Statistics/Data Analysis

```
      name:  <unnamed>
       log:  /hdir/0/jhaber/Projects/charter_data/sorting-schools-2019/logs/results_2_
> schpov_mi100_linear_100919.smcl
  log type:  smcl
 opened on:   9 Oct 2019, 22:06:48

1 . ** ------------------------------------------------------
2 . ** MIXED-EFFECTS LINEAR MODELS PT 2: IBL, ACADEMICS -> POVERTY
3 . ** ------------------------------------------------------
4 .
5 . * Sequence of models:
6 . * 0. controls only
7 . * 1. IBL
8 . * 2. academic performance
9 . * 3. fully specified
10.
11. * 0. controls only
12. mi xeq 1 / 5: mixed povertyschoolprop primary middle high lnage lnstudents urban ||
  > geodistrict: ,

  m=1 data:
  -> mixed povertyschoolprop primary middle high lnage lnstudents urban || geodistrict:
  > ,

  Performing EM optimization:

  Performing gradient-based optimization:

  Iteration 0:   log likelihood = -580.98404
  Iteration 1:   log likelihood = -580.98366
  Iteration 2:   log likelihood = -580.98366

  Computing standard errors:

  Mixed-effects ML regression                     Number of obs     =      5,881
  Group variable: geodistrict                     Number of groups  =      1,496

                                                  Obs per group:
                                                                min =          1
                                                                avg =        3.9
                                                                max =        256

                                                  Wald chi2(6)      =      74.15
  Log likelihood = -580.98366                     Prob > chi2       =     0.0000
```

povertyschoolprop	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
primary	-.0021959	.0090825	-0.24	0.809	-.0199973	.0156055
middle	.0317449	.0134844	2.35	0.019	.005316	.0581738
high	-.0119256	.0108073	-1.10	0.270	-.0331076	.0092564
lnage	.0037381	.0038122	0.98	0.327	-.0037336	.0112099
lnstudents	-.0205375	.0040673	-5.05	0.000	-.0285092	-.0125657
urban	.0654326	.0106342	6.15	0.000	.0445899	.0862753
_cons	.587488	.0246387	23.84	0.000	.539197	.6357789

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
geodistrict: Identity				
var(_cons)	.036156	.0023825	.0317754	.0411405
var(Residual)	.0567556	.0011902	.0544701	.0591369

```
  LR test vs. linear model: chibar2(01) = 1926.31       Prob >= chibar2 = 0.0000

  m=2 data:
  -> mixed povertyschoolprop primary middle high lnage lnstudents urban || geodistrict:
  > ,
```

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0: log likelihood = **-634.85357**
Iteration 1: log likelihood = **-634.85306**
Iteration 2: log likelihood = **-634.85306**

Computing standard errors:

Mixed-effects ML regression — Number of obs = **5,881**
Group variable: **geodistrict** — Number of groups = **1,496**

Obs per group:
min = **1**
avg = **3.9**
max = **256**

Wald chi2(**6**) = **73.45**
Log likelihood = **-634.85306** — Prob > chi2 = **0.0000**

povertyschoolprop	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
primary	**-.0064127**	**.0091749**	**-0.70**	**0.485**	**-.0243951**	**.0115696**
middle	**.0274484**	**.0136275**	**2.01**	**0.044**	**.000739**	**.0541578**
high	**-.0131818**	**.0109175**	**-1.21**	**0.227**	**-.0345798**	**.0082162**
lnage	**.0032762**	**.0038501**	**0.85**	**0.395**	**-.0042699**	**.0108223**
lnstudents	**-.0184064**	**.0041044**	**-4.48**	**0.000**	**-.026451**	**-.0103619**
urban	**.0710745**	**.0106966**	**6.64**	**0.000**	**.0501095**	**.0920395**
_cons	**.5752152**	**.0248565**	**23.14**	**0.000**	**.5264974**	**.623933**

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
geodistrict: Identity var(_cons)	**.0355653**	**.002371**	**.031209**	**.0405297**
var(Residual)	**.0581202**	**.0012171**	**.0557831**	**.0605552**

LR test vs. linear model: chibar2(01) = **1860.80** Prob >= chibar2 = **0.0000**

m=3 data:
-> **mixed povertyschoolprop primary middle high lnage lnstudents urban || geodistrict:**
> ,

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0: log likelihood = **-585.5238**
Iteration 1: log likelihood = **-585.52338**
Iteration 2: log likelihood = **-585.52338**

Computing standard errors:

Mixed-effects ML regression — Number of obs = **5,881**
Group variable: **geodistrict** — Number of groups = **1,496**

Obs per group:
min = **1**
avg = **3.9**
max = **256**

Wald chi2(**6**) = **63.56**
Log likelihood = **-585.52338** — Prob > chi2 = **0.0000**

povertyschoolprop	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
primary	-.0038633	.0090879	-0.43	0.671	-.0216753	.0139487
middle	.0280978	.0134914	2.08	0.037	.0016552	.0545404
high	-.0083572	.0108138	-0.77	0.440	-.0295518	.0128374
lnage	.0009637	.0038146	0.25	0.801	-.0065129	.0084402
lnstudents	-.0168387	.0040705	-4.14	0.000	-.0248167	-.0088607
urban	.0646376	.0106486	6.07	0.000	.0437667	.0855085
_cons	.5713883	.0246593	23.17	0.000	.523057	.6197195

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
geodistrict: Identity var(_cons)	.0364346	.0024087	.0320067	.041475
var(Residual)	.0567882	.0011928	.0544979	.0591748

LR test vs. linear model: chibar2(01) = **1926.44** Prob >= chibar2 = **0.0000**

m=4 data:
-> **mixed povertyschoolprop primary middle high lnage lnstudents urban || geodistrict:**
> ,

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0: log likelihood = **-621.49656**
Iteration 1: log likelihood = **-621.4961**
Iteration 2: log likelihood = **-621.4961**

Computing standard errors:

Mixed-effects ML regression — Number of obs = **5,881**
Group variable: **geodistrict** — Number of groups = **1,496**

Obs per group:
min = **1**
avg = **3.9**
max = **256**

Wald chi2(**6**) = **65.94**
Log likelihood = **-621.4961** — Prob > chi2 = **0.0000**

povertyschoolprop	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
primary	-.00278	.0091476	-0.30	0.761	-.020709	.015149
middle	.0360891	.0135826	2.66	0.008	.0094677	.0627106
high	-.0077249	.0108849	-0.71	0.478	-.0290589	.0136091
lnage	.0024847	.0038393	0.65	0.518	-.0050402	.0100096
lnstudents	-.0144478	.0040954	-3.53	0.000	-.0224746	-.0064211
urban	.0680181	.0106985	6.36	0.000	.0470495	.0889867
_cons	.5539536	.0248067	22.33	0.000	.5053334	.6025738

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
geodistrict: Identity var(_cons)	.036323	.0024101	.0318936	.0413677
var(Residual)	.0576261	.0012092	.0553042	.0600454

LR test vs. linear model: chibar2(01) = **1879.75** Prob >= chibar2 = **0.0000**

m=5 data:
-> **mixed povertyschoolprop primary middle high lnage lnstudents urban || geodistrict:**
> **,**

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0: log likelihood = **-593.82619**
Iteration 1: log likelihood = **-593.82584**
Iteration 2: log likelihood = **-593.82584**

Computing standard errors:

Mixed-effects ML regression — Number of obs = **5,881**
Group variable: **geodistrict** — Number of groups = **1,496**

Obs per group:
min = **1**
avg = **3.9**
max = **256**

Wald chi2(**6**) = **65.00**
Log likelihood = **-593.82584** — Prob > chi2 = **0.0000**

povertyschoolprop	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
primary	**-.0053842**	**.0091007**	**-0.59**	**0.554**	**-.0232214**	**.0124529**
middle	**.0352022**	**.0135104**	**2.61**	**0.009**	**.0087223**	**.061682**
high	**-.0123192**	**.010829**	**-1.14**	**0.255**	**-.0335436**	**.0089053**
lnage	**.0038455**	**.00382**	**1.01**	**0.314**	**-.0036416**	**.0113326**
lnstudents	**-.0158682**	**.0040762**	**-3.89**	**0.000**	**-.0238574**	**-.0078789**
urban	**.0637547**	**.0106637**	**5.98**	**0.000**	**.0428541**	**.0846552**
_cons	**.561066**	**.0246941**	**22.72**	**0.000**	**.5126664**	**.6094656**

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
geodistrict: Identity var(_cons)	**.0365414**	**.0024012**	**.0321256**	**.0415641**
var(Residual)	**.0569478**	**.0011943**	**.0546544**	**.0593375**

LR test vs. linear model: chibar2(01) = **1921.79** Prob >= chibar2 = **0.0000**

13. mi est, dots post: mixed povertyschoolprop primary middle high lnage lnstudents urba
> n || geodistrict: ,

Imputations (**100**):
.....10.....20.....30.....40.....50.....60.....70.....
> ..80.....90.....100 done

Multiple-imputation estimates — Imputations = **100**
Mixed-effects ML regression — Number of obs = **5,881**

Group variable: **geodistrict** — Number of groups = **1,496**
Obs per group:
min = **1**
avg = **3.9**
max = **256**
Average RVI = **0.0896**
Largest FMI = **0.1769**
DF adjustment: **Large sample** — DF: min = **3,183.48**
avg = **18,127.23**
max = **41,576.83**
Model F test: **Equal FMI** — F(**6**,**90901.7**) = **10.37**
Prob > F = **0.0000**

povertyschoolprop	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
primary	-.0052407	.0094803	-0.55	0.580	-.0238231	.0133418
middle	.0311166	.0139993	2.22	0.026	.0036768	.0585564
high	-.0111443	.0111852	-1.00	0.319	-.0330679	.0107793
lnage	.0024215	.0040073	0.60	0.546	-.0054335	.0102765
lnstudents	-.0172652	.0044156	-3.91	0.000	-.025922	-.0086084
urban	.0658969	.0109599	6.01	0.000	.0444152	.0873787
_cons	.5719917	.0265914	21.51	0.000	.5198614	.6241219

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
geodistrict: Identity sd(_cons)	.1904913	.0064523	.1782553	.2035672
sd(Residual)	.2387808	.0027602	.2334297	.2442545

14. est store pov0

15. ereturn list

scalars:

```
            e(small) =  0
         e(nrgroups) =  1
             e(ll_c) =  .
             e(k_rs) =  2
                e(N) =  5881
             e(df_c) =  .
             e(k_rc) =  0
               e(rc) =  0
                e(k) =  9
            e(k_res) =  0
        e(converged) =  1
        e(se_failed) =  0
              e(k_r) =  2
               e(ll) =  .
            e(mecmd) =  0
          e(chi2_c) =  .
               e(ic) =  2
         e(nostderr) =  0
             e(df_m) =  .
                e(p) =  .
              e(p_c) =  .
              e(k_f) =  7
             e(rank) =  .
             e(chi2) =  .
      e(_dfnote_mi) =  0
      e(mcerror_mi) =  0
        e(N_min_mi) =  5881
        e(N_max_mi) =  5881
      e(cilevel_mi) =  95
        e(k_exp_mi) =  0
    e(reparm_rc_mi) =  .
   e(k_eq_model_mi) =  3
       e(caller_mi) =  15.1
       e(df_min_mi) =  3183.478775474186
       e(df_avg_mi) =  18127.23336646008
       e(df_max_mi) =  41576.82816838568
      e(fmi_max_mi) =  .1768633758756434
      e(rvi_avg_mi) =  .0896089128273083
            e(p_mi) =  1.59985197549e-11
        e(ufmi_mi) =  0
     e(rvi_avg_F_mi) =  .0873301156608738
            e(F_mi) =  10.3714300236157
        e(df_m_mi) =  6
        e(df_r_mi) =  90901.71111264499
        e(df_c_mi) =  .
           e(N_mi) =  5881
```

```
              e(M_mi) =  100
       e(esampvary_mi) =  0

macros:
                 e(cmd) : "mixed"
         e(rstructure) : "independent"
         e(rstructlab) : "Independent"
              e(iccok) : "ok"
              e(redim) : "1"
          e(optmetric) : "matsqrt"
  e(datasignaturevars) : "povertyschoolprop primary middle high lnage lnstudents urban
>  g.."
            e(vartypes) : "Identity"
               e(title) : "Mixed-effects ML regression"
           e(stripe_se) : "povertyschoolprop:primary povertyschoolprop:middle povertysc
> ho.."
            e(chi2type) : "Wald"
           e(ml_method) : "d0"
              e(depvar) : "povertyschoolprop"
                 e(opt) : "moptimize"
            e(crittype) : "log likelihood"
              e(revars) : "_cons"
               e(ivars) : "geodistrict"
              e(method) : "ML"
           e(technique) : "nr"
             e(cmdline) : "mixed povertyschoolprop primary middle high lnage lnstudents
>  u.."
       e(names_vvl_mi) : "datasignature"
       e(names_vvs_mi) : "p chi2_c ll ll_c chi2"
       e(names_vvm_mi) : "b_sd se_sd V_sd"
              e(m_mi) : "1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
> 24.."
           e(m_est_mi) : "1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
> 24.."
              e(rc_mi) : "0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
> 0 .."
        e(dfadjust_mi) : "Large sample"
       e(modeltest_mi) : "Equal FMI"
           e(title_mi) : "Multiple-imputation estimates"
          e(prefix_mi) : "mi estimate"
             e(cmd_mi) : "mixed"
            e(ecmd_mi) : "mixed"
                e(mi) : "mi"
         e(cmdline_mi) : "mi estimate , dots post: mixed povertyschoolprop primary mid
> dl.."
       e(_sortseed_mi) : "647334601XZA112210f4b16c1cb10507a1f38cb440c40003c9a83566fa12
> 01.."
    e(_sortseedcmd_mi) : "899302553XZA112210f4b16c1cb10507a1f38cb440c40003c9a83566fa12
> 01.."
         e(properties) : "b V"

matrices:
                  e(b) :  1 x 9
                  e(V) :  9 x 9
               e(b_sd) :  1 x 1
             e(noomit) :  1 x 7
           e(b_pclass) :  1 x 9
              e(g_min) :  1 x 1
              e(se_sd) :  1 x 1
              e(g_max) :  1 x 1
              e(g_avg) :  1 x 1
                e(N_g) :  1 x 1
               e(V_sd) :  1 x 1
              e(re_mi) :  1 x 9
             e(fmi_mi) :  1 x 9
            e(pise_mi) :  1 x 9
             e(rvi_mi) :  1 x 9
              e(df_mi) :  1 x 9
               e(W_mi) :  9 x 9
               e(B_mi) :  9 x 9
               e(V_mi) :  9 x 9
               e(b_mi) :  1 x 9
```

```
            e(N_g_mi) :  1 x 1
          e(g_min_mi) :  1 x 1
          e(g_avg_mi) :  1 x 1
          e(g_max_mi) :  1 x 1

16. est save "model_estimates/2a_schpov_controls_mi100_linear.ster", replace
  (note: file model_estimates/2a_schpov_controls_mi100_linear.ster not found)
  file model_estimates/2a_schpov_controls_mi100_linear.ster saved

17. outreg2 using "tables/2a_schpov_controls_mi100_linear.rtf", replace word label oneco
  > l addstat(Log-Likelihood, e(ll), chi-square test, r(chi2), F-test, e(p), Prob > F, r
  > (p), R-squared, e(r2)) ///
  > alpha(.001, .01, .05) symbol(***, **, *) ///
  > addnote("", "Sources: American Community Survey 2012-16 (U.S. Census Bureau 2018), C
  > ommon Core of Data 2015-16 (NCES 2018), EdFacts Achievement Results for State Assess
  > ments (USDE 2018), and the author's data collection.") ///
  > title("TABLE 3", "Mixed Effects Models: Effects of IBL Emphasis and Academic Profici
  > ency on Number of Poor Students") ///
  > ctitle("M0: Controls only")
  (note: file tables/2a_schpov_controls_mi100_linear.rtf not found)
  tables/2a_schpov_controls_mi100_linear.rtf
  seeout

18.
19. * 1. IBL
20. mi xeq 1 / 5: mixed povertyschoolprop inquiry_full_log primary middle high lnage lns
  > tudents urban pctpdfs || geodistrict: ,

  m=1 data:
  -> mixed povertyschoolprop inquiry_full_log primary middle high lnage lnstudents urban
  >  pctpdfs || geodistrict: ,

  Performing EM optimization:

  Performing gradient-based optimization:

  Iteration 0:   log likelihood = -533.50685
  Iteration 1:   log likelihood = -533.50632
  Iteration 2:   log likelihood = -533.50632

  Computing standard errors:

  Mixed-effects ML regression                     Number of obs     =      5,881
  Group variable: geodistrict                     Number of groups  =      1,496

                                                  Obs per group:
                                                                min =          1
                                                                avg =        3.9
                                                                max =        256

                                                  Wald chi2(8)      =     172.24
  Log likelihood = -533.50632                     Prob > chi2       =     0.0000
```

povertyschoolprop	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
inquiry_full_log	-.2868954	.0293085	-9.79	0.000	-.3443391	-.2294518
primary	-.0015215	.0090176	-0.17	0.866	-.0191957	.0161527
middle	.0278296	.0134034	2.08	0.038	.0015594	.0540998
high	-.0144142	.0107329	-1.34	0.179	-.0354502	.0066219
lnage	.0028083	.0037854	0.74	0.458	-.0046109	.0102274
lnstudents	-.0171279	.0040491	-4.23	0.000	-.0250641	-.0091918
urban	.0679647	.0105201	6.46	0.000	.0473457	.0885837
pctpdfs	.073254	.0758709	0.97	0.334	-.0754502	.2219583
_cons	.6087301	.0245332	24.81	0.000	.560646	.6568142

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
geodistrict: Identity				
var(_cons)	**.0345095**	**.0023048**	**.0302753**	**.0393358**
var(Residual)	**.0561135**	**.0011762**	**.0538549**	**.0584668**

LR test vs. linear model: chibar2(01) = **1863.58** Prob >= chibar2 = **0.0000**

m=2 data:
-> **mixed povertyschoolprop inquiry_full_log primary middle high lnage lnstudents urban**
> pctpdfs || geodistrict: ,

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0: log likelihood = **-589.97881**
Iteration 1: log likelihood = **-589.9781**
Iteration 2: log likelihood = **-589.9781**

Computing standard errors:

Mixed-effects ML regression — Number of obs = **5,881**
Group variable: **geodistrict** — Number of groups = **1,496**

Obs per group:
min = **1**
avg = **3.9**
max = **256**

Wald chi2(**8**) = **166.43**
Log likelihood = **-589.9781** — Prob > chi2 = **0.0000**

povertyschoolprop	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
inquiry_full_log	**-.2817709**	**.0296175**	**-9.51**	**0.000**	**-.33982**	**-.2237217**
primary	**-.0057361**	**.0091135**	**-0.63**	**0.529**	**-.0235982**	**.012126**
middle	**.0235788**	**.0135521**	**1.74**	**0.082**	**-.0029827**	**.0501404**
high	**-.015622**	**.0108473**	**-1.44**	**0.150**	**-.0368823**	**.0056382**
lnage	**.0023518**	**.0038247**	**0.61**	**0.539**	**-.0051445**	**.0098481**
lnstudents	**-.0150602**	**.0040878**	**-3.68**	**0.000**	**-.0230721**	**-.0070482**
urban	**.0735682**	**.010584**	**6.95**	**0.000**	**.052824**	**.0943124**
pctpdfs	**.0771172**	**.0766369**	**1.01**	**0.314**	**-.0730884**	**.2273229**
_cons	**.5960739**	**.0247604**	**24.07**	**0.000**	**.5475445**	**.6446033**

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
geodistrict: Identity				
var(_cons)	**.0339105**	**.0022918**	**.0297034**	**.0387135**
var(Residual)	**.0575252**	**.0012037**	**.0552136**	**.0599335**

LR test vs. linear model: chibar2(01) = **1800.02** Prob >= chibar2 = **0.0000**

m=3 data:
-> **mixed povertyschoolprop inquiry_full_log primary middle high lnage lnstudents urban**
> pctpdfs || geodistrict: ,

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0: log likelihood = **-537.66122**
Iteration 1: log likelihood = **-537.66065**
Iteration 2: log likelihood = **-537.66065**

Computing standard errors:

Mixed-effects ML regression — Number of obs = **5,881**
Group variable: **geodistrict** — Number of groups = **1,496**

Obs per group:
min = **1**
avg = **3.9**
max = **256**

Wald chi2(**8**) = **162.32**
Log likelihood = **-537.66065** — Prob > chi2 = **0.0000**

povertyschoolprop	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
inquiry_full_log	**-.2880482**	**.0293238**	**-9.82**	**0.000**	**-.3455219**	**-.2305746**
primary	**-.0031493**	**.0090222**	**-0.35**	**0.727**	**-.0208324**	**.0145338**
middle	**.0241449**	**.0134089**	**1.80**	**0.072**	**-.0021361**	**.050426**
high	**-.0108387**	**.0107382**	**-1.01**	**0.313**	**-.0318852**	**.0102078**
lnage	**.0000315**	**.0037875**	**0.01**	**0.993**	**-.0073917**	**.0074548**
lnstudents	**-.0134295**	**.004052**	**-3.31**	**0.001**	**-.0213713**	**-.0054876**
urban	**.0671904**	**.010535**	**6.38**	**0.000**	**.0465423**	**.0878386**
pctpdfs	**.0816611**	**.0759173**	**1.08**	**0.282**	**-.067134**	**.2304563**
_cons	**.5927188**	**.0245524**	**24.14**	**0.000**	**.544597**	**.6408405**

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
geodistrict: Identity var(_cons)	**.034815**	**.0023303**	**.0305346**	**.0396954**
var(Residual)	**.0561282**	**.0011782**	**.0538658**	**.0584856**

LR test vs. linear model: chibar2(01) = **1867.41** Prob >= chibar2 = **0.0000**

m=4 data:
-> **mixed povertyschoolprop inquiry_full_log primary middle high lnage lnstudents urban**
> pctpdfs || geodistrict: ,

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0: log likelihood = **-577.51574**
Iteration 1: log likelihood = **-577.51513**
Iteration 2: log likelihood = **-577.51513**

Computing standard errors:

Mixed-effects ML regression — Number of obs = **5,881**
Group variable: **geodistrict** — Number of groups = **1,496**

Obs per group:
min = **1**
avg = **3.9**
max = **256**

Wald chi2(**8**) = **156.69**
Log likelihood = **-577.51513** — Prob > chi2 = **0.0000**

povertyschoolprop	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
inquiry_full_log	**-.2782163**	**.0295333**	**-9.42**	**0.000**	**-.3361004**	**-.2203321**
primary	**-.0021262**	**.0090869**	**-0.23**	**0.815**	**-.0199361**	**.0156838**
middle	**.0323253**	**.0135075**	**2.39**	**0.017**	**.0058511**	**.0587994**
high	**-.0101343**	**.0108154**	**-0.94**	**0.349**	**-.031332**	**.0110635**
lnage	**.0015952**	**.0038143**	**0.42**	**0.676**	**-.0058807**	**.0090711**
lnstudents	**-.0111503**	**.0040795**	**-2.73**	**0.006**	**-.0191459**	**-.0031546**
urban	**.070406**	**.0105927**	**6.65**	**0.000**	**.0496448**	**.0911672**
pctpdfs	**.0635646**	**.0764469**	**0.83**	**0.406**	**-.0862686**	**.2133978**
_cons	**.5746368**	**.0247158**	**23.25**	**0.000**	**.5261946**	**.6230789**

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
geodistrict: Identity var(_cons)	**.0348086**	**.0023377**	**.0305156**	**.0397057**
var(Residual)	**.0570156**	**.0011958**	**.0547194**	**.0594081**

LR test vs. linear model: chibar2(01) = **1823.21** Prob >= chibar2 = **0.0000**

m=5 data:
-> **mixed povertyschoolprop inquiry_full_log primary middle high lnage lnstudents urban**
> pctpdfs || geodistrict: ,

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0: log likelihood = **-547.90202**
Iteration 1: log likelihood = **-547.90154**
Iteration 2: log likelihood = **-547.90154**

Computing standard errors:

Mixed-effects ML regression — Number of obs = **5,881**
Group variable: **geodistrict** — Number of groups = **1,496**

Obs per group:
min = **1**
avg = **3.9**
max = **256**

Wald chi2(**8**) = **159.75**
Log likelihood = **-547.90154** — Prob > chi2 = **0.0000**

povertyschoolprop	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
inquiry_full_log	**-.2828943**	**.0293749**	**-9.63**	**0.000**	**-.340468**	**-.2253207**
primary	**-.0047152**	**.0090378**	**-0.52**	**0.602**	**-.0224291**	**.0129986**
middle	**.0314093**	**.0134322**	**2.34**	**0.019**	**.0050826**	**.057736**
high	**-.0147556**	**.0107569**	**-1.37**	**0.170**	**-.0358387**	**.0063276**
lnage	**.0029387**	**.003794**	**0.77**	**0.439**	**-.0044975**	**.0103749**
lnstudents	**-.0125164**	**.0040591**	**-3.08**	**0.002**	**-.0204721**	**-.0045607**
urban	**.0662716**	**.0105535**	**6.28**	**0.000**	**.0455872**	**.086956**
pctpdfs	**.05944**	**.0760495**	**0.78**	**0.434**	**-.0896142**	**.2084943**
_cons	**.5821221**	**.0245952**	**23.67**	**0.000**	**.5339164**	**.6303278**

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
geodistrict: Identity var(_cons)	**.0349404**	**.0023243**	**.0306694**	**.0398063**
var(Residual)	**.056323**	**.0011805**	**.0540561**	**.058685**

LR test vs. linear model: chibar2(01) = **1863.09** Prob >= chibar2 = **0.0000**

21. mi est, dots post: mixed povertyschoolprop inquiry_full_log primary middle high lnag
> e lnstudents urban pctpdfs || geodistrict: ,

Imputations (**100**):
.....10.....20.....30.....40.....50.....60.....70.....
> ..80.....90.....100 done

Multiple-imputation estimates		Imputations	= **100**
Mixed-effects ML regression		Number of obs	= **5,881**
Group variable: **geodistrict**		Number of groups	= **1,496**
		Obs per group:	
		min	= **1**
		avg	= **3.9**
		max	= **256**
		Average RVI	= **0.0870**
		Largest FMI	= **0.1845**
DF adjustment: **Large sample**		DF: min	= **2,925.75**
		avg	= **20,013.75**
		max	= **43,951.74**
Model F test: **Equal FMI**		F(**8,134388.3**)	= **19.15**
		Prob > F	= **0.0000**

povertyschoolprop	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
inquiry_full_log	**-.2879096**	**.0305599**	**-9.42**	**0.000**	**-.3478103**	**-.228009**
primary	**-.0045599**	**.0094156**	**-0.48**	**0.628**	**-.0230156**	**.0138958**
middle	**.0272587**	**.0139229**	**1.96**	**0.050**	**-.0000314**	**.0545487**
high	**-.0136209**	**.0111145**	**-1.23**	**0.220**	**-.0354059**	**.0081642**
lnage	**.0014999**	**.0039819**	**0.38**	**0.706**	**-.0063053**	**.0093051**
lnstudents	**-.0138484**	**.0043926**	**-3.15**	**0.002**	**-.02246**	**-.0052369**
urban	**.0684481**	**.0108433**	**6.31**	**0.000**	**.0471949**	**.0897013**
pctpdfs	**.0609687**	**.0779106**	**0.78**	**0.434**	**-.0917376**	**.2136749**
_cons	**.593387**	**.0265505**	**22.35**	**0.000**	**.5413361**	**.6454379**

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
geodistrict: Identity sd(_cons)	**.1861522**	**.0063902**	**.1740393**	**.1991081**
sd(Residual)	**.2374092**	**.0027557**	**.232067**	**.2428745**

22. est store pov1

23. ereturn list

scalars:

e(small)	**0**
e(nrgroups)	**1**
e(ll_c)	**.**
e(k_rs)	**2**
e(N)	**5881**
e(df_c)	**.**
e(k_rc)	**0**
e(rc)	**0**
e(k)	**11**
e(k_res)	**0**
e(converged)	**1**

```
          e(se_failed) =  0
                e(k_r) =  2
                 e(ll) =  .
              e(mecmd) =  0
             e(chi2_c) =  .
                 e(ic) =  2
           e(nostderr) =  0
               e(df_m) =  .
                  e(p) =  .
                e(p_c) =  .
                e(k_f) =  9
               e(rank) =  .
               e(chi2) =  .
         e(_dfnote_mi) =  0
         e(mcerror_mi) =  0
           e(N_min_mi) =  5881
           e(N_max_mi) =  5881
         e(cilevel_mi) =  95
           e(k_exp_mi) =  0
       e(reparm_rc_mi) =  .
      e(k_eq_model_mi) =  3
          e(caller_mi) =  15.1
          e(df_min_mi) =  2925.753129903356
          e(df_avg_mi) =  20013.74742954005
          e(df_max_mi) =  43951.74036422047
         e(fmi_max_mi) =  .1845068301935154
         e(rvi_avg_mi) =  .0870375051884147
               e(p_mi) =  4.35615790657e-29
           e(ufmi_mi) =  0
       e(rvi_avg_F_mi) =  .0827159427721741
               e(F_mi) =  19.15185396857072
            e(df_m_mi) =  8
            e(df_r_mi) =  134388.329641696
            e(df_c_mi) =  .
               e(N_mi) =  5881
               e(M_mi) =  100
       e(esampvary_mi) =  0

macros:
                e(cmd) : "mixed"
         e(rstructure) : "independent"
         e(rstructlab) : "Independent"
              e(iccok) : "ok"
              e(redim) : "1"
          e(optmetric) : "matsqrt"
  e(datasignaturevars) : "povertyschoolprop inquiry_full_log primary middle high lnage
>  l.."
           e(vartypes) : "Identity"
              e(title) : "Mixed-effects ML regression"
          e(stripe_se) : "povertyschoolprop:inquiry_full_log povertyschoolprop:primary
>  p.."
           e(chi2type) : "Wald"
          e(ml_method) : "d0"
             e(depvar) : "povertyschoolprop"
                e(opt) : "moptimize"
           e(crittype) : "log likelihood"
             e(revars) : "_cons"
              e(ivars) : "geodistrict"
             e(method) : "ML"
          e(technique) : "nr"
            e(cmdline) : "mixed povertyschoolprop inquiry_full_log primary middle high
>  l.."
       e(names_vvl_mi) : "datasignature"
       e(names_vvs_mi) : "p chi2_c ll ll_c chi2"
       e(names_vvm_mi) : "b_sd se_sd V_sd"
               e(m_mi) : "1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
> 24.."
          e(m_est_mi) : "1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
> 24.."
             e(rc_mi) : "0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
> 0 .."
        e(dfadjust_mi) : "Large sample"
```

```
        e(modeltest_mi) : "Equal FMI"
            e(title_mi) : "Multiple-imputation estimates"
           e(prefix_mi) : "mi estimate"
              e(cmd_mi) : "mixed"
             e(ecmd_mi) : "mixed"
                  e(mi) : "mi"
          e(cmdline_mi) : "mi estimate , dots post: mixed povertyschoolprop inquiry_ful
> l_.."
        e(_sortseed_mi) : "1377208697XZA112210f4b16c1cb10507a1f38cb440c40003c9a83566fa1
> 20.."
      e(_sortseedcmd_mi) : "1159129673XZA112210f4b16c1cb10507a1f38cb440c40003c9a83566fa1
> 20.."
           e(properties) : "b V"

  matrices:
                     e(b) :  1 x 11
                     e(V) :  11 x 11
                  e(b_sd) :  1 x 1
                 e(noomit) :  1 x 9
                e(b_pclass) :  1 x 11
                   e(g_min) :  1 x 1
                   e(se_sd) :  1 x 1
                   e(g_max) :  1 x 1
                   e(g_avg) :  1 x 1
                     e(N_g) :  1 x 1
                    e(V_sd) :  1 x 1
                   e(re_mi) :  1 x 11
                  e(fmi_mi) :  1 x 11
                 e(pise_mi) :  1 x 11
                  e(rvi_mi) :  1 x 11
                   e(df_mi) :  1 x 11
                    e(W_mi) :  11 x 11
                    e(B_mi) :  11 x 11
                    e(V_mi) :  11 x 11
                    e(b_mi) :  1 x 11
                  e(N_g_mi) :  1 x 1
                 e(g_min_mi) :  1 x 1
                 e(g_avg_mi) :  1 x 1
                 e(g_max_mi) :  1 x 1

24. est save "model_estimates/2b_schpov_ibl_mi100_linear.ster", replace
  (note: file model_estimates/2b_schpov_ibl_mi100_linear.ster not found)
  file model_estimates/2b_schpov_ibl_mi100_linear.ster saved

25. outreg2 using "tables/2b_schpov_ibl_mi100_linear.rtf", replace word label onecol add
  > stat(Log-Likelihood, e(ll), chi-square test, r(chi2), F-test, e(p), Prob > F, r(p),
  > R-squared, e(r2)) ///
  > alpha(.001, .01, .05) symbol(***, **, *) ///
  > ctitle("M1: IBL emphasis")
  (note: file tables/2b_schpov_ibl_mi100_linear.rtf not found)
  tables/2b_schpov_ibl_mi100_linear.rtf
  seeout

26.
27. * 2. academic performance
28. mi xeq 1 / 5: mixed povertyschoolprop readall15 mathall15 primary middle high lnage
  > lnstudents urban readlevel15 mathlevel15 || geodistrict: ,

  m=1 data:
  -> mixed povertyschoolprop readall15 mathall15 primary middle high lnage lnstudents ur
  > ban readlevel15 mathlevel15 || geodistrict: ,

  Performing EM optimization:

  Performing gradient-based optimization:

  Iteration 0:   log likelihood = -141.83361
  Iteration 1:   log likelihood = -141.83319
  Iteration 2:   log likelihood = -141.83319

  Computing standard errors:
```

Mixed-effects ML regression — Number of obs = **5,881**
Group variable: **geodistrict** — Number of groups = **1,496**

Obs per group:
min = **1**
avg = **3.9**
max = **256**

Wald chi2(**10**) = **1034.48**
Log likelihood = **-141.83319** — Prob > chi2 = **0.0000**

povertyschoolprop	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
readall15	**-.4207191**	**.0271429**	**-15.50**	**0.000**	**-.4739182**	**-.36752**
mathall15	**-.0647864**	**.026476**	**-2.45**	**0.014**	**-.1166785**	**-.0128944**
primary	**.0091821**	**.008541**	**1.08**	**0.282**	**-.0075579**	**.0259221**
middle	**.0432425**	**.0126569**	**3.42**	**0.001**	**.0184353**	**.0680496**
high	**-.0007313**	**.0103097**	**-0.07**	**0.943**	**-.0209379**	**.0194754**
lnage	**.0093779**	**.0035484**	**2.64**	**0.008**	**.0024231**	**.0163328**
lnstudents	**-.006334**	**.0043284**	**-1.46**	**0.143**	**-.0148175**	**.0021496**
urban	**.0550984**	**.0098599**	**5.59**	**0.000**	**.0357734**	**.0744234**
readlevel15	**.0003129**	**.0007882**	**0.40**	**0.691**	**-.001232**	**.0018578**
mathlevel15	**-.0018528**	**.0007604**	**-2.44**	**0.015**	**-.0033431**	**-.0003625**
_cons	**.7390167**	**.0273374**	**27.03**	**0.000**	**.6854364**	**.7925969**

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
geodistrict: Identity var(_cons)	**.0303312**	**.002006**	**.0266437**	**.0345291**
var(Residual)	**.049084**	**.0010269**	**.047112**	**.0511386**

LR test vs. linear model: chibar2(01) = **1837.60** Prob >= chibar2 = **0.0000**

m=2 data:
-> **mixed povertyschoolprop readall15 mathall15 primary middle high lnage lnstudents ur**
> ban readlevel15 mathlevel15 || geodistrict: ,

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0: log likelihood = **-185.45958**
Iteration 1: log likelihood = **-185.45901**
Iteration 2: log likelihood = **-185.45901**

Computing standard errors:

Mixed-effects ML regression — Number of obs = **5,881**
Group variable: **geodistrict** — Number of groups = **1,496**

Obs per group:
min = **1**
avg = **3.9**
max = **256**

Wald chi2(**10**) = **1058.52**
Log likelihood = **-185.45901** — Prob > chi2 = **0.0000**

povertyschoolprop	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
readall15	**-.4075858**	**.0267369**	**-15.24**	**0.000**	**-.4599892**	**-.3551823**
mathall15	**-.0903671**	**.0262222**	**-3.45**	**0.001**	**-.1417615**	**-.0389726**
primary	**.007558**	**.0086293**	**0.88**	**0.381**	**-.0093552**	**.0244712**
middle	**.0405667**	**.012792**	**3.17**	**0.002**	**.0154949**	**.0656386**
high	**-.0085704**	**.0103781**	**-0.83**	**0.409**	**-.028911**	**.0117703**
lnage	**.0088479**	**.0035757**	**2.47**	**0.013**	**.0018396**	**.0158562**
lnstudents	**-.0004768**	**.0043887**	**-0.11**	**0.913**	**-.0090786**	**.008125**
urban	**.0623715**	**.0098889**	**6.31**	**0.000**	**.0429896**	**.0817535**
readlevel15	**.0006986**	**.0007516**	**0.93**	**0.353**	**-.0007745**	**.0021718**
mathlevel15	**-.0015477**	**.0007224**	**-2.14**	**0.032**	**-.0029637**	**-.0001318**
_cons	**.7040935**	**.0277041**	**25.41**	**0.000**	**.6497944**	**.7583926**

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
geodistrict: Identity var(_cons)	**.0294451**	**.0019713**	**.0258242**	**.0335738**
var(Residual)	**.0501594**	**.0010468**	**.0481491**	**.0522535**

LR test vs. linear model: chibar2(01) = **1787.35** Prob >= chibar2 = **0.0000**

m=3 data:
-> **mixed povertyschoolprop readall15 mathall15 primary middle high lnage lnstudents ur**
> ban readlevel15 mathlevel15 || geodistrict: ,

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0: log likelihood = **-110.49053**
Iteration 1: log likelihood = **-110.49011**
Iteration 2: log likelihood = **-110.49011**

Computing standard errors:

Mixed-effects ML regression — Number of obs = **5,881**
Group variable: **geodistrict** — Number of groups = **1,496**

Obs per group:
min = **1**
avg = **3.9**
max = **256**

Wald chi2(**10**) = **1106.86**
Log likelihood = **-110.49011** — Prob > chi2 = **0.0000**

povertyschoolprop	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
readall15	**-.4282381**	**.026256**	**-16.31**	**0.000**	**-.4796989**	**-.3767774**
mathall15	**-.0751994**	**.0256763**	**-2.93**	**0.003**	**-.125524**	**-.0248748**
primary	**.0093383**	**.0084877**	**1.10**	**0.271**	**-.0072972**	**.0259738**
middle	**.0402874**	**.012613**	**3.19**	**0.001**	**.0155664**	**.0650084**
high	**-.0000527**	**.010238**	**-0.01**	**0.996**	**-.0201189**	**.0200134**
lnage	**.0055692**	**.0035251**	**1.58**	**0.114**	**-.0013399**	**.0124782**
lnstudents	**-.0009229**	**.0043518**	**-0.21**	**0.832**	**-.0094522**	**.0076065**
urban	**.0551167**	**.009815**	**5.62**	**0.000**	**.0358796**	**.0743539**
readlevel15	**.00087**	**.0007555**	**1.15**	**0.250**	**-.0006107**	**.0023507**
mathlevel15	**-.0021603**	**.0007305**	**-2.96**	**0.003**	**-.003592**	**-.0007287**
_cons	**.7209799**	**.0275286**	**26.19**	**0.000**	**.6670248**	**.7749349**

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
geodistrict: Identity var(_cons)	**.0303052**	**.0020025**	**.0266238**	**.0344956**
var(Residual)	**.0484894**	**.0010155**	**.0465394**	**.0505211**

LR test vs. linear model: chibar2(01) = **1851.24** Prob >= chibar2 = **0.0000**

m=4 data:
-> **mixed povertyschoolprop readall15 mathall15 primary middle high lnage lnstudents ur**
> ban readlevel15 mathlevel15 || geodistrict: ,

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0: log likelihood = **-154.18489**
Iteration 1: log likelihood = **-154.18445**
Iteration 2: log likelihood = **-154.18445**

Computing standard errors:

Mixed-effects ML regression — Number of obs = **5,881**
Group variable: **geodistrict** — Number of groups = **1,496**

Obs per group:
min = **1**
avg = **3.9**
max = **256**

Wald chi2(**10**) = **1090.95**
Log likelihood = **-154.18445** — Prob > chi2 = **0.0000**

povertyschoolprop	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
readall15	**-.4462208**	**.0268161**	**-16.64**	**0.000**	**-.4987793**	**-.3936622**
mathall15	**-.0540671**	**.0262507**	**-2.06**	**0.039**	**-.1055174**	**-.0026167**
primary	**.0090236**	**.0085692**	**1.05**	**0.292**	**-.0077717**	**.0258188**
middle	**.0483625**	**.0126885**	**3.81**	**0.000**	**.0234936**	**.0732315**
high	**-.0007321**	**.0103463**	**-0.07**	**0.944**	**-.0210105**	**.0195463**
lnage	**.0070192**	**.0035526**	**1.98**	**0.048**	**.0000563**	**.0139821**
lnstudents	**.0015303**	**.0043543**	**0.35**	**0.725**	**-.007004**	**.0100646**
urban	**.0587069**	**.0098807**	**5.94**	**0.000**	**.0393411**	**.0780727**
readlevel15	**.0001476**	**.0007624**	**0.19**	**0.847**	**-.0013466**	**.0016418**
mathlevel15	**-.001365**	**.0007309**	**-1.87**	**0.062**	**-.0027976**	**.0000675**
_cons	**.70285**	**.0274984**	**25.56**	**0.000**	**.6489542**	**.7567458**

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
geodistrict: Identity var(_cons)	**.0305105**	**.0020228**	**.0267927**	**.0347443**
var(Residual)	**.0492776**	**.0010318**	**.0472963**	**.051342**

LR test vs. linear model: chibar2(01) = **1815.12** Prob >= chibar2 = **0.0000**

m=5 data:
-> **mixed povertyschoolprop readall15 mathall15 primary middle high lnage lnstudents ur**
> ban readlevel15 mathlevel15 || geodistrict: ,

Performing EM optimization:

Performing gradient-based optimization:

```
Iteration 0:   log likelihood = -93.277563
Iteration 1:   log likelihood = -93.277192
Iteration 2:   log likelihood = -93.277192

Computing standard errors:

Mixed-effects ML regression                     Number of obs     =      5,881
Group variable: geodistrict                     Number of groups  =      1,496

                                                Obs per group:
                                                              min =          1
                                                              avg =        3.9
                                                              max =        256

                                                Wald chi2(10)     =    1169.61
Log likelihood = -93.277192                     Prob > chi2       =     0.0000
```

povertyschoolprop	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
readall15	-.4731935	.0263005	-17.99	0.000	-.5247416	-.4216454
mathall15	-.0381067	.02564	-1.49	0.137	-.0883601	.0121467
primary	.0045823	.0084705	0.54	0.589	-.0120196	.0211841
middle	.0436324	.0125934	3.46	0.001	.0189498	.0683151
high	-.0010891	.0102019	-0.11	0.915	-.0210844	.0189062
lnage	.0091454	.0035164	2.60	0.009	.0022534	.0160373
lnstudents	-.0025705	.0043738	-0.59	0.557	-.0111431	.006002
urban	.0539752	.0097831	5.52	0.000	.0348007	.0731497
readlevel15	-.0001754	.0007239	-0.24	0.809	-.0015942	.0012434
mathlevel15	-.0015404	.0006827	-2.26	0.024	-.0028785	-.0002023
_cons	.7358083	.0277354	26.53	0.000	.6814478	.7901687

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
geodistrict: Identity				
var(_cons)	.0300191	.0019753	.0263868	.0341515
var(Residual)	.0482337	.0010087	.0462968	.0502517

LR test vs. linear model: chibar2(01) = **1862.49** Prob >= chibar2 = **0.0000**

```
29. mi est, dots post: mixed povertyschoolprop readall15 mathall15 primary middle high l
> nage lnstudents urban readlevel15 mathlevel15 || geodistrict: ,

Imputations (100):
  .........10.........20.........30.........40.........50.........60.........70.......
> ..80.........90.........100 done

Multiple-imputation estimates                   Imputations       =        100
Mixed-effects ML regression                     Number of obs     =      5,881

Group variable: geodistrict                     Number of groups  =      1,496
                                                Obs per group:
                                                              min =          1
                                                              avg =        3.9
                                                              max =        256
                                                Average RVI       =     0.2023
                                                Largest FMI       =     0.3362
DF adjustment:   Large sample                   DF:     min       =     883.60
                                                        avg       =   7,011.19
                                                        max       =  21,576.02
Model F test:       Equal FMI                   F(  10,30782.0)   =      91.68
                                                Prob > F          =     0.0000
```

povertyschoolprop	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
readall15	-.435065	.0324893	-13.39	0.000	-.4988302	-.3712998
mathall15	-.0704384	.0315726	-2.23	0.026	-.132402	-.0084748
primary	.0071904	.0089768	0.80	0.423	-.0104059	.0247868
middle	.0433074	.0132272	3.27	0.001	.01738	.0692348
high	-.0019843	.010761	-0.18	0.854	-.0230775	.019109
lnage	.0074638	.0037603	1.98	0.047	.0000925	.014835
lnstudents	-.0013873	.0049595	-0.28	0.780	-.0111142	.0083396
urban	.0561017	.0101899	5.51	0.000	.0361287	.0760747
readlevel15	.0002701	.0008946	0.30	0.763	-.0014854	.0020256
mathlevel15	-.0016192	.0008306	-1.95	0.051	-.0032486	.0000102
_cons	.7229817	.0314652	22.98	0.000	.6612685	.7846949

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
geodistrict: Identity sd(_cons)	.1736623	.0059464	.1623894	.1857178
sd(Residual)	.2205452	.0026927	.2153258	.2258912

30. est store pov2

31. ereturn list

scalars:

e(small)	0
e(nrgroups)	1
e(ll_c)	.
e(k_rs)	2
e(N)	5881
e(df_c)	.
e(k_rc)	0
e(rc)	0
e(k)	13
e(k_res)	0
e(converged)	1
e(se_failed)	0
e(k_r)	2
e(ll)	.
e(mecmd)	0
e(chi2_c)	.
e(ic)	2
e(nostderr)	0
e(df_m)	.
e(p)	.
e(p_c)	.
e(k_f)	11
e(rank)	.
e(chi2)	.
e(_dfnote_mi)	0
e(mcerror_mi)	0
e(N_min_mi)	5881
e(N_max_mi)	5881
e(cilevel_mi)	95
e(k_exp_mi)	0
e(reparm_rc_mi)	.
e(k_eq_model_mi)	3
e(caller_mi)	15.1
e(df_min_mi)	883.6029269248932
e(df_avg_mi)	7011.188181360755
e(df_max_mi)	21576.01546207302
e(fmi_max_mi)	.336226400414134
e(rvi_avg_mi)	.2023073901035937
e(p_mi)	1.1259640137e-187
e(ufmi_mi)	0
e(rvi_avg_F_mi)	.2175649506908446
e(F_mi)	91.67657241181401

```
            e(df_m_mi) =  10
            e(df_r_mi) =  30782.03949336154
            e(df_c_mi) =  .
               e(N_mi) =  5881
               e(M_mi) =  100
         e(esampvary_mi) =  0

macros:
                  e(cmd) : "mixed"
          e(rstructure) : "independent"
          e(rstructlab) : "Independent"
               e(iccok) : "ok"
               e(redim) : "1"
           e(optmetric) : "matsqrt"
  e(datasignaturevars) : "povertyschoolprop readall15 mathall15 primary middle high ln
> ag.."
             e(vartypes) : "Identity"
                e(title) : "Mixed-effects ML regression"
            e(stripe_se) : "povertyschoolprop:readall15 povertyschoolprop:mathall15 pove
> rt.."
             e(chi2type) : "Wald"
            e(ml_method) : "d0"
               e(depvar) : "povertyschoolprop"
                  e(opt) : "moptimize"
             e(crittype) : "log likelihood"
               e(revars) : "_cons"
                e(ivars) : "geodistrict"
               e(method) : "ML"
            e(technique) : "nr"
              e(cmdline) : "mixed povertyschoolprop readall15 mathall15 primary middle h
> ig.."
         e(names_vvl_mi) : "datasignature"
         e(names_vvs_mi) : "p chi2_c ll ll_c chi2"
         e(names_vvm_mi) : "b_sd se_sd V_sd"
                e(m_mi) : "1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
> 24.."
            e(m_est_mi) : "1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
> 24.."
              e(rc_mi) : "0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
> 0 .."
          e(dfadjust_mi) : "Large sample"
         e(modeltest_mi) : "Equal FMI"
             e(title_mi) : "Multiple-imputation estimates"
            e(prefix_mi) : "mi estimate"
               e(cmd_mi) : "mixed"
              e(ecmd_mi) : "mixed"
                   e(mi) : "mi"
          e(cmdline_mi) : "mi estimate , dots post: mixed povertyschoolprop readall15 m
> at.."
        e(_sortseed_mi) : "1039208473XZA112210f4b16c1cb10507a1f38cb440c40003c9a83566fa1
> 20.."
     e(_sortseedcmd_mi) : "1735353065XZA112210f4b16c1cb10507a1f38cb440c40003c9a83566fa1
> 20.."
          e(properties) : "b V"

matrices:
                    e(b) :  1 x 13
                    e(V) :  13 x 13
                 e(b_sd) :  1 x 1
               e(noomit) :  1 x 11
             e(b_pclass) :  1 x 13
                e(g_min) :  1 x 1
                e(se_sd) :  1 x 1
                e(g_max) :  1 x 1
                e(g_avg) :  1 x 1
                  e(N_g) :  1 x 1
                 e(V_sd) :  1 x 1
                e(re_mi) :  1 x 13
               e(fmi_mi) :  1 x 13
              e(pise_mi) :  1 x 13
               e(rvi_mi) :  1 x 13
                e(df_mi) :  1 x 13
```

```
              e(W_mi) :  13 x 13
              e(B_mi) :  13 x 13
              e(V_mi) :  13 x 13
              e(b_mi) :  1 x 13
            e(N_g_mi) :  1 x 1
          e(g_min_mi) :  1 x 1
          e(g_avg_mi) :  1 x 1
          e(g_max_mi) :  1 x 1

32. est save "model_estimates/2c_schpov_acad_mi100_linear.ster", replace
  (note: file model_estimates/2c_schpov_acad_mi100_linear.ster not found)
  file model_estimates/2c_schpov_acad_mi100_linear.ster saved

33. outreg2 using "tables/2c_schpov_acad_mi100_linear.rtf", replace word label onecol ad
  > dstat(Log-Likelihood, e(ll), chi-square test, r(chi2), F-test, e(p), Prob > F, r(p),
  >  R-squared, e(r2)) ///
  > alpha(.001, .01, .05) symbol(***, **, *) ///
  > ctitle("M2: Academic proficiency")
  (note: file tables/2c_schpov_acad_mi100_linear.rtf not found)
  tables/2c_schpov_acad_mi100_linear.rtf
  seeout

34.
35. * 3. fully specified
36. mi xeq 1 / 5: mixed povertyschoolprop inquiry_full_log readall15 mathall15 primary m
  > iddle high lnage lnstudents urban pctpdfs readlevel15 mathlevel15 || geodistrict: ,
  --Break--
  r(1);

  end of do-file

  --Break--
  r(1);

37. log close
        name:  <unnamed>
         log:  /hdir/0/jhaber/Projects/charter_data/sorting-schools-2019/logs/results_2_
  > schpov_mi100_linear_100919.smcl
    log type:  smcl
   closed on:   9 Oct 2019, 22:26:35
  ------------------------------------------------------------------------------
  ------------------------------------------------------------------------------
        name:  <unnamed>
         log:  /hdir/0/jhaber/Projects/charter_data/sorting-schools-2019/logs/results_2_
  > schpov_mi100_linear_100919.smcl
    log type:  smcl
   opened on:   9 Oct 2019, 22:39:29

38. do "/90days/jhaber/STATATMP/SD09282.000000"

39. * 3. fully specified
40. mi xeq 1 / 5: mixed povertyschoolprop inquiry_full_log readall15 mathall15 primary m
  > iddle high lnage lnstudents urban pctpdfs readlevel15 mathlevel15 || geodistrict: ,
  no data in memory
  r(119);

  end of do-file

  r(119);
```

```
41. do "/90days/jhaber/STATATMP/SD09282.000000"

42. use "data/charter_schools_data.dta", clear

43. mi update

44.
  end of do-file

45. do "/90days/jhaber/STATATMP/SD09282.000000"

46. * 3. fully specified
47. mi xeq 1 / 5: mixed povertyschoolprop inquiry_full_log readall15 mathall15 primary m
  > iddle high lnage lnstudents urban pctpdfs readlevel15 mathlevel15 || geodistrict: ,

  m=1 data:
  -> mixed povertyschoolprop inquiry_full_log readall15 mathall15 primary middle high ln
  > age lnstudents urban pctpdfs readlevel15 mathlevel15 || geodistrict: ,

  Performing EM optimization:

  Performing gradient-based optimization:

  Iteration 0:   log likelihood = -114.10899
  Iteration 1:   log likelihood = -114.10843
  Iteration 2:   log likelihood = -114.10843

  Computing standard errors:

  Mixed-effects ML regression                     Number of obs     =      5,881
  Group variable: geodistrict                     Number of groups  =      1,496

                                                  Obs per group:
                                                                min =          1
                                                                avg =        3.9
                                                                max =        256

                                                  Wald chi2(12)     =    1101.40
  Log likelihood = -114.10843                     Prob > chi2       =     0.0000
```

povertyschoolprop	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
inquiry_full_log	-.2054369	.0275267	-7.46	0.000	-.2593882	-.1514857
readall15	-.4005136	.0271677	-14.74	0.000	-.4537613	-.3472659
mathall15	-.0743042	.0263918	-2.82	0.005	-.1260312	-.0225772
primary	.0098615	.0085073	1.16	0.246	-.0068126	.0265355
middle	.040433	.0126197	3.20	0.001	.0156989	.0651671
high	-.0027951	.0102718	-0.27	0.786	-.0229275	.0173373
lnage	.0085455	.0035351	2.42	0.016	.0016167	.0154742
lnstudents	-.0041439	.0043184	-0.96	0.337	-.0126078	.00432
urban	.0573721	.0097941	5.86	0.000	.038176	.0765682
pctpdfs	.0600224	.0706713	0.85	0.396	-.0784908	.1985356
readlevel15	.0005542	.0007859	0.71	0.481	-.0009862	.0020946
mathlevel15	-.0020314	.0007579	-2.68	0.007	-.0035169	-.0005459
_cons	.7491793	.0272488	27.49	0.000	.6957727	.8025858

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
geodistrict: Identity var(_cons)	.0293262	.0019622	.0257219	.0334355
var(Residual)	.0488061	.0010209	.0468456	.0508486

LR test vs. linear model: chibar2(01) = 1771.25 Prob >= chibar2 = 0.0000

```
  m=2 data:
  -> mixed povertyschoolprop inquiry_full_log readall15 mathall15 primary middle high ln
  > age lnstudents urban pctpdfs readlevel15 mathlevel15 || geodistrict: ,
```

```
Performing EM optimization:

Performing gradient-based optimization:

Iteration 0:   log likelihood = -159.73954
Iteration 1:   log likelihood = -159.73878
Iteration 2:   log likelihood = -159.73878

Computing standard errors:

Mixed-effects ML regression                     Number of obs     =      5,881
Group variable: geodistrict                     Number of groups  =      1,496

                                                Obs per group:
                                                              min =          1
                                                              avg =        3.9
                                                              max =        256

                                                Wald chi2(12)     =    1121.38
Log likelihood = -159.73878                     Prob > chi2       =     0.0000
```

povertyschoolprop	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
inquiry_full_log	-.1996318	.0277614	-7.19	0.000	-.2540431	-.1452205
readall15	-.3887434	.0267684	-14.52	0.000	-.4412086	-.3362783
mathall15	-.0988335	.0261455	-3.78	0.000	-.1500777	-.0475892
primary	.0082093	.0085985	0.95	0.340	-.0086434	.025062
middle	.0378262	.0127595	2.96	0.003	.0128181	.0628343
high	-.0103466	.010343	-1.00	0.317	-.0306185	.0099254
lnage	.0080162	.0035637	2.25	0.024	.0010315	.0150009
lnstudents	.001511	.0043786	0.35	0.730	-.0070709	.0100929
urban	.0645629	.009823	6.57	0.000	.0453102	.0838156
pctpdfs	.0566894	.0712636	0.80	0.426	-.0829846	.1963635
readlevel15	.0008776	.0007495	1.17	0.242	-.0005914	.0023466
mathlevel15	-.0016999	.0007204	-2.36	0.018	-.0031118	-.000288
_cons	.7151058	.0276327	25.88	0.000	.6609467	.7692649

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
geodistrict: Identity				
var(_cons)	.0284142	.0019256	.0248799	.0324504
var(Residual)	.0499244	.0010414	.0479244	.0520079

```
LR test vs. linear model: chibar2(01) = 1720.29       Prob >= chibar2 = 0.0000

m=3 data:
-> mixed povertyschoolprop inquiry_full_log readall15 mathall15 primary middle high ln
> age lnstudents urban pctpdfs readlevel15 mathlevel15 || geodistrict: ,

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0:   log likelihood = -82.837311
Iteration 1:   log likelihood = -82.836772
Iteration 2:   log likelihood = -82.836772

Computing standard errors:

Mixed-effects ML regression                     Number of obs     =      5,881
Group variable: geodistrict                     Number of groups  =      1,496

                                                Obs per group:
                                                              min =          1
                                                              avg =        3.9
                                                              max =        256
```

Log likelihood = **-82.836772**

Wald chi2(**12**) = **1174.31**
Prob > chi2 = **0.0000**

povertyschoolprop	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
inquiry_full_log	**-.2038244**	**.0273532**	**-7.45**	**0.000**	**-.2574357**	**-.150213**
readall15	**-.4086177**	**.0262882**	**-15.54**	**0.000**	**-.4601416**	**-.3570938**
mathall15	**-.0842805**	**.0256008**	**-3.29**	**0.001**	**-.1344571**	**-.0341039**
primary	**.0099775**	**.0084541**	**1.18**	**0.238**	**-.0065921**	**.0265472**
middle	**.037466**	**.0125761**	**2.98**	**0.003**	**.0128173**	**.0621146**
high	**-.002009**	**.0102002**	**-0.20**	**0.844**	**-.0220011**	**.0179831**
lnage	**.0047731**	**.0035119**	**1.36**	**0.174**	**-.00211**	**.0116562**
lnstudents	**.0011435**	**.0043405**	**0.26**	**0.792**	**-.0073638**	**.0096508**
urban	**.0573215**	**.0097501**	**5.88**	**0.000**	**.0382117**	**.0764313**
pctpdfs	**.0612401**	**.0702967**	**0.87**	**0.384**	**-.076539**	**.1990192**
readlevel15	**.0009871**	**.0007528**	**1.31**	**0.190**	**-.0004884**	**.0024626**
mathlevel15	**-.0022424**	**.0007278**	**-3.08**	**0.002**	**-.0036689**	**-.000816**
_cons	**.7318277**	**.0274431**	**26.67**	**0.000**	**.6780402**	**.7856153**

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
geodistrict: Identity var(_cons)	**.0293213**	**.0019583**	**.0257237**	**.0334219**
var(Residual)	**.048212**	**.0010093**	**.0462738**	**.0502315**

LR test vs. linear model: chibar2(01) = **1787.05** Prob >= chibar2 = **0.0000**

m=4 data:
-> **mixed povertyschoolprop inquiry_full_log readall15 mathall15 primary middle high ln**
> age lnstudents urban pctpdfs readlevel15 mathlevel15 || geodistrict: ,

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0: log likelihood = **-129.59399**
Iteration 1: log likelihood = **-129.59342**
Iteration 2: log likelihood = **-129.59342**

Computing standard errors:

Mixed-effects ML regression
Group variable: **geodistrict**

Number of obs = **5,881**
Number of groups = **1,496**

Obs per group:
min = **1**
avg = **3.9**
max = **256**

Log likelihood = **-129.59342**

Wald chi2(**12**) = **1150.68**
Prob > chi2 = **0.0000**

povertyschoolprop	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
inquiry_full_log	**-.1938212**	**.027583**	**-7.03**	**0.000**	**-.2478828**	**-.1397595**
readall15	**-.428673**	**.0268388**	**-15.97**	**0.000**	**-.481276**	**-.37607**
mathall15	**-.0617709**	**.0261759**	**-2.36**	**0.018**	**-.1130747**	**-.0104672**
primary	**.009678**	**.0085392**	**1.13**	**0.257**	**-.0070585**	**.0264146**
middle	**.0458977**	**.012656**	**3.63**	**0.000**	**.0210924**	**.0707029**
high	**-.0026949**	**.010313**	**-0.26**	**0.794**	**-.0229081**	**.0175182**
lnage	**.0062833**	**.0035408**	**1.77**	**0.076**	**-.0006566**	**.0132232**
lnstudents	**.0037322**	**.0043477**	**0.86**	**0.391**	**-.0047892**	**.0122536**
urban	**.0607489**	**.0098226**	**6.18**	**0.000**	**.041497**	**.0800008**
pctpdfs	**.0548462**	**.0708551**	**0.77**	**0.439**	**-.0840272**	**.1937196**
readlevel15	**.000396**	**.0007606**	**0.52**	**0.603**	**-.0010948**	**.0018868**
mathlevel15	**-.0015349**	**.0007289**	**-2.11**	**0.035**	**-.0029635**	**-.0001063**
_cons	**.7117488**	**.0274167**	**25.96**	**0.000**	**.658013**	**.7654846**

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
geodistrict: Identity var(_cons)	**.0296206**	**.0019832**	**.0259778**	**.0337742**
var(Residual)	**.0490282**	**.0010263**	**.0470573**	**.0510816**

LR test vs. linear model: chibar2(01) = **1754.09** Prob >= chibar2 = **0.0000**

m=5 data:
-> **mixed povertyschoolprop inquiry_full_log readall15 mathall15 primary middle high ln**
> age lnstudents urban pctpdfs readlevel15 mathlevel15 || geodistrict: ,

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0: log likelihood = **-67.786528**
Iteration 1: log likelihood = **-67.786053**
Iteration 2: log likelihood = **-67.786053**

Computing standard errors:

Mixed-effects ML regression — Number of obs = **5,881**
Group variable: **geodistrict** — Number of groups = **1,496**

Obs per group:
min = **1**
avg = **3.9**
max = **256**

Wald chi2(**12**) = **1232.35**
Log likelihood = **-67.786053** — Prob > chi2 = **0.0000**

povertyschoolprop	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
inquiry_full_log	**-.1953904**	**.0272886**	**-7.16**	**0.000**	**-.2488751**	**-.1419056**
readall15	**-.4549663**	**.0263311**	**-17.28**	**0.000**	**-.5065744**	**-.4033583**
mathall15	**-.0463865**	**.0255688**	**-1.81**	**0.070**	**-.0965004**	**.0037274**
primary	**.0052312**	**.0084398**	**0.62**	**0.535**	**-.0113104**	**.0217729**
middle	**.0410385**	**.0125599**	**3.27**	**0.001**	**.0164215**	**.0656556**
high	**-.0028953**	**.0101673**	**-0.28**	**0.776**	**-.0228229**	**.0170323**
lnage	**.0083722**	**.0035044**	**2.39**	**0.017**	**.0015037**	**.0152406**
lnstudents	**-.0005359**	**.0043644**	**-0.12**	**0.902**	**-.0090901**	**.0080182**
urban	**.0560819**	**.0097234**	**5.77**	**0.000**	**.0370245**	**.0751393**
pctpdfs	**.0468629**	**.0701214**	**0.67**	**0.504**	**-.0905724**	**.1842983**
readlevel15	**.0000131**	**.0007219**	**0.02**	**0.985**	**-.0014018**	**.0014281**
mathlevel15	**-.0016872**	**.0006808**	**-2.48**	**0.013**	**-.0030215**	**-.0003528**
_cons	**.7460591**	**.0276584**	**26.97**	**0.000**	**.6918495**	**.8002687**

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
geodistrict: Identity var(_cons)	**.0291098**	**.0019347**	**.0255544**	**.0331598**
var(Residual)	**.0479816**	**.0010031**	**.0460553**	**.0499884**

LR test vs. linear model: chibar2(01) = **1800.45** Prob >= chibar2 = **0.0000**

```
48. mi est, dots post: mixed povertyschoolprop inquiry_full_log readall15 mathall15 prim
  > ary middle high lnage lnstudents urban pctpdfs readlevel15 mathlevel15 || geodistric
  > t: ,

  Imputations (100):
    .........10.........20.........30.........40.........50.........60.........70.......
  > ..80.........90.........100 done

  Multiple-imputation estimates                   Imputations       =        100
  Mixed-effects ML regression                     Number of obs     =      5,881

  Group variable: geodistrict                     Number of groups  =      1,496
                                                  Obs per group:
                                                               min =          1
                                                               avg =        3.9
                                                               max =        256
                                                  Average RVI       =     0.1896
                                                  Largest FMI       =     0.3407
  DF adjustment:   Large sample                   DF:     min       =     860.44
                                                          avg       =   7,954.91
                                                          max       =  21,738.41
  Model F test:       Equal FMI                   F(  12,43107.6)   =      82.36
                                                  Prob > F          =     0.0000
```

povertyschoolprop	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
inquiry_full_log	-.205066	.029031	-7.06	0.000	-.261974	-.148158
readall15	-.4160486	.0326193	-12.75	0.000	-.4800713	-.3520259
mathall15	-.0790677	.0315775	-2.50	0.012	-.1410432	-.0170922
primary	.0078462	.0089387	0.88	0.380	-.0096754	.0253678
middle	.0405496	.0131962	3.07	0.002	.0146829	.0664162
high	-.0038662	.0107248	-0.36	0.718	-.0248885	.0171561
lnage	.0066621	.0037444	1.78	0.075	-.0006781	.0140023
lnstudents	.0006937	.0049322	0.14	0.888	-.0089794	.0103669
urban	.0583548	.010117	5.77	0.000	.0385246	.078185
pctpdfs	.0466154	.0730015	0.64	0.523	-.0964737	.1897046
readlevel15	.0004659	.0008918	0.52	0.601	-.001284	.0022157
mathlevel15	-.0017776	.000828	-2.15	0.032	-.0034019	-.0001533
_cons	.7341261	.0313619	23.41	0.000	.6726156	.7956365

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
geodistrict: Identity sd(_cons)	.1707561	.0059123	.1595521	.1827469
sd(Residual)	.2199118	.0026943	.2146894	.2252613

```
49. est store pov3

50. ereturn list

  scalars:
               e(small) =  0
            e(nrgroups) =  1
                e(ll_c) =  .
                e(k_rs) =  2
                   e(N) =  5881
                e(df_c) =  .
                e(k_rc) =  0
                  e(rc) =  0
                   e(k) =  15
               e(k_res) =  0
            e(converged) =  1
           e(se_failed) =  0
                 e(k_r) =  2
                  e(ll) =  .
              e(mecmd) =  0
             e(chi2_c) =  .
```

```
                e(ic) =  2
          e(nostderr) =  0
              e(df_m) =  .
                 e(p) =  .
               e(p_c) =  .
               e(k_f) =  13
              e(rank) =  .
              e(chi2) =  .
       e(_dfnote_mi) =  0
       e(mcerror_mi) =  0
         e(N_min_mi) =  5881
         e(N_max_mi) =  5881
       e(cilevel_mi) =  95
         e(k_exp_mi) =  0
      e(reparm_rc_mi) =  .
     e(k_eq_model_mi) =  3
         e(caller_mi) =  15.1
         e(df_min_mi) =  860.4393864681651
         e(df_avg_mi) =  7954.911858356911
         e(df_max_mi) =  21738.405943192
       e(fmi_max_mi) =  .3407318794890767
       e(rvi_avg_mi) =  .1896453096012114
             e(p_mi) =  1.4264138198e-201
        e(ufmi_mi) =  0
      e(rvi_avg_F_mi) =  .1983280838695196
             e(F_mi) =  82.36144414924532
          e(df_m_mi) =  12
          e(df_r_mi) =  43107.60836923428
          e(df_c_mi) =  .
             e(N_mi) =  5881
             e(M_mi) =  100
      e(esampvary_mi) =  0

macros:
              e(cmd) : "mixed"
        e(rstructure) : "independent"
        e(rstructlab) : "Independent"
             e(iccok) : "ok"
             e(redim) : "1"
         e(optmetric) : "matsqrt"
  e(datasignaturevars) : "povertyschoolprop inquiry_full_log readall15 mathall15 prima
> ry.."
           e(vartypes) : "Identity"
              e(title) : "Mixed-effects ML regression"
          e(stripe_se) : "povertyschoolprop:inquiry_full_log povertyschoolprop:readall
> 15.."
           e(chi2type) : "Wald"
          e(ml_method) : "d0"
             e(depvar) : "povertyschoolprop"
               e(opt) : "moptimize"
           e(crittype) : "log likelihood"
             e(revars) : "_cons"
              e(ivars) : "geodistrict"
            e(method) : "ML"
         e(technique) : "nr"
           e(cmdline) : "mixed povertyschoolprop inquiry_full_log readall15 mathall15
>  p.."
      e(names_vvl_mi) : "datasignature"
      e(names_vvs_mi) : "p chi2_c ll ll_c chi2"
      e(names_vvm_mi) : "b_sd se_sd V_sd"
             e(m_mi) : "1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
> 24.."
        e(m_est_mi) : "1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
> 24.."
            e(rc_mi) : "0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
> 0 .."
       e(dfadjust_mi) : "Large sample"
      e(modeltest_mi) : "Equal FMI"
          e(title_mi) : "Multiple-imputation estimates"
         e(prefix_mi) : "mi estimate"
            e(cmd_mi) : "mixed"
           e(ecmd_mi) : "mixed"
```

```
                e(mi) : "mi"
          e(cmdline_mi) : "mi estimate , dots post: mixed povertyschoolprop inquiry_ful
> l_.."
        e(_sortseed_mi) : "936651785XZA112210f4b16c1cb10507a1f38cb440c40003c9a83566fa12
> 01.."
     e(_sortseedcmd_mi) : "1603209689XZA112210f4b16c1cb10507a1f38cb440c40003c9a83566fa1
> 20.."
          e(properties) : "b V"

  matrices:
                   e(b) :  1 x 15
                   e(V) :  15 x 15
                e(b_sd) :  1 x 1
              e(noomit) :  1 x 13
            e(b_pclass) :  1 x 15
               e(g_min) :  1 x 1
               e(se_sd) :  1 x 1
               e(g_max) :  1 x 1
               e(g_avg) :  1 x 1
                 e(N_g) :  1 x 1
                e(V_sd) :  1 x 1
               e(re_mi) :  1 x 15
              e(fmi_mi) :  1 x 15
             e(pise_mi) :  1 x 15
              e(rvi_mi) :  1 x 15
               e(df_mi) :  1 x 15
                e(W_mi) :  15 x 15
                e(B_mi) :  15 x 15
                e(V_mi) :  15 x 15
                e(b_mi) :  1 x 15
              e(N_g_mi) :  1 x 1
            e(g_min_mi) :  1 x 1
            e(g_avg_mi) :  1 x 1
            e(g_max_mi) :  1 x 1

51. est save "model_estimates/2d_schpov_full_mi100_linear.ster", replace
  (note: file model_estimates/2d_schpov_full_mi100_linear.ster not found)
  file model_estimates/2d_schpov_full_mi100_linear.ster saved

52. outreg2 using "tables/2d_schpov_full_mi100_linear.rtf", replace word label onecol ad
  > dstat(Log-Likelihood, e(ll), chi-square test, r(chi2), F-test, e(p), Prob > F, r(p),
  >  R-squared, e(r2)) ///
  > alpha(.001, .01, .05) symbol(***, **, *) ///
  > ctitle("M3: Fully specified")
  (note: file tables/2d_schpov_full_mi100_linear.rtf not found)
  tables/2d_schpov_full_mi100_linear.rtf
  seeout

53.
54. log close
        name:  <unnamed>
         log:  /hdir/0/jhaber/Projects/charter_data/sorting-schools-2019/logs/results_2_
> schpov_mi100_linear_100919.smcl
    log type:  smcl
   closed on:   9 Oct 2019, 22:47:23
_______________________________________________________________________________
```