Human Capital and Mexico’s Labor Markets

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Rural Economies of the Americas Program
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Is Growth without Equity Today in China Tomorrow’s Instability? Stanford University, December 6, 2011
The Question:
Is Mexico China’s Future?
The Experiment

• Apply a random employment treatment
• Compare stability a decade or two down the road
• Problem: Endogeneity everywhere

Hard to Demonstrate Much
The Challenges

• There are differences in “economic treatments” across space
  – Good education and job opportunities here, not so good there

• These economic conditions are endogenous
  – In ways likely to be highly correlated with outcomes we’re discussing
    • Inequality, Stability, etc. (“The selection problem”)
  – Complex interactions among local actors shape outcomes

• The best we can do is to observe the education or economic opportunities at one point in time and outcomes at a later point

• The ENHRUM*
  – Detailed, longitudinal survey
  – Want to link to stability outcomes (drug-related violence, etc.)
  – On-the-ground challenges (including enumerator safety)

• There’s no counterfactual to what’s happening in Mexico (or China)
The Simulation Alternative

• Simulation methods:
  – Long used for policy analysis
  – Extended to local economies (villages, regions, islands)
  – Most recently, to project impact evaluation

• Capture linkages that transmit impacts among local economic actors (incl. treatment and non-treatment groups)

• Have been used to analyze inequality and poverty outcomes

• Not political instability, drug wars
My Reality-constrained Agenda

• I. Big trends in Mexico’s labor markets
• II. Detailed look at what’s happening out in rural Mexico
  – Poverty, Inequality
  – The trouble with Ginis
• III. Where’s Mexico headed?
• IV. Similarities and differences with China (a layman’s thoughts)
I. Three Big Pictures

- The X Box
- The Great Escape
- Fleeing the Farm
Big Picture 1: The Jobs Gap: An Optimistic View (Martin’s “X” Diagram)
The Jobs Gap (What Really Happened)
Big Picture 2: The Great Escape

Figure 1
Mexican-Born Population in the United States, 1850-2008 (thousands)

Big Picture 3: Fleeing the Farm

Changes in Per-Capita GDP and Agriculture's Share of Employment, 1990-2005
...in China, Mexico and the U.S.
II. Rural Mexican Transformations: What the ENHRUM Data Are Saying

• Rural Poverty went down significantly
  – Reflecting the Latin American trend

• Poverty Dynamics Are Complicated, Though
  (food poverty headcount, matched sample)

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**Transition Matrix**

<table>
<thead>
<tr>
<th>Poor 2002 (53%)</th>
<th>Poor 2007</th>
<th>Non Poor 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor 2002 (53%)</td>
<td>62.09%</td>
<td>37.91%</td>
</tr>
<tr>
<td>Non Poor 2002 (47%)</td>
<td>35.04%</td>
<td>64.96%</td>
</tr>
</tbody>
</table>

Source: Analysis of Encuesta Nacional a Hogares Rurales de Mexico (ENHRUM) Data
Mexico’s Indigenous Problem

• Persistent poverty is higher, transitions into poverty more likely

Food Poverty Headcount, Rural Mexico’s Indigenous Population
(matched sample)

Transition Matrix

<table>
<thead>
<tr>
<th></th>
<th>Poor 2007</th>
<th>Non Poor 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor 2002 (76%)</td>
<td>75.35%</td>
<td>24.65%</td>
</tr>
<tr>
<td>Non Poor 2002 (24%)</td>
<td>47.32%</td>
<td>52.68%</td>
</tr>
</tbody>
</table>

Source: Analysis of Encuesta Nacional a Hogares Rurales de Mexico (ENHRUM) Data
### Average per capita total income and its components (MX pesos $\equiv$ 10/US$)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total income</td>
<td>11,785.9</td>
<td>15,317.7</td>
<td>***</td>
</tr>
<tr>
<td>US remittances</td>
<td>1,025.4</td>
<td>2,152.5</td>
<td>***</td>
</tr>
<tr>
<td>MX remittances</td>
<td>217.5</td>
<td>708.7</td>
<td>***</td>
</tr>
<tr>
<td>Agricultural income</td>
<td>1,719.2</td>
<td>1,734.4</td>
<td></td>
</tr>
<tr>
<td>Livestock income</td>
<td>392.2</td>
<td>834.1</td>
<td>**</td>
</tr>
<tr>
<td>Farm wages</td>
<td>1,472.1</td>
<td>1,607.4</td>
<td></td>
</tr>
<tr>
<td>Off-farm wages</td>
<td>4,236.5</td>
<td>3,657.7</td>
<td>*</td>
</tr>
<tr>
<td>Non-farm income</td>
<td>1,651.6</td>
<td>3,084.0</td>
<td>***</td>
</tr>
<tr>
<td>Transfer income</td>
<td>1,071.5</td>
<td>1,539.0</td>
<td>***</td>
</tr>
</tbody>
</table>

**Observations** | 1,508 | 1,497 |

**Note:** *, ** and *** indicate that the difference between 2002 and 2007 is significant at the 10, 5 and 1 per cent levels, respectively.

**Source:** Analysis of Encuesta Nacional a Hogares Rurales de Mexico (ENHRUM) Data
Off-farm *Seems* to Favor the Rich

**Income Composition by Quintile, 2007**

Source: Analysis of Encuesta Nacional a Hogares Rurales de Mexico (ENHRUM) Data
Unequalizing Diversification

• Gini coefficients show off-farm income became more unequalizing
But This Hides Household Re-rankings

- Consider a village consisting of three households with per-capita incomes of 10, 20, and 20 units
  - Remittances to this poor household increase by 40 units
  - The new income distribution is [20, 20, 50]
  - The Gini coefficient increases, from 0.13 initially to 0.22
    - Even though the change in migrant remittances clearly was pro-poor
    - Ginis from cross-sectional data ignore this reshuffling
Remittances and Nonfarm Income ARE Pro-poor (But Rankings Changed)

Re-ranking (R) and pro-poor growth (P) in income sources as a % of the change in the source Ginis

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<thead>
<tr>
<th>Income Source</th>
<th>R</th>
<th>P</th>
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<tr>
<td>US Remittances</td>
<td>62.2</td>
<td>64.0</td>
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<tr>
<td>MX Remittances</td>
<td>73.1</td>
<td>72.1</td>
</tr>
<tr>
<td>Agriculture</td>
<td>66.8</td>
<td>59.0</td>
</tr>
<tr>
<td>Livestock</td>
<td>65.8</td>
<td>87.4</td>
</tr>
<tr>
<td>Farm Wages</td>
<td>60.2</td>
<td>59.3</td>
</tr>
<tr>
<td>Off-farm Wages</td>
<td>42.4</td>
<td>43.2</td>
</tr>
<tr>
<td>Non-farm Income</td>
<td>91.4</td>
<td>93.6</td>
</tr>
<tr>
<td>Transfers</td>
<td>60.7</td>
<td>66.4</td>
</tr>
<tr>
<td>Total Income</td>
<td>70.3</td>
<td>73.2</td>
</tr>
</tbody>
</table>

Source: ENHRUM data analysis based on Jenkins and Van Kerm (2006). ΔG=R-P.
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Source: ENHRUM data analysis based on Jenkins and Van Kerm (2006). \( \Delta G = R - P \).

More pro-poor than government transfers
Poverty Fell Almost Uniformly in Rural Mexico

<table>
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<tr>
<th>Region</th>
<th>2002</th>
<th>2007</th>
<th>Change</th>
<th>Most pro-poor income</th>
</tr>
</thead>
<tbody>
<tr>
<td>South-Southeast</td>
<td>0.64</td>
<td>0.52</td>
<td>-0.12</td>
<td>Remittances &amp; Transfers</td>
</tr>
<tr>
<td>Central</td>
<td>0.55</td>
<td>0.42</td>
<td>-0.13</td>
<td>Livestock</td>
</tr>
<tr>
<td>West-Central</td>
<td>0.41</td>
<td>0.33</td>
<td>-0.08</td>
<td>Nonfarm</td>
</tr>
<tr>
<td>Northwest</td>
<td>0.24</td>
<td>0.29</td>
<td>0.05</td>
<td>Nonfarm</td>
</tr>
<tr>
<td>Northeast</td>
<td>0.29</td>
<td>0.15</td>
<td>-0.14</td>
<td>Nonfarm</td>
</tr>
<tr>
<td>Total</td>
<td>0.36</td>
<td>0.25</td>
<td>-0.11</td>
<td>Nonfarm</td>
</tr>
</tbody>
</table>
III. Maybe Mexico Isn’t So Bad

• The Mexican census recently found 4 million more people in Mexico than had been projected
  – Attributed to a sharp decline in emigration
• Pew Hispanic Center: The illegal Mexican population in the United States has shrunk
• Mexico’s family income jumped > 45 percent since 2000
• Similarly to Japan, Korea, Germany, and other European countries, Mexican employers have not massively laid off workers (http://www.oecd.org/dataoecd/13/39/45604035.pdf)
Better Lives for Mexicans Cut Allure of Going North

Economic, demographic and social changes in Mexico are suppressing illegal immigration as much as the poor economy or legal crackdowns in the United States.

**Figure 2**

<table>
<thead>
<tr>
<th>Year</th>
<th>New Arrivals</th>
<th>Emigration</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001-2002</td>
<td>700</td>
<td>100</td>
</tr>
<tr>
<td>2002-2003</td>
<td>600</td>
<td>150</td>
</tr>
<tr>
<td>2003-2004</td>
<td>500</td>
<td>200</td>
</tr>
<tr>
<td>2004-2005</td>
<td>400</td>
<td>250</td>
</tr>
<tr>
<td>2005-2006</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>2006-2007</td>
<td>200</td>
<td>350</td>
</tr>
<tr>
<td>2007-2008</td>
<td>100</td>
<td>400</td>
</tr>
<tr>
<td>2008-2009</td>
<td>100</td>
<td>450</td>
</tr>
</tbody>
</table>

Note: Estimates based on Mexican-born population entering the United States in 1990 and later. Figures reported are for March to March. Source: Table 2 from Pew Hispanic Center, based on tabulations of monthly Current Population Surveys with weights modified for consistency with Vintage 2008 population estimates; data for average of January-April. See Methodological Appendix for definitions and details.

 Mexican Immigrants: How Many Come? How Many Leave? Jeffrey Passel and D’Vera Cohn, PEW Hispanic Center
OECD: A More Somber Outlook
(Mexico’s a DC in Paris)

• **OECD Employment Outlook 2010:**
  – “Projected output growth will not be robust enough to quickly absorb the large labour market slack accumulated during the downturn”

• Hard believe no spillover migration

• Massey: “No one wants to hear it, but the flow has already stopped”
  – might be a bit immature
  – ...but it’s almost a demographic certainty that he and Phil will be prophetic in the long run
IV. Convergence
Could past failures position Mexico for future success?

Nominal wages from the ILO  [http://laborsta.ilo.org/](http://laborsta.ilo.org/)
How Can Mexico Poise Itself for China’s High Wages?

Activity Selection, Human Capital and Migration (panel `xtprobit`)
(Note: Other controls not shown; for complete results see Aslihan and Taylor (2012))

<table>
<thead>
<tr>
<th>Variables</th>
<th>Farm</th>
<th>Livestock</th>
<th>Non-farm</th>
<th>Farm wage</th>
<th>Off-farm wage</th>
</tr>
</thead>
<tbody>
<tr>
<td>US mig. Network</td>
<td>0.000</td>
<td>0.005***</td>
<td>0.003**</td>
<td>0.000</td>
<td>-0.013***</td>
</tr>
<tr>
<td>MX mig. Network</td>
<td>0.008***</td>
<td>0.003</td>
<td>0.010***</td>
<td>0.000</td>
<td>0.003*</td>
</tr>
<tr>
<td>Adults</td>
<td>0.052***</td>
<td>0.061***</td>
<td>0.020</td>
<td>0.093***</td>
<td>0.184***</td>
</tr>
<tr>
<td>Education</td>
<td>-0.021**</td>
<td>-0.010</td>
<td>-0.007</td>
<td>-0.021***</td>
<td>0.037***</td>
</tr>
<tr>
<td>Sample Size</td>
<td>3005</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Marginal effects reported; Education is of household head

Education pulls people off the farm
Concluding Thoughts: Similarities

• The key to moving up is moving out (of agriculture)

• An imperative for jobs to absorb a rapidly-growing workforce
  • But China’s done it better, so far

• An imperative for human capital investment
  – The migration option
  – The importance of populations left behind

• Rural poverty is falling
  – What about the Great Recession?
Less Labor, More Productive
Differences

• Differences:
  • The emigration option (Or is it? Carter v. Deng)
  • Wage trends are on Mexico’s side competitively
  • So is geography (as the U.S. is concerned)
Inequality Seems to Be Falling

Source of Data: National Surveys of Household Income and Expenditure
Why?
(Technical Explanation)

• Urban income growth was pretty flat across the distribution
  – except for the top three deciles
  – ...which grew more slowly

• Average growth was greater in rural areas
  – But traditionally little (~1/6) of inequality was explained by the rural/urban gap

• The rural Gini curve had a negative slope
  – Mirrors ENHRUM data
Why?
(Human Capital Explanation)

• Greater public commitment to primary and secondary education
• ...As skill premium has fallen:

• PROGRESA/OPORTUNIDADES
“Mexico is now beginning to experience the inequality-reducing effects of having a more educated workforce and of trading with more skill-abundant countries”

-Esquivel (2008)
...and there are lots of girls to go around
Gracias /谢谢