Global Migration Trends

Haylee Ham • University of Chicago

Three Theories

I will test the global validity of three major migration theories:

- Potential income and the probability of securing employment are the best indicators of migration to a country (Harris and Todaro, 1970)
- Falling fertility rates and an aging population in a country are strong indicators that migration to said country will increase (Hugo, 1998)
- Families will prioritize migration to a country with a stronger educational system so that children can secure higher wages (Adepoju, 2000)

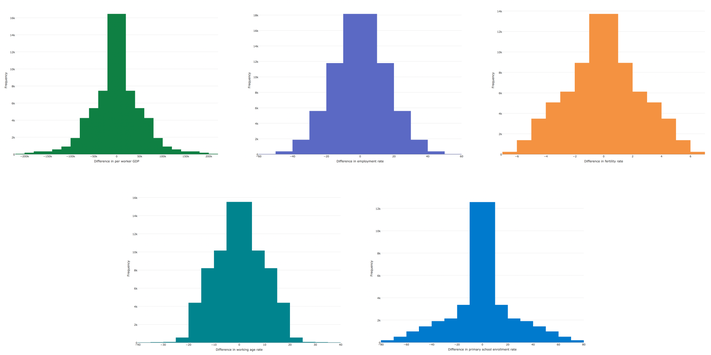
Hypothesis

What characteristics of origin and destination countries motivate migration? I hypothesize that the most significant global migration indicators are potential income and probability of securing employment.

Data Sources

- Global Migration Data (Abel and Sander, 2014): a dyadic dataset recording migration flows between 196 countries at 5-year intervals between 1990 and 2010
- World Development Indicators from the World Bank: country-level development and economic indicators measured yearly
  - For this study, variables were estimated by taking simple differences between the values in the destination and origin country
- CEPII: provided datasets containing distances and a common language indicator between pairs of countries; variables which were used as controls for this study

Histograms of Key Variables



Migration in Terms of Per Worker GDP Quartiles

Estimating the Model

Past research indicated that the effect between migration flow and per worker GDP would be nonlinear (Mayda, 2010) and so a spline was fit to the per worker GDP variable. All other variables are estimated parametrically. The generalized additive model to be estimated is shown below:

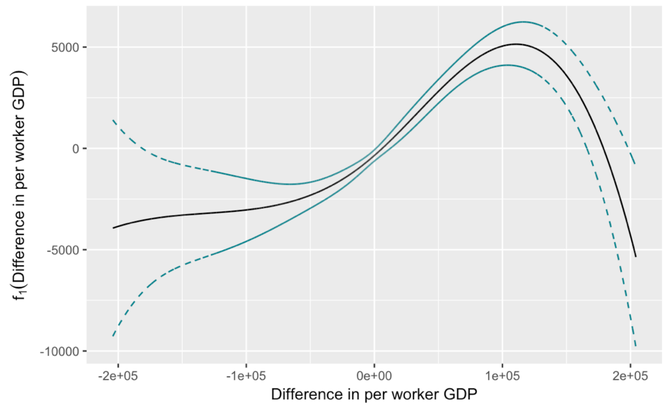
$$migration\_flow_{i,j} = ß_0 + ß_1 f(per\_worker\_gdp_{i,j}) + ß_2 fertility\_rate_{i,j} + ß_3 working\_age\_rate_{i,j} + ß_4 employment\_rate_{i,j} + ß_5 primary\_enrollment\_rate_{i,j} + ß_6 sqrt(distance_{i,j}) + ß_7 common\_language_{i,j} + country\_fixed\_effects_j + time\_fixed\_effects_t + \varepsilon$$

Results

The spline fit of the per worker GDP variable shows that migration between two countries increases sharply as the per worker GDP in the destination country becomes increasingly greater than the per worker GDP in the origin country. After the per worker GDP in the destination country is about $100,000 greater than in the origin country, migration begins to fall.

Marginal Effect of Per Worker GDP on Migration

Cubic Spline

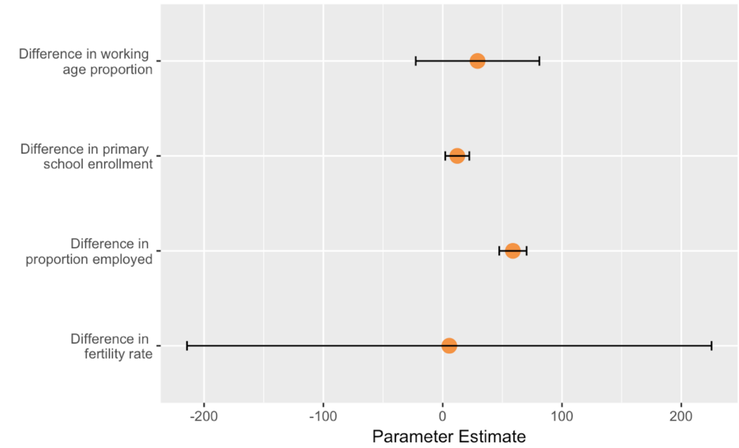


Parametric Results from Generalized Additive Model

Variable	Estimate	Std. Error	p-value
Difference in working age population	29.22	51.82	0.573
Difference in primary school enrollment	12.23	10.08	0.225
Difference in proportion employed	58.83	11.45	2.8e-07*
Difference in Fertility Rate	5.53	219.81	0.979
Distance, kilometers (square root)	-65.38	4.95	<2e-16*
Common Language	1,750.36	374.16	2.9e-06*

** Significant at a 0.001 level*

Key Parameter Estimate Plot



Do the Theories Hold True?

- The Harris-Todaro theory was the only theory that the model estimated to be a significant indicator of migration. As the difference between the employment rate in two countries increased, migration to the country with a higher employment rate increased. As per worker GDP increased over that of the origin country, migration to the destination country increased until the difference exceeded $100,000.
  - The decline in migration after the difference exceeds $100,000 is possibly evidence of Mayda's theory that, at a certain point, the social barrier of poverty impedes migration.
- The indicators used as proxies for the Hugo theory (fertility rate and working age rate) and the Adepoju theory (primary enrollment rate) were not significant. I find no evidence that these theories are good indicators of migration trends.

For more information about this study, scan the QR code or email me at haylee@uchicago.edu.