

# Modeling International Migrant Flows: Theory, Evidence and Forecasts

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# Project Team Profile

- PI: David Leblang, University of Virginia
- Project Start Date: July 2017
- Anticipated End Date: July 2019
- Project personnel:
  - Melissa Henriksen, Project Manager
  - Kirsten Gelsdorf, Subject Matter Expert
  - Benjamin Helms, Graduate Research Assistant/Project Administrator
  - Rebecca Brough, Alexa Iadarola, Alicia Smith, Eric Xu, Research Assistants
  - Abhiraj Deshpande, Software Developer

# Problem Statement

- What are the factors driving migration to the United States?
  - Do they vary over time/region of origin?
  - Do they vary by type of migrant (legal, illegal, UAM)?
- What policy levers can help decrease the demand for immigration into the United States?
  - Which are most cost-effective?

# Beneficiary / End User Profile: Jobs

- Analysts at CBP's OIT and USBP Analysis Division
- Analysts at DHS's OIS
- Legislative staff drafting policy
- USAID examining effectiveness of development assistance

# Beneficiary / End User Profile: Desired Gains

- Better understanding of factors “pushing” flows of legal, illegal and unaccompanied minors to the US.
- Development of a forecasting tool to assess the effect of:
  - Environmental, economic, and political shocks in driving migration
  - Policies designed to mitigate these shocks

# Beneficiary / End User Profile: Pain Points

- Current lack of knowledge with regard to:
  - Extant data availability (confirmed via OIS meeting)
  - Lack of data means no comprehensive understanding of push factors
  - Which, in turn, means no way to evaluate policy alternatives
  - And no way to predict migrant inflows.

# Products & Services

- Delivery to end user of:
  - Comprehensive and readily expandable database of migrant inflows and correlates from 1990-2015
  - Development of underlying model of push factors.
  - Generation of forecasting tool
  - All in an easily accessible GUI

# Products & Services

iso	year	newarrivals New arrivals	quake_affected	epidemic_affected
210	MEX	2008	91780	0
209	MEX	1999	83146	137915
208	MEX	2015	81122	0
207	MEX	2012	75996	49011
206	MEX	2009	74948	0
205	MEX	2000	68482	1
204	MEX	2011	67796	152
203	MEX	2010	65772	25232
202	MEX	2013	65742	0
201	MEX	2001	63428	0
200	MEX	2014	61862	27381

DATA



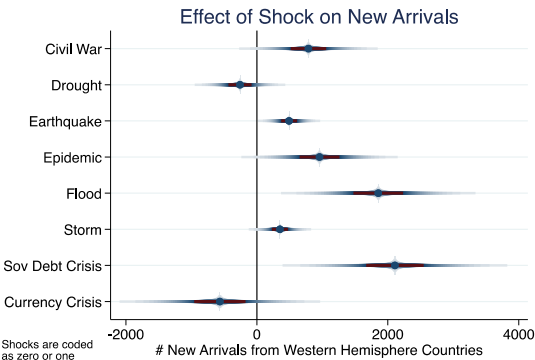
199 MEX 1998 Poisson regression Number of obs = 666  
 198 MEX 2007 Log pseudolikelihood = -834941.49 Wald chi2(11) = .  
 197 MEX 2002 Prob > chi2 = .  
 196 MEX 2006 (Std. Err. adjusted for 25 clusters in iso)

MODEL



	newarrivals	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]
lndist	1.588257	.866972	1.82	0.068	-.118977	3.279491
landlocked	-2.654697	.764961	-3.47	0.001	-4.153993	-1.155401
island	1.918409	.5789415	3.36	0.001	.7993845	3.037434
gdpratio	-14.89883	3.236747	-4.60	0.000	-21.24274	-8.554926
stock_pop	11.99583	6.106213	1.95	0.052	-.0897272	24.08138
stock_pop2	-29.48396	17.82842	-1.65	0.099	-64.39135	5.523421
poverty	-8883.532	3487.836	-2.35	0.019	-14681.2	-1325.863
					-.4518834	-1168493
					.0160489	-1806101
					-.286752	-6816651
					-1.763411	-4395889
					3.413443	5.083106
					-22.12822	5.987368

USEFUL RESULTS







# Gains Created

- What are the gains achieved and how are they measured?
  - Simple, intuitive tool to forecast migration into the US given shocks
  - Statistical model to assess effectiveness of policy interventions
  - Rigorous statistical technique to estimate unauthorized migration

# Pains Alleviated

- What are the pains alleviated and how are they measured?
  - Greater predictive capacity → effective government response
  - Informed policy response to potential and actual migration push factors

# Key accomplishments

- Initial database construction from publicly available data sources
- Model-building, focused initially on Western Hemisphere migration. Some important determinants:
  - Natural disasters
  - Conflict and civil war
  - Poverty & education

# Transition Pathways

- Deliverable is GUI and forecasting tool
  - Will work with end-user on initial development of GUI
  - Solicit input from end-users regarding face validity of underlying forecasting model
  - Initial model and tool “test-driven” at end of year 1.

# Transition Engagement

- More knowledge of transition engagement and challenges after quarterly meeting next week.

# Conclusions

- Identification of the timing of migration relative to the onset of a particular type of underlying cause will allow forecasting of future migrant flows in response to changes that occur in potential sending countries.
- The security of the United States (and allies) can be enhanced by a better understanding of the causes of emigration.
- This is the intended outcome of the project

# Disclaimer

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