```
. do "C:\WINDOWS\Temp\STD00000000.tmp"

. ******************************from KG code
. gen contrate=(n0901*cont0901+n1001*cont1001+n1016*cont1016)/(n0901+n1001+n1016+1)

. gen candvisits=ln(bush+cheney+gore+lieb+1)

.
. ******************************Begin FFGR code
.
. ***************
. ***************
. ***************
. *all 2000 (post Jan 1) ads
. *OUR TABLE 1 RESULTS
. replace toneall=toneall/10000
toneall was int now float
(128 real changes made)

. xi: regress turn00 senate toneall

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F(  2,   125) =  115.12
       Model |  .366358017     2  .183179009           Prob > F      =  0.0000
    Residual |  .198901296   125   .00159121           R-squared     =  0.6481
-------------+------------------------------           Adj R-squared =  0.6425
       Total |  .565259313   127  .004450861           Root MSE      =  .03989

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      senate |   .7519086   .0535441    14.04   0.000     .6459382     .857879
     toneall |   .0254535   .0052793     4.82   0.000      .015005    .0359019
       _cons |   .2127643   .0220866     9.63   0.000     .1690522    .2564764
------------------------------------------------------------------------------

. xi: regress turn00 senate i.state toneall
i.state           _Istate_1-37        (_Istate_1 for state==AL omitted)

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F( 38,    89) =   24.89
       Model |  .516638669    38  .013595754           Prob > F      =  0.0000
    Residual |  .048620644    89  .000546299           R-squared     =  0.9140
-------------+------------------------------           Adj R-squared =  0.8773
       Total |  .565259313   127  .004450861           Root MSE      =  .02337

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      senate |   .8692058   .0567832    15.31   0.000     .7563789    .9820327
   _Istate_2 |  -.0388296   .0214087    -1.81   0.073    -.0813681     .003709
   _Istate_3 |  -.0008493   .0172315    -0.05   0.961    -.0350879    .0333893
   _Istate_4 |   .0185599   .0218553     0.85   0.398    -.0248661     .061986
   _Istate_5 |   .0934951   .0215763     4.33   0.000     .0506234    .1363668
   _Istate_6 |   .0447565   .0167848     2.67   0.009     .0114055    .0781075
   _Istate_7 |   .0033951   .0197453     0.17   0.864    -.0358384    .0426287
   _Istate_8 |   .0528343    .021543     2.45   0.016     .0100288    .0956398
   _Istate_9 |   .0219729   .0221246     0.99   0.323    -.0219882    .0659341
  _Istate_10 |   .0353839   .0217891     1.62   0.108    -.0079105    .0786784
  _Istate_11 |   .0066794   .0171497     0.39   0.698    -.0273967    .0407556
  _Istate_12 |   .0522513   .0191525     2.73   0.008     .0141957    .0903068
```

| | | | | | | |
|---|---|---|---|---|---|---|
| _Istate_13 | -.0166759 | .016611 | -1.00 | 0.318 | -.0496816 | .0163297 |
| _Istate_14 | -.0027755 | .0199566 | -0.14 | 0.890 | -.0424289 | .0368778 |
| _Istate_15 | .0088628 | .019124 | 0.46 | 0.644 | -.0291361 | .0468618 |
| _Istate_16 | .029706 | .0177617 | 1.67 | 0.098 | -.0055862 | .0649983 |
| _Istate_17 | .0414469 | .0174523 | 2.37 | 0.020 | .0067695 | .0761242 |
| _Istate_18 | .0403923 | .0198375 | 2.04 | 0.045 | .0009756 | .0798091 |
| _Istate_19 | .011013 | .0166203 | 0.66 | 0.509 | -.0220111 | .0440372 |
| _Istate_20 | -.0316263 | .0224131 | -1.41 | 0.162 | -.0761606 | .0129081 |
| _Istate_21 | .135947 | .0215944 | 6.30 | 0.000 | .0930393 | .1788546 |
| _Istate_22 | -.0118381 | .0226045 | -0.52 | 0.602 | -.0567528 | .0330767 |
| _Istate_23 | .0077245 | .0193937 | 0.40 | 0.691 | -.0308104 | .0462594 |
| _Istate_24 | .0471661 | .0173029 | 2.73 | 0.008 | .0127856 | .0815466 |
| _Istate_25 | .032698 | .0166912 | 1.96 | 0.053 | -.000467 | .065863 |
| _Istate_26 | .0343096 | .0214448 | 1.60 | 0.113 | -.0083008 | .0769201 |
| _Istate_27 | .0617516 | .0236878 | 2.61 | 0.011 | .0146844 | .1088187 |
| _Istate_28 | .063667 | .0168886 | 3.77 | 0.000 | .0301096 | .0972244 |
| _Istate_29 | -.0294163 | .0215309 | -1.37 | 0.175 | -.0721978 | .0133652 |
| _Istate_30 | -.001658 | .0191501 | -0.09 | 0.931 | -.0397087 | .0363928 |
| _Istate_31 | .0219283 | .0179768 | 1.22 | 0.226 | -.0137912 | .0576478 |
| _Istate_32 | -.0184184 | .016722 | -1.10 | 0.274 | -.0516446 | .0148079 |
| _Istate_33 | .0425212 | .0223353 | 1.90 | 0.060 | -.0018586 | .086901 |
| _Istate_34 | .0036425 | .0205839 | 0.18 | 0.860 | -.0372573 | .0445423 |
| _Istate_35 | .0970307 | .0195714 | 4.96 | 0.000 | .0581427 | .1359187 |
| _Istate_36 | -.0026797 | .0182034 | -0.15 | 0.883 | -.0388493 | .03349 |
| _Istate_37 | -.0935624 | .0244568 | -3.83 | 0.000 | -.1421575 | -.0449673 |
| toneall | .0129135 | .0040727 | 3.17 | 0.002 | .0048211 | .0210059 |
| _cons | .1598577 | .0258242 | 6.19 | 0.000 | .1085456 | .2111698 |

```
. xi: regress turn00 turn96 turn92 turn88 senate i.state toneall
i.state           _Istate_1-37        (_Istate_1 for state==AL omitted)

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F( 41,    86) =   47.35
       Model |  .541283266    41  .013202031           Prob > F      =  0.0000
    Residual |  .023976048    86  .000278791           R-squared     =  0.9576
-------------+------------------------------           Adj R-squared =  0.9374
       Total |  .565259313   127  .004450861           Root MSE      =   .0167

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      turn96 |   .7417106    .101453     7.31   0.000     .5400287    .9433925
      turn92 |    .095938   .1365939     0.70   0.484    -.1756016    .3674776
      turn88 |  -.0533901   .0843546    -0.63   0.528    -.2210815    .1143013
      senate |   .2265509    .083218     2.72   0.008      .061119    .3919827
   _Istate_2 |  -.0369744   .0156062    -2.37   0.020    -.0679986   -.0059502
   _Istate_3 |   -.006288   .0124447    -0.51   0.615    -.0310271    .0184512
   _Istate_4 |   .0058308   .0166513     0.35   0.727    -.0272708    .0389325
   _Istate_5 |   .0194233    .017627     1.10   0.274    -.0156181    .0544646
   _Istate_6 |   .0062983   .0132256     0.48   0.635    -.0199933    .0325899
   _Istate_7 |  -.0119597   .0145038    -0.82   0.412    -.0407923    .0168729
   _Istate_8 |    .002292   .0165346     0.14   0.890    -.0305776    .0351616
   _Istate_9 |  -.0398237    .018802    -2.12   0.037    -.0772009   -.0024465
  _Istate_10 |   .0143652   .0158749     0.90   0.368     -.017193    .0459234
  _Istate_11 |  -.0195633   .0138166    -1.42   0.160    -.0470297    .0079031
  _Istate_12 |  -.0192222   .0157369    -1.22   0.225    -.0505061    .0120618
  _Istate_13 |  -.0014983   .0127224    -0.12   0.907    -.0267895     .023793
  _Istate_14 |  -.0131001   .0147997    -0.89   0.379    -.0425209    .0163208
  _Istate_15 |   .0120504   .0138107     0.87   0.385    -.0154044    .0395052
  _Istate_16 |   .0059488   .0130221     0.46   0.649    -.0199384     .031836
  _Istate_17 |   .0221953   .0129876     1.71   0.091    -.0036231    .0480137
  _Istate_18 |   .0144381   .0179453     0.80   0.423    -.0212361    .0501122
```

```
  _Istate_19 |   .0053483   .0121732     0.44   0.662    -.0188512    .0295478
  _Istate_20 |  -.0298323   .0164034    -1.82   0.072    -.0624412    .0027766
  _Istate_21 |   .0431345   .0185668     2.32   0.023     .0062249    .0800441
  _Istate_22 |  -.0143494   .0167267    -0.86   0.393    -.0476009    .0189021
  _Istate_23 |   .0346933    .014438     2.40   0.018     .0059915    .0633951
  _Istate_24 |   .0095087   .0134591     0.71   0.482    -.0172471    .0362646
  _Istate_25 |   -.006707   .0127808    -0.52   0.601    -.0321144    .0187004
  _Istate_26 |   -.019468    .016694    -1.17   0.247    -.0526547    .0137186
  _Istate_27 |  -.0164393   .0189251    -0.87   0.387    -.0540611    .0211826
  _Istate_28 |   .0209448   .0136892     1.53   0.130    -.0062685     .048158
  _Istate_29 |   .0180211   .0172606     1.04   0.299    -.0162918    .0523339
  _Istate_30 |  -.0105835   .0138442    -0.76   0.447    -.0381049    .0169379
  _Istate_31 |   .0193936   .0131882     1.47   0.145    -.0068238    .0456109
  _Istate_32 |   .0009193   .0126285     0.07   0.942    -.0241854    .0260239
  _Istate_33 |     .01985   .0162453     1.22   0.225    -.0124445    .0521445
  _Istate_34 |  -.0091661    .014977    -0.61   0.542    -.0389395    .0206073
  _Istate_35 |   .0574913    .015252     3.77   0.000     .0271713    .0878112
  _Istate_36 |  -.0194652   .0149965    -1.30   0.198    -.0492773    .0103469
  _Istate_37 |  -.0529505   .0198448    -2.67   0.009    -.0924006   -.0135003
     toneall |   .0037977   .0031827     1.19   0.236    -.0025293    .0101247
       _cons |   .0354125   .0267065     1.33   0.188    -.0176783    .0885032
------------------------------------------------------------------------------

. xi: regress turn00 turn96 turn92 turn88 senate toneall

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F(  5,   122) =  194.90
       Model |  .502365979     5  .100473196           Prob > F      =  0.0000
    Residual |  .062893334   122  .000515519           R-squared     =  0.8887
-------------+------------------------------           Adj R-squared =  0.8842
       Total |  .565259313   127  .004450861           Root MSE      =  .02271

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      turn96 |   .4874423   .0866346     5.63   0.000     .3159406    .6589441
      turn92 |   .5135836   .1070762     4.80   0.000     .3016156    .7255517
      turn88 |  -.1970236   .0666714    -2.96   0.004    -.3290064   -.0650408
      senate |   .1569975   .0494945     3.17   0.002     .0590181    .2549768
     toneall |   .0056155   .0032647     1.72   0.088    -.0008473    .0120784
       _cons |   .0284078   .0173304     1.64   0.104    -.0058995    .0627152
------------------------------------------------------------------------------

. xi: regress turn00 turn96 turn92 turn88 senate i.state toneall contrate candvisits
i.state           _Istate_1-37        (_Istate_1 for state==AL omitted)

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F( 43,    84) =   52.61
       Model |  .545023187    43  .012674958           Prob > F      =  0.0000
    Residual |  .020236126    84  .000240906           R-squared     =  0.9642
-------------+------------------------------           Adj R-squared =  0.9459
       Total |  .565259313   127  .004450861           Root MSE      =  .01552

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      turn96 |   .8012227   .0969017     8.27   0.000     .6085229    .9939224
      turn92 |    .017118   .1363941     0.13   0.900    -.2541167    .2883527
      turn88 |  -.0209337   .0826453    -0.25   0.801    -.1852829    .1434155
      senate |   .2146691   .0774356     2.77   0.007       .06068    .3686582
   _Istate_2 |  -.0493531   .0148877    -3.32   0.001    -.0789589   -.0197474
   _Istate_3 |  -.0205698   .0121887    -1.69   0.095    -.0448083    .0036687
   _Istate_4 |   -.006333    .015792    -0.40   0.689    -.0377371     .025071
```

| | | | | | | |
|---|---|---|---|---|---|---|
| _Istate_5 | .0138221 | .0164704 | 0.84 | 0.404 | -.018931 | .0465753 |
| _Istate_6 | -.0084785 | .0130239 | -0.65 | 0.517 | -.0343779 | .0174209 |
| _Istate_7 | -.0137552 | .0135613 | -1.01 | 0.313 | -.0407232 | .0132129 |
| _Istate_8 | -.0129977 | .0163399 | -0.80 | 0.429 | -.0454914 | .019496 |
| _Istate_9 | -.0384161 | .0174829 | -2.20 | 0.031 | -.0731827 | -.0036496 |
| _Istate_10 | -.0010405 | .0152998 | -0.07 | 0.946 | -.0314658 | .0293848 |
| _Istate_11 | -.0319522 | .0133424 | -2.39 | 0.019 | -.058485 | -.0054193 |
| _Istate_12 | -.0246166 | .0148051 | -1.66 | 0.100 | -.0540582 | .004825 |
| _Istate_13 | -.0117704 | .0122515 | -0.96 | 0.339 | -.0361338 | .012593 |
| _Istate_14 | -.0157605 | .0138336 | -1.14 | 0.258 | -.04327 | .0117491 |
| _Istate_15 | .0017793 | .0131162 | 0.14 | 0.892 | -.0243037 | .0278624 |
| _Istate_16 | -.0042252 | .01241 | -0.34 | 0.734 | -.0289038 | .0204533 |
| _Istate_17 | .0140868 | .0122497 | 1.15 | 0.253 | -.0102731 | .0384467 |
| _Istate_18 | .0055191 | .0168634 | 0.33 | 0.744 | -.0280157 | .0390539 |
| _Istate_19 | .0053371 | .0115211 | 0.46 | 0.644 | -.0175739 | .0282482 |
| _Istate_20 | -.0362968 | .015337 | -2.37 | 0.020 | -.0667962 | -.0057974 |
| _Istate_21 | .0279648 | .0177528 | 1.58 | 0.119 | -.0073386 | .0632682 |
| _Istate_22 | -.0283684 | .0159543 | -1.78 | 0.079 | -.0600954 | .0033585 |
| _Istate_23 | .0300721 | .0134784 | 2.23 | 0.028 | .0032688 | .0568753 |
| _Istate_24 | .0067095 | .0127044 | 0.53 | 0.599 | -.0185546 | .0319737 |
| _Istate_25 | -.0192094 | .0123276 | -1.56 | 0.123 | -.0437241 | .0053053 |
| _Istate_26 | -.0192307 | .015522 | -1.24 | 0.219 | -.0500979 | .0116364 |
| _Istate_27 | -.022568 | .0177753 | -1.27 | 0.208 | -.0579162 | .0127802 |
| _Istate_28 | .0114556 | .0129587 | 0.88 | 0.379 | -.0143142 | .0372254 |
| _Istate_29 | .0174188 | .0170653 | 1.02 | 0.310 | -.0165174 | .0513551 |
| _Istate_30 | -.0280095 | .0139115 | -2.01 | 0.047 | -.0556742 | -.0003449 |
| _Istate_31 | .0106948 | .0125422 | 0.85 | 0.396 | -.0142467 | .0356364 |
| _Istate_32 | .000154 | .0118967 | 0.01 | 0.990 | -.023504 | .023812 |
| _Istate_33 | .020604 | .0153534 | 1.34 | 0.183 | -.009928 | .0511359 |
| _Istate_34 | -.017344 | .0141393 | -1.23 | 0.223 | -.0454615 | .0107734 |
| _Istate_35 | .0460939 | .0144783 | 3.18 | 0.002 | .0173022 | .0748857 |
| _Istate_36 | -.0274203 | .0141668 | -1.94 | 0.056 | -.0555926 | .000752 |
| _Istate_37 | -.0612537 | .0186788 | -3.28 | 0.002 | -.0983986 | -.0241089 |
| toneall | -.0030729 | .0034353 | -0.89 | 0.374 | -.0099043 | .0037586 |
| contrate | .0477473 | .031579 | 1.51 | 0.134 | -.0150509 | .1105455 |
| candvisits | .0073045 | .0021112 | 3.46 | 0.001 | .0031061 | .0115029 |
| _cons | .040021 | .0255545 | 1.57 | 0.121 | -.010797 | .090839 |

```
. xi: regress turn00 turn96 turn92 turn88 senate toneall contrate candvisits
```

| Source | SS | df | MS | | |
|---|---|---|---|---|---|
| Model | .505409991 | 7 | .072201427 | Number of obs | = 128 |
| Residual | .059849322 | 120 | .000498744 | F( 7, 120) | = 144.77 |
| Total | .565259313 | 127 | .004450861 | Prob > F | = 0.0000 |
| | | | | R-squared | = 0.8941 |
| | | | | Adj R-squared | = 0.8879 |
| | | | | Root MSE | = .02233 |

| turn00 | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| turn96 | .5017954 | .0861957 | 5.82 | 0.000 | .3311338 | .6724569 |
| turn92 | .4859233 | .1105764 | 4.39 | 0.000 | .2669898 | .7048568 |
| turn88 | -.1910474 | .0701545 | -2.72 | 0.007 | -.3299484 | -.0521464 |
| senate | .1640845 | .0488977 | 3.36 | 0.001 | .0672705 | .2608984 |
| toneall | .0011675 | .003683 | 0.32 | 0.752 | -.0061246 | .0084596 |
| contrate | .0196023 | .0347863 | 0.56 | 0.574 | -.0492722 | .0884769 |
| candvisits | .0051833 | .0022935 | 2.26 | 0.026 | .0006424 | .0097242 |
| _cons | .0274304 | .0170571 | 1.61 | 0.110 | -.0063413 | .0612022 |

```
.
. regh turn00 senate toneall, var(lncpop00 pq)
```

```
Iteration 0:   log likelihood =  240.91802
Iteration 1:   log likelihood =  244.83134
Iteration 2:   log likelihood =  245.38658
Iteration 3:   log likelihood =  245.38704
Iteration 4:   log likelihood =  245.38704

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(4)      =    159.942
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.6481
Log Likelihood =    245.387                       vwcorr2(y,yh)   =     0.5580

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      senate |   .6167111   .0566972    10.88   0.000     .5055867    .7278355
     toneall |    .020664   .0044921     4.60   0.000     .0118598    .0294683
       _cons |   .2651153   .0222225    11.93   0.000       .22156    .3086706
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.1120556   .0842262    -1.33   0.183    -.2771359    .0530247
          pq |  -75.31584   20.31685    -3.71   0.000    -115.1361   -35.49554
       _cons |   13.12945   4.906291     2.68   0.007     3.513301    22.74561
------------------------------------------------------------------------------
                                                  Model: log Var(y|x,z) = gamma

. *bootstrap "regh turn00 senate toneall, var(lncpop00 pq)" _b _se,reps(1000)
saving(bsout1) replace bca
. regh turn00 senate  v__istate v__istat1 v__istat2 v__istat3 v__istat4 v__istat5
v__istat6 v__istat7 v_
> _istat8 v__istat9 v__ista10 v__ista11 v__ista12 v__ista13 v__ista14 v__ista15
v__ista16 v__ista17 v__i
> sta18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23 v__ista24 v__ista25
v__ista26 v__ista27 v__ist
> a28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33 v__ista34 v__ista35 toneall,
var(lncpop00 pq)

Iteration 0:   log likelihood =  325.29566
Iteration 1:   log likelihood =  327.76101
Iteration 2:   log likelihood =  328.31887
Iteration 3:   log likelihood =  328.32897
Iteration 4:   log likelihood =  328.32897

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(40)     =    325.826
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.9085
Log Likelihood =    328.329                       vwcorr2(y,yh)   =     0.9025

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      senate |   .8321037    .069386    11.99   0.000     .6961096    .9680978
   v__istate |  -.0358163   .0168688    -2.12   0.034    -.0688786   -.0027541
   v__istat1 |   .0032486   .0126094     0.26   0.797    -.0214654    .0279625
   v__istat2 |    .019339   .0173659     1.11   0.265    -.0146976    .0533755
   v__istat3 |   .0912807   .0160066     5.70   0.000     .0599083     .122653
   v__istat4 |   .0434322   .0127785     3.40   0.001     .0183868    .0684776
   v__istat5 |   .0047475   .0159049     0.30   0.765    -.0264256    .0359206
   v__istat6 |   .0536258   .0175271     3.06   0.002     .0192732    .0879784
```

| | | | | | | |
|---|---|---|---|---|---|---|
| v__istat7 | .0143253 | .0205066 | 0.70 | 0.485 | -.0258669 | .0545175 |
| v__istat8 | .0388544 | .0152161 | 2.55 | 0.011 | .0090315 | .0686774 |
| v__istat9 | .0085523 | .0136972 | 0.62 | 0.532 | -.0182937 | .0353983 |
| v__ista10 | .0562122 | .0155288 | 3.62 | 0.000 | .0257763 | .0866482 |
| v__ista11 | -.0122421 | .0133904 | -0.91 | 0.361 | -.0384869 | .0140027 |
| v__ista12 | .0000602 | .0162149 | 0.00 | 0.997 | -.0317203 | .0318407 |
| v__ista13 | .0162464 | .0146753 | 1.11 | 0.268 | -.0125167 | .0450096 |
| v__ista14 | .0283898 | .0145252 | 1.95 | 0.051 | -.0000791 | .0568588 |
| v__ista15 | .0486502 | .0154261 | 3.15 | 0.002 | .0184156 | .0788847 |
| v__ista16 | .0414889 | .0185339 | 2.24 | 0.025 | .0051632 | .0778146 |
| v__ista17 | .0151831 | .0131187 | 1.16 | 0.247 | -.010529 | .0408952 |
| v__ista18 | -.0297427 | .0195526 | -1.52 | 0.128 | -.068065 | .0085797 |
| v__ista19 | .1366216 | .0181778 | 7.52 | 0.000 | .1009937 | .1722495 |
| v__ista20 | -.0102146 | .0163154 | -0.63 | 0.531 | -.0421922 | .0217631 |
| v__ista21 | -.0127969 | .0182093 | -0.70 | 0.482 | -.0484866 | .0228927 |
| v__ista22 | .0458269 | .0129953 | 3.53 | 0.000 | .0203565 | .0712973 |
| v__ista23 | .0340978 | .0127035 | 2.68 | 0.007 | .0091994 | .0589962 |
| v__ista24 | .0318237 | .0158332 | 2.01 | 0.044 | .0007911 | .0628563 |
| v__ista25 | .053232 | .0194723 | 2.73 | 0.006 | .015067 | .091397 |
| v__ista26 | .0650232 | .014012 | 4.64 | 0.000 | .0375603 | .0924862 |
| v__ista27 | -.0318938 | .0168015 | -1.90 | 0.058 | -.0648242 | .0010365 |
| v__ista28 | -.0021897 | .0141695 | -0.15 | 0.877 | -.0299614 | .0255821 |
| v__ista29 | .0201445 | .013166 | 1.53 | 0.126 | -.0056605 | .0459495 |
| v__ista30 | -.0130414 | .013464 | -0.97 | 0.333 | -.0394303 | .0133475 |
| v__ista31 | .0459693 | .0227923 | 2.02 | 0.044 | .0012972 | .0906415 |
| v__ista32 | .0063474 | .0164725 | 0.39 | 0.700 | -.0259382 | .038633 |
| v__ista33 | .097766 | .0155661 | 6.28 | 0.000 | .0672571 | .128275 |
| v__ista34 | .0069365 | .0166832 | 0.42 | 0.678 | -.025762 | .039635 |
| v__ista35 | -.0853906 | .0245581 | -3.48 | 0.001 | -.1335237 | -.0372575 |
| toneall | .0120724 | .0032894 | 3.67 | 0.000 | .0056253 | .0185195 |
| _cons | .1754696 | .0293721 | 5.97 | 0.000 | .1179013 | .2330379 |
| gamma | | | | | | |
| lncpop00 | -.2568241 | .0848826 | -3.03 | 0.002 | -.4231909 | -.0904572 |
| pq | -5.154452 | 17.08879 | -0.30 | 0.763 | -38.64787 | 28.33897 |
| _cons | -3.417071 | 3.844511 | -0.89 | 0.374 | -10.95217 | 4.118031 |

Model: log Var(y|x,z) = gamma

```
. *bootstrap "regh turn00 senate  v__istate v__istat1 v__istat2 v__istat3 v__istat4
v__istat5 v__istat6
> v__istat7 v__istat8 v__istat9 v__ista10 v__ista11 v__ista12 v__ista13 v__ista14
v__ista15 v__ista16 v_
> _ista17 v__ista18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23 v__ista24
v__ista25 v__ista26 v__i
> sta27 v__ista28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33 v__ista34
v__ista35 toneall, var(lnc
> pop00 pq)" _b _se, reps(1000) saving(bsout1) replace bca
. regh turn00 turn96 turn92 turn88 senate  v__istate v__istat1 v__istat2 v__istat3
v__istat4 v__istat5 v
> __istat6 v__istat7 v__istat8 v__istat9 v__ista10 v__ista11 v__ista12 v__ista13
v__ista14 v__ista15 v__
> ista16 v__ista17 v__ista18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23
v__ista24 v__ista25 v__is
> ta26 v__ista27 v__ista28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33
v__ista34 v__ista35 toneall
> , var(lncpop00 pq)

Iteration 0:   log likelihood =  376.84977
Iteration 1:   log likelihood =  377.15355
Iteration 2:   log likelihood =   387.8771
Iteration 3:   log likelihood =  388.07197
Iteration 4:   log likelihood =  388.07311
```

```
Iteration 5:   log likelihood =  388.07311

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(43)     =    445.314
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.9449
Log Likelihood =    388.073                       vwcorr2(y,yh)   =     0.9596

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      turn96 |   .7603733   .0861048     8.83   0.000      .591611    .9291356
      turn92 |   .1379692   .1119386     1.23   0.218    -.0814264    .3573648
      turn88 |   .0138342   .0701992     0.20   0.844    -.1237536    .1514221
      senate |   .0438485   .0673701     0.65   0.515    -.0881946    .1758915
   v__istate |   -.036109   .0103202    -3.50   0.000    -.0563363   -.0158817
   v__istat1 |   .0007899   .0074543     0.11   0.916    -.0138201       .0154
   v__istat2 |   .0104031   .0112558     0.92   0.355    -.0116579    .0324641
   v__istat3 |   .0075051   .0113126     0.66   0.507    -.0146673    .0296775
   v__istat4 |   .0046388   .0083552     0.56   0.579    -.0117371    .0210147
   v__istat5 |  -.0049337   .0093308    -0.53   0.597    -.0232217    .0133542
   v__istat6 |   .0022041   .0118952     0.19   0.853    -.0211101    .0255182
   v__istat7 |  -.0606409   .0153407    -3.95   0.000    -.0907081   -.0305738
   v__istat8 |   .0138276   .0089691     1.54   0.123    -.0037515    .0314067
   v__istat9 |  -.0229522   .0094952    -2.42   0.016    -.0415624   -.0043419
   v__ista10 |  -.0301155    .011138    -2.70   0.007    -.0519455   -.0082854
   v__ista11 |   .0041757   .0085486     0.49   0.625    -.0125793    .0209307
   v__ista12 |  -.0012024   .0106149    -0.11   0.910    -.0220072    .0196023
   v__ista13 |   .0246923   .0085502     2.89   0.004     .0079342    .0414504
   v__ista14 |   .0089884   .0087432     1.03   0.304     -.008148    .0261248
   v__ista15 |   .0110039   .0101661     1.08   0.279    -.0089212     .030929
   v__ista16 |  -.0066605   .0134614    -0.49   0.621    -.0330444    .0197234
   v__ista17 |    .014075    .007826     1.80   0.072    -.0012637    .0294138
   v__ista18 |  -.0221395   .0122817    -1.80   0.071    -.0462113    .0019322
   v__ista19 |   .0330081   .0141252     2.34   0.019     .0053232    .0606931
   v__ista20 |  -.0128384   .0101316    -1.27   0.205     -.032696    .0070193
   v__ista21 |   .0231734   .0119925     1.93   0.053    -.0003314    .0466783
   v__ista22 |   .0106399   .0086879     1.22   0.221    -.0063881     .027668
   v__ista23 |  -.0072647   .0081546    -0.89   0.373    -.0232475     .008718
   v__ista24 |  -.0280738   .0102151    -2.75   0.006    -.0480951   -.0080525
   v__ista25 |   .0019567   .0130416     0.15   0.881    -.0236045    .0275178
   v__ista26 |   .0148791   .0090775     1.64   0.101    -.0029126    .0326707
   v__ista27 |   .0279238   .0112831     2.47   0.013     .0058094    .0500382
   v__ista28 |  -.0035938   .0082574    -0.44   0.663     -.019778    .0125905
   v__ista29 |   .0178322   .0079153     2.25   0.024     .0023185    .0333458
   v__ista30 |    .013032   .0085622     1.52   0.128    -.0037497    .0298137
   v__ista31 |   .0231539   .0174375     1.33   0.184    -.0110229    .0573307
   v__ista32 |  -.0056155   .0101843    -0.55   0.581    -.0255763    .0143452
   v__ista33 |   .0524489   .0109443     4.79   0.000     .0309986    .0738993
   v__ista34 |  -.0232647   .0111948    -2.08   0.038    -.0452062   -.0013233
   v__ista35 |  -.0184327   .0185256    -0.99   0.320    -.0547422    .0178768
     toneall |   .0056519   .0021023     2.69   0.007     .0015315    .0097723
       _cons |   .0367834   .0193066     1.91   0.057    -.0010569    .0746237
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.3878891   .0800582    -4.85   0.000    -.5448002   -.2309779
          pq |  -23.46191   16.42257    -1.43   0.153    -55.64955    8.725736
       _cons |   1.794423   3.857184     0.47   0.642    -5.765519    9.354366
------------------------------------------------------------------------------
                                                  Model: log Var(y|x,z) = gamma

. *bootstrap "regh turn00 turn96 turn92 turn88 senate  v__istate v__istat1 v__istat2
```

```
v__istat3 v__istat4
>  v__istat5 v__istat6 v__istat7 v__istat8 v__istat9 v__ista10 v__ista11 v__ista12
v__ista13 v__ista14 v
> __ista15 v__ista16 v__ista17 v__ista18 v__ista19 v__ista20 v__ista21 v__ista22
v__ista23 v__ista24 v__
> ista25 v__ista26 v__ista27 v__ista28 v__ista29 v__ista30 v__ista31 v__ista32
v__ista33 v__ista34 v__is
> ta35 toneall, var(lncpop00 pq)" _b _se, reps(1000) saving(bsout1) replace bca
. regh turn00 turn96 turn92 turn88 senate toneall, var(lncpop00 pq)

Iteration 0:   log likelihood =  315.98266
Iteration 1:   log likelihood =  319.58726
Iteration 2:   log likelihood =  319.89159
Iteration 3:   log likelihood =  319.89257
Iteration 4:   log likelihood =  319.89257

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(7)      =    308.953
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.8864
Log Likelihood =    319.893                       vwcorr2(y,yh)   =     0.8686

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      turn96 |   .5186613   .0792739     6.54   0.000     .3632874    .6740353
      turn92 |   .3978128   .0990978     4.01   0.000     .2035847    .5920409
      turn88 |  -.1424427   .0622643    -2.29   0.022    -.2644786   -.0204068
      senate |   .1076221   .0439863     2.45   0.014     .0214107    .1938336
     toneall |   .0080268   .0026606     3.02   0.003     .0028121    .0132415
       _cons |   .0652157   .0187496     3.48   0.001     .0284671    .1019642
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |   -.118672   .0787123    -1.51   0.132    -.2729454    .0356013
          pq |  -48.91464   17.56248    -2.79   0.005    -83.33646   -14.49282
       _cons |   5.612777   4.048018     1.39   0.166    -2.321194    13.54675
------------------------------------------------------------------------------
                                                 Model: log Var(y|x,z) = gamma

. *bootstrap "regh turn00 turn96 turn92 turn88 senate toneall, var(lncpop00 pq)" _b
_se,reps(1000) savin
> g(bsout1) replace bca
. regh turn00 turn96 turn92 turn88 senate v__istate v__istat1 v__istat2 v__istat3
v__istat4 v__istat5 v_
> _istat6 v__istat7 v__istat8 v__istat9 v__ista10 v__ista11 v__ista12 v__ista13
v__ista14 v__ista15 v__i
> sta16 v__ista17 v__ista18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23
v__ista24 v__ista25 v__ist
> a26 v__ista27 v__ista28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33
v__ista34 v__ista35 toneall
> contrate candvisits, var(lncpop00 pq)

Iteration 0:   log likelihood =  391.35648
Iteration 1:   log likelihood =  403.00224
Iteration 2:   log likelihood =  407.69863
Iteration 3:   log likelihood =  407.74308
Iteration 4:   log likelihood =  407.74311

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(45)     =    484.654
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.9503
```

Log Likelihood = 407.743 vwcorr2(y,yh) = 0.9743

| turn00 | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| mean | | | | | | |
| turn96 | .8298315 | .0764384 | 10.86 | 0.000 | .680015 | .979648 |
| turn92 | .1592472 | .1002391 | 1.59 | 0.112 | -.0372177 | .3557121 |
| turn88 | -.012496 | .0623316 | -0.20 | 0.841 | -.1346637 | .1096718 |
| senate | -.0024492 | .0596897 | -0.04 | 0.967 | -.1194388 | .1145405 |
| v__istate | -.0462371 | .0090585 | -5.10 | 0.000 | -.0639914 | -.0284828 |
| v__istat1 | -.0124241 | .0066541 | -1.87 | 0.062 | -.0254658 | .0006176 |
| v__istat2 | -.0001168 | .0093705 | -0.01 | 0.990 | -.0184826 | .0182491 |
| v__istat3 | -.0002254 | .0091492 | -0.02 | 0.980 | -.0181574 | .0177066 |
| v__istat4 | -.0097154 | .0074298 | -1.31 | 0.191 | -.0242774 | .0048467 |
| v__istat5 | -.0044915 | .0077086 | -0.58 | 0.560 | -.0196001 | .010617 |
| v__istat6 | -.0097454 | .0104479 | -0.93 | 0.351 | -.030223 | .0107321 |
| v__istat7 | -.0608384 | .0137436 | -4.43 | 0.000 | -.0877753 | -.0339015 |
| v__istat8 | -.0031427 | .0078344 | -0.40 | 0.688 | -.0184978 | .0122124 |
| v__istat9 | -.029646 | .0081848 | -3.62 | 0.000 | -.0456879 | -.0136042 |
| v__ista10 | -.0389445 | .0098109 | -3.97 | 0.000 | -.0581734 | -.0197156 |
| v__ista11 | .0004499 | .0075983 | 0.06 | 0.953 | -.0144425 | .0153422 |
| v__ista12 | -.0029957 | .0090944 | -0.33 | 0.742 | -.0208205 | .014829 |
| v__ista13 | .0202727 | .0072574 | 2.79 | 0.005 | .0060485 | .0344968 |
| v__ista14 | -.0016549 | .0074443 | -0.22 | 0.824 | -.0162455 | .0129356 |
| v__ista15 | .0022561 | .0087015 | 0.26 | 0.795 | -.0147985 | .0193107 |
| v__ista16 | -.0171886 | .0121865 | -1.41 | 0.158 | -.0410737 | .0066966 |
| v__ista17 | .0179288 | .0068977 | 2.60 | 0.009 | .0044095 | .0314482 |
| v__ista18 | -.0247487 | .0105937 | -2.34 | 0.019 | -.045512 | -.0039853 |
| v__ista19 | .0158168 | .0119118 | 1.33 | 0.184 | -.0075298 | .0391634 |
| v__ista20 | -.0257778 | .0084666 | -3.04 | 0.002 | -.042372 | -.0091837 |
| v__ista21 | .0229755 | .0111297 | 2.06 | 0.039 | .0011616 | .0447894 |
| v__ista22 | .0063506 | .0072947 | 0.87 | 0.384 | -.0079468 | .020648 |
| v__ista23 | -.020413 | .0071067 | -2.87 | 0.004 | -.0343418 | -.0064841 |
| v__ista24 | -.0309542 | .0087545 | -3.54 | 0.000 | -.0481127 | -.0137958 |
| v__ista25 | -.015274 | .0101185 | -1.51 | 0.131 | -.0351058 | .0045578 |
| v__ista26 | .0037653 | .0078931 | 0.48 | 0.633 | -.0117048 | .0192354 |
| v__ista27 | .0384542 | .0101801 | 3.78 | 0.000 | .0185016 | .0584069 |
| v__ista28 | -.0183289 | .0076939 | -2.38 | 0.017 | -.0334087 | -.0032491 |
| v__ista29 | .0117157 | .0068498 | 1.71 | 0.087 | -.0017097 | .0251411 |
| v__ista30 | .0199701 | .0073807 | 2.71 | 0.007 | .0055042 | .0344359 |
| v__ista31 | .019761 | .0164571 | 1.20 | 0.230 | -.0124944 | .0520164 |
| v__ista32 | -.0118298 | .0084876 | -1.39 | 0.163 | -.0284652 | .0048057 |
| v__ista33 | .0386822 | .0088339 | 4.38 | 0.000 | .0213681 | .0559962 |
| v__ista34 | -.0285502 | .0099788 | -2.86 | 0.004 | -.0481083 | -.0089921 |
| v__ista35 | -.021465 | .0172555 | -1.24 | 0.214 | -.0552851 | .0123551 |
| toneall | -.0021503 | .0021212 | -1.01 | 0.311 | -.0063077 | .0020072 |
| contrate | .0176008 | .021613 | 0.81 | 0.415 | -.0247599 | .0599614 |
| candvisits | .008458 | .0012636 | 6.69 | 0.000 | .0059813 | .0109346 |
| _cons | .02338 | .0165124 | 1.42 | 0.157 | -.0089837 | .0557437 |
| gamma | | | | | | |
| lncpop00 | -.55453 | .0795332 | -6.97 | 0.000 | -.7104122 | -.3986478 |
| pq | -8.955627 | 15.79859 | -0.57 | 0.571 | -39.92029 | 22.00903 |
| _cons | .0874283 | 3.858906 | 0.02 | 0.982 | -7.475889 | 7.650746 |

Model: log Var(y|x,z) = gamma

```
. *bootstrap "regh turn00 turn96 turn92 turn88 senate v__istate v__istat1 v__istat2
v__istat3 v__istat4
> v__istat5 v__istat6 v__istat7 v__istat8 v__istat9 v__ista10 v__ista11 v__ista12
v__ista13 v__ista14 v_
> _ista15 v__ista16 v__ista17 v__ista18 v__ista19 v__ista20 v__ista21 v__ista22
```

```
v__ista23 v__ista24 v__i
> sta25 v__ista26 v__ista27 v__ista28 v__ista29 v__ista30 v__ista31 v__ista32
v__ista33 v__ista34 v__ist
> a35 toneall contrate candvisits, var(lncpop00 pq)" _b _se,reps(1000)
saving(bsout1) replace bca
. regh turn00 turn96 turn92 turn88 senate toneall contrate candvisits, var(lncpop00
pq)

Iteration 0:   log likelihood =  316.94725
Iteration 1:   log likelihood =  322.04841
Iteration 2:   log likelihood =  322.94919
Iteration 3:   log likelihood =   322.9496
Iteration 4:   log likelihood =   322.9496

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(9)      =    315.067
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.8910
Log Likelihood =    322.950                       vwcorr2(y,yh)   =     0.8751

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      turn96 |     .52566   .0778625     6.75   0.000     .3730523    .6782678
      turn92 |   .3625854   .1007242     3.60   0.000     .1651697    .5600011
      turn88 |  -.1194989   .0666573    -1.79   0.073    -.2501448     .011147
      senate |   .1084755   .0438659     2.47   0.013        .0225    .1944511
     toneall |   .0044144   .0029981     1.47   0.141    -.0014619    .0102907
    contrate |   .0443596   .0309557     1.43   0.152    -.0163124    .1050317
  candvisits |   .0032264   .0018919     1.71   0.088    -.0004817    .0069345
       _cons |   .0656223   .0184189     3.56   0.000     .0295218    .1017227
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.1392202   .0794183    -1.75   0.080    -.2948772    .0164368
          pq |  -46.78672   17.45783    -2.68   0.007    -81.00344      -12.57
       _cons |   5.309721   4.024749     1.32   0.187    -2.578642    13.19808
------------------------------------------------------------------------------
                                                 Model: log Var(y|x,z) = gamma

. *bootstrap "regh turn00 turn96 turn92 turn88 senate toneall contrate candvisits,
var(lncpop00 pq)" _b
> _se,reps(1000) saving(bsout1) replace bca
.
.
. *OUR TONE RESULTS
. replace pro=pro/10000
pro was int now float
(128 real changes made)

. replace neg=neg/10000
neg was int now float
(128 real changes made)

. replace con=con/10000
con was int now float
(128 real changes made)

. xi: regress turn00 senate neg con pro

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F(  4,   123) =   59.16
       Model |  .371940856     4  .092985214           Prob > F      =  0.0000
```

```
    Residual |  .193318457   123  .001571695           R-squared     =  0.6580
-------------+----------------------------           Adj R-squared =  0.6469
       Total |  .565259313   127  .004450861           Root MSE      =  .03964

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      senate |   .7329552   .0543416    13.49   0.000     .6253894    .8405209
         neg |  -.0406286   .0360039    -1.13   0.261    -.1118962    .0306389
         con |   .0545805   .0366998     1.49   0.140    -.0180645    .1272255
         pro |   .0602582   .0256647     2.35   0.020     .0094565    .1110598
       _cons |   .2148707   .0219823     9.77   0.000     .1713582    .2583833
------------------------------------------------------------------------------

. xi: regress turn00 senate i.state neg con pro
i.state           _Istate_1-37        (_Istate_1 for state==AL omitted)

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F( 40,    87) =   24.05
       Model |  .518378409    40   .01295946           Prob > F      =  0.0000
    Residual |  .046880905    87  .000538861           R-squared     =  0.9171
-------------+------------------------------           Adj R-squared =  0.8789
       Total |  .565259313   127  .004450861           Root MSE      =  .02321

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      senate |   .8581019   .0567767    15.11   0.000     .7452521    .9709518
   _Istate_2 |  -.0339156    .022003    -1.54   0.127     -.077649    .0098177
   _Istate_3 |   .0016256   .0172177     0.09   0.925    -.0325963    .0358476
   _Istate_4 |   .0233302   .0218844     1.07   0.289    -.0201675    .0668278
   _Istate_5 |   .0938939   .0215614     4.35   0.000     .0510383    .1367495
   _Istate_6 |   .0417096   .0168917     2.47   0.015     .0081356    .0752836
   _Istate_7 |   .0030131   .0196164     0.15   0.878    -.0359765    .0420028
   _Istate_8 |   .0593807   .0217344     2.73   0.008     .0161813    .1025801
   _Istate_9 |   .0240922   .0221909     1.09   0.281    -.0200146     .068199
  _Istate_10 |   .0366119   .0217687     1.68   0.096    -.0066556    .0798795
  _Istate_11 |   .0104431   .0171702     0.61   0.545    -.0236846    .0445708
  _Istate_12 |   .0509032   .0192081     2.65   0.010     .0127251    .0890813
  _Istate_13 |   -.014788   .0166906    -0.89   0.378    -.0479624    .0183864
  _Istate_14 |   .0020651   .0202156     0.10   0.919    -.0381156    .0422458
  _Istate_15 |   .0089813   .0190238     0.47   0.638    -.0288306    .0467932
  _Istate_16 |   .0319094    .017686     1.80   0.075    -.0032433    .0670622
  _Istate_17 |   .0425967   .0173497     2.46   0.016     .0081123    .0770811
  _Istate_18 |   .0389956   .0197678     1.97   0.052     -.000295    .0782862
  _Istate_19 |   .0128316   .0165378     0.78   0.440     -.020039    .0457023
  _Istate_20 |   -.025075   .0225904    -1.11   0.270    -.0699758    .0198257
  _Istate_21 |   .1411394   .0218455     6.46   0.000     .0977191    .1845596
  _Istate_22 |  -.0122221   .0224515    -0.54   0.588    -.0568468    .0324027
  _Istate_23 |    .010196   .0193125     0.53   0.599    -.0281897    .0485817
  _Istate_24 |   .0503596   .0172781     2.91   0.005     .0160175    .0847017
  _Istate_25 |   .0319955   .0165898     1.93   0.057    -.0009785    .0649696
  _Istate_26 |   .0366183   .0214455     1.71   0.091     -.006007    .0792435
  _Istate_27 |    .066313   .0238886     2.78   0.007     .0188318    .1137942
  _Istate_28 |   .0642487   .0167832     3.83   0.000     .0308902    .0976071
  _Istate_29 |  -.0237038   .0216764    -1.09   0.277     -.066788    .0193804
  _Istate_30 |   .0014688   .0193114     0.08   0.940    -.0369146    .0398523
  _Istate_31 |   .0222787   .0179431     1.24   0.218    -.0133851    .0579426
  _Istate_32 |  -.0211729    .016681    -1.27   0.208    -.0543282    .0119824
  _Istate_33 |   .0490862   .0225908     2.17   0.033     .0041844    .0939879
  _Istate_34 |   .0044663   .0206353     0.22   0.829    -.0365486    .0454813
  _Istate_35 |   .1008629   .0199317     5.06   0.000     .0612465    .1404792
  _Istate_36 |  -.0050169   .0181306    -0.28   0.783    -.0410534    .0310196
```

| | | | | | | |
|---|---|---|---|---|---|---|
| _Istate_37 | -.0907716 | .0243468 | -3.73 | 0.000 | -.1391634 | -.0423798 |
| neg | -.0037543 | .0248976 | -0.15 | 0.880 | -.053241 | .0457325 |
| con | .057097 | .0254347 | 2.24 | 0.027 | .0065427 | .1076513 |
| pro | -.0029535 | .0196309 | -0.15 | 0.881 | -.041972 | .036065 |
| _cons | .1636836 | .0260655 | 6.28 | 0.000 | .1118755 | .2154917 |

```
. xi: regress turn00 turn96 turn92 turn88 senate i.state neg con pro
i.state           _Istate_1-37        (_Istate_1 for state==AL omitted)

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F( 43,    84) =   45.60
       Model |  .542036948    43   .01260551           Prob > F      =  0.0000
    Residual |  .023222365    84  .000276457           R-squared     =  0.9589
-------------+------------------------------           Adj R-squared =  0.9379
       Total |  .565259313   127  .004450861           Root MSE      =  .01663

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      turn96 |   .7339802     .10199     7.20   0.000     .5311619    .9367985
      turn92 |   .0893262   .1370531     0.65   0.516     -.183219    .3618714
      turn88 |  -.0467485   .0857962    -0.54   0.587    -.2173636    .1238666
      senate |   .2249999   .0836483     2.69   0.009      .058656    .3913437
   _Istate_2 |  -.0365182   .0161986    -2.25   0.027    -.0687309   -.0043054
   _Istate_3 |  -.0042108   .0124565    -0.34   0.736     -.028982    .0205604
   _Istate_4 |   .0081018   .0168388     0.48   0.632    -.0253839    .0415875
   _Istate_5 |   .0192657   .0178013     1.08   0.282    -.0161341    .0546655
   _Istate_6 |   .0038213   .0133622     0.29   0.776    -.0227509    .0303934
   _Istate_7 |  -.0121471    .014446    -0.84   0.403    -.0408745    .0165803
   _Istate_8 |     .00721    .016797     0.43   0.669    -.0261926    .0406126
   _Istate_9 |  -.0370075    .018818    -1.97   0.053    -.0744291    .0004141
  _Istate_10 |   .0162789   .0158636     1.03   0.308    -.0152675    .0478253
  _Istate_11 |  -.0170244   .0139284    -1.22   0.225    -.0447226    .0106737
  _Istate_12 |  -.0205152   .0159205    -1.29   0.201    -.0521749    .0111445
  _Istate_13 |  -.0017915   .0128589    -0.14   0.890    -.0273627    .0237798
  _Istate_14 |  -.0088448   .0149688    -0.59   0.556    -.0386118    .0209223
  _Istate_15 |   .0115381   .0137817     0.84   0.405    -.0158684    .0389446
  _Istate_16 |    .007626   .0130265     0.59   0.560    -.0182787    .0335306
  _Istate_17 |   .0227541   .0129949     1.75   0.084    -.0030877    .0485959
  _Istate_18 |   .0124155   .0182254     0.68   0.498    -.0238277    .0486587
  _Istate_19 |   .0063996   .0121599     0.53   0.600    -.0177818    .0305809
  _Istate_20 |  -.0266906   .0166383    -1.60   0.112    -.0597777    .0063965
  _Istate_21 |   .0486484   .0187916     2.59   0.011     .0112792    .0860176
  _Istate_22 |  -.0146599   .0166629    -0.88   0.381    -.0477959    .0184761
  _Istate_23 |   .0362121   .0144234     2.51   0.014     .0075295    .0648948
  _Istate_24 |   .0118072   .0135492     0.87   0.386     -.015137    .0387513
  _Istate_25 |  -.0065085   .0127313    -0.51   0.611    -.0318261     .018809
  _Istate_26 |  -.0184943    .016828    -1.10   0.275    -.0519586    .0149701
  _Istate_27 |  -.0112383   .0191104    -0.59   0.558    -.0492413    .0267648
  _Istate_28 |   .0213352   .0137373     1.55   0.124     -.005983    .0486534
  _Istate_29 |   .0202144   .0172936     1.17   0.246    -.0141758    .0546046
  _Istate_30 |  -.0098874   .0140023    -0.71   0.482    -.0377325    .0179578
  _Istate_31 |   .0185642   .0132853     1.40   0.166    -.0078552    .0449835
  _Istate_32 |  -.0011534   .0126424    -0.09   0.928    -.0262941    .0239873
  _Istate_33 |   .0251363   .0164915     1.52   0.131    -.0076589    .0579315
  _Istate_34 |  -.0071813   .0150463    -0.48   0.634    -.0371025    .0227399
  _Istate_35 |   .0619773   .0154729     4.01   0.000     .0312076    .0927469
  _Istate_36 |   -.020859    .014974    -1.39   0.167    -.0506366    .0089185
  _Istate_37 |  -.0513896   .0197907    -2.60   0.011    -.0907455   -.0120336
         neg |   .0046649   .0183388     0.25   0.800    -.0318038    .0411337
         con |   .0282266   .0185547     1.52   0.132    -.0086715    .0651246
         pro |  -.0138037   .0143109    -0.96   0.338    -.0422625    .0146552
```

```
       _cons |    .041285   .0268576     1.54   0.128    -.0121242    .0946942
-------------------------------------------------------------------------------

. xi: regress turn00 turn96 turn92 turn88 senate neg con pro

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F(  7,   120) =  138.53
       Model |  .503012716     7  .071858959           Prob > F      =  0.0000
    Residual |  .062246597   120  .000518722           R-squared     =  0.8899
-------------+------------------------------           Adj R-squared =  0.8835
       Total |  .565259313   127  .004450861           Root MSE      =  .02278

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      turn96 |   .4783737   .0873472     5.48   0.000     .3054324    .6513151
      turn92 |   .5223259   .1078259     4.84   0.000     .3088382    .7358136
      turn88 |  -.2035902    .067286    -3.03   0.003    -.3368118   -.0703686
      senate |   .1586102   .0497061     3.19   0.002     .0601956    .2570248
         neg |  -.0143913   .0209948    -0.69   0.494    -.0559595     .027177
         con |   .0270021   .0212818     1.27   0.207    -.0151345    .0691386
         pro |   .0079375   .0152403     0.52   0.603    -.0222372    .0381123
       _cons |   .0298786   .0176325     1.69   0.093    -.0050325    .0647897
------------------------------------------------------------------------------

. xi: regress turn00 turn96 turn92 turn88 senate i.state neg con pro contrate
candvisits
i.state           _Istate_1-37        (_Istate_1 for state==AL omitted)

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F( 45,    82) =   50.17
       Model |   .54544906    45   .01212109           Prob > F      =  0.0000
    Residual |  .019810253    82  .000241588           R-squared     =  0.9650
-------------+------------------------------           Adj R-squared =  0.9457
       Total |  .565259313   127  .004450861           Root MSE      =  .01554

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      turn96 |   .7873804   .0980068     8.03   0.000     .5924136    .9823473
      turn92 |   .0258012   .1373521     0.19   0.851    -.2474359    .2990383
      turn88 |  -.0254815   .0842087    -0.30   0.763    -.1929995    .1420365
      senate |   .2175693    .078243     2.78   0.007     .0619191    .3732196
   _Istate_2 |  -.0470703   .0154606    -3.04   0.003    -.0778263   -.0163143
   _Istate_3 |  -.0184083   .0123411    -1.49   0.140    -.0429587     .006142
   _Istate_4 |  -.0033927   .0160562    -0.21   0.833    -.0353336    .0285481
   _Istate_5 |   .0146748   .0167048     0.88   0.382    -.0185564    .0479059
   _Istate_6 |  -.0090129   .0131273    -0.69   0.494    -.0351274    .0171015
   _Istate_7 |  -.0135687   .0135827    -1.00   0.321    -.0405891    .0134517
   _Istate_8 |  -.0078855   .0168105    -0.47   0.640     -.041327    .0255561
   _Istate_9 |   -.036119   .0175967    -2.05   0.043    -.0711245   -.0011135
  _Istate_10 |   .0008451   .0154431     0.05   0.956    -.0298762    .0315664
  _Istate_11 |  -.0289605   .0135654    -2.13   0.036    -.0559463   -.0019747
  _Istate_12 |  -.0243367   .0150305    -1.62   0.109    -.0542371    .0055637
  _Istate_13 |  -.0107309   .0124133    -0.86   0.390     -.035425    .0139631
  _Istate_14 |  -.0125066    .014114    -0.89   0.378    -.0405839    .0155706
  _Istate_15 |   .0020937   .0131476     0.16   0.874    -.0240611    .0282485
  _Istate_16 |  -.0025402   .0124928    -0.20   0.839    -.0273923    .0223119
  _Istate_17 |    .015179   .0123201     1.23   0.221    -.0093297    .0396877
  _Istate_18 |   .0054755   .0171666     0.32   0.751    -.0286743    .0396253
  _Istate_19 |    .006609   .0115868     0.57   0.570    -.0164409    .0296588
  _Istate_20 |  -.0329774   .0156495    -2.11   0.038    -.0641093   -.0018456
  _Istate_21 |   .0328696   .0181808     1.81   0.074    -.0032977     .069037
```

```
  _Istate_22 |  -.0280293    .015979    -1.75   0.083    -.0598166     .003758
  _Istate_23 |   .0311968     .01356     2.30   0.024     .0042216    .0581719
  _Istate_24 |   .0091982    .012888     0.71   0.477    -.0164402    .0348366
  _Istate_25 |   -.018427   .0123597    -1.49   0.140    -.0430145    .0061604
  _Istate_26 |  -.0177149   .0157376    -1.13   0.264     -.049022    .0135922
  _Istate_27 |  -.0188887   .0180559    -1.05   0.299    -.0548077    .0170303
  _Istate_28 |   .0126353   .0130623     0.97   0.336    -.0133499    .0386204
  _Istate_29 |   .0202226   .0172398     1.17   0.244    -.0140728     .054518
  _Istate_30 |  -.0257918   .0141171    -1.83   0.071    -.0538753    .0022916
  _Istate_31 |    .011158   .0126685     0.88   0.381    -.0140436    .0363597
  _Istate_32 |  -.0011968    .011957    -0.10   0.921    -.0249831    .0225896
  _Istate_33 |   .0240714   .0156176     1.54   0.127     -.006997    .0551397
  _Istate_34 |  -.0158991   .0143387    -1.11   0.271    -.0444233    .0126251
  _Istate_35 |   .0493831   .0148478     3.33   0.001     .0198461    .0789202
  _Istate_36 |  -.0277638   .0142016    -1.95   0.054    -.0560152    .0004877
  _Istate_37 |  -.0597029    .018766    -3.18   0.002    -.0970344   -.0223713
         neg |  -.0075997   .0174515    -0.44   0.664    -.0423162    .0271168
         con |   .0184064   .0176204     1.04   0.299    -.0166462     .053459
         pro |  -.0130971   .0134029    -0.98   0.331    -.0397598    .0135655
    contrate |   .0422987   .0319377     1.32   0.189    -.0212355    .1058328
  candvisits |   .0071825   .0021254     3.38   0.001     .0029543    .0114107
       _cons |   .0430603   .0257499     1.67   0.098    -.0081645    .0942851
------------------------------------------------------------------------------

. xi: regress turn00 turn96 turn92 turn88 senate neg con pro contrate candvisits

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F(  9,   118) =  112.50
       Model |  .506257627     9  .056250847           Prob > F      =  0.0000
    Residual |  .059001686   118  .000500014           R-squared     =  0.8956
-------------+------------------------------           Adj R-squared =  0.8877
       Total |  .565259313   127  .004450861           Root MSE      =  .02236

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      turn96 |   .4936115    .086769     5.69   0.000     .3217853    .6654378
      turn92 |   .4919706   .1112729     4.42   0.000     .2716201    .7123212
      turn88 |  -.1986698   .0704971    -2.82   0.006    -.3382733   -.0590664
      senate |   .1654979   .0490171     3.38   0.001     .0684307    .2625652
         neg |  -.0244594   .0210099    -1.16   0.247    -.0660648    .0171459
         con |   .0223334   .0209811     1.06   0.289    -.0192149    .0638817
         pro |   .0079192   .0149903     0.53   0.598    -.0217657    .0376041
    contrate |   .0214907   .0349921     0.61   0.540    -.0478032    .0907847
  candvisits |   .0053658   .0023058     2.33   0.022     .0007996     .009932
       _cons |   .0297968   .0173138     1.72   0.088    -.0044893    .0640829
------------------------------------------------------------------------------

.
. regh turn00 senate neg con pro, var(lncpop00 pq)

Iteration 0:   log likelihood =   240.6776
Iteration 1:   log likelihood =  245.21866
Iteration 2:   log likelihood =  246.77114
Iteration 3:   log likelihood =  246.77271
Iteration 4:   log likelihood =  246.77271

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(6)      =    162.714
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.6545
Log Likelihood =    246.773                       vwcorr2(y,yh)   =     0.5684
```

```
------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      senate |   .6138144   .0560644    10.95   0.000     .5039301    .7236986
         neg |  -.0220134   .0281376    -0.78   0.434     -.077162    .0331352
         con |   .0633509   .0300634     2.11   0.035     .0044278     .122274
         pro |   .0271658   .0212632     1.28   0.201    -.0145093    .0688409
       _cons |   .2649849   .0220339    12.03   0.000     .2217993    .3081705
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.1414659    .085504    -1.65   0.098    -.3090507    .0261188
          pq |  -72.58233   20.39166    -3.56   0.000    -112.5492   -32.61542
       _cons |   12.81852   4.949347     2.59   0.010      3.11798    22.51907
------------------------------------------------------------------------------
                                                 Model: log Var(y|x,z) = gamma

. *bootstrap "regh turn00 senate neg con pro, var(lncpop00 pq)" _b _se,reps(1000)
saving(bsout1) replace
>  bca
. regh turn00 senate  v__istate v__istat1 v__istat2 v__istat3 v__istat4 v__istat5
v__istat6 v__istat7 v_
> _istat8 v__istat9 v__ista10 v__ista11 v__ista12 v__ista13 v__ista14 v__ista15
v__ista16 v__ista17 v__i
> sta18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23 v__ista24 v__ista25
v__ista26 v__ista27 v__ist
> a28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33 v__ista34 v__ista35 neg con
pro, var(lncpop00 pq
> )

Iteration 0:   log likelihood =  326.84847
Iteration 1:   log likelihood =  331.30233
Iteration 2:   log likelihood =   331.6444
Iteration 3:   log likelihood =  331.64574
Iteration 4:   log likelihood =  331.64574

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(42)     =    332.460
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.9114
Log Likelihood =    331.646                       vwcorr2(y,yh)   =     0.9099

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      senate |   .8329115   .0676816    12.31   0.000     .7002579    .9655651
   v__istate |  -.0272676   .0170622    -1.60   0.110    -.0607089    .0061738
   v__istat1 |   .0049977   .0123722     0.40   0.686    -.0192514    .0292468
   v__istat2 |   .0215247   .0168649     1.28   0.202      -.01153    .0545794
   v__istat3 |   .0919963   .0154076     5.97   0.000     .0617981    .1221946
   v__istat4 |   .0406969   .0125954     3.23   0.001     .0160103    .0653835
   v__istat5 |   .0053152    .015513     0.34   0.732    -.0250897    .0357202
   v__istat6 |   .0582105   .0173339     3.36   0.001     .0242368    .0921843
   v__istat7 |   .0143347   .0205367     0.70   0.485    -.0259165     .054586
   v__istat8 |   .0404678    .014851     2.72   0.006     .0113604    .0695753
   v__istat9 |   .0143423     .01389     1.03   0.302    -.0128816    .0415661
   v__ista10 |   .0553302   .0152609     3.63   0.000     .0254194    .0852409
   v__ista11 |  -.0084055    .013353    -0.63   0.529     -.034577    .0177659
   v__ista12 |   .0042521   .0160826     0.26   0.791    -.0272692    .0357733
   v__ista13 |   .0148806   .0142746     1.04   0.297    -.0130972    .0428583
   v__ista14 |   .0306615   .0141812     2.16   0.031     .0028669    .0584561
   v__ista15 |   .0469442   .0150607     3.12   0.002     .0174258    .0764626
```

```
   v__ista16 |   .0428808   .0185163     2.32   0.021     .0065896     .079172
   v__ista17 |   .0180939   .0129476     1.40   0.162     -.007283    .0434707
   v__ista18 |  -.0218785   .0193755    -1.13   0.259    -.0598537    .0160967
   v__ista19 |   .1424319   .0180246     7.90   0.000     .1071044    .1777593
   v__ista20 |  -.0110843   .0157581    -0.70   0.482    -.0419697     .019801
   v__ista21 |  -.0098375   .0180861    -0.54   0.586    -.0452855    .0256105
   v__ista22 |   .0484402   .0126975     3.81   0.000     .0235534    .0733269
   v__ista23 |   .0329451   .0124169     2.65   0.008     .0086085    .0572817
   v__ista24 |   .0350587   .0155202     2.26   0.024     .0046396    .0654778
   v__ista25 |   .0562692    .018731     3.00   0.003     .0195571    .0929812
   v__ista26 |   .0676923   .0138174     4.90   0.000     .0406106    .0947739
   v__ista27 |  -.0256689   .0166346    -1.54   0.123    -.0582722    .0069344
   v__ista28 |      .00188   .0139842     0.13   0.893    -.0255285    .0292885
   v__ista29 |   .0206861   .0128493     1.61   0.107     -.004498    .0458702
   v__ista30 |  -.0162349   .0131715    -1.23   0.218    -.0420505    .0095807
   v__ista31 |   .0510232   .0226746     2.25   0.024     .0065818    .0954646
   v__ista32 |   .0038335   .0163226     0.23   0.814    -.0281582    .0358252
   v__ista33 |   .1002706   .0152401     6.58   0.000     .0704006    .1301407
   v__ista34 |   .0058915   .0165866     0.36   0.722    -.0266176    .0384007
   v__ista35 |  -.0855544   .0243097    -3.52   0.000    -.1332006   -.0379083
         neg |  -.0155568   .0182371    -0.85   0.394     -.051301    .0201873
         con |    .063054   .0198441     3.18   0.001     .0241603    .1019477
         pro |   .0007741   .0153067     0.05   0.960    -.0292264    .0307746
       _cons |   .1739562   .0287451     6.05   0.000     .1176169    .2302955
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.2929114   .0876872    -3.34   0.001    -.4647751   -.1210477
          pq |  -.8364143   17.03225    -0.05   0.961      -34.219    32.54618
       _cons |   -4.05889   3.824692    -1.06   0.289    -11.55515    3.437369
------------------------------------------------------------------------------
                                                 Model: log Var(y|x,z) = gamma

. *bootstrap "regh turn00 senate  v__istate v__istat1 v__istat2 v__istat3 v__istat4
v__istat5 v__istat6
> v__istat7 v__istat8 v__istat9 v__ista10 v__ista11 v__ista12 v__ista13 v__ista14
v__ista15 v__ista16 v_
> _ista17 v__ista18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23 v__ista24
v__ista25 v__ista26 v__i
> sta27 v__ista28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33 v__ista34
v__ista35 neg con pro, var
> (lncpop00 pq)" _b _se,reps(1000) saving(bsout1) replace bca
. regh turn00 turn96 turn92 turn88 senate  v__istate v__istat1 v__istat2 v__istat3
v__istat4 v__istat5 v
> __istat6 v__istat7 v__istat8 v__istat9 v__ista10 v__ista11 v__ista12 v__ista13
v__ista14 v__ista15 v__
> ista16 v__ista17 v__ista18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23
v__ista24 v__ista25 v__is
> ta26 v__ista27 v__ista28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33
v__ista34 v__ista35 neg con
>  pro, var(lncpop00 pq)

Iteration 0:   log likelihood =  377.68568
Iteration 1:   log likelihood =  390.56081
Iteration 2:   log likelihood =  391.70313
Iteration 3:   log likelihood =   391.7218
Iteration 4:   log likelihood =  391.72181

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(45)     =    452.612
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.9444
Log Likelihood =    391.722                       vwcorr2(y,yh)   =     0.9623
```

| turn00 | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| mean | | | | | | |
| turn96 | .7286045 | .0881391 | 8.27 | 0.000 | .5558551 | .9013539 |
| turn92 | .1713233 | .1126726 | 1.52 | 0.128 | -.0495108 | .3921575 |
| turn88 | .0128503 | .0692516 | 0.19 | 0.853 | -.1228803 | .148581 |
| senate | .0357 | .0661565 | 0.54 | 0.589 | -.0939644 | .1653644 |
| v__istate | -.0344156 | .0104526 | -3.29 | 0.001 | -.0549022 | -.013929 |
| v__istat1 | .0039064 | .0072642 | 0.54 | 0.591 | -.0103312 | .0181439 |
| v__istat2 | .011463 | .0109586 | 1.05 | 0.296 | -.0100155 | .0329415 |
| v__istat3 | .0062734 | .0110026 | 0.57 | 0.569 | -.0152912 | .0278381 |
| v__istat4 | .0031535 | .0081387 | 0.39 | 0.698 | -.0127982 | .0191051 |
| v__istat5 | -.0023372 | .0090669 | -0.26 | 0.797 | -.0201079 | .0154335 |
| v__istat6 | .0082897 | .0118023 | 0.70 | 0.482 | -.0148423 | .0314218 |
| v__istat7 | -.056028 | .015035 | -3.73 | 0.000 | -.0854961 | -.0265599 |
| v__istat8 | .0168041 | .0086653 | 1.94 | 0.052 | -.0001795 | .0337877 |
| v__istat9 | -.0162176 | .0095254 | -1.70 | 0.089 | -.034887 | .0024519 |
| v__ista10 | -.0325374 | .0109799 | -2.96 | 0.003 | -.0540576 | -.0110171 |
| v__ista11 | .0051499 | .0084112 | 0.61 | 0.540 | -.0113359 | .0216356 |
| v__ista12 | .0069485 | .0107705 | 0.65 | 0.519 | -.0141612 | .0280583 |
| v__ista13 | .0234634 | .0082087 | 2.86 | 0.004 | .0073746 | .0395522 |
| v__ista14 | .011783 | .0085365 | 1.38 | 0.167 | -.0049482 | .0285142 |
| v__ista15 | .0092457 | .0098797 | 0.94 | 0.349 | -.0101182 | .0286096 |
| v__ista16 | -.0084696 | .0131857 | -0.64 | 0.521 | -.0343132 | .0173739 |
| v__ista17 | .0172224 | .0076553 | 2.25 | 0.024 | .0022184 | .0322265 |
| v__ista18 | -.016345 | .0122416 | -1.34 | 0.182 | -.0403381 | .007648 |
| v__ista19 | .0404569 | .0139855 | 2.89 | 0.004 | .0130458 | .067868 |
| v__ista20 | -.0112482 | .0097758 | -1.15 | 0.250 | -.0304084 | .007912 |
| v__ista21 | .0247145 | .0118417 | 2.09 | 0.037 | .0015053 | .0479237 |
| v__ista22 | .0137465 | .0085442 | 1.61 | 0.108 | -.0029999 | .0304929 |
| v__ista23 | -.0062198 | .0078766 | -0.79 | 0.430 | -.0216577 | .0092181 |
| v__ista24 | -.0285177 | .009958 | -2.86 | 0.004 | -.0480351 | -.0090003 |
| v__ista25 | .0075162 | .0126258 | 0.60 | 0.552 | -.0172299 | .0322624 |
| v__ista26 | .0178521 | .0088725 | 2.01 | 0.044 | .0004623 | .035242 |
| v__ista27 | .032119 | .0110267 | 2.91 | 0.004 | .010507 | .053731 |
| v__ista28 | -.0022175 | .0080843 | -0.27 | 0.784 | -.0180624 | .0136274 |
| v__ista29 | .0167829 | .0076471 | 2.19 | 0.028 | .0017948 | .031771 |
| v__ista30 | .0118406 | .0082745 | 1.43 | 0.152 | -.0043771 | .0280582 |
| v__ista31 | .028884 | .0175833 | 1.64 | 0.100 | -.0055786 | .0633467 |
| v__ista32 | -.0025533 | .0099703 | -0.26 | 0.798 | -.0220947 | .016988 |
| v__ista33 | .0568223 | .0107534 | 5.28 | 0.000 | .0357461 | .0778986 |
| v__ista34 | -.0217263 | .0108916 | -1.99 | 0.046 | -.0430734 | -.0003792 |
| v__ista35 | -.0135517 | .018416 | -0.74 | 0.462 | -.0496464 | .022543 |
| neg | .0081021 | .0108324 | 0.75 | 0.454 | -.0131291 | .0293332 |
| con | .0311205 | .0121618 | 2.56 | 0.011 | .0072837 | .0549572 |
| pro | -.0156292 | .0092412 | -1.69 | 0.091 | -.0337416 | .0024833 |
| _cons | .0386921 | .0186196 | 2.08 | 0.038 | .0021983 | .0751858 |
| gamma | | | | | | |
| lncpop00 | -.4169201 | .0814822 | -5.12 | 0.000 | -.5766223 | -.2572179 |
| pq | -23.76212 | 16.88931 | -1.41 | 0.159 | -56.86457 | 9.340316 |
| _cons | 2.182978 | 3.983362 | 0.55 | 0.584 | -5.624267 | 9.990223 |

Model: log Var(y|x,z) = gamma

```
. *bootstrap "regh turn00 turn96 turn92 turn88 senate  v__istate v__istat1 v__istat2
v__istat3 v__istat4
>  v__istat5 v__istat6 v__istat7 v__istat8 v__istat9 v__ista10 v__ista11 v__ista12
v__ista13 v__ista14 v
> __ista15 v__ista16 v__ista17 v__ista18 v__ista19 v__ista20 v__ista21 v__ista22
v__ista23 v__ista24 v__
> ista25 v__ista26 v__ista27 v__ista28 v__ista29 v__ista30 v__ista31 v__ista32
```

```
v__ista33 v__ista34 v__is
> ta35 neg con pro, var(lncpop00 pq)" _b _se,reps(1000) saving(bsout1) replace bca
. regh turn00 turn96 turn92 turn88 senate neg con pro, var(lncpop00 pq)

Iteration 0:   log likelihood =   316.7119
Iteration 1:   log likelihood =  320.63897
Iteration 2:   log likelihood =  321.33034
Iteration 3:   log likelihood =  321.33084
Iteration 4:   log likelihood =  321.33084

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(9)      =    311.830
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.8871
Log Likelihood =    321.331                       vwcorr2(y,yh)   =     0.8708

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      turn96 |    .497282   .0796623     6.24   0.000     .3411467    .6534173
      turn92 |   .4101608   .0984366     4.17   0.000     .2172287     .603093
      turn88 |  -.1419504   .0631887    -2.25   0.025    -.2657979   -.0181029
      senate |   .1112602    .043517     2.56   0.011     .0259684     .196552
         neg |  -.0090161   .0164035    -0.55   0.583    -.0411662    .0231341
         con |   .0376681     .01753     2.15   0.032     .0033099    .0720262
         pro |   .0025164   .0123656     0.20   0.839    -.0217196    .0267525
       _cons |   .0672307   .0185425     3.63   0.000      .030888    .1035734
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |   -.138027   .0794015    -1.74   0.082     -.293651     .017597
          pq |  -50.21693   17.96438    -2.80   0.005    -85.42647    -15.0074
       _cons |   6.156096   4.194505     1.47   0.142    -2.064983    14.37717
------------------------------------------------------------------------------
                                                 Model: log Var(y|x,z) = gamma

. *bootstrap "regh turn00 turn96 turn92 turn88 senate neg con pro, var(lncpop00 pq)"
_b _se,reps(1000) s
> aving(bsout1) replace bca
. regh turn00 turn96 turn92 turn88 senate v__istate v__istat1 v__istat2 v__istat3
v__istat4 v__istat5 v_
> _istat6 v__istat7 v__istat8 v__istat9 v__ista10 v__ista11 v__ista12 v__ista13
v__ista14 v__ista15 v__i
> sta16 v__ista17 v__ista18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23
v__ista24 v__ista25 v__ist
> a26 v__ista27 v__ista28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33
v__ista34 v__ista35 neg con
> pro contrate candvisits, var(lncpop00 pq)

Iteration 0:   log likelihood =  392.77106
Iteration 1:   log likelihood =  407.61202
Iteration 2:   log likelihood =  409.39609
Iteration 3:   log likelihood =  409.41983
Iteration 4:   log likelihood =  409.41985

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(47)     =    488.008
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.9505
Log Likelihood =    409.420                       vwcorr2(y,yh)   =     0.9749

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
```

| | | | | | | |
|---|---|---|---|---|---|---|
| mean | | | | | | |
| turn96 | .7987578 | .0795672 | 10.04 | 0.000 | .642809 | .9547065 |
| turn92 | .1829604 | .1012488 | 1.81 | 0.071 | -.0154835 | .3814043 |
| turn88 | -.0153701 | .0619694 | -0.25 | 0.804 | -.1368279 | .1060878 |
| senate | .0022407 | .0593663 | 0.04 | 0.970 | -.114115 | .1185965 |
| v__istate | -.0438042 | .0093108 | -4.70 | 0.000 | -.0620529 | -.0255554 |
| v__istat1 | -.0099772 | .0067212 | -1.48 | 0.138 | -.0231504 | .0031961 |
| v__istat2 | .0010371 | .0092934 | 0.11 | 0.911 | -.0171776 | .0192518 |
| v__istat3 | .0002362 | .0091236 | 0.03 | 0.979 | -.0176456 | .0181181 |
| v__istat4 | -.0092775 | .0073637 | -1.26 | 0.208 | -.0237101 | .005155 |
| v__istat5 | -.0029993 | .0076765 | -0.39 | 0.696 | -.0180448 | .0120463 |
| v__istat6 | -.0052367 | .0105983 | -0.49 | 0.621 | -.0260089 | .0155355 |
| v__istat7 | -.0573423 | .0136582 | -4.20 | 0.000 | -.0841119 | -.0305726 |
| v__istat8 | -.0003573 | .0078945 | -0.05 | 0.964 | -.0158302 | .0151156 |
| v__istat9 | -.0243819 | .0085587 | -2.85 | 0.004 | -.0411566 | -.0076071 |
| v__ista10 | -.0391557 | .0097981 | -4.00 | 0.000 | -.0583597 | -.0199516 |
| v__ista11 | .0016285 | .0075896 | 0.21 | 0.830 | -.0132468 | .0165038 |
| v__ista12 | .0022843 | .0094431 | 0.24 | 0.809 | -.0162239 | .0207925 |
| v__ista13 | .0194526 | .0071634 | 2.72 | 0.007 | .0054126 | .0334926 |
| v__ista14 | .0009288 | .0074868 | 0.12 | 0.901 | -.0137451 | .0156027 |
| v__ista15 | .0021448 | .0085715 | 0.25 | 0.802 | -.0146549 | .0189446 |
| v__ista16 | -.0167089 | .0120662 | -1.38 | 0.166 | -.0403582 | .0069405 |
| v__ista17 | .0197756 | .0068743 | 2.88 | 0.004 | .0063021 | .033249 |
| v__ista18 | -.0207111 | .010734 | -1.93 | 0.054 | -.0417495 | .0003272 |
| v__ista19 | .0220001 | .0122127 | 1.80 | 0.072 | -.0019364 | .0459366 |
| v__ista20 | -.0237679 | .0084401 | -2.82 | 0.005 | -.0403101 | -.0072257 |
| v__ista21 | .0234228 | .0111604 | 2.10 | 0.036 | .0015489 | .0452968 |
| v__ista22 | .0088393 | .0073628 | 1.20 | 0.230 | -.0055916 | .0232703 |
| v__ista23 | -.0187469 | .0070617 | -2.65 | 0.008 | -.0325876 | -.0049062 |
| v__ista24 | -.0305545 | .0087109 | -3.51 | 0.000 | -.0476275 | -.0134815 |
| v__ista25 | -.0109397 | .0102645 | -1.07 | 0.287 | -.0310577 | .0091784 |
| v__ista26 | .0068522 | .0079458 | 0.86 | 0.388 | -.0087214 | .0224257 |
| v__ista27 | .040215 | .0100583 | 4.00 | 0.000 | .0205011 | .059929 |
| v__ista28 | -.0164068 | .0076957 | -2.13 | 0.033 | -.03149 | -.0013236 |
| v__ista29 | .0115985 | .0067567 | 1.72 | 0.086 | -.0016443 | .0248413 |
| v__ista30 | .0184481 | .0073192 | 2.52 | 0.012 | .0041027 | .0327935 |
| v__ista31 | .0234021 | .0164141 | 1.43 | 0.154 | -.0087689 | .0555731 |
| v__ista32 | -.0100108 | .0085141 | -1.18 | 0.240 | -.0266982 | .0066766 |
| v__ista33 | .0421101 | .0089894 | 4.68 | 0.000 | .0244912 | .059729 |
| v__ista34 | -.026755 | .0098794 | -2.71 | 0.007 | -.0461183 | -.0073917 |
| v__ista35 | -.0188776 | .0171389 | -1.10 | 0.271 | -.0524693 | .0147141 |
| neg | -.0026041 | .0092406 | -0.28 | 0.778 | -.0207153 | .0155071 |
| con | .0147551 | .0107079 | 1.38 | 0.168 | -.0062321 | .0357423 |
| pro | -.0133324 | .0079684 | -1.67 | 0.094 | -.0289502 | .0022854 |
| contrate | .016404 | .0212099 | 0.77 | 0.439 | -.0251666 | .0579746 |
| candvisits | .0079691 | .0012753 | 6.25 | 0.000 | .0054696 | .0104686 |
| _cons | .0254208 | .0163495 | 1.55 | 0.120 | -.0066236 | .0574652 |
| gamma | | | | | | |
| lncpop00 | -.5549862 | .0787087 | -7.05 | 0.000 | -.7092523 | -.4007201 |
| pq | -9.447867 | 15.75452 | -0.60 | 0.549 | -40.32616 | 21.43043 |
| _cons | .1871034 | 3.83259 | 0.05 | 0.961 | -7.324636 | 7.698842 |

Model: log Var(y|x,z) = gamma

```
. *bootstrap "regh turn00 turn96 turn92 turn88 senate v__istate v__istat1 v__istat2
v__istat3 v__istat4
> v__istat5 v__istat6 v__istat7 v__istat8 v__istat9 v__ista10 v__ista11 v__ista12
v__ista13 v__ista14 v_
> _ista15 v__ista16 v__ista17 v__ista18 v__ista19 v__ista20 v__ista21 v__ista22
v__ista23 v__ista24 v__i
> sta25 v__ista26 v__ista27 v__ista28 v__ista29 v__ista30 v__ista31 v__ista32
```

```
v__ista33 v__ista34 v__ist
> a35 neg con pro contrate candvisits, var(lncpop00 pq)" _b _se,reps(1000)
saving(bsout1) replace bca
. regh turn00 turn96 turn92 turn88 senate neg con pro contrate candvisits,
var(lncpop00 pq)

Iteration 0:   log likelihood =  319.47938
Iteration 1:   log likelihood =  323.93108
Iteration 2:   log likelihood =  324.59261
Iteration 3:   log likelihood =  324.59306
Iteration 4:   log likelihood =  324.59306

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(11)     =    318.354
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.8919
Log Likelihood =    324.593                       vwcorr2(y,yh)   =     0.8779

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      turn96 |   .5039364   .0779442     6.47   0.000     .3511685    .6567043
      turn92 |    .374208   .0996587     3.75   0.000     .1788804    .5695355
      turn88 |  -.1194815   .0672673    -1.78   0.076    -.2513229      .01236
      senate |   .1109534    .043331     2.56   0.010     .0260261    .1958806
         neg |  -.0183179   .0162958    -1.12   0.261    -.0502571    .0136213
         con |   .0338183   .0171768     1.97   0.049     .0001523    .0674843
         pro |   .0037526   .0120077     0.31   0.755    -.0197821    .0272874
    contrate |   .0478002   .0307575     1.55   0.120    -.0124833    .1080837
  candvisits |   .0032032    .001874     1.71   0.087    -.0004698    .0068762
       _cons |   .0680538   .0181532     3.75   0.000     .0324742    .1036334
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.1567568   .0794738    -1.97   0.049    -.3125226    -.000991
          pq |  -47.40343   17.71777    -2.68   0.007    -82.12962   -12.67724
       _cons |   5.659346   4.134601     1.37   0.171    -2.444323    13.76302
------------------------------------------------------------------------------
                                                 Model: log Var(y|x,z) = gamma

. *bootstrap "regh turn00 turn96 turn92 turn88 senate neg con pro contrate
candvisits, var(lncpop00 pq)"
>  _b _se,reps(1000) saving(bsout1) replace bca
.
.
. *COMBINE NEGATIVE AND CONTRAST ADS (SEE FOOTNOTE IN OUR RESPONSE)
. gen negcon=neg+con

. xi: regress turn00 senate negcon pro

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F(  3,   124) =   77.38
       Model |  .368452716     3  .122817572           Prob > F      =  0.0000
    Residual |  .196806598   124   .00158715           R-squared     =  0.6518
-------------+------------------------------           Adj R-squared =  0.6434
       Total |  .565259313   127  .004450861           Root MSE      =  .03984

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      senate |   .7407098    .054357    13.63   0.000     .6331221    .8482974
      negcon |   .0063863   .0174146     0.37   0.714    -.0280821    .0408546
         pro |   .0540553   .0254489     2.12   0.036     .0036848    .1044257
```

```
       _cons |   .2138928   .0220802     9.69   0.000     .1701899    .2575958
------------------------------------------------------------------------------

. xi: regress turn00 senate i.state negcon pro
i.state           _Istate_1-37        (_Istate_1 for state==AL omitted)

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F( 39,    88) =   24.36
       Model |  .517340172    39  .013265133           Prob > F      =  0.0000
    Residual |  .047919141    88  .000544536           R-squared     =  0.9152
-------------+------------------------------           Adj R-squared =  0.8777
       Total |  .565259313   127  .004450861           Root MSE      =  .02334

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      senate |   .8627609   .0569751    15.14   0.000     .7495349    .9759869
   _Istate_2 |  -.0412165   .0214773    -1.92   0.058    -.0838981    .0014651
   _Istate_3 |   .0012874   .0173063     0.07   0.941    -.0331053    .0356802
   _Istate_4 |   .0197309   .0218444     0.90   0.369    -.0236802     .063142
   _Istate_5 |   .0915616   .0216087     4.24   0.000     .0486188    .1345044
   _Istate_6 |   .0416459   .0169803     2.45   0.016     .0079011    .0753907
   _Istate_7 |   .0028602   .0197191     0.15   0.885    -.0363272    .0420477
   _Istate_8 |   .0564892   .0217479     2.60   0.011     .0132698    .0997086
   _Istate_9 |    .025353   .0222887     1.14   0.258    -.0189411    .0696472
  _Istate_10 |   .0378712    .021864     1.73   0.087    -.0055788    .0813213
  _Istate_11 |    .008696    .017214     0.51   0.615    -.0255131    .0429052
  _Istate_12 |   .0494494   .0192802     2.56   0.012     .0111341    .0877648
  _Istate_13 |  -.0179448   .0166218    -1.08   0.283    -.0509771    .0150875
  _Istate_14 |   .0017565   .0203205     0.09   0.931    -.0386263    .0421393
  _Istate_15 |   .0079636   .0191095     0.42   0.678    -.0300126    .0459398
  _Istate_16 |   .0308804   .0177632     1.74   0.086    -.0044202    .0661811
  _Istate_17 |   .0415504   .0174243     2.38   0.019     .0069232    .0761776
  _Istate_18 |   .0385851   .0198694     1.94   0.055    -.0009011    .0780713
  _Istate_19 |   .0117224   .0166052     0.71   0.482     -.021277    .0447217
  _Istate_20 |  -.0300728   .0224187    -1.34   0.183    -.0746252    .0144797
  _Istate_21 |   .1406709   .0219576     6.41   0.000     .0970348    .1843069
  _Istate_22 |  -.0118823   .0225681    -0.53   0.600    -.0567315     .032967
  _Istate_23 |   .0089802    .019394     0.46   0.644    -.0295612    .0475216
  _Istate_24 |   .0486693   .0173257     2.81   0.006     .0142382    .0831004
  _Istate_25 |   .0328702   .0166649     1.97   0.052    -.0002478    .0659882
  _Istate_26 |    .033342   .0214272     1.56   0.123    -.0092399     .075924
  _Istate_27 |   .0664808   .0240138     2.77   0.007     .0187585    .1142031
  _Istate_28 |     .06348   .0168622     3.76   0.000     .0299699      .09699
  _Istate_29 |  -.0285038   .0215112    -1.33   0.189    -.0712528    .0142451
  _Istate_30 |  -.0029165   .0191513    -0.15   0.879    -.0409756    .0351426
  _Istate_31 |   .0205048   .0179915     1.14   0.258    -.0152496    .0562592
  _Istate_32 |  -.0197906   .0167387    -1.18   0.240    -.0530553     .013474
  _Istate_33 |   .0471242    .022665     2.08   0.041     .0020823    .0921661
  _Istate_34 |   .0064168   .0206955     0.31   0.757    -.0347112    .0475448
  _Istate_35 |    .101978   .0200201     5.09   0.000     .0621923    .1417636
  _Istate_36 |  -.0032529    .018181    -0.18   0.858    -.0393838    .0328779
  _Istate_37 |  -.0919075   .0244608    -3.76   0.000    -.1405182   -.0432968
      negcon |   .0262434   .0124282     2.11   0.038     .0015449    .0509418
         pro |  -.0085211   .0193176    -0.44   0.660    -.0469109    .0298687
       _cons |   .1650421   .0261839     6.30   0.000      .113007    .2170772
------------------------------------------------------------------------------

. xi: regress turn00 turn96 turn92 turn88 senate i.state negcon pro
i.state           _Istate_1-37        (_Istate_1 for state==AL omitted)

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F( 42,    85) =   46.92
```

```
      Model |  .541888341    42  .012902103           Prob > F      =  0.0000
   Residual |  .023370972    85  .000274953           R-squared     =  0.9587
-------------+------------------------------           Adj R-squared =  0.9382
      Total |  .565259313   127  .004450861           Root MSE      =  .01658

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      turn96 |   .7441578   .1007656     7.39   0.000     .5438087    .9445069
      turn92 |   .0799182   .1360794     0.59   0.559    -.1906441    .3504805
      turn88 |  -.0368963   .0845065    -0.44   0.664    -.2049178    .1311252
      senate |   .2178468   .0828511     2.63   0.010     .0531167     .382577
   _Istate_2 |  -.0396044   .0155995    -2.54   0.013    -.0706205   -.0085884
   _Istate_3 |  -.0045553   .0124138    -0.37   0.715    -.0292372    .0201266
   _Istate_4 |   .0059525   .0165365     0.36   0.720    -.0269264    .0388314
   _Istate_5 |   .0173518   .0175609     0.99   0.326    -.0175639    .0522675
   _Istate_6 |   .0032015   .0132991     0.24   0.810    -.0232406    .0296437
   _Istate_7 |  -.0122893   .0144053    -0.85   0.396     -.040931    .0163523
   _Istate_8 |   .0052739   .0165429     0.32   0.751    -.0276178    .0381656
   _Istate_9 |  -.0380929   .0187085    -2.04   0.045    -.0752905   -.0008953
  _Istate_10 |    .016321   .0158202     1.03   0.305    -.0151339    .0477758
  _Istate_11 |  -.0185293   .0137388    -1.35   0.181    -.0458457    .0087871
  _Istate_12 |   -.022032   .0157425    -1.40   0.165    -.0533324    .0092684
  _Istate_13 |  -.0031752    .012685    -0.25   0.803    -.0283962    .0220459
  _Istate_14 |  -.0093726   .0149107    -0.63   0.531    -.0390191    .0202739
  _Istate_15 |   .0110891   .0137306     0.81   0.422     -.016211    .0383893
  _Istate_16 |   .0068297   .0129458     0.53   0.599      -.01891    .0325695
  _Istate_17 |   .0218423      .0129     1.69   0.094    -.0038064     .047491
  _Istate_18 |   .0106035   .0180078     0.59   0.558    -.0252009    .0464079
  _Istate_19 |   .0057216   .0120917     0.47   0.637    -.0183199    .0297632
  _Istate_20 |  -.0289712   .0163004    -1.78   0.079    -.0613808    .0034384
  _Istate_21 |   .0473203   .0186532     2.54   0.013     .0102328    .0844078
  _Istate_22 |   -.014876   .0166149    -0.90   0.373    -.0479109    .0181589
  _Istate_23 |   .0363674   .0143826     2.53   0.013      .007771    .0649639
  _Istate_24 |    .010422   .0133803     0.78   0.438    -.0161816    .0370257
  _Istate_25 |  -.0067444   .0126925    -0.53   0.597    -.0319806    .0184917
  _Istate_26 |  -.0203582   .0165896    -1.23   0.223    -.0533427    .0126263
  _Istate_27 |  -.0120326   .0190277    -0.63   0.529    -.0498647    .0257994
  _Istate_28 |   .0201525   .0136051     1.48   0.142    -.0068982    .0472031
  _Istate_29 |   .0188832   .0171512     1.10   0.274    -.0152179    .0529843
  _Istate_30 |  -.0116108    .013766    -0.84   0.401    -.0389813    .0157598
  _Istate_31 |   .0174515   .0131624     1.33   0.188    -.0087189    .0436218
  _Istate_32 |  -.0005277   .0125792    -0.04   0.967    -.0255385     .024483
  _Istate_33 |   .0241899   .0163962     1.48   0.144      -.00841    .0567899
  _Istate_34 |  -.0065314   .0149792    -0.44   0.664    -.0363141    .0232514
  _Istate_35 |   .0618573   .0154299     4.01   0.000     .0311785    .0925362
  _Istate_36 |  -.0210472   .0149311    -1.41   0.162    -.0507341    .0086398
  _Istate_37 |  -.0513623   .0197368    -2.60   0.011    -.0906043   -.0121203
      negcon |   .0163549   .0090357     1.81   0.074    -.0016104    .0343202
         pro |  -.0162498   .0138787    -1.17   0.245    -.0438443    .0113448
       _cons |   .0409084   .0267795     1.53   0.130    -.0123365    .0941532
------------------------------------------------------------------------------

. xi: regress turn00 turn96 turn92 turn88 senate negcon pro

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F(  6,   121) =  161.09
      Model |  .502367435     6  .083727906           Prob > F      =  0.0000
   Residual |  .062891878   121  .000519768           R-squared     =  0.8887
-------------+------------------------------           Adj R-squared =  0.8832
      Total |  .565259313   127  .004450861           Root MSE      =   .0228

------------------------------------------------------------------------------
```

| turn00 | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| turn96 | .4872433 | .0870721 | 5.60 | 0.000 | .3148611 | .6596254 |
| turn92 | .5138863 | .1076684 | 4.77 | 0.000 | .3007282 | .7270443 |
| turn88 | -.1968009 | .0670776 | -2.93 | 0.004 | -.3295988 | -.0640031 |
| senate | .1571026 | .0497378 | 3.16 | 0.002 | .0586336 | .2555716 |
| negcon | .0061231 | .0101336 | 0.60 | 0.547 | -.0139391 | .0261852 |
| pro | .0048407 | .0150003 | 0.32 | 0.747 | -.0248564 | .0345379 |
| _cons | .0282715 | .0175912 | 1.61 | 0.111 | -.006555 | .063098 |

```
. xi: regress turn00 turn96 turn92 turn88 senate i.state negcon pro contrate
candvisits
i.state           _Istate_1-37        (_Istate_1 for state==AL omitted)
```

| Source | SS | df | MS | | |
|---|---|---|---|---|---|
| Model | .545268606 | 44 | .012392468 | Number of obs = | 128 |
| Residual | .019990707 | 83 | .000240852 | F( 44, 83) = | 51.45 |
| | | | | Prob > F = | 0.0000 |
| | | | | R-squared = | 0.9646 |
| | | | | Adj R-squared = | 0.9459 |
| Total | .565259313 | 127 | .004450861 | Root MSE = | .01552 |

| turn00 | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| turn96 | .7991179 | .0969132 | 8.25 | 0.000 | .6063614 | .9918745 |
| turn92 | .0136486 | .136422 | 0.10 | 0.921 | -.2576893 | .2849866 |
| turn88 | -.0136089 | .0829539 | -0.16 | 0.870 | -.178601 | .1513831 |
| senate | .2096513 | .0775862 | 2.70 | 0.008 | .0553354 | .3639672 |
| _Istate_2 | -.050475 | .0149274 | -3.38 | 0.001 | -.0801651 | -.020785 |
| _Istate_3 | -.0187878 | .0123145 | -1.53 | 0.131 | -.0432808 | .0057052 |
| _Istate_4 | -.0057373 | .0158012 | -0.36 | 0.717 | -.0371653 | .0256907 |
| _Istate_5 | .0126284 | .0165109 | 0.76 | 0.447 | -.0202112 | .0454679 |
| _Istate_6 | -.009729 | .0130812 | -0.74 | 0.459 | -.0357469 | .016289 |
| _Istate_7 | -.0137822 | .0135598 | -1.02 | 0.312 | -.0407521 | .0131876 |
| _Istate_8 | -.0101435 | .0165809 | -0.61 | 0.542 | -.0431223 | .0228353 |
| _Istate_9 | -.0373343 | .0175137 | -2.13 | 0.036 | -.0721684 | -.0025003 |
| _Istate_10 | .0009085 | .0154194 | 0.06 | 0.953 | -.0297601 | .0315771 |
| _Istate_11 | -.0306523 | .0134029 | -2.29 | 0.025 | -.0573101 | -.0039944 |
| _Istate_12 | -.0260702 | .0148733 | -1.75 | 0.083 | -.0556526 | .0035123 |
| _Istate_13 | -.0122991 | .0122613 | -1.00 | 0.319 | -.0366863 | .0120881 |
| _Istate_14 | -.0131404 | .0140734 | -0.93 | 0.353 | -.0411319 | .0148511 |
| _Istate_15 | .0016125 | .0131158 | 0.12 | 0.902 | -.0244743 | .0276993 |
| _Istate_16 | -.0033347 | .0124399 | -0.27 | 0.789 | -.0280771 | .0214077 |
| _Istate_17 | .0141957 | .0122488 | 1.16 | 0.250 | -.0101666 | .0385581 |
| _Istate_18 | .0034707 | .0169832 | 0.20 | 0.839 | -.0303082 | .0372496 |
| _Istate_19 | .0057599 | .0115275 | 0.50 | 0.619 | -.0171677 | .0286876 |
| _Istate_20 | -.0354752 | .0153569 | -2.31 | 0.023 | -.0660194 | -.0049309 |
| _Istate_21 | .0313923 | .0180726 | 1.74 | 0.086 | -.0045535 | .067338 |
| _Istate_22 | -.0281916 | .0159535 | -1.77 | 0.081 | -.0599225 | .0035392 |
| _Istate_23 | .0313678 | .0135379 | 2.32 | 0.023 | .0044416 | .0582941 |
| _Istate_24 | .0075836 | .0127325 | 0.60 | 0.553 | -.0177407 | .032908 |
| _Istate_25 | -.0186742 | .0123376 | -1.51 | 0.134 | -.0432132 | .0058647 |
| _Istate_26 | -.0197878 | .01553 | -1.27 | 0.206 | -.0506764 | .0111008 |
| _Istate_27 | -.0196495 | .018007 | -1.09 | 0.278 | -.0554646 | .0161656 |
| _Istate_28 | .0113503 | .0129576 | 0.88 | 0.384 | -.0144219 | .0371226 |
| _Istate_29 | .0184854 | .0170961 | 1.08 | 0.283 | -.0155179 | .0524888 |
| _Istate_30 | -.0277531 | .0139123 | -1.99 | 0.049 | -.0554241 | -.0000821 |
| _Istate_31 | .0099007 | .0125654 | 0.79 | 0.433 | -.0150915 | .0348929 |
| _Istate_32 | -.0005909 | .0119183 | -0.05 | 0.961 | -.0242958 | .0231141 |
| _Istate_33 | .0231484 | .0155573 | 1.49 | 0.141 | -.0077943 | .0540912 |
| _Istate_34 | -.0152109 | .0142947 | -1.06 | 0.290 | -.0436426 | .0132207 |
| _Istate_35 | .0493187 | .014825 | 3.33 | 0.001 | .0198324 | .078805 |

```
  _Istate_36 |  -.0280064   .0141771    -1.98   0.052    -.0562042    .0001913
  _Istate_37 |  -.0597333   .0187373    -3.19   0.002    -.0970011   -.0224655
      negcon |   .0053183   .0089944     0.59   0.556    -.0125713    .0232078
         pro |  -.0157556   .0130252    -1.21   0.230    -.0416623    .0101511
    contrate |   .0434487   .0318612     1.36   0.176     -.019922    .1068195
  candvisits |   .0071045   .0021203     3.35   0.001     .0028873    .0113216
       _cons |   .0428965   .0257099     1.67   0.099    -.0082395    .0940325
------------------------------------------------------------------------------

. xi: regress turn00 turn96 turn92 turn88 senate negcon pro contrate candvisits

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F(  8,   119) =  125.68
       Model |  .505435921     8   .06317949           Prob > F      =  0.0000
    Residual |  .059823392   119  .000502718           R-squared     =  0.8942
-------------+------------------------------           Adj R-squared =  0.8871
       Total |  .565259313   127  .004450861           Root MSE      =  .02242

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      turn96 |   .5029759   .0866944     5.80   0.000     .3313124    .6746395
      turn92 |   .4838459   .1113921     4.34   0.000     .2632784    .7044134
      turn88 |   -.191544   .0704673    -2.72   0.008    -.3310763   -.0520117
      senate |   .1636557   .0491283     3.33   0.001     .0663767    .2609347
      negcon |  -.0010418   .0104068    -0.10   0.920    -.0216483    .0195648
         pro |   .0044173   .0147791     0.30   0.766    -.0248468    .0336814
    contrate |   .0203393    .035075     0.58   0.563    -.0491128    .0897914
  candvisits |   .0052235   .0023094     2.26   0.026     .0006507    .0097963
       _cons |   .0279931   .0173032     1.62   0.108    -.0062689    .0622552
------------------------------------------------------------------------------

. regh turn00 senate negcon pro, var(lncpop00 pq)

Iteration 0:   log likelihood =  239.12163
Iteration 1:   log likelihood =   243.3695
Iteration 2:   log likelihood =  245.39261
Iteration 3:   log likelihood =  245.39784
Iteration 4:   log likelihood =  245.39784

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(5)      =    159.964
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.6490
Log Likelihood =    245.398                       vwcorr2(y,yh)   =     0.5584

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      senate |   .6163168   .0567456    10.86   0.000     .5050974    .7275362
      negcon |   .0186927   .0141521     1.32   0.187    -.0090449    .0464303
         pro |   .0237352   .0213977     1.11   0.267    -.0182036     .065674
       _cons |   .2649244   .0222596    11.90   0.000     .2212963    .3085524
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.1115267   .0844315    -1.32   0.187    -.2770095     .053956
          pq |   -74.8501   20.58425    -3.64   0.000    -115.1945    -34.5057
       _cons |   13.00894   4.979239     2.61   0.009     3.249811    22.76807
------------------------------------------------------------------------------
                                                  Model: log Var(y|x,z) = gamma

. regh turn00 senate  v__istate v__istat1 v__istat2 v__istat3 v__istat4 v__istat5
```

```
v__istat6 v__istat7 v_
> _istat8 v__istat9 v__ista10 v__ista11 v__ista12 v__ista13 v__ista14 v__ista15
v__ista16 v__ista17 v__i
> sta18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23 v__ista24 v__ista25
v__ista26 v__ista27 v__ist
> a28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33 v__ista34 v__ista35 negcon
pro, var(lncpop00 pq)

Iteration 0:   log likelihood =  326.18098
Iteration 1:   log likelihood =  326.46232
Iteration 2:   log likelihood =  328.64518
Iteration 3:   log likelihood =  328.89275
Iteration 4:   log likelihood =  328.89515
Iteration 5:   log likelihood =  328.89515

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(41)     =    326.958
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.9102
Log Likelihood =    328.895                       vwcorr2(y,yh)   =     0.9047

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      senate |    .834388   .0704649    11.84   0.000     .6962793    .9724966
   v__istate |  -.0372485   .0169227    -2.20   0.028    -.0704164   -.0040805
   v__istat1 |   .0050311   .0127428     0.39   0.693    -.0199444    .0300066
   v__istat2 |   .0193042   .0173541     1.11   0.266    -.0147092    .0533175
   v__istat3 |   .0903345   .0159433     5.67   0.000     .0590862    .1215827
   v__istat4 |   .0416129   .0129084     3.22   0.001     .0163129     .066913
   v__istat5 |   .0057168   .0159902     0.36   0.721    -.0256234     .037057
   v__istat6 |   .0564411   .0176346     3.20   0.001      .021878    .0910043
   v__istat7 |   .0175264   .0206022     0.85   0.395    -.0228532    .0579059
   v__istat8 |   .0411635   .0153775     2.68   0.007     .0110241     .071303
   v__istat9 |   .0116062   .0140559     0.83   0.409    -.0159429    .0391552
   v__ista10 |   .0541844   .0156194     3.47   0.001      .023571    .0847979
   v__ista11 |  -.0130061   .0134323    -0.97   0.333    -.0393329    .0133207
   v__ista12 |   .0038451   .0165541     0.23   0.816    -.0286003    .0362906
   v__ista13 |   .0151463   .0147127     1.03   0.303    -.0136902    .0439827
   v__ista14 |   .0291411   .0145465     2.00   0.045     .0006304    .0576518
   v__ista15 |   .0482978   .0153943     3.14   0.002     .0181255      .07847
   v__ista16 |   .0410146   .0186033     2.20   0.027     .0045529    .0774764
   v__ista17 |   .0163128   .0132032     1.24   0.217     -.009565    .0421906
   v__ista18 |  -.0284247   .0195791    -1.45   0.147     -.066799    .0099497
   v__ista19 |   .1411237   .0184777     7.64   0.000     .1049079    .1773394
   v__ista20 |  -.0101872   .0163366    -0.62   0.533    -.0422064     .021832
   v__ista21 |  -.0102252   .0184369    -0.55   0.579    -.0463608    .0259104
   v__ista22 |   .0469942   .0130345     3.61   0.000      .021447    .0725414
   v__ista23 |   .0344492   .0127174     2.71   0.007     .0095236    .0593749
   v__ista24 |   .0315858   .0158726     1.99   0.047     .0004761    .0626954
   v__ista25 |   .0570377   .0195311     2.92   0.003     .0187575    .0953179
   v__ista26 |   .0663403     .01417     4.68   0.000     .0385676    .0941131
   v__ista27 |  -.0307375   .0168529    -1.82   0.068    -.0637686    .0022936
   v__ista28 |  -.0028543   .0142098    -0.20   0.841    -.0307051    .0249964
   v__ista29 |   .0195161   .0132062     1.48   0.139    -.0063677    .0453998
   v__ista30 |  -.0140025   .0134792    -1.04   0.299    -.0404211    .0124162
   v__ista31 |    .049222   .0227132     2.17   0.030     .0047049    .0937392
   v__ista32 |   .0081158   .0165859     0.49   0.625     -.024392    .0406236
   v__ista33 |   .1015018   .0158052     6.42   0.000     .0705241    .1324795
   v__ista34 |   .0078313   .0168197     0.47   0.641    -.0251346    .0407973
   v__ista35 |  -.0854815   .0245949    -3.48   0.001    -.1336867   -.0372763
      negcon |    .021866   .0097938     2.23   0.026     .0026705    .0410616
```

```
         pro |  -.0040804   .0155308    -0.26   0.793    -.0345202    .0263594
       _cons |   .1763466   .0297782     5.92   0.000     .1179824    .2347108
-------------+------------------------------------------------------------------
gamma        |
    lncpop00 |  -.2562104   .0854755    -3.00   0.003    -.4237393   -.0886816
          pq |  -3.060668   17.43135    -0.18   0.861    -37.22548    31.10414
       _cons |  -3.944315   3.932877    -1.00   0.316    -11.65261    3.763982
------------------------------------------------------------------------------
                                              Model: log Var(y|x,z) = gamma

. regh turn00 turn96 turn92 turn88 senate  v__istate v__istat1 v__istat2 v__istat3
v__istat4 v__istat5 v
> __istat6 v__istat7 v__istat8 v__istat9 v__ista10 v__ista11 v__ista12 v__ista13
v__ista14 v__ista15 v__
> ista16 v__ista17 v__ista18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23
v__ista24 v__ista25 v__is
> ta26 v__ista27 v__ista28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33
v__ista34 v__ista35 negcon
> pro, var(lncpop00 pq)

Iteration 0:   log likelihood =  378.11277
Iteration 1:   log likelihood =  389.58777
Iteration 2:   log likelihood =   391.0534
Iteration 3:   log likelihood =  391.07016
Iteration 4:   log likelihood =  391.07017

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(44)     =    451.308
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.9452
Log Likelihood =    391.070                       vwcorr2(y,yh)   =     0.9619

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      turn96 |   .7578878   .0844683     8.97   0.000     .5923331    .9234426
      turn92 |   .1448463   .1104091     1.31   0.190    -.0715516    .3612443
      turn88 |   .0244258   .0686933     0.36   0.722    -.1102106    .1590621
      senate |   .0284169   .0663007     0.43   0.668    -.1015301    .1583639
   v__istate |  -.0379108   .0100802    -3.76   0.000    -.0576676   -.0181541
   v__istat1 |   .0035707   .0073344     0.49   0.626    -.0108045    .0179458
   v__istat2 |   .0098043   .0109349     0.90   0.370    -.0116278    .0312363
   v__istat3 |   .0047993   .0109972     0.44   0.663    -.0167548    .0263535
   v__istat4 |   .0022595   .0081793     0.28   0.782    -.0137717    .0182907
   v__istat5 |  -.0024222    .009158    -0.26   0.791    -.0203716    .0155272
   v__istat6 |   .0061757   .0117333     0.53   0.599    -.0168212    .0291727
   v__istat7 |  -.0573142   .0150663    -3.80   0.000    -.0868436   -.0277848
   v__istat8 |   .0166598   .0087562     1.90   0.057    -.0005022    .0338217
   v__istat9 |  -.0184269   .0094033    -1.96   0.050    -.0368571    3.24e-06
   v__ista10 |  -.0340916   .0109806    -3.10   0.002    -.0556132     -.01257
   v__ista11 |   .0034712   .0083582     0.42   0.678    -.0129106    .0198531
   v__ista12 |   .0054547   .0107371     0.51   0.611    -.0155897    .0264991
   v__ista13 |   .0235814   .0083042     2.84   0.005     .0073054    .0398573
   v__ista14 |    .010522   .0085304     1.23   0.217    -.0061972    .0272413
   v__ista15 |   .0095179   .0099111     0.96   0.337    -.0099075    .0289433
   v__ista16 |  -.0098541   .0132128    -0.75   0.456    -.0357506    .0160425
   v__ista17 |   .0163218   .0076922     2.12   0.034     .0012454    .0313982
   v__ista18 |  -.0192326   .0120605    -1.59   0.111    -.0428707    .0044055
   v__ista19 |   .0384028   .0139072     2.76   0.006     .0111452    .0656604
   v__ista20 |   -.012109   .0098323    -1.23   0.218    -.0313799    .0071619
   v__ista21 |   .0262807   .0118425     2.22   0.026     .0030699    .0494916
   v__ista22 |   .0117997   .0084421     1.40   0.162    -.0047465    .0283459
```

```
   v__ista23 |   -.006884   .0079289    -0.87   0.385    -.0224244    .0086563
   v__ista24 |  -.0297683   .0099805    -2.98   0.003    -.0493297   -.0102069
   v__ista25 |   .0064262    .012645     0.51   0.611    -.0183576    .0312099
   v__ista26 |   .0163556   .0088616     1.85   0.065    -.0010128    .0337241
   v__ista27 |   .0308966    .011077     2.79   0.005      .009186    .0526072
   v__ista28 |  -.0039334   .0080363    -0.49   0.625    -.0196842    .0118174
   v__ista29 |     .01639   .0077096     2.13   0.034     .0012794    .0315006
   v__ista30 |   .0125485   .0083403     1.50   0.132    -.0037982    .0288952
   v__ista31 |   .0278642   .0174295     1.60   0.110    -.0062969    .0620253
   v__ista32 |  -.0022277   .0100154    -0.22   0.824    -.0218575    .0174021
   v__ista33 |   .0568861    .010764     5.28   0.000     .0357891    .0779832
   v__ista34 |  -.0221353   .0109652    -2.02   0.044    -.0436267   -.0006438
   v__ista35 |  -.0150981   .0183748    -0.82   0.411     -.051112    .0209158
      negcon |   .0187404   .0056479     3.32   0.001     .0076707    .0298101
         pro |  -.0167093   .0092525    -1.81   0.071    -.0348439    .0014253
       _cons |   .0373749   .0187553     1.99   0.046     .0006151    .0741347
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.4112347   .0802776    -5.12   0.000    -.5685759   -.2538936
          pq |  -22.39864   16.74319    -1.34   0.181    -55.21469    10.41742
       _cons |   1.787778   3.926268     0.46   0.649    -5.907566    9.483123
------------------------------------------------------------------------------
                                                Model: log Var(y|x,z) = gamma

. regh turn00 turn96 turn92 turn88 senate negcon pro, var(lncpop00 pq)

Iteration 0:   log likelihood =  315.92834
Iteration 1:   log likelihood =  319.77671
Iteration 2:   log likelihood =  320.10654
Iteration 3:   log likelihood =  320.10755
Iteration 4:   log likelihood =  320.10755

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(8)      =    309.383
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.8861
Log Likelihood =    320.108                       vwcorr2(y,yh)   =     0.8683

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      turn96 |   .5175221   .0790073     6.55   0.000     .3626706    .6723735
      turn92 |   .3952326    .098948     3.99   0.000      .201298    .5891671
      turn88 |  -.1381272   .0626233    -2.21   0.027    -.2608667   -.0153877
      senate |   .1084977   .0438552     2.47   0.013     .0225432    .1944523
      negcon |   .0132273   .0083316     1.59   0.112    -.0031024     .029557
         pro |   .0000662    .012388     0.01   0.996    -.0242139    .0243463
       _cons |   .0655328   .0188102     3.48   0.000     .0286655    .1024002
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.1200424   .0787441    -1.52   0.127     -.274378    .0342932
          pq |  -51.02952   18.15023    -2.81   0.005    -86.60332   -15.45571
       _cons |   6.142664   4.208132     1.46   0.144    -2.105123    14.39045
------------------------------------------------------------------------------
                                                Model: log Var(y|x,z) = gamma

. regh turn00 turn96 turn92 turn88 senate v__istate v__istat1 v__istat2 v__istat3
v__istat4 v__istat5 v_
> _istat6 v__istat7 v__istat8 v__istat9 v__ista10 v__ista11 v__ista12 v__ista13
v__ista14 v__ista15 v__i
> sta16 v__ista17 v__ista18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23
v__ista24 v__ista25 v__ist
```

```
> a26 v__ista27 v__ista28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33
v__ista34 v__ista35 negcon p
> ro contrate candvisits, var(lncpop00 pq)

Iteration 0:   log likelihood =  391.88451
Iteration 1:   log likelihood =  406.72066
Iteration 2:   log likelihood =  408.89466
Iteration 3:   log likelihood =   408.8995
Iteration 4:   log likelihood =   408.8995

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(46)     =    486.967
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.9507
Log Likelihood =    408.899                       vwcorr2(y,yh)   =     0.9748

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      turn96 |   .8240149   .0757947    10.87   0.000       .67546    .9725697
      turn92 |   .1642231   .0996933     1.65   0.100    -.0311723    .3596184
      turn88 |   -.008288   .0619271    -0.13   0.894    -.1296628    .1130868
      senate |  -.0059936   .0591541    -0.10   0.919    -.1219334    .1099463
   v__istate |  -.0464754   .0089807    -5.18   0.000    -.0640773   -.0288735
   v__istat1 |  -.0102064    .006751    -1.51   0.131    -.0234381    .0030252
   v__istat2 |   .0000107   .0092845     0.00   0.999    -.0181865    .0182079
   v__istat3 |  -.0010491   .0090719    -0.12   0.908    -.0188298    .0167315
   v__istat4 |  -.0100823   .0073598    -1.37   0.171    -.0245072    .0043425
   v__istat5 |    -.00297    .007718    -0.38   0.700     -.018097    .0121569
   v__istat6 |  -.0067409   .0105326    -0.64   0.522    -.0273843    .0139026
   v__istat7 |  -.0585186   .0136805    -4.28   0.000    -.0853319   -.0317053
   v__istat8 |  -.0006266   .0079336    -0.08   0.937    -.0161762    .0149231
   v__istat9 |  -.0261467   .0084271    -3.10   0.002    -.0426636   -.0096298
   v__ista10 |   -.040491   .0097658    -4.15   0.000    -.0596315   -.0213504
   v__ista11 |   .0003586   .0075327     0.05   0.962    -.0144054    .0151225
   v__ista12 |   .0010611   .0093946     0.11   0.910     -.017352    .0194742
   v__ista13 |   .0197635   .0072034     2.74   0.006     .0056451    .0338819
   v__ista14 |  -.0002138   .0074367    -0.03   0.977    -.0147894    .0143617
   v__ista15 |    .002331    .008606     0.27   0.786    -.0145364    .0191985
   v__ista16 |  -.0179085   .0120701    -1.48   0.138    -.0415655    .0057484
   v__ista17 |   .0191908   .0068927     2.78   0.005     .0056814    .0327001
   v__ista18 |   -.022834   .0105815    -2.16   0.031    -.0435734   -.0020946
   v__ista19 |   .0200227   .0121041     1.65   0.098    -.0037009    .0437463
   v__ista20 |  -.0245731   .0084337    -2.91   0.004    -.0411028   -.0080433
   v__ista21 |   .0247952   .0111168     2.23   0.026     .0030066    .0465837
   v__ista22 |   .0073668   .0072544     1.02   0.310    -.0068514    .0215851
   v__ista23 |  -.0194252   .0070684    -2.75   0.006     -.033279   -.0055714
   v__ista24 |   -.031562   .0086909    -3.63   0.000    -.0485958   -.0145282
   v__ista25 |   -.011978   .0102388    -1.17   0.242    -.0320457    .0080897
   v__ista26 |   .0055581    .007892     0.70   0.481    -.0099099    .0210261
   v__ista27 |   .0396352   .0101129     3.92   0.000     .0198143    .0594562
   v__ista28 |  -.0177218   .0076331    -2.32   0.020    -.0326824   -.0027611
   v__ista29 |   .0114311   .0067928     1.68   0.092    -.0018824    .0247447
   v__ista30 |    .019278   .0073278     2.63   0.009     .0049159    .0336402
   v__ista31 |   .0225587   .0163956     1.38   0.169    -.0095761    .0546934
   v__ista32 |  -.0097184    .008528    -1.14   0.254    -.0264331    .0069962
   v__ista33 |   .0418963   .0090067     4.65   0.000     .0242435    .0595491
   v__ista34 |  -.0271337   .0099269    -2.73   0.006     -.04659   -.0076773
   v__ista35 |  -.0197565   .0171494    -1.15   0.249    -.0533687    .0138557
      negcon |   .0051957   .0052454     0.99   0.322    -.0050851    .0154765
         pro |  -.0139124   .0079953    -1.74   0.082    -.0295829    .0017581
    contrate |    .016232   .0213426     0.76   0.447    -.0255987    .0580628
```

```
  candvisits |   .0080598   .0012789     6.30   0.000     .0055533    .0105663
       _cons |   .0239661   .0163667     1.46   0.143     -.008112    .0560442
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.5552014   .0787312    -7.05   0.000    -.7095116   -.4008911
          pq |  -8.672434   15.77516    -0.55   0.582    -39.59118    22.24631
       _cons |   .0089206   3.838141     0.00   0.998    -7.513697    7.531538
------------------------------------------------------------------------------
                                                 Model: log Var(y|x,z) = gamma

. regh turn00 turn96 turn92 turn88 senate negcon pro contrate candvisits,
var(lncpop00 pq)

Iteration 0:   log likelihood =  316.61092
Iteration 1:   log likelihood =  322.22567
Iteration 2:   log likelihood =  322.99005
Iteration 3:   log likelihood =  322.99078
Iteration 4:   log likelihood =  322.99078

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(10)     =    315.150
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.8908
Log Likelihood =    322.991                       vwcorr2(y,yh)   =     0.8749

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      turn96 |   .5249549   .0778212     6.75   0.000     .3724281    .6774817
      turn92 |   .3620196   .1007037     3.59   0.000      .164644    .5593951
      turn88 |  -.1177641   .0669642    -1.76   0.079    -.2490116    .0134833
      senate |   .1087591   .0438379     2.48   0.013     .0228385    .1946797
      negcon |   .0067247   .0085796     0.78   0.433     -.010091    .0235404
         pro |   .0010553   .0120688     0.09   0.930    -.0225991    .0247098
    contrate |   .0437228    .030999     1.41   0.158    -.0170342    .1044797
  candvisits |   .0031537   .0019062     1.65   0.098    -.0005824    .0068898
       _cons |   .0657315   .0184551     3.56   0.000     .0295602    .1019028
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.1397421   .0794862    -1.76   0.079    -.2955323     .016048
          pq |  -47.67398   17.86665    -2.67   0.008    -82.69198   -12.65599
       _cons |   5.532113   4.135204     1.34   0.181    -2.572737    13.63696
------------------------------------------------------------------------------
                                                 Model: log Var(y|x,z) = gamma

. **************
. **************
. **************
.
.
. *RE-ESTIMATING ALL MODELS UNDER DIFFERENT "TOTAL ADS" DEFINITIONS (SEE FOOTNOTE IN
OUR RESPONSE)
. *all post June 30 ads
. gen post_toneall= post_neg + post_con + post_pro

. xi: regress turn00 senate post_toneall

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F(  2,   125) =  114.69
       Model |  .365878929     2  .182939465           Prob > F      =  0.0000
    Residual |  .199380384   125  .001595043           R-squared     =  0.6473
-------------+------------------------------           Adj R-squared =  0.6416
```

```
       Total |  .565259313   127  .004450861           Root MSE      =  .03994

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      senate |   .7556237   .0535647    14.11   0.000     .6496124     .861635
post_toneall |   2.89e-06   6.03e-07     4.78   0.000     1.69e-06    4.08e-06
       _cons |   .2128855   .0221145     9.63   0.000     .1691182    .2566527
------------------------------------------------------------------------------

. xi: regress turn00 senate i.state post_toneall
i.state           _Istate_1-37        (_Istate_1 for state==AL omitted)

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F( 38,    89) =   24.95
       Model |   .51674446    38  .013598538           Prob > F      =  0.0000
    Residual |  .048514854    89  .000545111           R-squared     =  0.9142
-------------+------------------------------           Adj R-squared =  0.8775
       Total |  .565259313   127  .004450861           Root MSE      =  .02335

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      senate |   .8680394   .0567037    15.31   0.000     .7553704    .9807085
   _Istate_2 |  -.0387569   .0213844    -1.81   0.073    -.0812473    .0037335
   _Istate_3 |   .0028256   .0172067     0.16   0.870    -.0313638    .0370151
   _Istate_4 |    .019055   .0218189     0.87   0.385    -.0242987    .0624087
   _Istate_5 |   .0974243    .021409     4.55   0.000     .0548852    .1399634
   _Istate_6 |   .0437972   .0168131     2.60   0.011       .01039    .0772045
   _Istate_7 |   .0050099   .0197037     0.25   0.800    -.0341409    .0441607
   _Istate_8 |   .0558765   .0214824     2.60   0.011     .0131914    .0985616
   _Istate_9 |   .0239496   .0219958     1.09   0.279    -.0197556    .0676548
  _Istate_10 |    .035942   .0217238     1.65   0.102    -.0072227    .0791067
  _Istate_11 |   .0075275   .0171069     0.44   0.661    -.0264634    .0415185
  _Istate_12 |   .0515436   .0191499     2.69   0.008     .0134933     .089594
  _Istate_13 |  -.0160939   .0165743    -0.97   0.334    -.0490266    .0168388
  _Istate_14 |   .0007372   .0198064     0.04   0.970    -.0386178    .0400921
  _Istate_15 |   .0101156   .0190906     0.53   0.598    -.0278171    .0480483
  _Istate_16 |   .0307942    .017652     1.74   0.085    -.0042799    .0658683
  _Istate_17 |   .0419464   .0173967     2.41   0.018     .0073795    .0765132
  _Istate_18 |   .0406447   .0198197     2.05   0.043     .0012634     .080026
  _Istate_19 |   .0149946   .0165181     0.91   0.366    -.0178265    .0478158
  _Istate_20 |  -.0300997   .0223885    -1.34   0.182    -.0745852    .0143859
  _Istate_21 |   .1400875   .0214076     6.54   0.000      .097551     .182624
  _Istate_22 |  -.0067624   .0221509    -0.31   0.761    -.0507757     .037251
  _Istate_23 |   .0084146   .0193654     0.43   0.665    -.0300639    .0468932
  _Istate_24 |   .0513922   .0171551     3.00   0.004     .0173054     .085479
  _Istate_25 |   .0343621   .0166227     2.07   0.042     .0013332    .0673911
  _Istate_26 |   .0347048   .0214295     1.62   0.109     -.007875    .0772847
  _Istate_27 |   .0629426   .0235704     2.67   0.009     .0161087    .1097765
  _Istate_28 |    .066106   .0167346     3.95   0.000     .0328547    .0993573
  _Istate_29 |  -.0242054   .0213907    -1.13   0.261    -.0667082    .0182975
  _Istate_30 |   -.001179   .0191403    -0.06   0.951    -.0392104    .0368524
  _Istate_31 |   .0233524   .0180084     1.30   0.198    -.0124299    .0591348
  _Istate_32 |  -.0150417   .0166489    -0.90   0.369    -.0481228    .0180394
  _Istate_33 |   .0478029   .0221229     2.16   0.033     .0038451    .0917606
  _Istate_34 |   .0049682   .0204208     0.24   0.808    -.0356075    .0455439
  _Istate_35 |   .0970173   .0195468     4.96   0.000     .0581782    .1358564
  _Istate_36 |  -.0009667   .0181318    -0.05   0.958    -.0369942    .0350609
  _Istate_37 |  -.0923893    .024435    -3.78   0.000    -.1409412   -.0438374
post_toneall |   1.48e-06   4.61e-07     3.20   0.002     5.61e-07    2.39e-06
       _cons |   .1592352   .0258203     6.17   0.000     .1079308    .2105395
------------------------------------------------------------------------------
```

```
. xi: regress turn00 turn96 turn92 turn88 senate i.state post_toneall
i.state           _Istate_1-37        (_Istate_1 for state==AL omitted)

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F( 41,    86) =   47.28
       Model |  .541245968    41  .013201121           Prob > F      =  0.0000
    Residual |  .024013345    86  .000279225           R-squared     =  0.9575
-------------+------------------------------           Adj R-squared =  0.9373
       Total |  .565259313   127  .004450861           Root MSE      =  .01671

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      turn96 |   .7425048   .1015086     7.31   0.000     .5407124    .9442973
      turn92 |   .0953153   .1373687     0.69   0.490    -.1777645    .3683952
      turn88 |  -.0534088   .0845274    -0.63   0.529    -.2214436    .1146261
      senate |   .2259399   .0835156     2.71   0.008     .0599162    .3919635
   _Istate_2 |  -.0369352   .0156208    -2.36   0.020    -.0679884   -.0058821
   _Istate_3 |  -.0052368   .0124425    -0.42   0.675    -.0299717    .0194981
   _Istate_4 |   .0060316   .0166552     0.36   0.718    -.0270778     .039141
   _Istate_5 |   .0206524   .0177385     1.16   0.248    -.0146106    .0559153
   _Istate_6 |    .006111   .0132664     0.46   0.646    -.0202617    .0324836
   _Istate_7 |  -.0114925   .0144972    -0.79   0.430    -.0403119    .0173269
   _Istate_8 |   .0031796   .0165895     0.19   0.848    -.0297992    .0361584
   _Istate_9 |  -.0391171   .0187851    -2.08   0.040    -.0764606   -.0017736
  _Istate_10 |   .0147194   .0158616     0.93   0.356    -.0168124    .0462513
  _Istate_11 |  -.0192817   .0138104    -1.40   0.166    -.0467359    .0081724
  _Istate_12 |  -.0193801   .0157434    -1.23   0.222     -.050677    .0119169
  _Istate_13 |  -.0012743   .0127193    -0.10   0.920    -.0265595    .0240109
  _Istate_14 |  -.0120071    .014699    -0.82   0.416    -.0412277    .0172136
  _Istate_15 |   .0124257   .0138013     0.90   0.370    -.0150104    .0398618
  _Istate_16 |   .0064406   .0129792     0.50   0.621    -.0193612    .0322425
  _Istate_17 |   .0224766   .0129751     1.73   0.087    -.0033171    .0482702
  _Istate_18 |   .0144794    .017965     0.81   0.422     -.021234    .0501927
  _Istate_19 |    .006526   .0120943     0.54   0.591    -.0175167    .0305687
  _Istate_20 |  -.0294019   .0164007    -1.79   0.077    -.0620054    .0032017
  _Istate_21 |   .0444201   .0187027     2.38   0.020     .0072404    .0815999
  _Istate_22 |  -.0126478   .0163881    -0.77   0.442    -.0452262    .0199306
  _Istate_23 |    .034919    .014437     2.42   0.018     .0062191    .0636189
  _Istate_24 |   .0107696   .0134318     0.80   0.425     -.015932    .0374711
  _Istate_25 |  -.0061841   .0127867    -0.48   0.630    -.0316033    .0192351
  _Istate_26 |  -.0194271   .0167549    -1.16   0.249    -.0527347    .0138804
  _Istate_27 |  -.0159088   .0189155    -0.84   0.403    -.0535116     .021694
  _Istate_28 |   .0217409   .0136352     1.59   0.115    -.0053651    .0488468
  _Istate_29 |   .0195628   .0170085     1.15   0.253    -.0142489    .0533745
  _Istate_30 |  -.0105386   .0138602    -0.76   0.449    -.0380917    .0170146
  _Istate_31 |   .0197064   .0132303     1.49   0.140    -.0065947    .0460074
  _Istate_32 |   .0019119   .0125127     0.15   0.879    -.0229625    .0267863
  _Istate_33 |   .0214835   .0162353     1.32   0.189    -.0107913    .0537582
  _Istate_34 |  -.0085311   .0148935    -0.57   0.568    -.0381383    .0210762
  _Istate_35 |   .0576341   .0152682     3.77   0.000     .0272819    .0879863
  _Istate_36 |  -.0189291   .0149569    -1.27   0.209    -.0486625    .0108043
  _Istate_37 |  -.0526744    .019848    -2.65   0.009     -.092131   -.0132179
post_toneall |   4.13e-07   3.64e-07     1.13   0.260    -3.11e-07    1.14e-06
       _cons |   .0354573   .0267886     1.32   0.189    -.0177967    .0887113
------------------------------------------------------------------------------

. xi: regress turn00 turn96 turn92 turn88 senate post_toneall

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F(  5,   122) =  193.06
       Model |  .501833445     5  .100366689           Prob > F      =  0.0000
```

```
    Residual |  .063425868   122  .000519884           R-squared     =  0.8878
-------------+----------------------------           Adj R-squared =  0.8832
       Total |  .565259313   127  .004450861           Root MSE      =   .0228

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      turn96 |   .4931839   .0869885     5.67   0.000     .3209815    .6653864
      turn92 |   .5156612   .1076282     4.79   0.000     .3026004    .7287221
      turn88 |   -.199651   .0669742    -2.98   0.003     -.332233    -.067069
      senate |   .1541612   .0499696     3.09   0.003     .0552414     .253081
post_toneall |   5.20e-07   3.76e-07     1.38   0.170    -2.25e-07    1.26e-06
       _cons |   .0282562   .0174218     1.62   0.107     -.006232    .0627445
------------------------------------------------------------------------------

. xi: regress turn00 turn96 turn92 turn88 senate i.state post_toneall contrate
candvisits
i.state           _Istate_1-37        (_Istate_1 for state==AL omitted)

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F( 43,    84) =   52.47
       Model |   .54497104    43  .012673745           Prob > F      =  0.0000
    Residual |  .020288273    84  .000241527           R-squared     =  0.9641
-------------+------------------------------           Adj R-squared =  0.9457
       Total |  .565259313   127  .004450861           Root MSE      =  .01554

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      turn96 |   .7995185   .0970431     8.24   0.000     .6065377    .9924992
      turn92 |   .0149775   .1366097     0.11   0.913    -.2566858    .2866408
      turn88 |  -.0196473   .0827061    -0.24   0.813    -.1841175    .1448229
      senate |   .2168842   .0777822     2.79   0.007     .0622058    .3715625
   _Istate_2 |  -.0491915   .0149028    -3.30   0.001    -.0788274   -.0195556
   _Istate_3 |  -.0210438   .0123311    -1.71   0.092    -.0455656    .0034779
   _Istate_4 |  -.0062855    .015812    -0.40   0.692    -.0377293    .0251584
   _Istate_5 |   .0132014   .0166204     0.79   0.429    -.0198501     .046253
   _Istate_6 |  -.0081596   .0130276    -0.63   0.533    -.0340664    .0177472
   _Istate_7 |  -.0141681   .0135713    -1.04   0.299    -.0411562      .01282
   _Istate_8 |  -.0134061     .01653    -0.81   0.420    -.0462779    .0194657
   _Istate_9 |  -.0390497    .017472    -2.23   0.028    -.0737947   -.0043048
  _Istate_10 |  -.0010642    .015322    -0.07   0.945    -.0315336    .0294053
  _Istate_11 |  -.0320052   .0133666    -2.39   0.019     -.058586   -.0054243
  _Istate_12 |  -.0243881   .0148224    -1.65   0.104    -.0538641    .0050879
  _Istate_13 |  -.0119191   .0122634    -0.97   0.334    -.0363062     .012468
  _Istate_14 |  -.0166813   .0137787    -1.21   0.229    -.0440817     .010719
  _Istate_15 |    .001679    .013141     0.13   0.899    -.0244534    .0278113
  _Istate_16 |  -.0044016   .0124204    -0.35   0.724     -.029101    .0202977
  _Istate_17 |   .0139499   .0122625     1.14   0.259    -.0104354    .0383352
  _Istate_18 |   .0057397   .0168926     0.34   0.735     -.027853    .0393325
  _Istate_19 |   .0042872   .0114709     0.37   0.710    -.0185239    .0270984
  _Istate_20 |   -.036497    .015361    -2.38   0.020     -.067044   -.0059499
  _Istate_21 |   .0274478    .018018     1.52   0.131    -.0083829    .0632785
  _Istate_22 |  -.0295164   .0158426    -1.86   0.066    -.0610211    .0019884
  _Istate_23 |    .029922   .0134919     2.22   0.029     .0030919    .0567521
  _Istate_24 |   .0057144   .0127425     0.45   0.655    -.0196255    .0310542
  _Istate_25 |  -.0193168   .0123903    -1.56   0.123    -.0439563    .0053227
  _Istate_26 |  -.0190649   .0155933    -1.22   0.225    -.0500739    .0119442
  _Istate_27 |  -.0227588   .0177956    -1.28   0.204    -.0581472    .0126296
  _Istate_28 |   .0110103   .0129802     0.85   0.399    -.0148024    .0368229
  _Istate_29 |   .0157484   .0168362     0.94   0.352    -.0177321     .049229
  _Istate_30 |  -.0276821   .0139474    -1.98   0.050     -.055418    .0000539
  _Istate_31 |   .0106925   .0126204     0.85   0.399    -.0144046    .0357897
```

```
  _Istate_32 |  -.0007854   .0118051    -0.07   0.947    -.0242611    .0226902
  _Istate_33 |   .0195104   .0153484     1.27   0.207    -.0110117    .0500325
  _Istate_34 |  -.0179173   .0141036    -1.27   0.207    -.0459639    .0101293
  _Istate_35 |   .0463438   .0144939     3.20   0.002     .0175212    .0751664
  _Istate_36 |  -.0278147   .0141684    -1.96   0.053    -.0559901    .0003606
  _Istate_37 |  -.0615447   .0186938    -3.29   0.001    -.0987193     -.02437
post_toneall |  -2.94e-07   3.85e-07    -0.76   0.448    -1.06e-06    4.72e-07
    contrate |   .0480308   .0319933     1.50   0.137    -.0155914    .1116529
  candvisits |   .0070575    .002047     3.45   0.001     .0029868    .0111282
       _cons |   .0405028   .0255818     1.58   0.117    -.0103695     .091375
------------------------------------------------------------------------------

. xi: regress turn00 turn96 turn92 turn88 senate post_toneall contrate candvisits

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F(  7,   120) =  144.65
       Model |  .505365196     7  .072195028           Prob > F      =  0.0000
    Residual |  .059894117   120  .000499118           R-squared     =  0.8940
-------------+------------------------------           Adj R-squared =  0.8879
       Total |  .565259313   127  .004450861           Root MSE      =  .02234

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      turn96 |   .5093004   .0862992     5.90   0.000     .3384341    .6801667
      turn92 |   .4869718   .1106193     4.40   0.000     .2679533    .7059904
      turn88 |  -.1932829   .0701399    -2.76   0.007     -.332155   -.0544109
      senate |   .1599307   .0491663     3.25   0.001     .0625848    .2572766
post_toneall |  -4.40e-08   4.26e-07    -0.10   0.918    -8.87e-07    7.99e-07
    contrate |   .0217562   .0349648     0.62   0.535    -.0474716     .090984
  candvisits |   .0056031   .0022941     2.44   0.016     .0010609    .0101452
       _cons |   .0268288   .0170865     1.57   0.119    -.0070013    .0606589
------------------------------------------------------------------------------

.
. regh turn00 senate post_toneall, var(lncpop00 pq)

Iteration 0:   log likelihood =  240.58041
Iteration 1:   log likelihood =   245.0209
Iteration 2:   log likelihood =  245.97639
Iteration 3:   log likelihood =  245.97644
Iteration 4:   log likelihood =  245.97644

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(4)      =    161.121
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.6473
Log Likelihood =    245.976                       vwcorr2(y,yh)   =     0.5604

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      senate |   .6180957   .0565685    10.93   0.000     .5072234     .728968
post_toneall |   2.40e-06   5.05e-07     4.76   0.000     1.41e-06    3.39e-06
       _cons |   .2652076   .0220708    12.02   0.000     .2219495    .3084656
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.1151398   .0845141    -1.36   0.173    -.2807844    .0505049
          pq |  -77.89272    20.3901    -3.82   0.000    -117.8566   -37.92885
       _cons |   13.78812   4.902357     2.81   0.005      4.17968    23.39657
------------------------------------------------------------------------------
                                                  Model: log Var(y|x,z) = gamma
```

```
. regh turn00 senate  v__istate v__istat1 v__istat2 v__istat3 v__istat4 v__istat5
v__istat6 v__istat7 v_
> _istat8 v__istat9 v__ista10 v__ista11 v__ista12 v__ista13 v__ista14 v__ista15
v__ista16 v__ista17 v__i
> sta18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23 v__ista24 v__ista25
v__ista26 v__ista27 v__ist
> a28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33 v__ista34 v__ista35
post_toneall, var(lncpop00 p
> q)

Iteration 0:   log likelihood =  325.28368
Iteration 1:   log likelihood =  325.56495
Iteration 2:   log likelihood =   328.4831
Iteration 3:   log likelihood =  328.77711
Iteration 4:   log likelihood =  328.77907
Iteration 5:   log likelihood =  328.77907

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(40)     =    326.726
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.9084
Log Likelihood =    328.779                       vwcorr2(y,yh)   =     0.9023

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      senate |   .8249412   .0678834    12.15   0.000     .6918921    .9579902
   v__istate |  -.0361768   .0167638    -2.16   0.031    -.0690332   -.0033204
   v__istat1 |   .0068423   .0124946     0.55   0.584    -.0176466    .0313312
   v__istat2 |   .0202332   .0172633     1.17   0.241    -.0136021    .0540686
   v__istat3 |   .0941501   .0158935     5.92   0.000     .0629993    .1253008
   v__istat4 |   .0419658   .0127442     3.29   0.001     .0169876    .0669439
   v__istat5 |   .0048674   .0157527     0.31   0.757    -.0260073    .0357421
   v__istat6 |   .0567611   .0173995     3.26   0.001     .0226587    .0908634
   v__istat7 |   .0160995    .020316     0.79   0.428    -.0237191    .0559181
   v__istat8 |   .0395335   .0150906     2.62   0.009     .0099565    .0691105
   v__istat9 |   .0090845   .0135666     0.67   0.503    -.0175055    .0356745
   v__ista10 |   .0550522   .0154264     3.57   0.000     .0248169    .0852874
   v__ista11 |  -.0121615   .0132615    -0.92   0.359    -.0381536    .0138306
   v__ista12 |   .0043271   .0158233     0.27   0.784    -.0266861    .0353403
   v__ista13 |   .0174075   .0145716     1.19   0.232    -.0111524    .0459673
   v__ista14 |   .0293771   .0143073     2.05   0.040     .0013353     .057419
   v__ista15 |   .0472016   .0153509     3.07   0.002     .0171144    .0772888
   v__ista16 |   .0411352   .0183364     2.24   0.025     .0051966    .0770739
   v__ista17 |   .0193161   .0129327     1.49   0.135    -.0060316    .0446637
   v__ista18 |  -.0275201   .0193736    -1.42   0.155    -.0654917    .0104515
   v__ista19 |   .1410324   .0180132     7.83   0.000     .1057272    .1763376
   v__ista20 |  -.0052986    .015748    -0.34   0.737    -.0361641    .0255668
   v__ista21 |  -.0132736    .018016    -0.74   0.461    -.0485844    .0220372
   v__ista22 |   .0500158   .0127459     3.92   0.000     .0250342    .0749973
   v__ista23 |   .0354058   .0125743     2.82   0.005     .0107605     .060051
   v__ista24 |     .03197   .0157125     2.03   0.042     .0011741    .0627659
   v__ista25 |   .0531478   .0195529     2.72   0.007     .0148248    .0914708
   v__ista26 |   .0660413   .0137709     4.80   0.000     .0390507    .0930318
   v__ista27 |  -.0272593    .016587    -1.64   0.100    -.0597693    .0052506
   v__ista28 |  -.0017607   .0140715    -0.13   0.900    -.0293403     .025819
   v__ista29 |   .0214185    .013105     1.63   0.102    -.0042668    .0471039
   v__ista30 |   -.010714     .01326    -0.81   0.419    -.0367032    .0152752
   v__ista31 |   .0512784    .022615     2.27   0.023     .0069537    .0956031
   v__ista32 |   .0076258    .016193     0.47   0.638    -.0241119    .0393635
   v__ista33 |   .0978674   .0155593     6.29   0.000     .0673717    .1283631
```

```
   v__ista34 |    .007929    .016461     0.48   0.630     -.024334     .040192
   v__ista35 |  -.0830972   .0242814    -3.42   0.001    -.1306878   -.0355067
post_toneall |   1.41e-06   3.71e-07     3.80   0.000     6.84e-07    2.14e-06
       _cons |   .1771765   .0287651     6.16   0.000     .1207979     .233555
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |   -.255072    .083256    -3.06   0.002    -.4182507   -.0918933
          pq |  -6.651225   16.29684    -0.41   0.683    -38.59243    25.28999
       _cons |  -3.081619   3.669166    -0.84   0.401    -10.27305    4.109815
------------------------------------------------------------------------------
                                                Model: log Var(y|x,z) = gamma

. regh turn00 turn96 turn92 turn88 senate  v__istate v__istat1 v__istat2 v__istat3
v__istat4 v__istat5 v
> __istat6 v__istat7 v__istat8 v__istat9 v__ista10 v__ista11 v__ista12 v__ista13
v__ista14 v__ista15 v__
> ista16 v__ista17 v__ista18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23
v__ista24 v__ista25 v__is
> ta26 v__ista27 v__ista28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33
v__ista34 v__ista35 post_to
> neall, var(lncpop00 pq)

Iteration 0:   log likelihood =  375.91546
Iteration 1:   log likelihood =  387.03578
Iteration 2:   log likelihood =  388.05266
Iteration 3:   log likelihood =  388.07079
Iteration 4:   log likelihood =  388.07082

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(43)     =    445.310
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.9445
Log Likelihood =    388.071                       vwcorr2(y,yh)   =     0.9594

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      turn96 |   .7577488   .0860748     8.80   0.000     .5890452    .9264524
      turn92 |    .133886   .1123648     1.19   0.233     -.086345    .3541171
      turn88 |   .0179026   .0706643     0.25   0.800    -.1205969    .1564021
      senate |   .0437181   .0673056     0.65   0.516    -.0881985    .1756346
   v__istate |  -.0363905   .0103312    -3.52   0.000    -.0566393   -.0161417
   v__istat1 |   .0023161   .0074305     0.31   0.755    -.0122474    .0168796
   v__istat2 |   .0105088    .011276     0.93   0.351    -.0115919    .0326094
   v__istat3 |   .0089389   .0113436     0.79   0.431    -.0132941    .0311719
   v__istat4 |     .00419   .0083867     0.50   0.617    -.0122476    .0206276
   v__istat5 |  -.0049391   .0093189    -0.53   0.596    -.0232038    .0133256
   v__istat6 |   .0035424   .0119032     0.30   0.766    -.0197874    .0268721
   v__istat7 |  -.0595001   .0152487    -3.90   0.000    -.0893871   -.0296132
   v__istat8 |   .0142634   .0089601     1.59   0.111    -.0032981     .031825
   v__istat9 |  -.0227337   .0094865    -2.40   0.017    -.0413269   -.0041404
   v__ista10 |  -.0302448   .0111249    -2.72   0.007    -.0520491   -.0084404
   v__ista11 |   .0040762   .0085498     0.48   0.634    -.0126811    .0208335
   v__ista12 |   .0006308   .0104776     0.06   0.952    -.0199049    .0211665
   v__ista13 |   .0251333   .0085447     2.94   0.003     .0083859    .0418806
   v__ista14 |   .0096195   .0086717     1.11   0.267    -.0073768    .0266158
   v__ista15 |   .0105146   .0102434     1.03   0.305    -.0095621    .0305914
   v__ista16 |  -.0070396   .0134386    -0.52   0.600    -.0333788    .0192997
   v__ista17 |   .0160535   .0077431     2.07   0.038     .0008773    .0312297
   v__ista18 |  -.0213069   .0122568    -1.74   0.082    -.0453298    .0027159
   v__ista19 |   .0357245   .0141143     2.53   0.011     .0080609    .0633881
   v__ista20 |  -.0104449    .009833    -1.06   0.288    -.0297173    .0088274
```

```
   v__ista21 |   .0229733   .0119828     1.92   0.055    -.0005125    .0464591
   v__ista22 |   .0127628   .0085661     1.49   0.136    -.0040265    .0295521
   v__ista23 |  -.0065542   .0081316    -0.81   0.420    -.0224919    .0093836
   v__ista24 |  -.0278839   .0102229    -2.73   0.006    -.0479205   -.0078474
   v__ista25 |   .0021183   .0130938     0.16   0.871    -.0235451    .0277817
   v__ista26 |   .0155108   .0090342     1.72   0.086    -.0021959    .0332174
   v__ista27 |   .0299451    .011139     2.69   0.007      .008113    .0517773
   v__ista28 |  -.0034856    .008253    -0.42   0.673    -.0196612      .01269
   v__ista29 |   .0181704   .0079262     2.29   0.022     .0026353    .0337054
   v__ista30 |   .0139248    .008488     1.64   0.101    -.0027114     .030561
   v__ista31 |   .0256425   .0173761     1.48   0.140    -.0084142    .0596991
   v__ista32 |  -.0047301   .0100772    -0.47   0.639     -.024481    .0150208
   v__ista33 |   .0525623   .0109819     4.79   0.000     .0310382    .0740864
   v__ista34 |  -.0227179   .0111506    -2.04   0.042    -.0445727   -.0008632
   v__ista35 |  -.0179061   .0184773    -0.97   0.333    -.0541209    .0183087
post_toneall |   6.42e-07   2.39e-07     2.68   0.007     1.73e-07    1.11e-06
       _cons |   .0380505   .0193258     1.97   0.049     .0001726    .0759284
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.3839379   .0791017    -4.85   0.000    -.5389743   -.2289015
          pq |  -24.15133   16.55568    -1.46   0.145    -56.59986    8.297203
       _cons |   1.911881   3.882667     0.49   0.622    -5.698006    9.521768
------------------------------------------------------------------------------
                                                Model: log Var(y|x,z) = gamma

. regh turn00 turn96 turn92 turn88 senate post_toneall, var(lncpop00 pq)

Iteration 0:   log likelihood =  314.60289
Iteration 1:   log likelihood =   318.0715
Iteration 2:   log likelihood =  318.55465
Iteration 3:   log likelihood =  318.55537
Iteration 4:   log likelihood =  318.55537

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(7)      =    306.279
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.8857
Log Likelihood =    318.555                       vwcorr2(y,yh)   =     0.8662

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      turn96 |   .5264519   .0800688     6.57   0.000     .3695199    .6833838
      turn92 |   .3943781   .1005262     3.92   0.000     .1973503    .5914059
      turn88 |  -.1427684   .0631332    -2.26   0.024    -.2665072   -.0190295
      senate |   .1076515   .0448208     2.40   0.016     .0198043    .1954987
post_toneall |   7.71e-07   3.10e-07     2.48   0.013     1.63e-07    1.38e-06
       _cons |   .0651705   .0191113     3.41   0.001     .0277131     .102628
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |   -.110587   .0783901    -1.41   0.158    -.2642289    .0430548
          pq |  -48.40911   17.79563    -2.72   0.007    -83.28791   -13.53032
       _cons |   5.406707   4.083793     1.32   0.186     -2.59738    13.41079
------------------------------------------------------------------------------
                                                Model: log Var(y|x,z) = gamma

. regh turn00 turn96 turn92 turn88 senate v__istate v__istat1 v__istat2 v__istat3
v__istat4 v__istat5 v_
> _istat6 v__istat7 v__istat8 v__istat9 v__ista10 v__ista11 v__ista12 v__ista13
v__ista14 v__ista15 v__i
> sta16 v__ista17 v__ista18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23
v__ista24 v__ista25 v__ist
```

```
> a26 v__ista27 v__ista28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33
v__ista34 v__ista35 post_ton
> eall contrate candvisits, var(lncpop00 pq)

Iteration 0:   log likelihood =  389.21637
Iteration 1:   log likelihood =  395.92613
Iteration 2:   log likelihood =  407.07545
Iteration 3:   log likelihood =  407.25672
Iteration 4:   log likelihood =  407.25748
Iteration 5:   log likelihood =  407.25748

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(45)     =    483.683
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.9498
Log Likelihood =    407.257                       vwcorr2(y,yh)   =     0.9739

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
       turn96 |   .8257557   .0765036    10.79   0.000     .6758113    .9757001
       turn92 |   .1542914   .1004672     1.54   0.125    -.0426207    .3512034
       turn88 |  -.0113495   .0625412    -0.18   0.856     -.133928    .1112291
       senate |   .0067079    .059778     0.11   0.911    -.1104548    .1238706
    v__istate |   -.045972   .0090656    -5.07   0.000    -.0637402   -.0282037
    v__istat1 |  -.0117476   .0067098    -1.75   0.080    -.0248986    .0014034
    v__istat2 |   .0006703   .0093836     0.07   0.943    -.0177213    .0190619
    v__istat3 |   .0000165   .0092125     0.00   0.999    -.0180396    .0180727
    v__istat4 |  -.0094082   .0074316    -1.27   0.206    -.0239739    .0051576
    v__istat5 |  -.0044879   .0077238    -0.58   0.561    -.0196263    .0106506
    v__istat6 |  -.0089814   .0105419    -0.85   0.394    -.0296432    .0116804
    v__istat7 |  -.0629219   .0137614    -4.57   0.000    -.0898938   -.0359501
    v__istat8 |   -.002218   .0078318    -0.28   0.777    -.0175681    .0131321
    v__istat9 |  -.0297058   .0081916    -3.63   0.000     -.045761   -.0136507
    v__ista10 |  -.0384192   .0098243    -3.91   0.000    -.0576744   -.0191639
    v__ista11 |  -.0000265   .0076123    -0.00   0.997    -.0149463    .0148933
    v__ista12 |  -.0043492   .0090237    -0.48   0.630    -.0220353    .0133368
    v__ista13 |   .0206621   .0072816     2.84   0.005     .0063904    .0349337
    v__ista14 |  -.0026955   .0074661    -0.36   0.718    -.0173288    .0119379
    v__ista15 |    .001029   .0088273     0.12   0.907    -.0162722    .0183302
    v__ista16 |   -.015719   .0121381    -1.30   0.195    -.0395092    .0080711
    v__ista17 |   .0171278   .0068617     2.50   0.013     .0036791    .0305765
    v__ista18 |  -.0253352   .0106002    -2.39   0.017    -.0461112   -.0045592
    v__ista19 |   .0162343   .0120704     1.34   0.179    -.0074232    .0398918
    v__ista20 |  -.0271923   .0083913    -3.24   0.001    -.0436391   -.0107456
    v__ista21 |   .0227169   .0111336     2.04   0.041     .0008954    .0445385
    v__ista22 |     .00558   .0072636     0.77   0.442    -.0086564    .0198165
    v__ista23 |   -.019978   .0071151    -2.81   0.005    -.0339233   -.0060327
    v__ista24 |  -.0299737   .0087708    -3.42   0.001    -.0471643   -.0127832
    v__ista25 |  -.0149428   .0102018    -1.46   0.143    -.0349381    .0050524
    v__ista26 |   .0036891    .007902     0.47   0.641    -.0117986    .0191768
    v__ista27 |   .0368456   .0100893     3.65   0.000     .0170709    .0566204
    v__ista28 |  -.0168166   .0076631    -2.19   0.028    -.0318361   -.0017971
    v__ista29 |   .0126827   .0068636     1.85   0.065    -.0007697    .0261351
    v__ista30 |   .0188744   .0073378     2.57   0.010     .0044926    .0332562
    v__ista31 |   .0186297   .0165781     1.12   0.261    -.0138627    .0511221
    v__ista32 |  -.0136079   .0084746    -1.61   0.108    -.0302178    .0030019
    v__ista33 |   .0392425   .0088973     4.41   0.000      .021804    .0566809
    v__ista34 |   -.028887   .0099813    -2.89   0.004    -.0484501    -.009324
    v__ista35 |  -.0222297   .0172796    -1.29   0.198    -.0560972    .0116377
post_toneall |  -5.42e-08   2.31e-07    -0.23   0.815    -5.07e-07    3.98e-07
    contrate |   .0139118   .0218302     0.64   0.524    -.0288745    .0566982
```

```
  candvisits |   .0079352   .0011956     6.64   0.000      .005592    .0102785
       _cons |   .0232776   .0165985     1.40   0.161    -.0092549    .0558101
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.5520687   .0798731    -6.91   0.000    -.7086171   -.3955204
          pq |  -10.46501   15.77535    -0.66   0.507    -41.38412     20.4541
       _cons |   .4314807   3.864803     0.11   0.911    -7.143393    8.006355
------------------------------------------------------------------------------
                                                 Model: log Var(y|x,z) = gamma

. regh turn00 turn96 turn92 turn88 senate post_toneall contrate candvisits,
var(lncpop00 pq)

Iteration 0:   log likelihood =  315.12713
Iteration 1:   log likelihood =  321.51399
Iteration 2:   log likelihood =  322.23703
Iteration 3:   log likelihood =  322.23866
Iteration 4:   log likelihood =  322.23866

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(9)      =    313.645
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.8912
Log Likelihood =    322.239                       vwcorr2(y,yh)   =     0.8741

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      turn96 |   .5343638   .0784153     6.81   0.000     .3806728    .6880549
      turn92 |   .3607574   .1016773     3.55   0.000     .1614735    .5600412
      turn88 |  -.1206652   .0672704    -1.79   0.073    -.2525126    .0111823
      senate |   .1068445   .0444502     2.40   0.016     .0197238    .1939653
post_toneall |   2.95e-07   3.48e-07     0.85   0.397    -3.88e-07    9.78e-07
    contrate |   .0467878   .0312491     1.50   0.134    -.0144594     .108035
  candvisits |   .0037488   .0019068     1.97   0.049     .0000115     .007486
       _cons |   .0648334     .01864     3.48   0.001     .0282997    .1013671
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.1375447   .0795115    -1.73   0.084    -.2933845     .018295
          pq |  -45.56547   17.53122    -2.60   0.009    -79.92602   -11.20492
       _cons |   5.001563   4.032556     1.24   0.215    -2.902102    12.90523
------------------------------------------------------------------------------
                                                 Model: log Var(y|x,z) = gamma

.
.
. *all 2000 (post Jan 1) points for ads
. gen toneallp= negp + conp + prop

. xi: regress turn00 senate toneallp

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F(  2,   125) =  103.58
       Model |  .352540068     2  .176270034           Prob > F      =  0.0000
    Residual |  .212719246   125  .001701754           R-squared     =  0.6237
-------------+------------------------------           Adj R-squared =  0.6177
       Total |  .565259313   127  .004450861           Root MSE      =  .04125

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      senate |   .7746779   .0552789    14.01   0.000     .6652742    .8840816
```

```
    toneallp |   4.77e-07   1.29e-07     3.69   0.000     2.21e-07    7.33e-07
       _cons |   .2093672   .0234246     8.94   0.000     .1630071    .2557273
------------------------------------------------------------------------------

. xi: regress turn00 senate i.state toneallp
i.state           _Istate_1-37        (_Istate_1 for state==AL omitted)

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F( 38,    89) =   23.73
       Model |  .514471652    38  .013538728           Prob > F      =  0.0000
    Residual |  .050787662    89  .000570648           R-squared     =  0.9102
-------------+------------------------------           Adj R-squared =  0.8718
       Total |  .565259313   127  .004450861           Root MSE      =  .02389

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      senate |   .8647831   .0579939    14.91   0.000     .7495505    .9800158
   _Istate_2 |  -.0415554   .0219646    -1.89   0.062    -.0851986    .0020879
   _Istate_3 |   .0013389   .0175981     0.08   0.940    -.0336283     .036306
   _Istate_4 |   .0228011   .0222745     1.02   0.309    -.0214577      .06706
   _Istate_5 |   .0981945   .0219265     4.48   0.000     .0546271     .141762
   _Istate_6 |   .0463452   .0171774     2.70   0.008     .0122142    .0804763
   _Istate_7 |   .0035309   .0201948     0.17   0.862    -.0365958    .0436575
   _Istate_8 |   .0516291   .0220892     2.34   0.022     .0077383    .0955198
   _Istate_9 |   .0265381   .0224913     1.18   0.241    -.0181517    .0712279
  _Istate_10 |   .0369725   .0223958     1.65   0.102    -.0075276    .0814725
  _Istate_11 |   .0064162   .0175923     0.36   0.716    -.0285392    .0413717
  _Istate_12 |    .053256   .0195788     2.72   0.008     .0143533    .0921586
  _Istate_13 |  -.0167655   .0170374    -0.98   0.328    -.0506184    .0170875
  _Istate_14 |   .0025871   .0202453     0.13   0.899    -.0376399    .0428142
  _Istate_15 |   .0083705   .0195687     0.43   0.670    -.0305121    .0472531
  _Istate_16 |   .0306764   .0183902     1.67   0.099    -.0058645    .0672173
  _Istate_17 |   .0425733   .0179538     2.37   0.020     .0068995    .0782471
  _Istate_18 |   .0381499   .0202514     1.88   0.063    -.0020891     .078389
  _Istate_19 |   .0109217   .0170521     0.64   0.524    -.0229605    .0448039
  _Istate_20 |  -.0313162   .0229066    -1.37   0.175    -.0768311    .0141986
  _Istate_21 |   .1438801   .0218348     6.59   0.000     .1004949    .1872654
  _Istate_22 |   -.003951   .0227474    -0.17   0.863    -.0491496    .0412475
  _Istate_23 |   .0089057   .0198126     0.45   0.654    -.0304615     .048273
  _Istate_24 |   .0486463   .0176933     2.75   0.007     .0134901    .0838025
  _Istate_25 |   .0321766   .0171575     1.88   0.064    -.0019149    .0662681
  _Istate_26 |   .0317696   .0218829     1.45   0.150    -.0117111    .0752504
  _Istate_27 |   .0675708   .0240317     2.81   0.006     .0198203    .1153213
  _Istate_28 |   .0645046   .0173892     3.71   0.000     .0299527    .0990565
  _Istate_29 |  -.0291781   .0220769    -1.32   0.190    -.0730445    .0146883
  _Istate_30 |  -.0036212   .0195463    -0.19   0.853    -.0424593    .0352168
  _Istate_31 |   .0205467   .0183726     1.12   0.266    -.0159593    .0570528
  _Istate_32 |  -.0185064   .0171331    -1.08   0.283    -.0525494    .0155367
  _Istate_33 |   .0504007   .0225996     2.23   0.028     .0054957    .0953057
  _Istate_34 |   .0111291   .0206858     0.54   0.592    -.0299732    .0522315
  _Istate_35 |   .0986172   .0200289     4.92   0.000     .0588201    .1384142
  _Istate_36 |  -.0030172   .0186958    -0.16   0.872    -.0401654    .0341311
  _Istate_37 |  -.0922155   .0250066    -3.69   0.000    -.1419031    -.042528
    toneallp |   2.37e-07   9.83e-08     2.41   0.018     4.20e-08    4.32e-07
       _cons |   .1635791   .0263353     6.21   0.000     .1112515    .2159068
------------------------------------------------------------------------------

. xi: regress turn00 turn96 turn92 turn88 senate i.state toneallp
i.state           _Istate_1-37        (_Istate_1 for state==AL omitted)

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F( 41,    86) =   46.63
```

```
      Model |  .540926507    41  .013193329           Prob > F      =  0.0000
   Residual |  .024332806    86   .00028294           R-squared     =  0.9570
-------------+------------------------------           Adj R-squared =  0.9364
      Total |  .565259313   127  .004450861           Root MSE      =  .01682

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      turn96 |   .7488234   .1020168     7.34   0.000     .5460206    .9516261
      turn92 |    .123403    .139504     0.88   0.379    -.1539218    .4007279
      turn88 |   -.061493    .086454    -0.71   0.479    -.2333579    .1103719
      senate |   .2041138   .0825583     2.47   0.015     .0399933    .3682344
   _Istate_2 |  -.0363935   .0158632    -2.29   0.024    -.0679285   -.0048584
   _Istate_3 |  -.0056379   .0125235    -0.45   0.654    -.0305338    .0192581
   _Istate_4 |   .0073965   .0167327     0.44   0.660    -.0258669       .04066
   _Istate_5 |   .0187843   .0177824     1.06   0.294     -.016566    .0541346
   _Istate_6 |   .0074288   .0133652     0.56   0.580    -.0191403    .0339979
   _Istate_7 |  -.0112917   .0146216    -0.77   0.442    -.0403584     .017775
   _Istate_8 |    .001509   .0166619     0.09   0.928    -.0316139    .0346318
   _Istate_9 |  -.0388493   .0189672    -2.05   0.044    -.0765549   -.0011437
  _Istate_10 |   .0157609   .0161044     0.98   0.330    -.0162537    .0477754
  _Istate_11 |  -.0187688    .014045    -1.34   0.185    -.0466894    .0091517
  _Istate_12 |  -.0203042   .0158296    -1.28   0.203    -.0517723     .011164
  _Istate_13 |   .0004592   .0129451     0.04   0.972    -.0252748    .0261932
  _Istate_14 |  -.0108599    .014802    -0.73   0.465    -.0402853    .0185654
  _Istate_15 |   .0128528   .0139492     0.92   0.359    -.0148774     .040583
  _Istate_16 |    .007528   .0133057     0.57   0.573    -.0189228    .0339787
  _Istate_17 |   .0237656   .0132247     1.80   0.076    -.0025243    .0500555
  _Istate_18 |   .0129595   .0180517     0.72   0.475    -.0229261    .0488452
  _Istate_19 |   .0064331   .0123514     0.52   0.604    -.0181206    .0309869
  _Istate_20 |  -.0291597   .0165387    -1.76   0.081    -.0620377    .0037182
  _Istate_21 |   .0425746   .0188393     2.26   0.026     .0051234    .0800259
  _Istate_22 |  -.0097009   .0166165    -0.58   0.561    -.0427334    .0233316
  _Istate_23 |   .0361047   .0144991     2.49   0.015     .0072815    .0649279
  _Istate_24 |   .0101706    .013597     0.75   0.456    -.0168593    .0372005
  _Istate_25 |  -.0067411   .0129231    -0.52   0.603    -.0324313    .0189491
  _Istate_26 |  -.0226335   .0166855    -1.36   0.178    -.0558032    .0105362
  _Istate_27 |  -.0152129   .0190442    -0.80   0.427    -.0530715    .0226457
  _Istate_28 |   .0220214   .0139366     1.58   0.118    -.0056836    .0497263
  _Istate_29 |   .0216742    .017455     1.24   0.218    -.0130252    .0563737
  _Istate_30 |  -.0113565   .0139345    -0.81   0.417    -.0390573    .0163444
  _Istate_31 |   .0183872    .013265     1.39   0.169    -.0079827    .0447571
  _Istate_32 |   .0028153   .0127906     0.22   0.826    -.0226117    .0282422
  _Istate_33 |   .0212592   .0163524     1.30   0.197    -.0112483    .0537667
  _Istate_34 |  -.0052603   .0148439    -0.35   0.724    -.0347689    .0242483
  _Istate_35 |    .057011   .0153603     3.71   0.000     .0264758    .0875462
  _Istate_36 |  -.0179641   .0153145    -1.17   0.244    -.0484083    .0124801
  _Istate_37 |  -.0499507   .0198878    -2.51   0.014    -.0894864    -.010415
    toneallp |   2.85e-08   7.57e-08     0.38   0.707    -1.22e-07    1.79e-07
       _cons |   .0311722   .0269142     1.16   0.250    -.0223313    .0846758
------------------------------------------------------------------------------

. xi: regress turn00 turn96 turn92 turn88 senate toneallp

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F(  5,   122) =  191.62
      Model |  .501413124     5  .100282625           Prob > F      =  0.0000
   Residual |  .063846189   122  .000523329           R-squared     =  0.8870
-------------+------------------------------           Adj R-squared =  0.8824
      Total |  .565259313   127  .004450861           Root MSE      =  .02288

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
```

```
-------------+----------------------------------------------------------------
      turn96 |    .499788   .0871046     5.74   0.000     .3273559    .6722202
      turn92 |   .5225194   .1077132     4.85   0.000     .3092903    .7357484
      turn88 |   -.201918   .0672802    -3.00   0.003    -.3351059   -.0687301
      senate |   .1490987   .0500078     2.98   0.003     .0501033     .248094
    toneallp |   7.97e-08   7.62e-08     1.05   0.298    -7.12e-08    2.31e-07
       _cons |     .02514   .0174313     1.44   0.152    -.0093669    .0596469
------------------------------------------------------------------------------

. xi: regress turn00 turn96 turn92 turn88 senate i.state toneallp contrate
candvisits
i.state           _Istate_1-37        (_Istate_1 for state==AL omitted)

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F( 43,    84) =   53.08
       Model |  .545194755    43  .012678948           Prob > F      =  0.0000
    Residual |  .020064558    84  .000238864           R-squared     =  0.9645
-------------+------------------------------           Adj R-squared =  0.9463
       Total |  .565259313   127  .004450861           Root MSE      =  .01546

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      turn96 |   .8016074   .0960653     8.34   0.000     .6105711    .9926438
      turn92 |   .0277167   .1363493     0.20   0.839    -.2434289    .2988623
      turn88 |  -.0294778   .0828436    -0.36   0.723    -.1942214    .1352658
      senate |   .2126078   .0759998     2.80   0.006      .061474    .3637417
   _Istate_2 |  -.0476643   .0148409    -3.21   0.002    -.0771769   -.0181516
   _Istate_3 |  -.0210729   .0121406    -1.74   0.086    -.0452157    .0030699
   _Istate_4 |   -.006475   .0157258    -0.41   0.682    -.0377474    .0247974
   _Istate_5 |   .0132568   .0164058     0.81   0.421    -.0193679    .0458815
   _Istate_6 |  -.0079596   .0129489    -0.61   0.540    -.0337099    .0177907
   _Istate_7 |  -.0135573    .013505    -1.00   0.318    -.0404134    .0132989
   _Istate_8 |  -.0124696   .0161438    -0.77   0.442    -.0445732    .0196341
   _Istate_9 |  -.0376683   .0174296    -2.16   0.034    -.0723289   -.0030076
  _Istate_10 |   .0003489   .0152548     0.02   0.982     -.029987    .0306847
  _Istate_11 |  -.0306624    .013293    -2.31   0.024    -.0570968   -.0042279
  _Istate_12 |  -.0247759   .0147097    -1.68   0.096    -.0540278     .004476
  _Istate_13 |  -.0106042   .0122674    -0.86   0.390    -.0349993    .0137909
  _Istate_14 |  -.0162852    .013707    -1.19   0.238    -.0435432    .0109727
  _Istate_15 |   .0025011   .0130572     0.19   0.849    -.0234646    .0284667
  _Istate_16 |  -.0022334   .0125109    -0.18   0.859    -.0271126    .0226459
  _Istate_17 |   .0156093   .0123039     1.27   0.208    -.0088583    .0400769
  _Istate_18 |    .007018   .0166702     0.42   0.675    -.0261326    .0401685
  _Istate_19 |   .0061069   .0115068     0.53   0.597    -.0167755    .0289894
  _Istate_20 |   -.035758    .015276    -2.34   0.022    -.0661361   -.0053799
  _Istate_21 |   .0257413   .0178703     1.44   0.153    -.0097958    .0612784
  _Istate_22 |   -.027659   .0158712    -1.74   0.085    -.0592207    .0039026
  _Istate_23 |   .0297659   .0134098     2.22   0.029      .003099    .0564327
  _Istate_24 |   .0071473   .0126605     0.56   0.574    -.0180296    .0323242
  _Istate_25 |  -.0182032   .0122012    -1.49   0.139    -.0424666    .0060602
  _Istate_26 |  -.0194924   .0153635    -1.27   0.208    -.0500444    .0110596
  _Istate_27 |  -.0221915   .0177052    -1.25   0.214    -.0574002    .0130171
  _Istate_28 |   .0130567     .01298     1.01   0.317    -.0127554    .0388689
  _Istate_29 |   .0179749   .0169004     1.06   0.291    -.0156333    .0515832
  _Istate_30 |  -.0284319   .0137591    -2.07   0.042    -.0557933   -.0010705
  _Istate_31 |   .0104931   .0124313     0.84   0.401     -.014228    .0352142
  _Istate_32 |   .0009284   .0118666     0.08   0.938    -.0226696    .0245264
  _Istate_33 |   .0193219   .0152642     1.27   0.209    -.0110326    .0496764
  _Istate_34 |  -.0174395   .0139729    -1.25   0.215    -.0452262    .0103472
  _Istate_35 |   .0466731   .0143322     3.26   0.002     .0181719    .0751744
  _Istate_36 |  -.0256398   .0142292    -1.80   0.075     -.053936    .0026565
  _Istate_37 |  -.0614622   .0185585    -3.31   0.001    -.0983678   -.0245566
```

```
    toneallp |  -9.42e-08   7.62e-08    -1.24   0.220    -2.46e-07    5.75e-08
    contrate |   .0530298   .0320561     1.65   0.102    -.0107173    .1167769
  candvisits |    .007084   .0019553     3.62   0.000     .0031957    .0109723
       _cons |    .039531   .0253789     1.56   0.123    -.0109377    .0899997
------------------------------------------------------------------------------

. xi: regress turn00 turn96 turn92 turn88 senate toneallp contrate candvisits

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F(  7,   120) =  144.67
       Model |  .505374804     7  .072196401           Prob > F      =  0.0000
    Residual |  .059884509   120  .000499038           R-squared     =  0.8941
-------------+------------------------------           Adj R-squared =  0.8879
       Total |  .565259313   127  .004450861           Root MSE      =  .02234

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      turn96 |    .510437   .0861422     5.93   0.000     .3398814    .6809925
      turn92 |   .4864664     .11059     4.40   0.000      .267506    .7054268
      turn88 |  -.1935203   .0700947    -2.76   0.007     -.332303   -.0547377
      senate |   .1591629   .0491822     3.24   0.002     .0617855    .2565404
    toneallp |  -1.42e-08   8.21e-08    -0.17   0.863    -1.77e-07    1.48e-07
    contrate |   .0223956   .0352072     0.64   0.526    -.0473123    .0921035
  candvisits |   .0056221   .0021827     2.58   0.011     .0013006    .0099437
       _cons |   .0271798   .0170399     1.60   0.113    -.0065581    .0609177
------------------------------------------------------------------------------

.
. regh turn00 senate toneallp, var(lncpop00 pq)

Iteration 0:   log likelihood =   237.1283
Iteration 1:   log likelihood =  241.12628
Iteration 2:   log likelihood =  241.79456
Iteration 3:   log likelihood =  241.79484
Iteration 4:   log likelihood =  241.79484

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(4)      =    152.758
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.6237
Log Likelihood =    241.795                       vwcorr2(y,yh)   =     0.5299

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      senate |   .6313306   .0586715    10.76   0.000     .5163367    .7463246
    toneallp |   3.85e-07   1.05e-07     3.68   0.000     1.80e-07    5.90e-07
       _cons |   .2634836   .0232223    11.35   0.000     .2179687    .3089984
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.1189844    .084639    -1.41   0.160    -.2848737     .046905
          pq |  -79.04554   20.63283    -3.83   0.000    -119.4851   -38.60595
       _cons |   14.18386   4.967392     2.86   0.004     4.447955    23.91977
------------------------------------------------------------------------------
                                                  Model: log Var(y|x,z) = gamma

. regh turn00 senate  v__istate v__istat1 v__istat2 v__istat3 v__istat4 v__istat5
v__istat6 v__istat7 v_
> _istat8 v__istat9 v__ista10 v__ista11 v__ista12 v__ista13 v__ista14 v__ista15
v__ista16 v__ista17 v__i
> sta18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23 v__ista24 v__ista25
```

```
v__ista26 v__ista27 v__ist
> a28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33 v__ista34 v__ista35
toneallp, var(lncpop00 pq)

Iteration 0:   log likelihood =  321.10418
Iteration 1:   log likelihood =   324.4374
Iteration 2:   log likelihood =  324.98038
Iteration 3:   log likelihood =  324.98107
Iteration 4:   log likelihood =  324.98107

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(40)     =    319.130
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.9038
Log Likelihood =    324.981                       vwcorr2(y,yh)   =     0.8942

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      senate |   .8127795    .067117    12.11   0.000     .6812325    .9443265
   v__istate |  -.0378633   .0173562    -2.18   0.029    -.0718808   -.0038459
   v__istat1 |    .005775   .0128289     0.45   0.653    -.0193691    .0309192
   v__istat2 |   .0229646    .017792     1.29   0.197     -.011907    .0578363
   v__istat3 |   .0954877   .0165068     5.78   0.000     .0631349    .1278406
   v__istat4 |   .0456908   .0130166     3.51   0.000     .0201787    .0712029
   v__istat5 |   .0043619    .016168     0.27   0.787    -.0273268    .0360506
   v__istat6 |   .0539032   .0180568     2.99   0.003     .0185125    .0892939
   v__istat7 |   .0212662   .0207307     1.03   0.305    -.0193652    .0618976
   v__istat8 |   .0410396    .015663     2.62   0.009     .0103406    .0717385
   v__istat9 |   .0089484   .0139464     0.64   0.521    -.0183861    .0362829
   v__ista10 |   .0575612    .015875     3.63   0.000     .0264467    .0886757
   v__ista11 |  -.0114984   .0136823    -0.84   0.401    -.0383152    .0153185
   v__ista12 |   .0092198   .0160451     0.57   0.566     -.022228    .0406677
   v__ista13 |    .016158   .0149881     1.08   0.281    -.0132181    .0455342
   v__ista14 |   .0324265   .0148956     2.18   0.029     .0032316    .0616214
   v__ista15 |   .0527183    .016067     3.28   0.001     .0212276    .0842091
   v__ista16 |    .037568   .0185022     2.03   0.042     .0013043    .0738317
   v__ista17 |   .0152102   .0133951     1.14   0.256    -.0110438    .0414641
   v__ista18 |  -.0271538   .0197375    -1.38   0.169    -.0658386    .0115311
   v__ista19 |   .1466868   .0186741     7.86   0.000     .1100863    .1832872
   v__ista20 |  -.0002723    .016204    -0.02   0.987    -.0320315    .0314869
   v__ista21 |  -.0119863   .0182789    -0.66   0.512    -.0478123    .0238396
   v__ista22 |   .0493409   .0132138     3.73   0.000     .0234424    .0752395
   v__ista23 |    .034562   .0130257     2.65   0.008      .009032    .0600919
   v__ista24 |   .0290592   .0160467     1.81   0.070    -.0023918    .0605102
   v__ista25 |    .058581   .0204701     2.86   0.004     .0184603    .0987018
   v__ista26 |     .06518   .0143857     4.53   0.000     .0369846    .0933754
   v__ista27 |  -.0310615   .0171292    -1.81   0.070     -.064634    .0025111
   v__ista28 |  -.0039725   .0143836    -0.28   0.782    -.0321638    .0242188
   v__ista29 |       .0184   .0133831     1.37   0.169    -.0078304    .0446304
   v__ista30 |  -.0128685   .0137639    -0.93   0.350    -.0398453    .0141083
   v__ista31 |   .0553588    .023207     2.39   0.017     .0098739    .1008437
   v__ista32 |   .0165564   .0162657     1.02   0.309    -.0153238    .0484367
   v__ista33 |   .1006088   .0162563     6.19   0.000      .068747    .1324706
   v__ista34 |   .0060293   .0169471     0.36   0.722    -.0271863    .0392449
   v__ista35 |  -.0809271   .0245014    -3.30   0.001    -.1289489   -.0329054
    toneallp |   2.01e-07   8.02e-08     2.51   0.012     4.38e-08    3.58e-07
       _cons |   .1851559   .0284562     6.51   0.000     .1293827    .2409291
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |   -.240956   .0866716    -2.78   0.005    -.4108292   -.0710828
          pq |  -10.10147   16.22802    -0.62   0.534     -41.9078    21.70486
```

```
       _cons |  -2.362062   3.676762    -0.64   0.521    -9.568383    4.844259
------------------------------------------------------------------------------
                                                Model: log Var(y|x,z) = gamma

. regh turn00 turn96 turn92 turn88 senate  v__istate v__istat1 v__istat2 v__istat3
v__istat4 v__istat5 v
> __istat6 v__istat7 v__istat8 v__istat9 v__ista10 v__ista11 v__ista12 v__ista13
v__ista14 v__ista15 v__
> ista16 v__ista17 v__ista18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23
v__ista24 v__ista25 v__is
> ta26 v__ista27 v__ista28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33
v__ista34 v__ista35 toneall
> p, var(lncpop00 pq)

Iteration 0:   log likelihood =  374.41839
Iteration 1:   log likelihood =  384.30865
Iteration 2:   log likelihood =  385.02231
Iteration 3:   log likelihood =  385.03467
Iteration 4:   log likelihood =  385.03467

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(43)     =    439.237
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.9454
Log Likelihood =    385.035                       vwcorr2(y,yh)   =     0.9566

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      turn96 |    .758627   .0879629     8.62   0.000     .5862229    .9310312
      turn92 |   .1643126   .1155765     1.42   0.155    -.0622132    .3908384
      turn88 |   .0060252   .0730307     0.08   0.934    -.1371123    .1491628
      senate |   .0232602   .0679506     0.34   0.732    -.1099205    .1564409
   v__istate |  -.0349285   .0107732    -3.24   0.001    -.0560436   -.0138134
   v__istat1 |   .0018482    .007664     0.24   0.809     -.013173    .0168694
   v__istat2 |   .0113899   .0116628     0.98   0.329    -.0114688    .0342487
   v__istat3 |   .0082127   .0117246     0.70   0.484    -.0147671    .0311926
   v__istat4 |   .0072034   .0086171     0.84   0.403    -.0096857    .0240925
   v__istat5 |  -.0046256   .0096411    -0.48   0.631    -.0235217    .0142705
   v__istat6 |   .0019432   .0122903     0.16   0.874    -.0221453    .0260318
   v__istat7 |   -.054955   .0154892    -3.55   0.000    -.0853134   -.0245967
   v__istat8 |   .0150833   .0093434     1.61   0.106    -.0032294     .033396
   v__istat9 |  -.0212314   .0098097    -2.16   0.030    -.0404581   -.0020047
   v__ista10 |  -.0299401   .0113641    -2.63   0.008    -.0522134   -.0076668
   v__ista11 |   .0068189   .0088585     0.77   0.441    -.0105434    .0241812
   v__ista12 |   .0035293   .0107401     0.33   0.742     -.017521    .0245796
   v__ista13 |   .0246999   .0088175     2.80   0.005     .0074178    .0419819
   v__ista14 |   .0131493   .0091959     1.43   0.153    -.0048743    .0311729
   v__ista15 |   .0164838   .0103786     1.59   0.112    -.0038579    .0368256
   v__ista16 |  -.0088802   .0136545    -0.65   0.515    -.0356425     .017882
   v__ista17 |   .0155343   .0081277     1.91   0.056    -.0003957    .0314644
   v__ista18 |  -.0201264   .0125511    -1.60   0.109     -.044726    .0044733
   v__ista19 |   .0363597   .0145838     2.49   0.013      .007776    .0649435
   v__ista20 |  -.0053514   .0102403    -0.52   0.601    -.0254219    .0147192
   v__ista21 |   .0247285   .0122241     2.02   0.043     .0007696    .0486873
   v__ista22 |   .0137866   .0089848     1.53   0.125    -.0038232    .0313965
   v__ista23 |  -.0062886   .0084433    -0.74   0.456    -.0228372      .01026
   v__ista24 |  -.0311083   .0104042    -2.99   0.003    -.0515002   -.0107164
   v__ista25 |    .004354   .0137305     0.32   0.751    -.0225573    .0312653
   v__ista26 |   .0168392    .009487     1.77   0.076     -.001755    .0354333
   v__ista27 |   .0316343    .011626     2.72   0.007     .0088477    .0544209
   v__ista28 |  -.0045985   .0084767    -0.54   0.587    -.0212125    .0120156
```

```
   v__ista29 |   .0164339   .0081118     2.03   0.043      .000535    .0323328
   v__ista30 |   .0148044   .0088452     1.67   0.094    -.0025319    .0321407
   v__ista31 |    .026883   .0174472     1.54   0.123    -.0073129    .0610789
   v__ista32 |   .0017296   .0101953     0.17   0.865    -.0182528    .0217121
   v__ista33 |   .0530895   .0114328     4.64   0.000     .0306815    .0754974
   v__ista34 |  -.0212336   .0115322    -1.84   0.066    -.0438363    .0013691
   v__ista35 |  -.0148336    .018597    -0.80   0.425     -.051283    .0216158
    toneallp |   4.75e-08   5.11e-08     0.93   0.353    -5.27e-08    1.48e-07
       _cons |   .0370501   .0199309     1.86   0.063    -.0020138     .076114
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.3516722   .0787141    -4.47   0.000    -.5059491   -.1973953
          pq |  -26.58669   17.12331    -1.55   0.121    -60.14775    6.974375
       _cons |   2.139278   4.042062     0.53   0.597    -5.783017    10.06157
------------------------------------------------------------------------------
                                              Model: log Var(y|x,z) = gamma

. regh turn00 turn96 turn92 turn88 senate toneallp, var(lncpop00 pq)

Iteration 0:   log likelihood =  314.12909
Iteration 1:   log likelihood =  317.23201
Iteration 2:   log likelihood =  317.53985
Iteration 3:   log likelihood =  317.54075
Iteration 4:   log likelihood =  317.54075

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(7)      =    304.250
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.8851
Log Likelihood =    317.541                       vwcorr2(y,yh)   =     0.8644

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      turn96 |   .5369796   .0803878     6.68   0.000     .3794224    .6945369
      turn92 |   .4025478   .1013807     3.97   0.000     .2038453    .6012503
      turn88 |  -.1454794   .0633551    -2.30   0.022    -.2696532   -.0213057
      senate |   .1018463   .0450581     2.26   0.024     .0135342    .1901585
    toneallp |   1.26e-07   6.28e-08     2.00   0.045     2.63e-09    2.49e-07
       _cons |     .05988   .0191932     3.12   0.002     .0222621    .0974979
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.1026581   .0784492    -1.31   0.191    -.2564158    .0510996
          pq |  -47.99018   17.83312    -2.69   0.007    -82.94245   -13.03791
       _cons |   5.218712   4.088448     1.28   0.202    -2.794499    13.23192
------------------------------------------------------------------------------
                                              Model: log Var(y|x,z) = gamma

. regh turn00 turn96 turn92 turn88 senate v__istate v__istat1 v__istat2 v__istat3
v__istat4 v__istat5 v_
> _istat6 v__istat7 v__istat8 v__istat9 v__ista10 v__ista11 v__ista12 v__ista13
v__ista14 v__ista15 v__i
> sta16 v__ista17 v__ista18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23
v__ista24 v__ista25 v__ist
> a26 v__ista27 v__ista28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33
v__ista34 v__ista35 toneallp
>  contrate candvisits, var(lncpop00 pq)

Iteration 0:   log likelihood =  392.63761
Iteration 1:   log likelihood =  401.83747
Iteration 2:   log likelihood =  408.75596
Iteration 3:   log likelihood =  408.81506
```

```
Iteration 4:   log likelihood =  408.81511
Iteration 5:   log likelihood =  408.81511

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(45)     =    486.798
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.9508
Log Likelihood =    408.815                       vwcorr2(y,yh)   =     0.9747

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      turn96 |   .8271563   .0758174    10.91   0.000     .6785569    .9757558
      turn92 |   .1786408    .100622     1.78   0.076    -.0185747    .3758562
      turn88 |  -.0253146   .0623926    -0.41   0.685    -.1476019    .0969727
      senate |  -.0085913   .0589753    -0.15   0.884    -.1241807    .1069981
   v__istate |  -.0439504   .0090603    -4.85   0.000    -.0617083   -.0261925
   v__istat1 |  -.0126939    .006581    -1.93   0.054    -.0255925    .0002047
   v__istat2 |   .0000247   .0092739     0.00   0.998    -.0181517    .0182012
   v__istat3 |  -.0006562   .0090827    -0.07   0.942    -.0184578    .0171455
   v__istat4 |  -.0088878   .0073781    -1.20   0.228    -.0233486     .005573
   v__istat5 |  -.0045448   .0076565    -0.59   0.553    -.0195512    .0104617
   v__istat6 |  -.0089261   .0103111    -0.87   0.387    -.0291355    .0112833
   v__istat7 |  -.0585421   .0136413    -4.29   0.000    -.0852786   -.0318057
   v__istat8 |  -.0025775    .007706    -0.33   0.738    -.0176809     .012526
   v__istat9 |  -.0279989   .0081843    -3.42   0.001    -.0440399   -.0119579
   v__ista10 |   -.039391   .0097357    -4.05   0.000    -.0584726   -.0203094
   v__ista11 |   .0020474   .0076211     0.27   0.788    -.0128898    .0169845
   v__ista12 |  -.0036158   .0089468    -0.40   0.686    -.0211513    .0139197
   v__ista13 |    .020069   .0071982     2.79   0.005     .0059608    .0341773
   v__ista14 |   .0010623    .007616     0.14   0.889    -.0138648    .0159894
   v__ista15 |   .0046058   .0087605     0.53   0.599    -.0125643     .021776
   v__ista16 |  -.0162644   .0119787    -1.36   0.175    -.0397422    .0072135
   v__ista17 |   .0189695   .0068825     2.76   0.006       .00548     .032459
   v__ista18 |  -.0235724   .0105493    -2.23   0.025    -.0442488   -.0028961
   v__ista19 |   .0126534   .0119917     1.06   0.291    -.0108499    .0361567
   v__ista20 |  -.0242364   .0084463    -2.87   0.004    -.0407908   -.0076821
   v__ista21 |   .0226293   .0110602     2.05   0.041     .0009516     .044307
   v__ista22 |   .0072336   .0072622     1.00   0.319    -.0070001    .0214674
   v__ista23 |  -.0193092   .0070412    -2.74   0.006    -.0331097   -.0055086
   v__ista24 |   -.031578   .0086685    -3.64   0.000    -.0485679   -.0145882
   v__ista25 |   -.014958   .0100349    -1.49   0.136    -.0346259      .00471
   v__ista26 |   .0060032   .0079411     0.76   0.450     -.009561    .0215674
   v__ista27 |    .039516   .0100777     3.92   0.000     .019764    .0592679
   v__ista28 |  -.0189337   .0075408    -2.51   0.012    -.0337135    -.004154
   v__ista29 |   .0114559   .0067423     1.70   0.089    -.0017588    .0246706
   v__ista30 |   .0209821   .0073307     2.86   0.004     .0066142    .0353501
   v__ista31 |   .0192449   .0162171     1.19   0.235    -.0125401    .0510299
   v__ista32 |  -.0110538   .0083139    -1.33   0.184    -.0273488    .0052412
   v__ista33 |   .0392767   .0087375     4.50   0.000     .0221515     .056402
   v__ista34 |  -.0261869   .0100116    -2.62   0.009    -.0458094   -.0065645
   v__ista35 |  -.0205237    .017139    -1.20   0.231    -.0541156    .0130682
    toneallp |  -8.30e-08   4.64e-08    -1.79   0.074    -1.74e-07    8.03e-09
    contrate |   .0239309   .0218145     1.10   0.273    -.0188247    .0666866
  candvisits |   .0083485   .0011284     7.40   0.000     .0061369    .0105601
       _cons |   .0231857   .0163973     1.41   0.157    -.0089524    .0553238
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |   -.552035   .0786282    -7.02   0.000    -.7061433   -.3979266
          pq |  -8.694944   15.75759    -0.55   0.581    -39.57926    22.18937
       _cons |  -.0248859   3.851993    -0.01   0.995    -7.574653    7.524881
------------------------------------------------------------------------------
```

Model: log Var(y|x,z) = gamma

```
. regh turn00 turn96 turn92 turn88 senate toneallp contrate candvisits, var(lncpop00
pq)

Iteration 0:   log likelihood =  315.30556
Iteration 1:   log likelihood =  321.39686
Iteration 2:   log likelihood =  322.02643
Iteration 3:   log likelihood =  322.02822
Iteration 4:   log likelihood =  322.02822

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(9)      =    313.225
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.8915
Log Likelihood =    322.028                       vwcorr2(y,yh)   =     0.8739

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      turn96 |   .5393531   .0784571     6.87   0.000     .3855801    .6931261
      turn92 |   .3639235   .1019702     3.57   0.000     .1640656    .5637814
      turn88 |  -.1228678    .067247    -1.83   0.068    -.2546695    .0089338
      senate |   .1046908   .0445994     2.35   0.019     .0172776     .192104
    toneallp |   3.63e-08   6.69e-08     0.54   0.588    -9.49e-08    1.67e-07
    contrate |   .0476834   .0315523     1.51   0.131    -.0141579    .1095248
  candvisits |   .0041312    .001822     2.27   0.023     .0005601    .0077022
       _cons |   .0628975   .0185759     3.39   0.001     .0264895    .0993056
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.1366366   .0795615    -1.72   0.086    -.2925742    .0193011
          pq |  -44.89268   17.47561    -2.57   0.010    -79.14424   -10.64113
       _cons |   4.829156   4.019944     1.20   0.230    -3.049789     12.7081
------------------------------------------------------------------------------
```

Model: log Var(y|x,z) = gamma

```
.
.
. *all post June 30 points for ads
. gen post_toneallp= post_negp + post_conp + post_prop

. xi: regress turn00 senate post_toneallp

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F(  2,   125) =  103.00
       Model |   .35179039     2  .175895195           Prob > F      =  0.0000
    Residual |  .213468923   125  .001707751           R-squared     =  0.6224
-------------+------------------------------           Adj R-squared =  0.6163
       Total |  .565259313   127  .004450861           Root MSE      =  .04132

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      senate |   .7776001   .0554068    14.03   0.000     .6679432     .887257
post_tonea~p |   5.27e-07   1.45e-07     3.62   0.000     2.39e-07    8.14e-07
       _cons |   .2104726   .0234095     8.99   0.000     .1641423    .2568029
------------------------------------------------------------------------------

. xi: regress turn00 senate i.state post_toneallp
i.state           _Istate_1-37        (_Istate_1 for state==AL omitted)

      Source |       SS       df       MS              Number of obs =     128
```

```
------------+------------------------------           F( 38,    89) =   23.70
      Model |   .51442496    38  .013537499           Prob > F      =  0.0000
   Residual |  .050834353    89  .000571173           R-squared     =  0.9101
------------+------------------------------           Adj R-squared =  0.8717
      Total |  .565259313   127  .004450861           Root MSE      =   .0239

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      senate |   .8642603   .0580146    14.90   0.000     .7489867     .979534
   _Istate_2 |  -.0415363   .0219753    -1.89   0.062    -.0852008    .0021282
   _Istate_3 |   .0038092   .0176382     0.22   0.830    -.0312376     .038856
   _Istate_4 |   .0233465    .022281     1.05   0.298    -.0209254    .0676184
   _Istate_5 |   .1006962   .0218613     4.61   0.000     .0572583     .144134
   _Istate_6 |   .0459164   .0172204     2.67   0.009     .0116999    .0801329
   _Istate_7 |   .0049261   .0201753     0.24   0.808    -.0351619     .045014
   _Istate_8 |   .0545568   .0220106     2.48   0.015     .0108222    .0982914
   _Istate_9 |   .0285525   .0224004     1.27   0.206    -.0159567    .0730617
  _Istate_10 |   .0378846   .0223314     1.70   0.093    -.0064875    .0822567
  _Istate_11 |   .0073215    .017558     0.42   0.678    -.0275658    .0422088
  _Istate_12 |   .0528776   .0196031     2.70   0.008     .0139267    .0918286
  _Istate_13 |  -.0159543   .0170061    -0.94   0.351     -.049745    .0178365
  _Istate_14 |   .0051506   .0202035     0.25   0.799    -.0349933    .0452945
  _Istate_15 |   .0096794   .0195506     0.50   0.622    -.0291672    .0485259
  _Istate_16 |   .0323624   .0182155     1.78   0.079    -.0038314    .0685562
  _Istate_17 |   .0435339   .0178808     2.43   0.017     .0080052    .0790627
  _Istate_18 |   .0382409   .0202616     1.89   0.062    -.0020185    .0785003
  _Istate_19 |   .0146952   .0169185     0.87   0.387    -.0189216    .0483119
  _Istate_20 |  -.0301352   .0229182    -1.31   0.192    -.0756732    .0154027
  _Istate_21 |   .1468593   .0218192     6.73   0.000      .103505    .1902137
  _Istate_22 |   .0000201   .0224232     0.00   0.999    -.0445343    .0445746
  _Istate_23 |   .0094827   .0198173     0.48   0.633     -.029894    .0488593
  _Istate_24 |   .0522964   .0175566     2.98   0.004     .0174118     .087181
  _Istate_25 |   .0340273   .0170665     1.99   0.049     .0001165     .067938
  _Istate_26 |    .031765   .0218931     1.45   0.150    -.0117362    .0752662
  _Istate_27 |   .0691467   .0239309     2.89   0.005     .0215965     .116697
  _Istate_28 |   .0669707   .0171969     3.89   0.000     .0328008    .1011407
  _Istate_29 |  -.0244903   .0219096    -1.12   0.267    -.0680243    .0190437
  _Istate_30 |  -.0035337    .019558    -0.18   0.857     -.042395    .0353276
  _Istate_31 |   .0214006   .0184249     1.16   0.249    -.0152093    .0580105
  _Istate_32 |   -.015255   .0170471    -0.89   0.373    -.0491271    .0186172
  _Istate_33 |   .0542654   .0225881     2.40   0.018     .0093834    .0991474
  _Istate_34 |   .0130179   .0205189     0.63   0.527    -.0277527    .0537884
  _Istate_35 |   .0989917   .0200178     4.95   0.000     .0592167    .1387667
  _Istate_36 |  -.0009116   .0185981    -0.05   0.961    -.0378656    .0360425
  _Istate_37 |  -.0914731   .0250295    -3.65   0.000    -.1412062   -.0417401
post_tonea~p |   2.62e-07   1.09e-07     2.40   0.019     4.46e-08    4.79e-07
       _cons |   .1632709   .0263688     6.19   0.000     .1108768    .2156651
------------------------------------------------------------------------------

. xi: regress turn00 turn96 turn92 turn88 senate i.state post_toneallp
i.state           _Istate_1-37        (_Istate_1 for state==AL omitted)

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F( 41,    86) =   46.62
       Model |   .54091955    41   .01319316           Prob > F      =  0.0000
    Residual |  .024339763    86  .000283021           R-squared     =  0.9569
-------------+------------------------------           Adj R-squared =  0.9364
       Total |  .565259313   127  .004450861           Root MSE      =  .01682

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
```

```
      turn96 |   .7490398   .1020221     7.34   0.000     .5462266    .9518531
      turn92 |   .1249178   .1395005     0.90   0.373    -.1524001    .4022356
      turn88 |  -.0625322   .0862412    -0.73   0.470    -.2339741    .1089097
      senate |   .2034952   .0826477     2.46   0.016     .0391969    .3677935
   _Istate_2 |  -.0363093   .0158655    -2.29   0.025    -.0678489   -.0047696
   _Istate_3 |  -.0053543   .0125377    -0.43   0.670    -.0302783    .0195698
   _Istate_4 |   .0075152     .01672     0.45   0.654    -.0257231    .0407536
   _Istate_5 |   .0190312   .0178702     1.06   0.290    -.0164935    .0545559
   _Istate_6 |   .0074358   .0133915     0.56   0.580    -.0191855    .0340572
   _Istate_7 |  -.0111174   .0146001    -0.76   0.448    -.0401415    .0179067
   _Istate_8 |   .0018611   .0166567     0.11   0.911    -.0312513    .0349735
   _Istate_9 |   -.038539   .0189189    -2.04   0.045    -.0761485   -.0009296
  _Istate_10 |   .0159627   .0160558     0.99   0.323    -.0159551    .0478805
  _Istate_11 |  -.0185811   .0139979    -1.33   0.188    -.0464081    .0092458
  _Istate_12 |  -.0203658   .0158272    -1.29   0.202    -.0518292    .0110976
  _Istate_13 |   .0006548   .0128872     0.05   0.960    -.0249641    .0262737
  _Istate_14 |  -.0105195    .014737    -0.71   0.477    -.0398156    .0187767
  _Istate_15 |   .0130438   .0139125     0.94   0.351    -.0146133    .0407008
  _Istate_16 |   .0078207   .0131881     0.59   0.555    -.0183965    .0340379
  _Istate_17 |   .0239732   .0131605     1.82   0.072    -.0021891    .0501355
  _Istate_18 |    .013045    .01805     0.72   0.472    -.0228372    .0489273
  _Istate_19 |   .0069202   .0121983     0.57   0.572    -.0173292    .0311695
  _Istate_20 |  -.0289824   .0165179    -1.75   0.083     -.061819    .0038542
  _Istate_21 |   .0428329   .0190081     2.25   0.027     .0050459    .0806198
  _Istate_22 |  -.0091135   .0163156    -0.56   0.578    -.0415479    .0233209
  _Istate_23 |    .036182   .0144932     2.50   0.014     .0073705    .0649934
  _Istate_24 |   .0106261    .013525     0.79   0.434    -.0162608    .0375129
  _Istate_25 |  -.0064989   .0128854    -0.50   0.615    -.0321142    .0191163
  _Istate_26 |  -.0227187   .0166955    -1.36   0.177    -.0559083     .010471
  _Istate_27 |  -.0150101   .0190269    -0.79   0.432    -.0528344    .0228141
  _Istate_28 |   .0223861   .0138078     1.62   0.109    -.0050629    .0498351
  _Istate_29 |   .0223294   .0171138     1.30   0.195    -.0116917    .0563505
  _Istate_30 |  -.0113755   .0139367    -0.82   0.417    -.0390808    .0163298
  _Istate_31 |   .0184709   .0132911     1.39   0.168     -.007951    .0448928
  _Istate_32 |   .0032582   .0126075     0.26   0.797    -.0218047    .0283212
  _Istate_33 |   .0216674   .0164575     1.32   0.191     -.011049    .0543839
  _Istate_34 |  -.0049495   .0147248    -0.34   0.738    -.0342214    .0243225
  _Istate_35 |   .0570724   .0153628     3.71   0.000     .0265321    .0876127
  _Istate_36 |   -.017608   .0151753    -1.16   0.249    -.0477754    .0125594
  _Istate_37 |  -.0498061   .0198706    -2.51   0.014    -.0893076   -.0103046
post_tonea~p |   2.88e-08   8.41e-08     0.34   0.733    -1.38e-07    1.96e-07
       _cons |   .0309894   .0269175     1.15   0.253    -.0225207    .0844996
------------------------------------------------------------------------------

. xi: regress turn00 turn96 turn92 turn88 senate post_toneallp

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F(  5,   122) =  190.47
       Model |  .501069353     5  .100213871           Prob > F      =  0.0000
    Residual |   .06418996   122  .000526147           R-squared     =  0.8864
-------------+------------------------------           Adj R-squared =  0.8818
       Total |  .565259313   127  .004450861           Root MSE      =  .02294

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      turn96 |   .5066285   .0871712     5.81   0.000     .3340645    .6791925
      turn92 |   .5248548   .1081222     4.85   0.000     .3108161    .7388935
      turn88 |  -.2056502   .0674394    -3.05   0.003    -.3391532   -.0721473
      senate |   .1445456   .0503814     2.87   0.005     .0448106    .2442807
post_tonea~p |   5.67e-08   8.61e-08     0.66   0.511    -1.14e-07    2.27e-07
       _cons |   .0257277    .017463     1.47   0.143    -.0088421    .0602975
------------------------------------------------------------------------------
```

```
. xi: regress turn00 turn96 turn92 turn88 senate i.state post_toneallp contrate
candvisits
i.state           _Istate_1-37        (_Istate_1 for state==AL omitted)

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F( 43,    84) =   52.93
       Model |  .545139854    43  .012677671           Prob > F      =  0.0000
    Residual |   .02011946    84  .000239517           R-squared     =  0.9644
-------------+------------------------------           Adj R-squared =  0.9462
       Total |  .565259313   127  .004450861           Root MSE      =  .01548

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      turn96 |    .800735   .0962081     8.32   0.000     .6094147    .9920552
      turn92 |   .0242715   .1363527     0.18   0.859    -.2468808    .2954238
      turn88 |  -.0264322   .0827414    -0.32   0.750    -.1909725    .1381082
      senate |   .2136357   .0762432     2.80   0.006     .0620176    .3652537
   _Istate_2 |  -.0476959   .0148644    -3.21   0.002    -.0772555   -.0181364
   _Istate_3 |   -.021791   .0122671    -1.78   0.079    -.0461855    .0026036
   _Istate_4 |  -.0066017   .0157502    -0.42   0.676    -.0379226    .0247192
   _Istate_5 |   .0125108   .0165197     0.76   0.451    -.0203403     .045362
   _Istate_6 |  -.0077234   .0129665    -0.60   0.553    -.0335088    .0180619
   _Istate_7 |  -.0141115   .0135148    -1.04   0.299    -.0409871    .0127642
   _Istate_8 |  -.0135284    .016286    -0.83   0.409    -.0459149    .0188581
   _Istate_9 |  -.0386654   .0174044    -2.22   0.029     -.073276   -.0040548
  _Istate_10 |   .0000151   .0152648     0.00   0.999    -.0303406    .0303709
  _Istate_11 |  -.0310575   .0132996    -2.34   0.022    -.0575052   -.0046098
  _Istate_12 |  -.0245924   .0147256    -1.67   0.099    -.0538758     .004691
  _Istate_13 |  -.0110086   .0122584    -0.90   0.372    -.0353858    .0133687
  _Istate_14 |  -.0173134   .0137095    -1.26   0.210    -.0445762    .0099494
  _Istate_15 |   .0020796   .0130721     0.16   0.874    -.0239156    .0280748
  _Istate_16 |   -.002877     .01247    -0.23   0.818    -.0276749    .0219209
  _Istate_17 |   .0151665   .0122885     1.23   0.221    -.0092707    .0396036
  _Istate_18 |   .0068185   .0166973     0.41   0.684     -.026386     .040023
  _Istate_19 |   .0044913    .011425     0.39   0.695    -.0182286    .0272113
  _Istate_20 |  -.0361954   .0152925    -2.37   0.020    -.0666062   -.0057846
  _Istate_21 |   .0250098   .0181399     1.38   0.172    -.0110634     .061083
  _Istate_22 |  -.0291123   .0157678    -1.85   0.068    -.0604683    .0022437
  _Istate_23 |   .0296391   .0134272     2.21   0.030     .0029376    .0563406
  _Istate_24 |   .0056576   .0126766     0.45   0.657    -.0195512    .0308663
  _Istate_25 |  -.0187986   .0122373    -1.54   0.128    -.0431338    .0055367
  _Istate_26 |  -.0193893      .0154    -1.26   0.212    -.0500139    .0112353
  _Istate_27 |  -.0226288    .017722    -1.28   0.205     -.057871    .0126135
  _Istate_28 |    .012085   .0129383     0.93   0.353    -.0136442    .0378142
  _Istate_29 |   .0158214   .0167145     0.95   0.347    -.0174172      .04906
  _Istate_30 |  -.0282073   .0137808    -2.05   0.044     -.055612   -.0008026
  _Istate_31 |   .0102628   .0124982     0.82   0.414    -.0145911    .0351168
  _Istate_32 |  -.0004787   .0117535    -0.04   0.968    -.0238518    .0228944
  _Istate_33 |   .0180728   .0153534     1.18   0.242    -.0124592    .0486047
  _Istate_34 |  -.0181808   .0139403    -1.30   0.196    -.0459026     .009541
  _Istate_35 |   .0466698   .0143561     3.25   0.002     .0181212    .0752184
  _Istate_36 |  -.0266163   .0141669    -1.88   0.064    -.0547887    .0015561
  _Istate_37 |  -.0617176    .018577    -3.32   0.001    -.0986599   -.0247752
post_tonea~p |  -9.61e-08   8.45e-08    -1.14   0.259    -2.64e-07    7.20e-08
    contrate |   .0532372   .0323943     1.64   0.104    -.0111823    .1176568
  candvisits |   .0069218   .0019353     3.58   0.001     .0030732    .0107704
       _cons |   .0400175   .0253935     1.58   0.119    -.0104803    .0905153
------------------------------------------------------------------------------

. xi: regress turn00 turn96 turn92 turn88 senate post_toneallp contrate candvisits
```

```
      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F(  7,   120) =  145.23
       Model |  .505579728     7  .072225675           Prob > F      =  0.0000
    Residual |  .059679585   120   .00049733           R-squared     =  0.8944
-------------+------------------------------           Adj R-squared =  0.8883
       Total |  .565259313   127  .004450861           Root MSE      =   .0223

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      turn96 |   .5184516   .0858404     6.04   0.000     .3484936    .6884097
      turn92 |   .4863922   .1103928     4.41   0.000     .2678223    .7049622
      turn88 |  -.1952982   .0699458    -2.79   0.006     -.333786   -.0568104
      senate |   .1532013   .0493129     3.11   0.002     .0555652    .2508374
post_tonea~p |  -6.19e-08   9.31e-08    -0.66   0.507    -2.46e-07    1.22e-07
    contrate |   .0263066   .0352618     0.75   0.457    -.0435093    .0961225
  candvisits |   .0059866   .0021878     2.74   0.007      .001655    .0103183
       _cons |   .0274412   .0169912     1.62   0.109    -.0062002    .0610826
------------------------------------------------------------------------------

.
. regh turn00 senate post_toneallp, var(lncpop00 pq)

Iteration 0:   log likelihood =  237.11337
Iteration 1:   log likelihood =  241.36212
Iteration 2:   log likelihood =   242.2116
Iteration 3:   log likelihood =  242.21169
Iteration 4:   log likelihood =  242.21169

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(4)      =    153.592
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.6223
Log Likelihood =    242.212                       vwcorr2(y,yh)   =     0.5316

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      senate |   .6314797   .0585548    10.78   0.000     .5167144     .746245
post_tonea~p |   4.47e-07   1.17e-07     3.81   0.000     2.17e-07    6.77e-07
       _cons |   .2641064   .0230221    11.47   0.000     .2189839    .3092289
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.1144985   .0843131    -1.36   0.174    -.2797491    .0507521
          pq |  -81.77363   20.72011    -3.95   0.000    -122.3843   -41.16297
       _cons |     14.785   4.971386     2.97   0.003     5.041266    24.52874
------------------------------------------------------------------------------
                                                 Model: log Var(y|x,z) = gamma

. regh turn00 senate  v__istate v__istat1 v__istat2 v__istat3 v__istat4 v__istat5
v__istat6 v__istat7 v_
> _istat8 v__istat9 v__ista10 v__ista11 v__ista12 v__ista13 v__ista14 v__ista15
v__ista16 v__ista17 v__i
> sta18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23 v__ista24 v__ista25
v__ista26 v__ista27 v__ist
> a28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33 v__ista34 v__ista35
post_toneallp, var(lncpop00
> pq)

Iteration 0:   log likelihood =  321.33277
Iteration 1:   log likelihood =   324.7318
Iteration 2:   log likelihood =  325.13955
```

```
Iteration 3:   log likelihood =  325.14016
Iteration 4:   log likelihood =  325.14016

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(40)     =    319.448
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.9036
Log Likelihood =    325.140                       vwcorr2(y,yh)   =     0.8941

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      senate |   .8094568    .066611    12.15   0.000     .6789017    .9400119
   v__istate |    -.03811   .0173157    -2.20   0.028    -.0720481   -.0041719
   v__istat1 |   .0079608   .0128074     0.62   0.534    -.0171413    .0330629
   v__istat2 |    .023596   .0177679     1.33   0.184    -.0112286    .0584205
   v__istat3 |   .0971771   .0164662     5.90   0.000     .0649039    .1294504
   v__istat4 |   .0450339   .0130167     3.46   0.001     .0195216    .0705461
   v__istat5 |   .0047155   .0160907     0.29   0.769    -.0268217    .0362527
   v__istat6 |   .0565391    .017936     3.15   0.002     .0213853     .091693
   v__istat7 |   .0231887   .0205636     1.13   0.259    -.0171152    .0634927
   v__istat8 |    .041807   .0155641     2.69   0.007     .0113019    .0723121
   v__istat9 |    .009591   .0138567     0.69   0.489    -.0175675    .0367496
   v__ista10 |   .0570164   .0158361     3.60   0.000     .0259781    .0880546
   v__ista11 |  -.0110535   .0135862    -0.81   0.416    -.0376819     .015575
   v__ista12 |   .0117985   .0159456     0.74   0.459    -.0194543    .0430512
   v__ista13 |   .0171225   .0149318     1.15   0.251    -.0121433    .0463882
   v__ista14 |    .033916   .0146152     2.32   0.020     .0052708    .0625613
   v__ista15 |   .0523856   .0159709     3.28   0.001     .0210833    .0836879
   v__ista16 |   .0373445   .0184162     2.03   0.043     .0012494    .0734396
   v__ista17 |   .0188096   .0131852     1.43   0.154     -.007033    .0446521
   v__ista18 |   -.025663   .0196639    -1.31   0.192    -.0642035    .0128775
   v__ista19 |   .1495957   .0186815     8.01   0.000     .1129805    .1862108
   v__ista20 |   .0031015   .0158328     0.20   0.845    -.0279303    .0341333
   v__ista21 |  -.0119076   .0181879    -0.65   0.513    -.0475553    .0237401
   v__ista22 |   .0524816   .0130246     4.03   0.000      .026954    .0780093
   v__ista23 |   .0359301   .0129013     2.79   0.005     .0106441    .0612162
   v__ista24 |    .028963   .0159949     1.81   0.070    -.0023863    .0603123
   v__ista25 |   .0588385   .0205291     2.87   0.004     .0186021    .0990749
   v__ista26 |   .0666633   .0141472     4.71   0.000     .0389352    .0943914
   v__ista27 |  -.0272327   .0169278    -1.61   0.108    -.0604105    .0059451
   v__ista28 |  -.0038892   .0143411    -0.27   0.786    -.0319974    .0242189
   v__ista29 |    .019161   .0133746     1.43   0.152    -.0070527    .0453748
   v__ista30 |  -.0106845   .0135841    -0.79   0.432    -.0373089    .0159399
   v__ista31 |   .0588853   .0231888     2.54   0.011      .013436    .1043346
   v__ista32 |   .0182152   .0160289     1.14   0.256    -.0132008    .0496313
   v__ista33 |   .1009138   .0162511     6.21   0.000     .0690623    .1327653
   v__ista34 |   .0075984   .0167581     0.45   0.650    -.0252468    .0404435
   v__ista35 |  -.0796936   .0244088    -3.26   0.001     -.127534   -.0318531
post_tonea~p |   2.27e-07   8.83e-08     2.57   0.010     5.40e-08    4.00e-07
       _cons |   .1859141   .0282249     6.59   0.000     .1305944    .2412339
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.2393647     .08544    -2.80   0.005    -.4068241   -.0719054
          pq |  -10.85892   15.81188    -0.69   0.492    -41.84964    20.13181
       _cons |   -2.20027    3.58453    -0.61   0.539     -9.22582    4.825279
------------------------------------------------------------------------------
                                                  Model: log Var(y|x,z) = gamma

. regh turn00 turn96 turn92 turn88 senate  v__istate v__istat1 v__istat2 v__istat3
v__istat4 v__istat5 v
> __istat6 v__istat7 v__istat8 v__istat9 v__ista10 v__ista11 v__ista12 v__ista13
```

```
v__ista14 v__ista15 v__
> ista16 v__ista17 v__ista18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23
v__ista24 v__ista25 v__is
> ta26 v__ista27 v__ista28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33
v__ista34 v__ista35 post_to
> neallp, var(lncpop00 pq)

Iteration 0:   log likelihood =  374.88159
Iteration 1:   log likelihood =  384.50101
Iteration 2:   log likelihood =  385.15145
Iteration 3:   log likelihood =  385.16262
Iteration 4:   log likelihood =  385.16263

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(43)     =    439.493
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.9451
Log Likelihood =    385.163                       vwcorr2(y,yh)   =     0.9566

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      turn96 |   .7577875    .087848     8.63   0.000     .5856085    .9299664
      turn92 |   .1624408   .1152083     1.41   0.159    -.0633634     .388245
      turn88 |   .0076476   .0730158     0.10   0.917    -.1354607     .150756
      senate |   .0235123   .0677646     0.35   0.729    -.1093039    .1563285
   v__istate |  -.0352442   .0107576    -3.28   0.001    -.0563287   -.0141598
   v__istat1 |   .0023891    .007643     0.31   0.755     -.012591    .0173692
   v__istat2 |   .0114737   .0116457     0.99   0.325    -.0113514    .0342988
   v__istat3 |   .0086117   .0117268     0.73   0.463    -.0143725    .0315958
   v__istat4 |   .0068968   .0086176     0.80   0.424    -.0099934     .023787
   v__istat5 |  -.0045931   .0096133    -0.48   0.633    -.0234347    .0142485
   v__istat6 |   .0024953   .0122372     0.20   0.838    -.0214892    .0264797
   v__istat7 |  -.0547085   .0153753    -3.56   0.000    -.0848436   -.0245734
   v__istat8 |   .0151485   .0092957     1.63   0.103    -.0030707    .0333677
   v__istat9 |  -.0212365   .0097534    -2.18   0.029    -.0403529   -.0021201
   v__ista10 |  -.0300472   .0113485    -2.65   0.008    -.0522898   -.0078046
   v__ista11 |   .0067023   .0087959     0.76   0.446    -.0105373    .0239419
   v__ista12 |   .0040875   .0106549     0.38   0.701    -.0167957    .0249706
   v__ista13 |   .0249348   .0087934     2.84   0.005     .0077001    .0421695
   v__ista14 |    .013217   .0090231     1.46   0.143     -.004468     .030902
   v__ista15 |   .0159852   .0103913     1.54   0.124    -.0043814    .0363518
   v__ista16 |  -.0089982   .0136391    -0.66   0.509    -.0357303    .0177339
   v__ista17 |   .0163603    .007955     2.06   0.040     .0007688    .0319518
   v__ista18 |  -.0198605   .0125035    -1.59   0.112    -.0443669    .0046459
   v__ista19 |   .0372922   .0146482     2.55   0.011     .0085822    .0660022
   v__ista20 |  -.0047974    .009948    -0.48   0.630     -.024295    .0147002
   v__ista21 |   .0245918    .012205     2.01   0.044     .0006704    .0485132
   v__ista22 |   .0144685   .0088331     1.64   0.101     -.002844     .031781
   v__ista23 |  -.0060462   .0083781    -0.72   0.470    -.0224669    .0103744
   v__ista24 |  -.0310182   .0103779    -2.99   0.003    -.0513586   -.0106779
   v__ista25 |   .0043451   .0137176     0.32   0.751     -.022541    .0312312
   v__ista26 |   .0170011   .0093604     1.82   0.069     -.001345    .0353472
   v__ista27 |   .0323864   .0113907     2.84   0.004     .0100611    .0547117
   v__ista28 |   -.004536   .0084606    -0.54   0.592    -.0211184    .0120464
   v__ista29 |   .0166522   .0081078     2.05   0.040     .0007612    .0325433
   v__ista30 |   .0152042   .0087164     1.74   0.081    -.0018797     .032288
   v__ista31 |    .027756   .0174748     1.59   0.112     -.006494    .0620061
   v__ista32 |   .0018943   .0100392     0.19   0.850    -.0177822    .0215709
   v__ista33 |   .0530327   .0114287     4.64   0.000     .0306329    .0754326
   v__ista34 |  -.0210133   .0114073    -1.84   0.065    -.0433711    .0013446
   v__ista35 |  -.0146357   .0185544    -0.79   0.430    -.0510016    .0217303
```

```
post_tonea~p |   5.94e-08   5.61e-08     1.06   0.289    -5.05e-08    1.69e-07
       _cons |   .0373423   .0199095     1.88   0.061    -.0016796    .0763642
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.3524593   .0784514    -4.49   0.000    -.5062212   -.1986973
          pq |   -26.8265   17.16585    -1.56   0.118    -60.47095    6.817951
       _cons |   2.205848   4.050852     0.54   0.586    -5.733676    10.14537
------------------------------------------------------------------------------
                                                 Model: log Var(y|x,z) = gamma

. regh turn00 turn96 turn92 turn88 senate post_toneallp, var(lncpop00 pq)

Iteration 0:   log likelihood =  313.16191
Iteration 1:   log likelihood =  316.26734
Iteration 2:   log likelihood =  316.59895
Iteration 3:   log likelihood =  316.59984
Iteration 4:   log likelihood =  316.59984

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(7)      =    302.368
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.8846
Log Likelihood =    316.600                       vwcorr2(y,yh)   =     0.8627

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      turn96 |   .5463949   .0808671     6.76   0.000     .3878983    .7048915
      turn92 |   .4015895   .1025819     3.91   0.000     .2005327    .6026463
      turn88 |   -.148603   .0638759    -2.33   0.020    -.2737975   -.0234085
      senate |   .0986296   .0457708     2.15   0.031     .0089206    .1883386
post_tonea~p |   1.03e-07   7.20e-08     1.43   0.152    -3.80e-08    2.44e-07
       _cons |   .0605687   .0194253     3.12   0.002     .0224957    .0986417
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.0976844   .0780015    -1.25   0.210    -.2505645    .0551958
          pq |  -47.45096   18.00681    -2.64   0.008    -82.74367   -12.15826
       _cons |   5.038142   4.118706     1.22   0.221    -3.034373    13.11066
------------------------------------------------------------------------------
                                                 Model: log Var(y|x,z) = gamma

. regh turn00 turn96 turn92 turn88 senate v__istate v__istat1 v__istat2 v__istat3
v__istat4 v__istat5 v_
> _istat6 v__istat7 v__istat8 v__istat9 v__ista10 v__ista11 v__ista12 v__ista13
v__ista14 v__ista15 v__i
> sta16 v__ista17 v__ista18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23
v__ista24 v__ista25 v__ist
> a26 v__ista27 v__ista28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33
v__ista34 v__ista35 post_ton
> eallp contrate candvisits, var(lncpop00 pq)

Iteration 0:   log likelihood =  390.89278
Iteration 1:   log likelihood =  396.46362
Iteration 2:   log likelihood =   407.5943
Iteration 3:   log likelihood =  407.78862
Iteration 4:   log likelihood =  407.78963
Iteration 5:   log likelihood =  407.78963

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(45)     =    484.747
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.9506
```

Log Likelihood = 407.790 vwcorr2(y,yh) = 0.9741

| turn00 | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| mean | | | | | | |
| turn96 | .8260489 | .0761919 | 10.84 | 0.000 | .6767155 | .9753823 |
| turn92 | .1667432 | .1008819 | 1.65 | 0.098 | -.0309816 | .3644681 |
| turn88 | -.0190312 | .0627641 | -0.30 | 0.762 | -.1420466 | .1039842 |
| senate | -.0002604 | .0592379 | -0.00 | 0.996 | -.1163645 | .1158438 |
| v__istate | -.0446734 | .00913 | -4.89 | 0.000 | -.0625678 | -.0267789 |
| v__istat1 | -.0125564 | .0066658 | -1.88 | 0.060 | -.0256211 | .0005083 |
| v__istat2 | .0003744 | .0093448 | 0.04 | 0.968 | -.0179412 | .0186899 |
| v__istat3 | -.000524 | .0091776 | -0.06 | 0.954 | -.0185119 | .0174638 |
| v__istat4 | -.0088647 | .0074376 | -1.19 | 0.233 | -.0234422 | .0057127 |
| v__istat5 | -.004582 | .0077164 | -0.59 | 0.553 | -.019706 | .0105419 |
| v__istat6 | -.0094204 | .010428 | -0.90 | 0.366 | -.0298588 | .0110181 |
| v__istat7 | -.0609647 | .01368 | -4.46 | 0.000 | -.087777 | -.0341523 |
| v__istat8 | -.0023885 | .0077611 | -0.31 | 0.758 | -.0176 | .012823 |
| v__istat9 | -.0288459 | .0082192 | -3.51 | 0.000 | -.0449553 | -.0127366 |
| v__ista10 | -.0387741 | .009796 | -3.96 | 0.000 | -.0579739 | -.0195744 |
| v__ista11 | .0010186 | .0076503 | 0.13 | 0.894 | -.0139757 | .0160129 |
| v__ista12 | -.0046144 | .0089804 | -0.51 | 0.607 | -.0222156 | .0129868 |
| v__ista13 | .0201567 | .0072674 | 2.77 | 0.006 | .0059129 | .0344005 |
| v__ista14 | -.0008756 | .0075964 | -0.12 | 0.908 | -.0157643 | .0140131 |
| v__ista15 | .0031941 | .0088933 | 0.36 | 0.719 | -.0142365 | .0206247 |
| v__ista16 | -.0157225 | .0120302 | -1.31 | 0.191 | -.0393012 | .0078562 |
| v__ista17 | .0171975 | .0068515 | 2.51 | 0.012 | .0037688 | .0306262 |
| v__ista18 | -.0246482 | .0105899 | -2.33 | 0.020 | -.0454041 | -.0038923 |
| v__ista19 | .0137128 | .0122195 | 1.12 | 0.262 | -.0102369 | .0376625 |
| v__ista20 | -.0261809 | .008393 | -3.12 | 0.002 | -.0426308 | -.0097309 |
| v__ista21 | .0225766 | .0111042 | 2.03 | 0.042 | .0008127 | .0443405 |
| v__ista22 | .0058331 | .0072548 | 0.80 | 0.421 | -.008386 | .0200523 |
| v__ista23 | -.0197077 | .0070821 | -2.78 | 0.005 | -.0335883 | -.0058271 |
| v__ista24 | -.0307271 | .0087124 | -3.53 | 0.000 | -.0478032 | -.013651 |
| v__ista25 | -.014735 | .0101613 | -1.45 | 0.147 | -.0346508 | .0051807 |
| v__ista26 | .0047702 | .0079529 | 0.60 | 0.549 | -.0108172 | .0203576 |
| v__ista27 | .0371979 | .0100477 | 3.70 | 0.000 | .0175048 | .0568909 |
| v__ista28 | -.0178417 | .0075733 | -2.36 | 0.018 | -.032685 | -.0029983 |
| v__ista29 | .0119577 | .0068004 | 1.76 | 0.079 | -.0013708 | .0252862 |
| v__ista30 | .0194587 | .0073179 | 2.66 | 0.008 | .0051159 | .0338015 |
| v__ista31 | .0183065 | .0163915 | 1.12 | 0.264 | -.0138204 | .0504333 |
| v__ista32 | -.0126405 | .0083144 | -1.52 | 0.128 | -.0289364 | .0036553 |
| v__ista33 | .0394055 | .0088382 | 4.46 | 0.000 | .022083 | .056728 |
| v__ista34 | -.0277601 | .0100128 | -2.77 | 0.006 | -.0473848 | -.0081353 |
| v__ista35 | -.0215474 | .017208 | -1.25 | 0.211 | -.0552745 | .0121796 |
| post_tonea~p | -5.33e-08 | 5.04e-08 | -1.06 | 0.290 | -1.52e-07 | 4.54e-08 |
| contrate | .019715 | .0221006 | 0.89 | 0.372 | -.0236014 | .0630314 |
| candvisits | .0080417 | .0011183 | 7.19 | 0.000 | .0058498 | .0102336 |
| _cons | .0234625 | .0165467 | 1.42 | 0.156 | -.0089684 | .0558935 |
| gamma | | | | | | |
| lncpop00 | -.5489296 | .0796272 | -6.89 | 0.000 | -.7049961 | -.3928631 |
| pq | -9.807121 | 15.72599 | -0.62 | 0.533 | -40.6295 | 21.01525 |
| _cons | .222488 | 3.851176 | 0.06 | 0.954 | -7.325678 | 7.770654 |

Model: log Var(y|x,z) = gamma

```
. regh turn00 turn96 turn92 turn88 senate post_toneallp contrate candvisits,
var(lncpop00 pq)

Iteration 0:   log likelihood =  315.59053
Iteration 1:   log likelihood =  321.31122
```

```
Iteration 2:   log likelihood =  321.89088
Iteration 3:   log likelihood =   321.8939
Iteration 4:   log likelihood =   321.8939

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(9)      =    312.956
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.8920
Log Likelihood =    321.894                       vwcorr2(y,yh)   =     0.8740

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      turn96 |   .5496957   .0785204     7.00   0.000     .3957985    .7035929
      turn92 |   .3630921   .1023187     3.55   0.000     .1625512     .563633
      turn88 |   -.125233   .0673544    -1.86   0.063    -.2572451    .0067792
      senate |   .0988035   .0450198     2.19   0.028     .0105663    .1870408
post_tonea~p |  -1.20e-08   7.66e-08    -0.16   0.876    -1.62e-07    1.38e-07
    contrate |   .0522448   .0316598     1.65   0.099    -.0098072    .1142968
  candvisits |    .004563   .0018345     2.49   0.013     .0009674    .0081585
       _cons |   .0630146   .0186032     3.39   0.001     .0265531    .0994761
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.1361182   .0792502    -1.72   0.086    -.2914458    .0192094
          pq |  -43.91321   17.41973    -2.52   0.012    -78.05526   -9.771168
       _cons |   4.585782   4.003965     1.15   0.252    -3.261844    12.43341
------------------------------------------------------------------------------
                                                 Model: log Var(y|x,z) = gamma

.
.
. *Last 3 weeks points
. gen allg= prezg+ seng+ hseg+ issg+ othg+ govg+ balg

. xi: regress turn00 senate allg

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F(  2,   125) =   94.75
       Model |  .340591404     2  .170295702           Prob > F      =  0.0000
    Residual |  .224667909   125  .001797343           R-squared     =  0.6025
-------------+------------------------------           Adj R-squared =  0.5962
       Total |  .565259313   127  .004450861           Root MSE      =   .0424

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      senate |   .7864384   .0572271    13.74   0.000     .6731789    .8996978
        allg |   .0010229   .0004094     2.50   0.014     .0002127    .0018332
       _cons |   .2098347   .0251706     8.34   0.000     .1600189    .2596505
------------------------------------------------------------------------------

. xi: regress turn00 senate v__istate v__istat1 v__istat2 v__istat3 v__istat4
v__istat5 v__istat6 v__ist
> at7 v__istat8 v__istat9 v__ista10 v__ista11 v__ista12 v__ista13 v__ista14
v__ista15 v__ista16 v__ista1
> 7 v__ista18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23 v__ista24 v__ista25
v__ista26 v__ista27
> v__ista28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33 v__ista34 v__ista35
allg

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F( 38,    89) =   23.13
```

```
      Model |  .513279395    38  .013507352           Prob > F      =  0.0000
   Residual |  .051979918    89  .000584044           R-squared     =  0.9080
-------------+----------------------------           Adj R-squared =  0.8688
      Total |  .565259313   127  .004450861           Root MSE      =  .02417

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      senate |    .872296   .0589692    14.79   0.000     .7551255    .9894664
   v__istate |  -.0408817   .0222367    -1.84   0.069    -.0850656    .0033022
   v__istat1 |   .0032421   .0178336     0.18   0.856    -.0321928     .038677
   v__istat2 |   .0257209   .0225483     1.14   0.257     -.019082    .0705239
   v__istat3 |   .1005049   .0221273     4.54   0.000     .0565384    .1444714
   v__istat4 |   .0477261   .0173799     2.75   0.007     .0131927    .0822596
   v__istat5 |   .0073622   .0203914     0.36   0.719    -.0331552    .0478796
   v__istat6 |   .0556643   .0222443     2.50   0.014     .0114653    .0998633
   v__istat7 |   .0320157   .0225541     1.42   0.159    -.0127989    .0768303
   v__istat8 |      .0458    .022149     2.07   0.042     .0017903    .0898096
   v__istat9 |   .0100736   .0176765     0.57   0.570    -.0250493    .0451964
   v__ista10 |   .0567429   .0197364     2.88   0.005     .0175272    .0959587
   v__ista11 |   -.014634   .0171725    -0.85   0.396    -.0487554    .0194873
   v__ista12 |   .0097874   .0205099     0.48   0.634    -.0309654    .0505402
   v__ista13 |    .011271   .0197564     0.57   0.570    -.0279845    .0505265
   v__ista14 |   .0332452   .0186065     1.79   0.077    -.0037254    .0702159
   v__ista15 |   .0481844   .0178251     2.70   0.008     .0127662    .0836025
   v__ista16 |   .0402073   .0205486     1.96   0.054    -.0006224    .0810369
   v__ista17 |   .0163601   .0170909     0.96   0.341    -.0175993    .0503194
   v__ista18 |  -.0300883   .0231764    -1.30   0.198    -.0761393    .0159628
   v__ista19 |   .1490022   .0221031     6.74   0.000     .1050838    .1929205
   v__ista20 |   .0015823   .0226952     0.07   0.945    -.0435126    .0466771
   v__ista21 |   .0100098   .0200379     0.50   0.619     -.029805    .0498246
   v__ista22 |   .0565971     .01776     3.19   0.002     .0213083    .0918859
   v__ista23 |   .0352177   .0172399     2.04   0.044     .0009623     .069473
   v__ista24 |   .0339783   .0222413     1.53   0.130    -.0102148    .0781714
   v__ista25 |   .0725924   .0240739     3.02   0.003     .0247581    .1204267
   v__ista26 |    .070819   .0172141     4.11   0.000     .0366151     .105023
   v__ista27 |  -.0226267   .0221323    -1.02   0.309    -.0666032    .0213497
   v__ista28 |  -.0058137   .0197419    -0.29   0.769    -.0450404     .033413
   v__ista29 |   .0222175   .0187857     1.18   0.240    -.0151094    .0595444
   v__ista30 |  -.0142882   .0172306    -0.83   0.409     -.048525    .0199487
   v__ista31 |   .0568078   .0229187     2.48   0.015     .0112688    .1023468
   v__ista32 |   .0168424   .0205684     0.82   0.415    -.0240267    .0577114
   v__ista33 |   .1004744   .0202335     4.97   0.000      .060271    .1406779
   v__ista34 |   .0005718   .0187768     0.03   0.976    -.0367374     .037881
   v__ista35 |  -.0919664   .0253099    -3.63   0.000    -.1422566   -.0416762
        allg |   .0005972   .0003125     1.91   0.059    -.0000237     .001218
       _cons |   .1579038   .0274379     5.75   0.000     .1033852    .2124224
------------------------------------------------------------------------------

. xi: regress turn00 turn96 turn92 turn88 senate v__istate v__istat1 v__istat2
v__istat3 v__istat4 v__is
> tat5 v__istat6 v__istat7 v__istat8 v__istat9 v__ista10 v__ista11 v__ista12
v__ista13 v__ista14 v__ista
> 15 v__ista16 v__ista17 v__ista18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23
v__ista24 v__ista25
>  v__ista26 v__ista27 v__ista28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33
v__ista34 v__ista35 a
> llg

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F( 41,    86) =   46.92
      Model |  .541068653    41  .013196796           Prob > F      =  0.0000
   Residual |   .02419066    86  .000281287           R-squared     =  0.9572
```

```
-------------+------------------------------           Adj R-squared =  0.9368
       Total |  .565259313   127  .004450861           Root MSE      =  .01677

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      turn96 |   .7530785    .101724     7.40   0.000     .5508579    .9552992
      turn92 |   .1114325   .1367613     0.81   0.417    -.1604401     .383305
      turn88 |  -.0583873   .0847599    -0.69   0.493    -.2268845    .1101099
      senate |   .2104574   .0815358     2.58   0.012     .0483696    .3725453
   v__istate |  -.0373575   .0158004    -2.36   0.020    -.0687675   -.0059474
   v__istat1 |  -.0051152   .0124972    -0.41   0.683    -.0299589    .0197284
   v__istat2 |   .0078648   .0166378     0.47   0.638    -.0252102    .0409397
   v__istat3 |   .0190957   .0177087     1.08   0.284     -.016108    .0542993
   v__istat4 |   .0063394   .0133816     0.47   0.637    -.0202624    .0329411
   v__istat5 |  -.0109262    .014541    -0.75   0.454    -.0398328    .0179805
   v__istat6 |   .0018484   .0166024     0.11   0.912    -.0311562    .0348529
   v__istat7 |  -.0384995   .0188407    -2.04   0.044    -.0759536   -.0010453
   v__istat8 |   .0164587   .0158177     1.04   0.301     -.014986    .0479033
   v__istat9 |  -.0189233   .0138664    -1.36   0.176    -.0464886    .0086421
   v__ista10 |   -.019769   .0157981    -1.25   0.214    -.0511746    .0116366
   v__ista11 |  -.0002714   .0127289    -0.02   0.983    -.0255757    .0250329
   v__ista12 |  -.0095059    .014701    -0.65   0.520    -.0387305    .0197187
   v__ista13 |   .0129912   .0138344     0.94   0.350    -.0145106     .040493
   v__ista14 |   .0059998    .013312     0.45   0.653    -.0204635    .0324632
   v__ista15 |    .023592   .0129476     1.82   0.072    -.0021469    .0493309
   v__ista16 |   .0138851   .0180161     0.77   0.443    -.0219297    .0496998
   v__ista17 |    .006895     .01213     0.57   0.571    -.0172186    .0310086
   v__ista18 |  -.0290887   .0164565    -1.77   0.081    -.0618031    .0036257
   v__ista19 |   .0442341   .0188911     2.34   0.022     .0066798    .0817885
   v__ista20 |  -.0106691   .0162691    -0.66   0.514    -.0430109    .0216727
   v__ista21 |   .0360677   .0144342     2.50   0.014     .0073734     .064762
   v__ista22 |   .0114561   .0135128     0.85   0.399    -.0154065    .0383187
   v__ista23 |  -.0069707   .0128601    -0.54   0.589    -.0325357    .0185942
   v__ista24 |  -.0210789   .0167083    -1.26   0.211     -.054294    .0121361
   v__ista25 |  -.0155286   .0189811    -0.82   0.416    -.0532618    .0222046
   v__ista26 |   .0220593    .013691     1.61   0.111    -.0051575    .0492762
   v__ista27 |    .021658   .0016868     1.28   0.203    -.0118744    .0551904
   v__ista28 |  -.0117041   .0138811    -0.84   0.401    -.0392988    .0158907
   v__ista29 |    .019719   .0133573     1.48   0.144    -.0068345    .0462725
   v__ista30 |   .0028925   .0124979     0.23   0.818    -.0219526    .0277375
   v__ista31 |   .0230753   .0164934     1.40   0.165    -.0097124     .055863
   v__ista32 |  -.0059133    .014594    -0.41   0.686    -.0349253    .0230987
   v__ista33 |   .0567866   .0153183     3.71   0.000     .0263349    .0872383
   v__ista34 |  -.0185218   .0150556    -1.23   0.222    -.0484514    .0114077
   v__ista35 |  -.0505119   .0197419    -2.56   0.012    -.0897575   -.0112663
        allg |   .0001839   .0002285     0.81   0.423    -.0002702    .0006381
       _cons |    .029692   .0263135     1.13   0.262    -.0226175    .0820014
------------------------------------------------------------------------------

. xi: regress turn00 turn96 turn92 turn88 senate allg

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F(  5,   122) =  190.26
       Model |  .501008598     5   .10020172           Prob > F      =  0.0000
    Residual |  .064250715   122  .000526645           R-squared     =  0.8863
-------------+------------------------------           Adj R-squared =  0.8817
       Total |  .565259313   127  .004450861           Root MSE      =  .02295

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      turn96 |   .5118344   .0862924     5.93   0.000     .3410099    .6826589
```

```
      turn92 |   .5251236   .1082876     4.85   0.000     .3107575    .7394896
      turn88 |   -.206185   .0675576    -3.05   0.003     -.339922   -.0724481
      senate |   .1420159   .0498521     2.85   0.005     .0433287    .2407032
        allg |   .0001294   .0002293     0.56   0.573    -.0003245    .0005834
       _cons |   .0241283   .0178025     1.36   0.178    -.0111135    .0593701
------------------------------------------------------------------------------

. xi: regress turn00 turn96 turn92 turn88 senate v__istate v__istat1 v__istat2
v__istat3 v__istat4 v__is
> tat5 v__istat6 v__istat7 v__istat8 v__istat9 v__ista10 v__ista11 v__ista12
v__ista13 v__ista14 v__ista
> 15 v__ista16 v__ista17 v__ista18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23
v__ista24 v__ista25
>  v__ista26 v__ista27 v__ista28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33
v__ista34 v__ista35 a
> llg contrate candvisits

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F( 43,    84) =   52.61
       Model |   .54502105    43  .012674908           Prob > F      =  0.0000
    Residual |  .020238263    84  .000240932           R-squared     =  0.9642
-------------+------------------------------           Adj R-squared =  0.9459
       Total |  .565259313   127  .004450861           Root MSE      =  .01552

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      turn96 |   .7926263    .096018     8.25   0.000      .601684    .9835686
      turn92 |   .0103918   .1356108     0.08   0.939    -.2592852    .2800688
      turn88 |  -.0179275   .0824783    -0.22   0.828    -.1819447    .1460897
      senate |   .2215494    .075633     2.93   0.004     .0711449    .3719539
   v__istate |    -.04821   .0148911    -3.24   0.002    -.0778226   -.0185974
   v__istat1 |   -.021482   .0123492    -1.74   0.086    -.0460397    .0030758
   v__istat2 |  -.0076643   .0158841    -0.48   0.631    -.0392515     .023923
   v__istat3 |   .0140535   .0164507     0.85   0.395    -.0186604    .0467675
   v__istat4 |  -.0077975   .0130045    -0.60   0.550    -.0336583    .0180633
   v__istat5 |  -.0147241   .0135696    -1.09   0.281    -.0417088    .0122606
   v__istat6 |  -.0129749    .016339    -0.79   0.429    -.0454668    .0195169
   v__istat7 |  -.0393955   .0174395    -2.26   0.026    -.0740757   -.0047152
   v__istat8 |  -.0022797   .0153971    -0.15   0.883    -.0328984    .0283391
   v__istat9 |  -.0320262   .0133467    -2.40   0.019    -.0585676   -.0054848
   v__ista10 |  -.0246803   .0148152    -1.67   0.099    -.0541419    .0047813
   v__ista11 |  -.0120131   .0122383    -0.98   0.329    -.0363504    .0123241
   v__ista12 |  -.0189487   .0138997    -1.36   0.176    -.0465898    .0086925
   v__ista13 |   .0013831   .0131386     0.11   0.916    -.0247445    .0275107
   v__ista14 |  -.0027974   .0125903    -0.22   0.825    -.0278346    .0222398
   v__ista15 |   .0136788   .0122307     1.12   0.267    -.0106433     .038001
   v__ista16 |   .0057224   .0168394     0.34   0.735    -.0277646    .0392094
   v__ista17 |   .0039226   .0114623     0.34   0.733    -.0188714    .0267166
   v__ista18 |  -.0365872   .0153433    -2.38   0.019    -.0670991   -.0060753
   v__ista19 |   .0262418   .0181891     1.44   0.153    -.0099292    .0624127
   v__ista20 |  -.0297334   .0157898    -1.88   0.063    -.0611332    .0016664
   v__ista21 |   .0292205   .0134718     2.17   0.033     .0024304    .0560107
   v__ista22 |   .0046516   .0128428     0.36   0.718    -.0208878     .030191
   v__ista23 |  -.0185758   .0122703    -1.51   0.134    -.0429767    .0058251
   v__ista24 |  -.0190731   .0154941    -1.23   0.222    -.0498848    .0117386
   v__ista25 |  -.0224976    .017778    -1.27   0.209    -.0578511    .0128559
   v__ista26 |   .0111422   .0129597     0.86   0.392    -.0146296    .0369139
   v__ista27 |   .0143707   .0167116     0.86   0.392    -.0188622    .0476036
   v__ista28 |  -.0271451   .0137386    -1.98   0.051    -.0544658    .0001757
   v__ista29 |   .0097957   .0127492     0.77   0.444    -.0155575    .0351488
   v__ista30 |  -.0012861   .0117564    -0.11   0.913    -.0246651    .0220928
   v__ista31 |   .0177876   .0154867     1.15   0.254    -.0130094    .0485847
```

```
   v__ista32 |  -.0191009     .01394    -1.37   0.174    -.0468222    .0086203
   v__ista33 |   .0471064   .0143853     3.27   0.002     .0184997     .075713
   v__ista34 |  -.0274845   .0141638    -1.94   0.056    -.0556509    .0006818
   v__ista35 |   -.062647   .0186129    -3.37   0.001    -.0996609   -.0256332
        allg |  -.0002112   .0002374    -0.89   0.376    -.0006833    .0002609
     contrate |   .0514585   .0327577     1.57   0.120    -.0136837    .1166007
  candvisits |   .0069438    .001971     3.52   0.001     .0030242    .0108633
       _cons |   .0450924   .0254207     1.77   0.080    -.0054595    .0956444
------------------------------------------------------------------------------

. xi: regress turn00 turn96 turn92 turn88 senate allg contrate candvisits

      Source |       SS       df       MS              Number of obs =     128
-------------+------------------------------           F(  7,   120) =  146.16
       Model |  .505919975     7  .072274282           Prob > F      =  0.0000
    Residual |  .059339338   120  .000494494           R-squared     =  0.8950
-------------+------------------------------           Adj R-squared =  0.8889
       Total |  .565259313   127  .004450861           Root MSE      =  .02224

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      turn96 |   .5172199   .0844862     6.12   0.000      .349943    .6844968
      turn92 |   .4870705   .1100771     4.42   0.000     .2691254    .7050155
      turn88 |  -.1977649   .0698011    -2.83   0.005    -.3359661   -.0595637
      senate |   .1513811      .0486     3.11   0.002     .0551564    .2476057
        allg |  -.0002741   .0002576    -1.06   0.289    -.0007842    .0002359
    contrate |   .0294931   .0351838     0.84   0.404    -.0401683    .0991545
  candvisits |   .0064983   .0022597     2.88   0.005     .0020243    .0109723
       _cons |    .031268   .0173987     1.80   0.075    -.0031802    .0657163
------------------------------------------------------------------------------

.
. regh turn00 senate allg, var(lncpop00 pq)

Iteration 0:   log likelihood =   234.3837
Iteration 1:   log likelihood =   238.4617
Iteration 2:   log likelihood =  238.68239
Iteration 3:   log likelihood =  238.68292
Iteration 4:   log likelihood =  238.68292

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(4)      =    146.534
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.6025
Log Likelihood =    238.683                       vwcorr2(y,yh)   =     0.5051

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      senate |   .6363847   .0604764    10.52   0.000     .5178532    .7549163
        allg |   .0008671    .000327     2.65   0.008     .0002261    .0015081
       _cons |   .2643788   .0243582    10.85   0.000     .2166376      .31212
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.1174818    .084121    -1.40   0.163    -.2823559    .0473923
          pq |  -81.60059   21.26646    -3.84   0.000    -123.2821   -39.91909
       _cons |   14.83621   5.105861     2.91   0.004      4.82891    24.84352
------------------------------------------------------------------------------
                                                  Model: log Var(y|x,z) = gamma

. regh turn00 senate  v__istate v__istat1 v__istat2 v__istat3 v__istat4 v__istat5
```

```
v__istat6 v__istat7 v_
> _istat8 v__istat9 v__ista10 v__ista11 v__ista12 v__ista13 v__ista14 v__ista15
v__ista16 v__ista17 v__i
> sta18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23 v__ista24 v__ista25
v__ista26 v__ista27 v__ist
> a28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33 v__ista34 v__ista35 allg,
var(lncpop00 pq)

Iteration 0:   log likelihood =  320.71425
Iteration 1:   log likelihood =   324.0136
Iteration 2:   log likelihood =  324.41818
Iteration 3:   log likelihood =  324.41953
Iteration 4:   log likelihood =  324.41953

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(40)     =    318.007
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.9005
Log Likelihood =    324.420                       vwcorr2(y,yh)   =     0.8933

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      senate |   .8207977   .0665416    12.34   0.000     .6903786    .9512169
   v__istate |  -.0363466   .0173699    -2.09   0.036    -.0703909   -.0023022
   v__istat1 |   .0080705   .0128146     0.63   0.529    -.0170458    .0331867
   v__istat2 |   .0253204   .0177987     1.42   0.155    -.0095644    .0602051
   v__istat3 |   .0969502   .0164297     5.90   0.000     .0647486    .1291517
   v__istat4 |   .0470001   .0129643     3.63   0.000     .0215905    .0724096
   v__istat5 |   .0081234   .0161098     0.50   0.614    -.0234513    .0396981
   v__istat6 |   .0578574   .0179817     3.22   0.001      .022614    .0931007
   v__istat7 |   .0271153   .0207064     1.31   0.190    -.0134685    .0676991
   v__istat8 |   .0474541   .0152415     3.11   0.002     .0175813    .0773268
   v__istat9 |   .0127884   .0138564     0.92   0.356    -.0143697    .0399465
   v__ista10 |   .0613907   .0158509     3.87   0.000     .0303234     .092458
   v__ista11 |  -.0085027   .0136184    -0.62   0.532    -.0351942    .0181889
   v__ista12 |   .0158969   .0160522     0.99   0.322    -.0155647    .0473585
   v__ista13 |   .0191869    .014969     1.28   0.200    -.0101519    .0485257
   v__ista14 |   .0333324   .0150113     2.22   0.026     .0039107     .062754
   v__ista15 |   .0604905   .0155709     3.88   0.000     .0299722    .0910089
   v__ista16 |    .040395   .0187545     2.15   0.031     .0036369     .077153
   v__ista17 |   .0212561   .0132365     1.61   0.108     -.004687    .0471991
   v__ista18 |  -.0258448   .0197842    -1.31   0.191     -.064621    .0129315
   v__ista19 |   .1523947   .0188133     8.10   0.000     .1155214     .189268
   v__ista20 |   .0041834   .0157521     0.27   0.791    -.0266901    .0350569
   v__ista21 |  -.0113228   .0182417    -0.62   0.535    -.0470758    .0244303
   v__ista22 |   .0563155   .0129957     4.33   0.000     .0308443    .0817866
   v__ista23 |   .0374741   .0128889     2.91   0.004     .0122123    .0627359
   v__ista24 |   .0317669   .0161268     1.97   0.049      .000159    .0633748
   v__ista25 |   .0597355   .0204026     2.93   0.003     .0197472    .0997238
   v__ista26 |   .0709893   .0139574     5.09   0.000     .0436332    .0983453
   v__ista27 |  -.0250372   .0169868    -1.47   0.141    -.0583308    .0082563
   v__ista28 |  -.0053304   .0143502    -0.37   0.710    -.0334563    .0227954
   v__ista29 |   .0208568   .0135461     1.54   0.124    -.0056931    .0474068
   v__ista30 |  -.0092794   .0136332    -0.68   0.496    -.0359999    .0174412
   v__ista31 |   .0615009   .0236962     2.60   0.009     .0150573    .1079445
   v__ista32 |   .0213921     .01586     1.35   0.177    -.0096929    .0524771
   v__ista33 |   .1023671   .016161     6.33   0.000     .0706921    .1340421
   v__ista34 |   .0100117   .0168679     0.59   0.553    -.0230489    .0430723
   v__ista35 |  -.0800841   .0246658    -3.25   0.001    -.1284281   -.0317401
        allg |   .0005535   .0002454     2.26   0.024     .0000725    .0010345
       _cons |   .1784497   .0287786     6.20   0.000     .1220447    .2348547
```

```
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.2609131   .0855405    -3.05   0.002    -.4285693   -.0932568
          pq |  -10.02345   15.58103    -0.64   0.520     -40.5617    20.51479
       _cons |  -2.116332   3.538777    -0.60   0.550    -9.052209    4.819544
------------------------------------------------------------------------------
                                                 Model: log Var(y|x,z) = gamma

. regh turn00 turn96 turn92 turn88 senate  v__istate v__istat1 v__istat2 v__istat3
v__istat4 v__istat5 v
> __istat6 v__istat7 v__istat8 v__istat9 v__ista10 v__ista11 v__ista12 v__ista13
v__ista14 v__ista15 v__
> ista16 v__ista17 v__ista18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23
v__ista24 v__ista25 v__is
> ta26 v__ista27 v__ista28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33
v__ista34 v__ista35 allg, v
> ar(lncpop00 pq)

Iteration 0:   log likelihood =  375.70604
Iteration 1:   log likelihood =  386.26843
Iteration 2:   log likelihood =   386.8655
Iteration 3:   log likelihood =  386.87552
Iteration 4:   log likelihood =  386.87553

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(43)     =    442.919
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.9449
Log Likelihood =    386.876                       vwcorr2(y,yh)   =     0.9585

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      turn96 |   .7742636   .0874141     8.86   0.000     .6029351    .9455921
      turn92 |   .1379987   .1140011     1.21   0.226    -.0854393    .3614366
      turn88 |   .0196513   .0719949     0.27   0.785    -.1214561    .1607587
      senate |   .0285438   .0668255     0.43   0.669    -.1024317    .1595193
   v__istate |  -.0371782   .0105452    -3.53   0.000    -.0578463     -.01651
   v__istat1 |   .0028629   .0075097     0.38   0.703    -.0118558    .0175816
   v__istat2 |   .0123804   .0113855     1.09   0.277    -.0099347    .0346955
   v__istat3 |   .0077851   .0114464     0.68   0.496    -.0146493    .0302196
   v__istat4 |   .0050797   .0084666     0.60   0.549    -.0115145    .0216739
   v__istat5 |  -.0031657   .0094342    -0.34   0.737    -.0216563    .0153249
   v__istat6 |   .0024019   .0120309     0.20   0.842    -.0211781     .025982
   v__istat7 |  -.0560916   .0152079    -3.69   0.000    -.0858985   -.0262847
   v__istat8 |   .0164181   .0090255     1.82   0.069    -.0012715    .0341076
   v__istat9 |   -.021848   .0095547    -2.29   0.022    -.0405749   -.0031211
   v__ista10 |  -.0293961   .0112164    -2.62   0.009    -.0513797   -.0074124
   v__ista11 |   .0058616   .0085501     0.69   0.493    -.0108963    .0226196
   v__ista12 |   .0060628   .0104707     0.58   0.563    -.0144594     .026585
   v__ista13 |   .0263669   .0086635     3.04   0.002     .0093867    .0433471
   v__ista14 |   .0087938   .0090991     0.97   0.334      -.00904    .0266277
   v__ista15 |   .0153394   .0098643     1.56   0.120    -.0039942     .034673
   v__ista16 |  -.0078842    .013546    -0.58   0.561    -.0344339    .0186654
   v__ista17 |   .0170161   .0078075     2.18   0.029     .0017137    .0323185
   v__ista18 |  -.0208651   .0123592    -1.69   0.091    -.0450887    .0033586
   v__ista19 |   .0393369   .0143551     2.74   0.006     .0112015    .0674723
   v__ista20 |  -.0074433    .009744    -0.76   0.445    -.0265412    .0116546
   v__ista21 |   .0251669   .0120579     2.09   0.037     .0015339       .0488
   v__ista22 |   .0150411   .0085979     1.75   0.080    -.0018105    .0318926
   v__ista23 |  -.0069293   .0082355    -0.84   0.400    -.0230707    .0092121
   v__ista24 |  -.0285395   .0103125    -2.77   0.006    -.0487515   -.0083275
```

```
   v__ista25 |   .0032225   .0132439     0.24   0.808    -.0227351    .0291801
   v__ista26 |   .0161664   .0091135     1.77   0.076    -.0016957    .0340284
   v__ista27 |   .0327199   .0111357     2.94   0.003     .0108943    .0545455
   v__ista28 |  -.0048621    .008323    -0.58   0.559    -.0211748    .0114506
   v__ista29 |    .018892   .0080701     2.34   0.019     .0030749    .0347091
   v__ista30 |   .0151772   .0085273     1.78   0.075    -.0015359    .0318904
   v__ista31 |   .0297327   .0175301     1.70   0.090    -.0046256     .064091
   v__ista32 |   7.27e-06   .0097736     0.00   0.999    -.0191487    .0191632
   v__ista33 |   .0525671   .0111094     4.73   0.000     .0307931     .074341
   v__ista34 |  -.0230335   .0113278    -2.03   0.042    -.0452355   -.0008314
   v__ista35 |  -.0153066   .0185017    -0.83   0.408    -.0515694    .0209561
        allg |   .0003266   .0001516     2.15   0.031     .0000295    .0006237
       _cons |   .0313381    .019623     1.60   0.110    -.0071222    .0697984
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.3797287   .0808203    -4.70   0.000    -.5381335   -.2213239
          pq |  -24.57817   16.73877    -1.47   0.142    -57.38557    8.229221
       _cons |   1.980646   3.932291     0.50   0.614    -5.726504    9.687795
------------------------------------------------------------------------------
                                                Model: log Var(y|x,z) = gamma

. regh turn00 turn96 turn92 turn88 senate allg, var(lncpop00 pq)

Iteration 0:   log likelihood =  313.10529
Iteration 1:   log likelihood =  316.01825
Iteration 2:   log likelihood =  316.28294
Iteration 3:   log likelihood =  316.28386
Iteration 4:   log likelihood =  316.28386

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(7)      =    301.736
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.8846
Log Likelihood =    316.284                       vwcorr2(y,yh)   =     0.8625

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      turn96 |   .5559759   .0803476     6.92   0.000     .3984975    .7134542
      turn92 |   .4030988   .1030122     3.91   0.000     .2011986    .6049989
      turn88 |  -.1486624   .0644519    -2.31   0.021    -.2749858    -.022339
      senate |   .0936037   .0454862     2.06   0.040     .0044525     .182755
        allg |    .000228   .0001923     1.19   0.236    -.0001489    .0006049
       _cons |   .0568972   .0195848     2.91   0.004     .0185117    .0952827
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.0987264   .0784393    -1.26   0.208    -.2524646    .0550119
          pq |  -46.08617   17.79027    -2.59   0.010    -80.95446   -11.21788
       _cons |   4.723666   4.060636     1.16   0.245    -3.235034    12.68237
------------------------------------------------------------------------------
                                                Model: log Var(y|x,z) = gamma

. regh turn00 turn96 turn92 turn88 senate v__istate v__istat1 v__istat2 v__istat3
v__istat4 v__istat5 v_
> _istat6 v__istat7 v__istat8 v__istat9 v__ista10 v__ista11 v__ista12 v__ista13
v__ista14 v__ista15 v__i
> sta16 v__ista17 v__ista18 v__ista19 v__ista20 v__ista21 v__ista22 v__ista23
v__ista24 v__ista25 v__ist
> a26 v__ista27 v__ista28 v__ista29 v__ista30 v__ista31 v__ista32 v__ista33
v__ista34 v__ista35 allg con
> trate candvisits, var(lncpop00 pq)
```

```
Iteration 0:   log likelihood =  389.99557
Iteration 1:   log likelihood =    397.825
Iteration 2:   log likelihood =   407.2802
Iteration 3:   log likelihood =  407.40092
Iteration 4:   log likelihood =  407.40122
Iteration 5:   log likelihood =  407.40122

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(45)     =    483.971
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.9498
Log Likelihood =    407.401                       vwcorr2(y,yh)   =     0.9739

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      turn96 |   .8213834   .0765269    10.73   0.000     .6713934    .9713733
      turn92 |   .1599549   .1010499     1.58   0.113    -.0380993    .3580091
      turn88 |  -.0135489   .0626157    -0.22   0.829    -.1362733    .1091755
      senate |   .0041173   .0594482     0.07   0.945     -.112399    .1206336
   v__istate |  -.0456412   .0090788    -5.03   0.000    -.0634353   -.0278471
   v__istat1 |  -.0123498   .0067645    -1.83   0.068    -.0256081    .0009084
   v__istat2 |  -5.04e-06   .0094675    -0.00   1.000     -.018561    .0185509
   v__istat3 |  -.0000592   .0091917    -0.01   0.995    -.0180746    .0179562
   v__istat4 |  -.0093917    .007429    -1.26   0.206    -.0239523    .0051688
   v__istat5 |  -.0050128   .0077751    -0.64   0.519    -.0202516    .0102261
   v__istat6 |  -.0094115   .0105146    -0.90   0.371    -.0300197    .0111967
   v__istat7 |  -.0625729   .0136127    -4.60   0.000    -.0892534   -.0358925
   v__istat8 |  -.0030812   .0079884    -0.39   0.700    -.0187382    .0125759
   v__istat9 |  -.0297842   .0081867    -3.64   0.000    -.0458298   -.0137386
   v__ista10 |  -.0389782   .0098738    -3.95   0.000    -.0583305    -.019626
   v__ista11 |  -.0000918    .007572    -0.01   0.990    -.0149327     .014749
   v__ista12 |  -.0052638   .0090698    -0.58   0.562    -.0230403    .0125127
   v__ista13 |   .0199994   .0073815     2.71   0.007     .0055321    .0344668
   v__ista14 |  -.0015387    .007757    -0.20   0.843    -.0167421    .0136647
   v__ista15 |   .0007758   .0085769     0.09   0.928    -.0160346    .0175861
   v__ista16 |  -.0161903   .0121207    -1.34   0.182    -.0399464    .0075658
   v__ista17 |   .0167723   .0068868     2.44   0.015     .0032744    .0302702
   v__ista18 |  -.0250586   .0106052    -2.36   0.018    -.0458445   -.0042727
   v__ista19 |   .0145141   .0124841     1.16   0.245    -.0099543    .0389825
   v__ista20 |   -.027061   .0083457    -3.24   0.001    -.0434183   -.0107037
   v__ista21 |   .0220215   .0111722     1.97   0.049     .0001243    .0439186
   v__ista22 |   .0051318   .0072964     0.70   0.482    -.0091689    .0194326
   v__ista23 |  -.0200267   .0070998    -2.82   0.005    -.0339421   -.0061113
   v__ista24 |  -.0306542   .0088337    -3.47   0.001    -.0479679   -.0133405
   v__ista25 |  -.0149611   .0102029    -1.47   0.143    -.0349584    .0050362
   v__ista26 |   .0037267   .0078991     0.47   0.637    -.0117552    .0192086
   v__ista27 |   .0364115   .0100651     3.62   0.000     .0166842    .0561387
   v__ista28 |  -.0172456   .0075915    -2.27   0.023    -.0321247   -.0023665
   v__ista29 |   .0118096   .0070314     1.68   0.093    -.0019717    .0255909
   v__ista30 |   .0189015   .0073023     2.59   0.010     .0045893    .0332137
   v__ista31 |   .0179218   .0165457     1.08   0.279    -.0145071    .0503507
   v__ista32 |  -.0136388   .0082529    -1.65   0.098    -.0298142    .0025366
   v__ista33 |   .0389932    .008902     4.38   0.000     .0215456    .0564409
   v__ista34 |   -.028468   .0100004    -2.85   0.004    -.0480684   -.0088676
   v__ista35 |  -.0220803   .0172529    -1.28   0.201    -.0558954    .0117347
        allg |  -.0000858   .0001466    -0.59   0.559    -.0003731    .0002016
    contrate |   .0172059   .0225008     0.76   0.444    -.0268949    .0613068
  candvisits |   .0080456   .0011647     6.91   0.000     .0057627    .0103284
       _cons |   .0252899   .0169455     1.49   0.136    -.0079227    .0585024
-------------+----------------------------------------------------------------
gamma        |
```

```
    lncpop00 |  -.5498073   .0797075    -6.90   0.000    -.7060312   -.3935834
          pq |  -10.47912   15.75483    -0.67   0.506    -41.35801    20.39977
       _cons |   .4036686   3.858038     0.10   0.917    -7.157947    7.965284
------------------------------------------------------------------------------
                                                 Model: log Var(y|x,z) = gamma

. regh turn00 turn96 turn92 turn88 senate allg contrate candvisits, var(lncpop00 pq)

Iteration 0:   log likelihood =   315.5721
Iteration 1:   log likelihood =  321.60898
Iteration 2:   log likelihood =  322.17043
Iteration 3:   log likelihood =  322.17333
Iteration 4:   log likelihood =  322.17333

multiplicative heteroscedastic regression         Number of obs   =        128
Estimator: mle/Newton-Raphson                     LR chi2(9)      =    313.515
                                                  Prob > chi2     =      0.000
                                                  corr2(y,yh)     =     0.8927
Log Likelihood =    322.173                       vwcorr2(y,yh)   =     0.8746

------------------------------------------------------------------------------
      turn00 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
mean         |
      turn96 |   .5539415   .0774784     7.15   0.000     .4020866    .7057963
      turn92 |   .3642894   .1022458     3.56   0.000     .1638913    .5646874
      turn88 |  -.1297588   .0671924    -1.93   0.053    -.2614535    .0019358
      senate |   .0948825   .0444214     2.14   0.033     .0078182    .1819468
        allg |   -.000163   .0002133    -0.76   0.445     -.000581    .0002551
    contrate |   .0562502   .0315505     1.78   0.075    -.0055876     .118088
  candvisits |   .0051018   .0019104     2.67   0.008     .0013574    .0088462
       _cons |   .0655223   .0188591     3.47   0.001     .0285592    .1024854
-------------+----------------------------------------------------------------
gamma        |
    lncpop00 |  -.1354712   .0787483    -1.72   0.085    -.2898151    .0188726
          pq |  -43.91328   17.43884    -2.52   0.012    -78.09278   -9.733784
       _cons |   4.573135   4.012339     1.14   0.254    -3.290904    12.43717
------------------------------------------------------------------------------
                                                 Model: log Var(y|x,z) = gamma

.
.
end of do-file
```