Yale

Causal Inference for IR and IPE with Substantive Applications

Carlos Felipe Balcazar

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The backlash against globalization

- ▶ Int' competition generates preferences for economic nationalism.
  - ▶ Import competition. (e.g., NAFTA; China WTO accession.)
  - ▶ Automation; offshoring; waves of migration (e.g., great migration).
- ▶ Mechanism is redistributive.
  - ▶ Short-run: affects low-skilled workers (substitution; firm exit).
  - ▶ Long-run: adjustment can correct short-run impacts.
- ▶ Changes in preferences and polarization.
  - ▶ Winners v. losers from international economic change.
  - ▶ Market for divisive elites cues; leads to populism.
- ▶ Why has embedded liberalism not worked? Can it work?

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- ▶ What is the role of re-absorption by the service sector?

- ▶ Constraints to compensation? (e.g., weak unions; bureaucracies.)

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The "automation shock" and the "migration shock"

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  - Affects workers' capacity to demand redistribution/compensation.
  - Evidence for trade, automation but evidence absent for migration.

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- Lack of bureaucratic capacity can exacerbate impacts.

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The role of unions

The problem of union decline
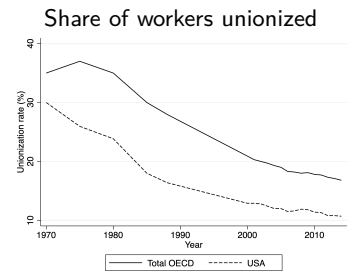
Share of workers unionized

Still 100+ mill. workers

- ⇓ political action from workers.
- ⇑ poverty and inequality.
- Provide costly information; promote cosmopolitanism.

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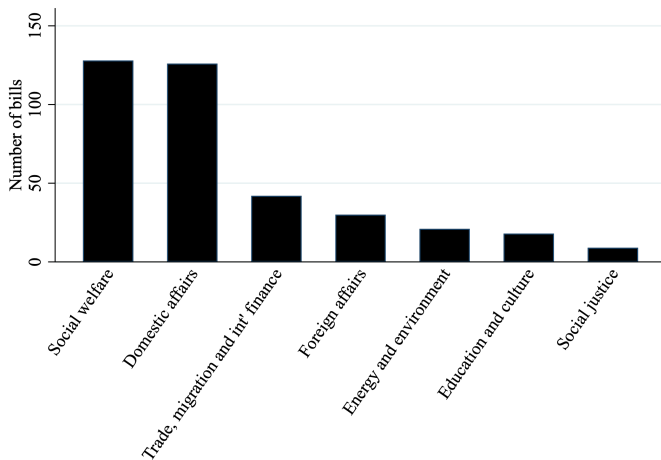# The problem of union decline

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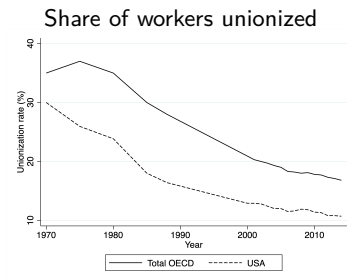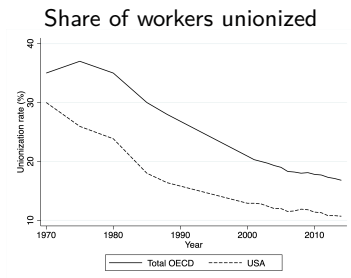
Unions favor bills that are important for workers' well-being

1. **JOB-TRAINING REAUTHORIZATION**—H.R. 27—U.S. workers have seen millions of manufacturing jobs shipped overseas—and now more and more white-collar and high-tech jobs are being exported. Overall, there has been a net loss of jobs since President George W. Bush took office in 2001. But legislation in the House cut overall funding for critical job-training programs, including the U.S. Employment Service and the adult and dislocated worker programs at the Department of Labor. The legislation did not strengthen job-training programs or enhance income support and job-search assistance for jobless Americans. The bill passed March 2, 2005, 224-200. (R: 220-8; D: 4-191; I: 0-1) AFL-CIO Position: Y=Wrong; N=Right

2. **PENSION PROTECTION/UNITED AIRLINES PENSIONS**—H.R. 3010—United Airlines filed for bankruptcy in 2002 and, despite more than $13 billion in worker concessions, terminated its employees' pensions plans in 2005. The Pension Benefit Guarantee Corporation (PBGC) took over the plans with drastically reduced benefits for the airlines' 120,000 workers. Earlier, US Airways terminated its pension plans as part of its bankruptcy plans, and other airlines are threatening similar action. An amendment to the fiscal year 2005 Labor, Health and Human Services and Education appropriations bill would have prohibited the PBGC from spending money to implement its agreement with United Airlines to terminate the four pension plans. The amendment passed June 24, 2005, 219-185. (R: 31-185; D: 187-0; I:1-0) AFL-CIO Position: Y=Right; N=Wrong

▶ Formal and informal institutions. Why?

Why do unions decline?

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- Re-absorption to by growing service sector. Why?

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- ▶ Automation: changes in opportunity cost. Why?

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- Automation: changes in opportunity cost. Why?

- Migration: diversity reduces benefits from collective action. Why?

Evidence for import competition

Import competition: decline in policy responsiveness

Δ legislator responsiveness, welfare and labor
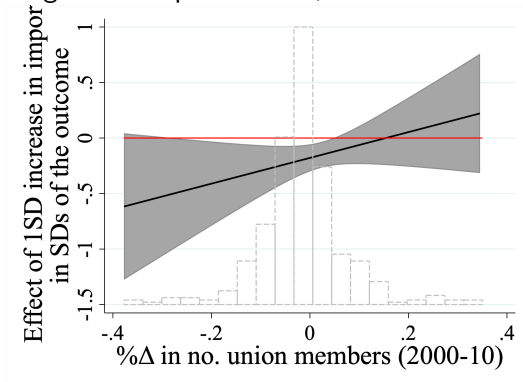
Note: 95% (Conley) confidence intervals.

1SD in outcome: 4 bills; *1SD in import competition:* 8PP.

# Import competition: decline in policy responsiveness

Δ legislator responsiveness, trade and related
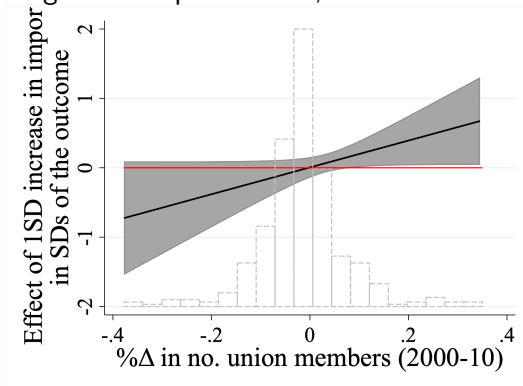
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Import competition: decline in policy responsiveness
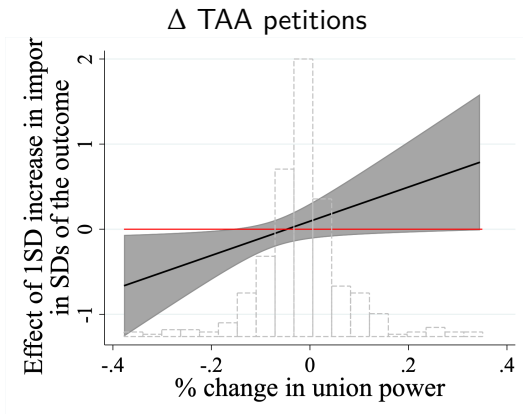
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"Populist"-style campaign ads
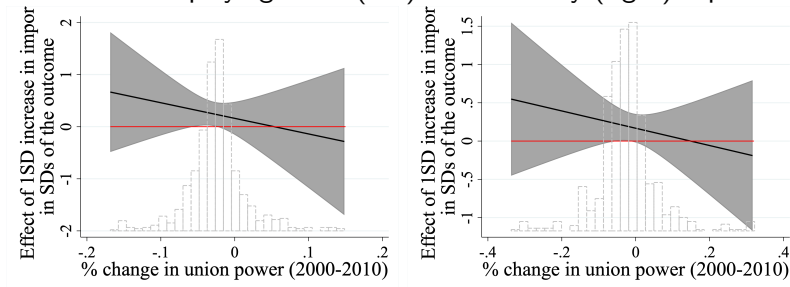

%Δ ads displaying anger (left) and welfare (right) topics
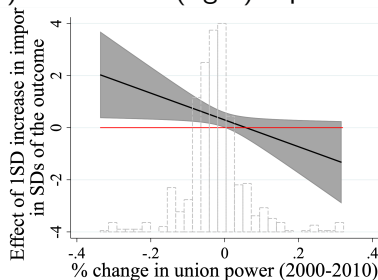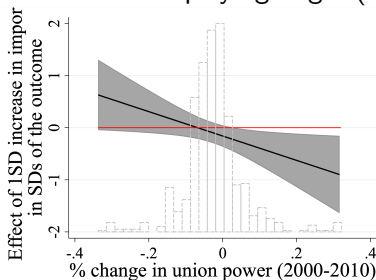
Note: 95% confidence intervals; SE clustered at the State level.
1SD in import competition: 8PP.

▶ Weak unions: ⇑ import competition ⇒ ⇑ populist-style rhetoric.
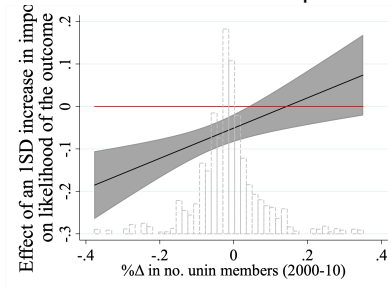
%Δ ads displaying trade (left) and ethnicity (right) topics

Note: Note: 95% (Conley) confidence intervals.
1SD in import competition: 8PP.

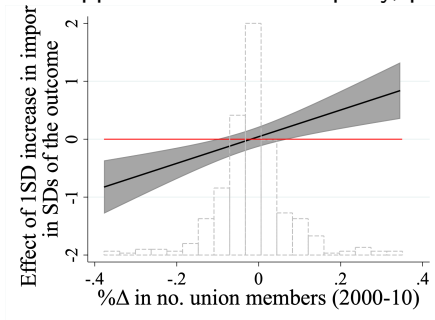▶ Weak unions: ⇑ import competition ⇒ ⇑ populist-style rhetoric.

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Δ attitudes towards cosmopolitanism

Note: Note: 95% (Conley) confidence intervals.

1SD in import competition: 8PP.

▶ Weak unions: ⇑ import competition ⇒ ⇓ support abortion rights, gay marriage, affirmative action and immigration.

Stronger support for the republican party

Δ likelihood support for democrats party, presidential

Note: 95% (Conley) confidence intervals.

1SD in import competition: 8PP.

▶ Weak unions: ⇑ import competition ⇒ ⇓ lower support for democrats.

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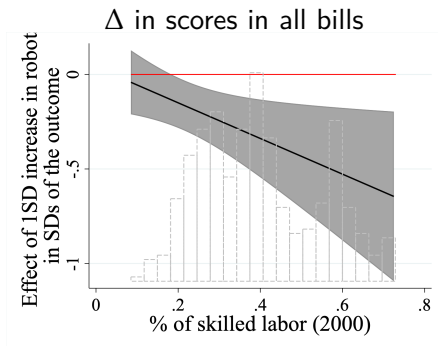**Evidence for automation**

Stronger decline in share of unionized workers in districts with more skilled labor

Δ unionization rates

Note: 95% confidence intervals; SE clustered at the State level.
1SD in outcome: 0.36; *1SD in robot adoption:* 600 robots.

Stronger decline in AFL-CIO scores in districts with more skilled labor
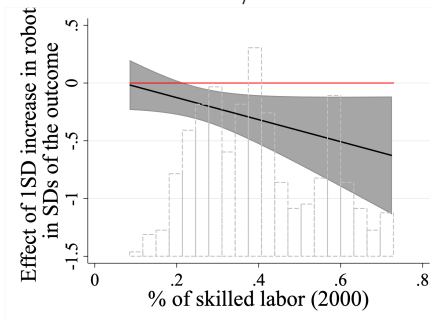

Δ in scores in all bills

Note: 90% and 95% confidence intervals.
1SD in outcome: 3.83 *1SD in robot adoption:* 600 robots.

▶ Robots, through unions, reduce policy responsiveness if skilled labor high.

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Stronger decline in AFL-CIO scores in districts with more skilled labor

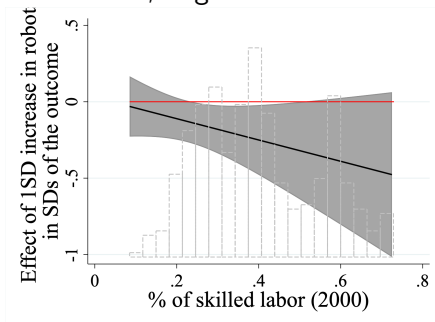Δ in scores in welfare/redistribution bills

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▶ For welfare/redistributive policy.

Stronger decline in AFL-CIO scores in districts with more skilled labor

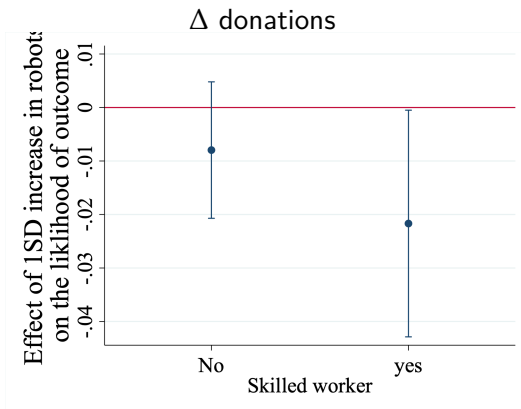Δ in scores in trade, migration and int' finance bills

Note: 90% and 95% confidence intervals.

1SD in outcome: 3.83 *1SD in robot adoption:* 600 robots.

▶ To a lesser degree for trade-related bills.

Fall in donations from skilled labor

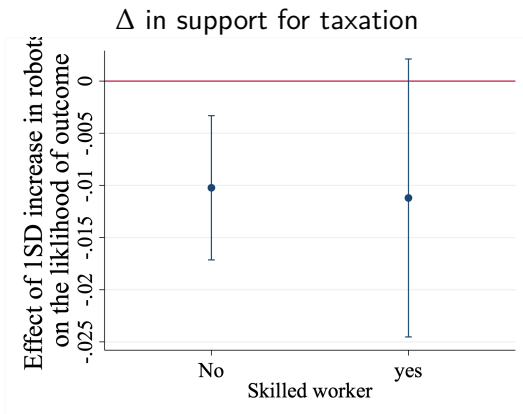Note: 95% confidence intervals.
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Stronger effects for unskilled labor

Δ in cosmopolitanism
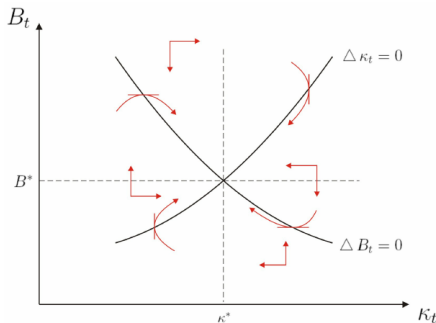
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Stronger effects for unskilled labor

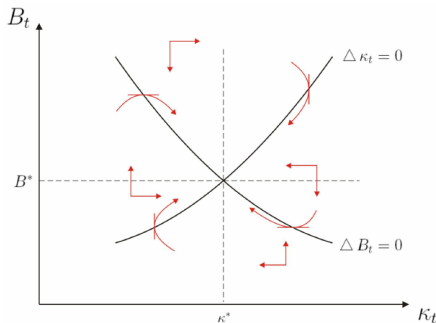Note: 95% confidence intervals.
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Shift-share designs

- Shift or share must be as good as exogenous.

- Short-run response v. long-run adjustment.

- Shift-shares conflate short-run with long-run adjustment.

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Connection to dynamic general equilibrium

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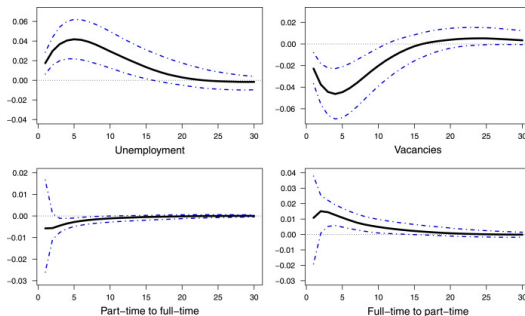
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$$\Delta \log w_{jt} = \beta_0 + \beta_1 m_{jt}$$

$$+ \left[\epsilon_{jt} - \beta_1 \gamma \sum_{s=0}^{\infty} (1-\gamma)^s m_{jt-s-1} \right.$$

$$\left. + \left(\Delta \log \theta_{jt} - \frac{\beta_1 \gamma}{1 + \beta_1} \sum_{s=0}^{\infty} (1-\gamma)^s \Delta \log \theta_{jt-s-1} \right) \right]$$

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$$\text{plim } \tilde{\beta}_1^{\text{IV}} = \beta_1 \left[1 - \gamma \sum_{s=0}^{\infty} (1-\gamma)^s \frac{\text{Cov}(\tilde{m}_{jt}, m_{jt-s-1})}{\text{Cov}(\tilde{m}_{jt}, m_{jt})} \right.$$

$$\left. + \left(\frac{1}{\beta_1} \frac{\text{Cov}(\tilde{m}_{jt}, \Delta \log \theta_{jt})}{\text{Cov}(\tilde{m}_{jt}, m_{jt})} - \frac{\gamma}{1+\beta_1} \sum_{s=0}^{\infty} (1-\gamma)^s \frac{\text{Cov}(\tilde{m}_{jt}, \Delta \log \theta_{jt-s-1})}{\text{Cov}(\tilde{m}_{jt}, m_{jt})} \right) \right].$$

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PROPOSITION 3: *We can write*

$$\hat{\beta}_{Bartik} = \sum_k \hat{\alpha}_k \hat{\beta}_k,$$

where

$$\hat{\beta}_k = \left(Z_k' X^{\perp}\right)^{-1} Z_k' Y^{\perp} \quad and \quad \hat{\alpha}_k = \frac{g_k Z_k' X^{\perp}}{\sum_{k'} g_{k'} Z_{k'}' X^{\perp}},$$

so that $\sum_k \hat{\alpha}_k = 1$.

▶ Differential exposure to common shocks $\Rightarrow$ assume exogenous shares.
  - ▸ Exogenous to changes in the error term not levels.
  - ▸ Report Rottemberg weights.

$$\hat{\beta}_{Bartik} = \sum_l \beta_l \sum_k \alpha_k \omega_{lk} + o_p(1).$$

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Exogeneity

Proposition 1 The SSIV estimator $\hat{\beta}$ equals the second-stage coefficient from a s_n-weighted shock-level IV regression that uses the shocks g_n as the instrument in estimating

$$\bar{y}_n^\perp = \alpha + \beta \bar{x}_n^\perp + \bar{\varepsilon}_n^\perp, \tag{6}$$

where $\bar{v}_n = \frac{\sum_\ell e_\ell s_{\ell n} v_\ell}{\sum_\ell e_\ell s_{\ell n}}$ denotes an exposure-weighted average of a variable v_ℓ.

Proof. By definition of z_ℓ,

$$\hat{\beta} = \frac{\sum_\ell e_\ell \left(\sum_n s_{\ell n} g_n \right) y_\ell^\perp}{\sum_\ell e_\ell \left(\sum_n s_{\ell n} g_n \right) x_\ell^\perp} = \frac{\sum_n g_n \left(\sum_\ell e_\ell s_{\ell n} y_\ell^\perp \right)}{\sum_n g_n \left(\sum_\ell e_\ell s_{\ell n} x_\ell^\perp \right)} = \frac{\sum_n s_n g_n \bar{y}_n^\perp}{\sum_n s_n g_n \bar{x}_n^\perp}. \tag{7}$$

▶ Differential exposure to common shocks $\Rightarrow$ assume exogenous shares.

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▶ Exogenous independent shocks $\Rightarrow$ assume exogenous shift.

  ▸ IV design is needed to address endogeneity in treatment uptake.

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- Exogenous independent shocks $\Rightarrow$ assume exogenous shift.
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- Right approach is driven by theory and design, but...
  - Pre-treatment trends need to be controlled for (short-run effect).
  - Control for component terms (e.g., constant or location dummies).
  - Sensitivity to unobserved confounding should be performed.
  - Still a debate regarding treatment effect heterogeneity.

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Understanding changes in preferences from international competition!