Global Economic Integration and the Political Economy of Education Provision

Benjamin Helms
Postdoctoral Fellow
Institute for Politics and Strategy
Carnegie Mellon University
October 29, 2022
Motivation

How does globalization shape education provision in emerging economies?

- Education is a key public good
- Shapes who can access globalization’s benefits
- Can mitigate globalization’s effects on inequality
Motivation

How does globalization shape education provision in emerging economies?

- Education is a key public good
- Shapes who can access globalization’s benefits
- Can mitigate globalization’s effects on inequality
Motivation

How does globalization shape education provision in emerging economies?

- Education is a key public good
- Shapes who can access globalization’s benefits
- Can mitigate globalization’s effects on inequality
Motivation

How does globalization shape education provision in emerging economies?

- Education is a key public good
- Shapes who can access globalization’s benefits
- Can mitigate globalization’s effects on inequality
Globalization and Education Provision

- Race to the bottom
- Compensation hypothesis
- Investing in education to compete
- Interest group opposition to education expansion
Globalization and Education Provision

- Race to the bottom
- Compensation hypothesis
- Investing in education to compete
- Interest group opposition to education expansion
Globalization and Education Provision

- Race to the bottom
- Compensation hypothesis
- Investing in education to compete
- Interest group opposition to education expansion
Globalization and Education Provision

- Race to the bottom
- Compensation hypothesis
- Investing in education to compete
- Interest group opposition to education expansion
Argument

- Globalization induces citizen education demand
- Politicians incentivized to provide globalization-specific educational opportunities
- But face challenges to rapidly expanding public education
- Result: facilitate expansion of private education
Argument

- Globalization induces citizen education demand
- Politicians incentivized to provide globalization-specific educational opportunities
  - But face challenges to rapidly expanding public education
- Result: facilitate expansion of private education
Argument

- Globalization induces citizen education demand
- Politicians incentivized to provide globalization-specific educational opportunities
- But face challenges to rapidly expanding public education
- Result: facilitate expansion of private education
Argument

- Globalization induces citizen education demand
- Politicians incentivized to provide globalization-specific educational opportunities
- But face challenges to rapidly expanding public education
- Result: facilitate expansion of private education
Setting: Indian Information Technology Boom

- **Turn of the century:** large IT/software boom in India
- Driven by external factors: Y2K, dot com boom
- Heavily concentrated in five states: Andhra Pradesh, Delhi, Karnataka, Maharashtra, Tamil Nadu
- Incentivized English fluency, engineering skills
Setting: Indian Information Technology Boom

- Turn of the century: large IT/software boom in India
- Driven by external factors: Y2K, dot com boom
- Heavily concentrated in five states: Andhra Pradesh, Delhi, Karnataka, Maharashtra, Tamil Nadu
- Incentivized English fluency, engineering skills
Setting: Indian Information Technology Boom

- Turn of the century: large IT/software boom in India
- Driven by external factors: Y2K, dot com boom
- Heavily concentrated in five states: Andhra Pradesh, Delhi, Karnataka, Maharashtra, Tamil Nadu
- Incentivized English fluency, engineering skills
Setting: Indian Information Technology Boom

- Turn of the century: large IT/software boom in India
- Driven by external factors: Y2K, dot com boom
- Heavily concentrated in five states: Andhra Pradesh, Delhi, Karnataka, Maharashtra, Tamil Nadu
- Incentivized English fluency, engineering skills
Boom in IT/Software Investment
IT Boom in Treated vs. Control States
Education in India

- Struggle to provide universal primary/secondary education
- Rapid growth in private unaided, low-fee schooling
- $\approx \frac{1}{3}$ of students are in private schools
- Politicians play critical role in promoting private schooling
  - Provide free public land, low-cost materials
  - Expedite approvals for private operators
  - Open private schools themselves
Education in India

- Struggle to provide universal primary/secondary education
- Rapid growth in private unaided, low-fee schooling
  - $\approx \frac{1}{3}$ of students are in private schools
- Politicians play critical role in promoting private schooling
  - Provide free public land, low-cost materials
  - Expedite approvals for private operators
  - Open private schools themselves
Education in India

- Struggle to provide universal primary/secondary education
- Rapid growth in private unaided, low-fee schooling
- $\approx \frac{1}{3}$ of students are in private schools
- Politicians play critical role in promoting private schooling
  - Provide free public land, low-cost materials
  - Expedite approvals for private operators
  - Open private schools themselves
Education in India

- Struggle to provide universal primary/secondary education
- Rapid growth in private unaided, low-fee schooling
- \( \approx 1/3 \) of students are in private schools
- Politicians play critical role in promoting private schooling
  - Provide free public land, low-cost materials
  - Expedite approvals for private operators
  - Open private schools themselves
Data: District Information System for Education (DISE)

- School-level data on
  - Year of establishment
  - Medium of instruction
  - Governance (public vs. private)

- Universe of recognized primary/secondary schools
- Aggregate to district level
- Focus: 1991-2010
Data: District Information System for Education (DISE)

- School-level data on
  - Year of establishment
  - Medium of instruction
  - Governance (public vs. private)

- Universe of recognized primary/secondary schools
  - Aggregate to district level
  - Focus: 1991-2010
Data: District Information System for Education (DISE)

- School-level data on
  - Year of establishment
  - Medium of instruction
  - Governance (public vs. private)
- Universe of recognized primary/secondary schools
- Aggregate to district level
- Focus: 1991-2010
Data: District Information System for Education (DISE)

- School-level data on
  - Year of establishment
  - Medium of instruction
  - Governance (public vs. private)
- Universe of recognized primary/secondary schools
- Aggregate to district level
- Focus: 1991-2010
Why English?

- Focus: expansion of English-medium schools
- Key prerequisite skill for ITES/software employment
  - Global language of IT/software business
- English education relatively easy to scale
- Readily observable, highly salient characteristic of schools
Why English?

- Focus: expansion of English-medium schools
- Key prerequisite skill for ITES/software employment
  - Global language of IT/software business
- English education relatively easy to scale
- Readily observable, highly salient characteristic of schools
Why English?

- Focus: expansion of English-medium schools
- Key prerequisite skill for ITES/software employment
  - Global language of IT/software business
- English education relatively easy to scale
  - Readily observable, highly salient characteristic of schools
Why English?

- Focus: expansion of English-medium schools
- Key prerequisite skill for ITES/software employment
  - Global language of IT/software business
- English education relatively easy to scale
- Readily observable, highly salient characteristic of schools
Empirical Model

\[ Share_{English} \equiv \alpha_0 + \alpha_1 \text{Treated}_i \times \text{Post}_t + \theta_i + \kappa_t + \theta_i \times \text{Year} + \epsilon_{it} \]


\( Share_{English} \equiv \): share of new schools that are English-medium in district \( i \) at time \( t \)


\( \text{Treated}_i \): 1 if district \( i \) in high-IT state

\( \text{Post}_t \): 1 if year \( \geq 2000 \)

\( \theta_i \) and \( \kappa_t \): district and year FEs

\( \theta_i \times \text{Year} \): district-specific trends

OLS, robust SEs clustered by district
Empirical Model

\[ ShareEnglish_{it} = \alpha_0 + \alpha_1 \text{Treated}_i \ast \text{Post}_t + \theta_i + \kappa_t + \theta_i \ast \text{Year} + \epsilon_{it} \]

\textit{ShareEnglish}_{it}: share of new schools that are English-medium in district \textit{i} at time \textit{t}

\textit{Treated}_{i}: 1 if district \textit{i} in high-IT state

\textit{Post}_t: 1 if year \geq 2000

\theta_i and \kappa_t: district and year FEs

\theta_i \ast \text{Year}: district-specific trends

OLS, robust SEs clustered by district
Empirical Model

\[ \text{ShareEnglish}_{it} = \alpha_0 + \alpha_1 \text{Treated}_i \times \text{Post}_t + \theta_i + \kappa_t + \theta_i \times \text{Year} + \epsilon_{it} \]

*ShareEnglish*<sub>it</sub>: share of new schools that are English-medium in district *i* at time *t*

*Treated*<sub>i</sub>: 1 if district *i* in high-IT state

*Post*<sub>t</sub>: 1 if year ≥ 2000

*θ*<sub>i</sub> and *κ*<sub>t</sub>: district and year FEs

*θ*<sub>i</sub> × *Year*: district-specific trends

OLS, robust SEs clustered by district
Empirical Model

\[ ShareEnglish_{it} = \alpha_0 + \alpha_1 Treated_i \ast Post_t + \theta_i + \kappa_t + \theta_i \ast Year + \epsilon_{it} \]

*\( ShareEnglish_{it} \): share of new schools that are English-medium in district \( i \) at time \( t \)

*\( Treated_i \): 1 if district \( i \) in high-IT state

*\( Post_t \): 1 if year \( \geq 2000 \)

\( \theta_i \) and \( \kappa_t \): district and year FEs

\( \theta_i \ast Year \): district-specific trends

OLS, robust SEs clustered by district
Empirical Model

\[
\text{ShareEnglish}_{it} = \alpha_0 + \alpha_1 \text{Treated}_i \times \text{Post}_t + \theta_i + \kappa_t + \theta_i \times \text{Year} + \epsilon_{it}
\]

\text{ShareEnglish}_{it}: share of new schools that are English-medium in district \(i\) at time \(t\)

\text{Treated}_i: 1 if district \(i\) in high-IT state

\text{Post}_t: 1 if year \(\geq 2000\)

\theta_i and \(\kappa_t\): district and year FEs

\theta_i \times \text{Year}: district-specific trends

OLS, robust SEs clustered by district
Empirical Model

\[ Share_{English_{it}} = \alpha_0 + \alpha_1 Treated_i \times Post_t + \theta_i + \kappa_t + \theta_i \times Year + \epsilon_{it} \]

\( Share_{English_{it}} \): share of new schools that are English-medium in district \( i \) at time \( t \)

\( Treated_i \): 1 if district \( i \) in high-IT state

\( Post_t \): 1 if year \( \geq 2000 \)

\( \theta_i \) and \( \kappa_t \): district and year FEs

\( \theta_i \times Year \): district-specific trends

OLS, robust SEs clustered by district
Empirical Model

\[ Share_{English \text{it}} = \alpha_0 + \alpha_1 Treated_{i} \times Post_t + \theta_i + \kappa_t + \theta_i \times Year + \epsilon_{it} \]

*Share_{English \text{it}}*: share of new schools that are English-medium in district *i* at time *t*

*Treated_{i}*: 1 if district *i* in high-IT state

*Post_{t}*: 1 if year \( \geq \) 2000

\( \theta_i \) and \( \kappa_t \): district and year FEs

\( \theta_i \times Year \): district-specific trends

OLS, robust SEs clustered by district
## IT Boom and Growth in (Private) English Schooling

<table>
<thead>
<tr>
<th></th>
<th>Dependent variable: Share</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>English (1)</td>
</tr>
<tr>
<td>Treated(_i) * Post(_t)</td>
<td>0.073***</td>
</tr>
<tr>
<td></td>
<td>(0.016)</td>
</tr>
<tr>
<td>District FEs</td>
<td>✓</td>
</tr>
<tr>
<td>Year FEs</td>
<td>✓</td>
</tr>
<tr>
<td>District trends</td>
<td>✓</td>
</tr>
<tr>
<td>Number of districts</td>
<td>579</td>
</tr>
<tr>
<td>Observations</td>
<td>11,164</td>
</tr>
</tbody>
</table>

*\(p<0.1\); **\(p<0.05\); ***\(p<0.01\). OLS.
(Private) English Schooling and Electoral Cycles

<table>
<thead>
<tr>
<th></th>
<th>Dependent variable: Share</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>English (1)</td>
<td>Public English (2)</td>
</tr>
<tr>
<td>$Treated_i \times Post_t$</td>
<td>0.019</td>
<td>-0.028***</td>
</tr>
<tr>
<td></td>
<td>(0.018)</td>
<td>(0.011)</td>
</tr>
<tr>
<td>$Election_{it+1}$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$Treated_i \times Post_t$</td>
<td>0.069***</td>
<td>0.009</td>
</tr>
<tr>
<td></td>
<td>(0.017)</td>
<td>(0.007)</td>
</tr>
</tbody>
</table>

District FEs ✓✓✓
Year FEs ✓✓✓
District trends ✓✓✓
Number of districts 575 575 575
Observations 11,119 11,119 11,119

*p < 0.1; **p < 0.05; ***p < 0.01. OLS.
Takeaways and Future Directions

- Potential benefits: higher-quality education that provides access to high-wage employment

- Potential harms: costs shift to household, limited access for poor families

- Additional analysis of educational quality and access

- Analyze incumbency and electoral outcomes, post-secondary education
Takeaways and Future Directions

- Potential benefits: higher-quality education that provides access to high-wage employment
- Potential harms: costs shift to household, limited access for poor families
- Additional analysis of educational quality and access
- Analyze incumbency and electoral outcomes, post-secondary education
Takeaways and Future Directions

- Potential benefits: higher-quality education that provides access to high-wage employment
- Potential harms: costs shift to household, limited access for poor families
- Additional analysis of educational quality and access
- Analyze incumbency and electoral outcomes, post-secondary education
Takeaways and Future Directions

- Potential benefits: higher-quality education that provides access to high-wage employment
- Potential harms: costs shift to household, limited access for poor families
- Additional analysis of educational quality and access
- Analyze incumbency and electoral outcomes, post-secondary education
Year-By-Year Model: Private English Schools