

```

-----
> -----
      name: <unnamed>
      log:  H:\stata\Chettylab\output\mobility.log
      log type: text
      opened on: 5 Mar 2017, 20:54:59

.
. /*Merge cz_names.csv*/
. cd "$data"
H:\stata\Chettylab\data

. insheet using "cz_names.csv", delimiter(",") names clear
(2 vars, 741 obs)

. save "cz_names.dta", replace
file cz_names.dta saved

. insheet using "cz_level_data.csv", delimiter(",") names clear
(15 vars, 741 obs)

. merge 1:1 cz using "cz_names.dta"

      Result                                # of obs.
      -----                                -
      not matched                             0
      matched                                741   (_merge==3)
      -----                                -

. drop _merge

. order czname, a(cz) //order czname after cz

. save "cz_merge.dta", replace
file cz_merge.dta saved

.
. cd "$output"
H:\stata\Chettylab\output

. /*Q1 Difference of perm_res_rank_p25 from the national mean*/
. //install _GWTMEAN to caculate weighted mean or manually
. capture ssC install _GWTMEAN //install package to caculate weighted mean

. tempvar weight_mean

. egen `weight_mean' = wtmean(perm_res_rank_p25) if perm_res_rank_p25 != ., weight(popu
> lation)
(23 missing values generated)

. gen dif_rank = perm_res_rank_p25 - `weight_mean'
(23 missing values generated)

. drop `weight_mean'

. sort dif_rank, stable

. //Grapgh hbar
. preserve

```

```

. drop if dif_rank==.
(23 observations deleted)

. keep if (_n>=_N-4)|(_n<=5)
(708 observations deleted)

. gen no_rank=_n

. gen cz_name_state=czname+", "+stateabbrev

. gen last_five = 1 if _n > 5
(5 missing values generated)

. replace last_five = 0 if _n <=5
(5 real changes made)

. export delimited cz-last_five using "Rgraph.csv",replace
file Rgraph.csv saved

.
. //Raw graph by STATA
. graph hbar dif_rank , over(cz_name_state, sort(dif_rank) descending) graphregion(col
> or(white)) ///
>                                     ytitle("Diiference from National Mean") scheme(sj) ///
>                                     saving(dif_rank, replace)
(file dif_rank.gph saved)

. graph export dif_rank.pdf, replace
(file dif_rank.pdf written in PDF format)

. //describe other variables of the 10
. collapse african_american_share - median_house_value [pw=population], by(last_five)

. export delimited using "tenDes.csv", replace
file tenDes.csv saved

. restore

.
. /*Q3*/
. //install maptile spmap geo_list
. capture ssc install maptile

. capture ssc install spmap

. maptile_install using "http://files.michaelstepner.com/geo_state.zip"

h:\ado\personal\maptile_geographies
can't overwrite "state_coords_clean.dta"; skipping
can't overwrite "state_database_clean.dta"; skipping
can't overwrite "state_maptile.ado"; skipping
can't overwrite "state_maptile.smcl"; skipping
successfully unzipped temp.zip to current directory

To see the help file of the geography template, run:
    maptile_geohelp geoname

.
. //Map for state level data
. preserve

```

```

. drop if perm_res_rank_p25==.
(23 observations deleted)

. collapse perm_res_rank_p25 [pw=population], by(stateabbrv)

. rename stateabbrv state

. maptile perm_res_rank_p25, geo(state) propcolor revcolor

. graph export state_level.pdf, replace
(file state_level.pdf written in PDF format)

. restore

.
. /*Q5 Regressions*/
. capture ssc install estout //install estout for stylized output

. drop if (total_exposure_effect_p25==.)|(perm_res_rank_p25==.)
(146 observations deleted)

. //generate standard error, then regress
. foreach var of varlist african_american_share - median_house_value {
2.     egen std_`var'=std(`var')
3.     eststo: reg total_exposure_effect_p25 std_`var', robust //eststo: resto
> re reg result
4.     eststo: reg total_exposure_effect_p25 std_`var', robust cluster(state_id)
5.     eststo: reg perm_res_rank_p25 std_`var', robust
6.     eststo: reg perm_res_rank_p25 std_`var', robust cluster(state_id)
7. }

```

```

Linear regression                                Number of obs    =          595
                                                F(1, 593)        =          62.22
                                                Prob > F          =          0.0000
                                                R-squared         =          0.0611
                                                Root MSE         =          11.892

```

```

-----
> -----
total_exposure_effect_p25 |          Coef.      Robust          t      P>|t|      [95% Conf. Int
> -----+-----
std_african_american_share | -3.031769      .384354      -7.89      0.000      -3.78663      -2.
> 276908
_cons | 3.632374      .4875266      7.45      0.000      2.674886      4.
> 589863
-----
> -----
(est1 stored)

```

```

Linear regression                                Number of obs    =          595
                                                F(1, 50)         =          30.94
                                                Prob > F          =          0.0000
                                                R-squared         =          0.0611
                                                Root MSE         =          11.892

```

(Std. Err. adjusted for 51 clusters in sta

```

> te_id)
-----
> -----
total_exposure_effect_p25 |          Coef.      Robust          t      P>|t|      [95% Conf. Int
> -----+-----
std_african_american_share | -3.031769      .5450608      -5.56      0.000      -4.126556      -1.
> 936982
_cons | 3.632374      .810162      4.48      0.000      2.005116      5.
> 259633
-----

```

## Linear regression

```
Number of obs      =          595
F(1, 593)          =        693.52
Prob > F            =        0.0000
R-squared           =        0.4609
Root MSE           =        3.8547
```

## Linear regression

```
Number of obs      =          595
F(1, 50)           =        116.88
Prob > F            =        0.0000
R-squared           =        0.4609
Root MSE           =        3.8547
```

(Std. Err. adjusted for 51 clusters in sta

```
> te_id)
```

## Linear regression

```
Number of obs      =          595
F(1, 593)          =          1.49
Prob > F            =         0.2221
R-squared           =         0.0025
Root MSE           =         12.257
```

## Linear regression

```
Number of obs      =          595
F(1, 50)           =          0.43
Prob > F           =         0.5141
R-squared           =         0.0025
Root MSE           =         12.257
```

```

                                (Std. Err. adjusted for 51 clusters in state_id)
-----+-----
total_expos~25 |               Coef.      Robust
                                Std. Err.      t    P>|t|      [95% Conf. Interval]
-----+-----
std_poor_share |    -.6186815    .9414353    -0.66   0.514    -2.50961    1.272247
   _cons       |    3.632374    .9828046     3.70   0.001     1.658353    5.606396
-----+-----
(est6 stored)

```

```

Linear regression                                Number of obs    =         595
                                                F(1, 593)              =         90.61
                                                Prob > F                =         0.0000
                                                R-squared              =         0.1432
                                                Root MSE               =         4.8597

```

```

-----+-----
perm_res_ra~25 |               Coef.      Robust
                                Std. Err.      t    P>|t|      [95% Conf. Interval]
-----+-----
std_poor_share |   -1.984864    .2085204    -9.52   0.000    -2.394393   -1.575336
   _cons       |   46.21472    .1992278   231.97   0.000    45.82344    46.606
-----+-----
(est7 stored)

```

```

Linear regression                                Number of obs    =         595
                                                F(1, 50)             =         13.22
                                                Prob > F              =         0.0007
                                                R-squared             =         0.1432
                                                Root MSE              =         4.8597

```

```

                                (Std. Err. adjusted for 51 clusters in state_id)
-----+-----
perm_res_ra~25 |               Coef.      Robust
                                Std. Err.      t    P>|t|      [95% Conf. Interval]
-----+-----
std_poor_share |   -1.984864    .5458675    -3.64   0.001    -3.081272   -.888457
   _cons       |   46.21472    .6322114    73.10   0.000    44.94488    47.48455
-----+-----
(est8 stored)

```

```

Linear regression                                Number of obs    =         595
                                                F(1, 593)              =         10.88
                                                Prob > F                =         0.0010
                                                R-squared              =         0.0199
                                                Root MSE               =         12.151

```

```

-----+-----
> --
total_exposure_affe~25 |               Coef.      Robust
> 1]                    Std. Err.      t    P>|t|      [95% Conf. Interva
-----+-----
> --
std_racial_segregation |   -1.72821    .5239135    -3.30   0.001    -2.757162   -.69925
> 82                    _cons |   3.632374    .4981246     7.29   0.000     2.654071    4.6106
> 78
-----+-----
> --
(est9 stored)

```

```

Linear regression                                Number of obs    =         595
                                                F(1, 50)             =         13.50
                                                Prob > F              =         0.0006
                                                R-squared             =         0.0199
                                                Root MSE              =         12.151

```

```

                                (Std. Err. adjusted for 51 clusters in state_i
> d)
-----
> --
total_exposure_affe~25 |      Coef.    Robust      t    P>|t|    [95% Conf. Interva
> 1]
-----+-----
> --
std_racial_segregation |    -1.72821    .4703229    -3.67    0.001    -2.672881    -.78353
> 85
      _cons |    3.632374    .9731518     3.73    0.000     1.677742     5.5870
> 07
-----
> --
(estl10 stored)

```

```

Linear regression                                Number of obs    =          595
                                                F(1, 593)              =         115.84
                                                Prob > F                =          0.0000
                                                R-squared               =          0.1475
                                                Root MSE                =          4.8473

```

```

-----
> --
perm_res_rank_p25 |      Coef.    Robust      t    P>|t|    [95% Conf. Interva
> 1]
-----+-----
> --
std_racial_segregation |   -2.014932    .1872079   -10.76    0.000    -2.382603    -1.6472
> 61
      _cons |    46.21472    .198719    232.56    0.000     45.82444     46.6
> 05
-----
> --
(estl11 stored)

```

```

Linear regression                                Number of obs    =          595
                                                F(1, 50)              =          71.99
                                                Prob > F                =          0.0000
                                                R-squared               =          0.1475
                                                Root MSE                =          4.8473

```

```

                                (Std. Err. adjusted for 51 clusters in state_i
> d)
-----
> --
perm_res_rank_p25 |      Coef.    Robust      t    P>|t|    [95% Conf. Interva
> 1]
-----+-----
> --
std_racial_segregation |   -2.014932    .2374815    -8.48    0.000    -2.491928    -1.5379
> 37
      _cons |    46.21472    .6887469    67.10    0.000     44.83133     47.598
> 11
-----
> --
(estl12 stored)

```

```

Linear regression                                Number of obs    =          595
                                                F(1, 593)              =          32.10
                                                Prob > F                =          0.0000
                                                R-squared               =          0.0408
                                                Root MSE                =          12.02

```

[illegible]

```

                                (Std. Err. adjusted for 51 clusters in state_i
> d)
-----
> --
perm_res_rank_p25 |          Coef.      Robust      t      P>|t|      [95% Conf. Interva
> 1] -----+-----
> --
std_income_segregation | -1.883198   .3212838   -5.86   0.000   -2.528516   -1.2378
> 81
_cons | 46.21472   .7078692   65.29   0.000   44.79292   47.636
> 51
-----
> --
(estl16 stored)

```

```

Linear regression                                Number of obs   =          595
                                                F(1, 593)          =          47.99
                                                Prob > F            =          0.0000
                                                R-squared           =          0.0762
                                                Root MSE            =          11.796

```

```

-----
total_exp~25 |          Coef.      Robust      t      P>|t|      [95% Conf. Interval]
-----+-----
std_gini99 | -3.384048   .4885178   -6.93   0.000   -4.343483   -2.424612
_cons | 3.632374   .4836085    7.51   0.000    2.682581    4.582168
-----

```

(estl7 stored)

```

Linear regression                                Number of obs   =          595
                                                F(1, 50)           =          17.35
                                                Prob > F            =          0.0001
                                                R-squared           =          0.0762
                                                Root MSE            =          11.796

```

```

                                (Std. Err. adjusted for 51 clusters in state_id)
-----
total_exp~25 |          Coef.      Robust      t      P>|t|      [95% Conf. Interval]
-----+-----
std_gini99 | -3.384048   .8124662   -4.17   0.000   -5.015934   -1.752161
_cons | 3.632374   .8264255    4.40   0.000    1.97245    5.292299
-----

```

(estl8 stored)

```

Linear regression                                Number of obs   =          595
                                                F(1, 593)          =          547.48
                                                Prob > F            =          0.0000
                                                R-squared           =          0.5059
                                                Root MSE            =          3.6904

```

```

-----
perm_res_~25 |          Coef.      Robust      t      P>|t|      [95% Conf. Interval]
-----+-----
std_gini99 | -3.731035   .1594569  -23.40   0.000   -4.044204   -3.417866
_cons | 46.21472   .1512903  305.47   0.000   45.91759   46.51185
-----

```

(estl9 stored)

```

Linear regression                                Number of obs   =          595
                                                F(1, 50)           =          76.11
                                                Prob > F            =          0.0000
                                                R-squared           =          0.5059
                                                Root MSE            =          3.6904

```



(Std. Err. adjusted for 51 clusters in state_id)						
perm_res_~25	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
std_gini99	-3.731035	.4276747	-8.72	0.000	-4.590045	-2.872025
_cons	46.21472	.4793948	96.40	0.000	45.25183	47.17761

(est20 stored)  
(2 missing values generated)

Linear regression	Number of obs	=	593
	F(1, 591)	=	7.33
	Prob > F	=	0.0070
	R-squared	=	0.0138
	Root MSE	=	12.207

total_exposure~25	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
std_school_exp_pc	1.442114	.5328271	2.71	0.007	.3956488	2.488579
_cons	3.643279	.5012949	7.27	0.000	2.658743	4.627815

(est21 stored)

Linear regression	Number of obs	=	593
	F(1, 49)	=	3.28
	Prob > F	=	0.0763
	R-squared	=	0.0138
	Root MSE	=	12.207

(Std. Err. adjusted for 50 clusters in state_id)						
total_exposure~25	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
std_school_exp_pc	1.442114	.796337	1.81	0.076	-.1581853	3.042413
_cons	3.643279	.9640609	3.78	0.000	1.705926	5.580632

(est22 stored)

Linear regression	Number of obs	=	593
	F(1, 591)	=	31.20
	Prob > F	=	0.0000
	R-squared	=	0.0415
	Root MSE	=	5.1485

perm_res_rank_p25	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
std_school_exp_pc	1.069906	.1915295	5.59	0.000	.6937448	1.446067
_cons	46.21669	.2114221	218.60	0.000	45.80146	46.63192

(est23 stored)

Linear regression	Number of obs	=	593
	F(1, 49)	=	4.65
	Prob > F	=	0.0360
	R-squared	=	0.0415
	Root MSE	=	5.1485

(Std. Err. adjusted for 50 clusters in state\_id)

		Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
perm_res_rank_p25							
std_school_exp_pc		1.069906	.4963133	2.16	0.036	.0725272	2.067285
_cons		46.21669	.6918178	66.80	0.000	44.82643	47.60695

(est24 stored)

(103 missing values generated)

Linear regression	Number of obs	=	492
	F(1, 490)	=	23.14
	Prob > F	=	0.0000
	R-squared	=	0.0509
	Root MSE	=	12.554

		Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
total_expo~25							
std_dropout_r		-2.903993	.6036374	-4.81	0.000	-4.09003	-1.717955
_cons		3.931227	.5659854	6.95	0.000	2.819169	5.043284

(est25 stored)

Linear regression	Number of obs	=	492
	F(1, 48)	=	8.96
	Prob > F	=	0.0044
	R-squared	=	0.0509
	Root MSE	=	12.554

(Std. Err. adjusted for 49 clusters in state\_id)

		Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
total_expo~25							
std_dropout_r		-2.903993	.970286	-2.99	0.004	-4.854883	-.9531017
_cons		3.931227	1.021164	3.85	0.000	1.878039	5.984414

(est26 stored)

Linear regression	Number of obs	=	492
	F(1, 490)	=	135.58
	Prob > F	=	0.0000
	R-squared	=	0.2601
	Root MSE	=	4.7518

		Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
perm_res_r~25							
std_dropout_r		-2.814557	.2417233	-11.64	0.000	-3.289499	-2.339615
_cons		46.40892	.2142259	216.64	0.000	45.988	46.82983

(est27 stored)

Linear regression	Number of obs	=	492
	F(1, 48)	=	33.84
	Prob > F	=	0.0000
	R-squared	=	0.2601
	Root MSE	=	4.7518

```

-----
                                (Std. Err. adjusted for 49 clusters in state_id)
-----+-----
perm_res_r~25 |              Coef.   Robust      t    P>|t|    [95% Conf. Interval]
-----+-----
std_dropout_r | -2.814557   .4838193   -5.82   0.000   -3.787341   -1.841774
   _cons |  46.40892   .6407587   72.43   0.000   45.12059    47.69725
-----
(est28 stored)

```

```

Linear regression                                Number of obs   =          595
                                                F(1, 593)       =          41.28
                                                Prob > F        =          0.0000
                                                R-squared       =          0.0746
                                                Root MSE       =          11.807

```

```

> --
total_exposure_eff~25 |              Coef.   Robust      t    P>|t|    [95% Conf. Interva
> 1]
-----+-----
> --
std_singleparent_share | -3.34866    .5211854   -6.43   0.000   -4.372253   -2.3250
> 66
   _cons |  3.632374   .484023    7.50   0.000    2.681767    4.5829
> 82
-----
> --
(est29 stored)

```

```

Linear regression                                Number of obs   =          595
                                                F(1, 50)       =          17.24
                                                Prob > F        =          0.0001
                                                R-squared       =          0.0746
                                                Root MSE       =          11.807

```

```

                                (Std. Err. adjusted for 51 clusters in state_i
> d)
-----+-----
total_exposure_eff~25 |              Coef.   Robust      t    P>|t|    [95% Conf. Interva
> 1]
-----+-----
> --
std_singleparent_share | -3.34866    .8064148   -4.15   0.000   -4.968391   -1.7289
> 28
   _cons |  3.632374   .7770793    4.67   0.000    2.071565    5.1931
> 84
-----
> --
(est30 stored)

```

```

Linear regression                                Number of obs   =          595
                                                F(1, 593)       =          658.94
                                                Prob > F        =          0.0000
                                                R-squared       =          0.6480
                                                Root MSE       =          3.1149

```

```

-----+-----
perm_res_rank_p25 |              Coef.   Robust      t    P>|t|    [95% Conf. Interva
> 1]
-----+-----
> --
std_singleparent_share | -4.222561   .1644957  -25.67   0.000   -4.545626   -3.8994
> 96
   _cons |  46.21472   .1276998  361.90   0.000   45.96392    46.465
> 52
-----

```

```

> --
(est31 stored)

Linear regression                                Number of obs   =          595
                                                F(1, 50)         =        112.72
                                                Prob > F          =         0.0000
                                                R-squared        =         0.6480
                                                Root MSE        =         3.1149

                                                (Std. Err. adjusted for 51 clusters in state_i

> d)
-----
> --
perm_res_rank_p25 |          Coef.    Robust      t    P>|t|    [95% Conf. Interva
> 1] -----+-----
> --
std_singleparent_share | -4.222561    .397718   -10.62   0.000   -5.021401   -3.423
> 72
      _cons |    46.21472    .3622047   127.59   0.000    45.48721    46.942
> 23
-----
> --
(est32 stored)

Linear regression                                Number of obs   =          595
                                                F(1, 593)        =         18.83
                                                Prob > F          =         0.0000
                                                R-squared        =         0.0255
                                                Root MSE        =        12.116

-----
> --
total_exposure_eff~25 |          Coef.    Robust      t    P>|t|    [95% Conf. Interva
> 1] -----+-----
> --
std_median_house_value | -1.958456    .4512772    -4.34   0.000   -2.844752   -1.072
> 16
      _cons |    3.632374    .4966882     7.31   0.000    2.656893    4.6078
> 56
-----
> --
(est33 stored)

Linear regression                                Number of obs   =          595
                                                F(1, 50)         =         7.85
                                                Prob > F          =         0.0072
                                                R-squared        =         0.0255
                                                Root MSE        =        12.116

                                                (Std. Err. adjusted for 51 clusters in state_i

> d)
-----
> --
total_exposure_eff~25 |          Coef.    Robust      t    P>|t|    [95% Conf. Interva
> 1] -----+-----
> --
std_median_house_value | -1.958456    .6988367    -2.80   0.007   -3.362111   -.55480
> 13
      _cons |    3.632374    .9884067     3.67   0.001    1.647101    5.6176
> 48
-----
> --
(est34 stored)

```

```

Linear regression
Number of obs      =      595
F(1, 593)          =      6.67
Prob > F            =      0.0100
R-squared           =      0.0101
Root MSE           =      5.2236

```

```

-----
> --
perm_res_rank_p25 |      Coef.      Robust      t      P>|t|      [95% Conf. Interva
> 1] -----+-----
> --
std median_house_value |  -.5259924   .2036163   -2.58   0.010   -.9258891   -.12609
> 56
_cons |    46.21472   .2141458   215.81   0.000   45.79414   46.635
> 29
-----
> --
(est35 stored)

```

```

Linear regression
Number of obs      =      595
F(1, 50)           =      1.66
Prob > F            =      0.2033
R-squared           =      0.0101
Root MSE           =      5.2236

```

```

(Std. Err. adjusted for 51 clusters in state_i)
> d)
-----
> --
perm_res_rank_p25 |      Coef.      Robust      t      P>|t|      [95% Conf. Interva
> 1] -----+-----
> --
std median_house_value |  -.5259924   .407999   -1.29   0.203   -1.345483   .29349
> 78
_cons |    46.21472   .7309131   63.23   0.000   44.74664   47.68
> 28
-----
> --
(est36 stored)

```

```

. esttab using reg.csv, label nostar replace drop(_cons) //esttab: output the restore
> d reg result
(output written to reg.csv)

```

```

.

```