



Outmigration and Human Capital: Homeward Bound or Gone for Good

Eric Lichtenberger

Illinois P20 Council Meeting

South Suburban Community College

July 23, 2014



Motivation

- **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

- 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

- 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)

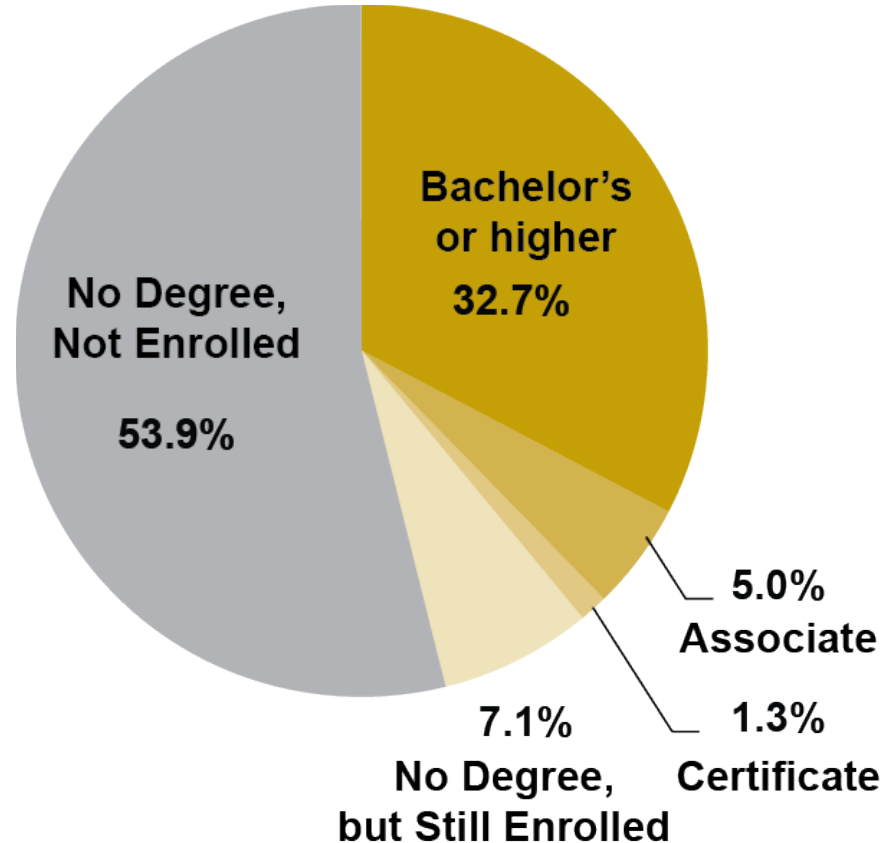
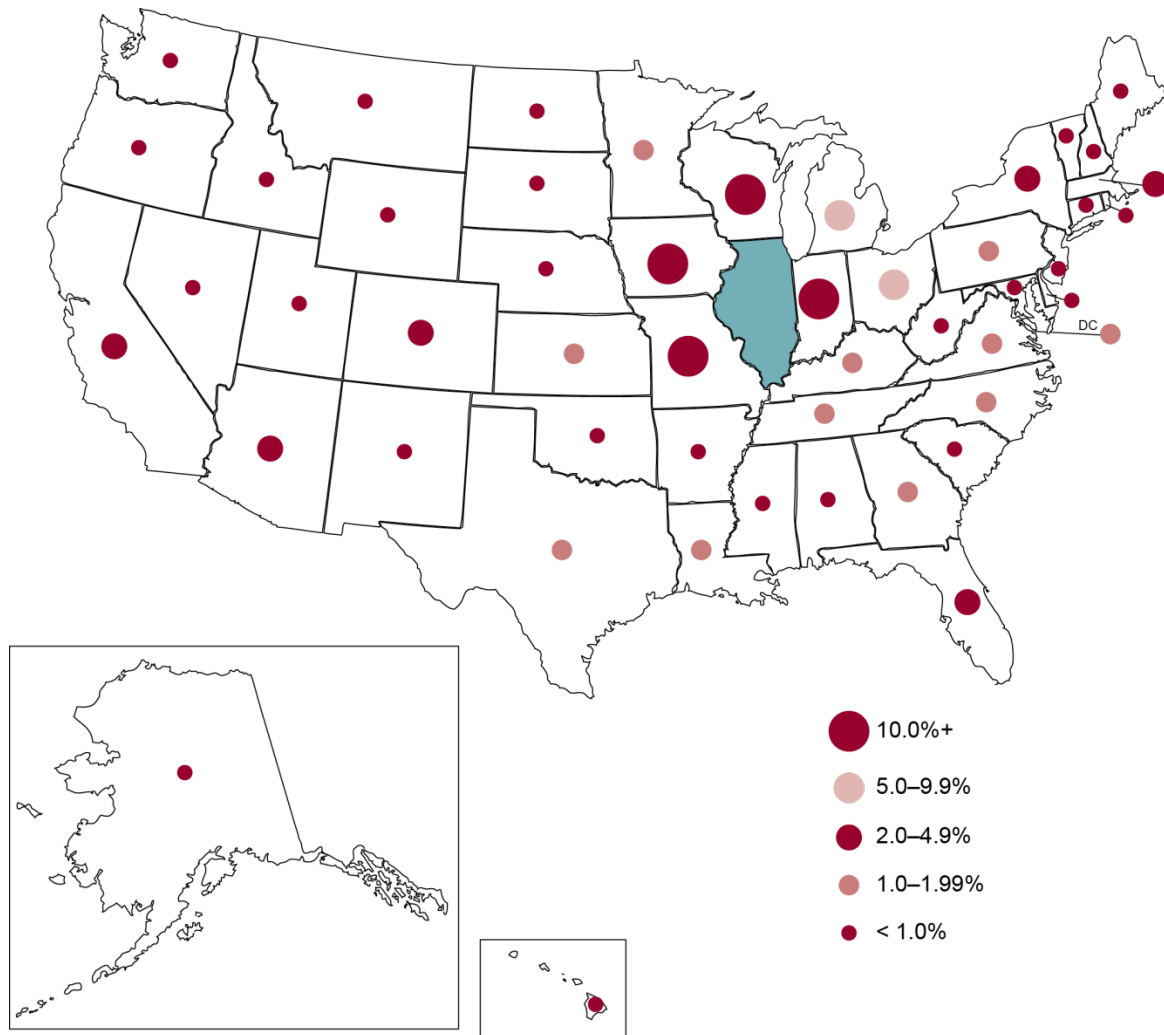
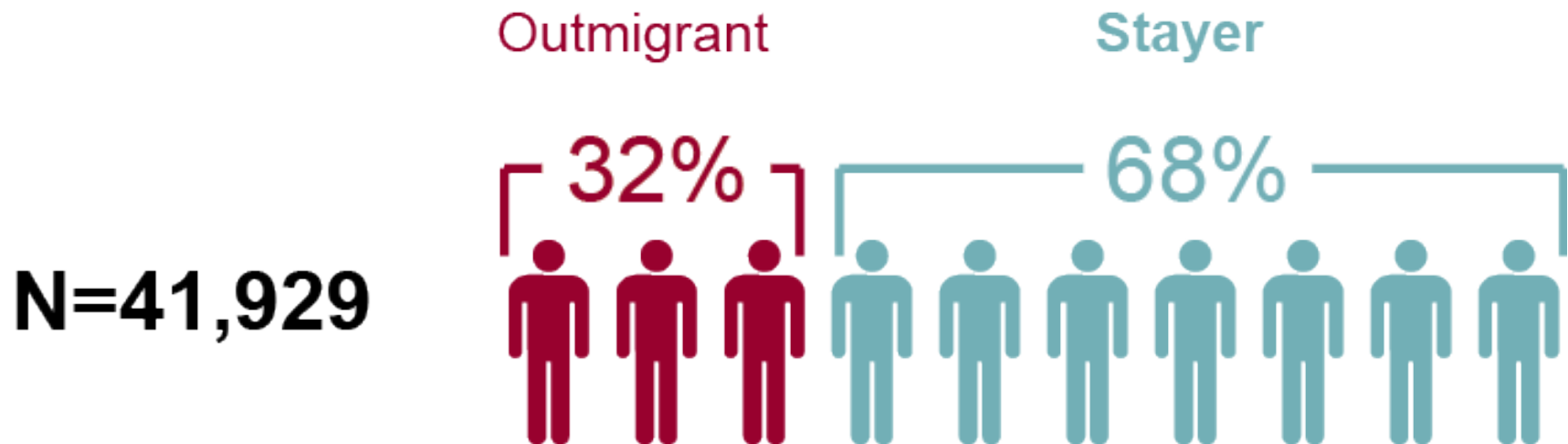


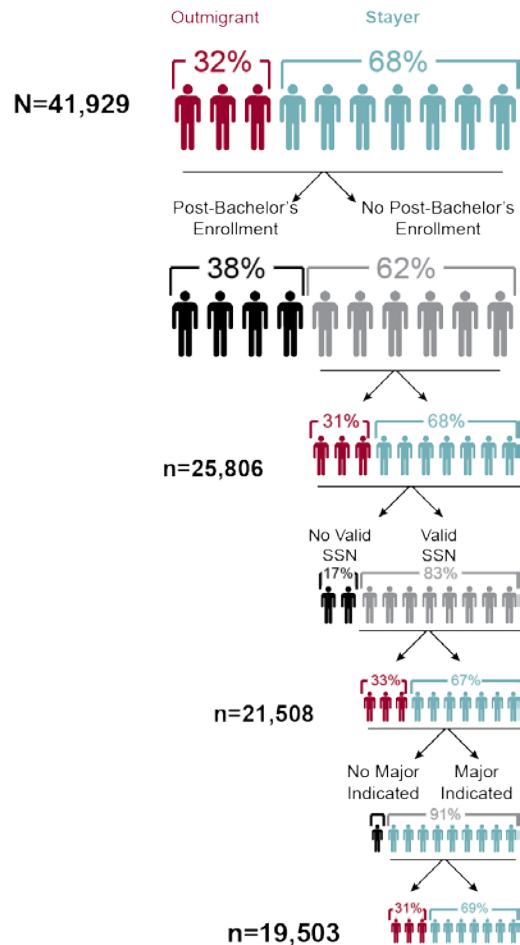
Figure 3 - Outmigration



Outmigration Status

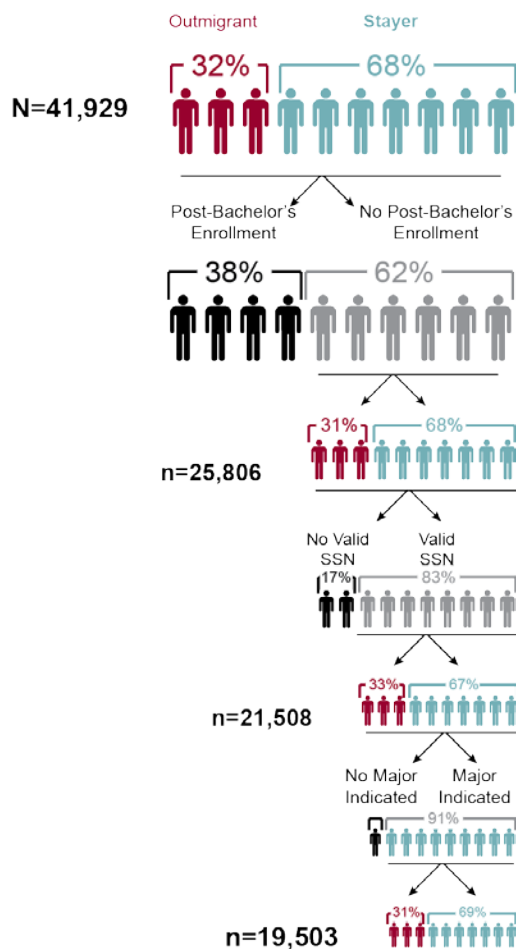


Study Group Composition Prior to Matching



Outmigrant Stayer Delimitation

Study Group Composition Prior to Matching



Post-Bachelor's
Enrollment

No Post-Bachelor's
Enrollment

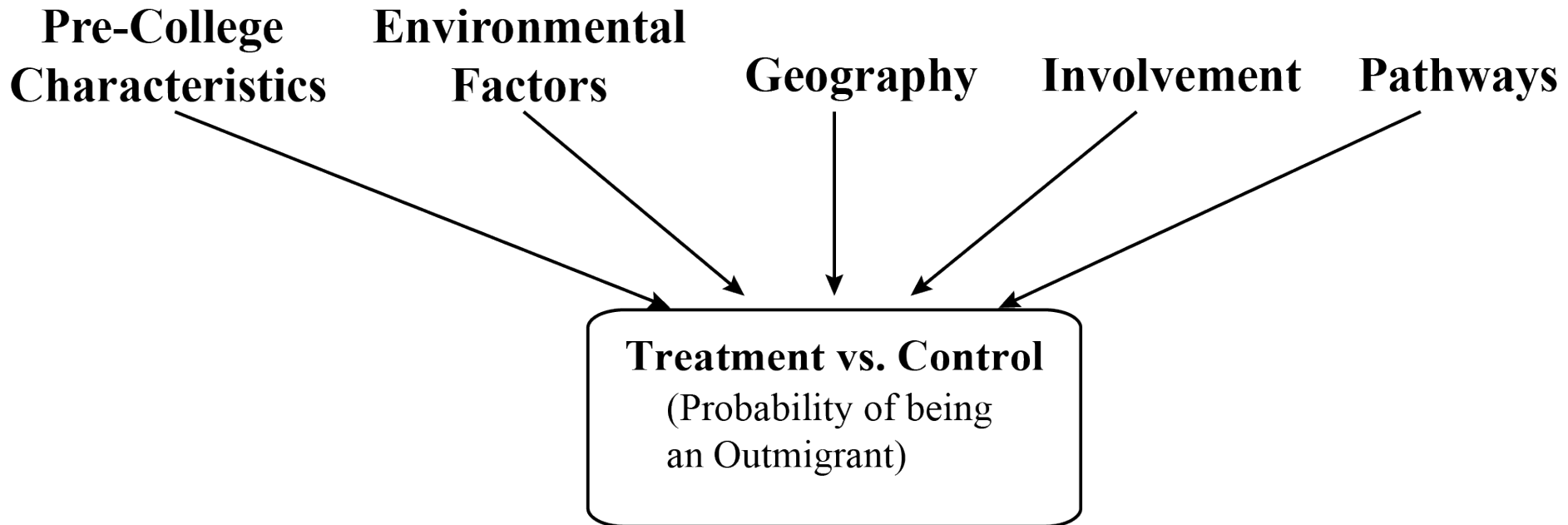


Outmigrant Stayer Delimitation

Study Group Composition Prior to Matching



Conceptual Model Predicting Outmigration



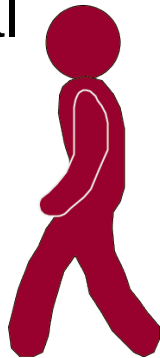
Matched Pairs:

- 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



Diagnostics – Environment

	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
High School Level						
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
HS Type: Public	0.79	0.84	-12.30	0.79	0.78	2.08
HS Type: Non-Public	0.21	0.16	13.83	0.21	0.22	-2.08
Student Level						
Expected Financial Aid: Yes	0.58	0.67	-16.46	0.58	0.59	-2.01
Expected Financial Aid: No	0.23	0.14	24.29	0.21	0.22	-1.72
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



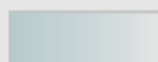
Difference favoring
Outmigrants

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						
High School Level						
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

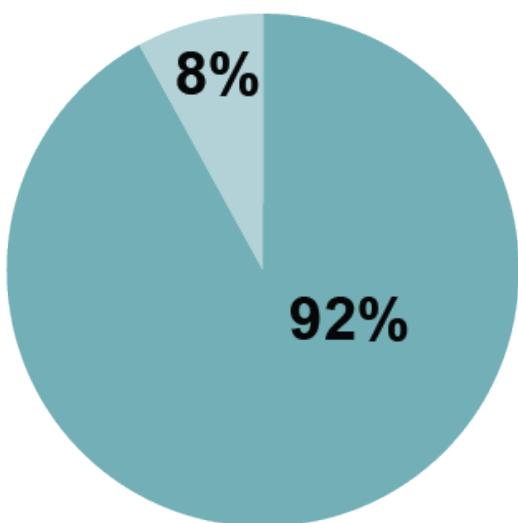
Difference favoring
Stayers



Difference favoring
Outmigrants

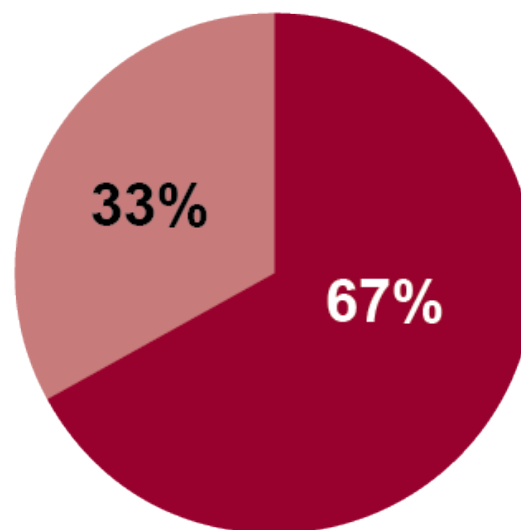
Overall Rate of Post-Bachelor's Illinois Employment

Stayers



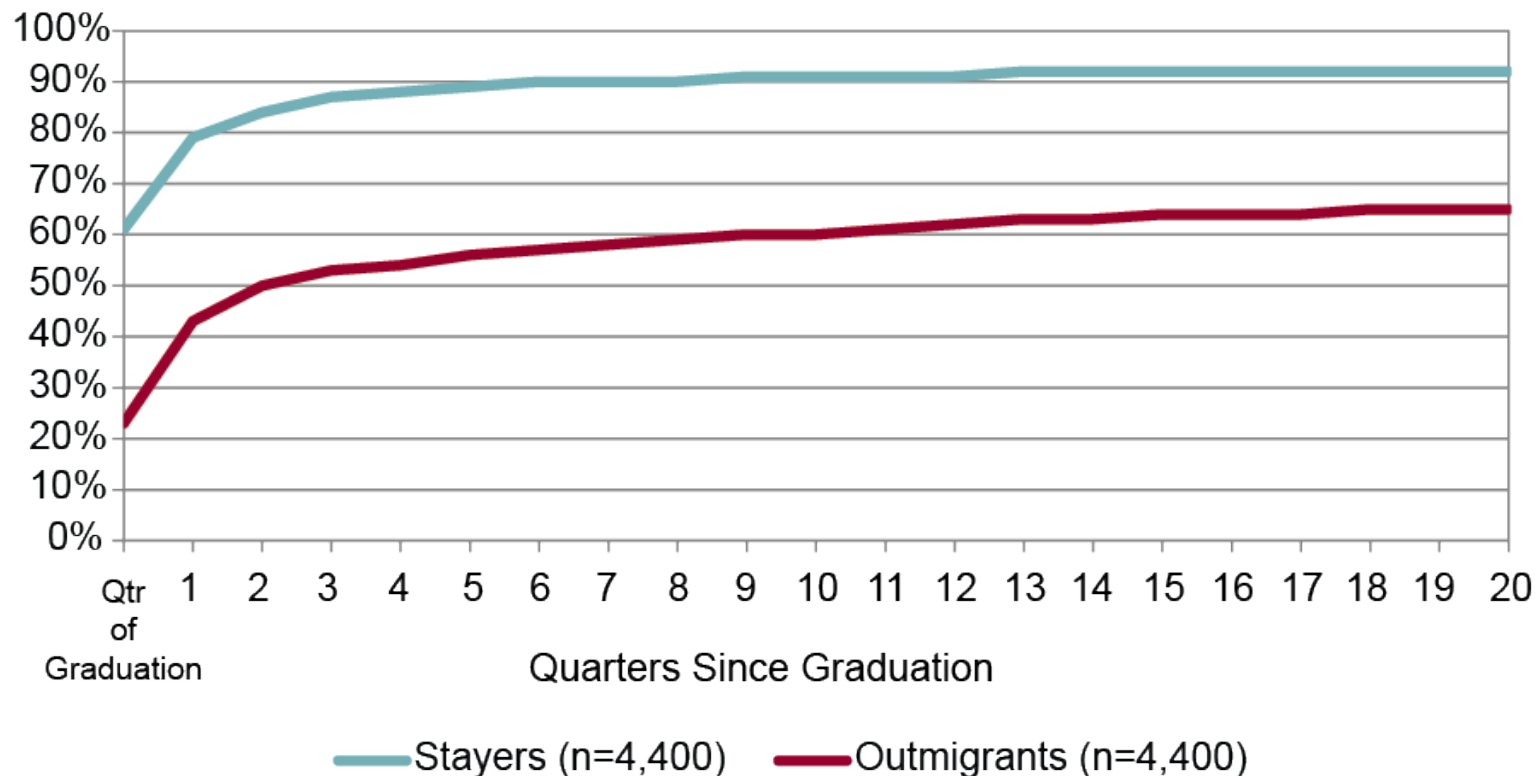
■ Employed in Illinois at Least One Quarter ■ Never Employed in Illinois

Outmigrants

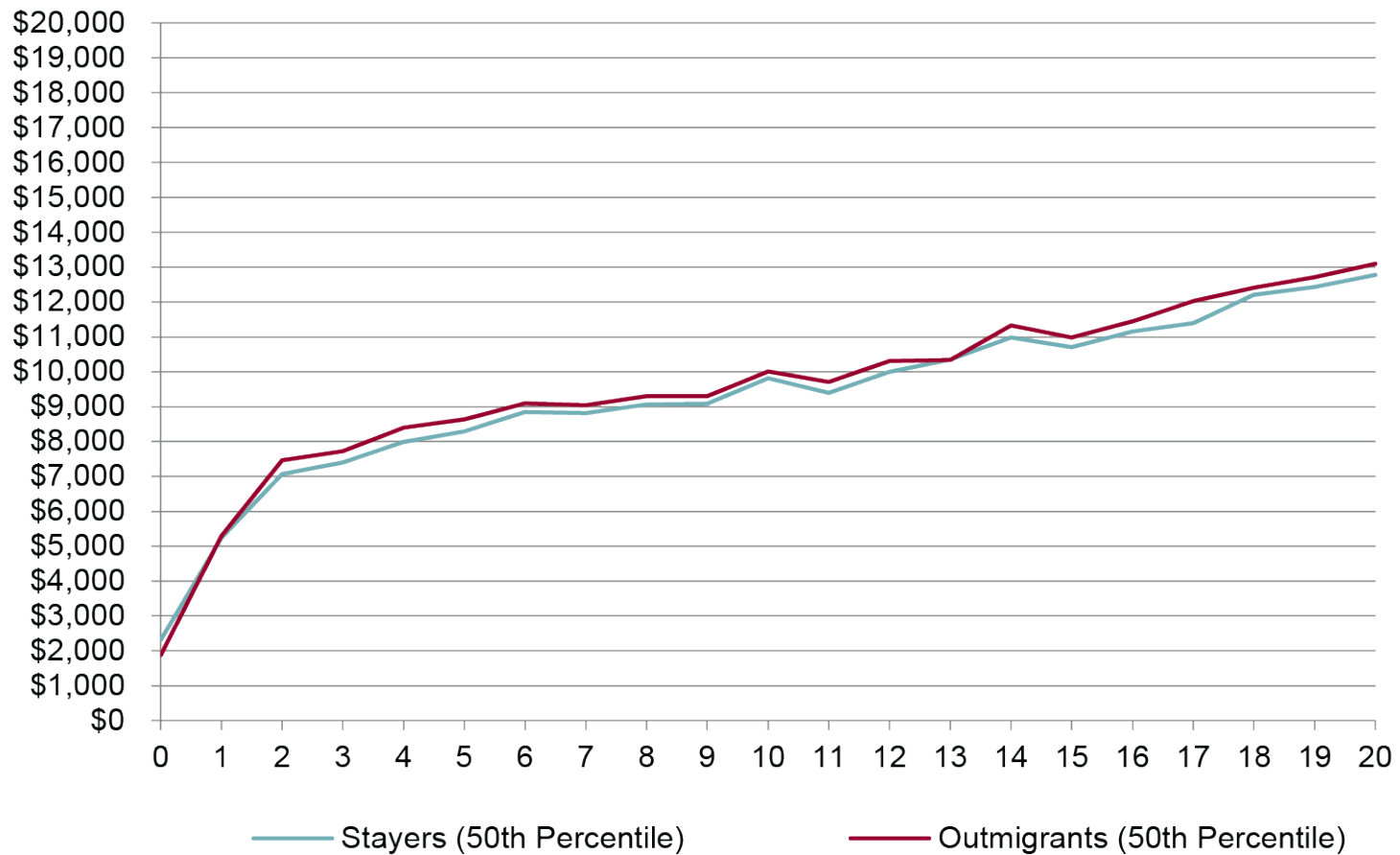


■ Employed in Illinois at Least One Quarter ■ Never Employed in Illinois

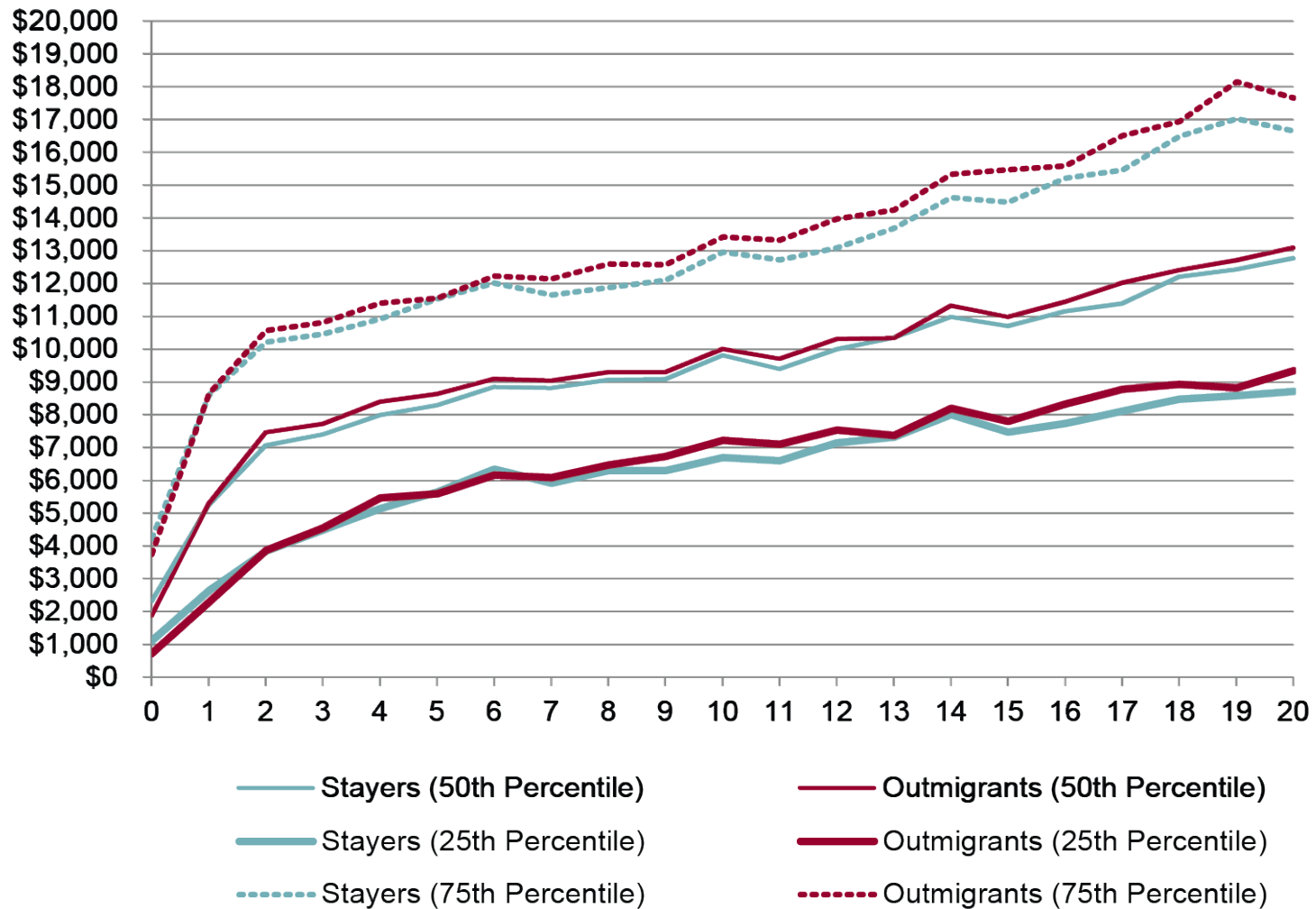
Cumulative Rate of Illinois Employment by Outmigration Status



Quarterly Wages

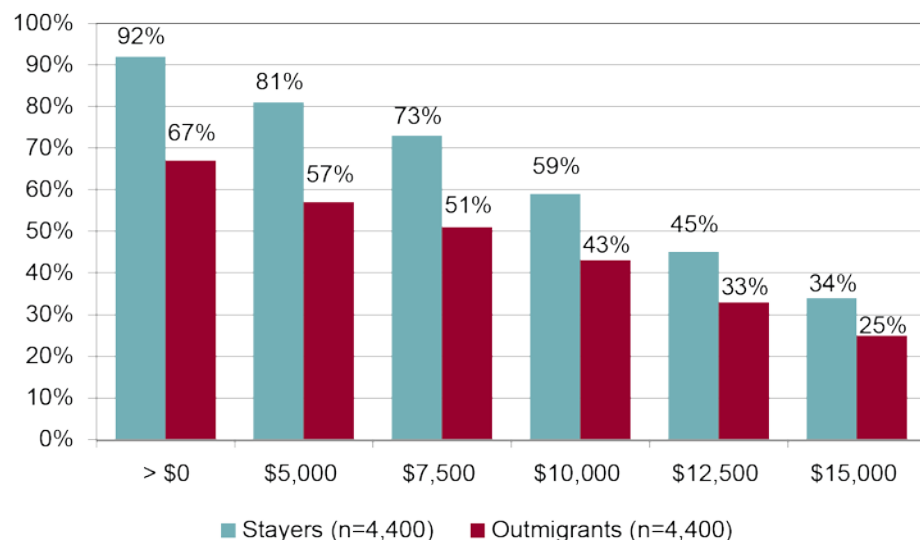


Quarterly Wages

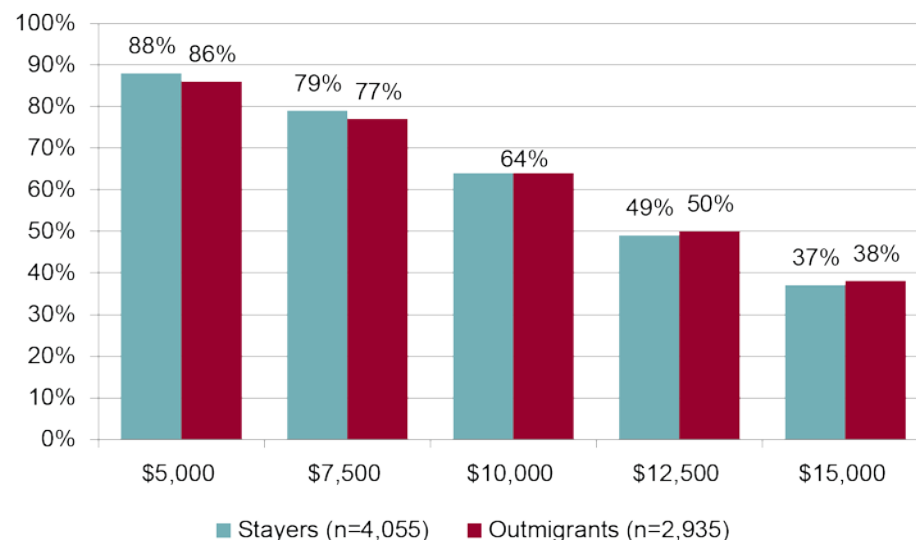


Quarterly Wage Thresholds: Overall and Conditional Upon Illinois Employment

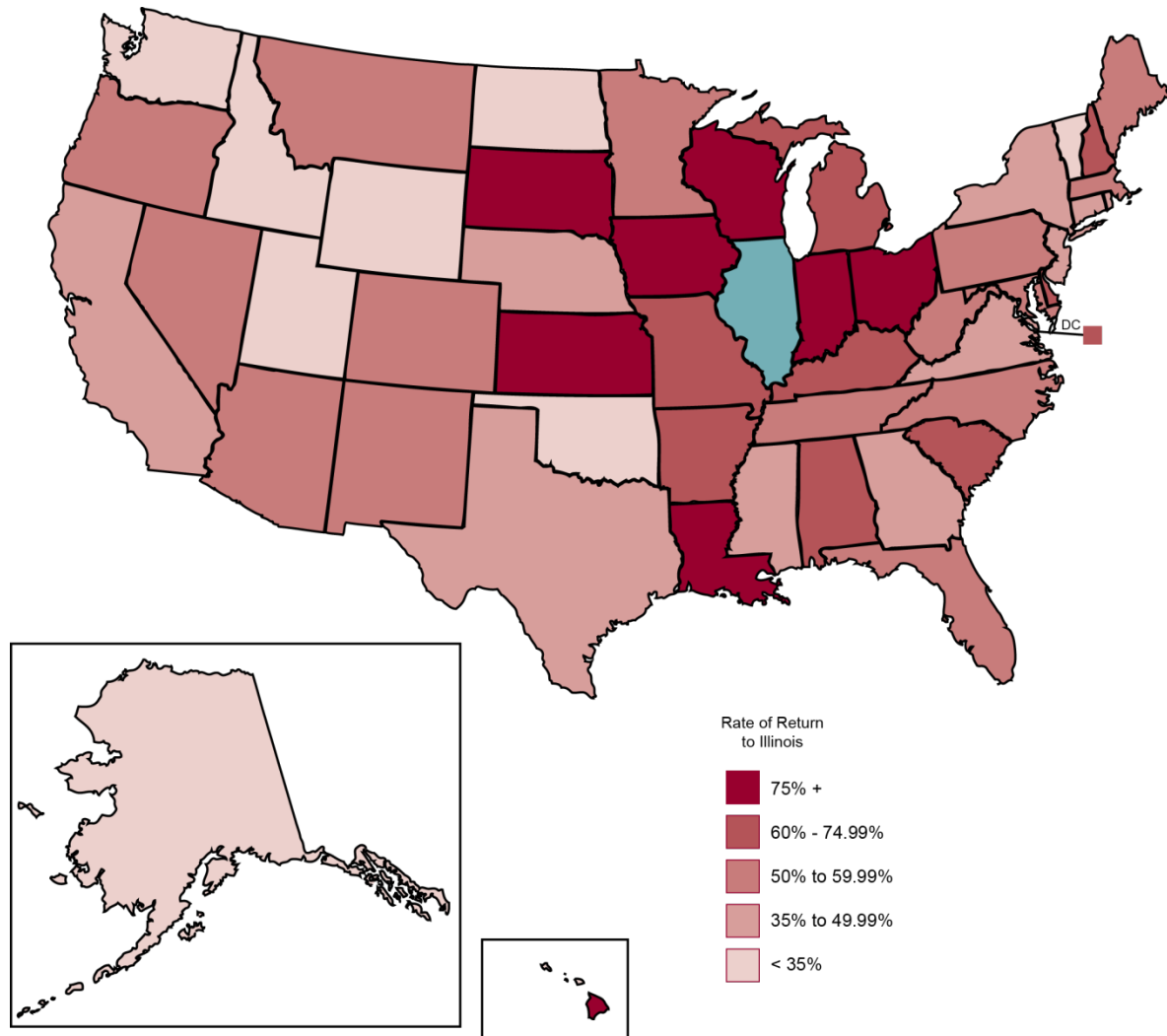
Overall



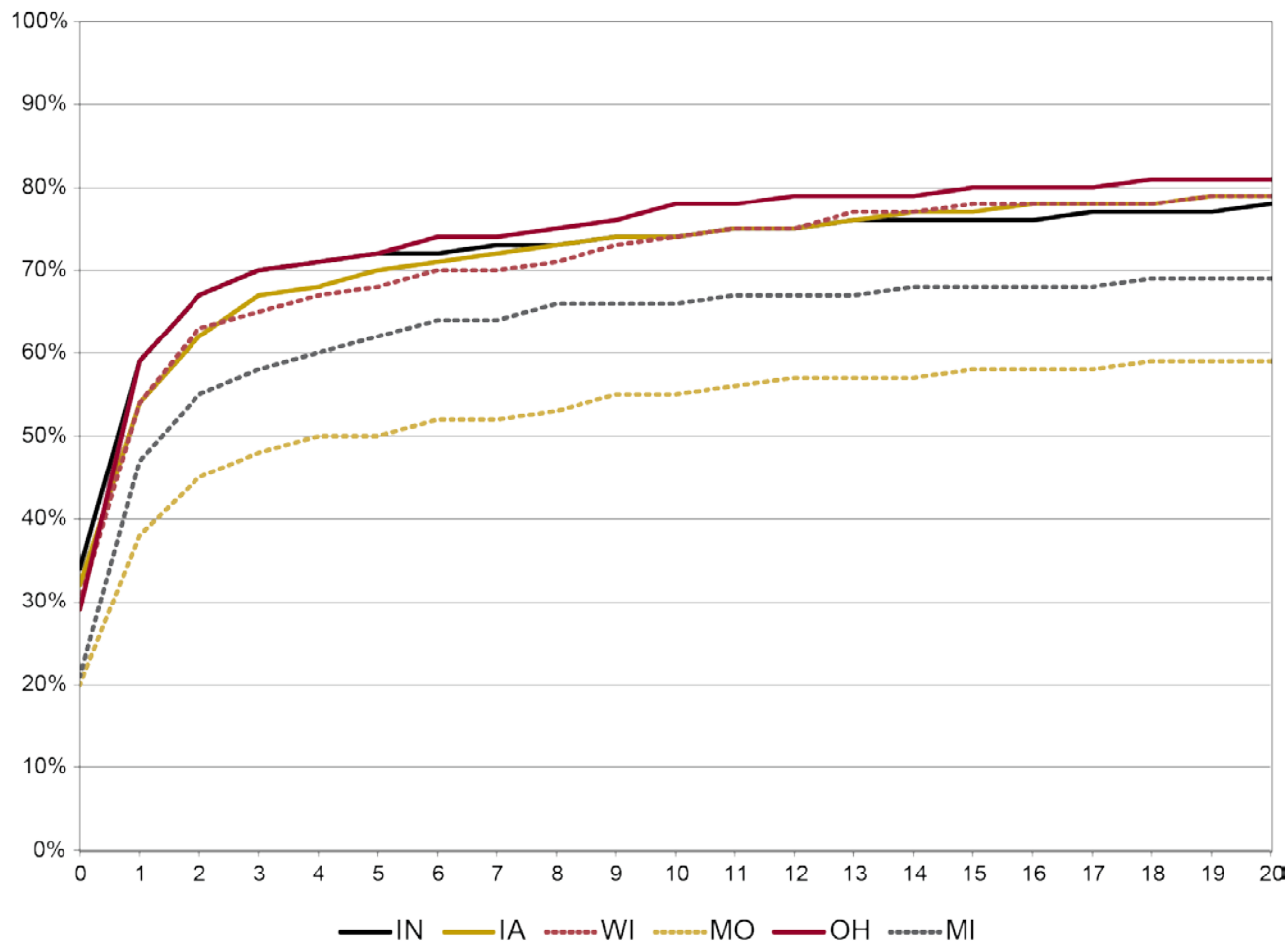
Conditional Upon Illinois Employment



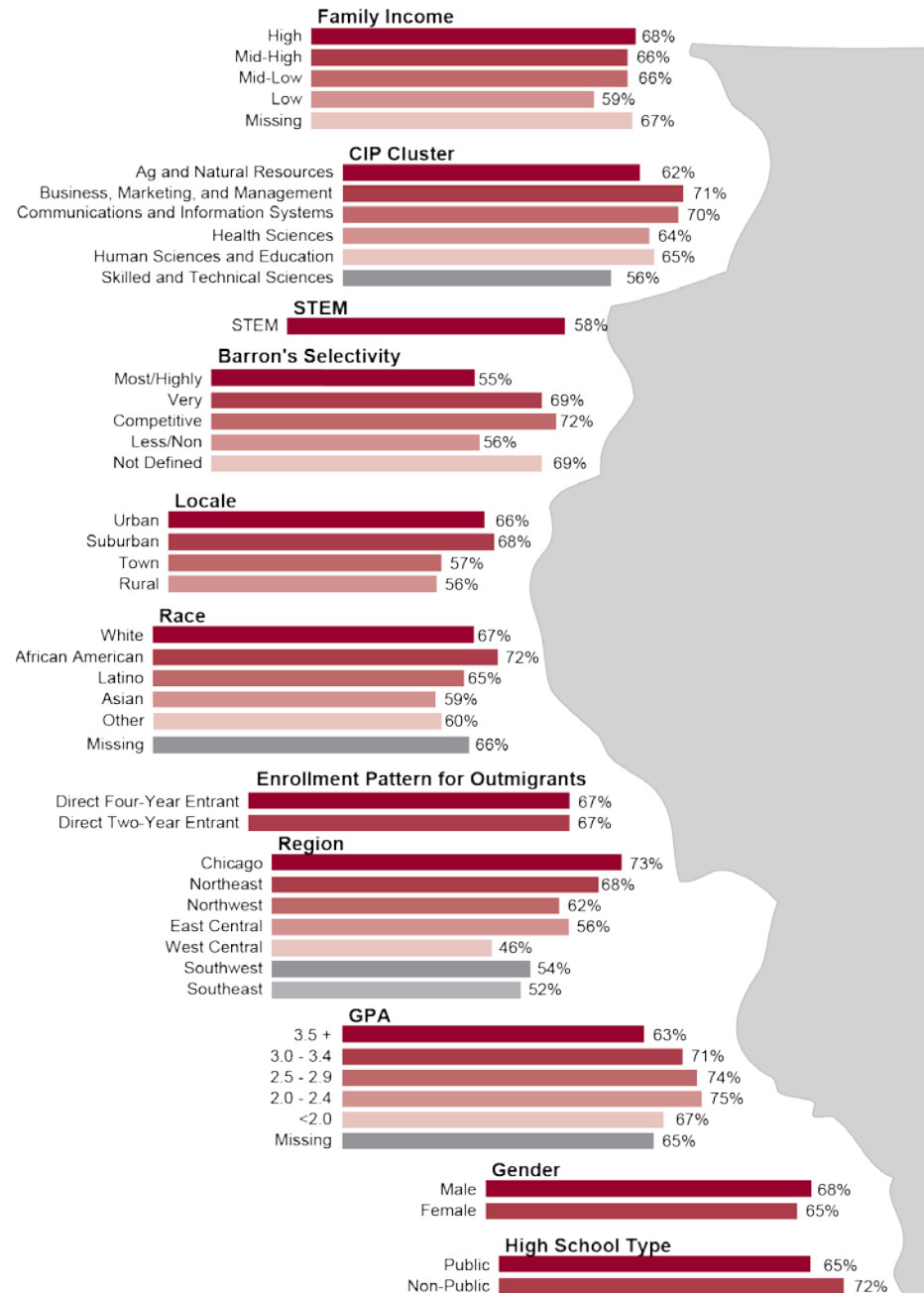
Rate of Illinois Employment by Graduation State for Matched Study Group Members



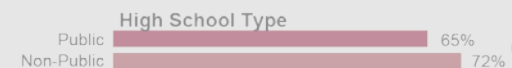
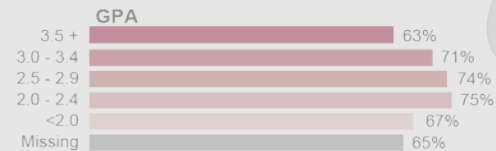
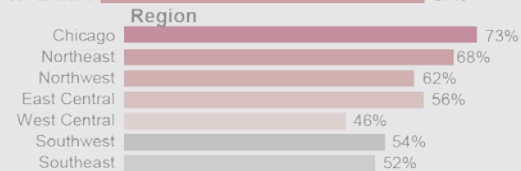
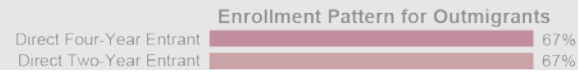
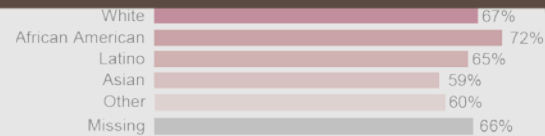
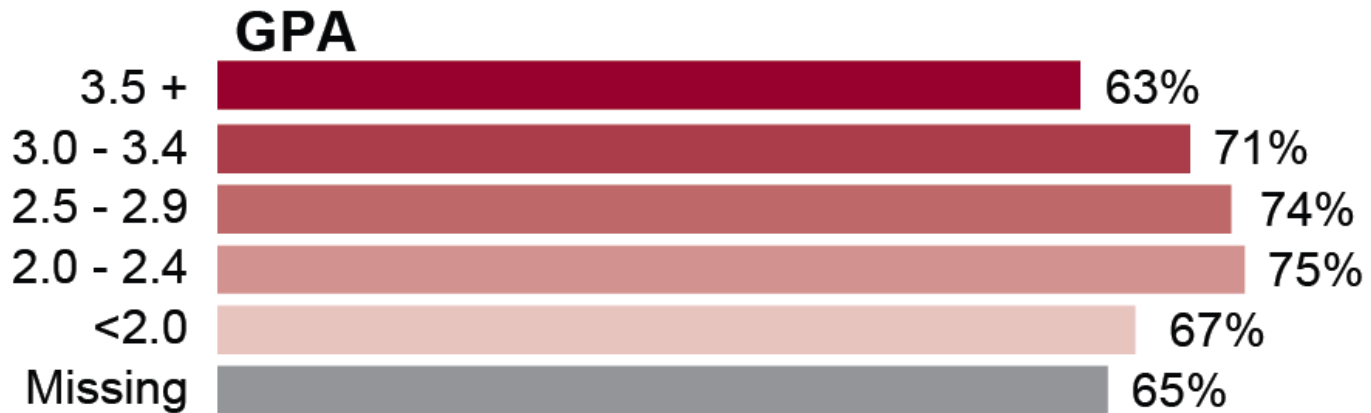
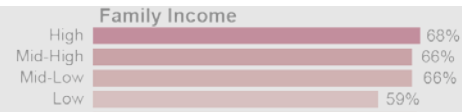
Cumulative Rate of Return among High Yield States



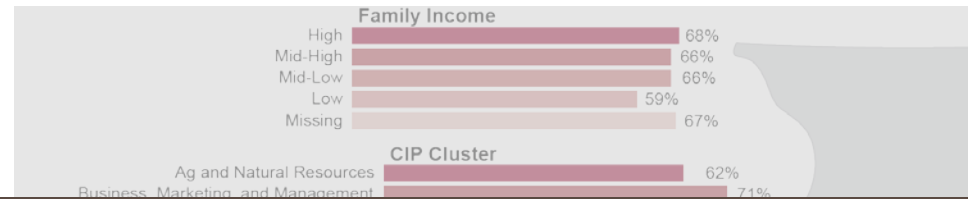
Who Returns?



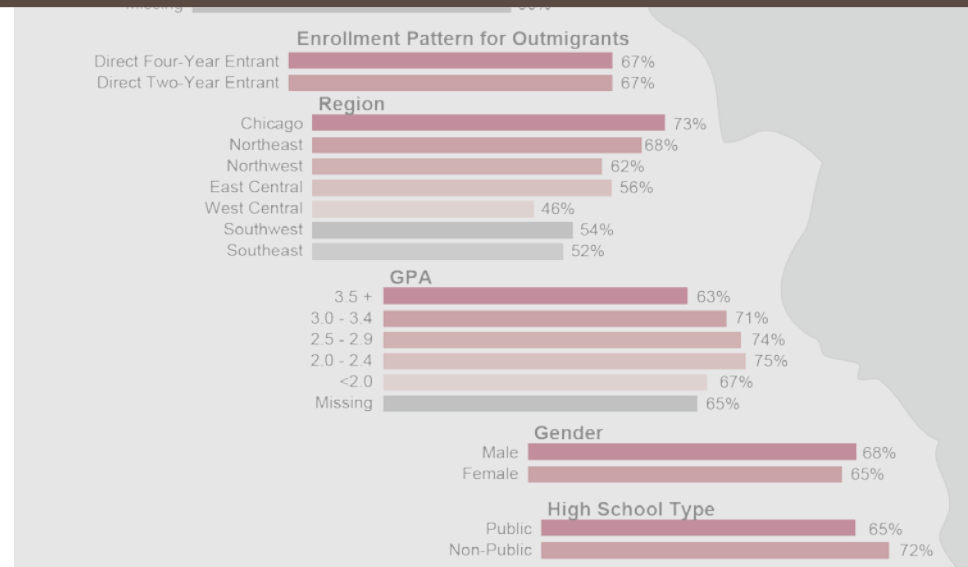
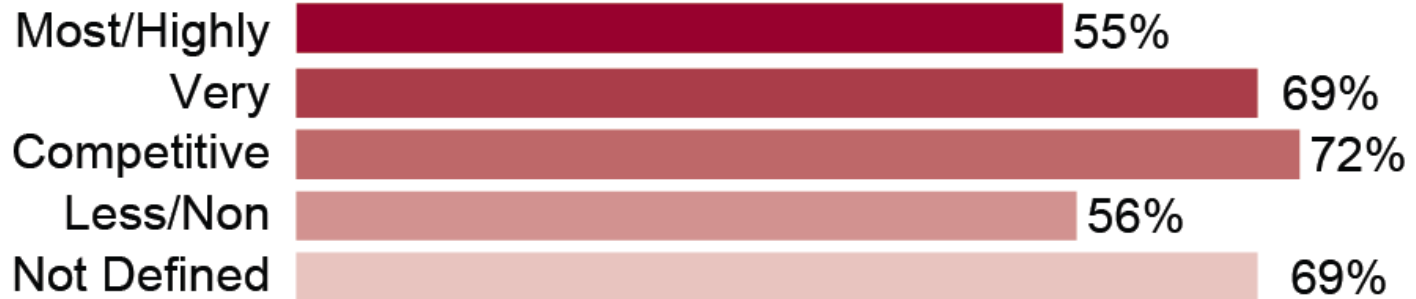
Who Returns?



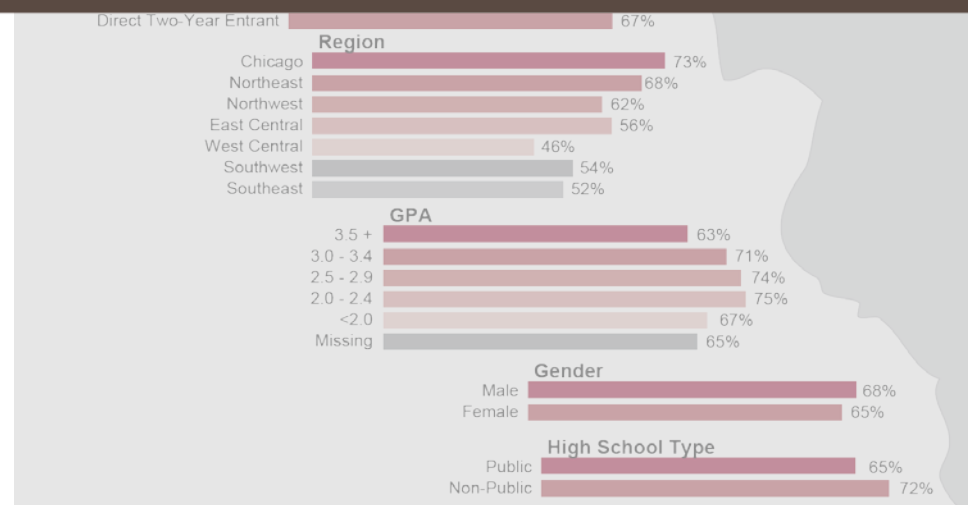
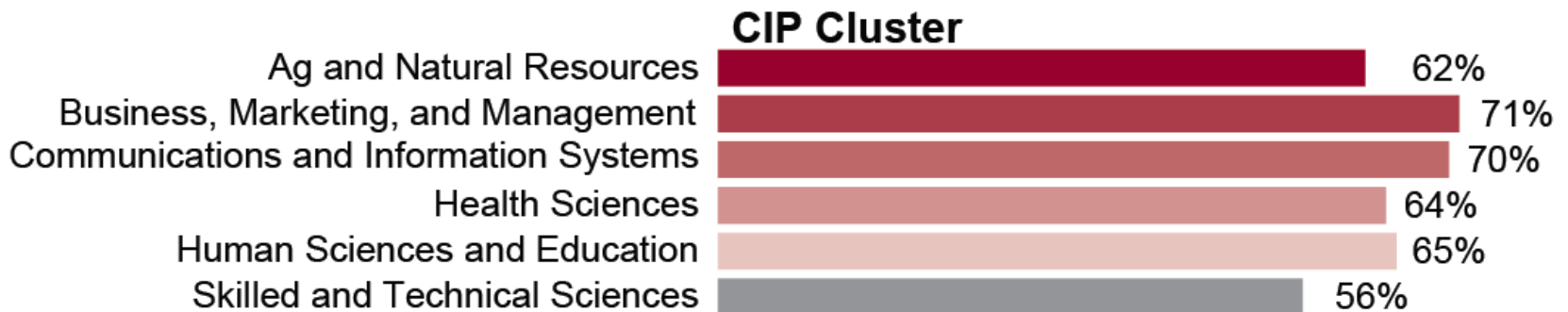
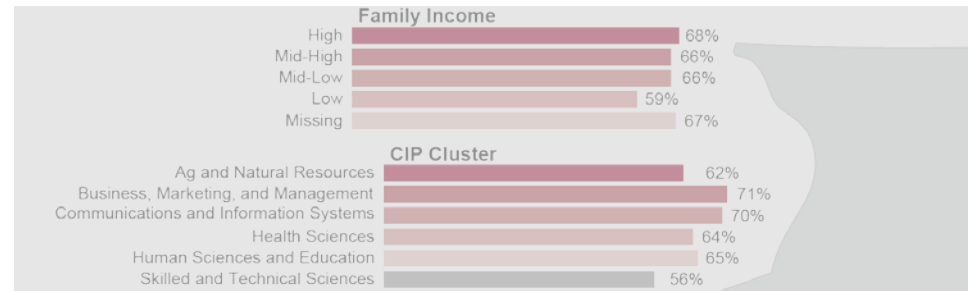
Who Returns?



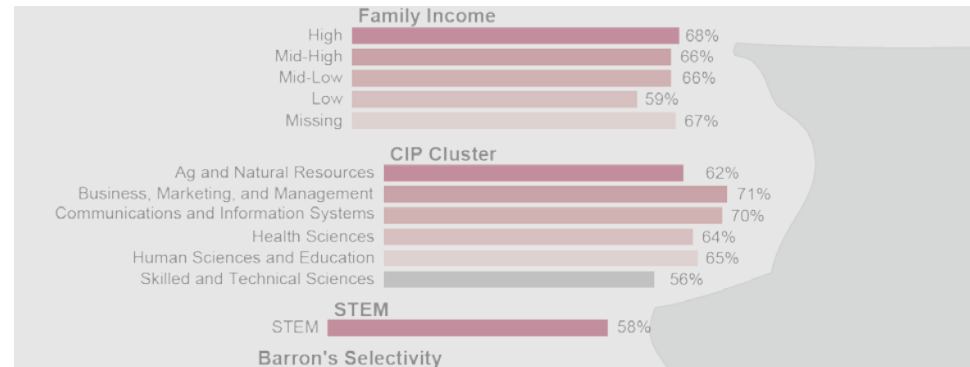
Barron's Selectivity



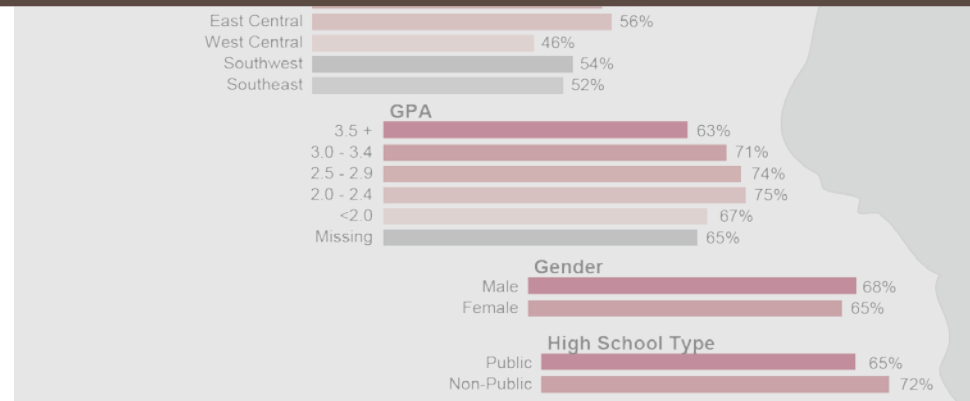
Who Returns?



Who Returns?



STEM **STEM** 58%



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
Major Grouping				
Ag and Natural Resource to Skilled and Technical Sciences	1.404		1.750	
Business and Marketing to Skilled and Technical Sciences	1.774***		1.503*	
Communications and Information to Skilled and Technical Sciences	1.698***		1.592*	
Health to Skilled and Technical Sciences	1.455		2.968*	
Human Sciences and Education to Skilled and Technical Sciences	1.368*		1.756**	
STEM to Non-Stem		0.701***		0.769

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

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
STEM to Non-Stem		0.701***		0.769

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

Major Findings

- 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

- 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

- 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





Illinois Education Research Council

Southern Illinois University Edwardsville

Eric Lichtenberger, PhD

elichte@siue.edu

866-799-IERC (4372)

<http://www.siue.edu/ierc/>

