“Where on Earth is Everybody? Deciphering the Development Impact of Migration from Microdata

Prepared for:
The Changing Face of Global Mobility:
Celebrating 10 years of the International Migration Institute

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World Bank

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I. MIGRANTS EVERYWHERE

Barcelona vs. Juventus

UEFA Champions League
Final
June 6, 2015, Berlin
I. MIGRANTS EVERYWHERE

Côte d'Ivoire
World Cup Champion 😊
2018
I. MIGRANTS EVERYWHERE

2012-15 Academy Awards for Best Director

2013 Nobel Prize in Chemistry
I. MIGRANTS EVERYWHERE – NOT REALLY !!!

Share of the Population Applying for the US Diversity Visa 2015 (%)
I. MIGRANTS EVERYWHERE – NOT REALLY !!!

The World Migrant Stock as a Share of World Population

- **Total Migrant Stock**
- **Total Stock excluding intra-Soviet Union and intra-South Asia migration**
GLOBAL MIGRATION PATTERNS

“In God we trust, all others must bring data”

Edward W. Deming
I. GLOBAL BILATERAL MIGRATION DATABASES

CENSUS BASED DATA

Main Challenges
A. How to define countries consistently – Soviet Union!
B. Origin regions in censuses are not standard – South Asia, Ex-French Africa
C. Non-harmonized census dates
D. Definition of a migrant – place of birth vs nationality
E. Very few other economic, social indicators in the data
F. MISSING CENSUS ROUNDS!
I. GLOBAL BILATERAL MIGRATION DATABASES

Immigrant Population as fraction of Destination Country Population

Share of immigrants amongst tertiary educated (in %) - 2010
I. GLOBAL BILATERAL MIGRATION DATABASES

Emigrant Population as fraction of Origin Country Population

Emigration rate amongst tertiary educated (in %) - 2010

![Image of world map showing emigration rates amongst tertiary educated in 2010](image.png)
I. GLOBAL SKILLED MIGRATION DATABASES
I. GLOBAL SKILLED MIGRATION DATABASES

Estimation methods allow us to:

- **Identify the importance of different gravity variables**
  - Distance
  - Border
  - Language
  - Colonial links
  - Diaspora

- **Determine how these variables change over time, by skill level and gender**

- **Predict the migration levels for missing corridors and construct a full global migration matrix**
## I. GLOBAL SKILLED MIGRATION DATABASES

### Bilateral Statistics

<table>
<thead>
<tr>
<th>ORIGINS</th>
<th>DESTINATIONS</th>
<th>High-income</th>
<th>Developing</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-income</td>
<td>High-skill (%)</td>
<td>38.2</td>
<td>21.5</td>
</tr>
<tr>
<td></td>
<td>Women (%)</td>
<td>52.6</td>
<td>47.7</td>
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<tr>
<td></td>
<td>Growth (%)</td>
<td>8.6</td>
<td>12.5</td>
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<tr>
<td>Developing</td>
<td>High-skill (%)</td>
<td>30.5</td>
<td>10.4</td>
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<tr>
<td></td>
<td>Women (%)</td>
<td>46.8</td>
<td>48.9</td>
</tr>
<tr>
<td></td>
<td>Growth (%)</td>
<td>55.6</td>
<td>7.1</td>
</tr>
</tbody>
</table>
I. GLOBAL BILATERAL MIGRATION DATABASES

Gross versus Net High Skilled Emigration Rates (%)
I. GLOBAL BILATERAL MIGRATION DATABASES

Emigration rates of high-skilled women and men
I. GLOBAL BILATERAL MIGRATION DATABASES

CENSUS BASED DATA

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D. Definition of a migrant – place of birth vs nationality
E. Very few other economic, social indicators in the data
F. MISSING CENSUS ROUNDS!
II. WHAT IS BRAIN DRAIN?
PLACE OF BIRTH vs. TRAINING

“Who Really is a Foreign Doctor?”
w/ D. Phillips

A. There are NO database that covers individual labor market histories of migrants.
B. Merge administrative (American Medical Association) and Census (American Community Survey) data to identify location of birth, education and age of migration for 320,000 foreign Doctors in the US.
I. PLACE OF BIRTH vs. TRAINING

ADMINISTRATIVE + CENSUS BASED DATA

Main Issues
A. Need individual life histories to identify determinants and impact of migration
B. Expensive to collect raw data!
C. Need to merge separate databases – administrative and survey data
D. MISSING DATA!
II. PLACE OF BIRTH vs. TRAINING

BORN IN EGYPT
Census
4,867

TRAINED IN EGYPT
AMA
4,062
II. PLACE OF BIRTH vs. TRAINING

TOTAL NUMBER OF "EGYPTIAN" DOCTORS IN THE US: 5,401

BORN IN EGYPT

- 1,339
- (25%)

TRAINED IN EGYPT

- 3,528
- (65%)

- 534
- (10%)
II. PLACE OF BIRTH vs. TRAINING

**BORN IN EGYPT**
- Trained in another African Country: 37
- Trained in the United States: 1,077
- Trained in the rest of the world: 225

**TRAINED IN EGYPT**
- Born in another African Country: 44
- Born in the United States: 124
- Born in the rest of the world: 365

- 25% of total
- 65% of total
- 10% of total
II. PLACE OF BIRTH vs. TRAINING

Cumulative probability distribution of Age of Migration of doctors trained at home

- Egypt
- Ethiopia
- Ghana
I. PLACE OF BIRTH vs. TRAINING

ADMINISTRATIVE + CENSUS BASED DATA

Main Issues
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C. Need to merge separate databases – administrative and survey data
D. MISSING DATA!
IMPACT OF IMMIGRATION ON LABOR MARKETS IN MIDDLE-INCOME COUNTRIES
III. LABOR MARKET IMPACT OF MIGRATION

“Immigrants versus Natives? Displacement and Job Creation”
w/ M. Wagner

MAIN FEATURES

A. Detailed labor force data on wages, employment status, sectors of employment, age, location, nationality to control for SELECTION effects!
I. LABOR MARKET IMPACT OF MIGRATION

ADMINISTRATIVE + SURVEY BASED DATA

Main Issues
A. Need locally representative data – across geographic units, occupations, sectors, age groups, education levels, nationalities and TIME!
B. Expensive to design appropriate sampling frame and collect data!
C. Availability?
D. MISSING DATA!
II. LABOR MARKET IMPACT

MALAYSIA

Migrant Workers as a Share of Labor Force

% of Labor Force

% of 15+ population

%  
12  
10  
8  
6  
4  
2  
0  

% of Labor Force

% of 15+ population
II. LABOR MARKET IMPACT

MALAYSIA
Education Distribution

Malaysian workers (25-35)

Migrant workers (25-35)

II. LABOR MARKET IMPACT

Endogenous Location Choices
II. LABOR MARKET IMPACT

Endogenous Location Choices

Substitution versus Scale Effects in Labor Markets
II. LABOR MARKET IMPACT

Employment Impact by Education Level
II. LABOR MARKET IMPACT

Actual and Counterfactual Skill Premium

Log Wage Points

0.00 0.25 0.50 0.75 1.00 1.25 1.50

At most primary  Lower Secondary  Upper Secondary  Certificate / Diploma  Degree and Above

Actual  Counterfactual ( @ 1990 immigration level)
“EXCITING” NEW ISSUES
I. AG(E)ING
THE OTHER PATH TO EXTINCTION?

A. Can mobility solve global demographic imbalances?
I. AG(E)ING
THE OTHER PATH TO EXTINCTION?

Dependency Ratios
1970-2070

OECD
East Asia
South Asia
I. AG(E)ING
THE OTHER PATH TO EXTINCTION?

Dependency Ratios with "Free Mobility"
1970-2070

OECD
East Asia
East Asia + OECD
I. AG(E)ING
THE OTHER PATH TO EXTINCTION?

Dependency Ratios
1970-2070

Dependency Ratios
1970-2070

1.00
0.80
0.60
0.40
0.20
0.00

1970 1990 2010 2030 2050 2070

OECD South Asia South Asia + OECD

- OECD
- South Asia
- South Asia + OECD
I. AG(E)ING
THE OTHER PATH TO EXTINCTION?

A. Can mobility solve global demographic imbalances?

Likely Answer: NO

- Fertility is declining in developing countries faster than it did in the West
- Migrants demographic norms quickly converges to the natives’ norms
- Migrants will age and need pensions in the destination countries
- Type of migration matters – permanent vs temporary etc
- DATA, DATA, DATA....
I. AG(E)ING
THE OTHER PATH TO EXTINCTION?

Caveat: Do not Trust UN Population Projections!!!
I. AG(E)ING
THE OTHER PATH TO EXTINCTION?

Caveat: Do not Trust UN Population Projections!!!

I. AG(E)ING
THE OTHER PATH TO EXTINCTION?
*Caveat: Do not Trust UN Population Projections!!!*

![Graph showing population projections for different regions]

- **AFRICA**: 2.3 in 2015 and 1.9 in 2030
- **ASIA**: 2.3 in 2015 and 2.0 in 2030
- **LAC**: 2.3 in 2015 and 1.9 in 2030
- **EUROPE**
I. AGING
THE OTHER PATH TO EXTINCTION?

ADMINISTRATIVE + CENSUS BASED DATA + PROJECTIONS

Main Issues
A. Need nationally representative data across age groups, education levels, nationalities and TIME!
B. Need good predictions of fertility, mortality and mobility parameters
C. Need GOOD projections based on GOOD census data!
II. ENDOGENOUS EDUCATION

A. How do people adjust their education level in response to potential immigration opportunities abroad?

*It depends on the “opportunities!” (potential for brain gain effect)*

*In Mexico, significant negative effect of migration on schooling attendance and attainment* (McKenzie & Rapoport, 2011)

*In Fiji, political crisis and high rates of emigration by tertiary-educated Indians raised their investment in tertiary education.* (Chand & Clemens, 2008)
II. ENDOGENOUS EDUCATION

B. How do people adjust their education level in response to potential arrival of emigrants from abroad?

*It again depends on the “type of migrants”*

*Post-1992 influx of Soviet mathematicians led “low-quality” American mathematicians to move to other areas whereas “high-quality” ones benefited from spillovers. (Borjas, 2012)*

*What about arrival of low-skilled workers?*
II. ENDOGENOUS EDUCATION

MALAYSIA “for the last time 😊”

% of 15-19 Natives in School

% of Migrants in Labor Force
III. FEMALE LABOR FORCE PARTICIPATION

A. How do women adjust their labor force participation, education or fertility decisions when they have access to cheap household services?

*Low-skilled immigration increases labor supply of high skilled women in the US, Hong Kong and Taiwan (Cortes, 2011 and 2013)*

*Little evidence on fertility decisions.*
III. FEMALE LABOR FORCE PARTICIPATION

B. How do women adjust their labor force participation, education or fertility decisions when they can immigrate to high-income countries?

Or are women different than men in their responses?
### III. FEMALE LABOR FORCE PARTICIPATION

#### Share of women among university students

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<thead>
<tr>
<th>Country</th>
<th>2010</th>
<th>1990</th>
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<tbody>
<tr>
<td>Brazil</td>
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#### Share of singles among college educated migrant women to the US (age 25-35)

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I. ENDOGENOUS EDUCATION + FERTILITY DECISIONS

ADMINISTRATIVE + SURVEY BASED DATA + PROJECTIONS

Main Issues
A. Need nationally representative data across age groups, education levels, nationalities and TIME!
B. Need good predictions of fertility, mortality + mobility + labor force participation parameters
Thank You!

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http://econ.worldbank.org/research