International Migration and Development

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Motivation

- International migration is on the rise
  - Between 1990 and 2005, the stock of international migrants rose from 154m to 190m, reaching 3% of the world population.
  - Latin America and Caribbean have largest outflows, with share of adults having emigrated rising sharply between 1990 and 2000:
    - Jamaica: 30% to 35%
    - Haiti: 7% to 12%
    - El Salv: 14% to 20%
    - Honduras: 4% to 8%
    - Dom Rep: 8% to 13%
    - Ecuador: 2% to 6%
    - Mexico: 8% to 12%
  - Most emigrants go to high-income destinations, with the 12 largest hosting 51% of emigrants (and the US alone hosting 20%)
Motivation

- In theory, international migration enhances efficiency
  - Shifts labor from low-productivity to high-productivity economies
  - Yields large income gains for migrants and their families

- Yet, few policy makers endorse international migration as a means to promote development
  - There is no Washington Consensus on global migration policy (nor is there consensus among economists)
    - In sending countries, *emigration pessimists* suggest too many skilled individuals leave, causing brain drain and slowing growth
    - In destination countries, *immigration pessimists* claim too many unskilled immigrants try to get in, exacerbating fiscal distortions
Motivation

- Is pessimism on international migration warranted?
- Which types of individuals leave poor countries?
- How has emigration affected sending countries?
- Why is there a disconnect between sending and receiving-country perspectives on migration?
Outline

- Current trends in international migration
- The selection and sorting of emigrants
- Migration costs and migrant networks
- Impact of emigration on sending countries
- Directions for future work
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Data

- Until recently, there was little cross-country data available on international migration

- New data sources on international migration
  - Carrington and Detragiache (1999)
    - Emigration rates for tertiary educated in 61 developing countries
    - Emigrant stocks by education in OECD for 104 sending countries
  - Docquier and Marfouk (2006), Beine Docquier & Rapoport (2006)
    - Emigrant stocks by education in OECD for 192 sending countries

- Still little data on (now sizable) South to South flows
## 1. Rising share of immigrants from low-income countries in the OECD

<table>
<thead>
<tr>
<th>Low Income Sending Region</th>
<th>1990</th>
<th>2000</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico, Central America, Caribbean</td>
<td>0.149</td>
<td>0.202</td>
<td>0.053</td>
</tr>
<tr>
<td>Southeast Asia</td>
<td>0.086</td>
<td>0.102</td>
<td>0.016</td>
</tr>
<tr>
<td><strong>Eastern Europe</strong></td>
<td><strong>0.057</strong></td>
<td><strong>0.099</strong></td>
<td><strong>0.042</strong></td>
</tr>
<tr>
<td>Middle East</td>
<td>0.062</td>
<td>0.063</td>
<td>0.001</td>
</tr>
<tr>
<td>South Asia</td>
<td>0.041</td>
<td>0.052</td>
<td>0.011</td>
</tr>
<tr>
<td>North Africa</td>
<td>0.050</td>
<td>0.044</td>
<td>-0.006</td>
</tr>
<tr>
<td>South America</td>
<td>0.031</td>
<td>0.041</td>
<td>0.010</td>
</tr>
<tr>
<td>Central, Southern Africa</td>
<td>0.029</td>
<td>0.036</td>
<td>0.007</td>
</tr>
<tr>
<td>Former Soviet Union</td>
<td>0.031</td>
<td>0.029</td>
<td>-0.002</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>0.540</strong></td>
<td><strong>0.672</strong></td>
<td><strong>0.132</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>High Income Sending Region</th>
<th>1990</th>
<th>2000</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Europe</td>
<td>0.355</td>
<td>0.244</td>
<td>-0.111</td>
</tr>
<tr>
<td>Asia, Oceania</td>
<td>0.065</td>
<td>0.055</td>
<td>-0.010</td>
</tr>
<tr>
<td>North America</td>
<td>0.040</td>
<td>0.029</td>
<td>-0.011</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>0.460</strong></td>
<td><strong>0.328</strong></td>
<td><strong>-0.132</strong></td>
</tr>
</tbody>
</table>
2. National emigration rates vary and are persistent
3. Rising share of foreign born in total population in OECD countries

<table>
<thead>
<tr>
<th>Country</th>
<th>1995</th>
<th>2004</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>23.0</td>
<td>23.6</td>
<td>0.6</td>
</tr>
<tr>
<td>Switzerland</td>
<td>21.4</td>
<td>23.5</td>
<td>2.2</td>
</tr>
<tr>
<td>Canada</td>
<td>16.6</td>
<td>18.0</td>
<td>1.4</td>
</tr>
<tr>
<td>New Zealand</td>
<td>16.2</td>
<td>18.8</td>
<td>2.6</td>
</tr>
<tr>
<td>Germany</td>
<td>11.5</td>
<td>12.9</td>
<td>1.4</td>
</tr>
<tr>
<td>Sweden</td>
<td>10.5</td>
<td>12.2</td>
<td>1.7</td>
</tr>
<tr>
<td>United States</td>
<td>9.3</td>
<td>12.8</td>
<td>3.5</td>
</tr>
<tr>
<td>Netherlands</td>
<td>9.1</td>
<td>10.6</td>
<td>1.6</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>6.9</td>
<td>9.3</td>
<td>2.3</td>
</tr>
<tr>
<td>Ireland</td>
<td>6.9</td>
<td>11.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Norway</td>
<td>5.5</td>
<td>7.8</td>
<td>2.3</td>
</tr>
<tr>
<td>Portugal</td>
<td>5.4</td>
<td>6.7</td>
<td>1.3</td>
</tr>
<tr>
<td>Denmark</td>
<td>4.8</td>
<td>6.3</td>
<td>1.6</td>
</tr>
<tr>
<td>Finland</td>
<td>2.0</td>
<td>3.2</td>
<td>1.2</td>
</tr>
</tbody>
</table>
4. Emigration rates are increasing in population density (2000)
6. Emigration rates are higher for the more educated (2000)
7. War-torn countries show largest increases skilled emigration, 1990-2000

Migrants with 13 plus years of education

Emigration rate, 1990

Change in emigration rate, 1990-2000
Outline

- Current trends in international migration
- The selection and sorting of emigrants
- Migration costs and migrant networks
- Impact of emigration on sending countries
- Directions for future work
Selection of Migrants out of Sending Countries

- Who leaves poor countries?
  - Borjas (1987) suggests the less skilled will be more likely to emigrate from poor to rich countries, as long as
    - The return to skill is higher in poor countries
    - Raw labor productivity is higher in rich countries
    - Migration costs are fixed in units of time

- While claims of negative selection are still common, positive selection of emigrants is nearly universal
  - Emerging literature on positive selection (Docquier & Markfouk, Beine Docquier & Rapoport, Rosenzweig, Grogger & Hanson, McKenzie Gibson & Tillman)
In nearly all countries, the more educated are overrepresented among emigrants (relative to their presence in the population)
Causes of Positive Selection

- Skill-biased admission policies in receiving countries
  - Does illegal immigration undo this bias?

- Combination of large fixed migration costs and credit constraints on borrowing to finance migration
  - Are less skilled more subject to credit constraints (or more risk averse or more likely to have high discount rates)?

- Higher relative reward to skill in rich countries
  - In poor countries, low labor productivity contributes to skilled emigration, high (Mincerian) returns to skill works against it
  - Countries with lower labor productivity send more emigrants (especially skilled emigrants) to the US (Rosenzweig)
Inequality and Selection

- Positive selection requires

\[ W_{sk\	ext{rich}} - W_{sk\	ext{poor}} > W_{unk\	ext{rich}} - W_{unk\	ext{poor}} \iff W_{r}^{u}\left(\frac{W_{r}^{s}}{W_{r}^{u}} - 1\right) > W_{p}^{u}\left(\frac{W_{p}^{s}}{W_{p}^{u}} - 1\right) \]

- where sk, s = skilled labor; unsk, u = unskilled labor

- The condition for positive selection is

\[ \frac{W_{r}^{u}}{W_{p}^{u}} > \frac{\delta_{p}}{\delta_{r}} \]

*Skilled workers will migrate in larger numbers as long as the boost in their base wage (from higher productivity) more than compensates for the loss in the return to skill (from lower \( \delta \)).*
Sorting of Migrants across Destinations

- In theory, more skilled emigrants will tend to select destinations in which the reward to skill is higher.

- Among OECD countries the reward to skill (the wage difference between high and low skilled labor) is higher in Anglophone countries (US, UK, Canada, Australia).

- Consistent with theory, Anglophone countries attract a more skilled mix of immigrants (Grogger & Hanson).
<table>
<thead>
<tr>
<th>Country</th>
<th>20th percentile</th>
<th>80th percentile</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>14,040</td>
<td>23,730</td>
<td>9,690</td>
</tr>
<tr>
<td>Austria</td>
<td>10,150</td>
<td>16,110</td>
<td>5,960</td>
</tr>
<tr>
<td>Canada</td>
<td>11,930</td>
<td>25,620</td>
<td>13,690</td>
</tr>
<tr>
<td>Denmark</td>
<td>16,260</td>
<td>26,060</td>
<td>9,800</td>
</tr>
<tr>
<td>France</td>
<td>7,860</td>
<td>14,500</td>
<td>6,640</td>
</tr>
<tr>
<td>Germany</td>
<td>13,290</td>
<td>21,320</td>
<td>8,030</td>
</tr>
<tr>
<td>Netherlands</td>
<td>16,880</td>
<td>26,440</td>
<td>9,560</td>
</tr>
<tr>
<td>Norway</td>
<td>15,160</td>
<td>27,840</td>
<td>12,680</td>
</tr>
<tr>
<td>Spain</td>
<td>8,050</td>
<td>15,370</td>
<td>7,330</td>
</tr>
<tr>
<td>Sweden</td>
<td>9,750</td>
<td>16,920</td>
<td>7,170</td>
</tr>
<tr>
<td>UK</td>
<td>16,500</td>
<td>31,970</td>
<td>15,470</td>
</tr>
<tr>
<td>US</td>
<td>17,220</td>
<td>40,980</td>
<td>23,760</td>
</tr>
</tbody>
</table>
More educated migrants tend to go to destination countries with higher rewards to skill

<table>
<thead>
<tr>
<th>Education Group</th>
<th>All</th>
<th>Primary</th>
<th>Secondary</th>
<th>Tertiary</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>0.51</td>
<td>0.35</td>
<td>0.54</td>
<td>0.66</td>
</tr>
<tr>
<td>Europe</td>
<td>0.38</td>
<td>0.56</td>
<td>0.35</td>
<td>0.24</td>
</tr>
<tr>
<td>Australia &amp; Oceania</td>
<td>0.10</td>
<td>0.09</td>
<td>0.11</td>
<td>0.11</td>
</tr>
<tr>
<td>All OECD</td>
<td>0.36</td>
<td>0.29</td>
<td>0.35</td>
<td></td>
</tr>
</tbody>
</table>
Outline

- Current trends in international migration
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Migration Costs

- Why are emigrants only 3% of the world population?
  - Rosenzweig estimates a gross annual gain from Mexico-to-US legal migration of $20k (Hanson estimates a gain of $12k including illegals)
  - Why is only 10% of Mexico’s population in the US?

- While there are few estimates of migration costs, flows are sensitive to presence of migrant networks
  - For Mexico, access to networks is associated with
    - Higher likelihood of emigrating (Orrenius & Zavodny), especially for the less wealthy and less educated (McKenzie & Rapoport)
    - Higher likelihood of finding a job in the US (Munshi)
    - Lower prices for smuggler services (Gathmann)
Average smuggler’s fee for crossing U.S.-Mexico border
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Impact of Emigration on Wages

Does the exodus of labor due to emigration drive up wages in sending countries?

- Estimated elasticity of wages with respect to emigration for Mexico:
  - Using nat’l data, 0.4-0.6 (Mishra, Aydemir & Borjas)
  - Using regional data, 0.7 (Hanson)

- Problems in estimating the wage elasticity of emigration (all of which would appear to bias estimate toward zero):
  - Estimate is reduced form, net of effect of capital adjustment
  - Emigration may be negatively correlated with local wage shocks
## Emigration and Remittances

### Workers' Remittances as % of GDP

<table>
<thead>
<tr>
<th>Region</th>
<th>1992</th>
<th>2000</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Asia &amp; Pacific</td>
<td>0.6</td>
<td>1.0</td>
<td>1.5</td>
</tr>
<tr>
<td>Europe &amp; Central Asia</td>
<td></td>
<td>1.4</td>
<td>1.4</td>
</tr>
<tr>
<td>Latin America &amp; Caribbean</td>
<td>0.7</td>
<td>1.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Middle East &amp; North Africa</td>
<td>8.3</td>
<td>3.1</td>
<td>4.1</td>
</tr>
<tr>
<td>South Asia</td>
<td>1.8</td>
<td>2.9</td>
<td>3.5</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>0.8</td>
<td>1.5</td>
<td>1.6</td>
</tr>
</tbody>
</table>
Emigration and Remittances

- Emigrants share income gains with family members through remittances
  - Fulfillment of migration contract (Lucas & Stark) and/or consumption smoothing across borders (Rosenzweig & Stark)
  - Positive income shock in emigrant’s country is associated with larger remittances to sending country (Yang)
  - Remittances support both consumption and investment spending (Yang) and may deepen financial markets (Woodruff et al.)
  - But there is no reason to believe primary motivation of remittances is investment in the sending country

- Impediments to remittances
  - Service fees on money transfers average 11% and elasticity of remittances w.r.t. services fees is -0.15 (Freund & Spatafora)
Other Impacts of Emigration

- Does brain drain cause drop in net tax revenues?
  - Impact appears to be small in India (Desai, Kapur & McHale)

- Does emigration affect international trade?
  - Bilateral migration is positively correlated with bilateral trade, though causality is unclear (Gould, Head & Reis)
  - Countries with larger bilateral Chinese populations do trade more, especially in differentiated products (Rauch & Trindade)

- Does emigration affect international knowledge flows?
  - Chinese and Indian engineers in Silicon Valley have contributed to FDI and business formation in their home countries (Saxenian)
  - Countries that send students to democratic countries for university have stronger democratic leanings later on (Spilimberger)
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Summary of Results

- Migration flows are negatively affected by geographic or linguistic distance, the absence of migration networks, and border enforcement.
- Emigration rates are highest for developing countries at middle income levels and with high population densities.
- In most developing countries, it is the more educated who have the highest likelihood of emigrating.
- More educated emigrants sort themselves across destinations according to the reward for skill.
- There is some evidence that emigration puts upward pressure on wages in sending countries.
- Migrant remittances are positively correlated with household spending on consumption, education and entrepreneurial activities.
What We Don’t Know

- The impact of emigration on wages and net tax revenues
  - Do results for Mexico and India generalize?

- The impact of skilled emigration on the stock of human capital
  - What is the primary cause of skilled emigration?
  - Does skilled emigration cause a brain drain or a brain gain?

- The relative contribution of labor productivity, returns to skill, and migration costs to migration flows
  - Are migration costs large enough to explain small migration flows?
  - Is there a skill bias in receiving country immigration policies?
  - How do sending-country policies affect emigration?

- How does migration interact with trade and capital flows?
  - Are trade and migration substitutes or complements?
  - Do remittances help deepen financial markets?