week_3_lab

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Question 1 (work on this)

According to lecture, individuals who were young children in 1994-1998 and moved as a result of MTO saw improved economic outcomes. These effects did not occur for older childer in adults who moved.

Question 2

Question 3

43.06% of the individuals in the experimental group moved.

Question 4

% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
% Date and time: Fri, Feb 18, 2022 - 11:30:02

Table 1:

	Dependent variable:
	moved
voucher	0.431***
	(0.015)
Constant	−0.000
	(0.011)
Observations	2,595
R^2	0.249
Adjusted R^2	0.249
Residual Std. Error	0.371 (df = 2593)
F Statistic	860.799*** (df = 1; 2593)
Note:	*p<0.1; **p<0.05; ***p<0.01

- The estimated coefficient for voucher is the intent to treat effect of treatment. This coefficient is equal to the difference in fraction treated across treatment and control groups (or the difference between the value we calculated in question 3 and question 2).

Question 5

- Because the coefficient on voucher is less than 1, we know there is non-compliance.

-The MTO experiment had one-sided non-compliance because there is non-compliance in the treatment group but full compliance in the control group.

Question 6

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Table 2:

	Dependent variable:
	kessler
voucher	-0.588^{***}
	(0.148)
Constant	6.881^{***}
	(0.111)
Observations	2,595
R^2	0.006
Adjusted R^2	0.006
Residual Std. Error	3.739 (df = 2593)
F Statistic	15.805^{***} (df = 1; 2593)
Note:	*p<0.1; **p<0.05; ***p<0.01

The intent to treat effect of the voucher on the kessler index = -.588

Question 7

The treatment-on-the-treated effect of actually using the experimental voucher to move = -1.365. I calculated this by dividing the ITT of the outcome by the ITT of the treatment. You need to make this adjustment because just using the ITT of the outcome would give a causal effect that is too small because it doesn't take the compliance rate into account.

Question 8

```
## `summarise()` ungrouping output (override with `.groups` argument)
```

The as treated effect = -.5263

Question 9

The per protocol analysis gives a result of -.729

Question 10

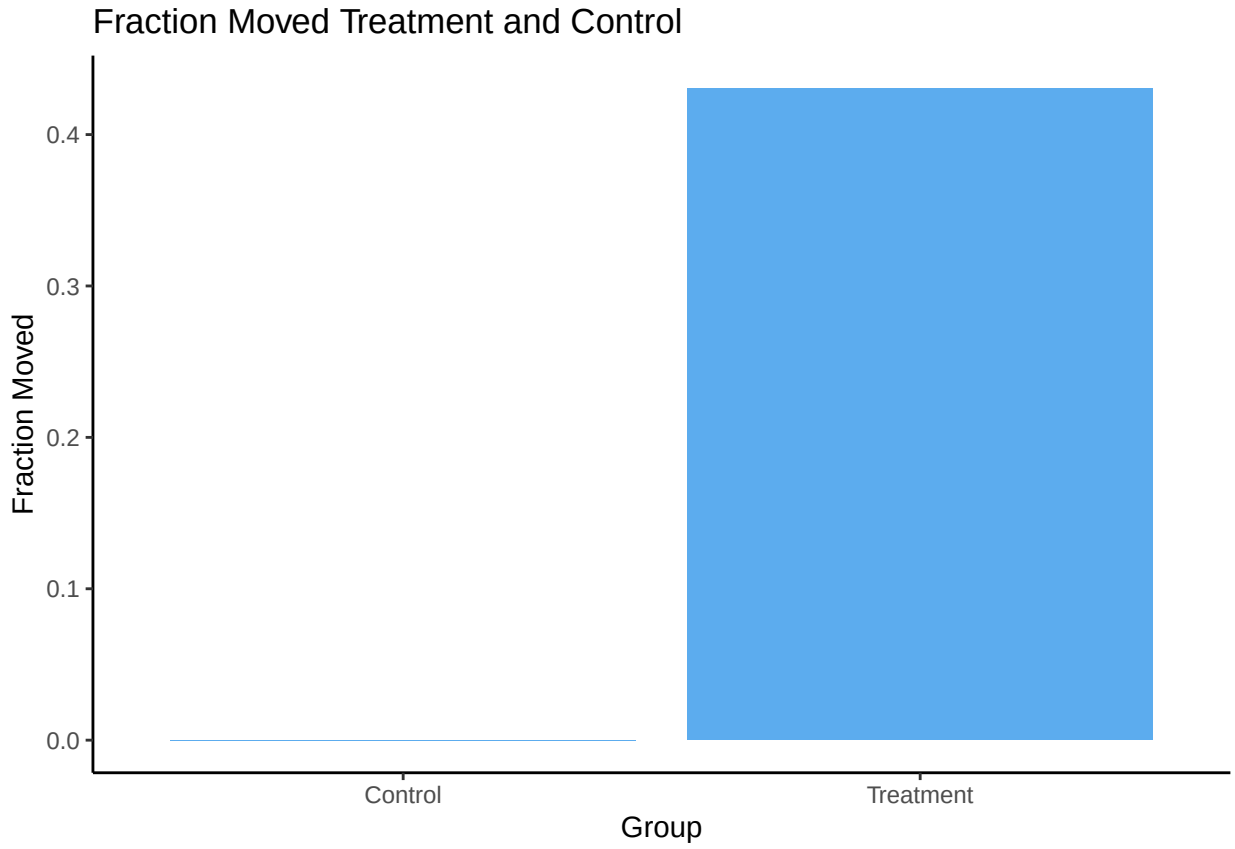
- The treatement-on-the-treated effect = -1.365
- The as treated effect = -.5263
- The per protocol effect = -.729

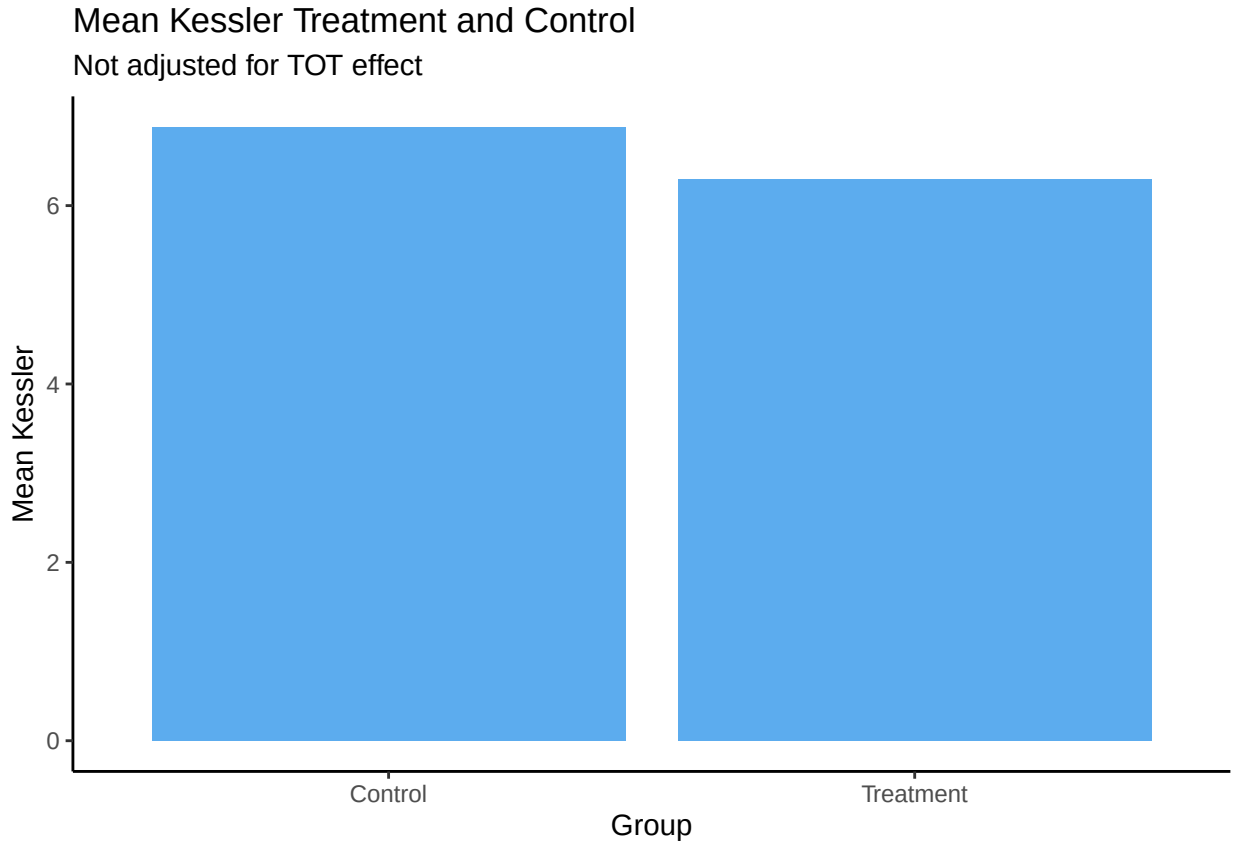
The treatment on the treated effect yields the biggest estimate.

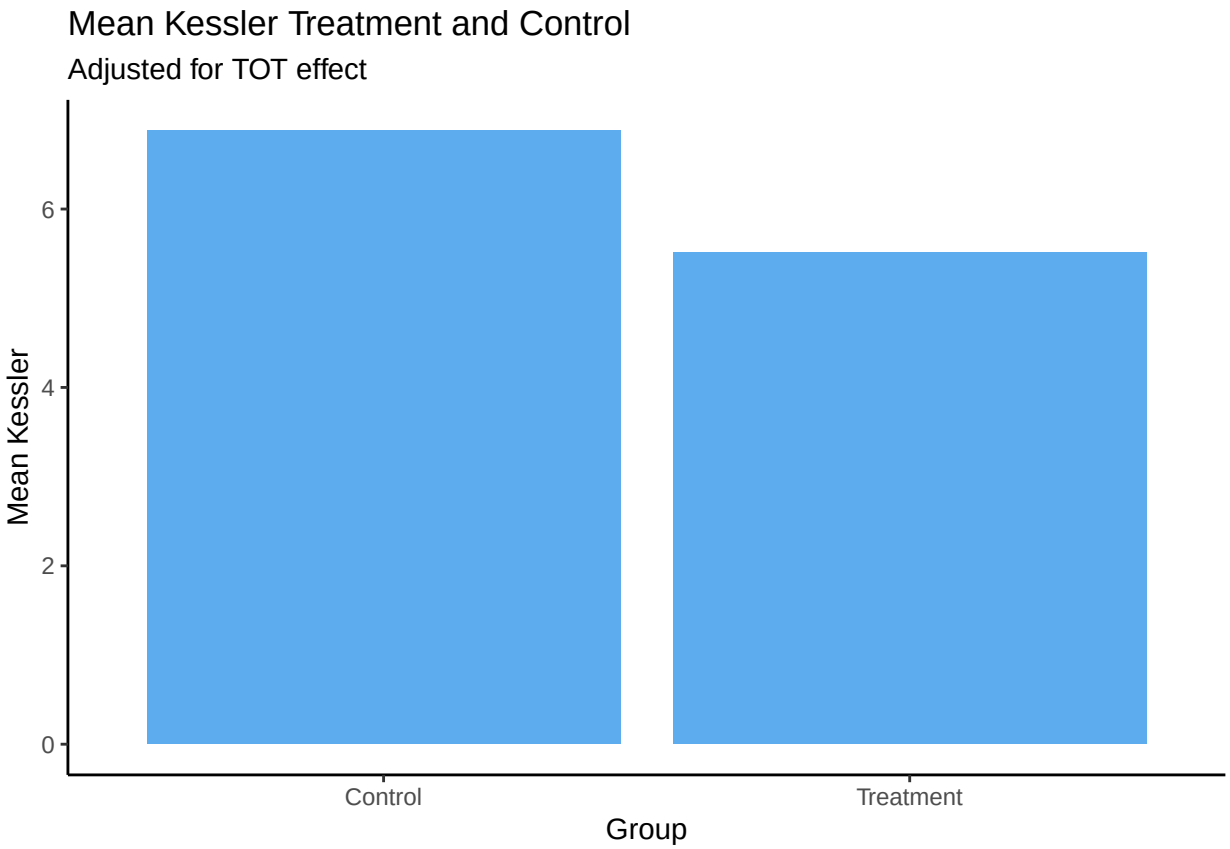
Question 11

The per protocol and as treated approaches both face problems of selection bias and confounding variables because they invalidate the randomness in the experiment that lets us claim causality in the first place. In contrast, the TOT analysis preserves the original randomess of the experiment.

Question 12


Fraction Moved Treatment and Control
Fraction Moved
0.0
0.1
0.2
0.3
0.4
Control
Treatment
Group


Mean Kessler Treatment and Control
Not adjusted for TOT effect
Mean Kessler
0
2
4
6
Control
Treatment
Group


Mean Kessler Treatment and Control
Adjusted for TOT effect
Mean Kessler
6
4
2
0
Control
Treatment
Group