

Longitudinal Follow-up of International Students in the United States

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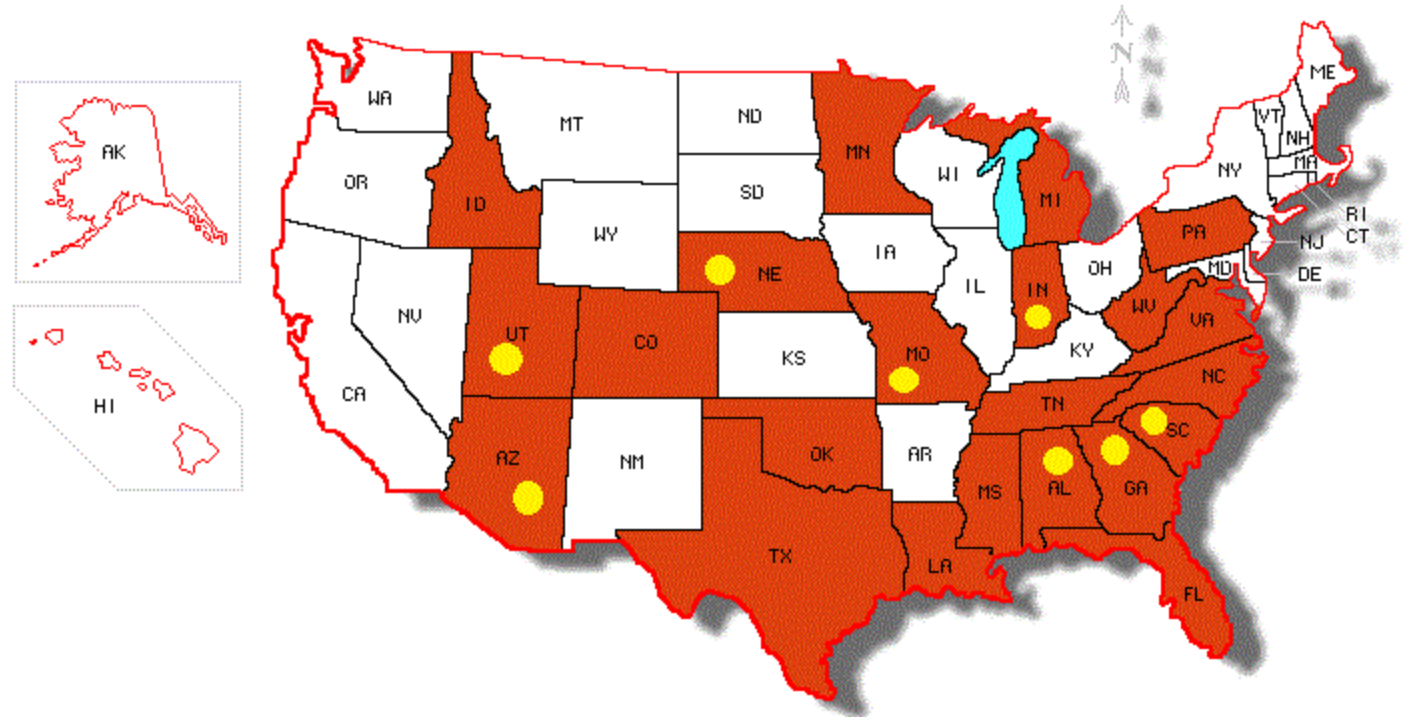


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Research Questions

- Onward Mobility vs. Stay-Leave Question
 - How do international students migrate in “steps”?
 - Do the steps matter?
- Do they stay?
 - International students as skilled workers → Local economy
 - US states: different cultural and political landscape

Research Questions



- Do they stay?

- International students as skilled workers → Local economy
- US states: different cultural and political landscape
 - Internal border control (state-level immigration laws and policies)

Data

- National Survey of College Graduates (NSCG) 2010
 - Collected by the National Science Foundation and US Census
 - Nationally representative sample of college-educated U.S. scientists and engineers
- Over 18% are foreign-born
- Complete education history and locations (restricted-used license)

Identify Former International Students

- Identification variables
 - Type of visa when first entered the US for more than 6 months
 - Education history
 - Year obtained Permanent Residency

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- Four types of former international students

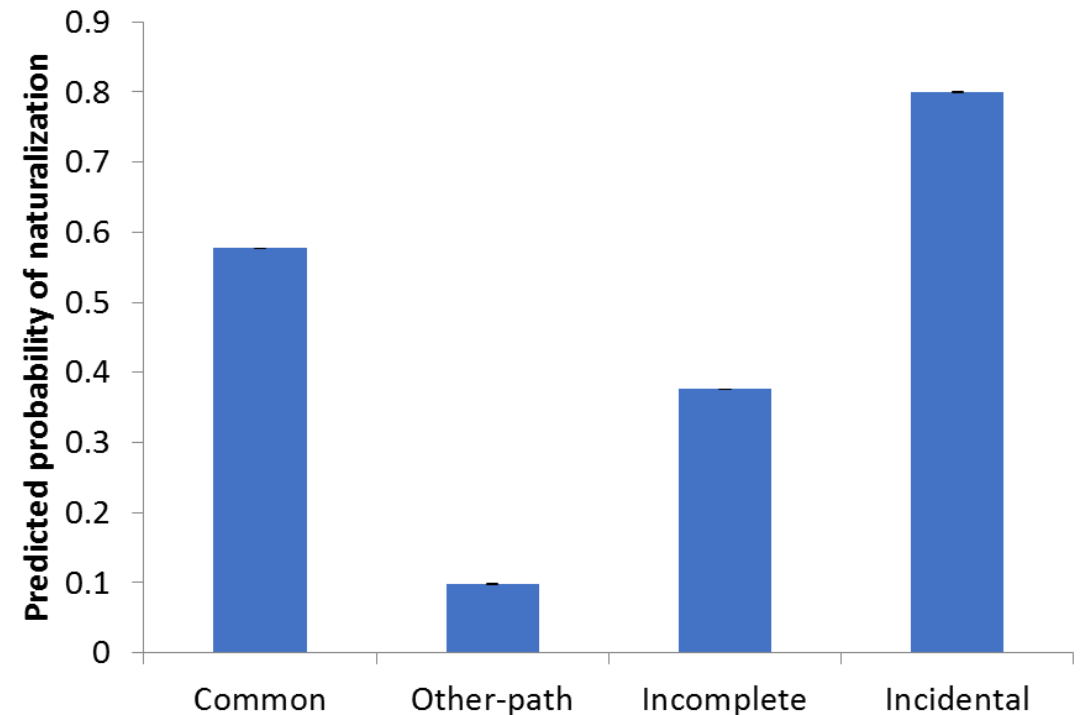
- **Common** Entry as student → US degree(s) → In the US
- **Other-path** Entry as student → P.R. → US degree(s) → In the US
- **Incomplete** Entry as student → Exit → In the US
- **Incidental** Entry not as student → US degree(s) → In the US

Who are more likely to become U.S. citizens?

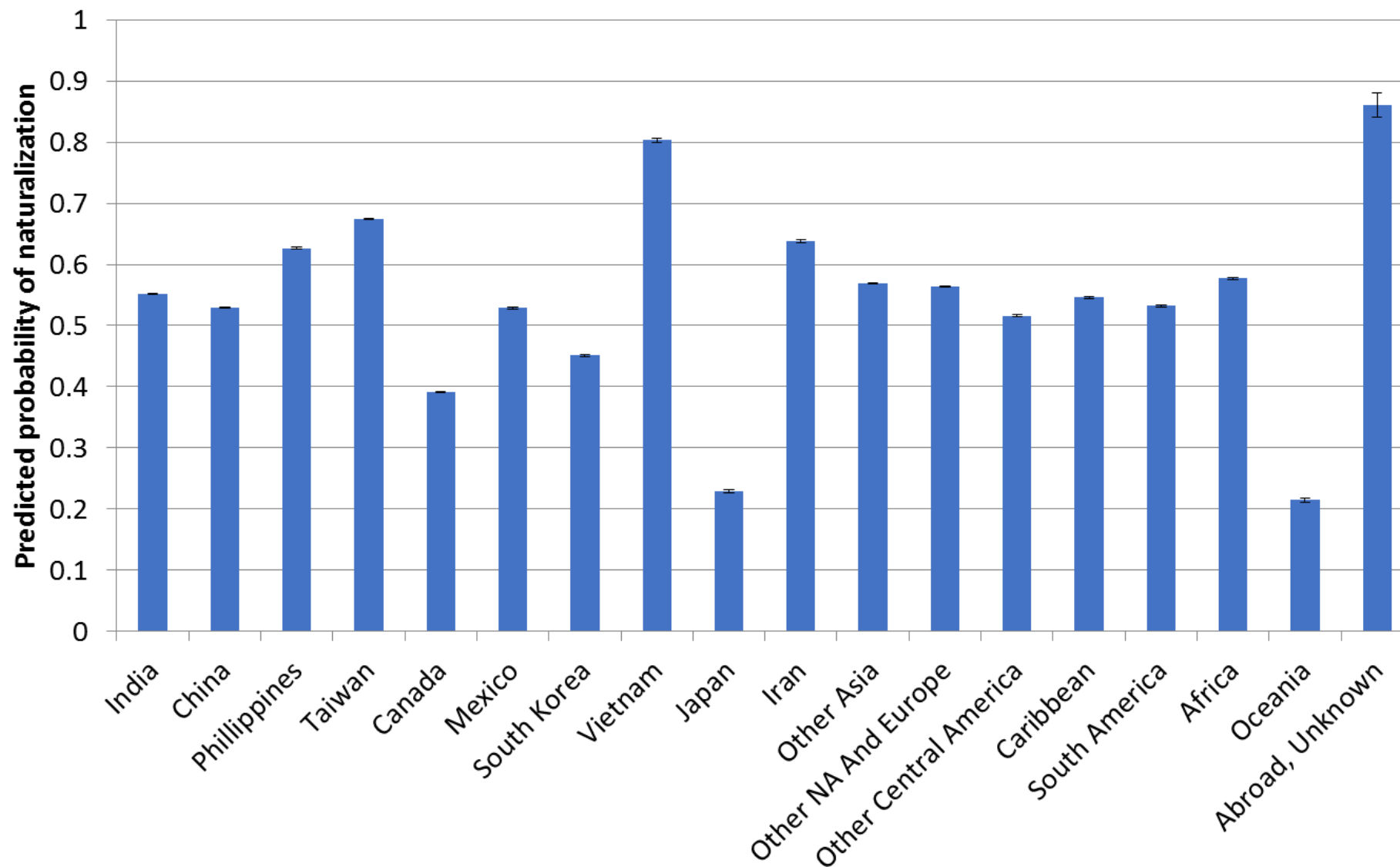
Who are more likely to become U.S. citizens?

| | exp(beta) | se | sig |
|-------------------------|-----------|-------|-----|
| International students | | | |
| <i>Common (ref)</i> | | | |
| Other-path | 0.019 | 0.000 | *** |
| Incomplete | 0.263 | 0.002 | *** |
| Incidental | 4.948 | 0.032 | *** |
| Age | 1.152 | 0.000 | *** |
| Female | 1.340 | 0.000 | *** |
| Highest degree | | | |
| <i>Bachelor's (ref)</i> | | | |
| Master's | 0.562 | 0.003 | *** |
| Doctorate | 0.328 | 0.004 | *** |
| Professional | 0.715 | 0.006 | *** |
| N | 7,398 | | |
| Pseudo-r2 | 0.391 | | |

**Model also controlled for place of birth (not shown)*

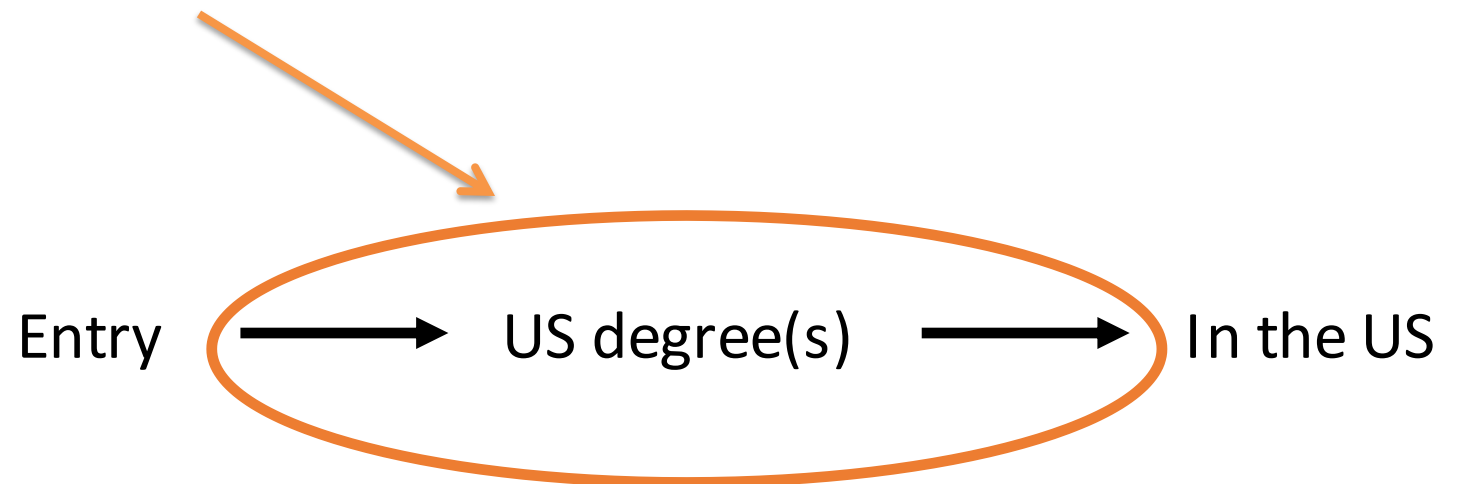


Differences by place of birth



“Steps” within the US

- Type of first US degree
- Location of first US degree
- Number of location change before final degree
- Years since obtaining first US degree

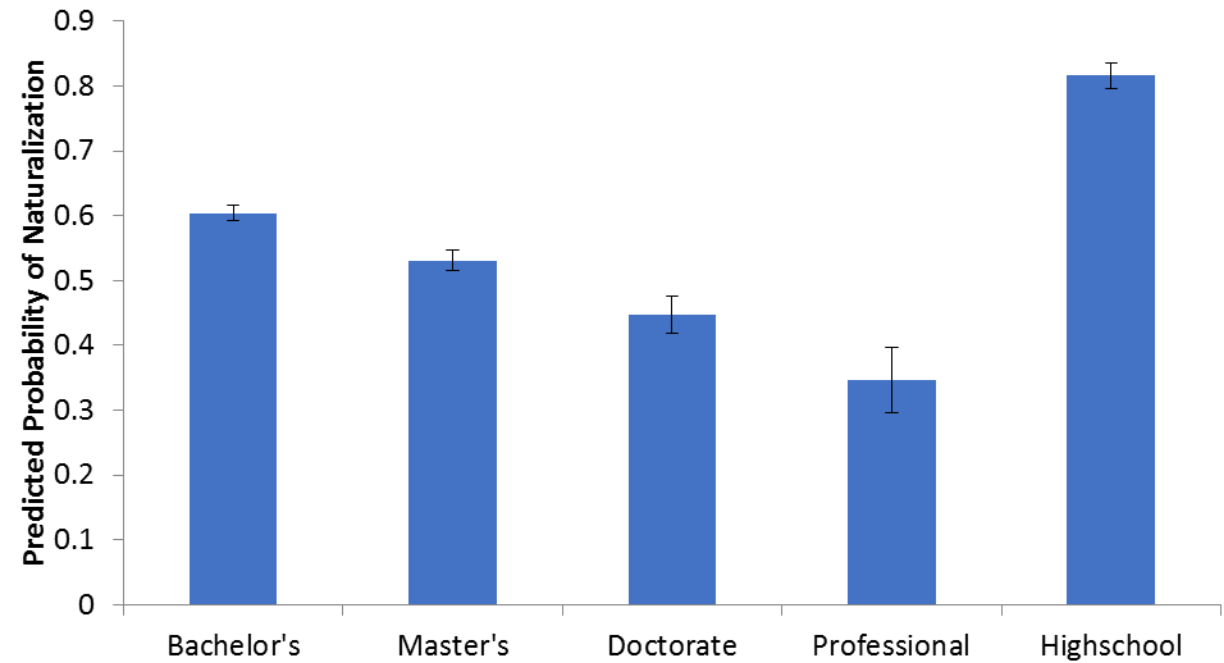


How do the “steps” matter for naturalization?

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| | exp(beta) | se | sig |
|-----------------------------|-----------|-------|-----|
| Years since first US degree | 1.047 | 0.008 | *** |
| Number of transitions | 1.154 | 0.413 | |
| Type of 1st US degree | | | |
| <i>Bachelor's (ref)</i> | | | |
| Master's | 0.575 | 0.024 | *** |
| Doctorate | 0.305 | 0.022 | *** |
| Professional | 0.138 | 0.062 | *** |
| Highschool | 6.741 | 2.112 | *** |
| N | 5,512 | | |
| Pseudo-r2 | 0.448 | | |

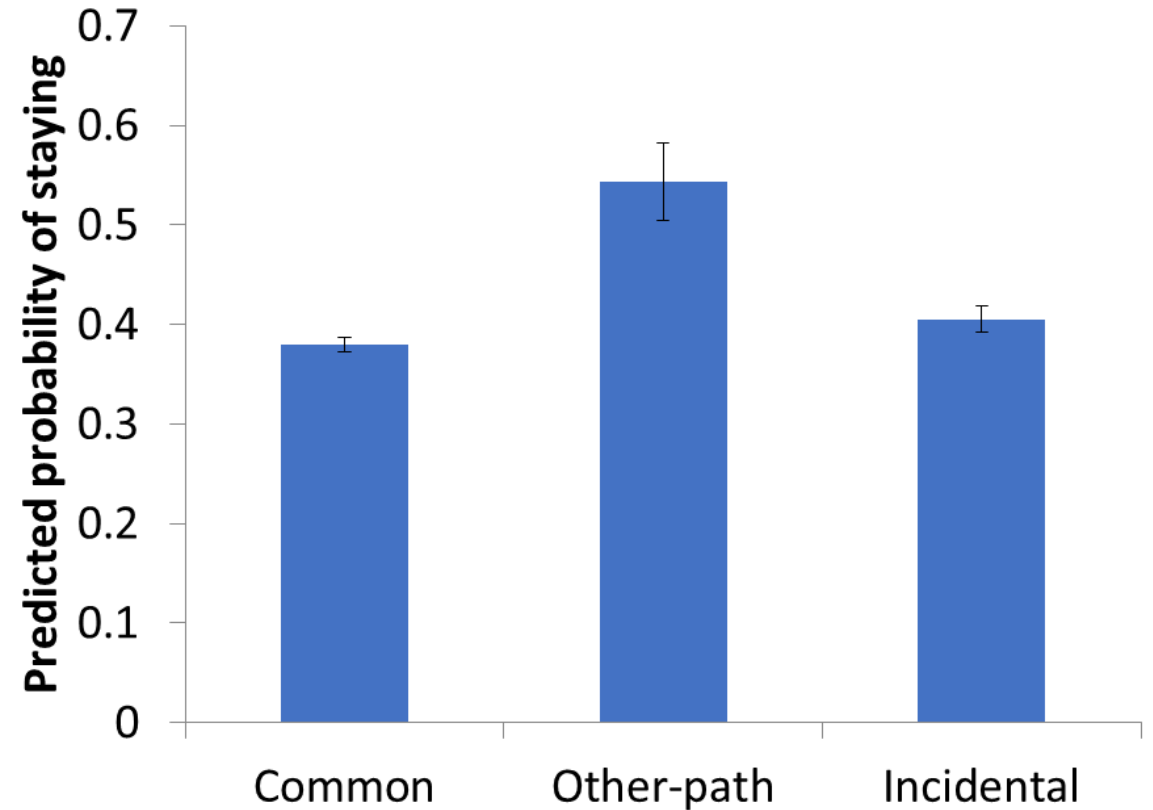
**Model also controlled for age, sex, place of birth, highest degree, types of international students, location of first degree (not shown)*



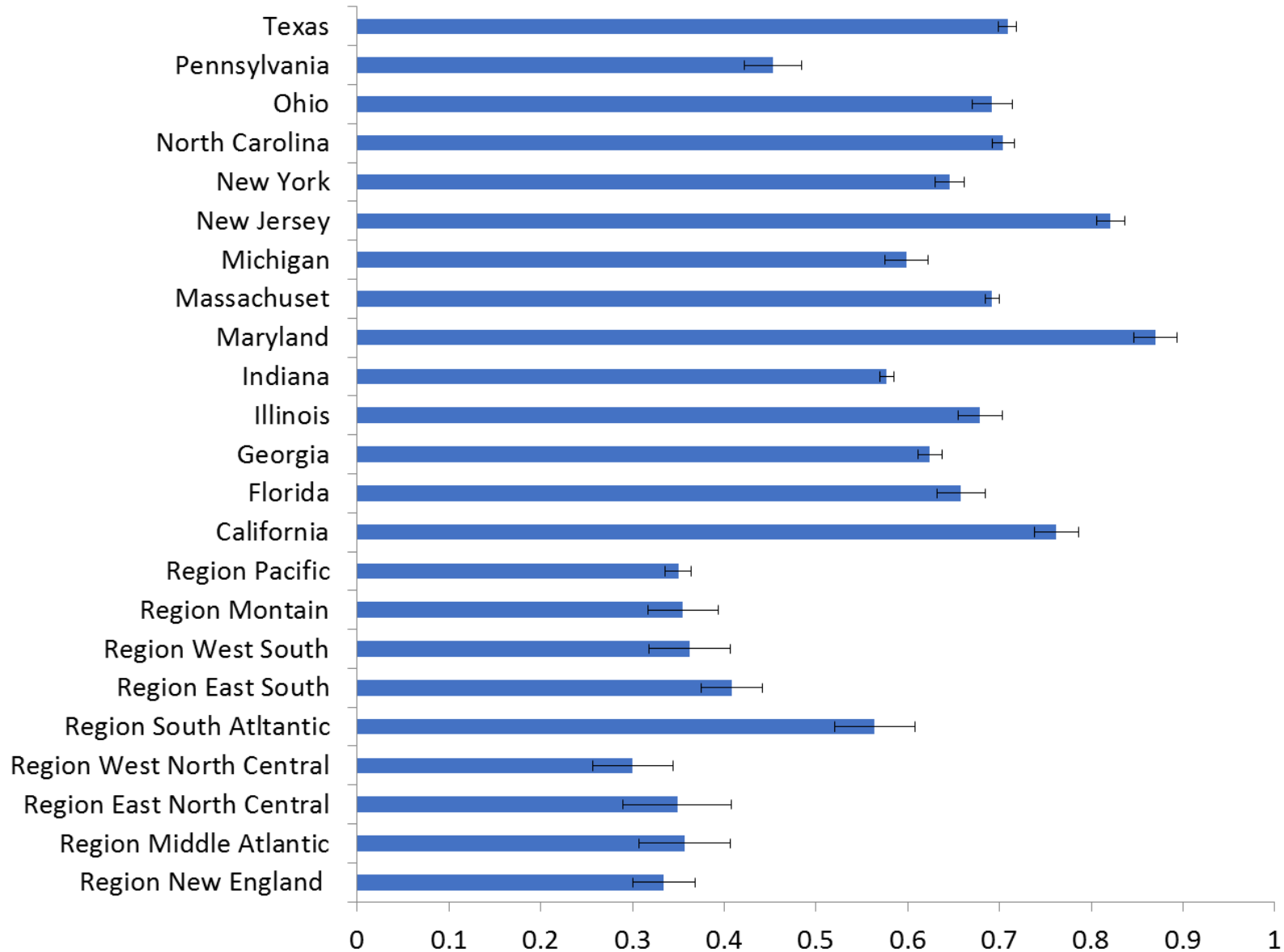
Do they stay where they first entered?

| | exp(beta) | se | sig |
|-----------------------------|-----------|-------|-----|
| Years since first US degree | 1.028 | 0.011 | * |
| Number of transitions | 0.315 | 0.133 | ** |
| Type of 1st US degree | | | |
| <i>Bachelor's (ref)</i> | | | |
| Master's | 1.288 | 0.126 | * |
| Doctorate | 1.665 | 0.37 | * |
| Professional | 0.094 | 0.028 | *** |
| Highschool | 2.984 | 1.268 | ** |
| Citizenship | | | |
| <i>Naturalized(ref)</i> | | | |
| P.R. | 0.793 | 0.088 | * |
| Temp | 0.943 | 0.109 | |
| N | 5,512 | | |
| Pseudo-r2 | 0.146 | | |

**Model also controlled for age, sex, place of birth, highest degree, types of international students, location of first degree (not shown)*



Which places retain the most international students?



Discussion

- Different paths → different naturalization outcomes
- First US education is important
 - Yet those pursuing higher degrees are not more likely to stay
 - Important consideration for policies attracting skilled immigrants
- In-state retention is good for some US states, especially those with high reputation in higher education
 - Others could have a hard time catching up

Future Analyses

- Add two cross-sectionals in 1993 and 2003
- Include more location characteristics
- Include for educational characteristics
- Use longitudinal component of the NSCG surveys