



```

name: <unnamed>
log: /hdir/0/jhaber/Projects/charter_data/sorting-schools-2019/logs/robust_fil
> tibl_mi5_linear_101019.smcl
log type: smcl
opened on: 18 Oct 2019, 12:05:17

1 . *
2 . * 3B. RE-RUN LINEAR MIXED MODELS USING FILTERED DATA: REMOVING HUGE WEBSITE OUTLIERS
3 . *
4 .
5 . mi xeq: drop if inquiry_full_count > 10000

m=0 data:
-> drop if inquiry_full_count > 10000
(2 observations deleted)

m=1 data:
-> drop if inquiry_full_count > 10000
(2 observations deleted)

m=2 data:
-> drop if inquiry_full_count > 10000
(2 observations deleted)

m=3 data:
-> drop if inquiry_full_count > 10000
(2 observations deleted)

m=4 data:
-> drop if inquiry_full_count > 10000
(2 observations deleted)

m=5 data:
-> drop if inquiry_full_count > 10000
(2 observations deleted)

6 .
7 . * PT 1:
8 . * 0. controls only
9 . mi est, dots: mixed inquiry_full_log primary middle high lnage lnstudents urban pctp
> dfs || cmoname: ,

Imputations (5):
..... done

Multiple-imputation estimates
Mixed-effects ML regression

Group variable: cmoname

DF adjustment: Large sample

Model F test: Equal FMI

Imputations = 5
Number of obs = 5,782

Number of groups = 377
Obs per group:
    min = 1
    avg = 15.3
    max = 3,735

Average RVI = 0.0000
Largest FMI = 0.0000
DF: min = .
    avg = .
    max = .
F( 7, . ) = 11.68
Prob > F = 0.0000

```

| inquiry_full_log | Coef. | Std. Err. | t | P> t | [95% Conf. Interval] | |
|------------------|-----------|-----------|-------|-------|----------------------|-----------|
| primary | .0014208 | .0039309 | 0.36 | 0.718 | -.0062835 | .0091252 |
| middle | -.0169357 | .0058751 | -2.88 | 0.004 | -.0284506 | -.0054208 |
| high | -.013106 | .0047089 | -2.78 | 0.005 | -.0223351 | -.0038768 |
| lnage | -.0036657 | .0016232 | -2.26 | 0.024 | -.0068472 | -.0004843 |
| lnstudents | .0096262 | .0016952 | 5.68 | 0.000 | .0063036 | .0129487 |
| urban | .0004637 | .0030814 | 0.15 | 0.880 | -.0055757 | .0065031 |
| pctpdfs | .115662 | .0317715 | 3.64 | 0.000 | .053391 | .177933 |
| _cons | .0624877 | .0115932 | 5.39 | 0.000 | .0397655 | .0852099 |

| Random-effects Parameters | Estimate | Std. Err. | [95% Conf. Interval] | |
|---------------------------|----------|-----------|----------------------|----------|
| cmoname: Identity | | | | |
| sd(_cons) | .076517 | .0043073 | .068524 | .0854424 |
| sd(Residual) | .1076522 | .0010317 | .1056489 | .1096934 |

```
10. * 1. school poverty
11. mi est, dots: mixed inquiry_full_log povertyschool primary middle high lnage lnstudent
> nts urban pctpdfs || cmoname: ,
```

Imputations (5):
..... done

| | | | |
|------------------------------------|------------------|---|------------|
| Multiple-imputation estimates | Imputations | = | 5 |
| Mixed-effects ML regression | Number of obs | = | 5,782 |
| Group variable: cmoname | Number of groups | = | 377 |
| | Obs per group: | | |
| | min | = | 1 |
| | avg | = | 15.3 |
| | max | = | 3,735 |
| | Average RVI | = | 0.0099 |
| | Largest FMI | = | 0.0803 |
| DF adjustment: Large sample | DF: min | = | 666.02 |
| | avg | = | 1338059.40 |
| | max | = | 9206127.75 |
| Model F test: Equal FMI | F(8, 153265.7) | = | 30.24 |
| | Prob > F | = | 0.0000 |

| inquiry_full_log | Coef. | Std. Err. | t | P> t | [95% Conf. Interval] | |
|------------------|-----------|-----------|--------|-------|----------------------|-----------|
| povertyschool | -.0006181 | .0000507 | -12.19 | 0.000 | -.0007177 | -.0005185 |
| primary | .0007688 | .0038806 | 0.20 | 0.843 | -.006837 | .0083747 |
| middle | -.0148142 | .0058005 | -2.55 | 0.011 | -.0261831 | -.0034454 |
| high | -.0133243 | .0046495 | -2.87 | 0.004 | -.0224371 | -.0042115 |
| lnage | -.0033981 | .0016024 | -2.12 | 0.034 | -.0065388 | -.0002574 |
| lnstudents | .0084193 | .0016774 | 5.02 | 0.000 | .0051316 | .011707 |
| urban | .0084679 | .003116 | 2.72 | 0.007 | .0023605 | .0145754 |
| pctpdfs | .1125769 | .0313971 | 3.59 | 0.000 | .0510394 | .1741144 |
| _cons | .1026824 | .011911 | 8.62 | 0.000 | .0793372 | .1260276 |

| Random-effects Parameters | Estimate | Std. Err. | [95% Conf. Interval] | |
|---------------------------|----------|-----------|----------------------|----------|
| cmoname: Identity | | | | |
| sd(_cons) | .0770838 | .0042916 | .0691151 | .0859712 |
| sd(Residual) | .1060899 | .0010194 | .1041106 | .1081068 |

12. * 2. school race
 13. mi est, dots: mixed inquiry_full_log pocschoolprop primary middle high lnage lnstude
 > nts urban pctpdfs || cmoname: ,

Imputations (5):
 done

| | | | |
|------------------------------------|------------------|---|----------|
| Multiple-imputation estimates | Imputations | = | 5 |
| Mixed-effects ML regression | Number of obs | = | 5,782 |
| Group variable: cmoname | Number of groups | = | 377 |
| | Obs per group: | | |
| | min | = | 1 |
| | avg | = | 15.3 |
| | max | = | 3,735 |
| | Average RVI | = | 0.0000 |
| | Largest FMI | = | 0.0000 |
| DF adjustment: Large sample | DF: min | = | 1.58e+60 |
| | avg | = | 2.37e+61 |
| | max | = | . |
| Model F test: Equal FMI | F(8, 3.4e+62) | = | 33.99 |
| | Prob > F | = | 0.0000 |

| inquiry_full_log | Coef. | Std. Err. | t | P> t | [95% Conf. Interval] | |
|------------------|-----------|-----------|--------|-------|----------------------|-----------|
| pocschoolprop | -.0735417 | .0053706 | -13.69 | 0.000 | -.0840678 | -.0630155 |
| primary | .006617 | .003887 | 1.70 | 0.089 | -.0010013 | .0142354 |
| middle | -.0083454 | .0058156 | -1.43 | 0.151 | -.0197438 | .003053 |
| high | -.0075412 | .0046519 | -1.62 | 0.105 | -.0166587 | .0015764 |
| lnage | -.0057802 | .0016049 | -3.60 | 0.000 | -.0089258 | -.0026347 |
| lnstudents | .0129052 | .0016855 | 7.66 | 0.000 | .0096018 | .0162086 |
| urban | .0188113 | .0033152 | 5.67 | 0.000 | .0123136 | .0253089 |
| pctpdfs | .1144227 | .0312671 | 3.66 | 0.000 | .0531403 | .1757051 |
| _cons | .0872679 | .0115577 | 7.55 | 0.000 | .0646151 | .1099206 |

| Random-effects Parameters | Estimate | Std. Err. | [95% Conf. Interval] | |
|---------------------------|----------|-----------|----------------------|----------|
| cmoname: Identity | | | | |
| sd(_cons) | .0756316 | .0042534 | .0677382 | .0844449 |
| sd(Residual) | .1059288 | .0010153 | .1039574 | .1079376 |

14. * 3. school district poverty
 15. mi est, dots: mixed inquiry_full_log povertysd primary middle high lnage lnstudents
 > urban pctpdfs || cmoname: ,

Imputations (5):
 done

| | | | |
|------------------------------------|------------------|---|------------|
| Multiple-imputation estimates | Imputations | = | 5 |
| Mixed-effects ML regression | Number of obs | = | 5,782 |
| Group variable: cmoname | Number of groups | = | 377 |
| | Obs per group: | | |
| | min | = | 1 |
| | avg | = | 15.3 |
| | max | = | 3,735 |
| | Average RVI | = | 0.0005 |
| | Largest FMI | = | 0.0041 |
| DF adjustment: Large sample | DF: min | = | 242,495.21 |
| | avg | = | 1.41e+09 |
| | max | = | 6.69e+09 |
| Model F test: Equal FMI | F(8, 7.6e+07) | = | 21.78 |
| | Prob > F | = | 0.0000 |

| inquiry_full_log | Coef. | Std. Err. | t | P> t | [95% Conf. Interval] | |
|------------------|-----------|-----------|-------|-------|----------------------|-----------|
| povertysd | -.2099805 | .0220083 | -9.54 | 0.000 | -.2531161 | -.1668448 |
| primary | .000972 | .0039 | 0.25 | 0.803 | -.0066718 | .0086158 |
| middle | -.0175813 | .0058288 | -3.02 | 0.003 | -.0290054 | -.0061571 |
| high | -.0122416 | .0046724 | -2.62 | 0.009 | -.0213994 | -.0030838 |
| lnage | -.0034836 | .0016106 | -2.16 | 0.031 | -.0066403 | -.0003268 |
| lnstudents | .0099901 | .0016823 | 5.94 | 0.000 | .0066929 | .0132874 |
| urban | .0115367 | .0032695 | 3.53 | 0.000 | .0051286 | .0179447 |
| pctpdfs | .113554 | .0315191 | 3.60 | 0.000 | .0517778 | .1753302 |
| _cons | .0867546 | .0117995 | 7.35 | 0.000 | .063628 | .1098811 |

| Random-effects Parameters | Estimate | Std. Err. | [95% Conf. Interval] | |
|---------------------------|----------|-----------|----------------------|----------|
| cmoname: Identity | | | | |
| sd(_cons) | .0770462 | .0042864 | .0690868 | .0859226 |
| sd(Residual) | .1067459 | .001023 | .1047596 | .1087698 |

16. * 4. school district race
 17. mi est, dots: mixed inquiry_full_log pocsd primary middle high lnage lnstudents urba
 > n pctpdfs || cmoname: ,

Imputations (5):
 done

Multiple-imputation estimates
 Mixed-effects ML regression

Imputations = 5
 Number of obs = 5,782

Group variable: **cmoname**

Number of groups = 377
 Obs per group:
 min = 1
 avg = 15.3
 max = 3,735

DF adjustment: **Large sample**

Average RVI = 0.0003
 Largest FMI = 0.0031
 DF: min = 417,797.97
 avg = 1.91e+10
 max = 7.78e+10

Model F test: **Equal FMI**

F(8, 1.5e+08) = 11.95
 Prob > F = 0.0000

| inquiry_full_log | Coef. | Std. Err. | t | P> t | [95% Conf. Interval] | |
|------------------|-----------|-----------|-------|-------|----------------------|-----------|
| pocsd | -.0320088 | .0086572 | -3.70 | 0.000 | -.0489766 | -.0150411 |
| primary | .0022392 | .0039325 | 0.57 | 0.569 | -.0054684 | .0099468 |
| middle | -.0154744 | .0058816 | -2.63 | 0.009 | -.0270021 | -.0039468 |
| high | -.0125658 | .0047056 | -2.67 | 0.008 | -.0217887 | -.0033429 |
| lnage | -.0041374 | .0016263 | -2.54 | 0.011 | -.007325 | -.0009498 |
| lnstudents | .0106943 | .0017177 | 6.23 | 0.000 | .0073276 | .014061 |
| urban | .005203 | .0033342 | 1.56 | 0.119 | -.0013319 | .0117378 |
| pctpdfs | .1142222 | .031737 | 3.60 | 0.000 | .0520189 | .1764255 |
| _cons | .0657162 | .0116107 | 5.66 | 0.000 | .0429597 | .0884728 |

| Random-effects Parameters | Estimate | Std. Err. | [95% Conf. Interval] | |
|---------------------------|----------|-----------|----------------------|----------|
| cmoname: Identity | | | | |
| sd(_cons) | .076332 | .0043059 | .0683423 | .0852557 |
| sd(Residual) | .1075303 | .0010306 | .1055291 | .1095693 |

```

18.
19. * PT 2:
20. * 0. controls only
21. mi est, dots: mixed povertyschoolprop primary middle high lnage lnstudents urban ||
    > geodistrict: ,

```

Imputations (5):
..... done

| | | | |
|------------------------------------|------------------|---|-----------|
| Multiple-imputation estimates | Imputations | = | 5 |
| Mixed-effects ML regression | Number of obs | = | 5,782 |
| Group variable: geodistrict | Number of groups | = | 1,481 |
| | Obs per group: | | |
| | min | = | 1 |
| | avg | = | 3.9 |
| | max | = | 251 |
| | Average RVI | = | 0.0675 |
| | Largest FMI | = | 0.1353 |
| DF adjustment: Large sample | DF: min | = | 243.37 |
| | avg | = | 3,182.55 |
| | max | = | 13,333.54 |
| Model F test: Equal FMI | F(6, 3278.0) | = | 10.99 |
| | Prob > F | = | 0.0000 |

| povertyschoolprop | Coef. | Std. Err. | t | P> t | [95% Conf. Interval] | |
|-------------------|-----------|-----------|-------|-------|----------------------|-----------|
| primary | -.0046992 | .0095651 | -0.49 | 0.623 | -.0234795 | .014081 |
| middle | .0323756 | .0140665 | 2.30 | 0.022 | .0047748 | .0599763 |
| high | -.0094568 | .0114294 | -0.83 | 0.408 | -.0319098 | .0129962 |
| lnage | .0014497 | .0040025 | 0.36 | 0.717 | -.0064079 | .0093073 |
| lnstudents | -.0169852 | .0044082 | -3.85 | 0.000 | -.0256684 | -.0083021 |
| urban | .0695266 | .0108721 | 6.39 | 0.000 | .0482152 | .0908381 |
| _cons | .5704851 | .026189 | 21.78 | 0.000 | .51902 | .6219501 |

| Random-effects Parameters | Estimate | Std. Err. | [95% Conf. Interval] | |
|------------------------------|----------|-----------|----------------------|----------|
| geodistrict: Identity | | | | |
| sd(_cons) | .1900764 | .0064047 | .1779279 | .2030543 |
| sd(Residual) | .2390775 | .0026042 | .234023 | .2442413 |

```

22. * 1. IBL
23. mi est, dots: mixed povertyschoolprop inquiry_full_log primary middle high lnage lns
    > tudents urban pctpdfs || geodistrict: ,

```

Imputations (5):
..... done

| | | | |
|------------------------------------|------------------|---|-----------|
| Multiple-imputation estimates | Imputations | = | 5 |
| Mixed-effects ML regression | Number of obs | = | 5,782 |
| Group variable: geodistrict | Number of groups | = | 1,481 |
| | Obs per group: | | |
| | min | = | 1 |
| | avg | = | 3.9 |
| | max | = | 251 |
| | Average RVI | = | 0.0807 |
| | Largest FMI | = | 0.1866 |
| DF adjustment: Large sample | DF: min | = | 131.56 |
| | avg | = | 2,573.35 |
| | max | = | 12,210.99 |
| Model F test: Equal FMI | F(8, 3354.3) | = | 19.98 |
| | Prob > F | = | 0.0000 |

| povertyschoolprop | Coef. | Std. Err. | t | P> t | [95% Conf. Interval] | |
|-------------------|-----------|-----------|-------|-------|----------------------|-----------|
| inquiry_full_log | -.2997598 | .0309707 | -9.68 | 0.000 | -.3605688 | -.2389508 |
| primary | -.0034917 | .0094935 | -0.37 | 0.713 | -.0221318 | .0151484 |
| middle | .0285961 | .0140113 | 2.04 | 0.042 | .0010983 | .0560938 |
| high | -.0119526 | .0113513 | -1.05 | 0.293 | -.0342535 | .0103483 |
| lnage | .0005526 | .0039809 | 0.14 | 0.890 | -.0072641 | .0083692 |
| lnstudents | -.013423 | .0044098 | -3.04 | 0.003 | -.0221159 | -.0047302 |
| urban | .0717768 | .0107491 | 6.68 | 0.000 | .0507064 | .0928472 |
| pctpdfs | .064273 | .0837196 | 0.77 | 0.444 | -.1013377 | .2298838 |
| _cons | .5931248 | .025965 | 22.84 | 0.000 | .5421193 | .6441302 |

| Random-effects Parameters | Estimate | Std. Err. | [95% Conf. Interval] | |
|------------------------------|----------|-----------|----------------------|----------|
| geodistrict: Identity | | | | |
| sd(_cons) | .1855023 | .0063379 | .1734858 | .1983511 |
| sd(Residual) | .2375901 | .0025733 | .2325968 | .2426907 |

24. * 2. academic performance
 25. mi est, dots: mixed povertyschoolprop readall14 mathall14 primary middle high lnage
 > lnstudents urban readlevel14 mathlevel14 || geodistrict: ,

Imputations (5):
 done

Multiple-imputation estimates
 Mixed-effects ML regression

Imputations = 5
 Number of obs = 5,782

Group variable: **geodistrict**

Number of groups = 1,481
 Obs per group:
 min = 1
 avg = 3.9
 max = 251

DF adjustment: **Large sample**

Average RVI = 0.2168
 Largest FMI = 0.3669
 DF: min = 36.13
 avg = 929.73
 max = 6,999.31

Model F test: **Equal FMI**

F(10, 808.3) = 90.89
 Prob > F = 0.0000

| povertyschoolprop | Coef. | Std. Err. | t | P> t | [95% Conf. Interval] | |
|-------------------|-----------|-----------|--------|-------|----------------------|-----------|
| readall14 | -.441271 | .0283747 | -15.55 | 0.000 | -.4977396 | -.3848024 |
| mathall14 | -.0669782 | .0302286 | -2.22 | 0.033 | -.1282773 | -.0056791 |
| primary | .0029693 | .0088408 | 0.34 | 0.737 | -.014383 | .0203217 |
| middle | .0395626 | .0130513 | 3.03 | 0.002 | .0139625 | .0651627 |
| high | .0035954 | .0119084 | 0.30 | 0.764 | -.0202402 | .0274309 |
| lnage | .0083948 | .0039492 | 2.13 | 0.036 | .0005706 | .0162191 |
| lnstudents | .0002115 | .0050767 | 0.04 | 0.967 | -.0098979 | .0103209 |
| urban | .0637911 | .0102164 | 6.24 | 0.000 | .0437432 | .083839 |
| readlevel14 | -.0006152 | .0008488 | -0.72 | 0.469 | -.0022822 | .0010517 |
| mathlevel14 | .0002801 | .0008302 | 0.34 | 0.736 | -.0013513 | .0019114 |
| _cons | .7098757 | .0345972 | 20.52 | 0.000 | .6397892 | .7799621 |

| Random-effects Parameters | Estimate | Std. Err. | [95% Conf. Interval] | |
|------------------------------|----------|-----------|----------------------|----------|
| geodistrict: Identity | | | | |
| sd(_cons) | .1736447 | .0057776 | .1626803 | .185348 |
| sd(Residual) | .2200421 | .0025137 | .2151371 | .2250589 |

26. * 3. fully specified

27. mi est, dots: mixed povertyschoolprop inquiry_full_log readall14 mathall14 primary m
> iddle high lnage lnstudents urban pctpdfs readlevel14 mathlevel14 || geodistrict: ,

Imputations (5):

..... done

Multiple-imputation estimates
Mixed-effects ML regression

Imputations = 5
Number of obs = 5,782

Group variable: **geodistrict**

Number of groups = 1,481
Obs per group:
min = 1
avg = 3.9
max = 251

DF adjustment: **Large sample**

Average RVI = 0.2115
Largest FMI = 0.3738
DF: min = 34.83
avg = 872.10
max = 7,697.76
F(12, 1070.4) = 81.00
Prob > F = 0.0000

| povertyschoolprop | Coef. | Std. Err. | t | P> t | [95% Conf. Interval] | |
|-------------------|-----------|-----------|--------|-------|----------------------|-----------|
| inquiry_full_log | -.207634 | .0295999 | -7.01 | 0.000 | -.265919 | -.1493491 |
| readall14 | -.4215592 | .0286002 | -14.74 | 0.000 | -.4785554 | -.364563 |
| mathall14 | -.0760776 | .0302733 | -2.51 | 0.017 | -.1375461 | -.014609 |
| primary | .0039346 | .0088172 | 0.45 | 0.656 | -.013373 | .0212423 |
| middle | .0366874 | .0130256 | 2.82 | 0.005 | .0111362 | .0622387 |
| high | .0017468 | .0118552 | 0.15 | 0.883 | -.021978 | .0254717 |
| lnage | .0074962 | .0039374 | 1.90 | 0.060 | -.0003059 | .0152982 |
| lnstudents | .0019875 | .0051154 | 0.39 | 0.699 | -.0082239 | .0121988 |
| urban | .0656564 | .0101399 | 6.48 | 0.000 | .045759 | .0855537 |
| pctpdfs | .0524832 | .078801 | 0.67 | 0.507 | -.1039647 | .2089311 |
| readlevel14 | -.000469 | .0008508 | -0.55 | 0.582 | -.0021408 | .0012027 |
| mathlevel14 | .00009 | .0008211 | 0.11 | 0.913 | -.0015222 | .0017022 |
| _cons | .7238504 | .0342995 | 21.10 | 0.000 | .6544853 | .7932155 |

| Random-effects Parameters | Estimate | Std. Err. | [95% Conf. Interval] | |
|------------------------------|----------|-----------|----------------------|----------|
| geodistrict: Identity | | | | |
| sd(_cons) | .1704457 | .0057377 | .1595612 | .1820726 |
| sd(Residual) | .2194481 | .002478 | .2146201 | .2243847 |

28.

29. * PT 3:

30. * 0. controls only

31. mi est, dots: mixed pocschoolprop primary middle high lnage lnstudents urban || stat
> e: || geodistrict: ,

Imputations (5):

..... done

Multiple-imputation estimates
Mixed-effects ML regression

Imputations = 5
Number of obs = 5,782

| Group Variable | No. of Groups | Observations per Group | | |
|--------------------|---------------|------------------------|--------------|--------------|
| | | Minimum | Average | Maximum |
| state | 43 | 2 | 134.5 | 1,054 |
| geodistrict | 1,492 | 1 | 3.9 | 251 |

DF adjustment: **Large sample**

Model F test: **Equal FMI**

Average RVI = 0.0000
 Largest FMI = 0.0000
 DF: min = 9.89e+54
 avg = 2.11e+59
 max = .
 F(6, 5.2e+61) = 39.02
 Prob > F = 0.0000

| pocschoolprop | Coef. | Std. Err. | t | P> t | [95% Conf. Interval] | |
|---------------|-----------|-----------|-------|-------|----------------------|-----------|
| primary | .0447834 | .0072453 | 6.18 | 0.000 | .030583 | .0589839 |
| middle | .07038 | .0106594 | 6.60 | 0.000 | .0494879 | .091272 |
| high | .0565953 | .0086055 | 6.58 | 0.000 | .0397289 | .0734617 |
| lnage | -.0159265 | .0030611 | -5.20 | 0.000 | -.021926 | -.0099269 |
| lnstudents | .0047704 | .0033672 | 1.42 | 0.157 | -.0018292 | .01137 |
| urban | .107379 | .0091921 | 11.68 | 0.000 | .0893628 | .1253951 |
| _cons | .4321475 | .0352811 | 12.25 | 0.000 | .3629978 | .5012972 |

| Random-effects Parameters | | Estimate | Std. Err. | [95% Conf. Interval] | |
|------------------------------|--------------|----------|-----------|----------------------|----------|
| state: Identity | sd(_cons) | .1744768 | .0227591 | .1351154 | .2253047 |
| geodistrict: Identity | sd(_cons) | .2001161 | .0056404 | .1893609 | .2114822 |
| | sd(Residual) | .1823402 | .0019662 | .178527 | .1862349 |

32. * 1. IBL

33. mi est, dots: mixed pocschoolprop inquiry_full_log primary middle high lnage lnstude
 > nts urban pctpdfs || state: || geodistrict: ,

Imputations (5):
 done

Multiple-imputation estimates Imputations = 5
 Mixed-effects ML regression Number of obs = 5,782

| Group Variable | No. of Groups | Observations per Group | | |
|--------------------|---------------|------------------------|--------------|--------------|
| | | Minimum | Average | Maximum |
| state | 43 | 2 | 134.5 | 1,054 |
| geodistrict | 1,492 | 1 | 3.9 | 251 |

DF adjustment: **Large sample**

Model F test: **Equal FMI**

Average RVI = 0.0000
 Largest FMI = 0.0000
 DF: min = 9.93e+54
 avg = 9.25e+58
 max = .
 F(8, .) = 49.67
 Prob > F = 0.0000

| pocschoolprop | Coef. | Std. Err. | t | P> t | [95% Conf. Interval] | |
|------------------|-----------|-----------|--------|-------|----------------------|-----------|
| inquiry_full_log | -.2935465 | .023341 | -12.58 | 0.000 | -.339294 | -.2477991 |
| primary | .045575 | .0071412 | 6.38 | 0.000 | .0315784 | .0595716 |
| middle | .0662904 | .0105104 | 6.31 | 0.000 | .0456903 | .0868904 |
| high | .0541844 | .0084831 | 6.39 | 0.000 | .0375579 | .070811 |
| lnage | -.0166572 | .0030177 | -5.52 | 0.000 | -.0225719 | -.0107425 |
| lnstudents | .0080898 | .0033314 | 2.43 | 0.015 | .0015604 | .0146192 |
| urban | .1096119 | .0090808 | 12.07 | 0.000 | .0918138 | .12741 |
| pctpdfs | .1043556 | .060157 | 1.73 | 0.083 | -.0135499 | .222261 |
| _cons | .4565351 | .0348741 | 13.09 | 0.000 | .3881831 | .524887 |

| Random-effects Parameters | Estimate | Std. Err. | [95% Conf. Interval] | |
|---|-----------------|-----------------|----------------------|-----------------|
| state: Identity sd(_cons) | .1721472 | .0224813 | .1332719 | .2223623 |
| geodistrict: Identity sd(_cons) | .1992303 | .0055975 | .188556 | .2105088 |
| sd(Residual) | .1795483 | .0019382 | .1757893 | .1833876 |

34. * 2. academic performance

```
35. mi est, dots: mixed pcoschoolprop readall14 mathall14 primary middle high lnage linst
> uidents urban readlevel14 mathlevel14 || state: || geodistrict: ,
```

Imputations (5):

```

..... done

```

Multiple-imputation estimates

Mixed-effects ML regression

Imputations

=

5

Number of obs

—

5,782

| Group Variable | No. of Groups | Observations per Minimum | Group Average | Group Maximum |
|----------------|---------------|--------------------------|---------------|---------------|
| state | 43 | 2 | 134.5 | 1,054 |
| geodistrict | 1,492 | 1 | 3.9 | 251 |

DF adjustment: **Large sample**

Average RVI

=

0.0993

Largest FMI

$$=$$

0.3269

DF: min

=

45.14

avg

=

, 618.01

$$\max$$

=

, 120.57

$$F(10, 2282.2)$$
$$=$$

106.89

| pocschoolprop | Coef. | Std. Err. | t | P> t | [95% Conf. Interval] | |
|---------------|-----------|-----------|--------|-------|----------------------|-----------|
| readall14 | -.3428402 | .0206077 | -16.64 | 0.000 | -.3832827 | -.3023976 |
| mathall14 | -.0486795 | .0223289 | -2.18 | 0.032 | -.0929925 | -.0043666 |
| primary | .0516206 | .0067667 | 7.63 | 0.000 | .0383581 | .0648831 |
| middle | .0791064 | .0100025 | 7.91 | 0.000 | .0595019 | .098711 |
| high | .0649068 | .0082906 | 7.83 | 0.000 | .0486483 | .0811652 |
| lnage | -.0091138 | .0029448 | -3.09 | 0.002 | -.0148932 | -.0033344 |
| lnstudents | .0233617 | .0036721 | 6.36 | 0.000 | .0161637 | .0305596 |
| urban | .0991678 | .0085973 | 11.53 | 0.000 | .0823164 | .1160191 |
| readlevel14 | .0008444 | .0007699 | 1.10 | 0.279 | -.0007062 | .0023949 |
| mathlevel14 | -.0003777 | .0006879 | -0.55 | 0.584 | -.0017383 | .000983 |
| _cons | .5002148 | .0364508 | 13.72 | 0.000 | .4287668 | .5716628 |

| Random-effects Parameters | Estimate | Std. Err. | [95% Conf. Interval] | |
|---|-----------------|-----------------|----------------------|-----------------|
| state: Identity sd(_cons) | .1697966 | .0217354 | .1321195 | .2182182 |
| geodistrict: Identity sd(_cons) | .1887276 | .0053648 | .1785 | .1995413 |
| sd(Residual) | .1683435 | .0018297 | .1647953 | .1719681 |

36. * 3. fully specified

37. mi est, dots: mixed pocschoolprop inquiry_full_log readall14 mathall14 primary middl
> e high lnage lnstudents urban pctpdfs readlevel14 mathlevel14 || state: || geodistri
> ct: ,

Imputations (5):
..... done

Multiple-imputation estimates Imputations = 5
Mixed-effects ML regression Number of obs = 5,782

| Group Variable | No. of Groups | Observations per Group | | |
|--------------------|---------------|------------------------|--------------|--------------|
| | | Minimum | Average | Maximum |
| state | 43 | 2 | 134.5 | 1,054 |
| geodistrict | 1,492 | 1 | 3.9 | 251 |

DF adjustment: **Large sample** Average RVI = 0.0891
 Largest FMI = 0.3422
 DF: min = 41.32
 avg = 117,182.06
 max = 734,462.58
Model F test: **Equal FMI** F(12, 3722.1) = 99.59
 Prob > F = 0.0000

| pocschoolprop | Coef. | Std. Err. | t | P> t | [95% Conf. Interval] | |
|------------------|-----------|-----------|--------|-------|----------------------|-----------|
| inquiry_full_log | -.2180778 | .0219693 | -9.93 | 0.000 | -.2611377 | -.175018 |
| readall14 | -.321757 | .0207186 | -15.53 | 0.000 | -.3624485 | -.2810655 |
| mathall14 | -.0564829 | .0223934 | -2.52 | 0.014 | -.1010303 | -.0119354 |
| primary | .0521162 | .0067013 | 7.78 | 0.000 | .0389819 | .0652506 |
| middle | .0754894 | .0099113 | 7.62 | 0.000 | .0560637 | .0949152 |
| high | .0628306 | .0081945 | 7.67 | 0.000 | .0467624 | .0788987 |
| lnage | -.0099412 | .002916 | -3.41 | 0.001 | -.0156637 | -.0042187 |
| lnstudents | .0249094 | .0036375 | 6.85 | 0.000 | .0177794 | .0320394 |
| urban | .1009496 | .0085308 | 11.83 | 0.000 | .0842287 | .1176705 |
| pctpdfs | .1003638 | .0563721 | 1.78 | 0.075 | -.0101307 | .2108583 |
| readlevel14 | .0009482 | .0007701 | 1.23 | 0.225 | -.0006066 | .0025031 |
| mathlevel14 | -.0005329 | .0006828 | -0.78 | 0.436 | -.0018838 | .000818 |
| _cons | .5169139 | .0361686 | 14.29 | 0.000 | .4460193 | .5878085 |

| Random-effects Parameters | | Estimate | Std. Err. | [95% Conf. Interval] | |
|------------------------------|--------------|----------|-----------|----------------------|----------|
| state: Identity | | | | | |
| | sd(_cons) | .1682425 | .0215714 | .1308569 | .2163089 |
| geodistrict: Identity | | | | | |
| | sd(_cons) | .1887309 | .005338 | .1785531 | .1994889 |
| | sd(Residual) | .1665992 | .0018111 | .163087 | .170187 |

38.

39. log close
 name: <unnamed>
 log: /hdir/0/jhaber/Projects/charter_data/sorting-schools-2019/logs/robust_fil
> tibl_mi5_linear_101019.smcl
 log type: smcl
 closed on: 18 Oct 2019, 12:08:23