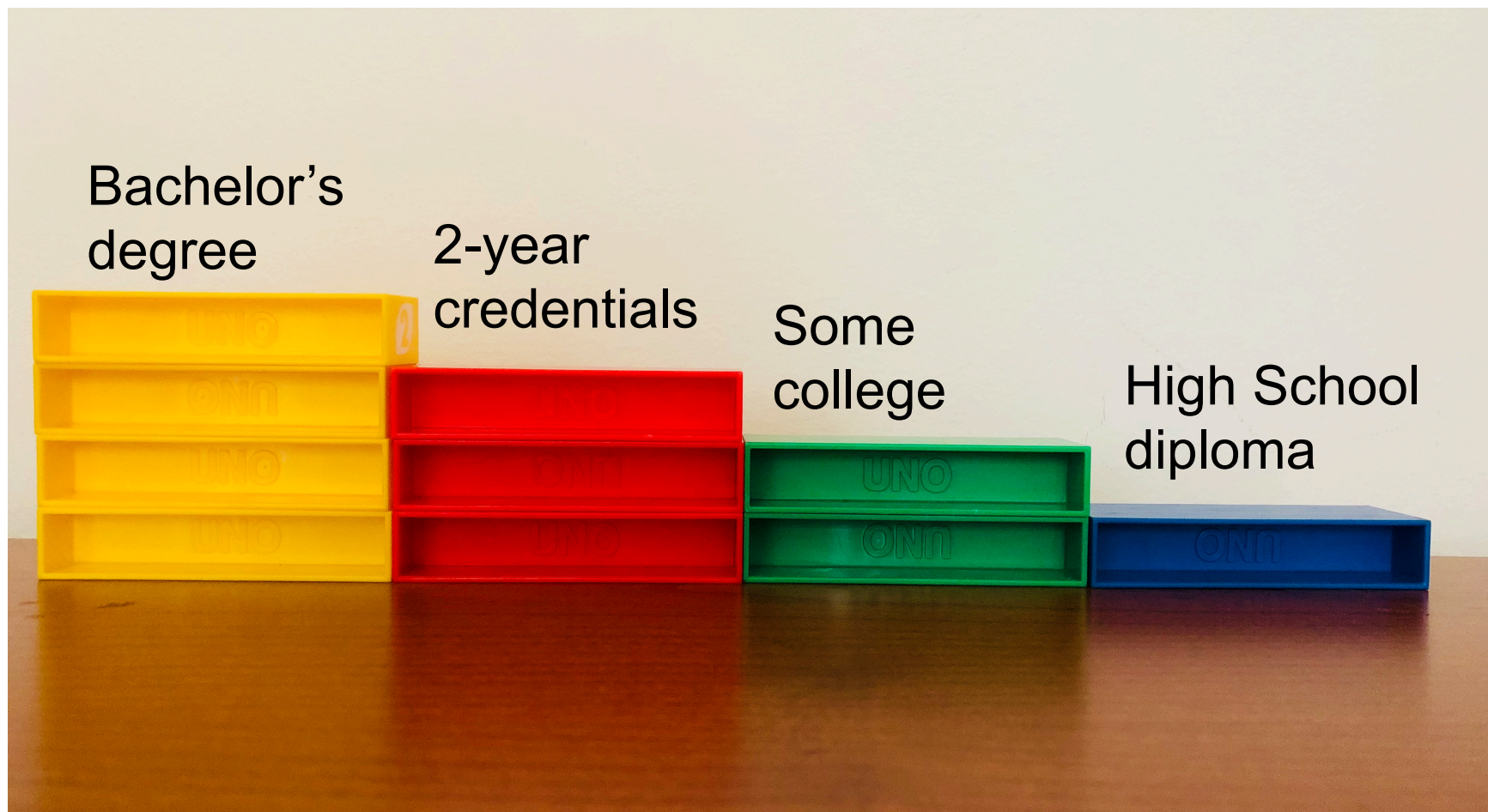

The Unintended Mission of Community Colleges: Can Temporary 2-Year Enrollment Be Beneficial to 4-Year Beginning Students?

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The building blocks of human capital



The building blocks of human capital



Mostly four-year students with some two-year courses

Pros

Cheaper → lower debt

Easier

More options

More flexible schedule and location

Finish faster

The building blocks of human capital



Research questions

1. What are the characteristics of 4y beginners with 2y enrollment? What courses do they enrolled in?
2. Do transfer students have different outcomes then non-transfer students?
3. Do individuals with temporary enrollment at 2yr accumulate a different level of human capital than never-transfer? Do employers see them differently?
4. Are there a penalty for staying in 2yr for too long?

Method

Propensity score matching

Propensity Score Matching

Without 2y enrollment



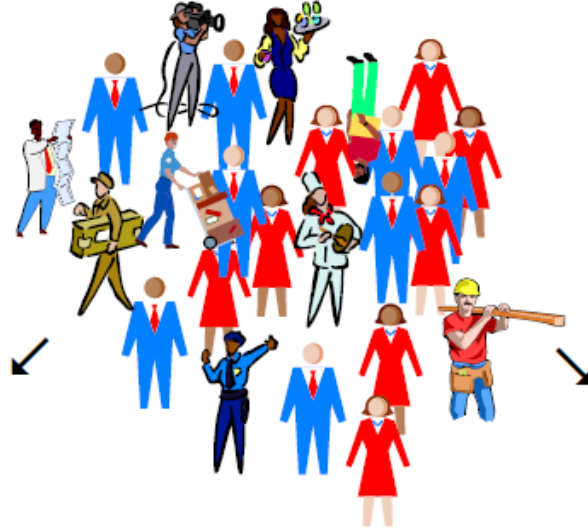
4y beginning students



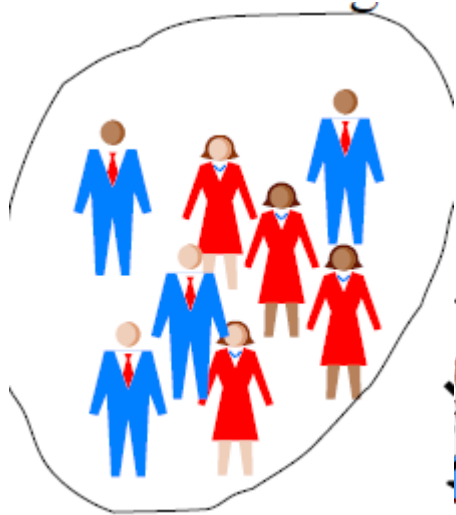
With 2y enrollment



Propensity Score Matching



Without 2y enrollment



With 2y enrollment



Propensity score matching compares among similar people



3 PSM models

1. Transfer/non-transfer

– Transfer

- 4y drop-ins (2y cr≤12)
- reverse transfer (2ycr>12)



$$\Pr(\text{Transfer} = 1) = \Phi(X' \beta)$$

$$Y_i = \beta_1 \text{Transfer}_i + \beta_2 X_i + \epsilon_i$$

Demographics: gender, race, access to two-year colleges, number of siblings, SES quintile, parental education, ELL status, urbanity, and region fixed effect

Academic: high school GPA, participation in extra-curricular activities, admission test scores, college aspiration, financial aid offers, credits and GPA earned in the first term, sector and selectivity of initial four-year institution

Employment information: employment and earnings in 2004

3 PSM models

1. Transfer/non-transfer
 - Transfer
 - 4y drop-ins (2y cr \leq 12)
 - reverse transfer (2ycr $>$ 12)
2. Drop-ins/non-transfer



3. Drop-ins/reverse transfer



Data

The restricted national representative ELS

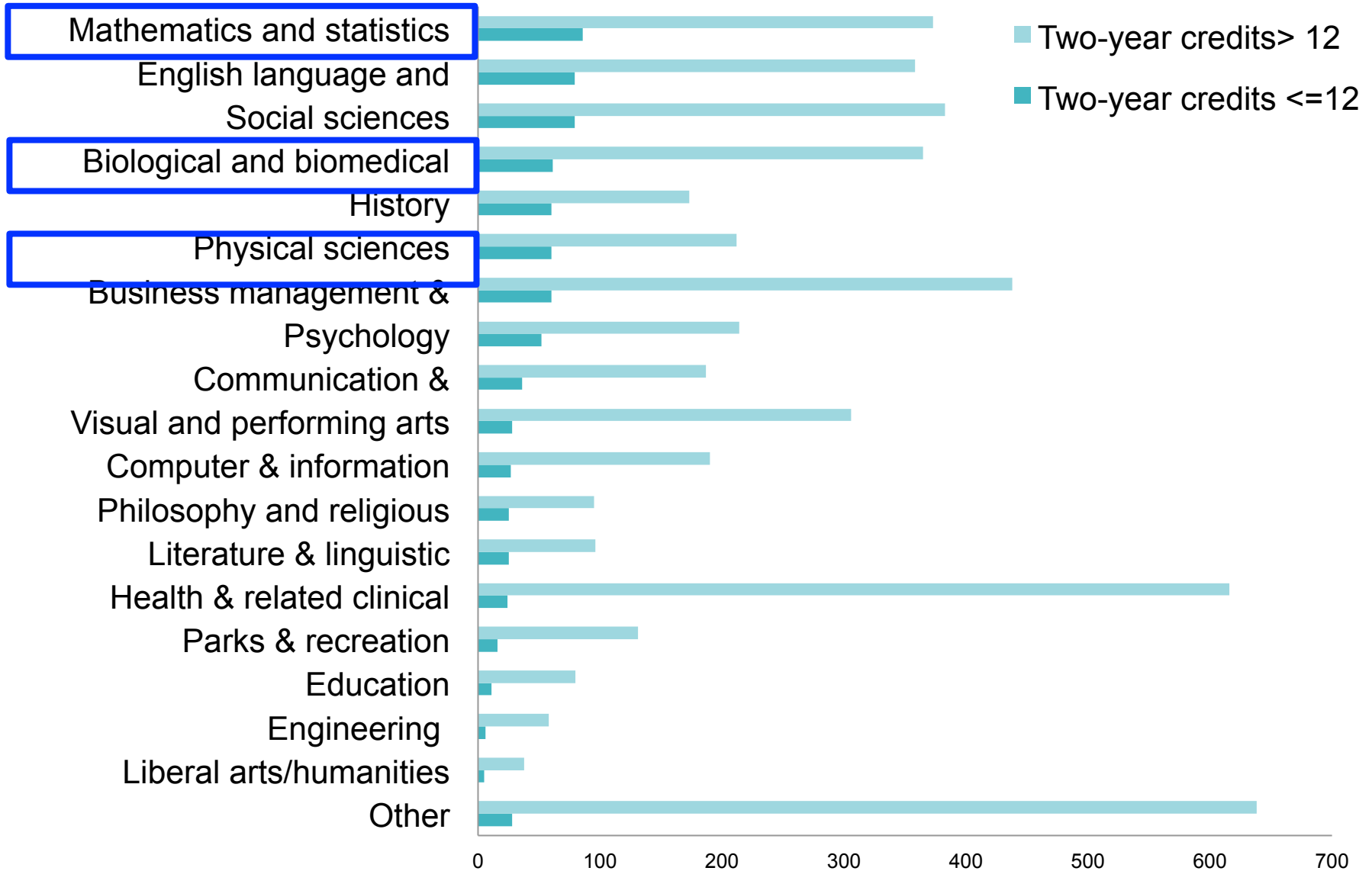
Education Longitudinal Study of 2002

- National representative
- 10th grade in 2002
- Follow up till 2012
- Data
 - Demographics
 - HS and College transcript
 - Transfer data
 - Employment
- Final sample: 6,440
- 18% of 4y students have 2 yr enrollment (not counting dual enrollment credits)

Variables	Total	Two-year credits earned		
		=0 (Non-transfers)	<=12 (Four-year drop-ins)	>12 (Reverse transfers)
Sample size	6,440	5,280	630	530
<i>Demographics</i>				
Female	54%	53%	66%	55%
Black	10%	11%	8%	10%
Hispanic	8%	8%	8%	9%
Other race	9%	9%	10%	11%
SES in lowest quintile	11%	11%	13%	14%
SES in second lowest quintile	16%	16%	14%	18%
SES in second highest quintile	25%	25%	25%	26%
SES in highest quintile	43%	43%	43%	38%
Miles to closest 4y colleges	14.4	14.1	16.0	15.9
Miles to the closest 2y colleges	11.4	11.6	10.2	11.1
High school cumulative GPA	3.17	3.17	3.28	3.07

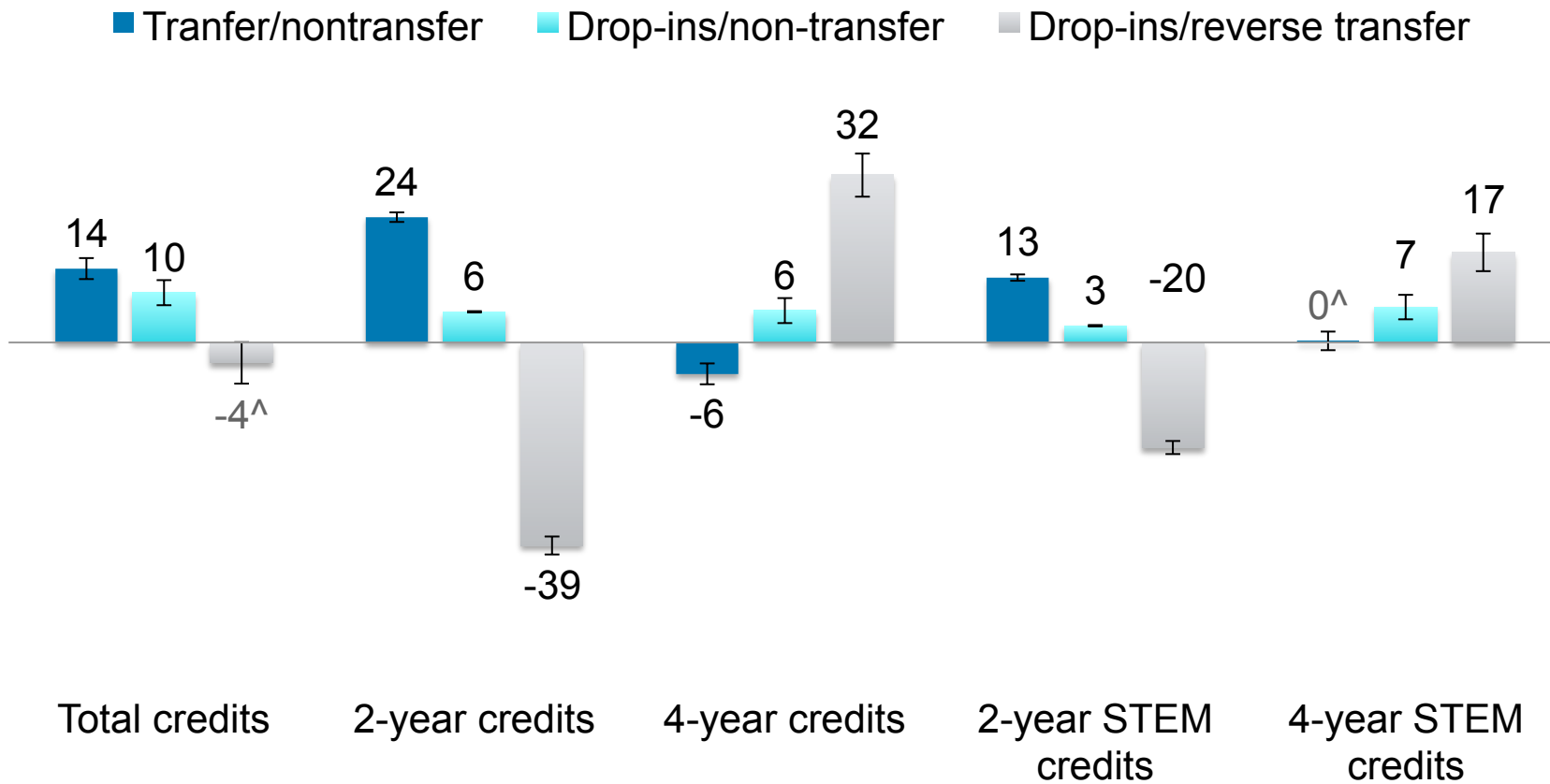
Variables	Total	Two-year credits earned		
		=0 (Non-transfers)	<=12 (Four-year drop-ins)	>12 (Reverse transfers)
<i>First College information</i>				
Public four-year	61%	60%	66%	67%
Non-profit four-year	31%	32%	28%	24%
Highly selective four-year	33%	34%	29%	22%
Selective four-year	34%	32%	43%	37%
Non-selective four-year	11%	11%	10%	14%
Credits earned in the 1st term	12	12	13	11
GPA's earned in the 1st term	3.05	3.08	3.08	2.76

2y courses taken by 4y beginners



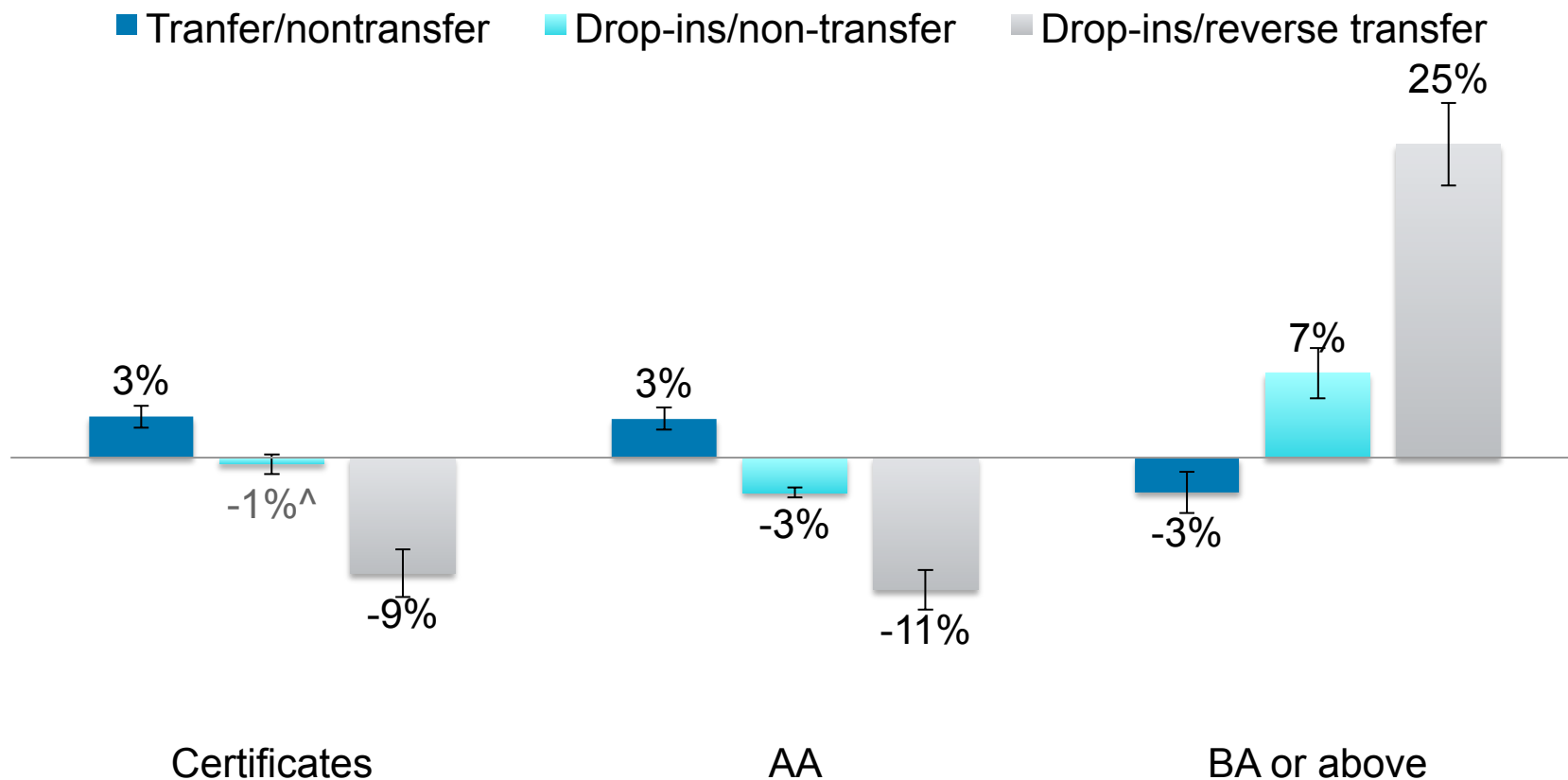
Results

A. Credits Accumulation



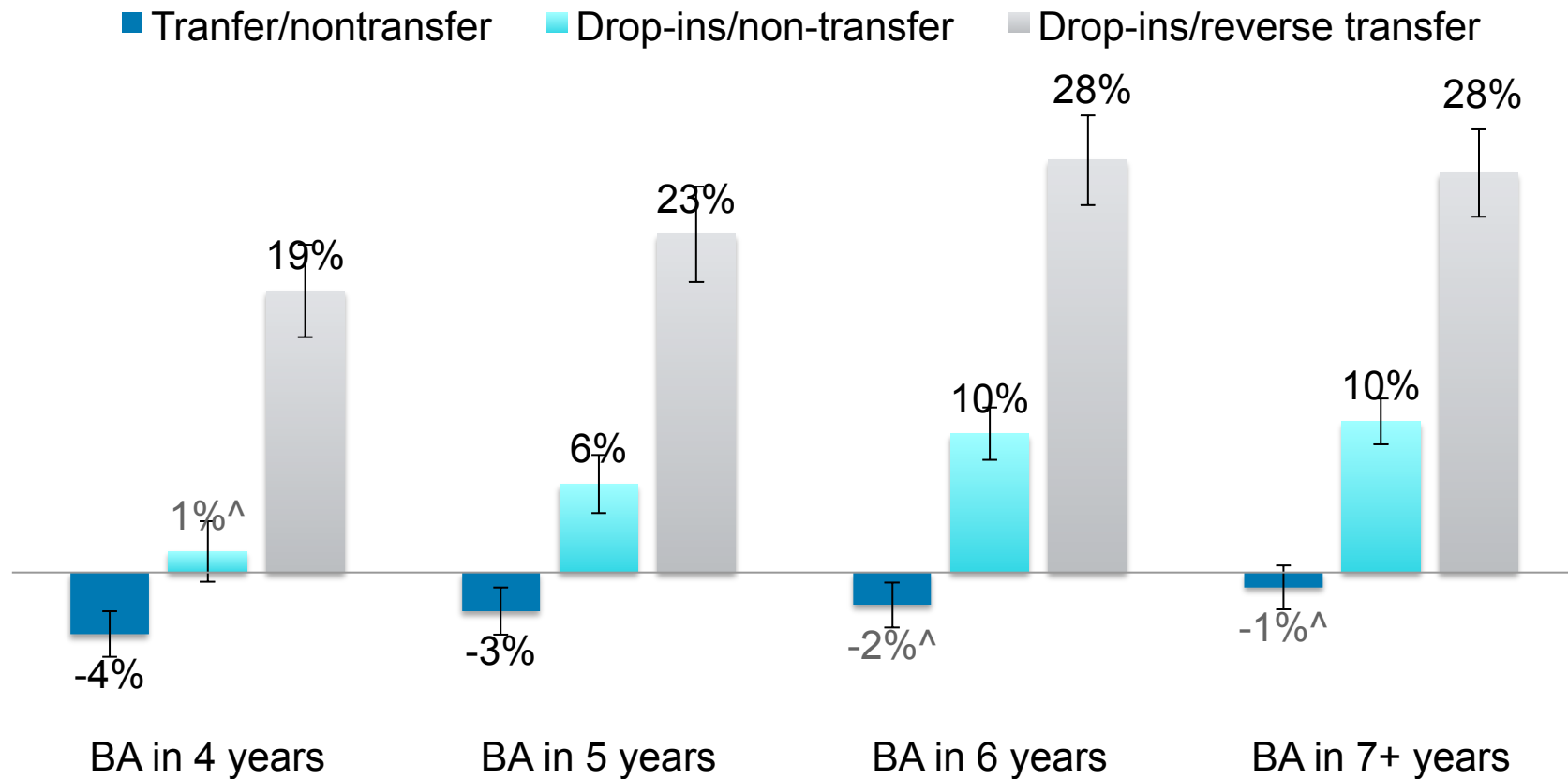
Statistically significant except when denoted with [^]

B. Highest Degree earned by 2012



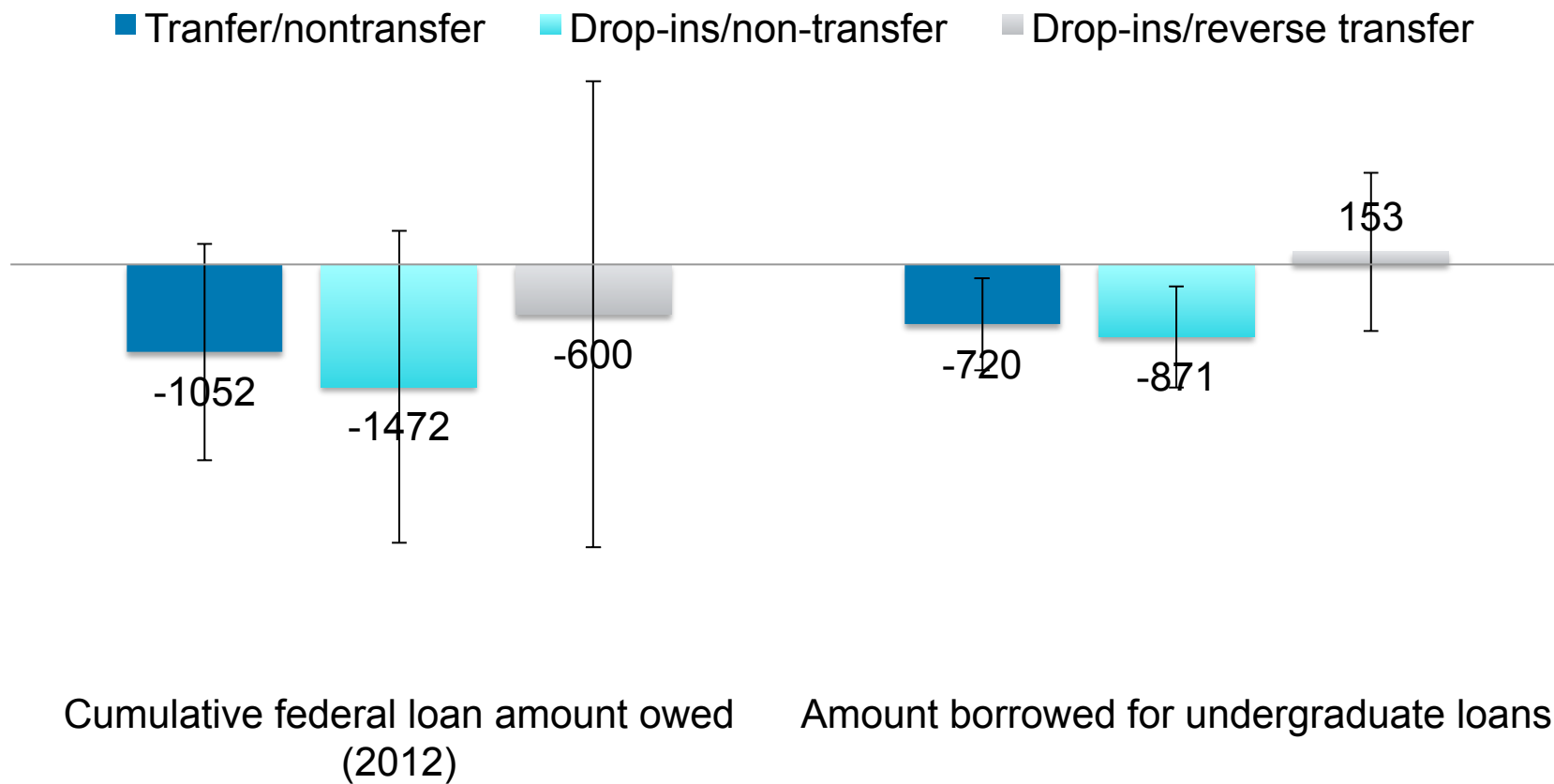
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C. Time to Bachelor's degree



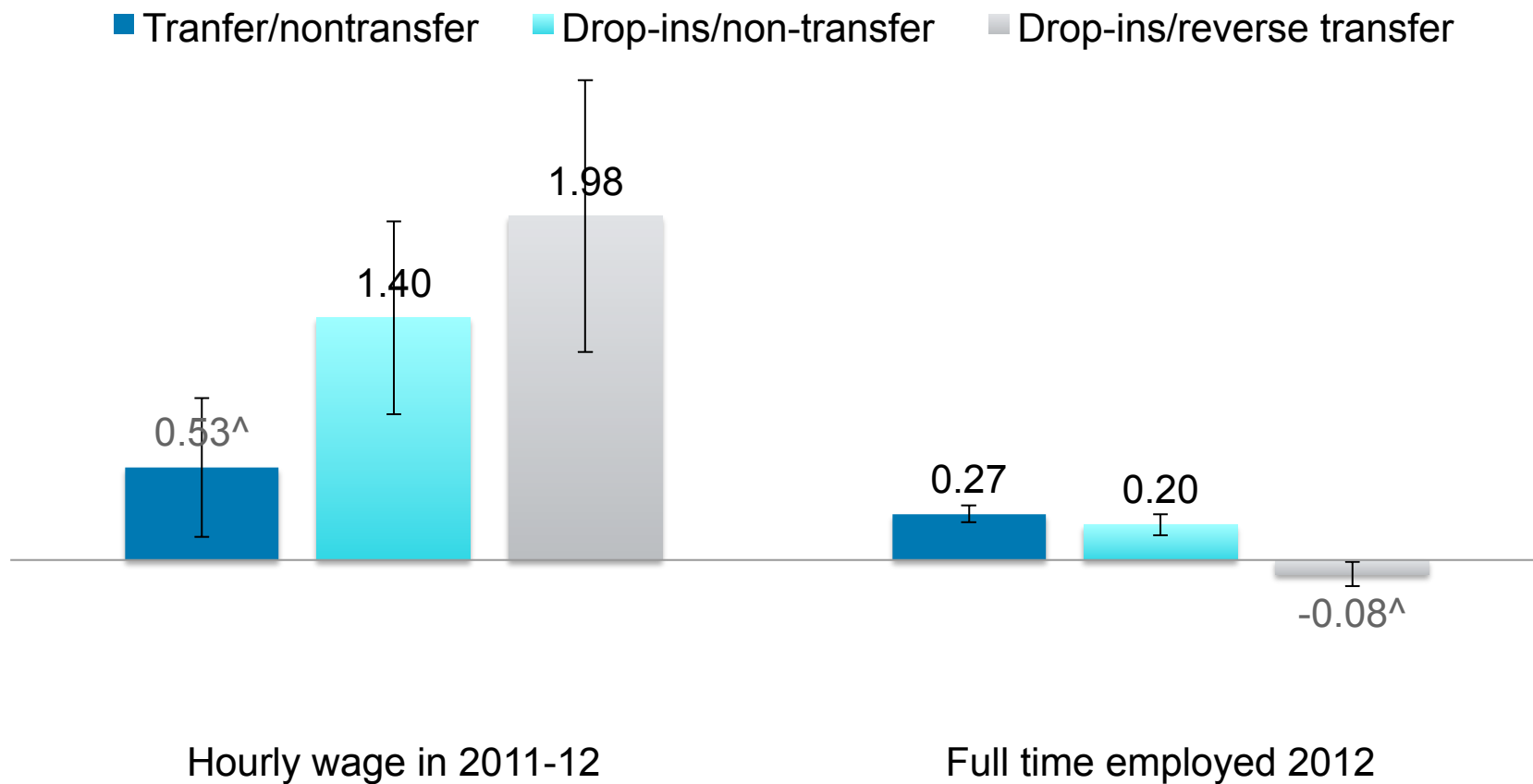
Statistically significant except when denoted with [^]

D. Debt



All statistically insignificant

E. Employment outcomes



Statistically significant except when denoted with ^

Conclusion

Conclusion

- Double-edged sword
- 12- credits
 - Higher STEM credits in both 2y and 4y
 - 7% BA completion gains
 - Similar level of debts
 - Higher earnings and employment rate

For more information

Please visit me on the web at

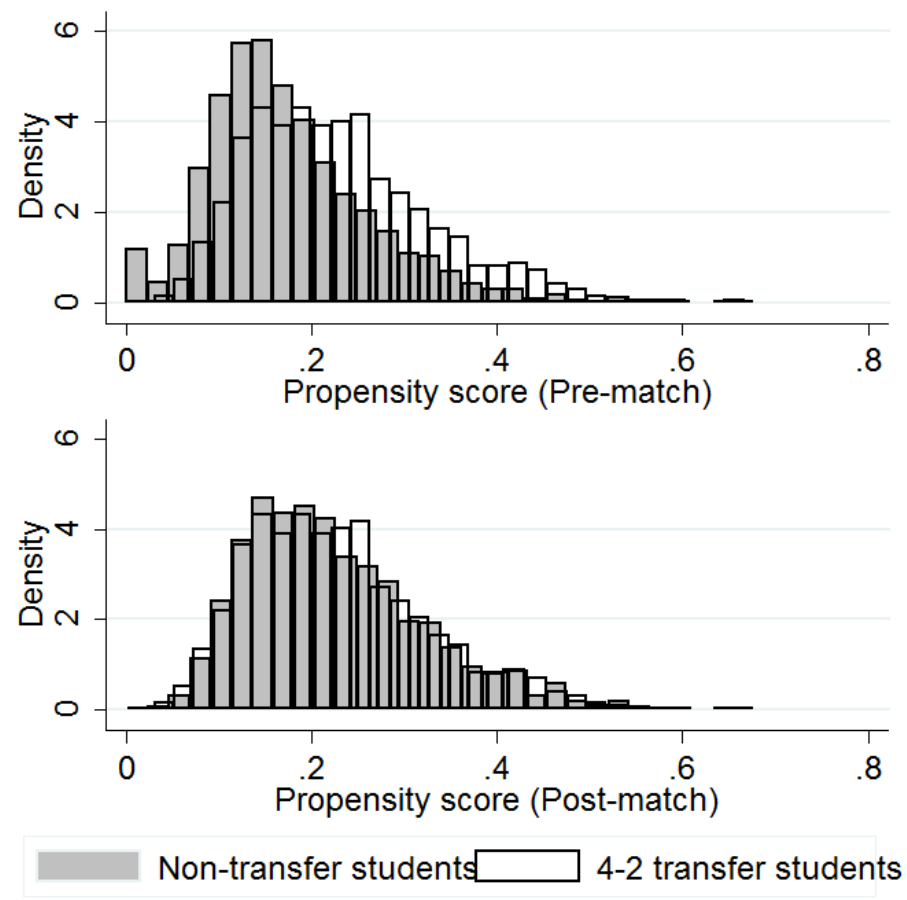
<https://ccrc.tc.columbia.edu/person/vivian-yuen-ting-liu.html>

Email: ytl2102@columbia.edu

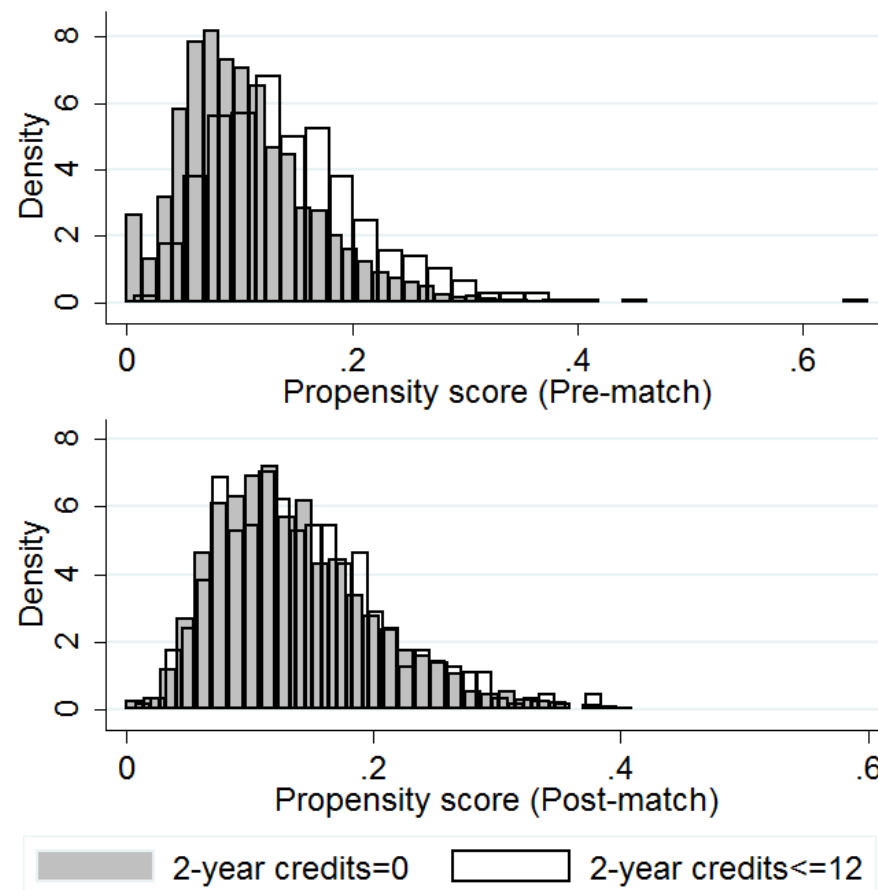
I am also on Twitter [@VivianYTLiu](https://twitter.com/VivianYTLiu).

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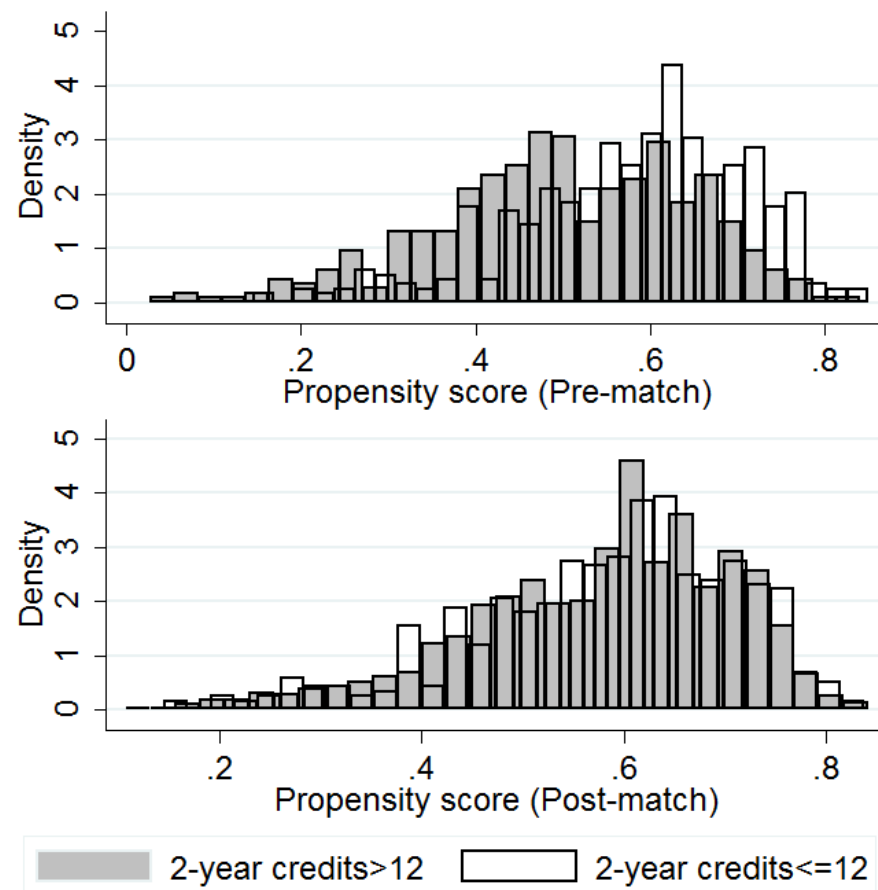
Pre- and post-match propensity score for model 1



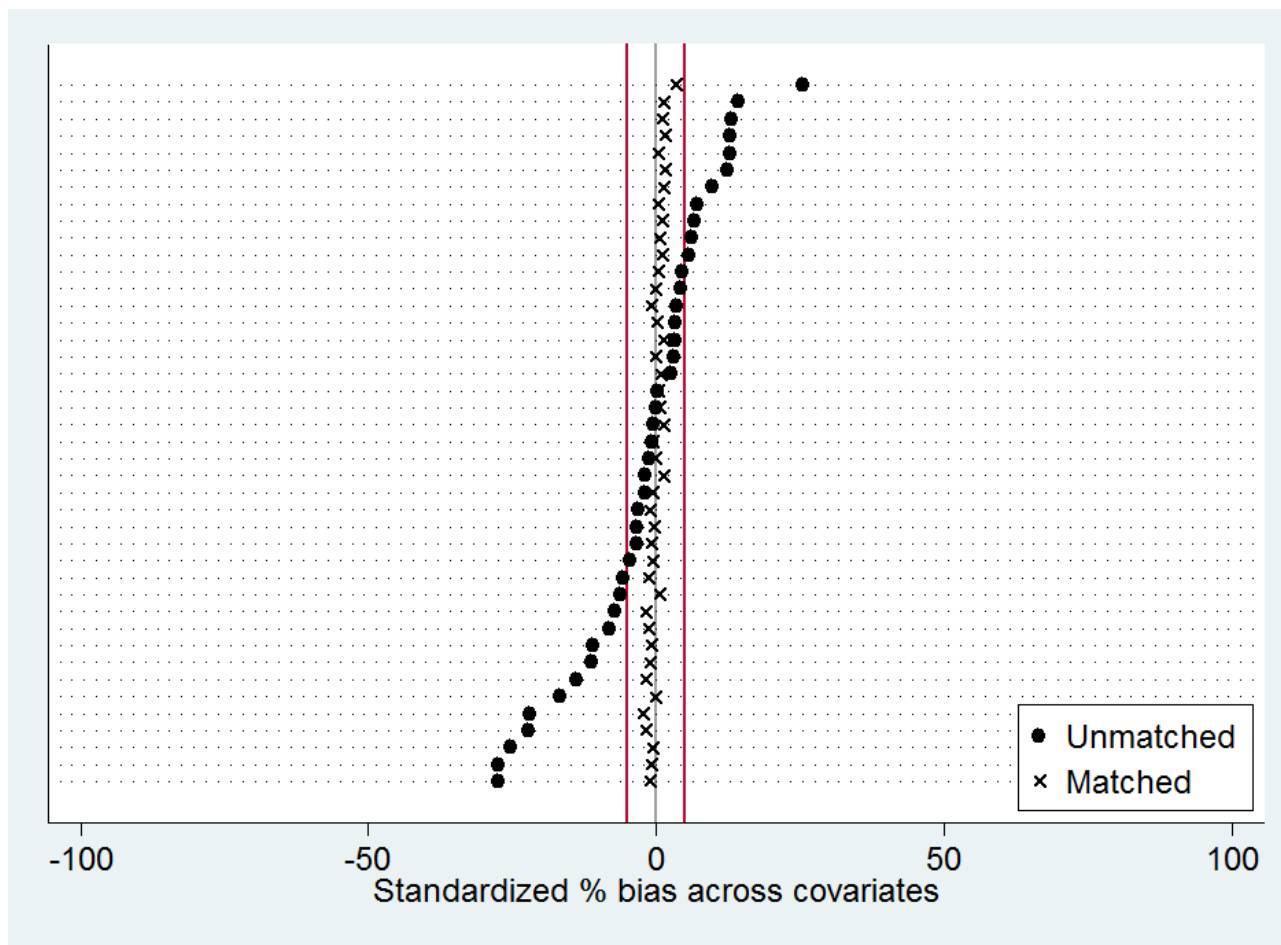
Pre- and post-match propensity score for model 2



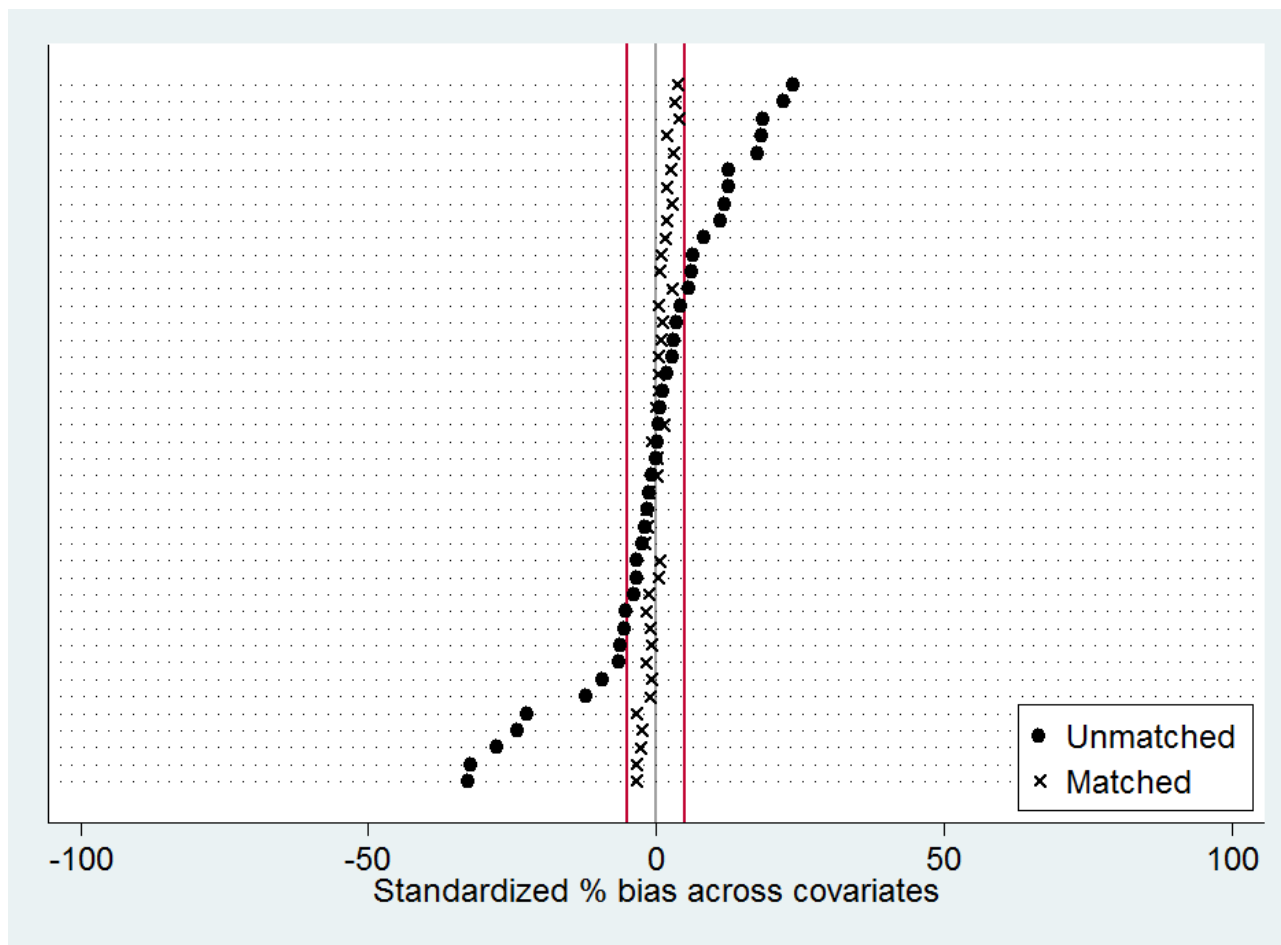
Pre- and post-match propensity score for model 3



Balance check for model 1



Balance check for model 2



Balance check for model 3

