Employment Structure and the Rise of the Modern Tax System

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Harvard Kennedy School

Yale - December 5th, 2016
Why does tax capacity grow over development?

What this paper does

Economic Structure

Tax System

Institutions

Economic Structure
[Employment Organization]

Tax system
[Personal Income Tax]
What this paper does

Show how transition from self-employment to employee-jobs over development affects capacity to raise income tax

New channel

employee-share $\uparrow \Rightarrow$ exemption threshold $\downarrow \Rightarrow$ tax take $\uparrow$

I provide micro evidence on channel over long run of development

- Novel stylized facts
- Quasi-experimental evidence
  - Unexploited place based program in US states
Descriptive evidence: new stylized facts

Income Deciles

Employee Self-employed

India [$1034 pc]

China [$1950 pc]

Mexico [$7834 pc]

US [$42000 pc]
Descriptive evidence: new stylized facts

Income Deciles
Employee Self-employed
India [$1034 pc]

Income Deciles
Employee Self-employed
China [$1950 pc]

Income Deciles
Employee Self-employed
Mexico [$7834 pc]

Income Deciles
Employee Self-employed
US [$42000 pc]
Quasi experimental evidence: US development program

Use historical U.S. development program - **Industrial Development Bonds (IDB)** - to instrument for employee share

**Exploit within-state variation in court upholding of IDB program**
- IDB implementation required House vote and Court upholding
- Treatment: State Court upholding event
- Control: State House vote event

Relevance of US states for taxation-development
Main contribution

Previous evidence

- Micro evidence - lacks extension to tax capacity over development [Kleven et al., 2011]
- Macro evidence - lacks identified empirical channels [Besley & Persson, 2011; Kleven, Kreiner & Saez, 2015]

I provide well-identified evidence going from employment structure via tax policy to tax revenue
Related literatures

- **Recent literature on taxation and development**

- **Employment structure, informality over long run of development**

- **US states as taxation-development laboratory**

- **Place based local development programs**
  Glaeser (2001), Story et al. (2013), Kline and Moretti (2014)
Outline

1. Stylized facts: employee-share and tax base over development
2. Quasi experimental evidence: employee-share impact on tax base and tax take
3. Model
Outline

1. Stylized facts: employee-share and tax base over development
2. Quasi experimental evidence: employee-share impact on tax base and tax take
3. Model
3 new stylized facts over development

1. Change in employee share distribution
   - Within country employee share increases through income distribution
   - Profile shifts leftward over development

2. Increase in size of income tax base
   - Threshold moves progressively down, trailing employee share growth

3. No change to composition of income tax base
   - Employee share above threshold constant at 80-85 percent
Micro database: sources

- Household surveys: 90 countries and within US (1870-2010)
- Search criteria:
  - Continuous measure of overall earned income
  - Coverage of all types of work
- Sourced data directly with national statistical offices
  - 83% of countries with per cap income ≤ $4,000
  - Pre-1900 US
Micro database: methodology

- Code employee (E) if employment relation generates information trail relevant for tax enforcement
  - Third party reporting, formal labor contracts
- Self-employed (SE) include domestic workers, non-registered family firm employees, casual daily wage laborers
  - Captures ILO informal work category (2009)
- E-SE shares of non-agricultural employment in deciles of gross (pre-tax) income distribution
  - Agriculture: evidence
3 new stylized facts over development

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Start point: aggregate employee-share ↑ over development
Employee-share: cross-country

Non-agr employment share

$730 pc

$3286 pc

$13512 pc

$53234 pc

Employee Self-employed
Employee-share: US 1870-1960 & synthetic cross-country

[India & Cambodia (ULHS); Brazil & Jordan (URHS); Lithuania & Slovakia (LLHS); Poland & Argentina (LRHS)]
3 new stylized facts over development

1. Change in employee share distribution
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Fact #2 cross-country

Income Deciles

Employee Self–employed

India [$1034 pc]

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Fact #2 within country

US Fed: 1870

US Fed: 1935

US Fed: 1950

US Fed: 1960
Fact #2 cross and within country
3 new stylized facts over development

1. Change in employee share distribution
   - Within country employee share increases through income distribution
   - Profile shifts leftward over development

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Fact #3 cross and within country

Stylized facts: robustness

1. Micro data external validity
   - World Bank agriculture data-base

2. Different within country series
   - Brazil 1970-2010

3. Confounding constant 'subsistence' threshold
   - Real value of threshold ↑ over development

4. Confounding distributional variation
   - Sectoral: manuf + non-trade services
   - Firm-size: prevalence of small firms
Stylized facts: implications and limitations

- Stylized facts consistent with proposed channel

  \[ \uparrow \text{employee-share} \Rightarrow \downarrow \text{exemption threshold} \Rightarrow \uparrow \text{tax base} \]

- Hold over full development path (across and within country)
  - Suggest, but cannot conclude, a causal channel
Outline

1. Stylized facts: employee-share and tax base over development
2. Quasi experimental evidence: employee-share impact on tax base and tax take
3. Model
Quasi-experimental evidence: US development program

- Identify the impact of employee-share on the tax exemption threshold
  - Require exogenous variation in employee share
  - Historical U.S. development program to instrument for employee share
- U.S. states: compelling setting for taxation-development
State employee share and income tax threshold [1950-1980]

1950

1960

1970

1980

Employees

Self–employed
Program details: Industrial Development Bonds (IDB)

- IDB targeted 'redevelopment counties' (ARA, 1958)
  - Surplus labor engaged in self-employed agriculture
  - Credit constraints limiting plant expansions
- IDB constructed leasable plants financed by revenue bonds
  - Led to employee share ↑
- Constitution prohibits using public credit for private purpose
  - Implementation required state legislature vote to enact IDB statute and court upholding of statute
Identification

\[ y_{st} = \beta + \alpha 1 \text{(Vote in)}_{st} + \theta 1 \text{(Uphold)}_{st} + \lambda X_{st} + \mu_s + \gamma_t + \phi_s \cdot t + \varepsilon_{st} \]

Identification assumption: conditional on vote in, timing of upholding is orthogonal to state-time unobservable determinants of employee-share

Evidence for identifying assumption

1. Sharp 'on impact' changes, break from stable pretrend vote-period
2. Timing explained by state-specific time-invariant chars.  ▶ Hazard model
Within state IDB variation: legal decisions and issuance
Determinants of lag between vote and upholding

LHS=$1(\text{Upheld})$

### Panel A: Politics

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Non-parametric Cox proportional hazard model, hazard rate reported
Exclusion restriction

Objective: obtain causal estimate of employee share on tax threshold
  - Instrument for employee share using IDB court upholding

Exclusion restriction: IDB court upholding only affects changes in tax threshold location through changes in employee share

Evidence for exclusion restriction
  1. Full impact on employment and threshold materialize in the short run
  2. No impact on
      ▶ determinants of threshold
      ▶ any non-employment economic outcome
      ▶ any tax revenue or instrument other than income tax revenue
Within-state event study: employee share

![Graph showing employee share over years]

- **Share employee indexed==1 at event−year=0**
  - 0.975 to 1.025 to 1.05
- **Years to/since event**
- **Treatment: Upholding event**
- **Control: Vote−in event**

Legend:
- **Red dots** - Treatment: Upholding event
- **Blue dots** - Control: Vote−in event
Within-state event study: employee share

Share employee indexed==1 at event-year=0

-5 0 5
Years to/since event

Treatment: Upholding event
Control: Vote-in event

-5 0 5
Years to/since event

Share employee indexed==1 at event-year=0

Treatment: Upholding event
Control: Vote-in event
Within-state event study: likelihood of threshold reform

Empirical CDF # K-reforms, indexed=1 at event-year==0

Years to/since event

Treatment: Upholding event
Control: Vote-in event

-5 0 5

Empirical CDF # K-reforms, indexed=1 at event-year==0

Years to/since event
Within-state event study: size of tax base

[Threshold/avg income] indexed==1 at event−year=0

Years to/since event
Treatment: Upholding event  Control: Vote−in event
## Employment and earnings: different specifications

<table>
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<tr>
<th>Sample</th>
<th>Full sample</th>
<th>IDB states</th>
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<td>(2) Avg inc</td>
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<td>(Vote)</td>
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Sample: 1939-2005, 48 states. S.E. clustered at state level. *, **, *** : significance at the 10%, 5%, 1%
## Employment and earnings: full results

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<th>Average income</th>
<th>Log(transfers)</th>
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\[ y_{st} = \beta + \alpha_1 (\text{Vote in})_{st} + \theta_1 (\text{Upheld})_{st} + \lambda X_{st} + \mu_s + \gamma_t + \phi_s \cdot t + \varepsilon_{st} \]
Employment and earnings: county level evidence

- Findings from county-level regressions [1910-2000]
  - Pre-post uphold versus pre-post vote in IDB versus non IDB county
  - Federal classification of IDB counties (ARA, 1958)
- Findings: IDB impact employment-structure, only in IDB counties
  - Absence of cross-county impacts between IDB and non-IDB counties
  - Absence of non-employment economic impacts in IDB counties
- Findings consistent with Federal characterization of IDB counties
  - Existence of local labor surplus and private credit constraints
# Employment and earnings: county level regressions

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<td>(0.0162)</td>
<td>(0.0397)</td>
<td>(0.0279)</td>
</tr>
</tbody>
</table>

County FE, Year FE: x x x x x x
County linear trend: x x x x x x
County-year controls: x x x x x x
County-year obs: 27,385 27,352 26,746 27,297 27,986 21,325

Sample: 1900-2000, all counties c in IDB states s. S.E. clustered at state level. *, **, ***: significance at the 10%, 5%, 1%

\[ y_{cst} = \beta + \alpha 1(Vote\ in)_{st} + \theta 1(Upheld)_{st} + \delta 1(Vote\ in)_{st} \times 1(IDB\ county)_{c} \]
\[ + \pi 1(Upheld)_{st} \times 1(IDB\ county)_{c} + \lambda X_{cst} + \mu_{c} + \gamma_{t} + \phi_{c} \cdot t + \varepsilon_{cst} \]
### Exemption threshold $K$: reduced form and IV

<table>
<thead>
<tr>
<th></th>
<th>Reduced form</th>
<th>2nd stage</th>
<th>IV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[K/y]</td>
<td>[Avg inc $\geq$ K]</td>
<td>[Avg inc $&lt; K$]</td>
</tr>
<tr>
<td>(1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1(Vote)</td>
<td>-0.237</td>
<td>-418.3</td>
<td>116.2</td>
</tr>
<tr>
<td></td>
<td>(0.191)</td>
<td>(972.4)</td>
<td>(160.9)</td>
</tr>
<tr>
<td>1(Uphold)</td>
<td>-0.564**</td>
<td>585.6</td>
<td>-324.8</td>
</tr>
<tr>
<td></td>
<td>(0.235)</td>
<td>(902.9)</td>
<td>(473.3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instruments</td>
<td></td>
<td>1(Vote), 1(Uphold)</td>
<td>1(Uphold)</td>
</tr>
<tr>
<td>1st stage F-statistic</td>
<td>5.38</td>
<td>10.06</td>
<td></td>
</tr>
<tr>
<td>P-value</td>
<td>(0.0080)</td>
<td>(0.0027)</td>
<td></td>
</tr>
<tr>
<td>State FE, Year FE</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>State linear trend</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>State-year controls</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>State-year obs</td>
<td>3,384</td>
<td>3,384</td>
<td>3,384</td>
</tr>
</tbody>
</table>

Sample: 1939-2005, 48 states. S.E. clustered at state level. *, **, ***: significance at the 10%, 5%, 1%

$$y_{st} = \beta + \alpha 1 \text{ (Vote in)}_{st} + \theta 1 \text{ (Upheld)}_{st} + \lambda X_{st} + \mu_s + \gamma t + \phi_s \cdot t + \varepsilon_{st}$$
### Exemption threshold $K$: exclusion restriction

<table>
<thead>
<tr>
<th></th>
<th>Growth: short-run ($&lt;$10y) versus long-run ($&gt;$10y)</th>
<th>Confounding determinants of $K$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\text{Lg}(K/y)$</td>
<td>$\text{Lg}($E-shares$)$</td>
</tr>
<tr>
<td>$1($Vote$)$</td>
<td>$-0.054$</td>
<td>$-0.00651$</td>
</tr>
<tr>
<td></td>
<td>$(0.190)$</td>
<td>$(0.00820)$</td>
</tr>
<tr>
<td>$1($Uphold:0-10$)$</td>
<td>$-0.162***$</td>
<td>$0.0323***$</td>
</tr>
<tr>
<td></td>
<td>$(0.045)$</td>
<td>$(0.00892)$</td>
</tr>
<tr>
<td>$1($Uphold: &gt;10$)$</td>
<td>$-0.043$</td>
<td>$-0.00210$</td>
</tr>
<tr>
<td></td>
<td>$(0.172)$</td>
<td>$(0.00341)$</td>
</tr>
<tr>
<td>State FE, Year FE</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>State linear trend</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>State-year controls</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

Sample: 1939–2005, 48 states. S.E. clustered at state level. *, **, *** : significance at the 10%, 5%, 1%

$$y_{st} = \beta + \alpha 1(\text{Vote in})_{st} + \theta 1(\text{Years since uphold } \leq 10)_{st} + \pi 1(\text{Years since uphold } > 10)_{st} + \lambda X_{st} + \mu_{s} + \gamma_{t} + \phi_{s} \cdot t + \varepsilon_{st}$$
## Exemption threshold $K$: mechanisms

|                      | [E-share|income>$K$] | E-share | [K/y] |
|----------------------|----------------|---------|-------|
|                      | (1)            | (2)     | (3)   |
| 1(Vote)              | -0.0226        | -.0128  | -0.278|
|                      | (0.0145)       | (.0090) | (0.230)|
| 1(Vote)×1(EoI)       | -.0033         | 0.0944  |       |
|                      | (.0056)        | (0.151) |       |
| 1(Uphold)            | 0.00838        | .0263***| -0.716**|
|                      | (0.0128)       | (.0089) | (0.291)|
| 1(Uphold)×1(EoI)     | .011**         | 0.281   |       |
|                      | (.005)         | (0.250) |       |

State FE, Year FE: x, x, x
State linear trend: x, x, x
State-year controls: x, x, x
State-year obs: 3,384, 3,384, 3,384

Sample: 1939-2005, 48 states. S.E. clustered at state level. *, **, *** denote significance at the 10%, 5%, 1%

\[ y_{cst} = \beta + \alpha 1(Vote \text{ in})_{st} + \theta 1(Upheld)_{st} + \delta 1(Vote \text{ in})_{st} \times 1(Eol \text{ exists})_{st} + \pi 1(Upheld)_{st} \times 1(Eol \text{ exists})_{st} + \lambda X_{cst} + \mu_c + \gamma_t + \phi_c \cdot t + \epsilon_{cst} \]
Employment and threshold: robustness

- **DiD specification and long time series**
  - Non-parametric significance level through permutation tests
  - DiD small time window centered around reform

- **Alternative controls**
  - Linear trends for structural determinants
  - Non-parametric time path of civil law states
Tax revenue: reduced form and IV

<table>
<thead>
<tr>
<th></th>
<th>PersIncT</th>
<th>nonPIT</th>
<th>GSalesT</th>
<th>SSalesT</th>
<th>CIT</th>
<th>LicenceT</th>
<th>PropT</th>
<th>PIT (1)</th>
<th>PIT (2)</th>
<th>PIT (3)</th>
<th>PIT (4)</th>
<th>PIT (5)</th>
<th>PIT (6)</th>
<th>PIT (7)</th>
<th>PIT (8)</th>
<th>PIT (9)</th>
<th>PIT (10)</th>
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<tbody>
<tr>
<td>1(Vote)</td>
<td>0.0107</td>
<td>0.041</td>
<td>0.046</td>
<td>0.027</td>
<td>0.011</td>
<td>0.000</td>
<td>0.000</td>
<td>(0.121)</td>
<td>(0.088)</td>
<td>(0.079)</td>
<td>(0.039)</td>
<td>(0.022)</td>
<td>(0.021)</td>
<td>(0.007)</td>
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</tr>
<tr>
<td>1(Uphold)</td>
<td>0.161**</td>
<td>0.0268</td>
<td>0.001</td>
<td>-0.007</td>
<td>0.003</td>
<td>0.0119</td>
<td>-0.006</td>
<td>(0.078)</td>
<td>(0.096)</td>
<td>(0.073)</td>
<td>(0.031)</td>
<td>(0.026)</td>
<td>(0.021)</td>
<td>(0.037)</td>
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<tr>
<td>E-share</td>
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<td></td>
<td>1.210</td>
<td>5.841*</td>
<td>7.501**</td>
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<td></td>
<td></td>
<td>(1.182)</td>
<td>(3.510)</td>
<td>(3.295)</td>
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<td>Instruments</td>
<td>1(Vote), 1(Uphold)</td>
<td>1(Uphold)</td>
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<tr>
<td>P-value</td>
<td>0.0080</td>
<td>0.0027</td>
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</tbody>
</table>

Sample: 1939-2005, 48 states. S.E. clustered at state level. *, **, *** denote significance at the 10%, 5%, 1%

\[ y_{st} = \beta + \alpha 1(\text{Vote in})_{st} + \theta 1(\text{Upheld})_{st} + \lambda X_{st} + \mu_s + \gamma_t + \phi_s \cdot t + \varepsilon_{st} \]
Outline

1. Stylized facts: employee-share and tax base over development
2. Quasi experimental evidence: employee-share impact on tax base and tax take
3. Model
Model: threshold $K^*$ rule

$K$ rule: start at top, incremental decreases $dK < 0$ until

$$K^* : MC(K^*) = MB(K^*)$$

Marginal benefit: $dM = \text{mechanical revenue gain} > 0$

Marginal costs

- **Administrative**: $dC = dK \cdot c(\varphi_K) < 0$
  (Yitzhaki, 1979)

- **Horizontal Equity**: $dH \left(1 - \left|\frac{\text{Statutory employee-share} > K}{\text{Compliant employee-share} > K}\right|\right) \leq 0$
  (Kopczuk, 2001)

- **Efficiency**: $dB = dK \cdot \varepsilon_{z, K} \cdot \varphi_K \leq 0$
Model: threshold $K^*$ formula

Rule delivers $K^*$ formula

$$\frac{K^*}{\bar{z}} = \frac{1}{1 + \left[ \frac{\text{Mech gain} - dC(\varphi_K)}{\text{Behavioral loss}} \right] \cdot [\varepsilon \bar{z}, K \varphi_K]^{-1}}$$

Main empirical prediction

$$\frac{\partial K^*}{\partial \varphi_K} \geq 0$$
Model: threshold $K_{\text{country}}^*$ vs $K_{\text{observed country}}$

$R^2 = 0.625$

PIT–base share in total employment

Log real per capita income

- Actual country–obs
- Country–obs: local poly
- Predicted country–obs
- Predicted obs: local poly
Conclusion

Rise of modern tax system, driven by broad based PIT

- Micro evidence - lacks extension to tax capacity over development
- Macro evidence - lacks identified channels

This paper: new PF-Dev research design to bridge micro and macro

- New channel: distributional employee share and tax threshold
- Descriptive evidence and quasi-experimental evidence

Research design: potentially applicable to other PF-Dev questions

- Micro evidence: firm connectedness ↑ ⇒ VAT enforcement ↑
- Macro evidence: development ⇒ firm connectedness ↑
Real value of threshold ↑ over development

[Obs=90]

Exemption threshold in real US dollars

Log real per capita income

Country−obs Local poly + 95% CI

- Bangladesh
- China
- Denmark
- India
- Indonesia
- Mexico
- Rwanda
- US
Relevance of US states

Bachas & Jensen (2015)
## Equal 'earnings' pre-IDB in IDB counties

<table>
<thead>
<tr>
<th></th>
<th>Earnings per manufacturing job</th>
<th>Earnings per farmer</th>
<th>Difference</th>
<th>[p-value]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td><strong>1947 sample</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IDB counties</td>
<td>1675.98</td>
<td>1660.51</td>
<td>15.47</td>
<td>(0.22)</td>
</tr>
<tr>
<td></td>
<td>(10.28)</td>
<td>(15.94)</td>
<td>(12.70)</td>
<td></td>
</tr>
<tr>
<td>Non-IDB counties</td>
<td>2140.99</td>
<td>1886.10</td>
<td>254.89</td>
<td>(0.00)***</td>
</tr>
<tr>
<td></td>
<td>(14.21)</td>
<td>(6.58)</td>
<td>(12.81)</td>
<td></td>
</tr>
<tr>
<td><strong>1952 sample</strong></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>IDB counties</td>
<td>1873.87</td>
<td>1861.43</td>
<td>12.44</td>
<td>(0.77)</td>
</tr>
<tr>
<td></td>
<td>(24.72)</td>
<td>(51.81)</td>
<td>(43.78)</td>
<td></td>
</tr>
<tr>
<td>Non-IDB counties</td>
<td>3623.05</td>
<td>2549.29</td>
<td>1073.76</td>
<td>(0.00)***</td>
</tr>
<tr>
<td></td>
<td>(50.97)</td>
<td>(17.98)</td>
<td>(47.89)</td>
<td></td>
</tr>
</tbody>
</table>

Earnings per farmer constructed as \([\text{value of farm products sold} + \text{value of farm land}] \div \text{number of farmers}\). Average wage-salary by manufacturing production worker. *, **, *** denote significance at the 10%, 5%, 1% level.
### Robustness: regressions

<table>
<thead>
<tr>
<th>Specification</th>
<th>Time path civil law</th>
<th>Structural trends</th>
<th>Exclude TVA states</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
</tbody>
</table>

| 1(Vote)       | -0.00183            | -0.298            | -0.00377          |
|               | (0.00518)           | (0.188)           | (0.00520)         |

| 1(Uphold)     | 0.0146***           | -0.711***         | 0.0156***         |
|               | (0.00422)           | (0.227)           | (0.00533)         |

| State FE, Year FE | x       | x       | x |
| State linear trend | x       | x       |   |
| State-year controls | x       | x       |   |
| State-year obs    | 3,384   | 3,384   | 3,384 |

Sample: 1939-2005, 48 states. S.E. clustered at state level. *, **, *** denote: at the 10%, 5%, 1%
Robustness: non-parametric permutation tests

- Estimated placebo coefficient 1 (Uphold)
  - p-value = 0.008

- Estimated placebo coefficient 1 (Uphold)
  - p-value = 0.018
Distributional sector-share: all countries

$277 per cap

$3286 per cap

$13512 per cap

$53234 per cap

Manuf M + non-trade Services

- Back
Distributional firm size-share: low-middle income countries

- $1422 pc
- $3286 pc
- $4638 pc
- $6945 pc

Firm size <= 10
Distributional firm size-share: upper income countries

- $13512 pc
- $27596 pc
- $37369 pc
- $53234 pc
Distributional agriculture-share: low income countries

$277 pc

$730 pc

$1422

$3286

Agric Employee within Agric
Distributional agriculture-share: middle income countries

$4638 pc

$6945 pc

$13512 pc

$27596 pc

Agric Employee within Agric

Back
Distributional agriculture-share: high income countries
Micro database vs World Bank: agriculture estimates
Model: $\tau^*$ formula

At SWF optimum: $dM + dB + dC = 0$

\[
\frac{\tau^*}{1 - \tau^*} = \left[1 - g \left(\frac{\omega}{\lambda}\right)\right] \cdot \left[\frac{\text{Mechanical gain}}{\text{Behavioural loss}}\right] \cdot \frac{1}{[\varepsilon, 1 - \tau \cdot \varphi_K]}
\]

In US setting: $\tau^*$ following $dK^* < 0$?

- $\varphi_K$: no change
- Ratio $\left[\frac{\text{Mechanical gain}}{\text{Behavioural loss}}\right]$: $\uparrow$
- Social weight $g \left(\frac{\omega}{\lambda}\right)$: $\uparrow$