



# Sharing is Caring: Employee Stock Ownership Plans and Employee Satisfaction in U.S. Manufacturing

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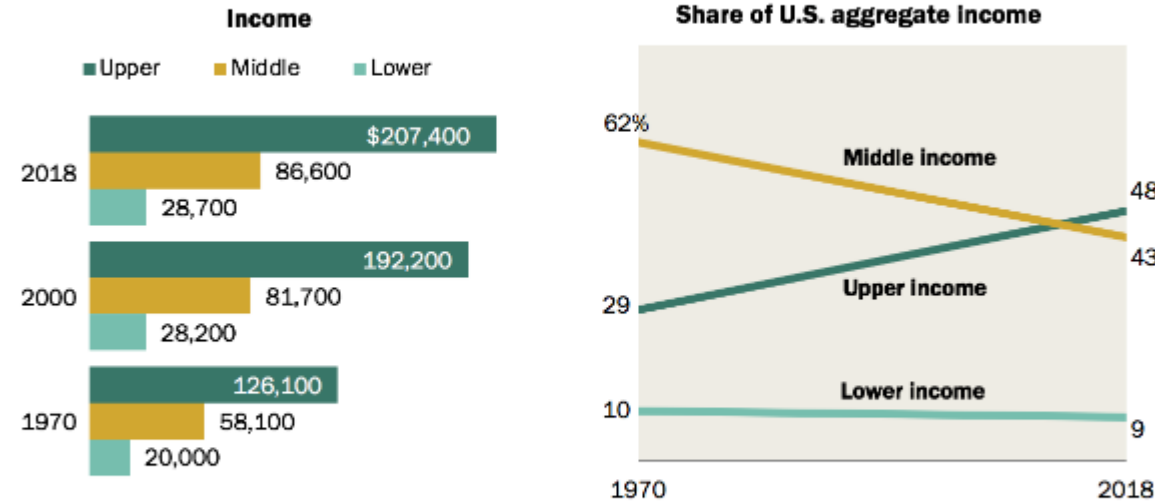
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# Income and wealth inequality in the US

## The gaps in income between upper-income and middle- and lower-income households are rising, and the share held by middle-income households is falling

Median household income, in 2018 dollars, and share of U.S. aggregate household income, by income tier



Note: Households are assigned to income tiers based on their size-adjusted income. Incomes are scaled to reflect a three-person household. Revisions to the Current Population Survey affect the comparison of income data from 2014 onwards. See Methodology for details.  
Source: Pew Research Center analysis of the Current Population Survey, Annual Social and Economic Supplements (IPUMS).  
"Most Americans Say There Is Too Much Economic Inequality in the U.S., but Fewer Than Half Call It a Top Priority"

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- Wealth inequality is worse, with upper-income increasing from 60% in 1970 to 79% in 2018.
- The income gap is similar, if not worse, for the world

## Employee ownership

Enhancing wealth creation of employees

- **Shared capitalism:** a variety of employee ownership plans where a part of employee compensation and/or wealth is tied to workplace or firm performance. (Freeman et al. 2010)
- Firms with broad-based employee ownership **reduce wealth concentration** (Buchele et al. 2010)
- There are different forms of employee ownership: cooperatives, professional partnerships, employee stock ownership plans
  - Employees may own 0–100% of equity, this affecting the intensity of free-rider problems and participation
  - Employees may have some direct involvement in firm governance or indirectly through a representative

### Employee Stock Ownership Plans (ESOPs)

- The most common form of employee ownership in the United States
- 6,460 plans exist
- Covering 14.2 million people

# **Do employees fare better in employee-owned firms (EOFs) than in conventional firms (CFs)?**

By fare better, what we mean is...

1. Are they more satisfied with their jobs?
2. Do they perceive better job amenities, e.g., culture?

# Why might employees be more satisfied in EOF?

Klein (1987)


- **Intrinsic satisfaction** (Tannenbaum, 1983)
  - “Being an owner is ego enhancing”
  - Employee ownership creates a common interest among employees and increases employees’ organizational identification
- **Instrumental satisfaction** (Stein, 1976)
  - Worker participation in company decision-making leads to higher employee commitment
- **Extrinsic satisfaction** (Katz and Kahn, 1978)
  - An ESOP is a financial reward that may increase employee commitment and decrease employee turnover.

# Employee reviews from Glassdoor


## Evaluate companies

It's done in no time! Your anonymous review helps other job seekers.

Pursue

 Cornell University

Overall rating \*



Are you a current or former employee?

☒ Current employee ☐ Former Employees

Employment type \*

choose an option

Your job title at Cornell University

Assistant Professor

Review title \*

This is a sample review.

Pros\*

This is a sample pros.

Minimum word count: 5

Cons \*

This is a sample cons.

Minimum word count: 5

Advice to management

Make suggestions about how management could improve work at Cornell University

### Stick to the essentials

Thank you for your contribution to the community. Your opinion helps others decide for or against certain jobs and companies.


**Please respect the [Code of Conduct](#) and do not post:**

- Aggressive or discriminatory language
- swear words
- Company secrets/confidential information


Thank you for helping us keep Glassdoor the most trusted source for dream jobs and company discovery. Further information can be found in the [Code of Conduct](#).

### Reviews (optional)


Career opportunities




Remuneration & additional benefits




Culture & Values




Diversity & Inclusion



Management level



Work-life balance



# Data sources and measures

Data source	Measures	Statistics
<b>NCEO (Form 5500), 2020</b>	1(EOF) Ownership intensity: <ul style="list-style-type: none"> <li>ratio of total plan assets to the number of participating employees</li> <li>ratio of total plan assets to the firm's total equity</li> </ul> 1(Collectively-bargained)	6,143 ESOP firms (1,735 firms with majority stake and 4,408 in with minority stake or no information)
<b>Glassdoor reviews, 2012-2023</b>	Overall satisfaction, career opportunities, compensation, culture, management, work-life balance	<ul style="list-style-type: none"> <li>58,600 reviews</li> <li>12,270 establishments</li> <li>4,370 firms</li> </ul>
<b>BGT/Lightcast job postings, 2017-2022</b>	3-digit NAICS code FIPS → Commuting zone (Autor and Dorn, 2013) Plant size: <ul style="list-style-type: none"> <li>Log(number of postings)</li> <li>Log(number of plants)</li> </ul>	2.15 million job vacancies (1 million managers and 1.15 million production workers)
<b>Compustat</b>	1(Public)	53% public firms in GD sample
<b>NLRB and Form LM-10</b>	1(Union)	4% unionized plants in GD sample
<b>OSHA, 2016-2022</b>	Cases with days away from work, injuries, and deaths per 100,000 hours worked	<ul style="list-style-type: none"> <li>7,544 establishments</li> <li>3,578 firms (6,241 CFs and EOFs)</li> </ul>

Notes: Firms in NCEO, Glassdoor, BGT, Compustat, NLRB, LM-10, and OSHA are fuzzy matched with Jaro-Winkler distance.



# Descriptive statistics of key variables

Summary measure	All	CF	EOF
Firms	4,368	4,147	221
Establishments	12,266	9,951	2,315
Reviews	58,603	44,805	13,798
for production workers	18,984	15,335	3,649
for managers	39,619	29,470	10,149
Reviews per establishment	4.78	4.50	5.96
for production workers	1.55	1.54	1.58
for managers	3.23	2.96	4.38
Reviews per NAICS-commuting zone	26.54	20.29	6.25
for production workers	8.60	6.95	1.65
for managers	17.94	13.30	4.60



# Empirical specification

Sample: A review in year  $t$  from worker  $i$  employed at firm  $k$  with job title  $j$  that operates in industry  $n(k)$  and location  $l$  belonging to commuting zone  $z(l)$

Restrict attention to two occupations  $o = \{production, manager\}$

Let  $EOF_k$  be an indicator of 1 if firm is employee-owned, 0 otherwise

$$Y_{i,j,k,l,t} = \beta \times EOF_k + \gamma X_{i,t} + \rho X_{k,l} + \lambda_{n(k),z(l)} + \lambda_{o(j)} + \lambda_t + \varepsilon_{i,j,k,l,t}$$

$X_{k,l}$ : logarithm of firm's total establishments, logarithm of firm's total vacancies in location  $l$ , indicator establishment is unionized, and indicator parent firm is public.

$X_{i,t}$ : whether worker is current/former employee.

Fixed effects by industry-commuting zone, by occupation, by calendar month.

$\beta$ : mean difference in outcome  $Y$  between employees at EOFs and those at CFs within same local labor market accounting for worker and firm characteristics.

# Differences in Job Quality Between EOFs and CFs

	Overall rating	Career opportunities	Compensation & benefits	Culture & values	Senior leadership	Work-life balance
1(EOF)	0.133*** (0.035)	0.129*** (0.029)	0.074** (0.036)	0.173*** (0.041)	0.115*** (0.033)	0.121** (0.057)
Mean DV	3.39	3.24	3.57	3.22	2.88	3.12
N	64,242	56,861	56,883	56,594	56,467	56,778
Adjusted R <sup>2</sup>	0.13	0.11	0.08	0.13	0.11	0.12

Notes: Table examines the difference in average rating between reviews from EOFs and those from CFs. Regressions are at the review level and include as controls, the number of postings per establishment, the number of establishments per firm, an indicator the firm is publicly traded, an indicator for the establishment is unionized, and fixed effects for the NAICS-CZ pair, occupation, and year-quarter in which the review was submitted. Estimates for control variables are available upon request. Standard errors are clustered by firm. Significance levels: \* 10%, \*\* 5%, \*\*\* 1%.

- Workers in EOFs report 0.13 stars higher job satisfaction → 0.10 standard deviations / 4% of the mean
- Uniformly higher satisfaction with aspects of job quality
- Sockin (2022) estimates 1 star overall rating valued at \$10,000/year → EOF satisfaction premium ~ \$1,300 in amenity value

All employees

Heterogeneity

# Heterogeneity between EOFs by collective bargaining arrangement

	Overall rating	Career opportunities	Compensation & benefits	Culture & values	Senior leadership	Work-life balance
1(EOF) x 1(Collective bargaining)	0.209*** (0.041)	0.206*** (0.041)	0.088* (0.052)	0.286*** (0.052)	0.188*** (0.043)	0.241*** (0.054)
1(EOF) x 1(No collective bargaining)	0.093** (0.040)	0.089*** (0.032)	0.066* (0.040)	0.115** (0.046)	0.078** (0.037)	0.060 (0.076)
Mean DV	3.39	3.24	3.57	3.22	2.88	3.12
N	64,242	56,861	56,883	56,594	56,467	56,778
P-value of equality	0.019	0.008	0.697	0.007	0.027	0.044

Notes: Table examines the difference in average rating between reviews from EOFs and those from CFs when accounting for whether the firm's ESOP was established through collective bargaining. Regressions are at the review level and include as controls, the number of postings per establishment, the number of establishments per firm, an indicator the firm is publicly traded, an indicator for the establishment is unionized, and fixed effects for the NAICS-CZ pair, occupation, and year-quarter in which the review was submitted. Estimates for control variables are available upon request. Standard errors are clustered by firm. Significance levels: \* 10%, \*\* 5%, \*\*\* 1%.

Observe a significant satisfaction premium, particularly for culture, among collectively-bargained and non-collectively-bargained EOFs

But the boon is significantly greater for collectively-bargained EOFs

- Difference significant for all but compensation
- Wedge for culture ~ 0.13 standard deviations

## Potential mechanism 1

Employees in EOF have rosier expectations on firm prospects

	Approve of the CEO's performance	Has positive business outlook for the firm
1(EOF)	0.065*** (0.025)	0.050** (0.025)
Mean DV	0.52	0.51
N	46,159	51,588
Pseudo R <sup>2</sup>	0.04	0.04

Notes: Table examines the difference in average Glassdoor responses of approval between reviews from employees in EOFs and those in CFs. Regressions are at the review level and include as controls, the number of postings per establishment, the number of establishments per firm, an indicator the firm is publicly traded, an indicator for the establishment is unionized, and fixed effects for the NAICS-CZ pair, occupation, and year-quarter in which the review was submitted. Regressions reflect Poisson models. Estimates for control variables are available upon request. Standard errors are clustered by firm. Significance levels: \* 10%, \*\* 5%, \*\*\* 1%.



# Potential mechanism 2

## EOFs have better work conditions

EOF-CF Comparison of Worker Safety

	Number of cases with days away from work	Number of injuries	Number of deaths
1(EOF)	-0.102*** (0.033)	-0.159** (0.066)	-0.002*** (0.001)
Mean DV	0.537	1.581	0.001
N plants	7,544	7,544	7,544

Notes: Variables are measured per 100,000 work hours. Regressions are at the establishment level and include as controls, the number of postings per establishment, the number of establishments per firm, an indicator of whether the firm is publicly traded, an indicator for the establishment is unionized, and fixed effects for each NAICS-CZ. Regressions are estimated using wild bootstrapping with 9,999 resamples. Standard errors (in parentheses) are clustered by firm. Significance levels: \* 10%, \*\* 5%, \*\*\* 1%.

Glassdoor Ratings Accounting for Differences in OSHA-related Outcomes

	Overall rating		Culture & values	
1(EOF)	0.211*** (0.055)	0.223*** (0.055)	0.316*** (0.067)	0.328*** (0.067)
Number of cases with days away from work		0.084** (0.035)		0.054 (0.035)
Number of injuries		-0.059*** (0.020)		-0.074*** (0.023)
Number of deaths		2.604 (2.755)		4.926 (3.004)
Mean DV	3.36	3.36	3.18	3.18
N	17,508	17,508	15,512	15,512
Adjusted R <sup>2</sup>	0.15	0.15	0.15	0.15

Notes: Table examines the difference in average rating overall and in culture and values between reviews from EOFs and those from CFs, accounting for safety-related outcomes from OSHA. Number of cases with days away from work, injuries, and deaths are measured per 100,000 work hours. Regressions are at the review level and include as controls, the number of postings per establishment, the number of establishments per firm, an indicator the firm is publicly traded, an indicator for the establishment is unionized, and fixed effects for the NAICS-CZ pair, occupation, and year-quarter in which the review was submitted. Estimates for control variables are available upon request. Standard errors are clustered by firm. Significance levels: \* 10%, \*\* 5%, \*\*\* 1%.

*EOF workplaces are safer, but cannot rationalize the satisfaction premium.*

## Potential mechanism 3

Perhaps EOFs demand different skills and human capital?

	Posted years of education	Posted years of experience	1(Posted engineering skills)	1(Posted operations skills)	1(Posted people skills)	Log posted wage
1(EOF)	0.111 (0.283)	0.183 (0.149)	0.008 (0.012)	0.001 (0.012)	0.014 (0.012)	0.016* (0.009)
Mean DV	8.505	5.038	0.233	0.692	0.288	4.727
N	1,927,284	1,445,287	2,151,425	2,151,425	2,151,425	376,762
Adjusted R <sup>2</sup>	0.314	0.333	0.085	0.211	0.127	0.462

Notes: Table examines the difference in the content of a job posting between EOFs and CFs. The posted wage reflects the average of the minimum and maximum annual wage listed. Regressions are at the ad level and include as controls, the number of postings per establishment, the number of establishments per firm, an indicator for the ad is for a production worker, an indicator the firm is publicly traded, an indicator for the establishment is unionized, and fixed effects for the NAICS-CZ pair, occupation, and year-quarter in which the job ad was submitted. Standard errors, presented in parentheses, are clustered by firm. Estimates on control variables are not shown. Significance levels: \* 10%, \*\* 5%, \*\*\* 1%.

*No evidence of differences in labor demand preferences*

# Robustness check

Potential confounder: high performance work practices

	Overall rating		Culture & values		Senior leadership		Work-life balance	
1(EOF)	0.127*** (0.034)	0.133*** (0.035)	0.168*** (0.040)	0.173*** (0.041)	0.111*** (0.032)	0.115*** (0.033)	0.117** (0.056)	0.121** (0.057)
Satisfaction with job training	0.053*** (0.006)		0.051*** (0.006)		0.044*** (0.006)		0.042*** (0.006)	
Satisfaction with bonuses	0.025*** (0.005)		0.021*** (0.007)		0.027*** (0.006)		0.013** (0.006)	
Satisfaction with autonomy	0.010** (0.004)		0.013** (0.005)		0.012** (0.006)		0.012*** (0.005)	
Mean DV	3.39	3.39	3.22	3.22	2.88	2.88	3.12	3.12
N	64,242	64,242	56,594	56,594	56,467	56,467	56,778	56,778
Adjusted R <sup>2</sup>	0.13	0.13	0.13	0.13	0.12	0.11	0.12	0.12

Notes: Table examines the difference in average ratings between reviews from EOFs and those from CFs, accounting for observed differences in broad satisfaction with high performance work practices across firms. Regressions are at the review level and include as controls, the number of postings per establishment, the number of establishments per firm, an indicator the firm is publicly traded, an indicator for the establishment is unionized, and fixed effects for the NAICS-CZ pair, occupation, and year-quarter in which the review was submitted. Estimates for control variables are available upon request. The firm-level Glassdoor measures of autonomy, bonuses, and training are standardized to have mean zero and standard deviation one. Standard errors are clustered by firm. Significance levels: \* 10%, \*\* 5%, \*\*\* 1%.



- Worker well-being appears better in EOFs than in CFs
- EOF with collective bargaining arrangements have higher job satisfaction
- Employees report greater job satisfaction overall
- Higher satisfaction with each aspect of work, especially culture
- EOFs have better prospects (i.e., better job security) and provide safer workplaces



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*Thank you!*

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