Does College Still Pay Off? New Estimates of the Public and Private Returns to College

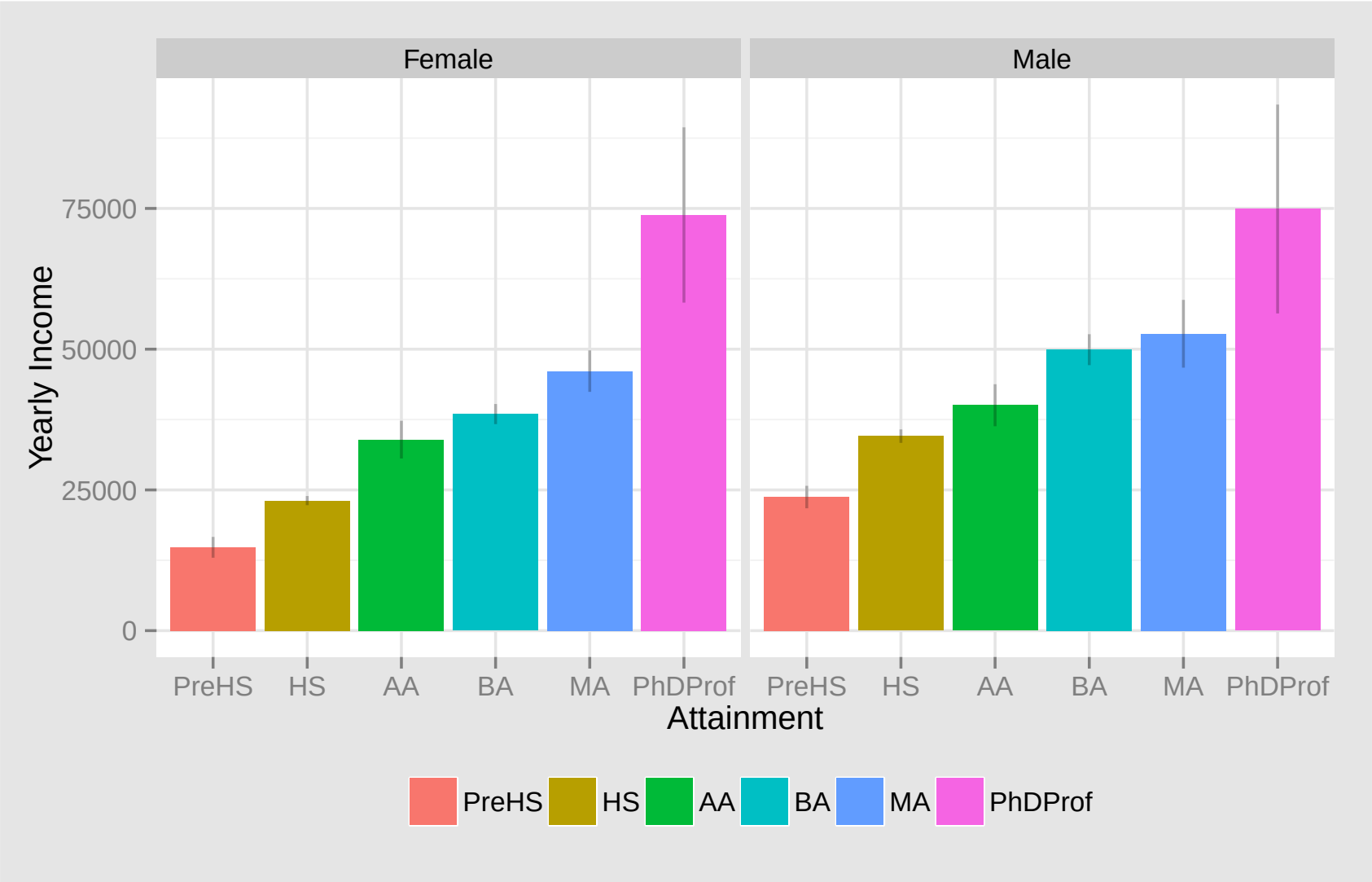
William R. Doyle[1]

VANDERBILT Peabody College

5 October 2015

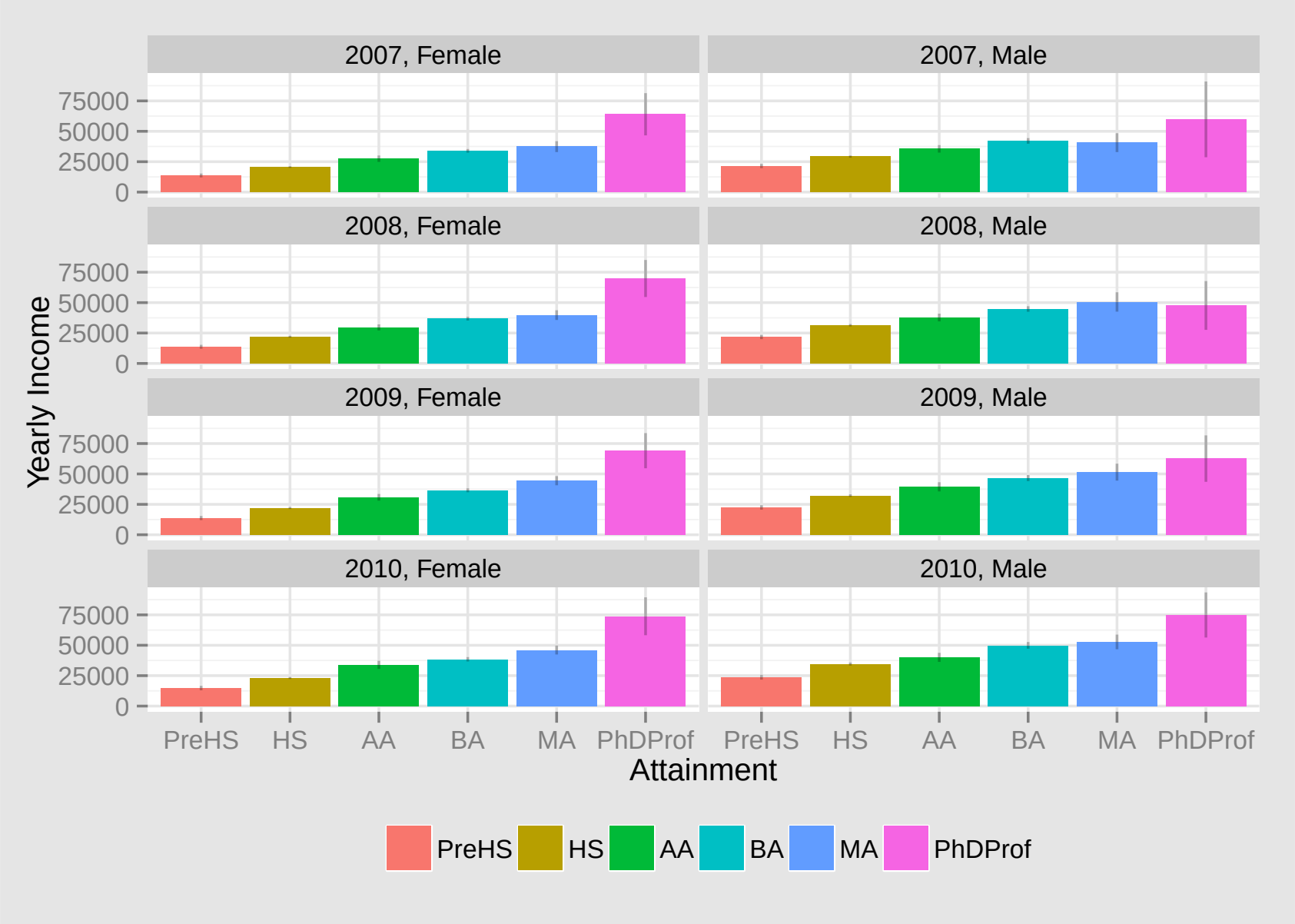
[1] I gratefully acknowledge the work of Ben Skinner, who collaborated with me on the work reported here

Yearly Income by Attainment

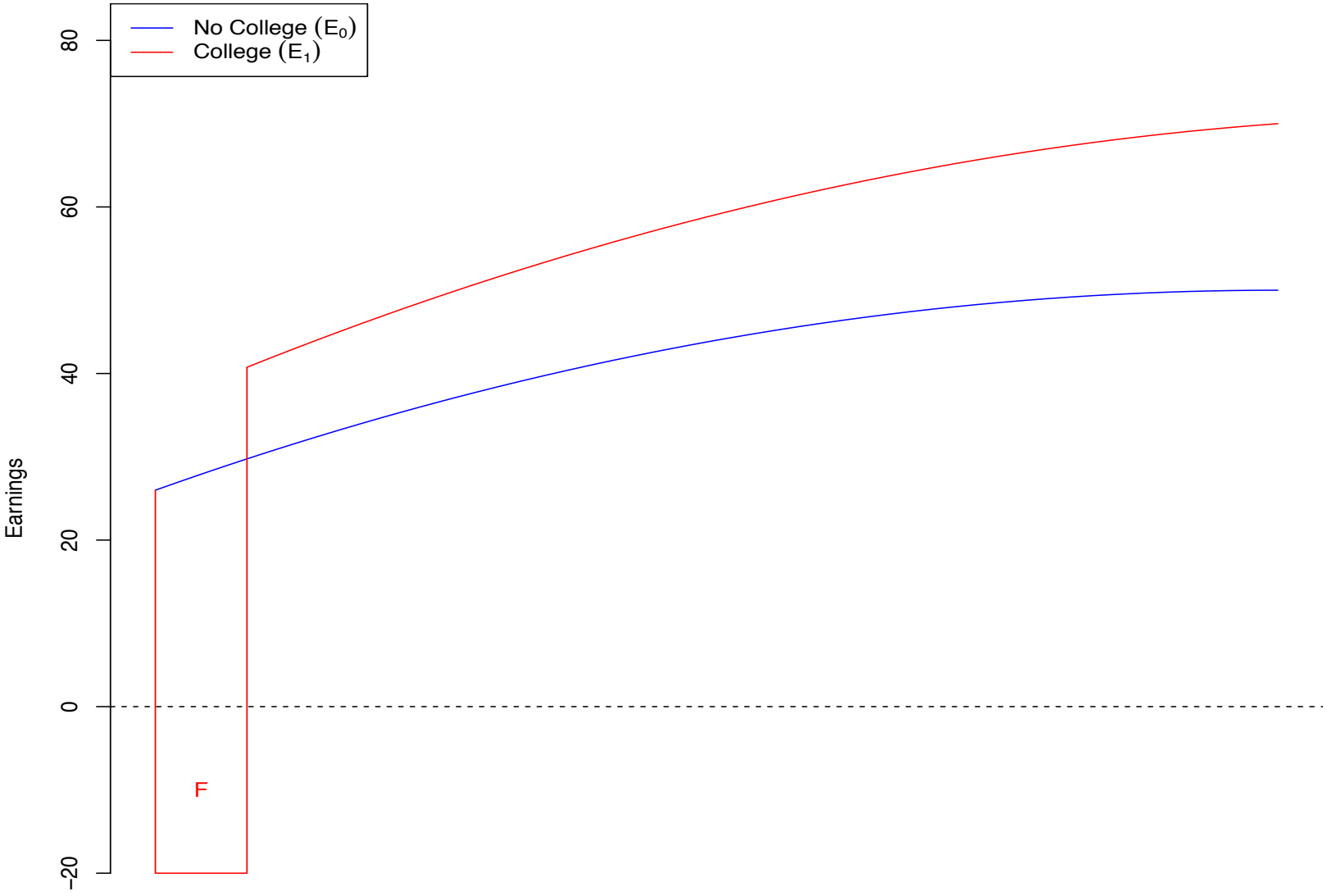


Source: National Longitudinal Survey of Youth 1997, 2012 update

Yearly Income by Attainment



Basic Human Capital Model



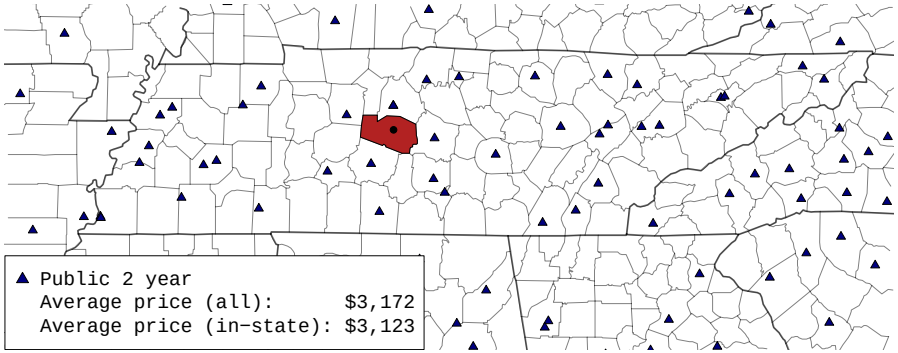
Human Capital Model

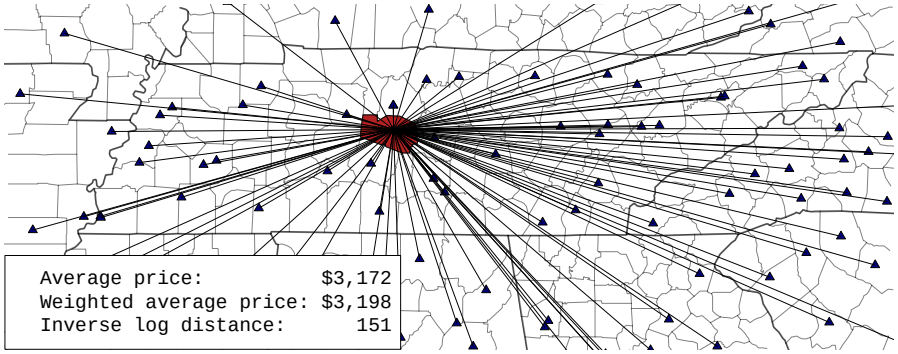
Choose s to max: $$\sum_{t=s+1}^{T} \frac{E_{si}}{(1+r)^t} - \sum_{t=1}^{S} \frac{F_{si}}{(1+r)^t} - \sum_{t=1}^{T} \frac{E_{0i}}{(1+r)^t}$$

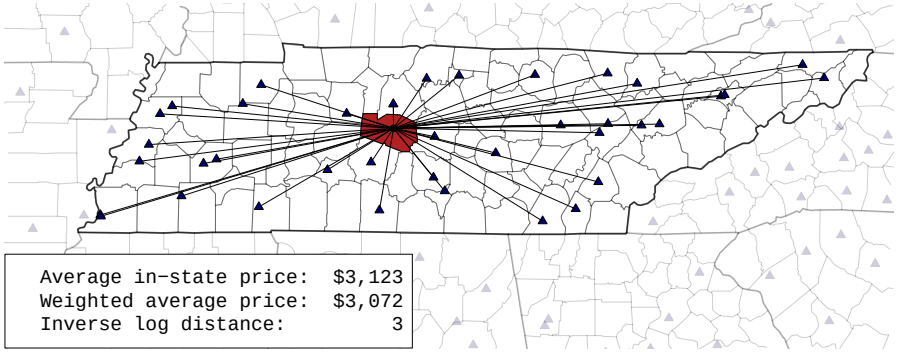
Cost-Benefit Decision in Human Capital Model

$$\sum_{t=s+1}^{T} \frac{E_{si} - E_{oi}}{(1+r)^t} - \sum_{t=1}^{S} \frac{F_{si} - E_{0i}}{(1+r)^t} > 0$$

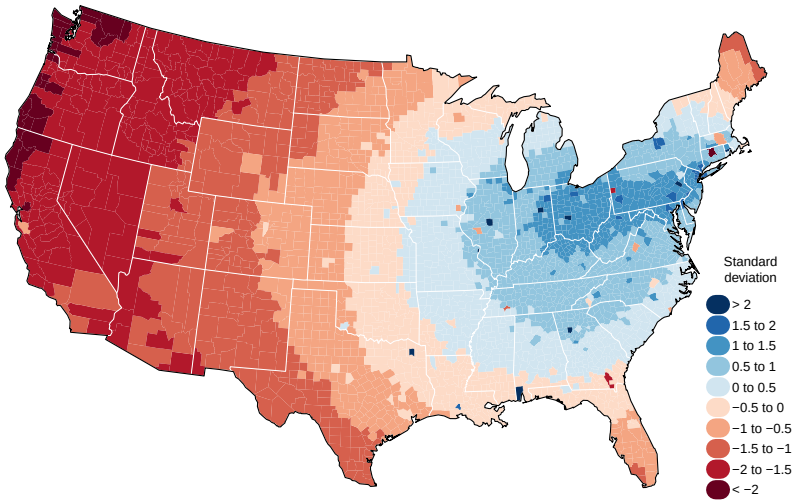
Inverse log distance







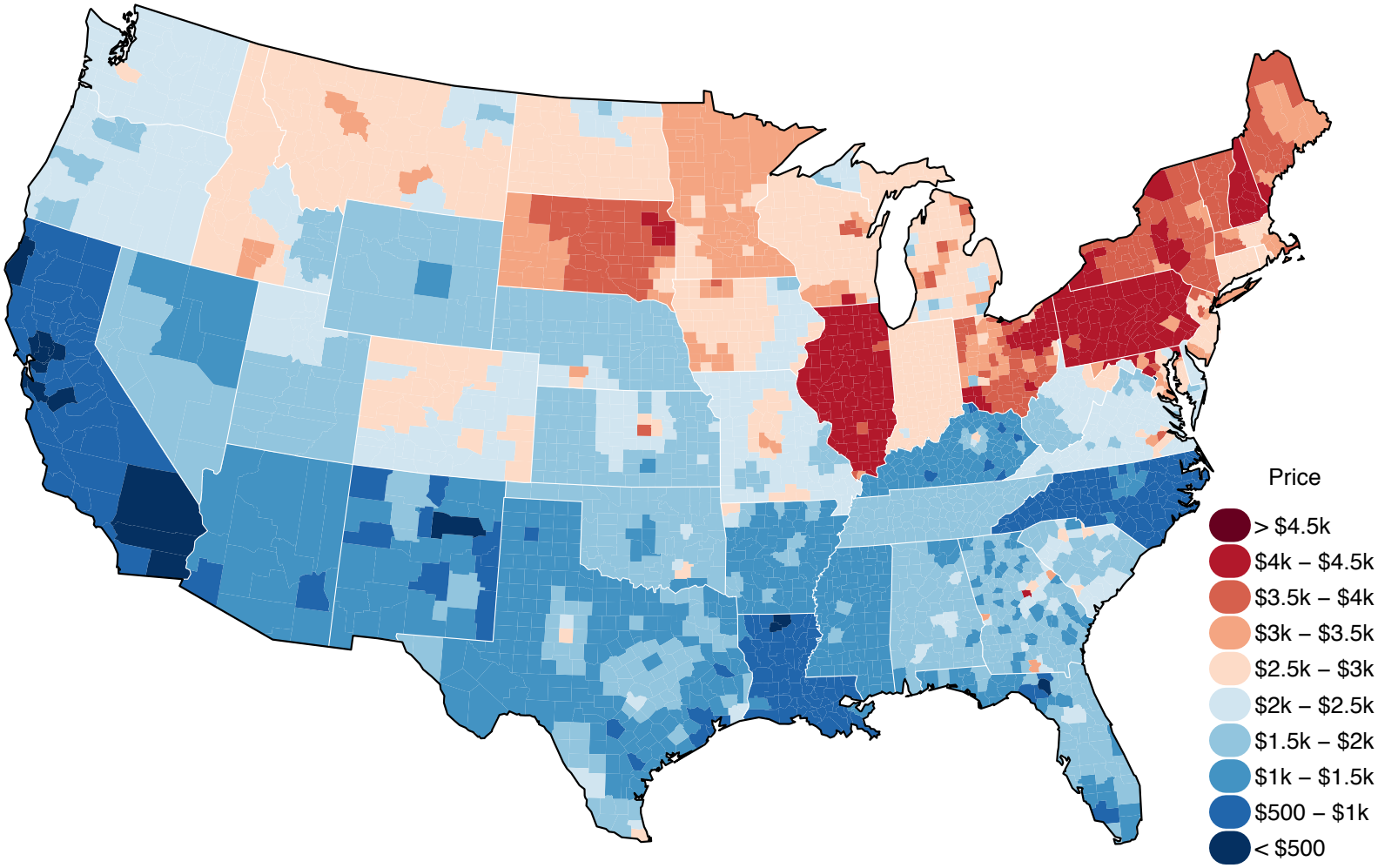
Z-score deciles of the sum of inverse logged distance to all schools in 2000



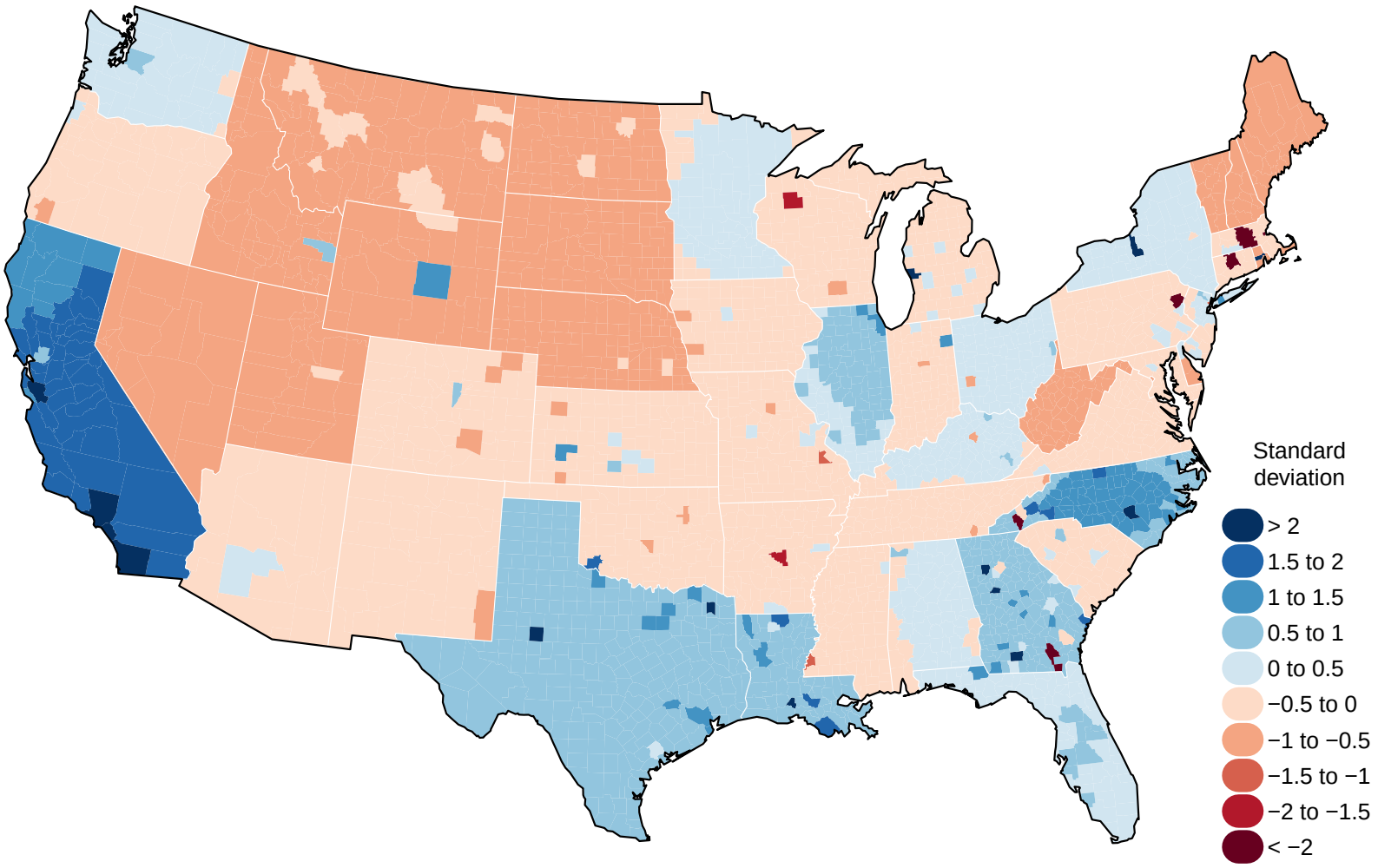
$$ILD_i = \sum_{k=1}^{K} log(d_{ik})^{-1}$$

Source: IPEDS,1997-2012

Changing Prices of Two-Year Colleges

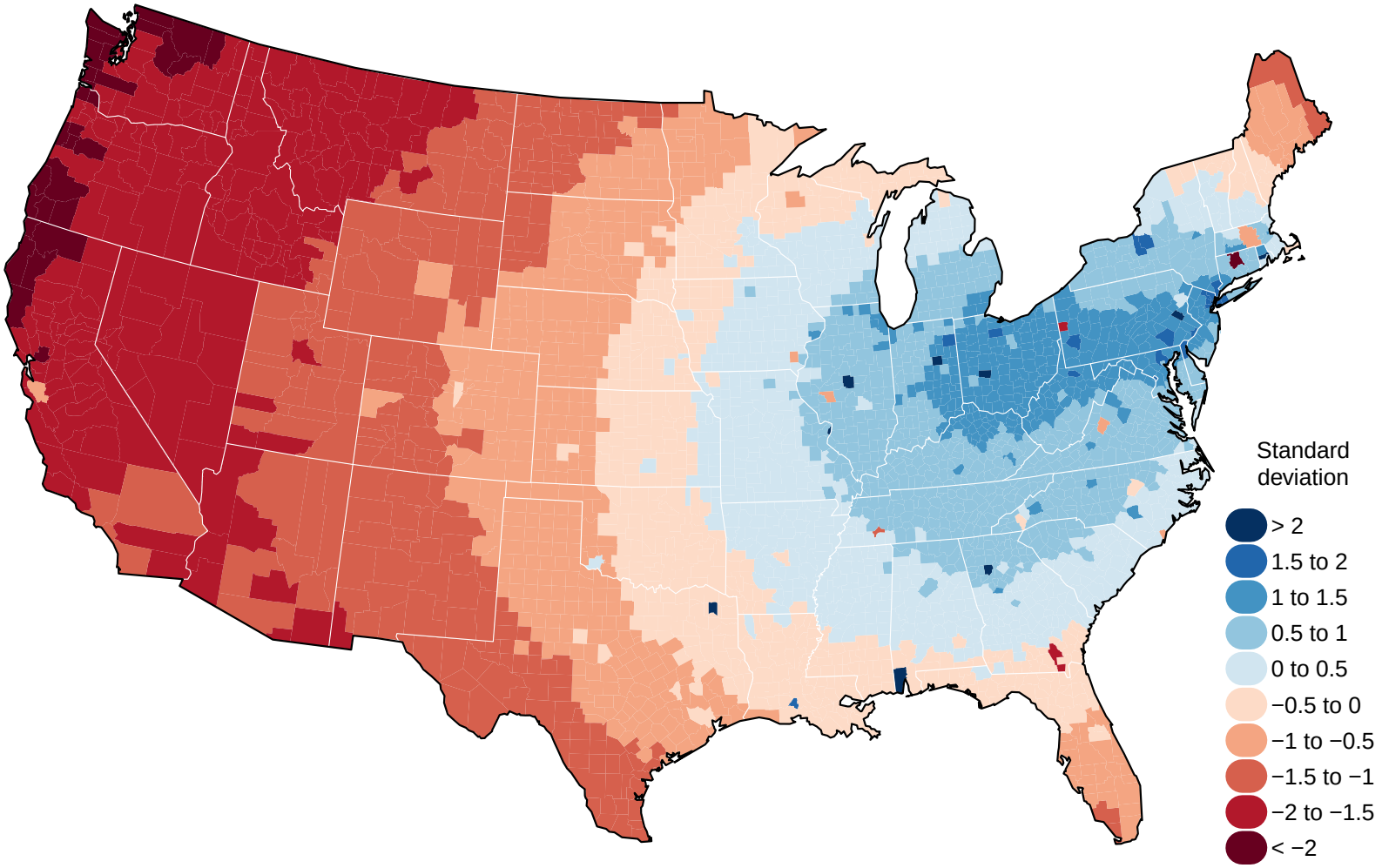


Inverse Log Distance to In-State Public Two-Year Colleges



Source:

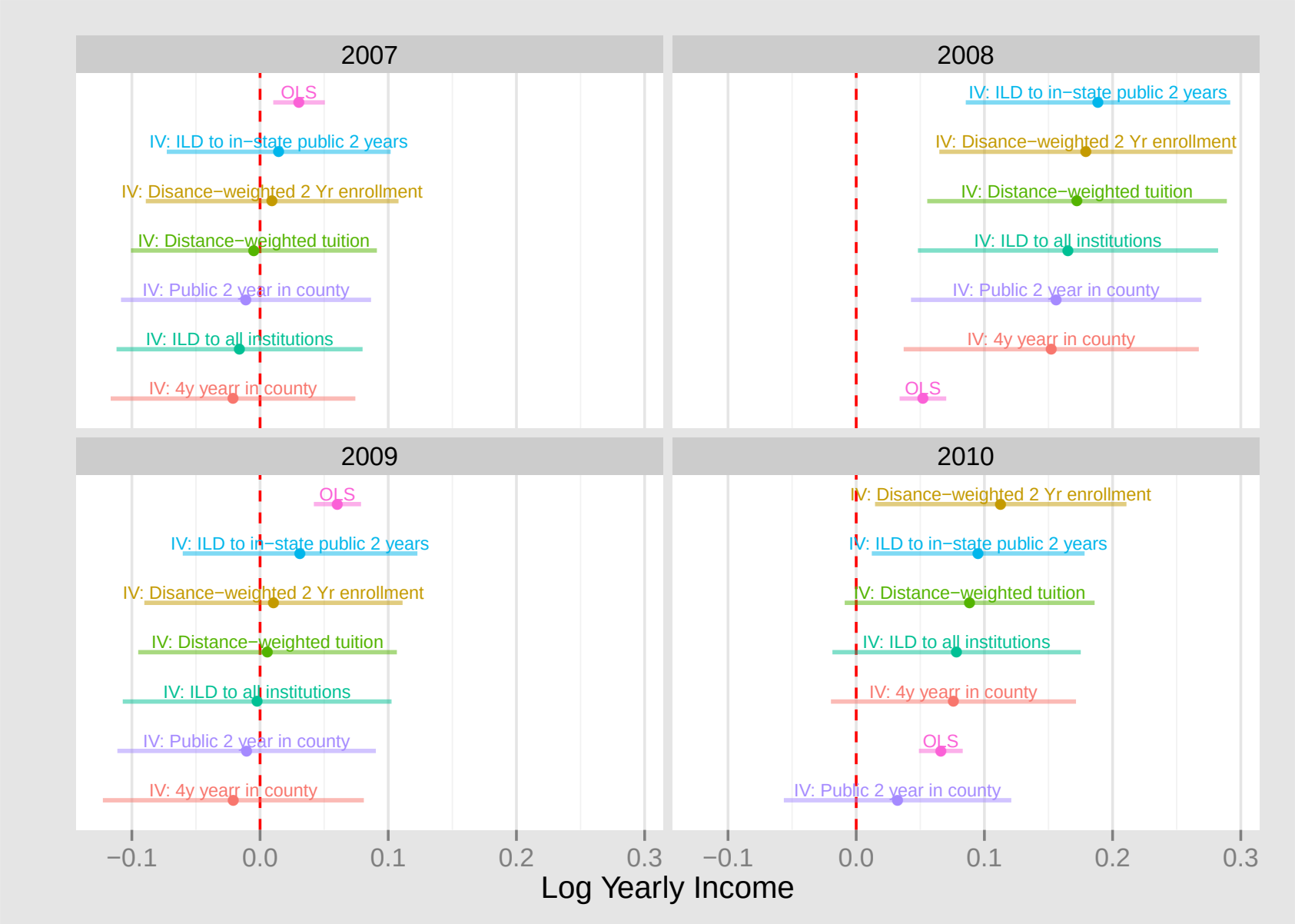
Inverse Log Distance to All Institutions



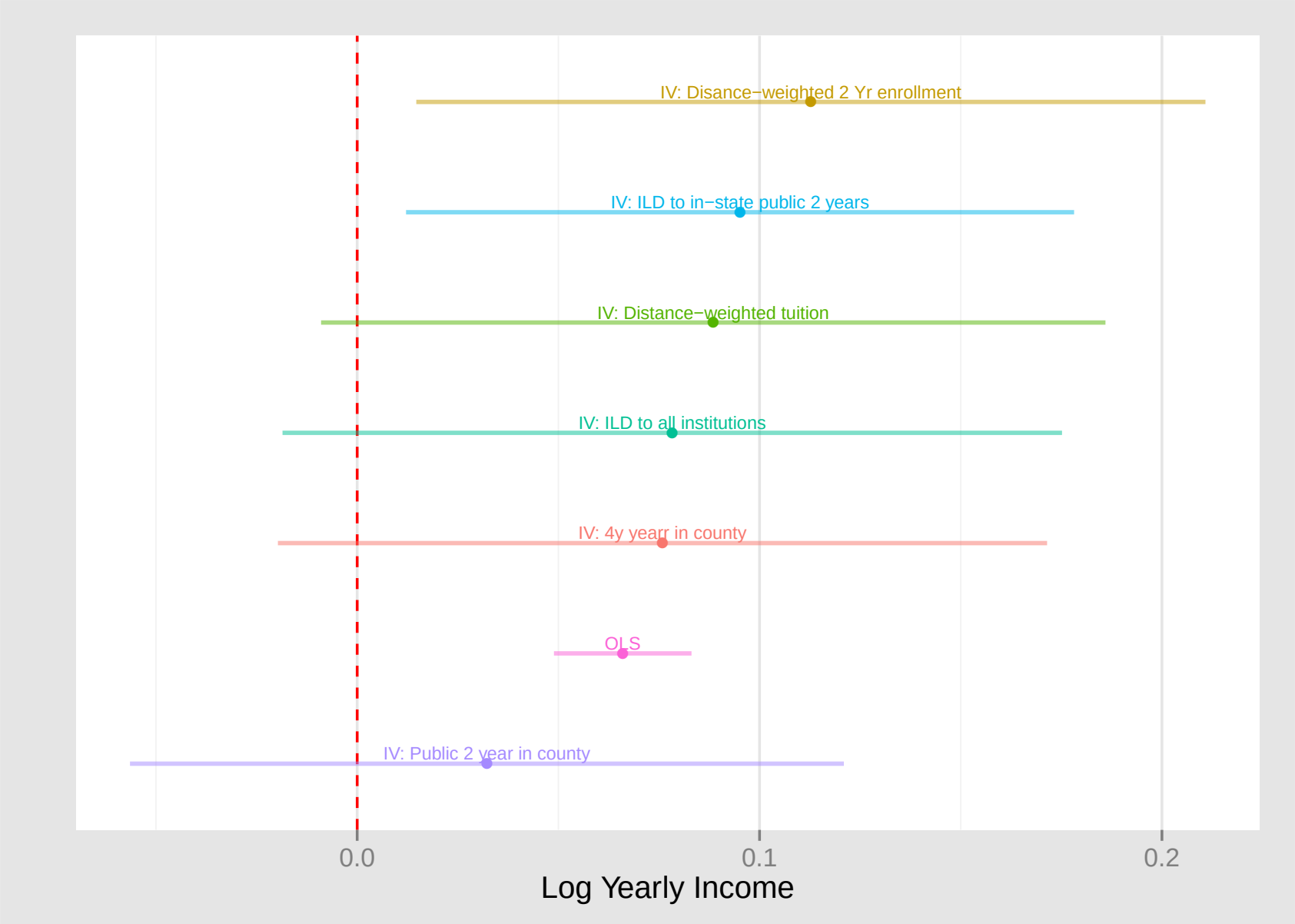
Source:

IPEDS,1997-2012

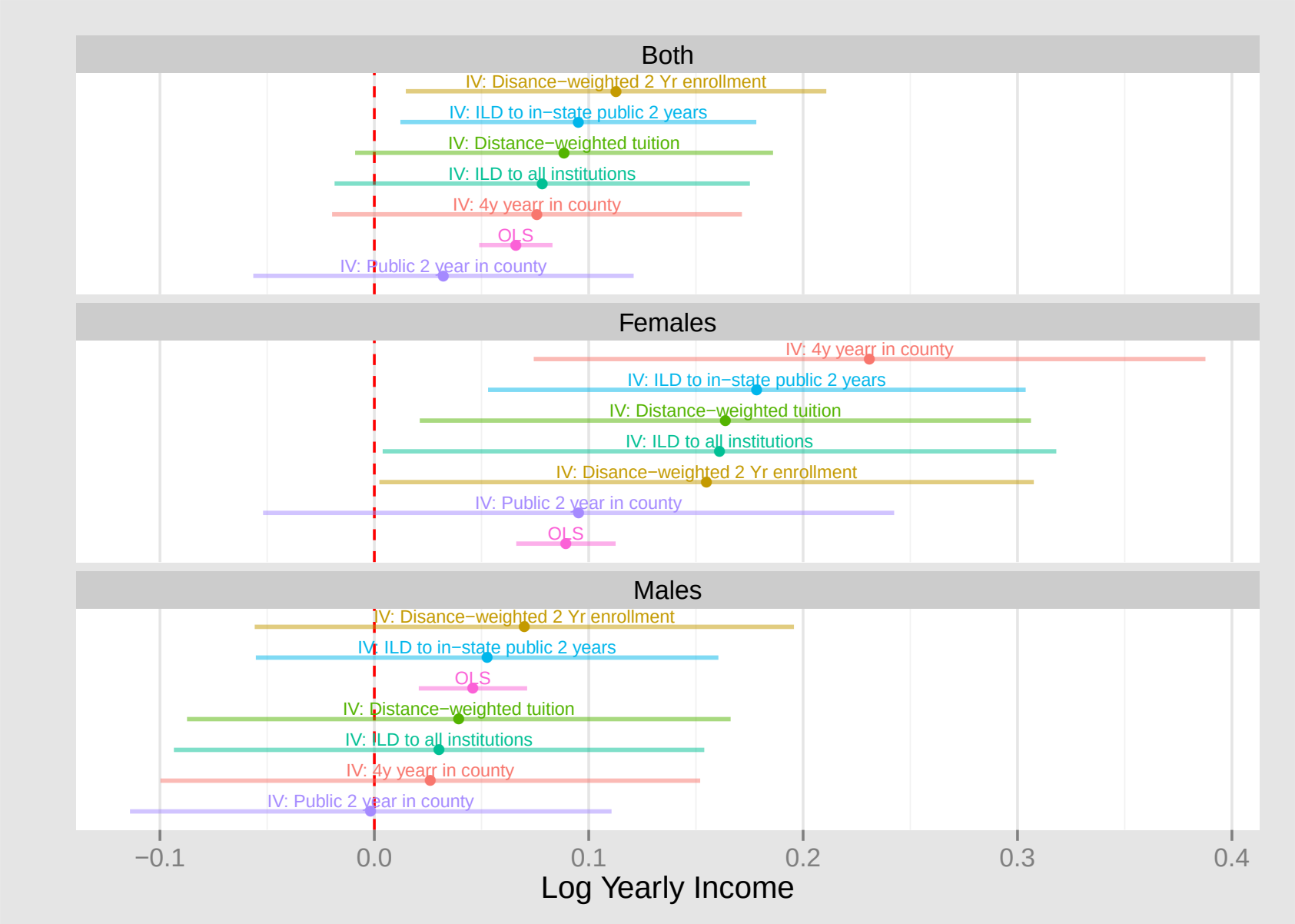
Results for Yearly Income



Results for Yearly Income, 2010 Only



Results for Yearly Income, 2010 Only, by Gender



A (Very Simple) Model of Civic Participation and Voting

$$Civic = \begin{cases} 1 & \text{if } D > C \\ 0 & \text{if } D \leq C \end{cases} \tag{1}$$

$$D = U(D_I, D_E) \tag{2}$$

For Voting:

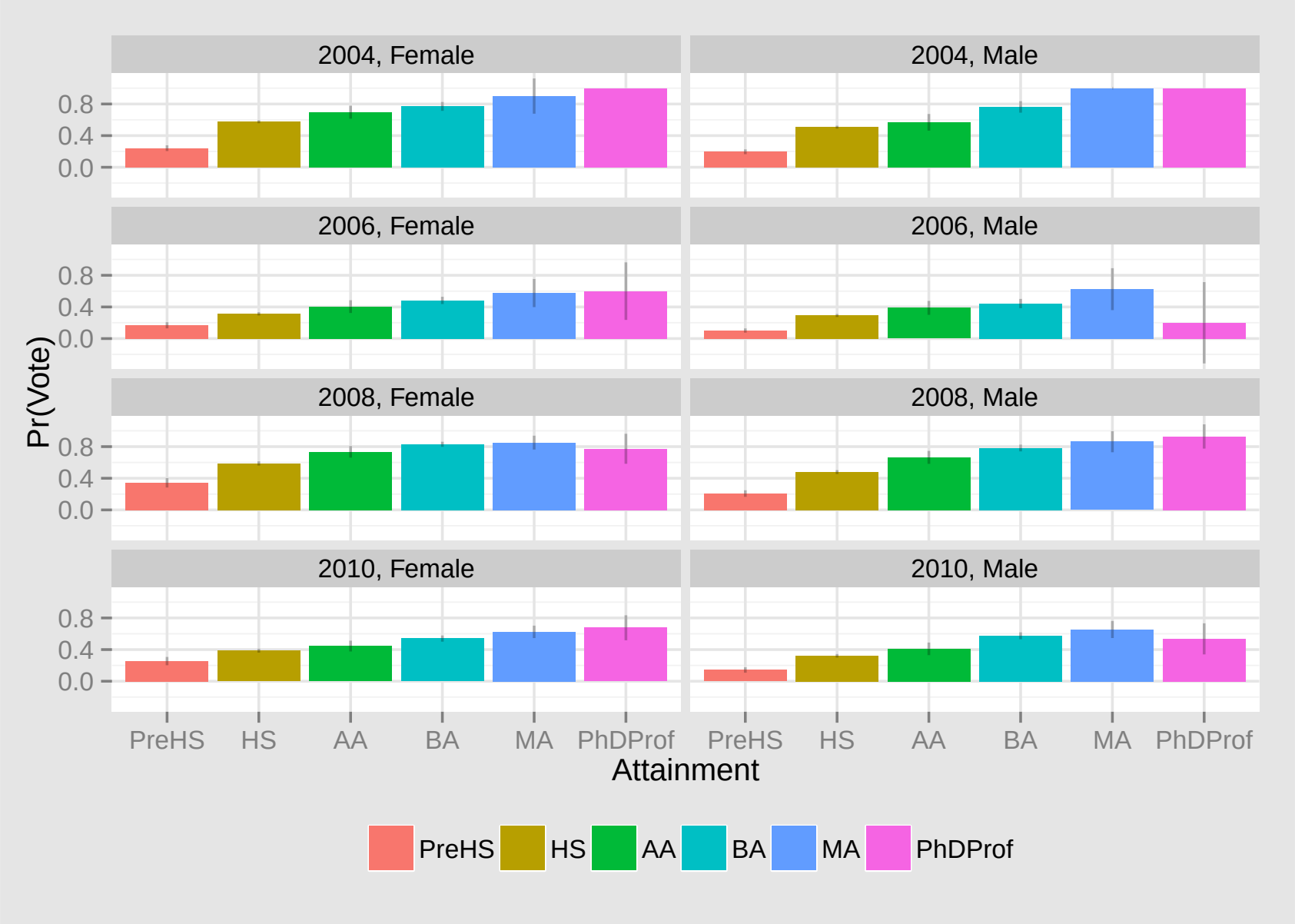
$$pB + D > C \tag{3}$$

NLSY Voting Question

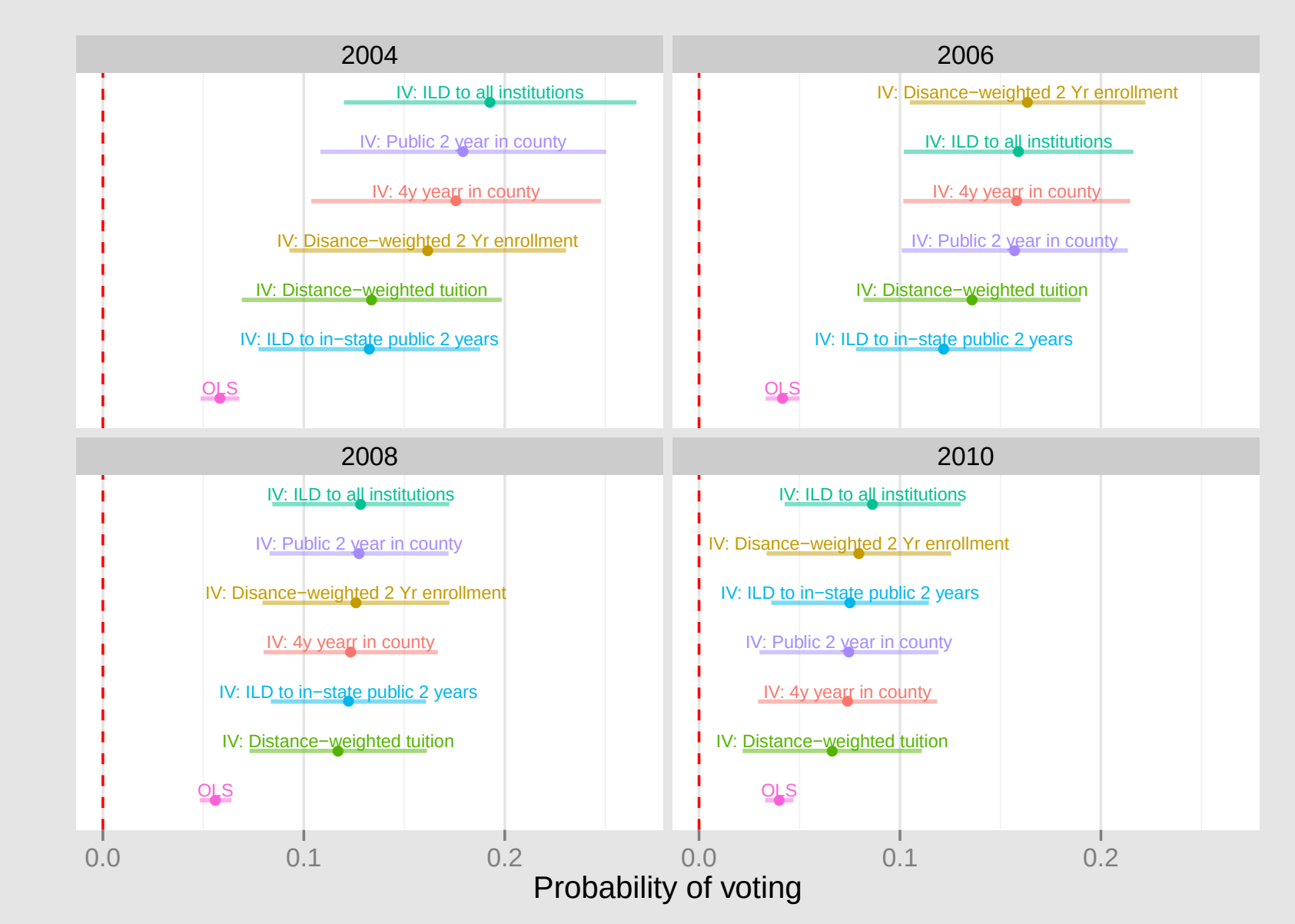
Let's talk about [the recent election/the election last November]. In talking to people about elections, we often find that a lot of people were not able to vote because they weren't registered, they were sick, or they just didn't have time. Which of the following statements best describes you:

One, I did not vote (in the election [this/last] November); Two, I thought about voting this time, but didn't; Three, I usually vote, but didn't this time; or Four, I am sure I voted?

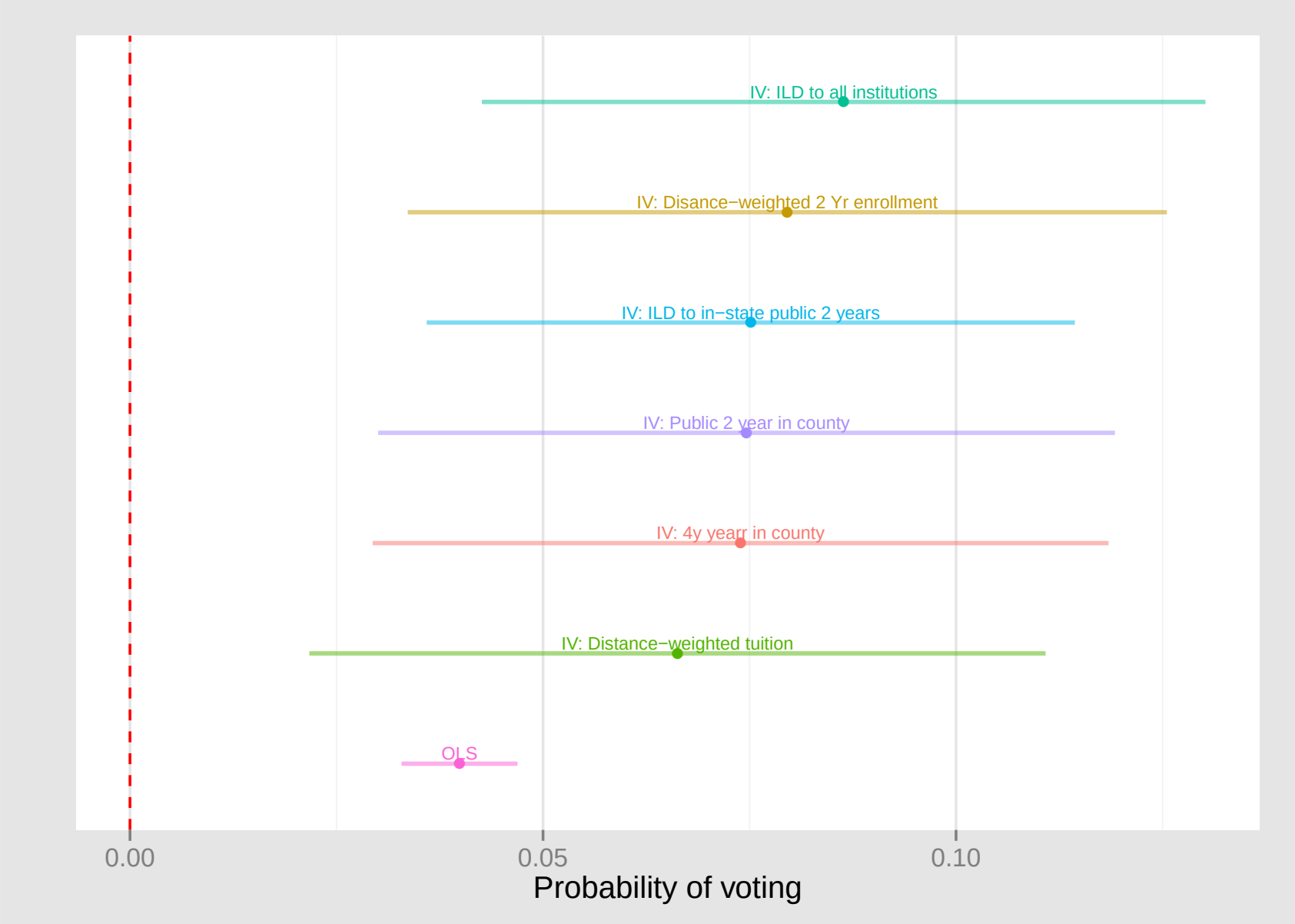
Proportion Voting by Attainment



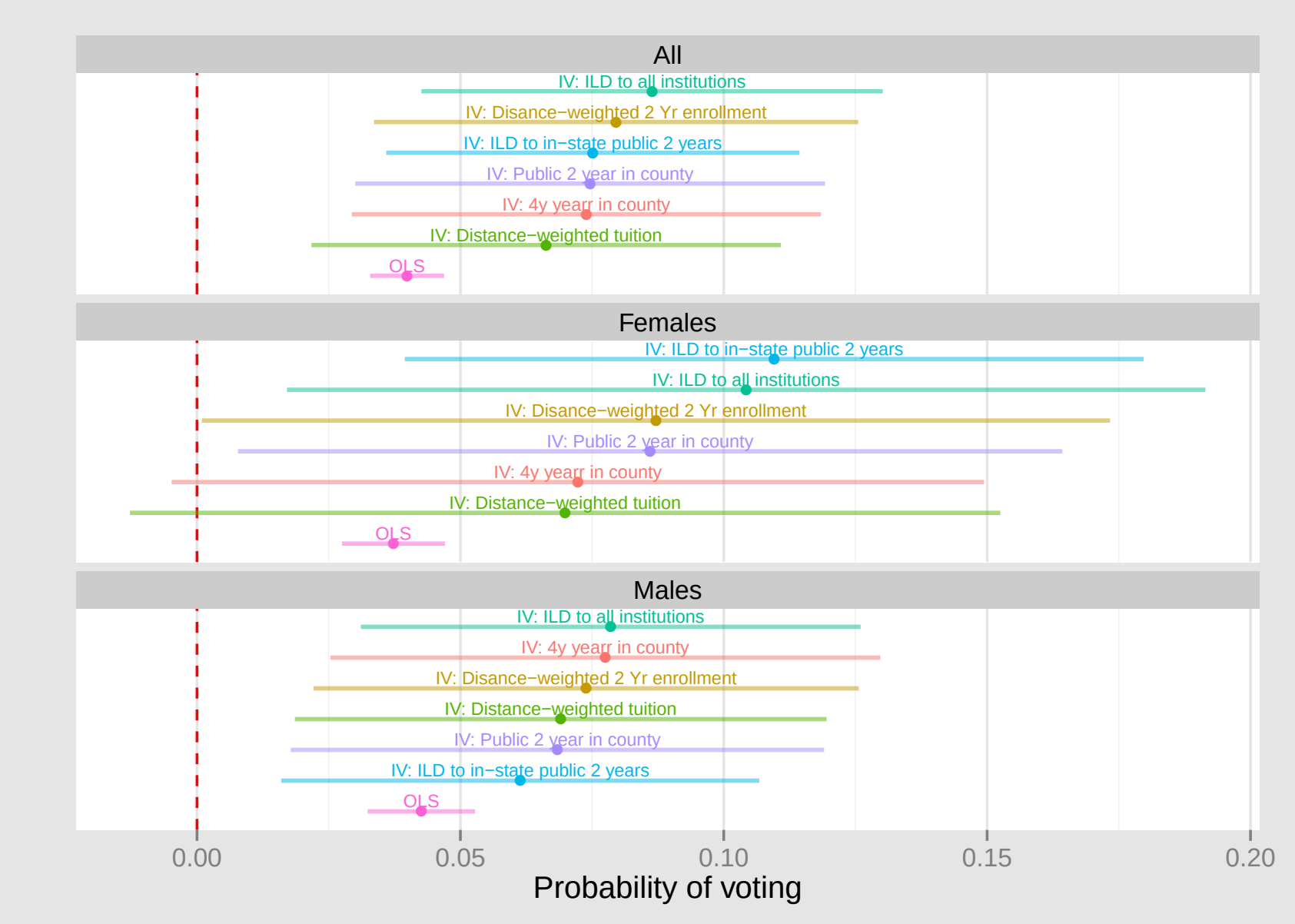
Results for Voting



Results for Voting,2010 Only



Results for Voting,2010 Only



NLSY Volunteering Question

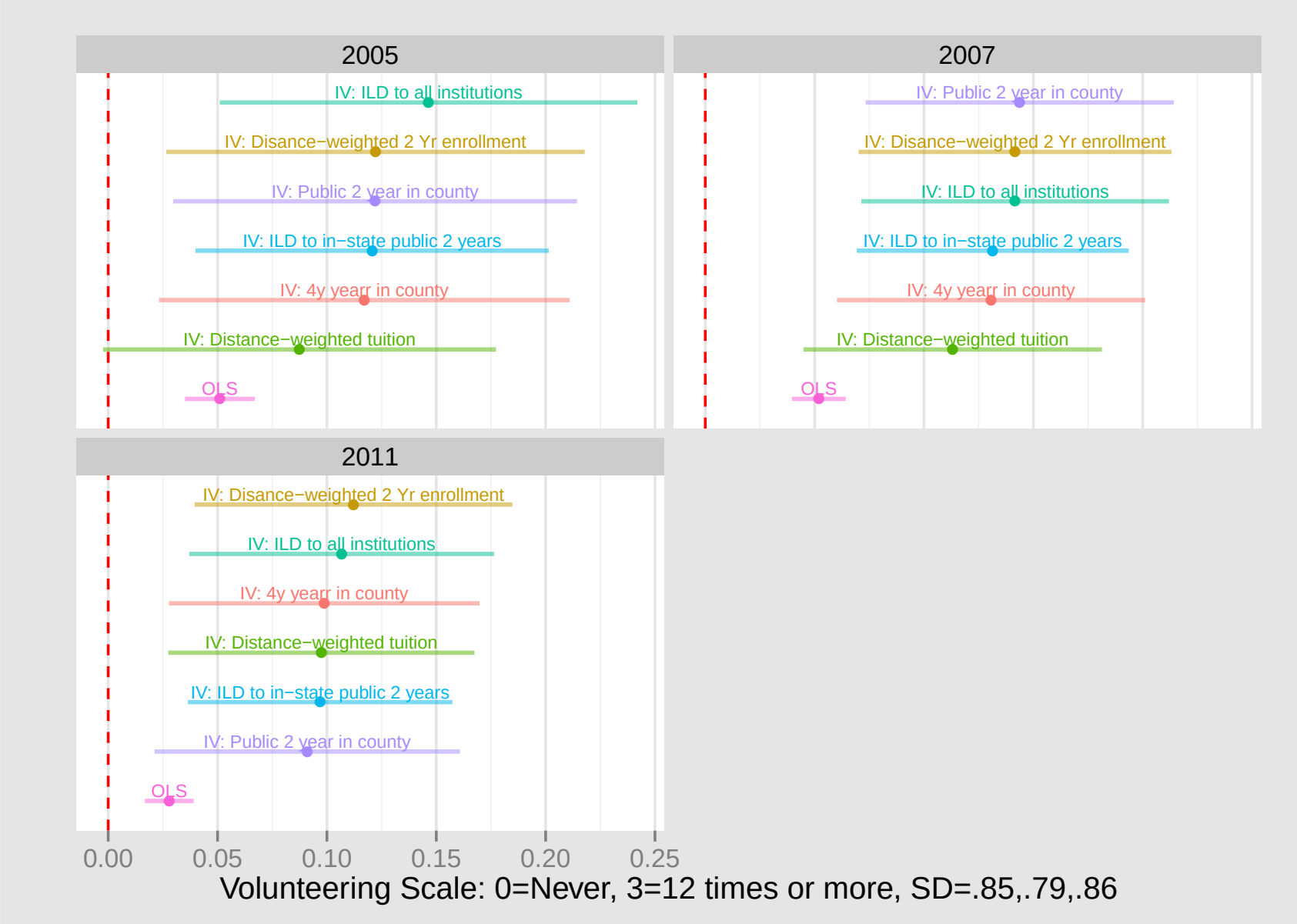
In the last 12 months, how often did you do any unpaid volunteer work, including activities aimed at changing social conditions, such as work with educational groups, environmental groups, landlord/tenant groups, or other consumer groups, women's groups or minority groups?

1 Never
2 1 - 4 times
3 5 - 11 times
4 12 times or more

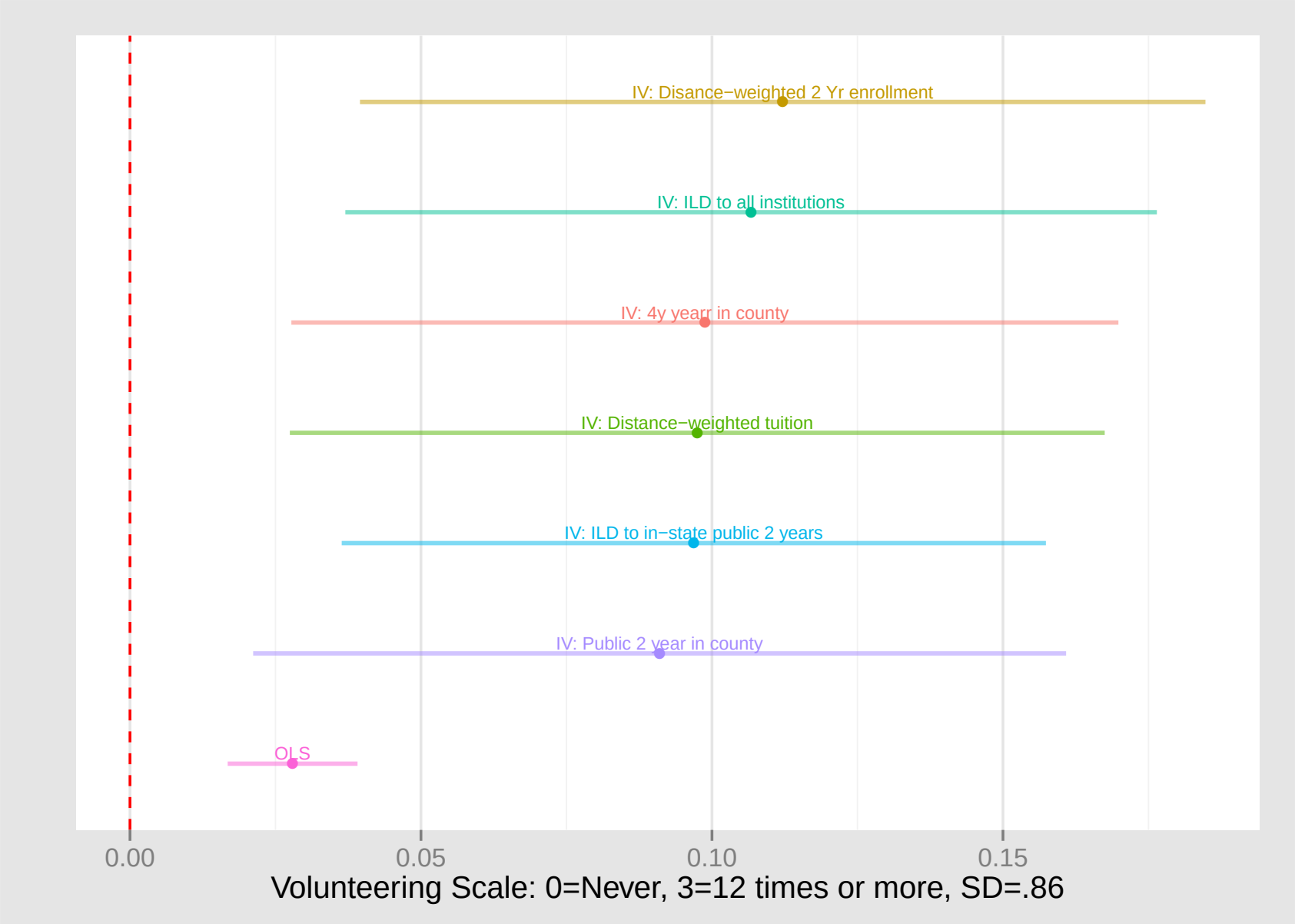
Which of the following is the main reason you do volunteer work? 1 Court ordered 2 Required for a school or religious group 3 Strictly voluntary

Frequency of Volunteering by Attainment

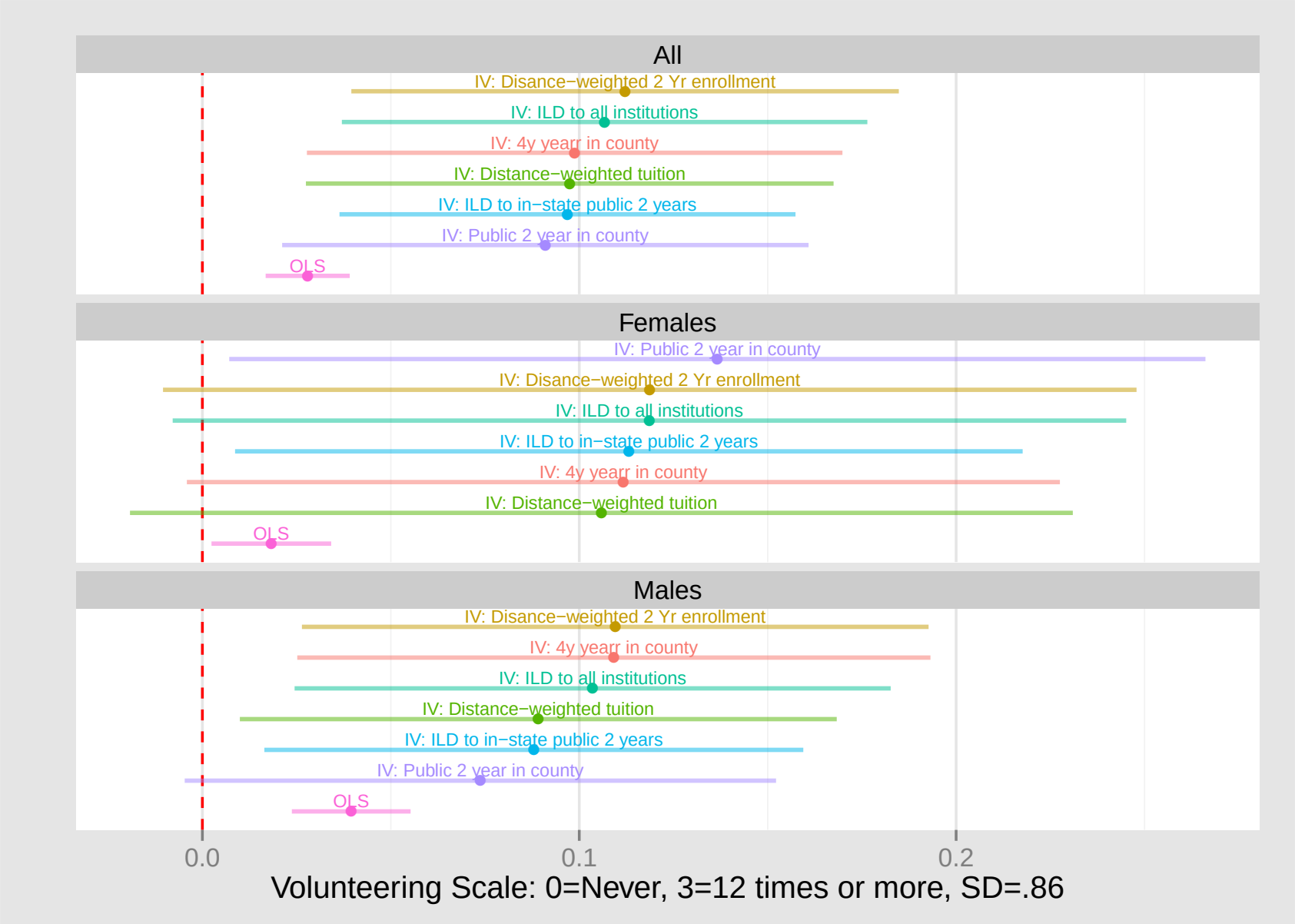
Results for Volunteering



Results for Volunteering



Results for Volunteering



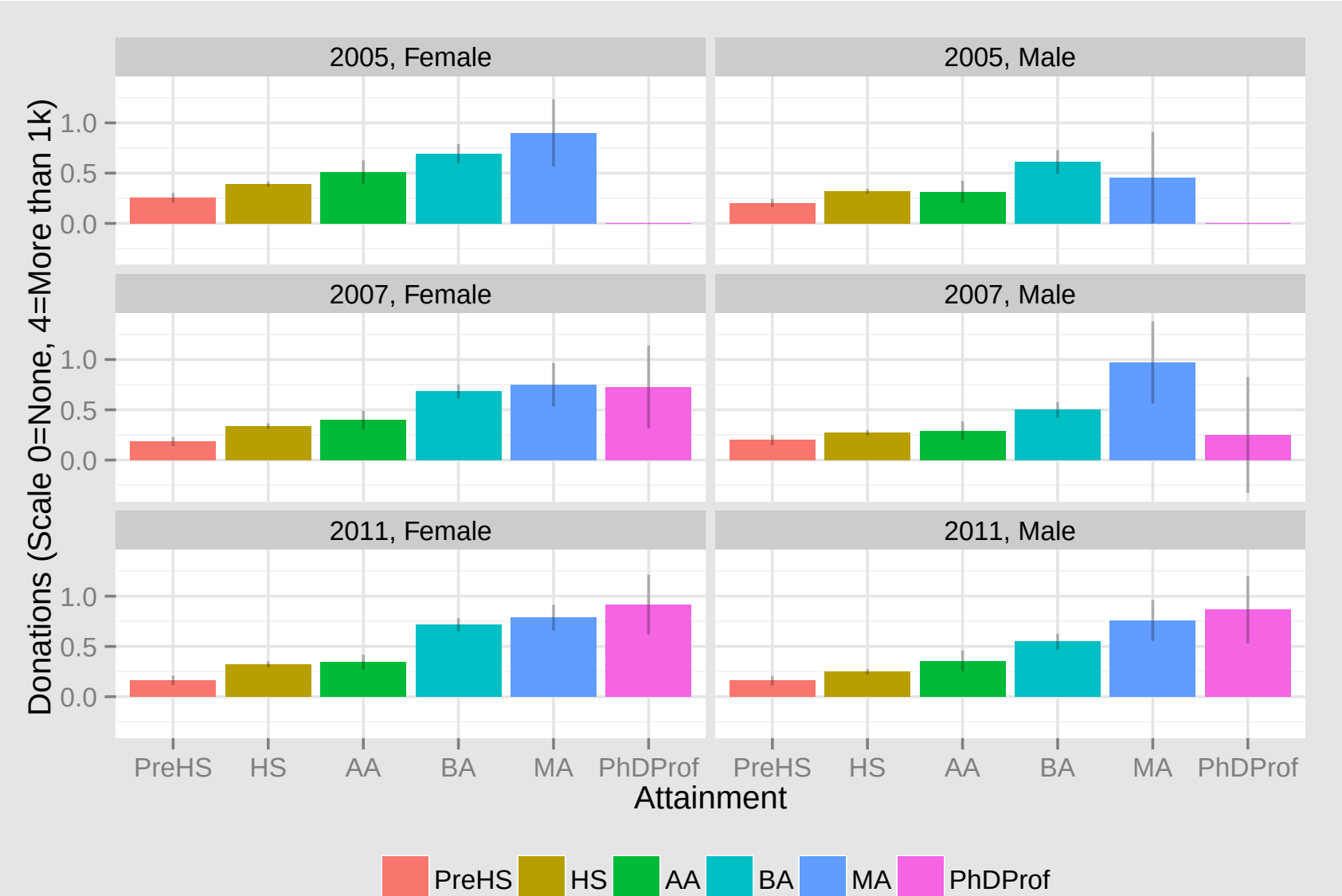
NLSY Question: Donations

In the last 12 months, have you donated money to a political, environmental, or community cause?

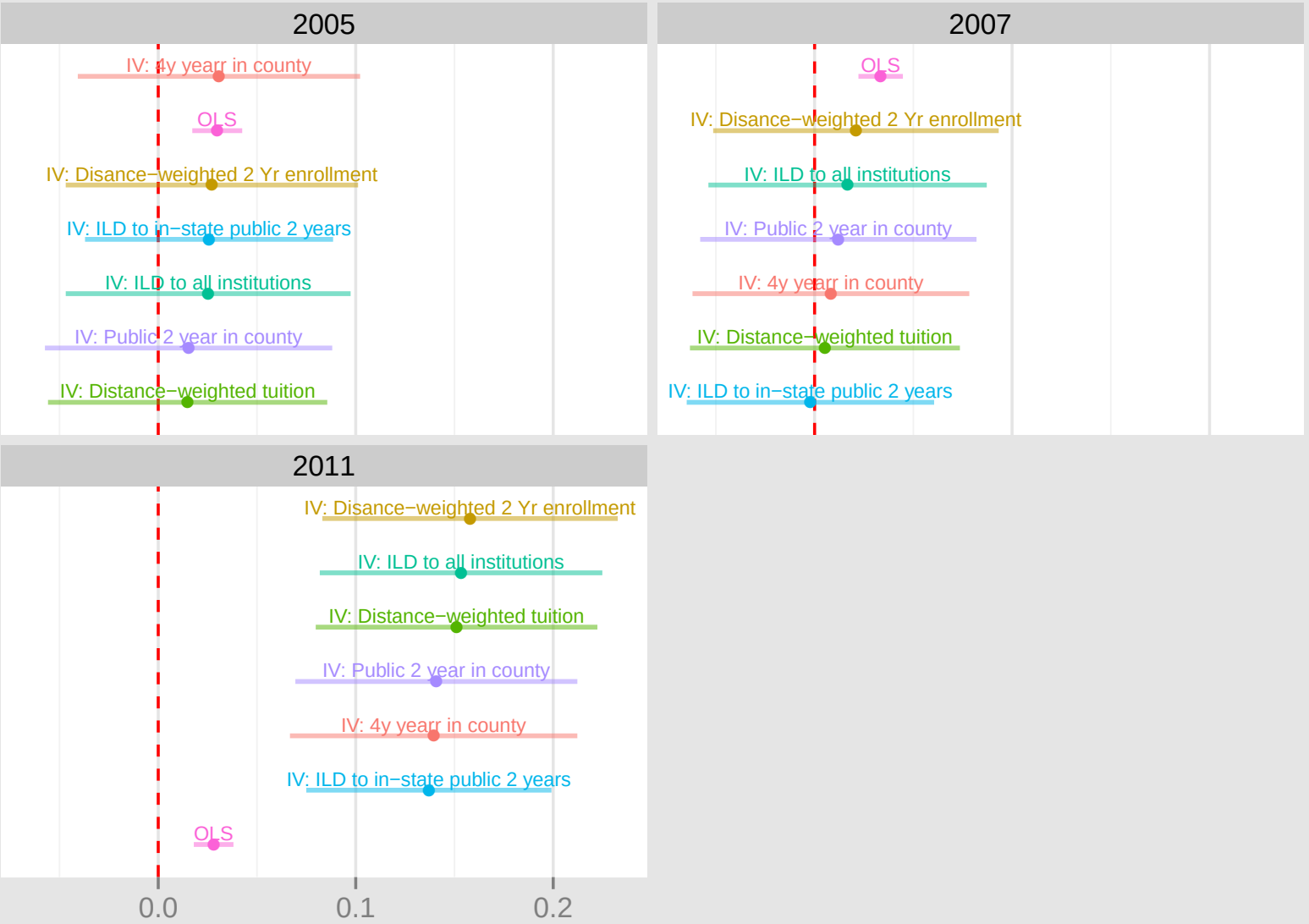
What is the total amount of money that you have donated to these causes in the last 12 months?

1 $1 - $100
2 $101 -$500
3 $501 - $1,000
4 More than $1,000

Amount Donated to Causes by Postsecondary Attainment

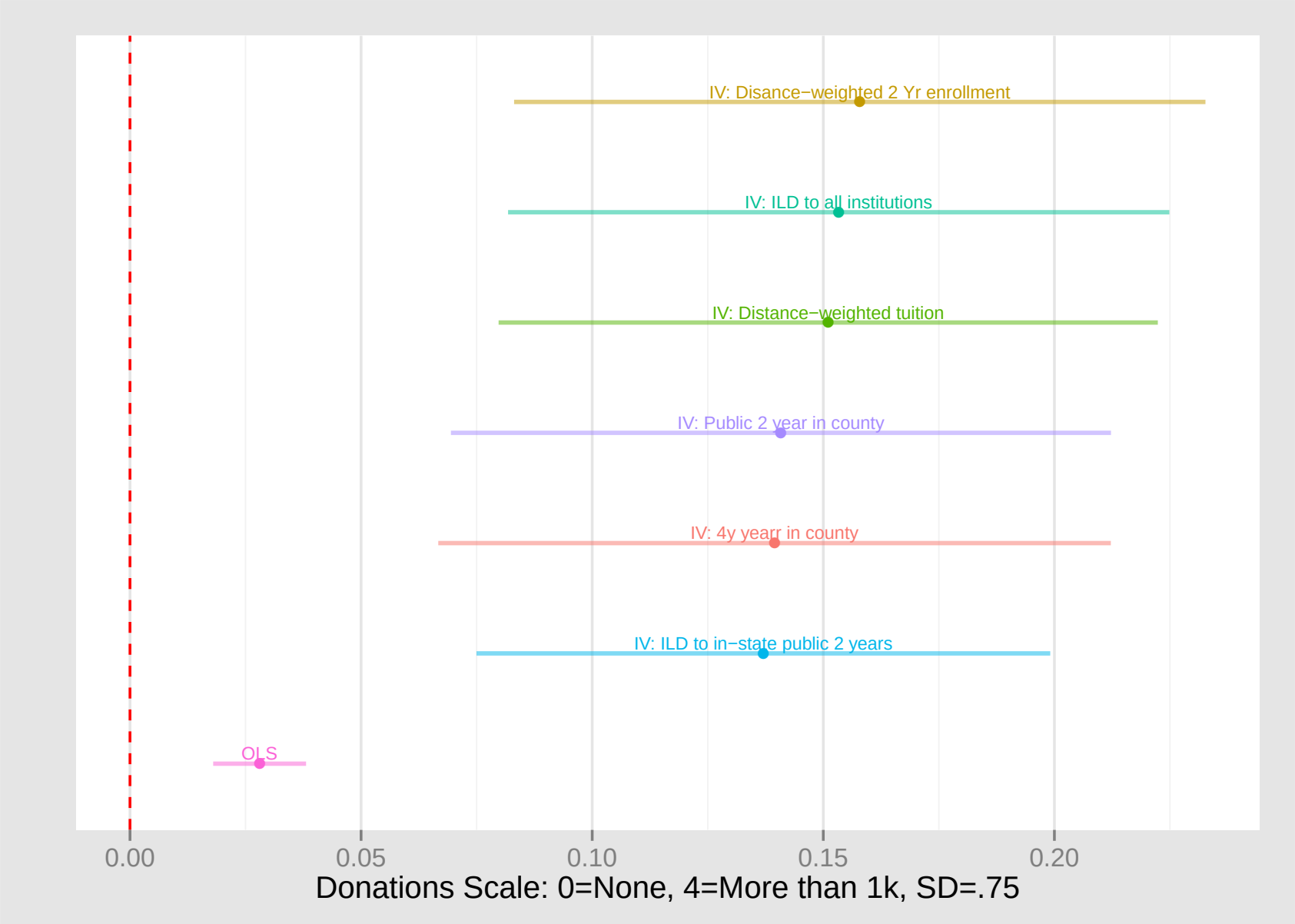


Results for Donations

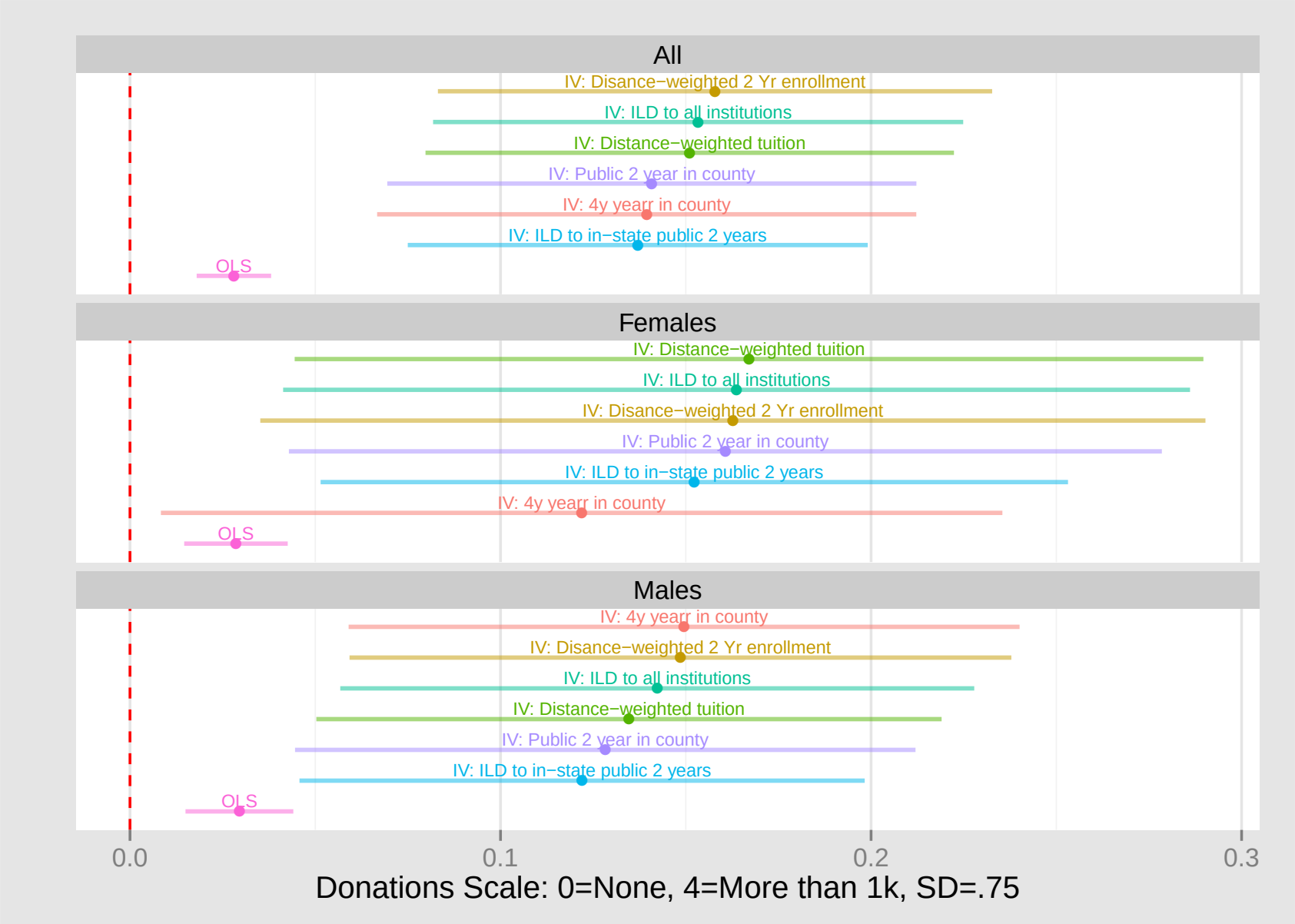


Donations Scale: 0=None, 4=More than 1k, SD=.66,.69,.75

Results for Donations



Results for Donations



Thank You!

Will Doyle
w.doyle@vanderbilt.edu

Benjamin Skinner
b.skinner@vanderbilt.edu

Interactive Maps
http://btskinner.shinyapps.io/colcost

VANDERBILT Peabody College

First Stage Results, Earnings

Panel 3	2007	2008	2009	2010
Inverse Log Distance to In-State Pub. 2yr	0.1004	0.1247	0.1031	0.12
	(0.0167)	(0.0182)	(0.0191)	(0.0205)
$\ldots \times$ Mother's education	-0.0073	-0.0086	-0.0073	-0.0081
	(0.0013)	(0.0013)	(0.0014)	(0.0015)
Endogeneity: F p-value	0.7242	0.0094	0.552	0.5043
Overidentification: χ^2 p-value	0.2538	0.3495	0.2673	0.7379
First Stage F	53.0052	56.4189	43.0095	40.2527
First stage Min. Eigenvalue	58.5407	56.3201	47.8483	43.0297
N	3836	3983	3702	3732

First Stage Results, Voting

ILD: instate 2yr	0.0863	0.1231	0.1233	0.1197
	(0.0122)	(0.0169)	(0.0215)	(0.0221)
ILD: instate 2yr × Mother education	-0.0055	-0.0082	-0.0078	-0.0077
	(0.0009)	(0.0012)	(0.0016)	(0.0016)
Endogeneity: F p-value	0.0079	0.0003	0.0005	0.0797
overidentification: χ^2 p-value	0.0006	0	0.2197	0.2767
First stage F	44.1436	48.0073	43.4359	37.2016
First stage Min. Eigenvalue	47.4616	47.2205	45.098	38.5147
N	4614	3783	3048	3604

First Stage Results, Volunteer

ILD: instate 2yr	0.1007	0.1052	0.1133
	(0.0143)	(0.0161)	(0.0202)
ILD: instate 2yr × Mother education	-0.0064	-0.0068	-0.0071
	(0.001)	(0.0012)	(0.0015)
Endogeneity: F p-value	0.0917	0.0123	0.0255
overidentification: χ^2 p-value	0.0761	0.8532	0.6364
First stage F	53.3421	58.3708	47.1434
First stage Min. Eigenvalue	58.5746	62.1393	49.4507
N	4442	4603	4549

First Stage Results, Donations

ILD: instate 2yr	0.0946	0.101	0.1266
	(0.0144)	(0.0162)	(0.0196)
ILD: instate 2yr × Mother education	-0.006	-0.0065	-0.0082
	(0.001)	(0.0012)	(0.0014)
Endogeneity: F p-value	0.897	0.2667	0.0004
overidentification: χ^2 p-value	0.6926	0.5015	0.4835
First stage F	52.6244	56.7276	48.5538
First stage Min. Eigenvalue	58.0406	60.8647	51.2998
N	4439	4584	4581