



TEMPORARY MIGRATION: ECONOMIC DETERMINANTS AND CONSEQUENCES

Overview of research by Giovanni Peri and Coauthors
UC Davis, October 31, 2013



Why we created this IFHA Cluster

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- “Migration policies should be guided by facts, rather than hunches and hearsay”
(UN Secretary general BAN-KI-MOON, Oct 3, 2013)
- “Together we can build a fair, effective and common sense immigration system that lives up to our heritage as a nation of laws and a nation of immigrants “ (US President Barak Obama, promoting S744, October 2013)

Some Global Numbers on Migrants

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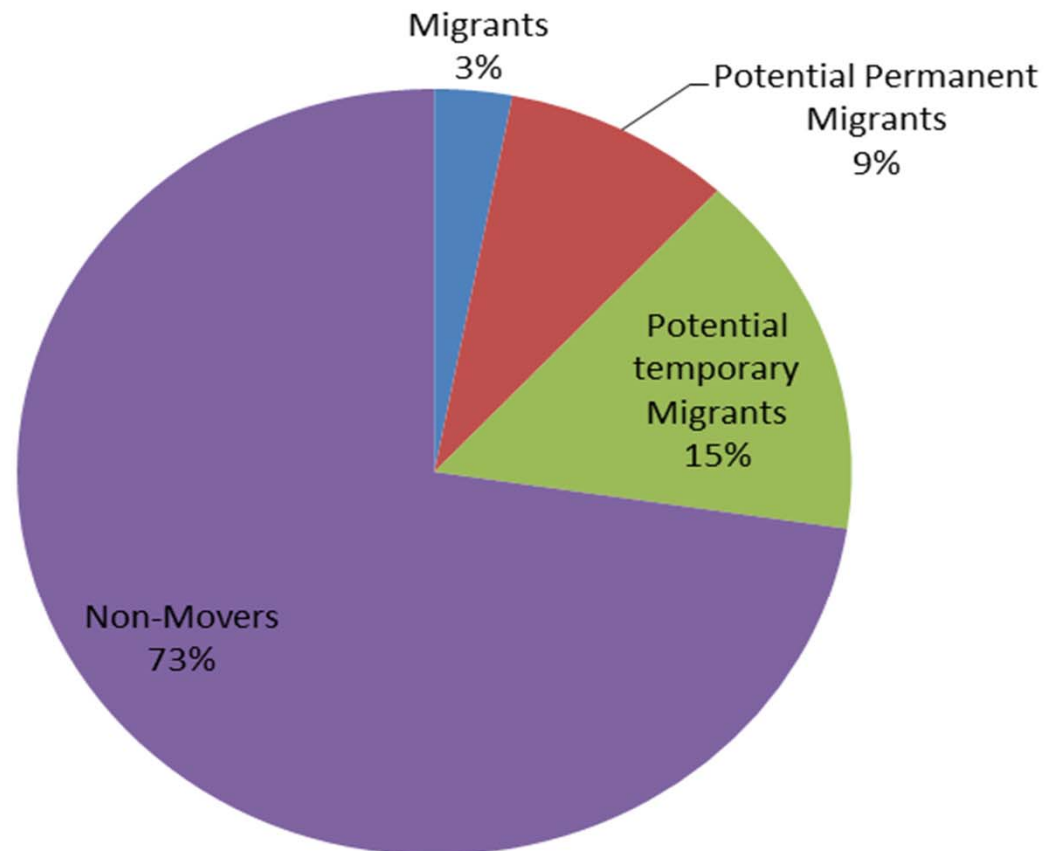
Current Migrants: 213 million (2.8% of world population)

- People with desire to migrate permanently (Gallup World Poll): 630 Million, 9% of world pop.
- People with desire to migrate temporarily: 1.1 Billion (15%)

With freer Migration many more people would move

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Migrants and Potential Migrants



Especially to Rich Countries

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- In OECD countries: 10% of population are migrants
 - Growing south-south migration however
- In the US: 13%. These percentages doubled since 1990.

Numbers for the US and California

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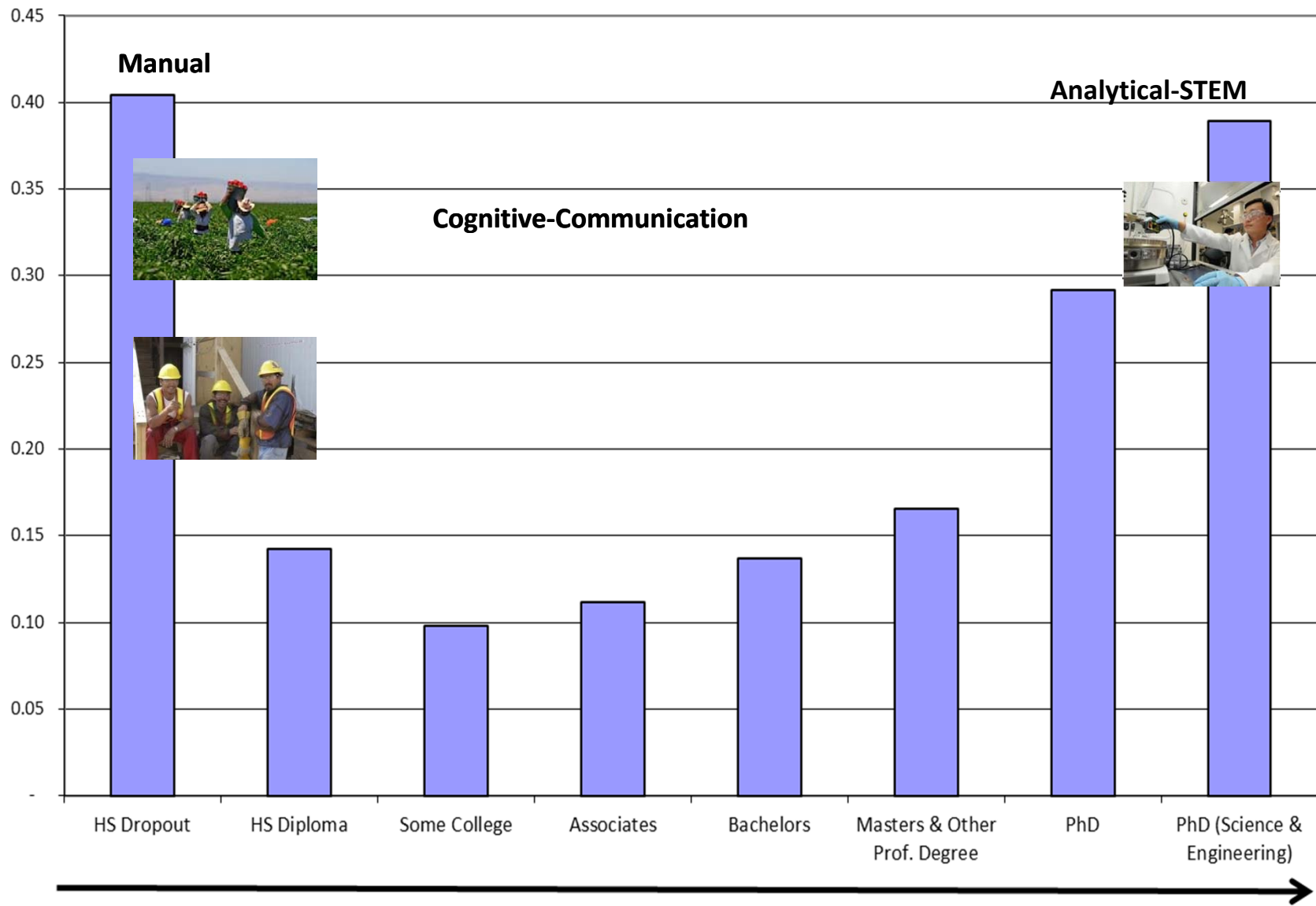
- 20% of the world migrants (41 millions) are in the US. (US= 4.4 % of World population)
- 5% of the world Migrants (10 millions) are in California
(Cal=0.5% of world population)
- 23% of the potential migrants would like to move to the US.

Great Economic Opportunity for host economies

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- Where there are differences there is opportunity for economic gain: **exchange, complementarities.**
- But possibility of inequality and conflict.
- Immigrants are different from natives:
 - Younger
 - Some are willing and able to work in manual jobs
 - Other are willing and able to work in STEM
 - Come from different cultures

Foreign-born Share in each Education Group, U.S. workforce 2010



Ongoing Research Projects

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- 1. High skilled immigrants (H1 B) and productivity in the US (Cities, firms)
- 2. Immigrants students (F) and US universities, graduate programs and native Choice of Major?
- 3. Low skilled immigration and income mobility of natives in response. Effects on wages and inequality. (Europe and US)
- 4. Effects of Immigration policies and immigrant networks on migration flows (world). Potential and Actual migration.

Scientists and Engineer as engine of science-technology and growth

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- Foreign-Born scientists:
- Positive effect on Innovation (measured as patents) Kerr and Lincoln (2010).
- Do they Contribute to Economic growth?
- Scientists and Engineers are engine of technological growth. R&D is driver of economic growth in rich countries (Jones 2005)

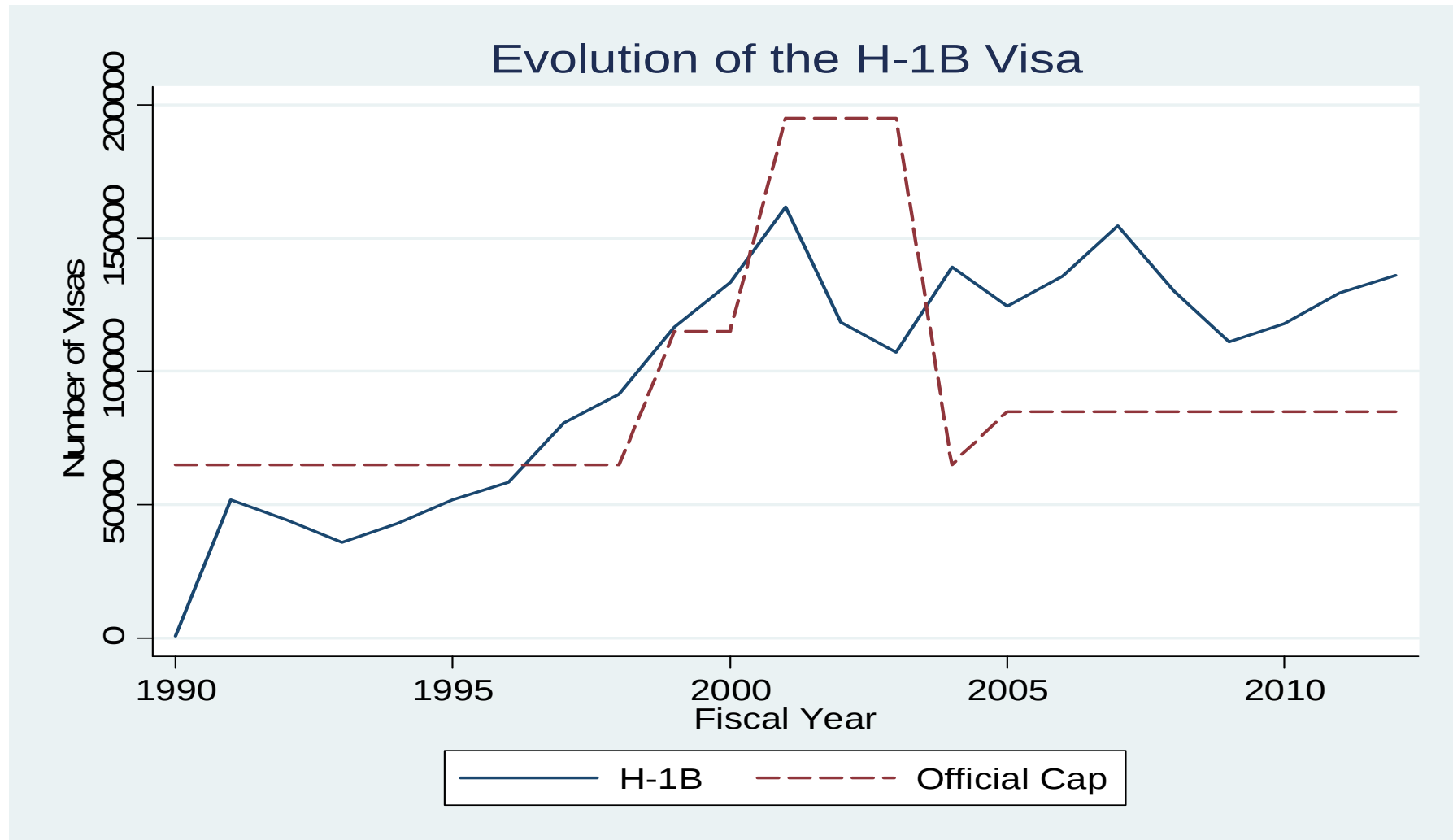
College Educated STEM Workers as a Percentage of Employment, 219 Metropolitan Areas

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		Foreign STEM	Total STEM	
H1B program	↑	1980	0.26	2.11
		1990	0.45	2.90
		2000	0.87	3.52
		2005	1.00	3.52
	↓	2010	1.10	3.71

Official Cap and Number of H-1B Visas, 1990-2012

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H1B Effect on Productivity (Peri, Shih and Sparber 2013)

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- Use the variation of H1B cap and aggregate inflow and the unequal distribution across US metropolitan areas.
- Some metro area had many foreign born in 1980 and this attracted (network, preferences) more foreign STEM
- Analyze the effect on wages, employment of metropolitan areas.

Empirical strategy:

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$$y_{ct}^{Native} = \phi_t + \phi_s + b_{y,X}^{IV} \frac{\Delta STEM_{ct}^{Foreign}}{E_{ct}} + b_3 y_{ct}^{Sector-Driven,X} + \varepsilon_{ct}$$

Outcome y for metropolitan area c , is the wage or employment growth of native groups.

Control for fixed effects, demand factors

Use the H1B inflow as instrument for foreign STEM

Identify the effect

Estimated Effects

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Explanatory Variable:	(1)	(2)	(3)	(4)	(5)	(6)
Growth Rate of Foreign– STEM	Weekly Wage, Native STEM	Weekly Wage, Native College educated	Weekly Wage, Native Non- College educated	Employment, Native STEM	Employment, Native College educated	Employment, Native Non- College educated
Instrument: H-1B						
Imputed Growth of Foreign-STEM						
(a) Baseline 2SLS; O*NET	6.65	8.03***	3.78**	0.53	2.47	-5.17
4% Definition	(4.53)	(3.02)	(1.75)	(0.56)	(4.69)	(4.19)

Next Step/ Research project

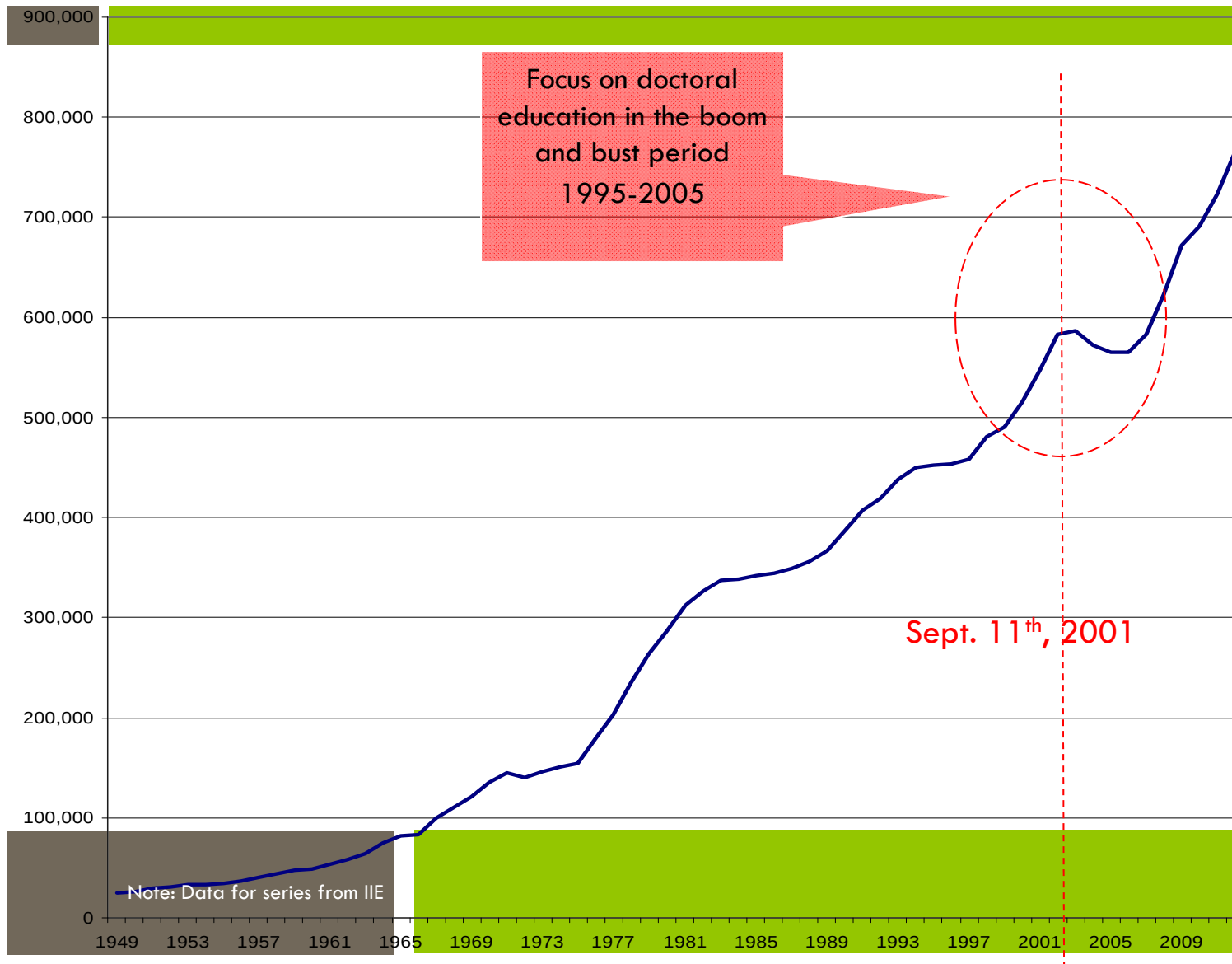
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- This study uses aggregate inflow of H1B and their distribution across metropolitan areas.
- Next week we are getting individual H1B data using FOIA request to the USCIS: 1990-2012. Information on their job, education, first employment, salary.
- Goal is to look at the micro effect of the inflow of foreign, high quality, scientists on innovation/performance on US companies and Sectors.

Foreign-students and their impact on US universities (Kevin Shih)

- Do international students crowd-out or crowd-in natives from attaining postsecondary education?
 - Crowd-out: Limited seats for admissions, increased competition
 - Crowd-in: Diversity, pay higher (sticker price) tuition, attract funding, positive peer effects
- Do they affect other outcomes: net resources, net scientific output?
- Do they induce natives to switch fields of study? (perhaps STEM → Non-STEM)

International Students in Total U.S. Postsecondary Enrollment 1949-2012



4% of Total Post-secondary

Enrollment (Assoc. B.A., M.A., Ph.D.)

Over 10% in Post-bachelors programs (MBA, M.A., Ph.D., etc.)

Above 30% in some doctoral fields (Physics, Engineering)

Data

- **IPEDS**: University level data on foreign and native students doctoral students
- **IIE**: University level data on foreign doctoral students from 1995-2012

1990-2012

Research Design

-Panel of 900+ accredited, doctoral degree granting universities (1995-2005)

-**Boom period (1995-2001)**: some schools saw large inflows of foreign students (treated), while others saw no change (control).

-**Bust period (2001-2005)**: treated schools saw large decreases (treated again), and control schools saw no or little change (control again).

-DID model to correlate native completion rates overall, and by field (STEM and non-STEM), with the foreign boom & bust shocks at schools.

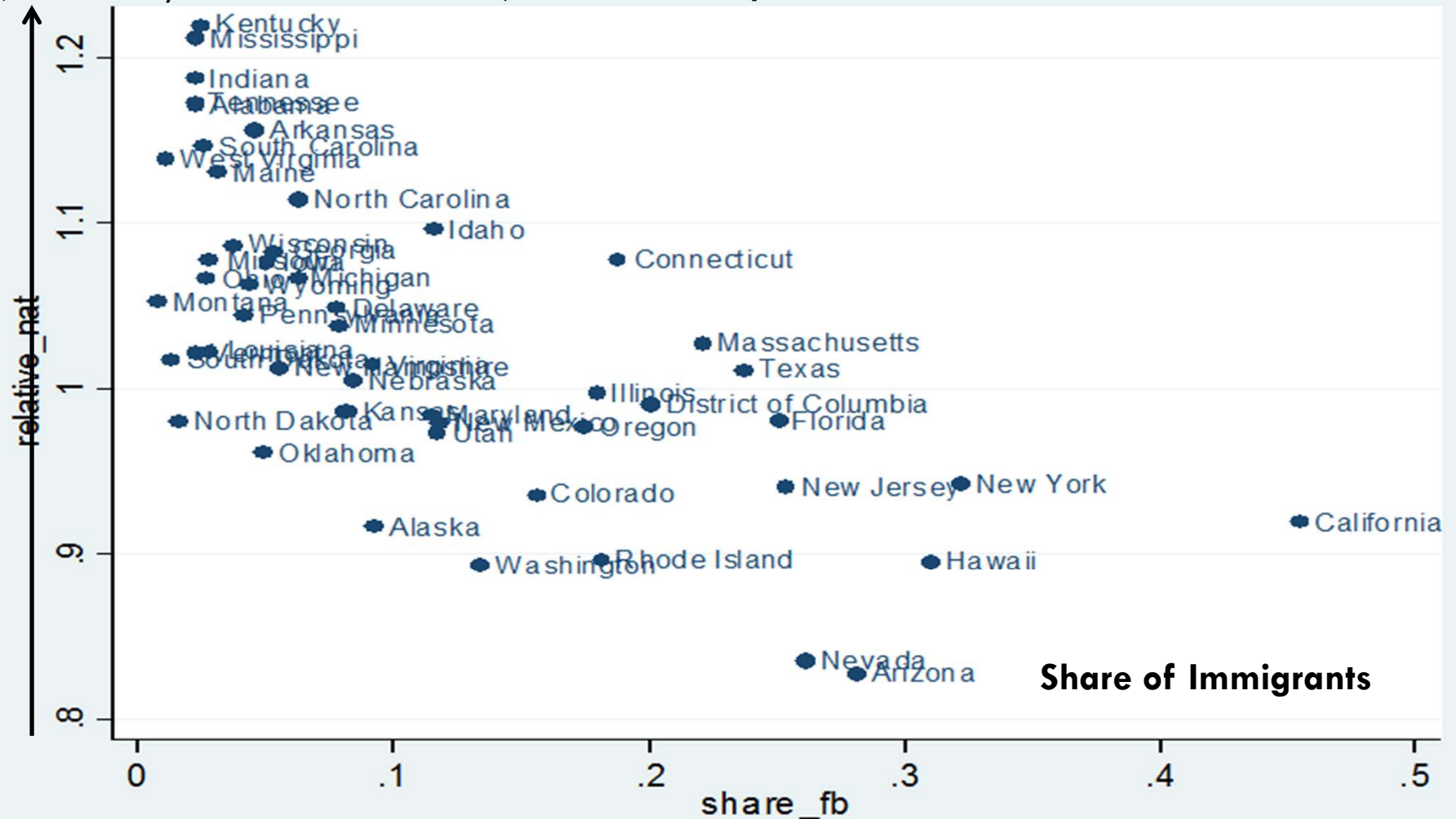
Low educated immigrants (undocumented): effect on careers of natives



- Previous work on US (Peri-Sparber 2010):
 - 1) Within low educated immigrants take Manual jobs and push natives towards more communication intensive jobs.
 - 2) Firms respond by allowing specialization of immigrants (manual) natives (complex/interactive)

Low educated immigrants: Pushing less educated natives out of Manual jobs, US states

(Manual/Communication) content of jobs, Natives



New research: refugees and careers of natives (with EU coauthors)

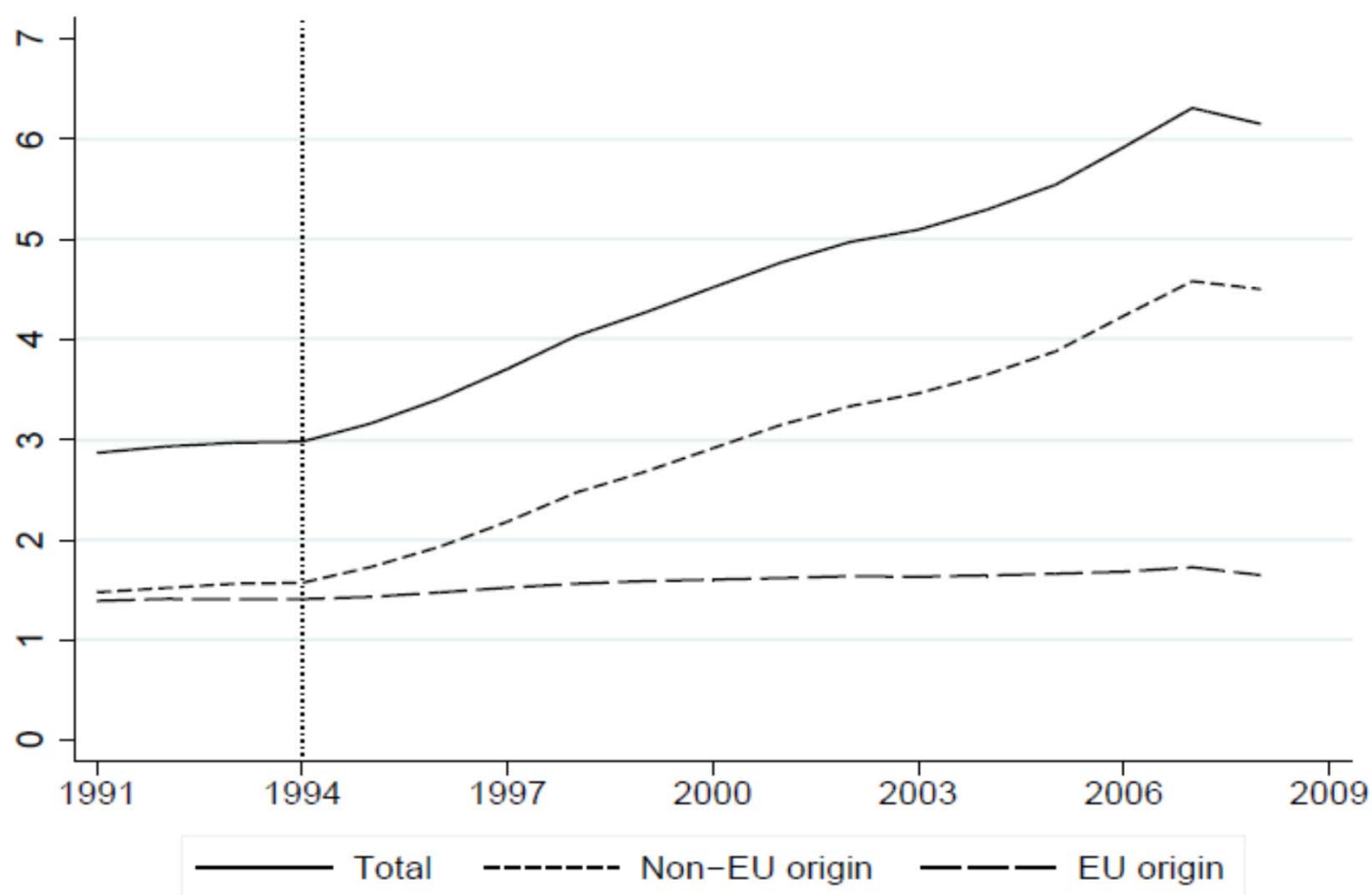
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- Denmark 1992-2008, administrative data.
- Refugee crisis in Yugoslavia (1994), Somalia (late 90's) Afghanistan, Iraq (2000's).
- Exogenous shock. Refugees and then family reunification. Low education, low language proficiency, high concentration in manual jobs.
- Dispersal policy of refugees: not correlated with pre-existing economic trends, driven by ethnic clusters.

Significant post 1994 growth of immigrants, driven by non -EU

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Figure 2: Foreign born share of employment in Denmark, 1991-2008



Pre-1994 versus post -994

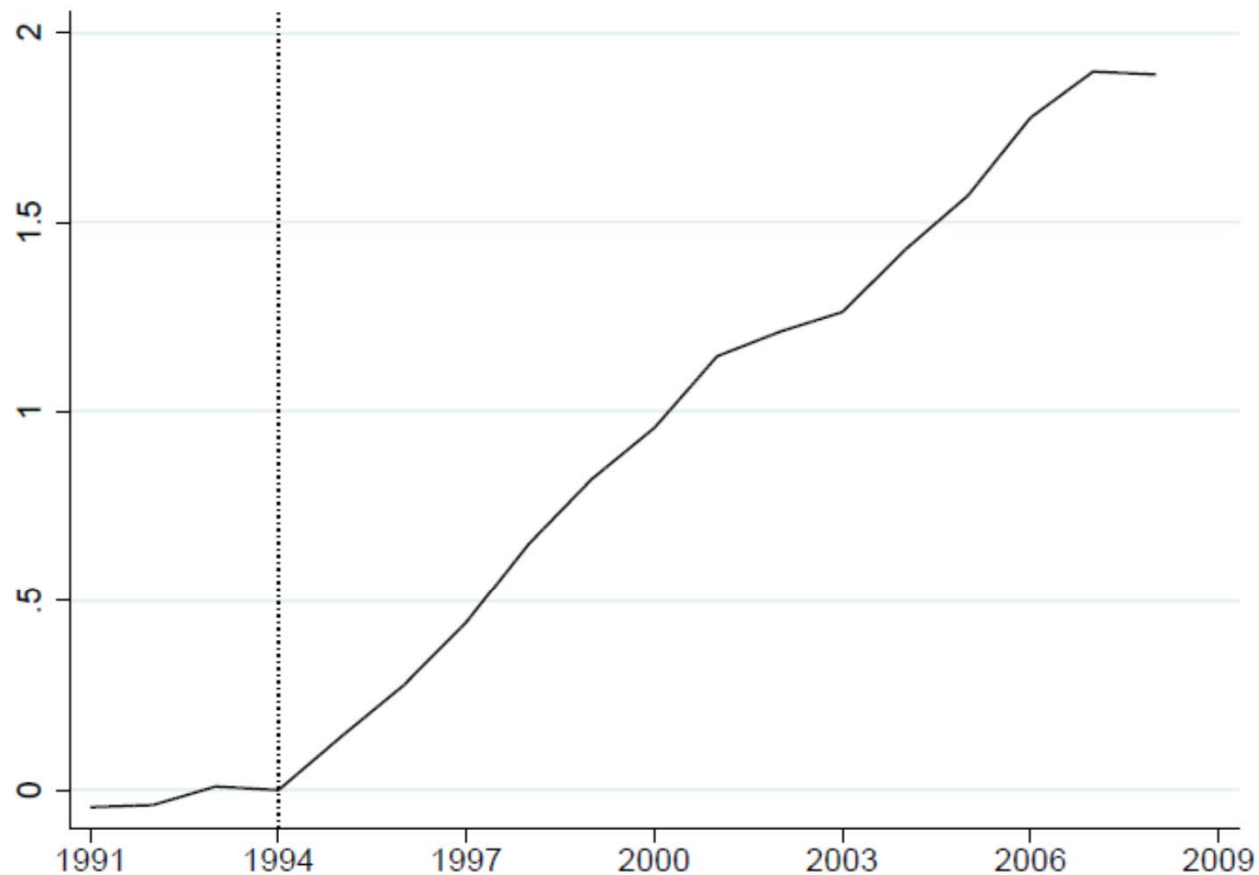
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- Exposure to non-EU immigrants increased substantially. Refugees were a very large part.
- Very asymmetrically distributed across regions. Dispersal policy made the distribution related to previous communities, not to economic performance.
- Top regions increased their inflow of refugees, bottom regions did not

Difference in exposure between high and low exposed regions

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Figure 4: Non-EU share of employment, difference between most and least exposed



Question

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- As some regions became much more exposed to low-skilled immigrants, what happened to economic opportunities of natives?
- How did they react in the following years?
- Complexity of Occupation: use of communication, cognitive skills in jobs. Manual Jobs are complementary to communication-cognitive jobs.

Figure 5: The long-run effect on *low* skilled (event-like study)

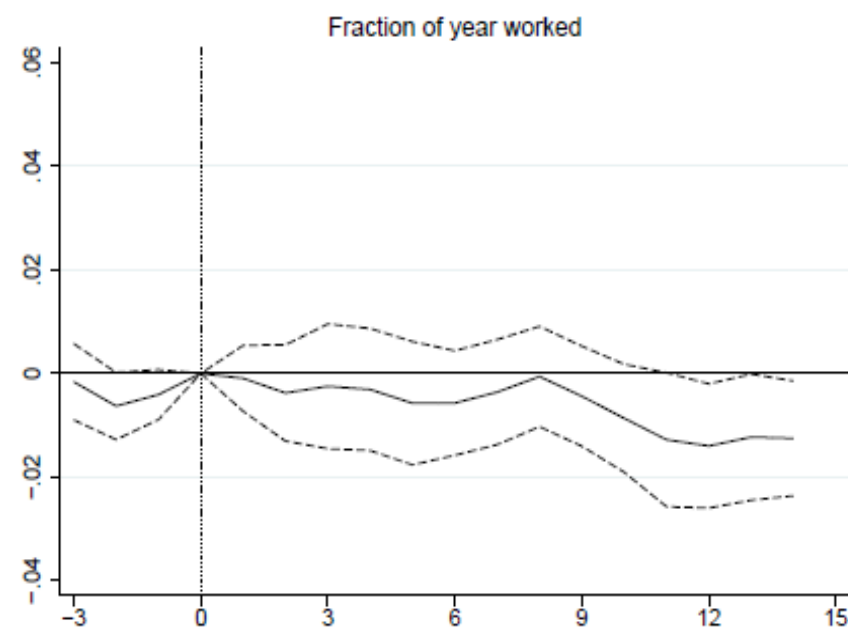
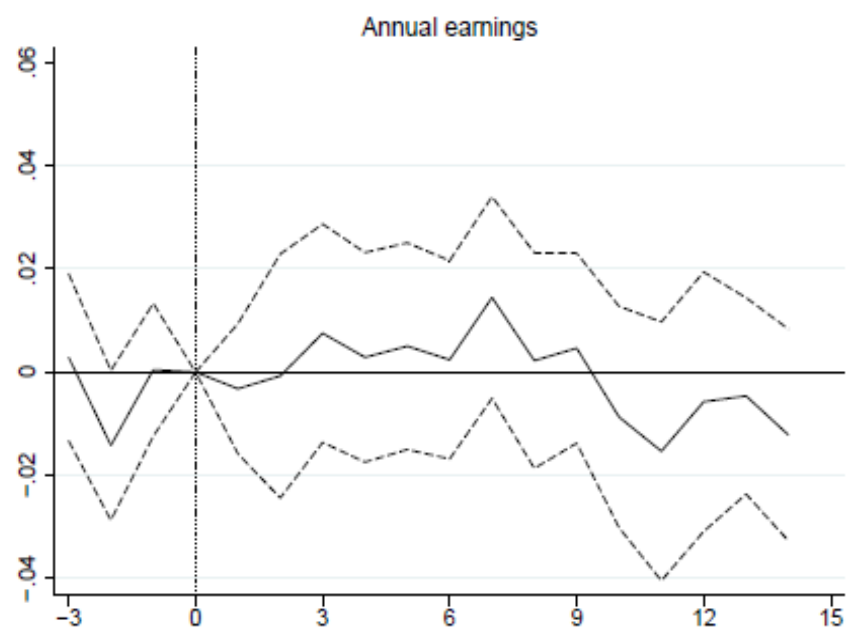
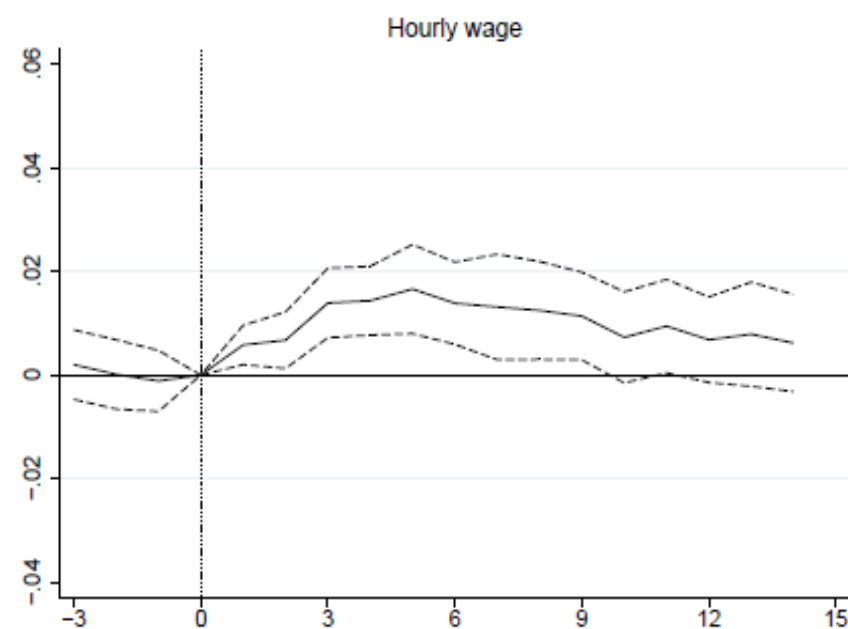
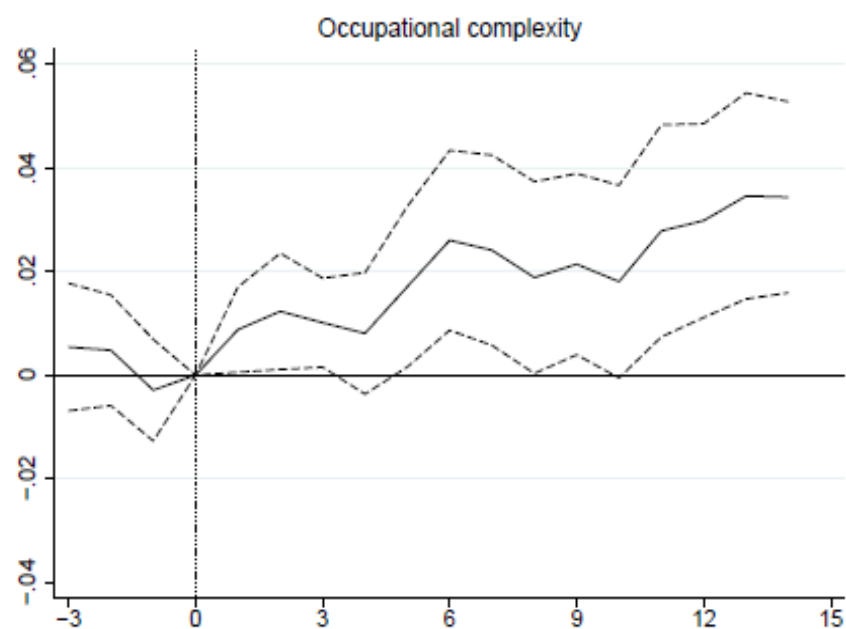
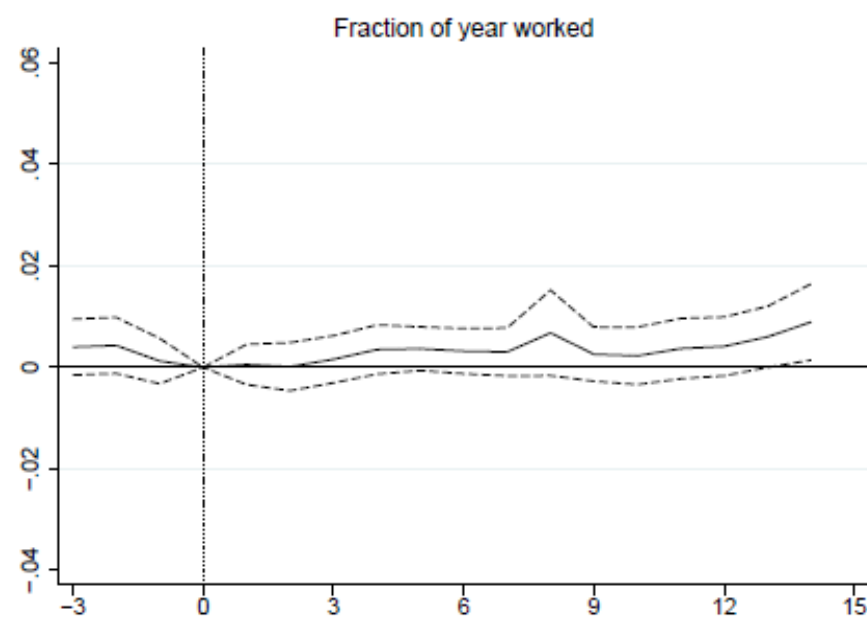
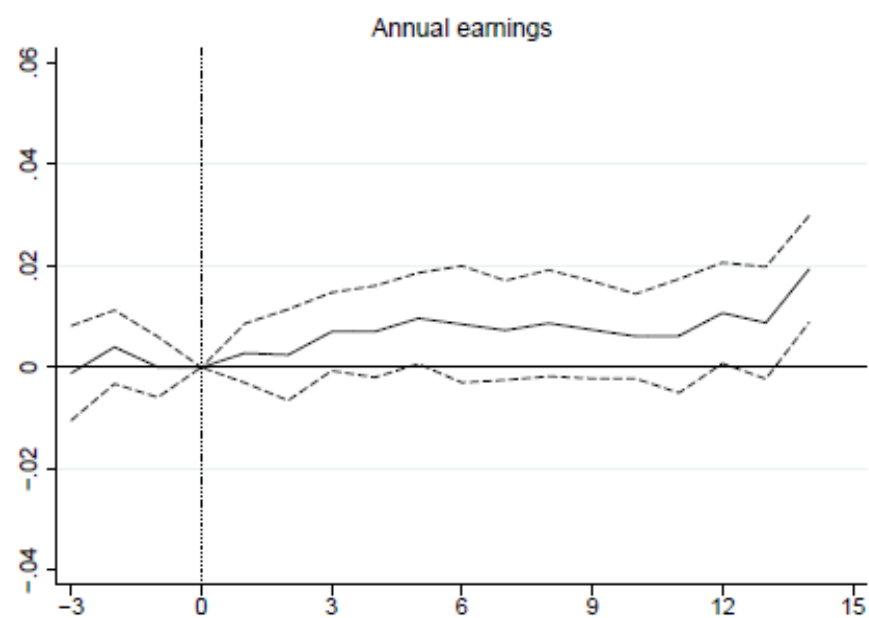
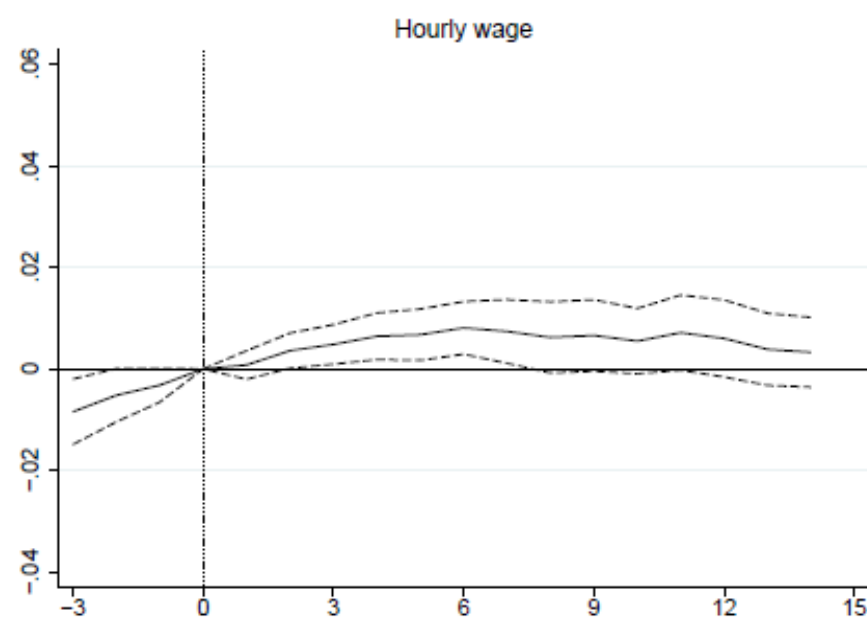
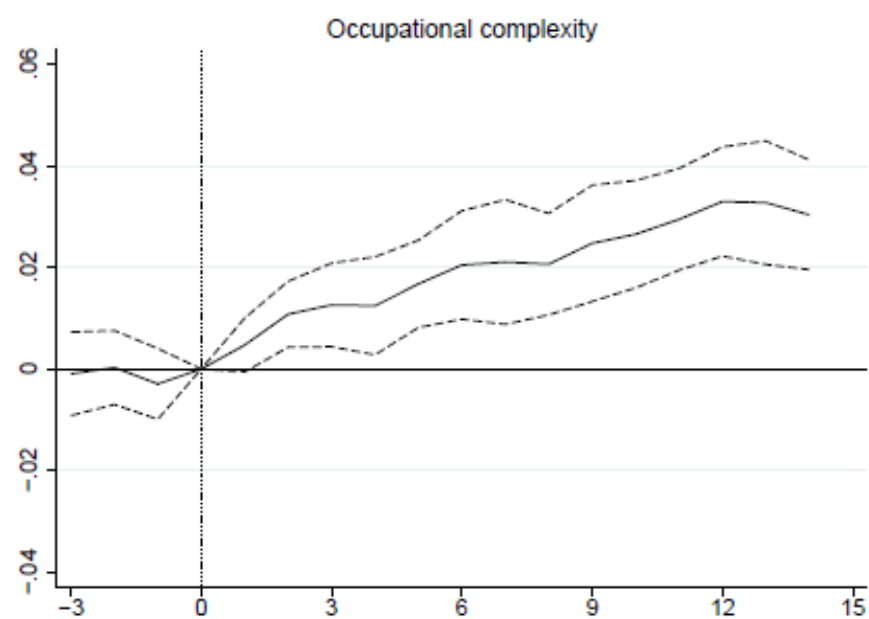


Figure 6: The long-run effect on *high* skilled (event-like study)



Summary and Next steps

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- Significant increase in Occupational Complexity of natives. This protected wages.
- No increase in unemployment. Wages stationary or rising.
- Immigrants do provide the manual jobs that push natives to complementary complex jobs.
- Labor Market Institutions (Rigid/regulated labor markets) and native response. Use variation across EU.

Immigration Policy and networks: how do they affect migrant flows

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- How do migration restriction affect actual migration flows relative to “potential ones” ?
- Bilateral migrations between countries are determined by costs and benefits
- Costs are lowered by presence of network (diaspora). Costs are increased by policy restrictions. There are many other bilateral determinants.

Limitation: What is the number of potential migrants?

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- Bilateral data on stock of migrants from any country to all OECD, 2000, 2005 and 2010, by schooling level.
- Gallup International Polls: representative sample in 150 countries. Measure the desire to migrate (temporary or permanent) to which country. Collected between 2005 and 2010 by schooling level.
- Also presence of family-relatives abroad (and in which country) to construct measure of diaspora connection.

Questions asked in the survey

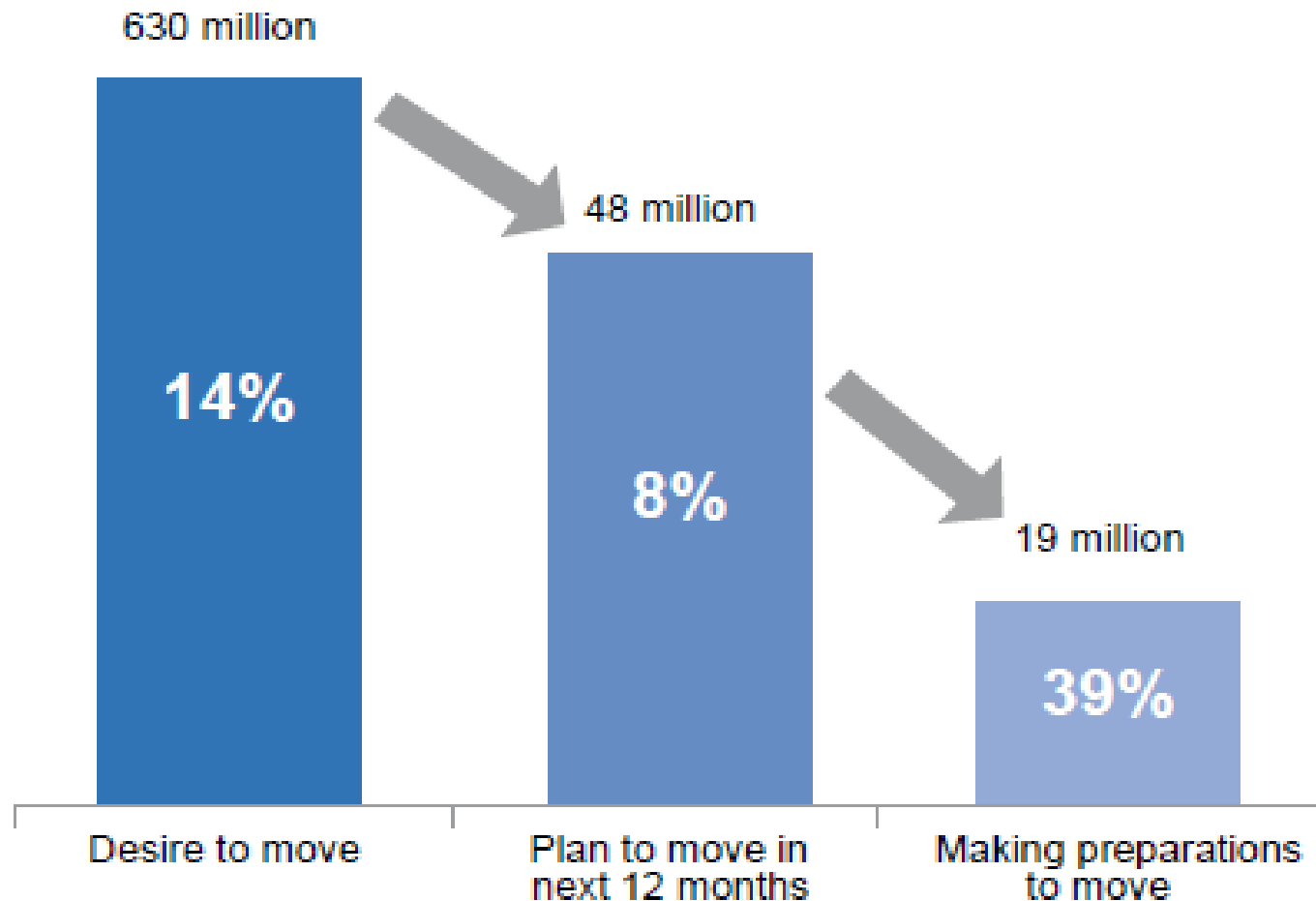
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- Ideally, if you had the opportunity, would you like to move PERMANENTLY to another country, or would you prefer to continue living in this country?
- “Desired” migration reveals the evaluation of benefits but not actual restrictions/costs
- Do any of your family members or relatives not living with you work temporarily in another country, or does everyone work in this country?

Desired to Move and actual opportunity

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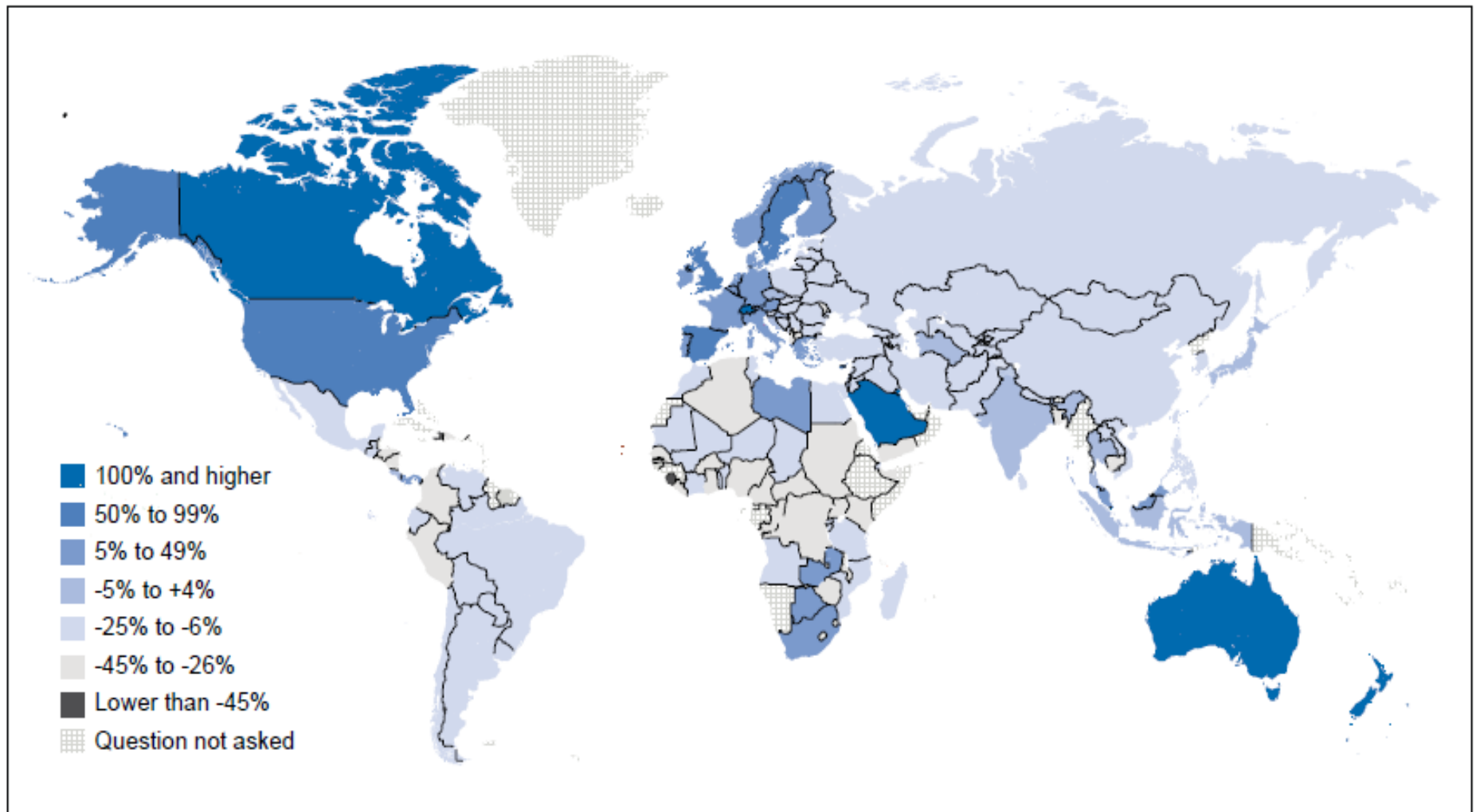
Projected to adults aged 15+ across 146 countries



North America-Australia 50-90% bigger with desired immigrants. Europe 5-49% bigger

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Map 3: Potential Net Migration Index scores, 2008–2010



Research Strategy

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- Use a gravity regressions approach to estimate how the actual flow depend on desired flows (capturing perceived benefits) and costs of moving (distance, linguistic differences, size of the network), and on migration policies (free mobility agreement versus not).
- Estimate the effect of eliminating emigration restrictions.
- E.g. France-UK versus France-US

Estimates of policy and network effects on migration flows

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$$\ln[(AcMigrants_{od})/Pop] = \alpha \ln[(DesMigrants_{od})/Pop] + \beta_1(origin)_o + \beta_1(destination)_d \\ + \beta_2(Costs)_{od} + \beta_3(network)_{od} + \gamma(Free.Mob)$$

The coefficient β_3 estimates the effect of the diffusion of family network on reducing migration costs (and increasing actual migration as share of desired)

The coefficient γ estimates the effect of free labor market migrations (EU countries, Australia-New Zealand) on increasing actual relative to desired migration

Policy discussion

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- Effects of removing migration barriers on:
 - Migration of More and less educated
 - Temporary and permanent
- H1 b policy and student visa policy: benefits and costs for native students and workers.
- Refugees, less skilled and undocumented:
 - Native response and role of labor market institutions

Announcements:

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- Next Thursday, Andrews Room 3.40-5.00 **William Kerr** (HBS) will talk about : Migrant networks, Technology diffusion and trade.
- **Erin Hamilton and Luis Guarnizo** will select a Graduate student with an advanced research project to present at the next internal IFHA-Gifford Seminar.
- **Lynn Park**, New staff for IFHA Cluster will send information and reminders on seminars and events.