



# **Outmigration and Human Capital: Homeward Bound or Gone for Good**

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# Motivation

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- **Outmigration**

- Illinois has historically ranked near the bottom in outmigration.
- Compounding the problem is the fact that Illinois-based higher education institutions are unable to attract enough high school graduates from outside the state to make up for the loss.
- In terms of net-migration, Illinois also ranks near the bottom.
- Outmigrants are more likely to stay out-of-state upon graduation than their counterparts who enrolled in-state (Adelman, 2004).
- This represents a significant loss of tax revenue for the state (Smith & Wall, 2006).

# Outmigration

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- Each year the state of Illinois experiences a net loss of roughly 11,000 students.
  - Summit
  - Plano
  - Minooka
- Outmigrants tend to be among the best and brightest Illinois high school graduates (Manley et al., 2013; Smalley et al., 2010).
- This represents a significant loss of human capital.

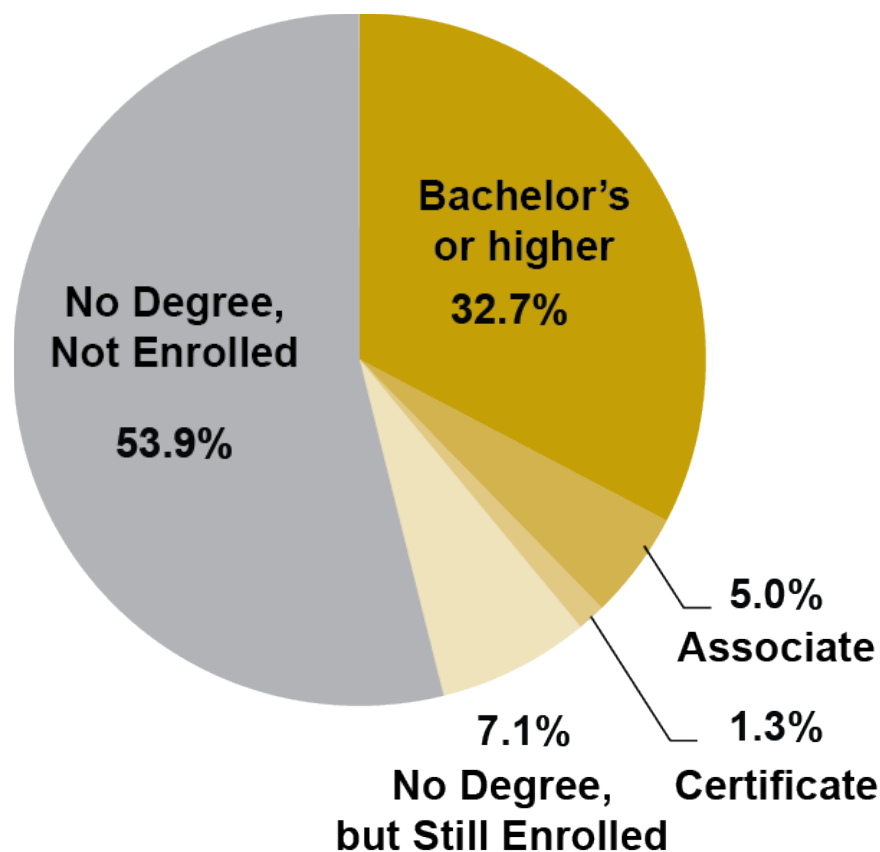
# Research Questions

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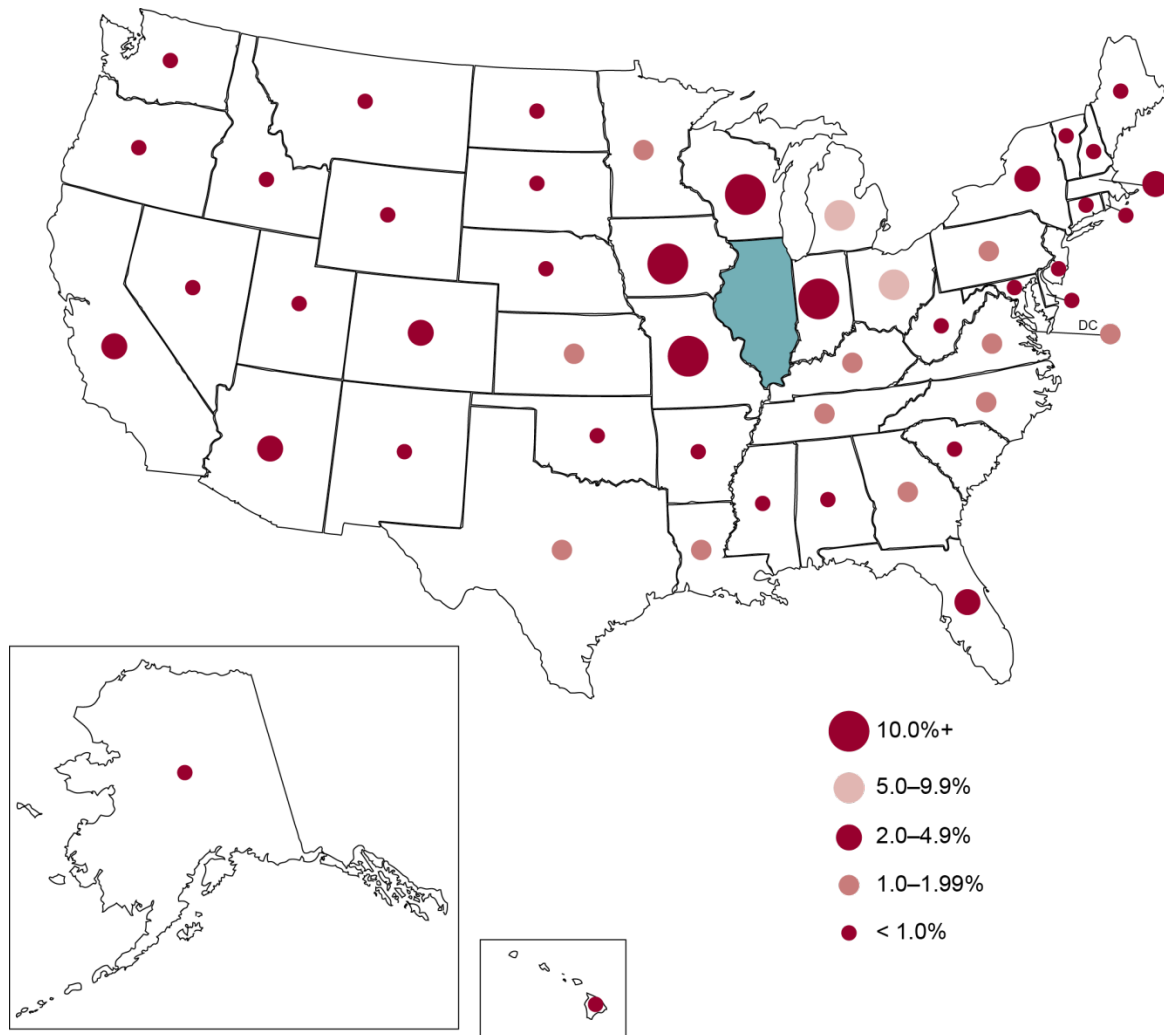
- Given the present and historical problem of outmigration, we are left with the following questions:
  - Do outmigrants return home to work and find employment in Illinois?
  - And if so, what are their earnings?
  - Also, among the outmigrants who returns?
  - How do these Illinois-specific workforce outcomes compare with an observationally equivalent comparison group?

# Creating the 'Treatment' and Comparison Groups

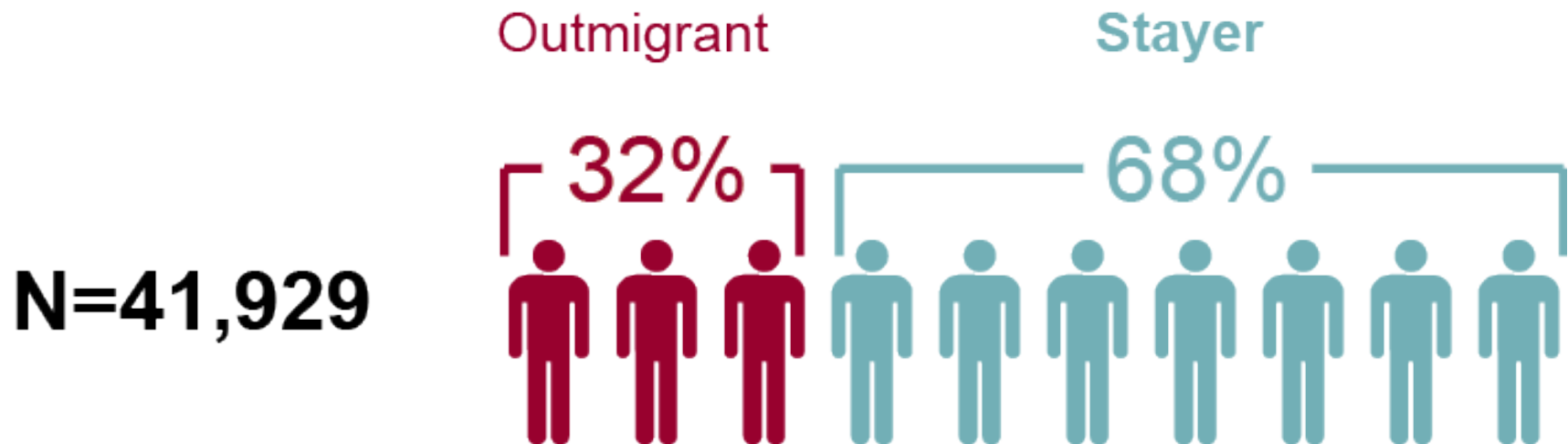
**End of Study Status (seven years out) for the Illinois High School Class of 2003 (N=128,323)**



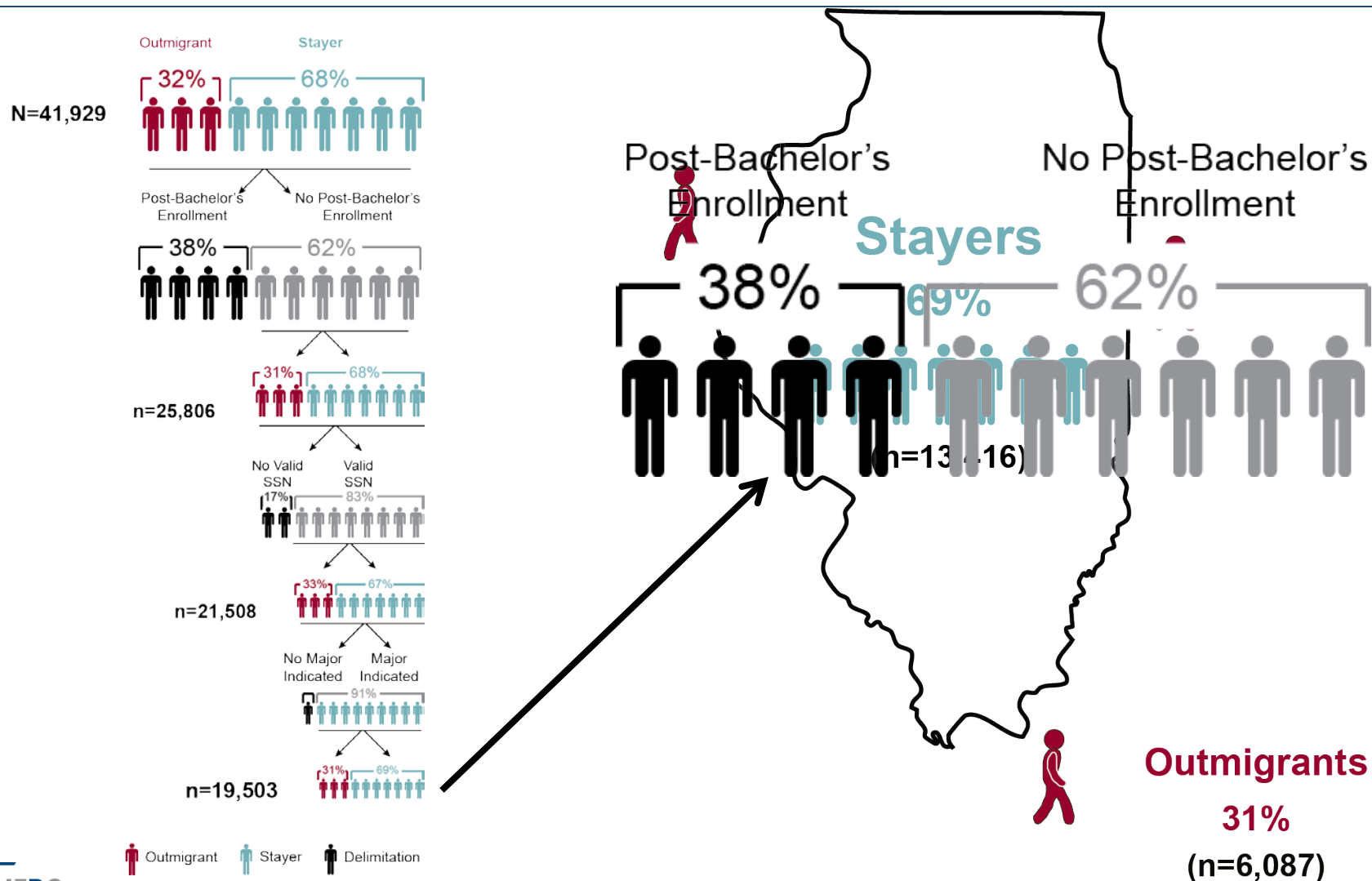
# Figure 3 - Outmigration



# Outmigration Status

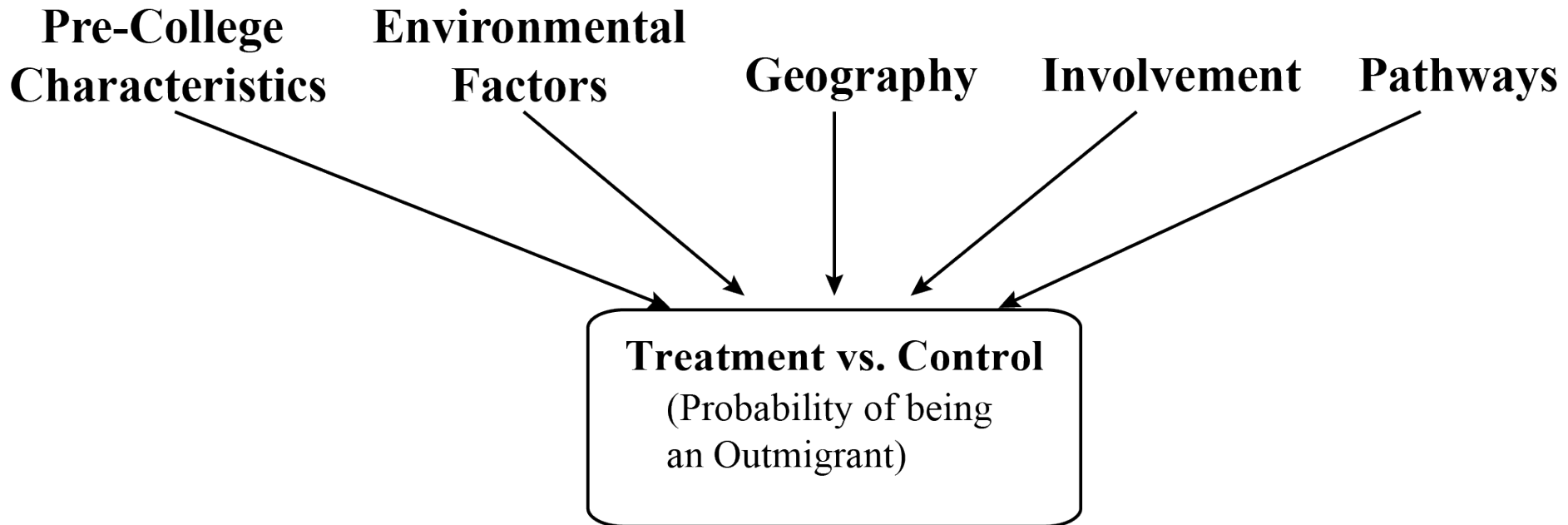


# Study Group Composition Prior to Matching





# Conceptual Model Predicting Outmigration



## Matched Pairs:

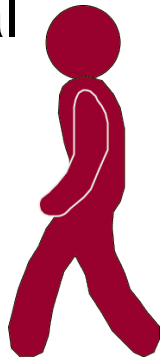
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- Were from the same region and locale
- Had a similar likelihood of being an outmigrant
- Graduated from a four-year college with the same Barron's competitiveness rating
- Had the exact same major associated with their bachelor's degree
- The only observable difference between each member of the matched pairs was exposure to the 'treatment'

# Example of a Matched Pair

## Outmigrant

- Aurora
- 62% likelihood of being an outmigrant
- Graduated from Ohio State
- Majored in Chemical Engineering



## Stayer

- Aurora
- 62% likelihood of being an outmigrant
- Graduated from the University of Illinois at Urbana-Champaign
- Majored in Chemical Engineering

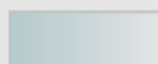


# Balancing Diagnostics – Environment

	Prior to Matching			After Matching		
	Prior to Matching			After Matching		
	Outmigrants (n=6,087)	Stayers (n=13,416)	Standardized Difference	Outmigrants (n=4,400)	Stayers (n=4,400)	Standardized Difference
Control						
<b>High School Level</b>						
HS Mean Composite ACT	22.31	21.10	51.86	22.41	22.28	5.50
HS Percentage Low Income	0.16	0.21	-38.40	0.15	0.15	-3.45
Expected Financial Aid: Missing	0.19	0.20	-1.77	0.21	0.19	4.20
Planned Work Hours: 0	0.23	0.14	23.65	0.22	0.22	-0.69
Planned Work Hours: 1-10	0.26	0.23	6.60	0.26	0.25	1.62
Planned Work Hours: 11-20	0.24	0.32	-17.56	0.24	0.24	0.33
Planned Work Hours: 21-30	0.05	0.09	-15.41	0.05	0.06	-7.21
Planned Work Hours: 31 or more	0.01	0.01	-5.15	0.01	0.01	-5.49
Planned Work Hours: Missing	0.22	0.21	2.44	0.23	0.22	3.35

Cells are shaded according to their difference from zero

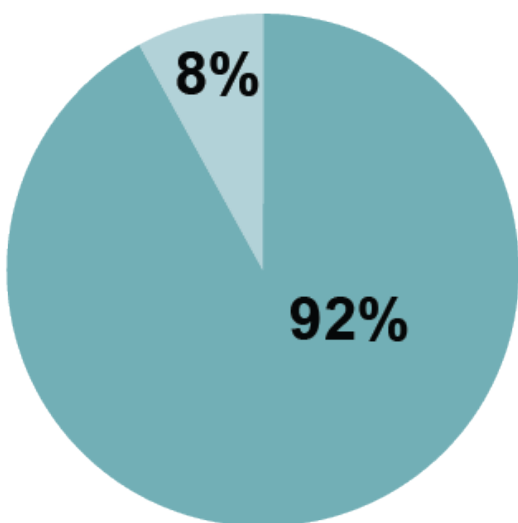
Difference favoring  
Stayers



Difference favoring  
Outmigrants

# Overall Rate of Post-Bachelor's Illinois Employment

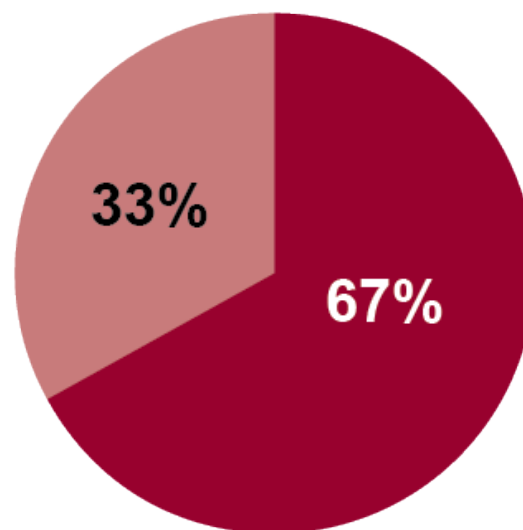
Stayers



■ Employed in Illinois at Least One Quarter

■ Never Employed in Illinois

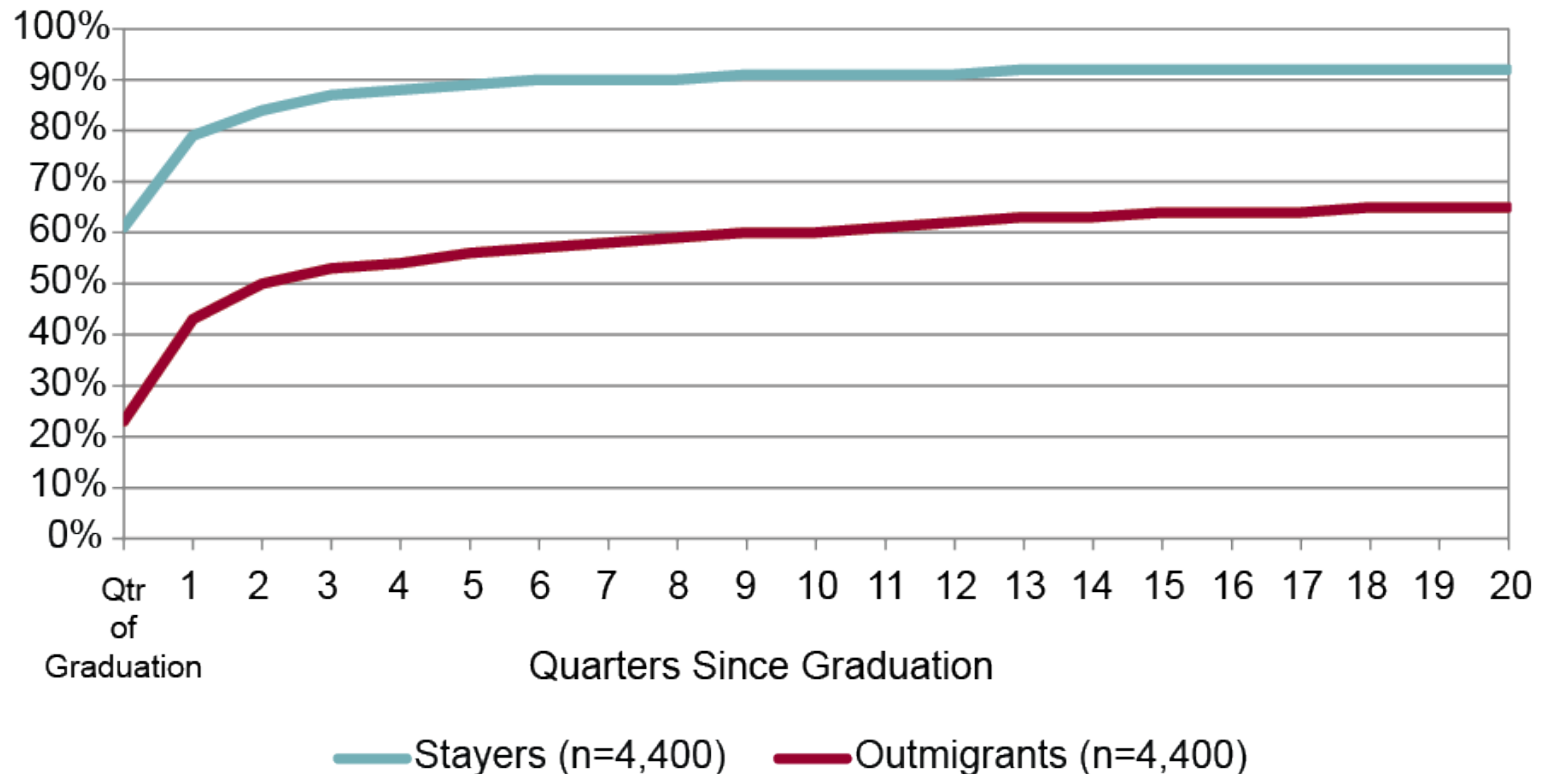
Outmigrants



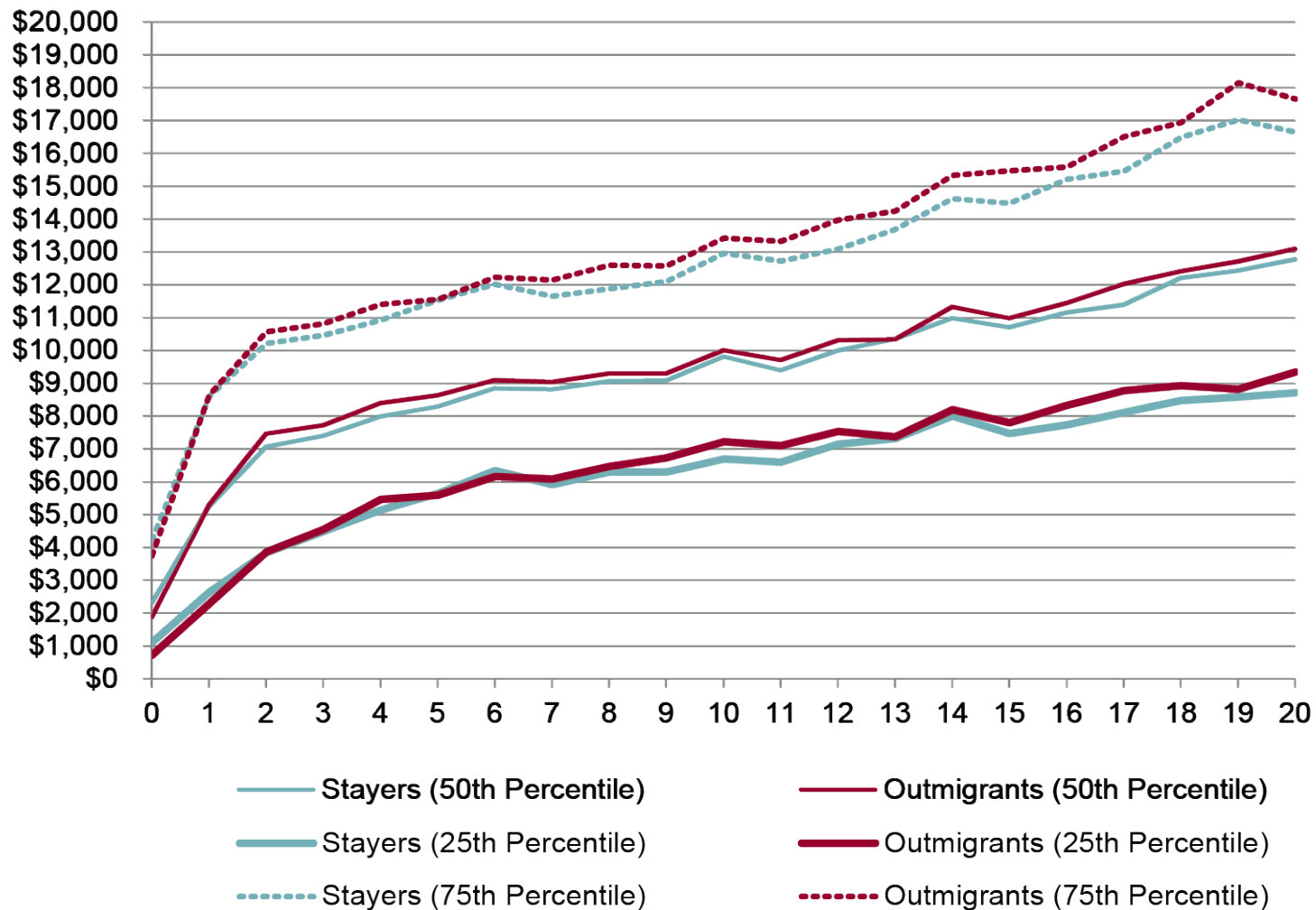
■ Employed in Illinois at Least One Quarter

■ Never Employed in Illinois

# Cumulative Rate of Illinois Employment by Outmigration Status

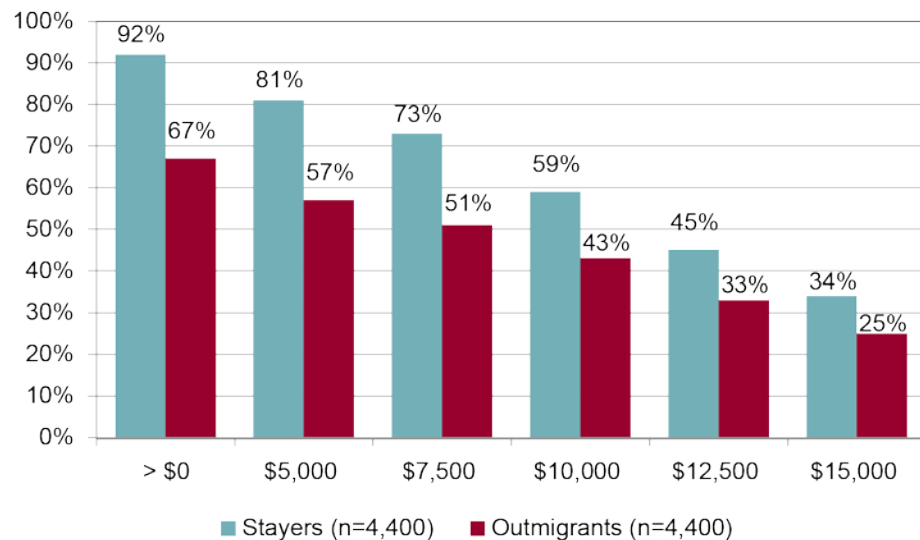


# Quarterly Wages

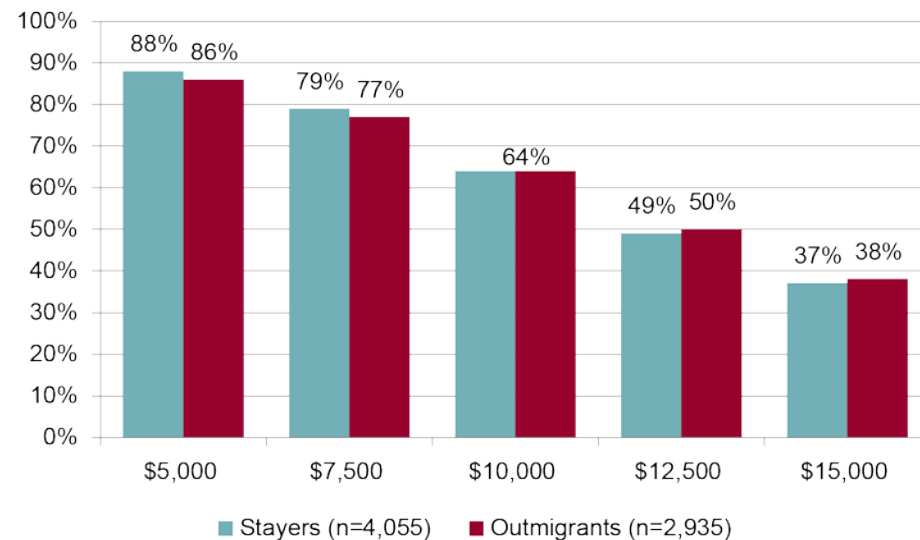


# Quarterly Wage Thresholds: Absolute and Conditional Upon Illinois Employment

## Overall

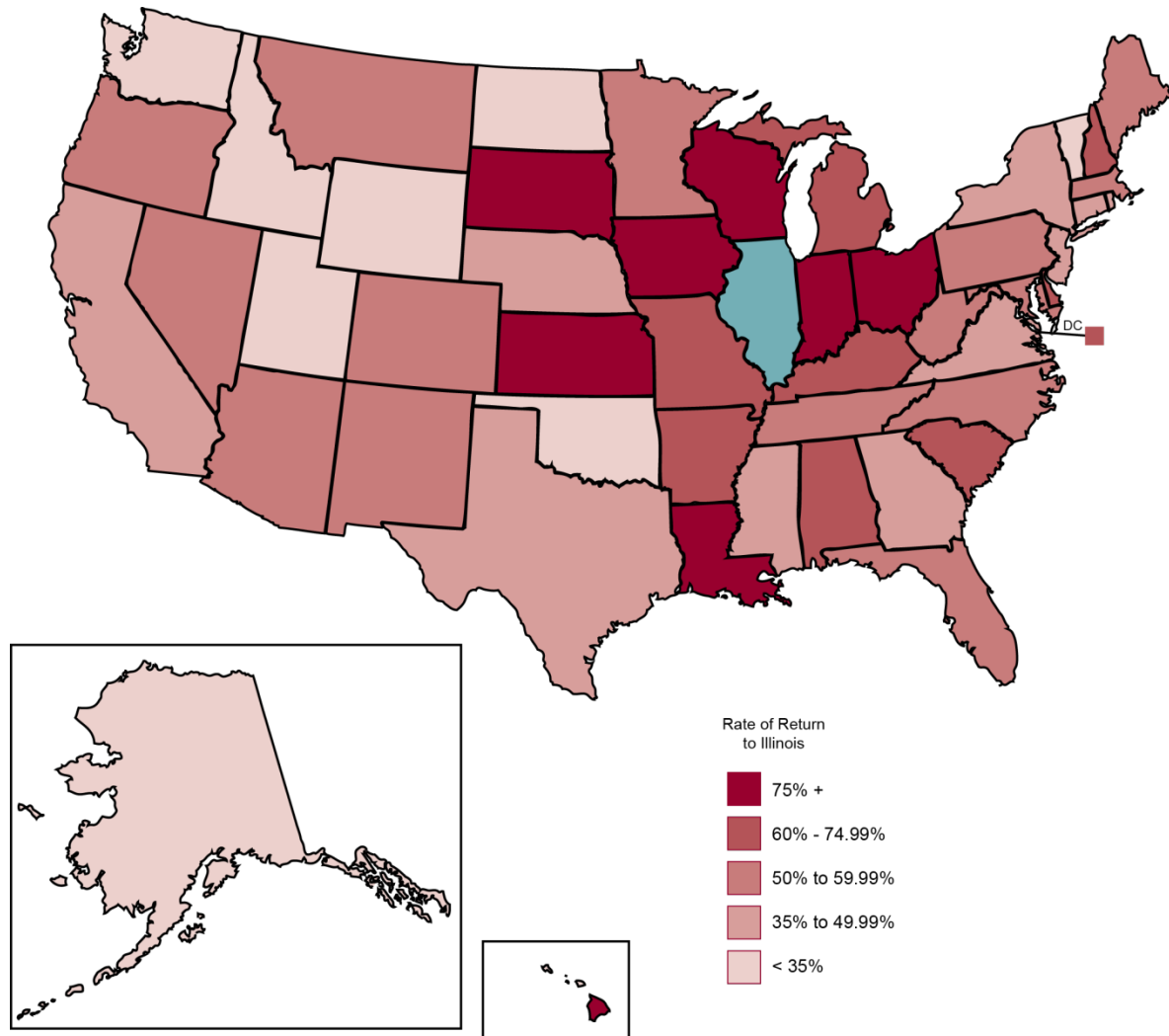


## Conditional Upon Illinois Employment

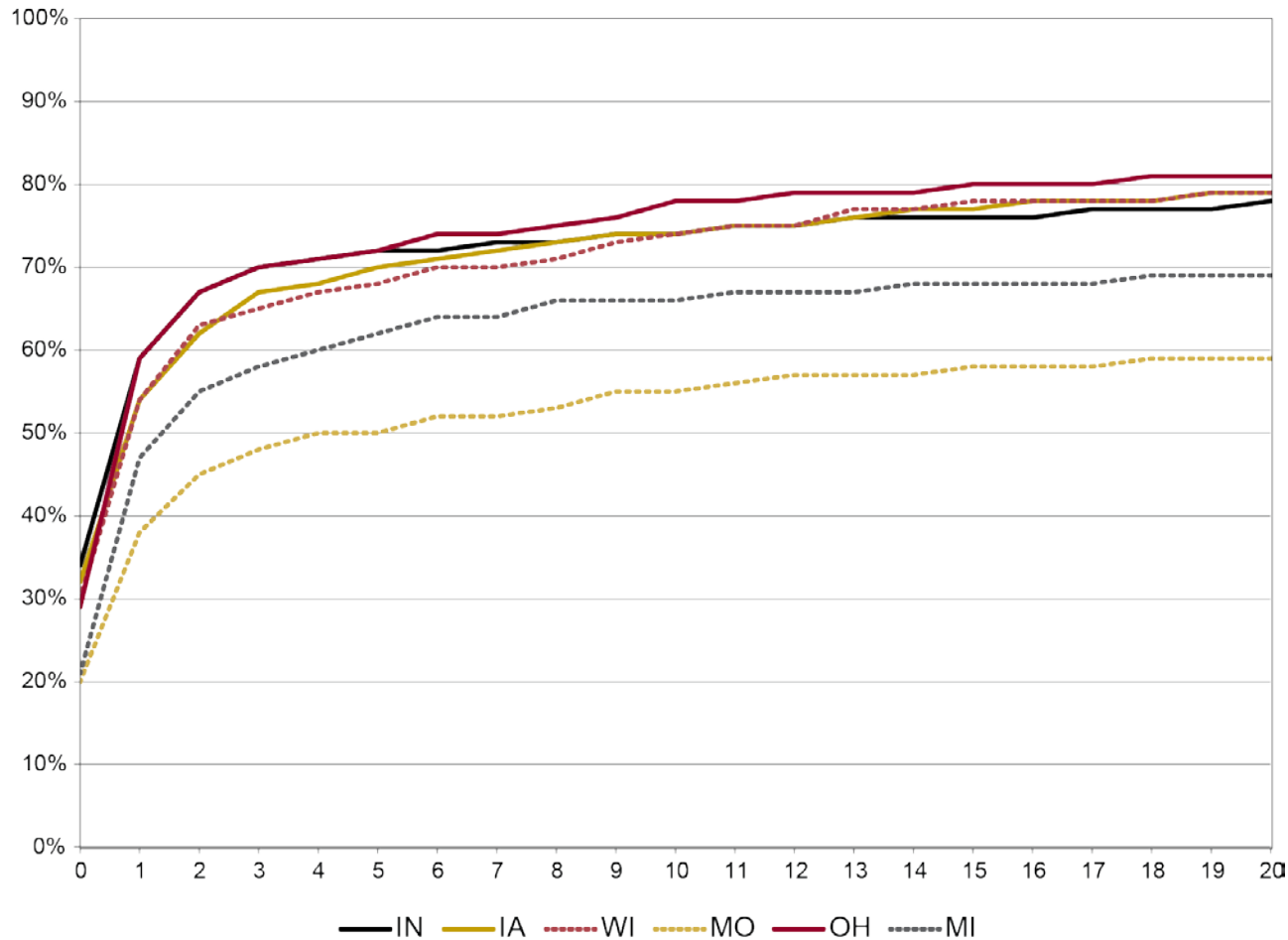




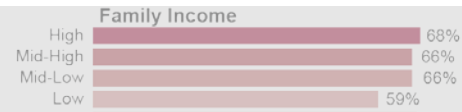
# Rate of Illinois Employment by Graduation State for Matched Study Group Members



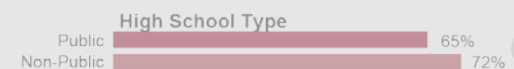
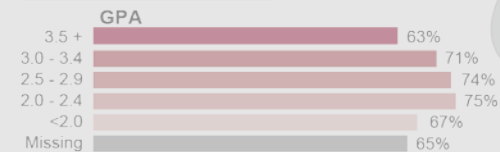
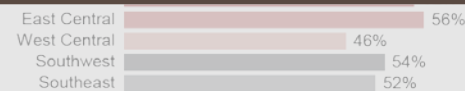
# Cumulative Rate of Return among High Yield States



# Who Returns?



**GPA**



# Predicting Illinois Employment by Outmigration Status

	Outmigrants Odds Ratio (n=4,400)	Outmigrants Odds Ratio (n=4,400)	Stayers Odds Ratio (n=4,400)	Stayers Odds Ratio (n=4,400)
	Model 1	Model 2	Model 1	Model 2
<b>STEM to Non-Stem</b>		0.701***		0.769

\*p<.05, \*\*p<.01, \*\*\*p<.001

# Major Findings

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- Outmigrants were significantly less likely to gain employment in Illinois relative to stayers.
- Among the outmigrants, those with stronger academic profiles were less likely to obtain Illinois employment.
- Further, the outmigrants with the degrees deemed most important for the Illinois economy were even less likely to return to Illinois for employment.

# Consequences of Outmigration

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- Outmigrants experienced significantly lower rates of Illinois-specific employment relative to the stayers resulting in substantially lower aggregate Illinois wages among the outmigrant group.
- Relatedly, substantially fewer outmigrants reached the various Illinois-specific earnings thresholds.
- This in turn, represents some of the negative economic impact that outmigration has on the state of Illinois.

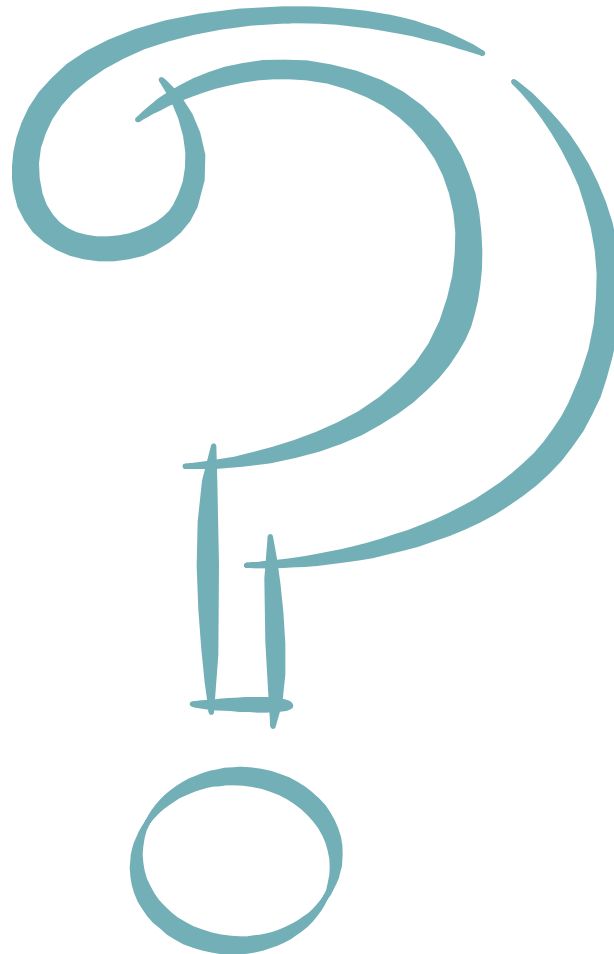
# Policy Recommendations

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- Data specific recommendations:
  - Entering into data sharing agreements with neighboring states.
  - Graduates of private high schools and the ILDS.
- Education policy specific recommendations:
  - Increasing affordable postsecondary options for Illinois students.
  - Actively recruiting outmigrants to return to Illinois for work.

# Questions

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