.05)	(-0.69)
Firm Fixed Effect	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes
N	120,610	113,465	112,832	113,660	101,857
R-sq	0.022	0.014	0.014	0.016	0.019

Note: Firm-clustered SEs in parentheses, ***p<0.01, **p<0.05, *p<0.1. HP index is defined as ($-0.737\text{Size} + 0.043\text{Size}^2 - 0.040\text{Age}$), where Size is the log of inflation-adjusted Compustat item at, and Age is the number of years the firm is listed with a non-missing stock price on Compustat.

4. The Individual Components of the WW Index

We decompose the WW index into individual components and test which components are relevant in determining employee satisfaction in Table SA.7.[7] As observed in Column (1), where we include all our controls as per the paper, we find that the economic and statistical significance on the individual WW components are quite different from the specification in Column (2), where we do not include firm controls. This is not surprising as some of the individual components are highly correlated with the firm controls we include. For instance, WW1 (cash flow) is highly correlated with ROA, while WW4 (total assets) is highly correlated with our Size variable. Therefore, in this analysis on the individual components of WW, we prefer to rely on the specification in Column (2) that does not include firm controls.

As observed in Columns (2), (4) and (7), we find that WW2 (dividend dummy) and WW5 (industry sales growth) appear to be the components of the WW index that are driving our results. The cessation of dividend payments appears to be significantly related to a decrease in employee ratings (Columns 2 and 4). This is unsurprising as cutting dividends can be seen as a negative signal to the future prospects of the firm and managers would be reluctant to do so if the firm is not financially constrained (e.g., Leary and Michaely, 2011). Therefore, the cutting of dividends appears to be a particularly significant predictor of the financial constraints that influence employees' satisfaction levels. Indeed, dividend payment has been used as a proxy for financial constraints in the prior literature (e.g., Campello et al., 2010; Farre-Mensa and Ljungqvist, 2015).

For WW5 (industry sales growth), we find that higher industry growth is related to lower employee satisfaction. One reason for this is that firms could be pushing their employees harder to remain competitive in a fast-growing industry, leading to lower satisfaction levels. This result is also interesting because in both the KZ and HP measures there are no components that directly incorporate the effect of industry growth on financial constraints. Subsequently, this could also be one key reason why employee satisfaction levels are driven by the WW index but not by the KZ and HP indices.

Table SA.7: Individual Components of the WW Index and Employee Overall Rating

	Overall Rating							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
WW1	27.892***	-1.088	-1.351					
	(3.04)	(-0.52)	(-0.66)					
WW2	-1.362**	-1.308**		-1.305**				
	(-2.16)	(-2.09)		(-2.00)				
WW3	-19.077*	-4.576			-3.751			
	(-1.74)	(-0.93)			(-0.74)			
WW4	1.997*	-0.951				-0.945		
	(1.70)	(-0.95)				(-1.00)		
WW5	-2.025***	-1.920**					-1.738**	
	(-2.64)	(-2.50)					(-2.23)	
WW6	-1.745	-2.471						-1.689
	(-1.11)	(-1.59)						(-1.04)
Employee Educ.	0.057***	0.057***	0.057***	0.057***	0.057***	0.057***	0.057***	0.057***
	(4.43)	(4.40)	(4.39)	(4.43)	(4.39)	(4.41)	(4.39)	(4.38)
Employee Age	-0.011***	-0.011***	-0.011***	-0.011***	-0.011***	-0.011***	-0.011***	-0.011***

[7] We thank the anonymous reviewer for this suggestion.

	(-11.04)	(-11.09)	(-11.05)	(-11.07)	(-11.08)	(-11.08)	(-11.14)	(-11.06)
ROA	2.620***							
	(3.03)							
Size	0.180**							
	(2.36)							
Leverage	0.398*							
	(1.72)							
Market-to-Book	-0.001							
	(-0.60)							
Firm Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: WW1 is cash flow to asset (–0.091*[(ib + dp)/at]), WW2 is an indicator that equals to one if the firm pays cash dividends (– 0.062[indicator set to one if *dvc + dvp* is positive, and zero otherwise]), WW3 is long term debt to asset (0.021*[*dltt/at*]), WW4 is firm size (– 0.044*[log(*at*)]), WW5 is industry sales growth (0.102*[average industry sales growth, estimated separately for each SIC3 industry and each year]), and WW6 is firm sales growth (– 0.035*[*sales growth*]).