

WORKPLACE NETWORKS AND THE DYNAMICS OF LABOR ORGANIZING

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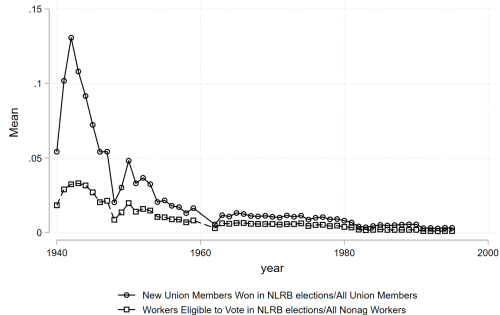
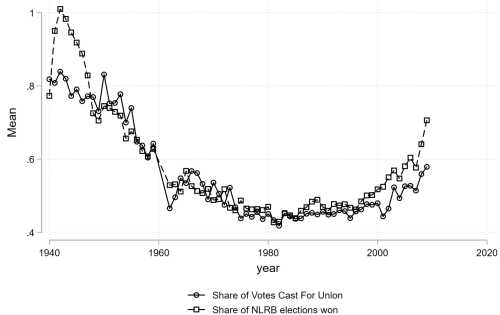
MOTIVATION

- Unions historically important force for reducing inequality (Farber et al. 2021).
- Substantial decline in U.S. union membership
 - Private sector 23.2% in 1973 to just 6.2% by 2019
 - Despite high latent demand for unions (47% say they would vote for a union were an election to be held tomorrow).
- Why?
 - Automation, trade, and weak labor demand (Acemoglu, Aghion, and Violante, 2001, Jeon and Kwon 2021)
 - Shifts in norms and laws emboldening employer opposition (Bronfenbrenner and Juravitch 1995, Schmidt and Zipperer 2009)
 - **Difficulty in new organizing** (Farber and Western 2001)

LABOR ORGANIZING IN THE UNITED STATES

- National Labor Relations Bureau recognition process requires a high level of collective action for workers to get a union.
- At least 30% of bargaining unit must sign cards to get NLRB election scheduled.
- Employers have many tools to ward off unionization at all stages.
 - Closed-door meetings and firing supporters.
 - Legal penalties (Unfair Labor Practices) slow and low cost.
- Faced with this lopsided structure, is there anything organizers can do better?

NLRB ELECTIONS OVER TIME



THE DYNAMICS OF LABOR ORGANIZING

- Labor organizing slow and costly, and struggles to outpace natural business dynamism.
- Widespread view that organizers vary in skill and strategies.
- Folk wisdom (Macalevy 2016):
 - Recommends a method of "assessing which ordinary people have preexisting leadership within the various structures".
 - These "organic leaders seldom self-identify as leaders and rarely have any official titles, but they are identifiable by their natural influence with their peers."
 - "[S]tructure-based groups develop a strong, more scalable grassroots base, because they focus on developing organic leaders who themselves can mobilize to reach majorities."
- How do labor organizing strategies affect organizing success?
- Very difficult to get data, let alone variation.

THIS PAPER

- New data from UFCW/ OUR Walmart efforts to organize Walmart in the United States in 2010-2014.
- Walmart stores across U.S. plus same union \implies relatively homogeneous environment.
- Organizer field notes matched to metric of organizing success, cards signed at a store.
- Recover workplace networks from field notes, and construct measure of "Network-Driven Organizing": store-level correlation between centrality and organizer effort.
- Description of different organizing styles at two stores based on qualitative interviews with workers.

DATA

- Over 80000 field notes at 118 stores.
- Database of organizer field notes from United For Respect
- Each note associated to a store campaign, with datestamp.
- Notes keep track of which workers are talking to which about organizing.

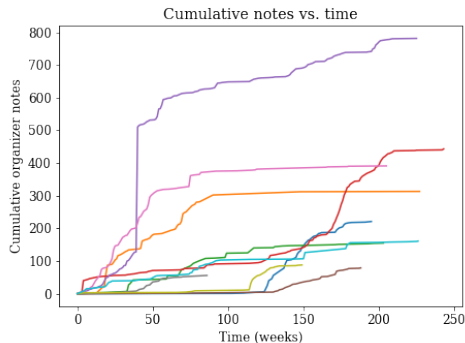
EXAMPLES OF NOTES

- "10/25/10; Maria house called; card signer; Bakery Dept. Issues: Too much to do with not enough people. Not enough support from supervisors, and they want her to do more. Would cut her hours because she doesn't have open availability, but since it is high demand in the bakery, they haven't cut her hours. - Lopez, R"
- "Friend of Isabel Garcia - Schneider, D"
- "Liz has worked at wmt 2280 for 4 years ICT Receiving and Inventory. She makes \$12.10/hr works FT 7a-4p M-F. Issues: did not receive full raise in July Review (\$0.40). They told her it is because she is not a role model. Her husband (Jerry Alberto Gomez, also a member, former) helped her write a letter to her manager after her review in July 2011, but they didn't give her any answer. She is very upset because she said she does too much work and deserves to make \$12.30. Store manager Ben asked her to write a list of all of her qualifications and reasons why she deserves her raise. We helped translate list into English and are waiting to hear the results (9/30/11, Emma and Devika) - Farrow, L"
- "CTW: 3/24/09 - Signed union card. Referred by Charlotte Jansen. Arthur Jones collected card. Loves Obama. Makes \$12.39/hr. - Hoang, T"

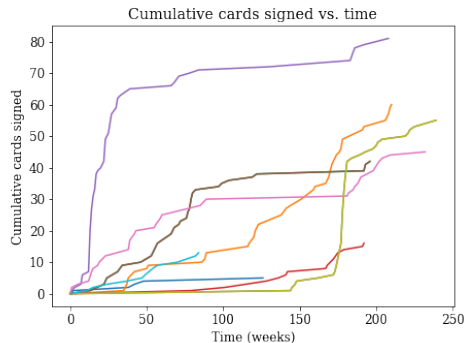
OUTCOME: CARDS SIGNED

- Membership in labor organization formalized by signed card.
- Entails \$5 monthly dues.
- Risk of being fired by manager.
- Goal of organizer was to get more members to engage in collective action to win workplace demands.
- Examples of collective action include “Respect the Bump” campaign and Black Friday mini-strikes.

ORGANIZING ACTIVITY OVER TIME

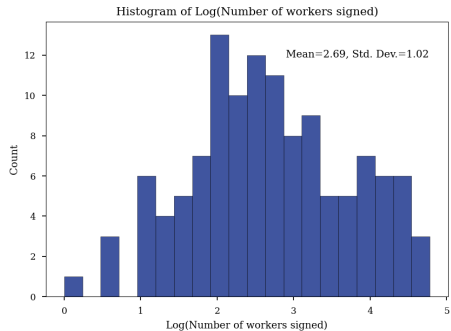
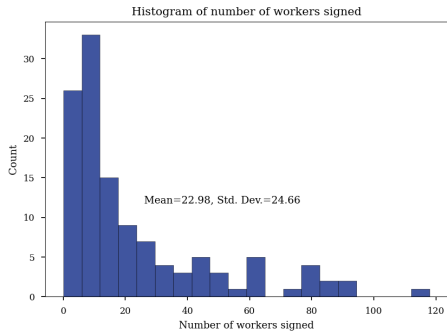


Cumulative organizer notes over time for ten randomly selected stores in sample.



Cumulative membership cards signed over time for ten randomly selected stores in sample.

LOTS OF VARIATION IN CARDS SIGNED



TWO MODES OF ORGANIZING

- Network-Driven Organizing:
 - Organizer maps a workplace network and then directs organizing effort towards central nodes.
 - Central workers propagate information and influence of pro-union sentiment throughout the workplace network.
- Mobilization-Driven Organizing:
 - Organizer maps workplace network, but targets organizing effort towards most easily persuaded workers who are not already persuaded.
 - Can think of as “greedy” algorithm for persuasion.
- Which one works better, holding fixed overall organizer effort.

CASE 1: PICO RIVERA, CA

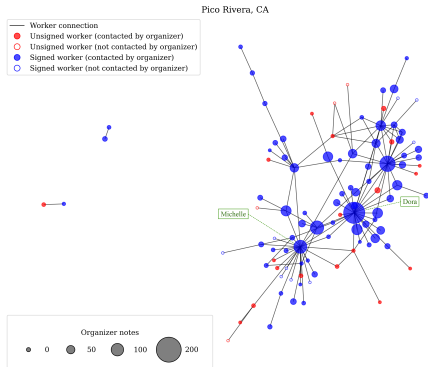
- Organizer does not invest a lot in earliest contact, "Juan".
- Instead start meeting regularly "Dora", who is clearly central in workplace network.
- Dora then brings other workers to meetings.
- One worker who signed later said "all contact to him should be via Dora".
- Dora has the highest degree and eigenvector centrality in the network, and got the highest number of notes.

CASE 2: FEDERAL WAY, WA

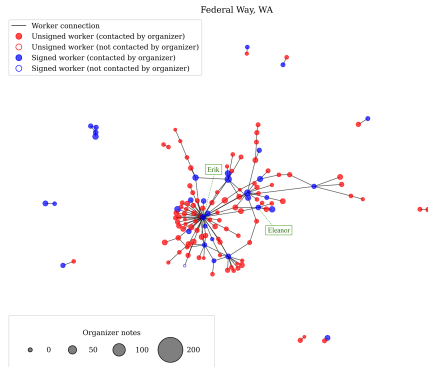
- More organizer effort and more workers contacted than Pico.
- Mapped the network, but only used it for organizer outreach, not focus organizing effort on most central workers.
- Most central worker "Erik" doesn't get more effort from organizer.
- While not acted on by organizers, qual work suggests co-worker persuasion still present.

WHAT THE WORKPLACE NETWORKS LOOKED LIKE

FIGURE: Pico and Federal Way Workplace Networks



Workplace network from Pico Rivera, CA.



Workplace network from Federal Way, WA.

FORMAL MODEL: DE GROOT ORGANIZER

- Suppose N workers in a store.
- Suppose perceived worker network is G .
- Workers have initial subjective beliefs about the value of signing a card $v_i(0) + e_i$, where e_i measures organizer persuasion of i .
- Workers update based on beliefs of neighbors as given by network G , which induces a row-stochastic influence matrix $T(G)$
 - $v_i(t+1) = \sum_j T(G)_{ij} v_j(t)$
- Suppose organizer invests effort e_i to persuade worker i , at a cost $\frac{\Psi}{2} (\sum_i e_i)^2$.

MODEL CONTINUED

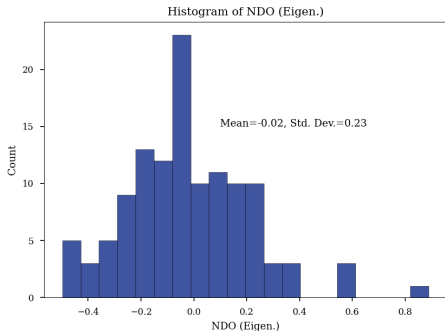
- Organizer cares about maximizing final consensus belief about value of the union $\sum_i v_i(\infty)$.
- Final organizer objective function given by: $1 \cdot G^\infty(v(0) + e) - \frac{\Psi}{2}(1 \cdot e)^2$
- $v(\infty)$ maximized at $e_i = \frac{C_i}{\Psi}$.
- $\sum_{i=1}^N v_i(\infty) = \sum_i C_i(e_i + v_i(0))$ where C_i is centrality (degree or Eigenvector) of i in network G .
- Total expected cards signed increasing in $e \cdot C$, or covariance of organizing effort and centrality across workers in a store.

PRIMARY INDEPENDENT VARIABLE

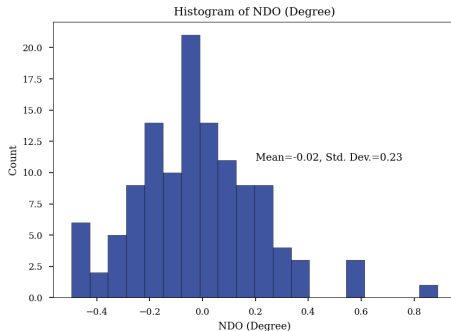
- "Network-Driven Organizing": Within-store rank correlation of centrality and number of organizer notes.
- $NDO_j = Corr(Rank(C_i), Rank(e_i))$
- Rank because no natural within-store scale to C_i and e_i .
- Can also be thought of as cosine similarity between organizer effort vector and centrality vector.
- Ensures no effect of arbitrary normalization or distribution of organizer notes or centrality.
- Use both eigenvector and degree centrality, explore robustness to Pearson correlations.

DISTRIBUTION OF NDO

FIGURE: Network-Driven Organizing Measure



NDO scores using eigenvector centrality.

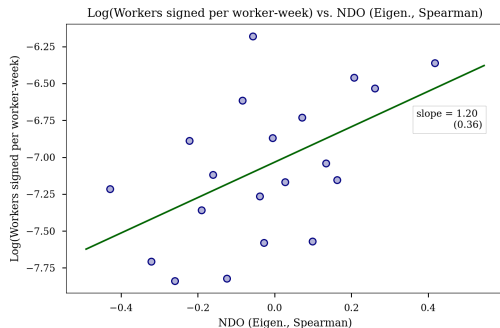


NDO scores using degree centrality.

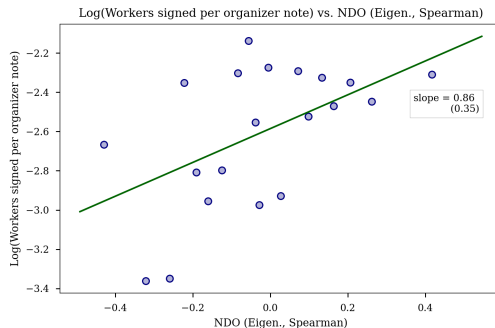
Distributions of network-directed organizing (NDO) scores using the two selected centrality measures.

SUGGESTIVE SCATTERPLOTS

FIGURE: Cards Signed and Network-Driven Organizing, No Controls



Number of cards signed per worker-week (log-transformed) vs. Eigenvector network-directed organizing measure.



Number of cards signed per organizer note (log-transformed) vs. Eigenvector network-directed organizing measure.

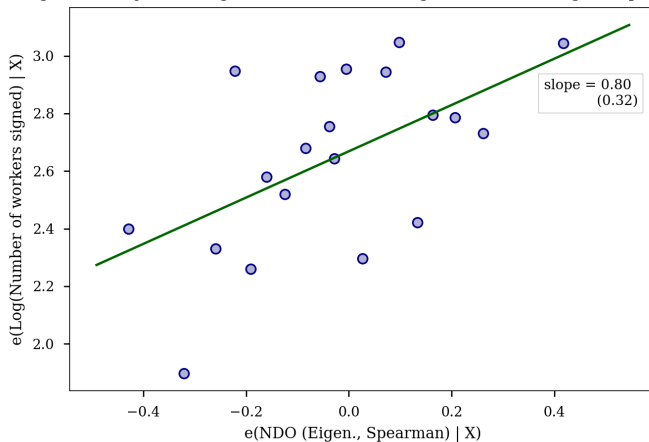
SETS OF CONTROLS

- Group 1: Mechanical determinants of organizing success (weeks of organizing, number of workers recorded/contacted)
- Group 2: Other network characteristics (mean degree, betweenness centrality, variance of degree).
- Group 3: Store zip code demographics (share Black, mean income, share Hispanic), and store share male.
- Group 4: Team fixed effects.

OLS RESULTS

FIGURE: Cards Signed and Network-Driven Organizing, Regression Adjusted

Regression-adjusted: Log(Number of workers signed) vs. NDO (Eigen., Spearman)



OLS RESULTS

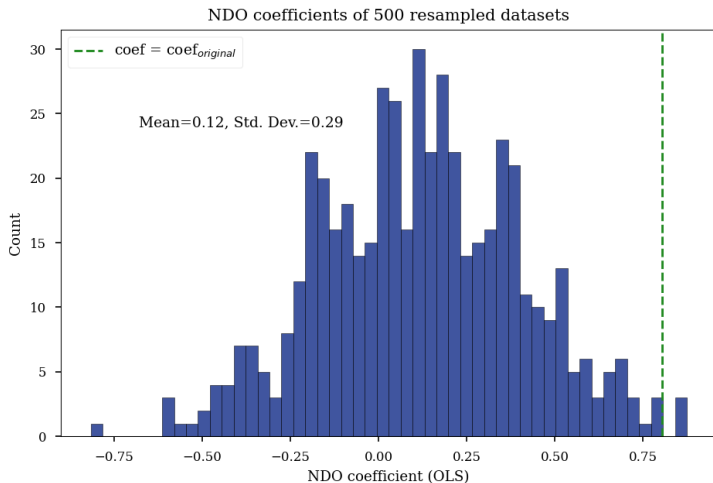
	1	2	3	4	5	6	7	8
Network-Driven Organizing	1.10 (0.35)	0.80 (0.32)	0.89 (0.32)	0.47 (0.35)	1.08 (0.35)	0.82 (0.32)	0.90 (0.32)	0.47 (0.36)
LASSO-selected	N	N	Y	N	N	N	Y	N
Centrality metric	Eigen.	Eigen.	Eigen.	Eigen.	Degree	Degree	Degree	Degree
No. Worker Controls	N	Y	Y	Y	N	Y	Y	Y
Campaign Length Control	N	Y	Y	Y	N	Y	Y	Y
Other Network Statistics	N	Y	Y	Y	N	Y	Y	Y
Demographic Controls	N	Y	Y	Y	N	Y	Y	Y
Team Fixed Effects	N	N	N	Y	N	N	N	Y
Adjusted R_{sq}	0.57	0.68	0.68	0.73	0.57	0.68	0.68	0.72
N_{obs}	117	117	117	117	117	117	117	117

RANDOMIZATION INFERENCE

- Check robustness to a randomization inference procedure.
- Create 500 datasets of 115 stores.
- Sample N_j workers from each store **with replacement**.
- Count same draw of worker as connected with themselves.
- Run main specification on each dataset, plot distribution.

RI RESULTS

FIGURE: Distributions of coefficients in regressions on re-sampled networks



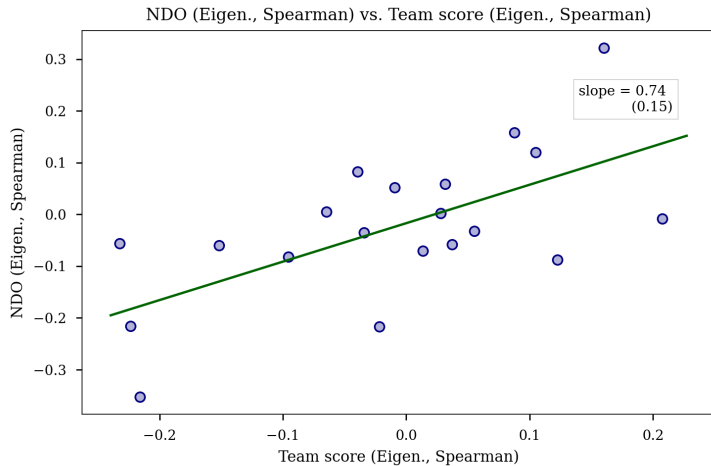
INSTRUMENTAL VARIABLE: TEAM LEAVE-ONE-OUT AVERAGE

- OLS results robust, but still possibly confounded by numerous omitted variables.
- Assumption: team $J(j)$ assigned to store j is conditionally independent from other determinants of card signing.
- Under this assumption, can use leave-one-out average as valid instrumental variable.

$$NDO_{-j}^{Team} = \frac{1}{|J(j)| - 1} \sum_{i \in J(j); i \neq j} NDO_i$$

FIRST-STAGE RESULTS

FIGURE: Leave-One-Out Team Score Instrument



IV RESULTS

	1	2	3	4	5	6
Network-Driven Organizing	1.97 (0.75) [1.17]	2.90 (1.26) [1.03]	2.94 (1.31) [1.11]	1.75 (0.66) [1.05]	2.44 (0.98) [0.77]	2.45 (1.01) [0.81]
LASSO-selected	N	N	Y	N	N	Y
Centrality metric	Eigen.	Eigen.	Eigen.	Degree	Degree	Degree
No. Worker Controls	N	Y	Y	N	Y	Y
Campaign Length Controls	N	Y	Y	N	Y	Y
Other Network Statistics	N	Y	Y	N	Y	Y
Demographic Controls	N	Y	Y	N	Y	Y
Team Controls	N	N	N	N	N	N
First-stage F-Stat (Robust)	24.70	7.70	7.12	31.19	11.43	10.74
First-stage F-Stat (Clustered)	45.89	10.01	8.60	69.59	16.48	14.18
Adjusted R_{sq}	0.56	0.57	0.58	0.57	0.62	0.63
N_{obs}	115	115	115	115	115	115

DISCUSSION OF MAGNITUDES

- Quantitatively large coefficients, particularly in IV.
- Estimates imply an increase in the correlation between organizer effort and worker centrality from 0 to 1 increase cards signed by at least 100%
- Baseline median cards signed is 13, less than 10% of the average Walmart store, and less if turnover is accounted for.
- Further, highest level of NDO is 0.56
- Organizing folk wisdom is to not file for NLRB election without more than 65% of unit having signed cards.
- While strategic use of workplace networks important, unlikely to drive organizing success on its own.
- Structural disadvantage organizers face in high-turnover, low-wage environment still important.

CONCLUSION

- Analyze a new and unique source of data, the organizer field notes from a large number of organizing drives across 115 Walmarts in the US.
- Test hypothesis that organizers who make use of workplace network centrality in allocating organizing effort more successful.
- Find robust and significant effect of network-driven organizing on cards signed.
- Two-way payoffs from partnerships with labor organizations: access to administrative data for research, and results from research of use to labor organizing.