. // Model SP.C.V.1

**. glm MR `subpart\_violation\_count\_vars' `covariates' ib(freq).state ib(freq).time, family(poisson) link(log) vce(cl mineid) exposure(hours) iter(50) eform**

note: sp77\_902\_2 omitted because of collinearity

note: sp75\_1727 omitted because of collinearity

Iteration 0: log pseudolikelihood = -9175.3345

Iteration 1: log pseudolikelihood = -8578.7212

Iteration 2: log pseudolikelihood = -8573.6608

Iteration 3: log pseudolikelihood = -8573.477

Iteration 4: log pseudolikelihood = -8573.4528

Iteration 5: log pseudolikelihood = -8573.4495

Iteration 6: log pseudolikelihood = -8573.4489

Iteration 7: log pseudolikelihood = -8573.4487

Iteration 8: log pseudolikelihood = -8573.4487

Iteration 9: log pseudolikelihood = -8573.4487

Generalized linear models No. of obs = 6,253

Optimization : ML Residual df = 5,914

Scale parameter = 1

Deviance = 7572.031714 (1/df) Deviance = 1.280357

Pearson = 8443.747367 (1/df) Pearson = 1.427756

Variance function: V(u) = u [Poisson]

Link function : g(u) = ln(u) [Log]

AIC = 2.850615

Log pseudolikelihood = -8573.448704 BIC = -44121.16

(Std. Err. adjusted for 1,238 clusters in mineid)

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| Robust

MR | IRR Std. Err. z P>|z| [95% Conf. Interval]

------------------+----------------------------------------------------------------

sp47\_41 | .9591568 .0338891 -1.18 0.238 .894983 1.027932

sp48\_11 | .9733793 .0384657 -0.68 0.495 .9008337 1.051767

sp71\_701 | 2.090877 .7588894 2.03 0.042 1.026556 4.258674

sp75\_1001 | .7586876 .1654703 -1.27 0.205 .4947836 1.163351

sp75\_1001\_1 | 1.010179 .1244793 0.08 0.934 .7934308 1.286138

sp75\_1003\_1 | .8808515 .1499806 -0.75 0.456 .6309145 1.229801

sp75\_1400\_1 | .8834145 .241517 -0.45 0.650 .5169567 1.509645

sp75\_1401 | 1.022444 .159509 0.14 0.887 .7530877 1.38814

sp75\_1401\_1 | .9476392 .299635 -0.17 0.865 .5099185 1.761105

sp75\_1403\_11 | 1.980792 .4794841 2.82 0.005 1.232512 3.183366

sp75\_1404\_1 | .661411 .2549114 -1.07 0.283 .3107518 1.407762

sp75\_1405\_1 | 1.294975 .1184374 2.83 0.005 1.082459 1.549215

sp75\_1431 | 1.313102 .273846 1.31 0.192 .8725318 1.976131

sp75\_151 | 1.6517 .566474 1.46 0.143 .8433335 3.234914

sp75\_1721 | .5336116 .4563581 -0.73 0.463 .0998289 2.852294

sp75\_1731 | 1.000322 .0024359 0.13 0.895 .9955586 1.005107

sp75\_1911 | .9949999 .0082592 -0.60 0.546 .9789432 1.01132

sp75\_211 | 1.007788 .0177437 0.44 0.659 .9736046 1.043172

sp75\_341 | 1.090394 .2885717 0.33 0.744 .6491034 1.831695

sp75\_506\_1 | 1.212402 .0762501 3.06 0.002 1.071798 1.371451

sp75\_510\_1 | 1.453957 .741375 0.73 0.463 .5352077 3.94985

sp75\_511 | 1.041873 .0393322 1.09 0.277 .9675659 1.121886

sp75\_511\_1 | .249062 .0768733 -4.50 0.000 .1360138 .4560704

sp75\_512\_1 | 1.409299 .3195813 1.51 0.130 .9036068 2.197996

sp75\_513\_1 | 1.037083 .0846436 0.45 0.655 .8837739 1.216987

sp75\_516\_1 | .9880517 .099469 -0.12 0.905 .8111248 1.203571

sp75\_517\_1 | 1.009914 .0946417 0.11 0.916 .8404577 1.213536

sp75\_518\_1 | .9976393 .0145611 -0.16 0.871 .9695045 1.026591

sp75\_523\_1 | .9953956 .0233413 -0.20 0.844 .9506827 1.042211

sp75\_600\_1 | .9188007 .112619 -0.69 0.490 .7225836 1.168301

sp75\_601 | 1.024264 .0134067 1.83 0.067 .9983219 1.050881

sp75\_601\_1 | 1.010966 .0114676 0.96 0.336 .9887376 1.033694

sp75\_700\_1 | .97456 .117486 -0.21 0.831 .7694737 1.234308

sp75\_701 | 1.014109 .0100076 1.42 0.156 .9946831 1.033915

sp75\_701\_1 | .9000434 .027487 -3.45 0.001 .8477504 .955562

sp75\_702\_1 | .8763875 .1112651 -1.04 0.299 .6833271 1.123993

sp75\_703\_1 | .6241223 .1504274 -1.96 0.050 .3891447 1.000986

sp75\_705\_1 | .8693821 .0840373 -1.45 0.148 .7193343 1.050729

sp75\_801 | .7979381 .190694 -0.94 0.345 .4995123 1.274654

sp75\_811 | .9807767 .0328023 -0.58 0.562 .9185472 1.047222

sp75\_821 | 1.146413 .0490275 3.20 0.001 1.054238 1.246647

sp75\_831 | .7388141 .2189584 -1.02 0.307 .4133035 1.320691

sp75\_901 | 1.096997 .0762783 1.33 0.183 .9572343 1.257166

sp75\_902\_1 | 1.285158 .1690317 1.91 0.056 .9931196 1.663075

sp77\_1111 | .9145518 .1260565 -0.65 0.517 .6980455 1.19821

sp77\_401 | 1.082514 .0619168 1.39 0.166 .9677142 1.210932

sp77\_403\_1 | 1.083878 .0964051 0.91 0.365 .9104801 1.290298

sp77\_411 | .9475339 .4359452 -0.12 0.907 .3845657 2.334635

sp77\_501 | .9169094 .0681866 -1.17 0.243 .7925492 1.060783

sp77\_502\_1 | 1.10063 .5323946 0.20 0.843 .4264812 2.840422

sp77\_503\_1 | .966299 .1786076 -0.19 0.853 .6726329 1.388177

sp77\_506\_1 | 1.005782 .0312544 0.19 0.853 .9463527 1.068944

sp77\_508\_1 | .9683031 .1132891 -0.28 0.783 .7698797 1.217867

sp77\_511 | .9338222 .132596 -0.48 0.630 .7069679 1.23347

sp77\_601 | .9021835 .1214688 -0.76 0.445 .6929314 1.174626

sp77\_606\_1 | .5647614 .1240148 -2.60 0.009 .3672411 .8685176

sp77\_700\_1 | 1.336886 .2326925 1.67 0.095 .9504694 1.880403

sp77\_701 | 1.009363 .0260629 0.36 0.718 .959552 1.06176

sp77\_701\_1 | .8263591 .1180777 -1.33 0.182 .6245129 1.093443

sp77\_704\_1 | 1.109729 .1713972 0.67 0.500 .8198778 1.502051

sp77\_800\_1 | 1.101047 .1375693 0.77 0.441 .8618932 1.406561

sp77\_801 | .7220868 .206153 -1.14 0.254 .4126432 1.263584

sp77\_801\_1 | 7.70e-06 7.72e-06 -11.73 0.000 1.08e-06 .000055

sp77\_807\_1 | .7069298 .1949733 -1.26 0.209 .41173 1.21378

sp77\_900\_1 | 1.516896 .3733663 1.69 0.090 .9363594 2.457362

sp77\_901 | .9984543 .0961829 -0.02 0.987 .8266666 1.205941

sp77\_901\_1 | .4504721 .1246442 -2.88 0.004 .2619047 .7748053

sp47\_42 | .7978011 .0830939 -2.17 0.030 .6504874 .9784765

sp75\_1100\_2 | 1.005929 .0051558 1.15 0.249 .9958744 1.016085

sp75\_1102 | .9902684 .0386835 -0.25 0.802 .91728 1.069065

sp75\_1106\_2 | 1.048673 .0359022 1.39 0.165 .9806146 1.121454

sp75\_1400\_2 | 1.1528 .1271977 1.29 0.197 .9286118 1.431113

sp75\_1402\_2 | 1.122162 .2971558 0.44 0.663 .667808 1.885642

sp75\_1432 | .9035096 .0947377 -0.97 0.333 .7356645 1.109649

sp75\_1600\_2 | .9967128 .0169028 -0.19 0.846 .9641285 1.030398

sp75\_1912 | .910474 .0658089 -1.30 0.194 .7902106 1.049041

sp75\_202 | 1.002848 .002044 1.40 0.163 .9988495 1.006862

sp75\_212 | .9520175 .0208221 -2.25 0.025 .9120694 .9937154

sp75\_312 | 1.043653 .0266065 1.68 0.094 .9927865 1.097126

sp75\_342 | 1.005471 .0055041 1.00 0.319 .9947404 1.016317

sp75\_352 | .9452915 .0388206 -1.37 0.171 .8721861 1.024524

sp75\_382 | 1.005409 .0399766 0.14 0.892 .9300316 1.086895

sp75\_512 | .9972304 .0031881 -0.87 0.386 .9910015 1.003499

sp75\_512\_2 | 1.006727 .011508 0.59 0.558 .9844222 1.029536

sp75\_516\_2 | 1.055864 .0195384 2.94 0.003 1.018255 1.094861

sp75\_523\_2 | .9780789 .0199232 -1.09 0.277 .9397993 1.017918

sp75\_601\_2 | .9688844 .1652287 -0.19 0.853 .6936052 1.353417

sp75\_602 | .9936478 .033051 -0.19 0.848 .9309355 1.060585

sp75\_701\_2 | 1.041209 .054657 0.77 0.442 .9394104 1.15404

sp75\_702 | .4591255 .2950906 -1.21 0.226 .13027 1.618149

sp75\_703\_2 | .8715804 .1288789 -0.93 0.353 .6522918 1.16459

sp75\_705\_2 | 1.184655 .2721755 0.74 0.461 .7551399 1.858472

sp75\_800\_2 | .6602643 .1825955 -1.50 0.133 .383989 1.135316

sp75\_802 | .9957742 .1112762 -0.04 0.970 .7999088 1.239599

sp75\_803\_2 | 1.390182 .2272264 2.02 0.044 1.009118 1.915143

sp75\_812 | 1.040261 .1515866 0.27 0.786 .7818175 1.384137

sp75\_832 | .7664499 .5704658 -0.36 0.721 .1782123 3.296324

sp75\_900\_2 | 1.075954 .1483664 0.53 0.595 .8211434 1.409835

sp75\_902 | .9831958 .0201228 -0.83 0.408 .9445364 1.023437

sp75\_902\_2 | 1.021506 .0530639 0.41 0.682 .9226217 1.130988

sp77\_1112 | .9479417 .0668352 -0.76 0.448 .8255952 1.088419

sp77\_1432 | .9585022 .1891865 -0.21 0.830 .6510064 1.41124

sp77\_1802 | .9309212 .2240262 -0.30 0.766 .5808597 1.491951

sp77\_202 | .9677124 .0146348 -2.17 0.030 .9394497 .9968254

sp77\_402 | 1.036211 .0254956 1.45 0.148 .9874262 1.087406

sp77\_403\_2 | 2.698703 1.025711 2.61 0.009 1.281251 5.684287

sp77\_412 | 1.056163 .0684682 0.84 0.399 .9301434 1.199257

sp77\_502 | .9929278 .0085447 -0.82 0.410 .976321 1.009817

sp77\_502\_2 | .9991963 .0397594 -0.02 0.984 .9242305 1.080243

sp77\_512 | .967378 .0153462 -2.09 0.037 .9377629 .9979285

sp77\_602 | 1.033265 .1872909 0.18 0.857 .7243053 1.474013

sp77\_701\_2 | .9218607 .1176465 -0.64 0.524 .7178542 1.183844

sp77\_702 | .3445798 .1271488 -2.89 0.004 .1671858 .7101997

sp77\_800\_2 | 1.006857 .0762431 0.09 0.928 .8679834 1.167949

sp77\_802 | .7898827 .2044696 -0.91 0.362 .475576 1.311914

sp77\_807\_2 | 1.014587 .1348014 0.11 0.913 .7819805 1.316384

sp77\_900\_2 | 1.028841 .0980593 0.30 0.765 .8535317 1.240157

sp77\_902 | 1.125674 .1125944 1.18 0.237 .925278 1.369473

sp77\_902\_2 | 1 (omitted)

sp47\_43 | 1.821376 .4953953 2.20 0.027 1.068764 3.10397

sp72\_503 | .9140438 .036208 -2.27 0.023 .8457624 .9878379

sp75\_1106\_3 | 1.027733 .0105352 2.67 0.008 1.00729 1.04859

sp75\_1400\_3 | 1.055873 .050786 1.13 0.258 .9608819 1.160254

sp75\_1403\_3 | .6813943 .1200793 -2.18 0.029 .4823861 .9625033

sp75\_1433 | 1.049872 .0570443 0.90 0.370 .9438148 1.167847

sp75\_153 | 1.390536 .1958389 2.34 0.019 1.05512 1.83258

sp75\_1903 | .9609742 .0220097 -1.74 0.082 .91879 1.005095

sp75\_1913 | .9954702 .0433694 -0.10 0.917 .9139958 1.084207

sp75\_503 | .9994595 .0028474 -0.19 0.849 .9938943 1.005056

sp75\_513 | .9676204 .0522873 -0.61 0.542 .8703795 1.075725

sp75\_523 | .9837029 .0321879 -0.50 0.616 .9225961 1.048857

sp75\_601\_3 | .9618391 .13969 -0.27 0.789 .72357 1.278569

sp75\_603 | 1.042973 .0747037 0.59 0.557 .9063693 1.200165

sp75\_701\_3 | 1.070715 .0529631 1.38 0.167 .9717826 1.17972

sp75\_703 | 1.000829 .0257993 0.03 0.974 .9515196 1.052694

sp75\_703\_3 | 1.004135 .0544146 0.08 0.939 .9029524 1.116655

sp75\_705\_3 | .7139405 .1260753 -1.91 0.056 .5050654 1.009198

sp75\_800\_3 | .9837397 .1007936 -0.16 0.873 .80476 1.202525

sp75\_803 | .9914783 .0658074 -0.13 0.897 .8705354 1.129224

sp75\_900\_3 | 1.016952 .0578393 0.30 0.768 .9096794 1.136875

sp75\_903 | 1.040176 .0341959 1.20 0.231 .9752664 1.109405

sp77\_103 | .8245663 .2082255 -0.76 0.445 .5026596 1.352624

sp77\_1103 | 1.004299 .0147742 0.29 0.771 .9757558 1.033678

sp77\_1403 | 1.063935 .0748565 0.88 0.378 .9268854 1.221248

sp77\_1433 | .9291561 .1601311 -0.43 0.670 .6628149 1.302522

sp77\_203 | 1.026823 .1118513 0.24 0.808 .8294201 1.271208

sp77\_403 | 1.530667 .2290254 2.85 0.004 1.141616 2.052302

sp77\_413 | 1.082952 .0653817 1.32 0.187 .9620978 1.218988

sp77\_503 | 1.149049 .1112895 1.43 0.151 .9503787 1.38925

sp77\_513 | 1.011912 .0296314 0.40 0.686 .9554707 1.071687

sp77\_603 | 1.711891 .257248 3.58 0.000 1.275161 2.298197

sp77\_701\_3 | .7725039 .1958509 -1.02 0.309 .47 1.269707

sp77\_703 | .8751183 .209066 -0.56 0.577 .5479166 1.397716

sp77\_803 | .7900751 .2881558 -0.65 0.518 .3865615 1.614798

sp77\_807\_3 | 1.116163 .1538417 0.80 0.425 .8519337 1.462344

sp77\_902\_3 | 1.294387 .1936466 1.72 0.085 .9654287 1.735434

sp77\_903 | .9752252 .1498226 -0.16 0.870 .7216655 1.317874

sp47\_44 | .9234402 .0365092 -2.01 0.044 .8545858 .9978423

sp48\_24 | .05641 .0113116 -14.34 0.000 .0380775 .0835686

sp48\_4 | 1.477834 1.195348 0.48 0.629 .3027821 7.213086

sp75\_1103\_4 | 1.026421 .0119714 2.24 0.025 1.003223 1.050155

sp75\_1104 | 1.022578 .0258124 0.88 0.376 .9732179 1.074442

sp75\_1106\_4 | 1.078596 .0811913 1.01 0.315 .9306463 1.250066

sp75\_1107\_14 | 1.425127 .4269932 1.18 0.237 .7921705 2.563826

sp75\_1400\_4 | 1.008789 .0708561 0.12 0.901 .8790486 1.157678

sp75\_1403\_4 | 1.115721 .1483726 0.82 0.410 .8597258 1.447943

sp75\_1404 | 1.236485 .3751317 0.70 0.484 .6822548 2.240945

sp75\_1434 | 1.005509 .06995 0.08 0.937 .877346 1.152395

sp75\_1914 | 1.002362 .0046653 0.51 0.612 .99326 1.011548

sp75\_214 | 1.006163 .0255872 0.24 0.809 .9572418 1.057583

sp75\_324 | .9932174 .043989 -0.15 0.878 .9106366 1.083287

sp75\_344 | 1.10083 .0713598 1.48 0.138 .9694878 1.249966

sp75\_504 | .8744929 .0722761 -1.62 0.105 .7437127 1.028271

sp75\_514 | 1.024453 .0125725 1.97 0.049 1.000105 1.049393

sp75\_604 | 1.01604 .0052189 3.10 0.002 1.005863 1.026321

sp75\_701\_4 | 1.305801 .2075872 1.68 0.093 .9562224 1.78318

sp75\_703\_4 | 1.15e-06 8.73e-07 -18.05 0.000 2.61e-07 5.09e-06

sp75\_704 | 1.035408 .152379 0.24 0.813 .7759648 1.381597

sp75\_800\_4 | 1.091496 .063271 1.51 0.131 .9742727 1.222824

sp75\_804 | .9564455 .0392078 -1.09 0.277 .8826056 1.036463

sp75\_814 | 1.02047 .0919164 0.22 0.822 .8553235 1.217504

sp75\_834 | 1.04e-06 1.29e-06 -11.05 0.000 9.00e-08 .000012

sp75\_900\_4 | 1.000928 .0202559 0.05 0.963 .9620038 1.041426

sp75\_902\_4 | 1.020163 .0425007 0.48 0.632 .9401732 1.106958

sp75\_904 | .999049 .0075796 -0.13 0.900 .9843032 1.014016

sp77\_104 | .6749833 .1523565 -1.74 0.082 .4336714 1.050571

sp77\_1104 | 1.005523 .0058975 0.94 0.348 .9940299 1.017148

sp77\_1434 | 1.194028 .1335731 1.59 0.113 .9589428 1.486745

sp77\_204 | .9723668 .0227457 -1.20 0.231 .9287926 1.017985

sp77\_314 | .2027712 .080209 -4.03 0.000 .0933902 .4402619

sp77\_404 | .9843992 .0084301 -1.84 0.066 .9680144 1.001061

sp77\_504 | .9595338 .0277719 -1.43 0.154 .906617 1.015539

sp77\_514 | .9713398 .071784 -0.39 0.694 .8403606 1.122734

sp77\_604 | 1.032756 .0925419 0.36 0.719 .8664122 1.231037

sp77\_701\_4 | 1.145187 .1521157 1.02 0.307 .8826954 1.485737

sp77\_704 | .8323653 .2711382 -0.56 0.573 .4395821 1.576115

sp77\_804 | 1.599991 .335987 2.24 0.025 1.060159 2.414704

sp77\_904 | 1.006034 .0254848 0.24 0.812 .9573045 1.057244

sp48\_25 | .9627277 .0634834 -0.58 0.565 .8460075 1.095551

sp48\_5 | 1.030114 .1117608 0.27 0.784 .8327896 1.274193

sp75\_1106\_5 | 1.045042 .0368839 1.25 0.212 .9751944 1.119892

sp75\_1403\_5 | .9965071 .0083802 -0.42 0.677 .9802169 1.013068

sp75\_1405 | .9855673 .0134253 -1.07 0.286 .9596024 1.012235

sp75\_1435 | .8254642 .2063404 -0.77 0.443 .5057365 1.347325

sp75\_155 | .9510123 .2112154 -0.23 0.821 .6153727 1.469718

sp75\_1725 | 1.001069 .003715 0.29 0.773 .9938138 1.008376

sp75\_1915 | 1.078498 .088961 0.92 0.360 .9175023 1.267744

sp75\_505 | 1.152775 .1233055 1.33 0.184 .9347525 1.42165

sp75\_515 | .9718853 .0082837 -3.35 0.001 .9557844 .9882574

sp75\_605 | 1.004927 .0161544 0.31 0.760 .9737584 1.037093

sp75\_701\_5 | .8720843 .0619106 -1.93 0.054 .7588053 1.002274

sp75\_705 | 1.334509 .164544 2.34 0.019 1.048018 1.699316

sp75\_805 | 1.031387 .1384923 0.23 0.818 .7927286 1.341897

sp75\_815 | 1.131977 .0993797 1.41 0.158 .9530334 1.34452

sp75\_825 | 1.074571 .1030443 0.75 0.453 .8904519 1.29676

sp75\_905 | .6653481 .0760452 -3.56 0.000 .5318164 .8324076

sp77\_1605 | .9866526 .0076538 -1.73 0.083 .9717649 1.001768

sp77\_1915 | .872276 .0790816 -1.51 0.132 .7302691 1.041897

sp77\_205 | .9974151 .0058347 -0.44 0.658 .9860446 1.008917

sp77\_305 | 1.123404 .5468494 0.24 0.811 .432702 2.916641

sp77\_315 | .1891387 .1273136 -2.47 0.013 .0505612 .7075281

sp77\_405 | .9920431 .0818467 -0.10 0.923 .8439248 1.166158

sp77\_505 | 1.010094 .019771 0.51 0.608 .9720775 1.049597

sp77\_515 | .8833253 .1736458 -0.63 0.528 .6008829 1.298529

sp77\_605 | .3627123 .1593356 -2.31 0.021 .153334 .8579974

sp77\_705 | 1.082402 .0613484 1.40 0.162 .968599 1.209575

sp77\_805 | .798471 .1530879 -1.17 0.240 .5483545 1.162671

sp48\_26 | 1.128623 .0686671 1.99 0.047 1.001753 1.271562

sp48\_6 | 1.007362 .0462837 0.16 0.873 .9206119 1.102286

sp75\_1106 | 1.001056 .0736977 0.01 0.989 .866549 1.156442

sp75\_1106\_6 | .9048093 .4218162 -0.21 0.830 .3628545 2.256221

sp75\_1403\_6 | 1.003485 .0064665 0.54 0.589 .9908906 1.016239

sp75\_1436 | .9939984 .3454677 -0.02 0.986 .5029763 1.964373

sp75\_156 | 1.302663 .2841398 1.21 0.225 .849505 1.997552

sp75\_1712\_6 | .9739927 .028812 -0.89 0.373 .9191281 1.032132

sp75\_1726 | 1.003046 .0697338 0.04 0.965 .8752726 1.149471

sp75\_506 | .9431072 .0307714 -1.80 0.073 .8846843 1.005388

sp75\_516 | .9963485 .0131559 -0.28 0.782 .9708942 1.02247

sp75\_606 | .9858985 .0073779 -1.90 0.058 .9715437 1.000465

sp75\_706 | .891119 .0554402 -1.85 0.064 .7888219 1.006682

sp75\_806 | .8265943 .1660042 -0.95 0.343 .5576303 1.225289

sp75\_816 | .9830103 .0245745 -0.69 0.493 .936006 1.032375

sp77\_1106 | 1.024114 .5663647 0.04 0.966 .346425 3.027523

sp77\_1606 | 1.020577 .0122076 1.70 0.089 .9969293 1.044786

sp77\_1906 | 1.09513 .1320287 0.75 0.451 .864659 1.387031

sp77\_1916 | 1.392144 .2069784 2.23 0.026 1.040234 1.863106

sp77\_206 | 1.06137 .0422133 1.50 0.134 .9817758 1.147417

sp77\_216 | 1.066962 .0338641 2.04 0.041 1.002611 1.135442

sp77\_506 | .9573479 .0227251 -1.84 0.066 .9138277 1.002941

sp77\_516 | .9793838 .0098463 -2.07 0.038 .9602743 .9988737

sp77\_606 | 1.803358 .2236293 4.75 0.000 1.414252 2.299519

sp77\_906 | .2323092 .0958214 -3.54 0.000 .1035066 .5213924

sp48\_27 | 1.102349 .0738905 1.45 0.146 .9666362 1.257115

sp48\_7 | 1.020564 .0404761 0.51 0.608 .9442374 1.103061

sp75\_1403\_7 | .9262729 .0290118 -2.45 0.014 .8711208 .9849166

sp75\_1437 | 1.026732 .187047 0.14 0.885 .7184354 1.467326

sp75\_1727 | 1 (omitted)

sp75\_337 | 1.018433 .0289947 0.64 0.521 .9631613 1.076878

sp75\_507 | 1.036842 .0463858 0.81 0.419 .9497991 1.131861

sp75\_517 | 1.000363 .0035553 0.10 0.919 .9934185 1.007355

sp75\_607 | .9831234 .0373218 -0.45 0.654 .9126292 1.059063

sp75\_807 | 1.008869 .0072649 1.23 0.220 .9947297 1.023208

sp75\_827 | 1.474566 .1744747 3.28 0.001 1.169359 1.859434

sp75\_907 | .944203 .0671234 -0.81 0.419 .8213975 1.085369

sp77\_1437 | .883303 .0708185 -1.55 0.122 .7548573 1.033605

sp77\_207 | 1.077475 .024367 3.30 0.001 1.03076 1.126308

sp77\_507 | .8683315 .0873511 -1.40 0.160 .7129477 1.05758

sp77\_807 | .8524062 .0854313 -1.59 0.111 .7003838 1.037426

sp48\_28 | .98451 .0698417 -0.22 0.826 .8567131 1.131371

sp48\_8 | .9864699 .063568 -0.21 0.833 .8694258 1.119271

sp75\_1403\_8 | .9919372 .0073563 -1.09 0.275 .9776234 1.00646

sp75\_1438 | 9.828637 4.850366 4.63 0.000 3.736208 25.85566

sp75\_1728 | 1.142114 .2162577 0.70 0.483 .7880176 1.655325

sp75\_208 | .9887115 .0141326 -0.79 0.427 .9613965 1.016803

sp75\_518 | 1.005034 .0091275 0.55 0.580 .9873022 1.023083

sp75\_705\_8 | 1.139758 .2636386 0.57 0.572 .7243034 1.793515

sp75\_808 | 1.049716 .0621945 0.82 0.413 .9346285 1.178975

sp75\_818 | .9780793 .1058035 -0.20 0.838 .7912168 1.209073

sp77\_1438 | .2846128 .1241035 -2.88 0.004 .1210859 .6689833

sp77\_208 | 1.017547 .0154685 1.14 0.253 .9876769 1.048321

sp77\_408 | .9306077 .0804088 -0.83 0.405 .7856315 1.102337

sp77\_508 | .8635542 .0874625 -1.45 0.148 .7080733 1.053176

sp77\_704\_8 | 1.019746 .1608642 0.12 0.901 .7485405 1.389211

sp77\_808 | 1.306254 .2904831 1.20 0.230 .8447702 2.019839

sp75\_1403\_9 | .9499591 .0284665 -1.71 0.087 .8957726 1.007424

sp75\_1729 | 1.064853 .143454 0.47 0.641 .8177458 1.386632

sp75\_1909 | 1.00807 .0039337 2.06 0.039 1.00039 1.01581

sp75\_519 | .7654049 .2172817 -0.94 0.346 .438787 1.335146

sp75\_809 | .9888649 .0281882 -0.39 0.694 .9351321 1.045685

sp75\_819 | 2.264041 .6882196 2.69 0.007 1.247778 4.108007

sp77\_309 | .1763732 .0407236 -7.51 0.000 .1121747 .277313

sp77\_409 | 1.016257 .1425668 0.11 0.908 .7719548 1.337875

sp77\_509 | .9650487 .0399176 -0.86 0.390 .889899 1.046545

sp77\_704\_9 | .5161155 .1514304 -2.25 0.024 .2904029 .9172608

sp77\_809 | .8860237 .0423668 -2.53 0.011 .8067586 .9730766

sp72\_610 | .9467661 .1595782 -0.32 0.746 .680412 1.317387

sp72\_620 | 1.158077 .1826595 0.93 0.352 .8501201 1.577591

sp72\_630 | 1.010594 .0067736 1.57 0.116 .9974044 1.023957

sp75\_100 | 1.087125 .1132936 0.80 0.423 .8862831 1.333481

sp75\_1101\_20 | .7949198 .0950195 -1.92 0.055 .6288923 1.004779

sp75\_1400 | 1.016953 .0296601 0.58 0.564 .9604505 1.076779

sp75\_1403\_10 | .994373 .0104094 -0.54 0.590 .9741788 1.014986

sp75\_150 | .7912999 .2143633 -0.86 0.388 .4653187 1.345649

sp75\_160 | .9447398 .1878246 -0.29 0.775 .6398586 1.394891

sp75\_1712\_10 | .9383268 .0660199 -0.90 0.366 .8174558 1.07707

sp75\_1720 | 1.048829 .0329443 1.52 0.129 .9862071 1.115428

sp75\_1730 | .9237545 .0357838 -2.05 0.041 .856216 .9966205

sp75\_1910 | .9987418 .0066313 -0.19 0.850 .9858288 1.011824

sp75\_320 | .9598269 .0195107 -2.02 0.044 .9223384 .9988392

sp75\_340 | .996491 .0087553 -0.40 0.689 .9794778 1.0138

sp75\_520 | 1.0299 .0289163 1.05 0.294 .974756 1.088163

sp75\_600 | 1.000274 .2362482 0.00 0.999 .6296208 1.589127

sp75\_700 | .9533754 .0276944 -1.64 0.100 .9006116 1.00923

sp75\_800 | 1.011183 .0841519 0.13 0.894 .8589975 1.190332

sp75\_810 | 1.100667 .044042 2.40 0.017 1.017644 1.190463

sp75\_820 | .9353562 .0938733 -0.67 0.505 .7683331 1.138687

sp75\_900 | .9952752 .020982 -0.22 0.822 .9549892 1.037261

sp77\_1710 | .9428059 .0207433 -2.68 0.007 .9030139 .9843514

sp77\_200 | 1.02007 .0096331 2.10 0.035 1.001363 1.039126

sp77\_210 | .9726199 .0542853 -0.50 0.619 .8718357 1.085055

sp77\_400 | 1.005688 .008773 0.65 0.516 .9886397 1.023031

sp77\_410 | 1.019129 .0131686 1.47 0.143 .9936433 1.045269

sp77\_500 | 1.037905 .1561766 0.25 0.805 .7728136 1.393928

sp77\_510 | .7879912 .1245538 -1.51 0.132 .5780643 1.074154

sp77\_600 | 1.162663 .120344 1.46 0.145 .9491794 1.424162

sp77\_700 | .9323422 .069146 -0.94 0.345 .8062078 1.078211

sp77\_800 | 1.215844 .1587542 1.50 0.134 .9413156 1.570436

sp77\_810 | 1.14379 .137434 1.12 0.264 .9037921 1.447517

sp77\_900 | .8648013 .0990669 -1.27 0.205 .6908875 1.082494

mine\_time | .99291 .00685 -1.03 0.302 .9795746 1.006427

onsite\_insp\_hours | .9998655 .0000451 -2.98 0.003 .9997771 .9999538

|

state |

1 | 1.309777 .1374267 2.57 0.010 1.066317 1.608825

2 | 2.263108 .1494587 12.37 0.000 1.98834 2.575845

3 | .813937 .1309656 -1.28 0.201 .593785 1.115713

4 | 1.075554 .0946104 0.83 0.408 .9052252 1.277931

5 | .8742117 .1478887 -0.79 0.427 .6275098 1.217903

6 | .9566698 .0539786 -0.79 0.432 .8565137 1.068538

7 | 1.015036 .2652201 0.06 0.954 .6082332 1.693921

8 | 1.1121 .1087794 1.09 0.277 .9180874 1.347112

9 | .9233098 .0614563 -1.20 0.231 .8103838 1.051972

10 | 1.115649 .1329936 0.92 0.359 .8831975 1.409279

11 | .7762115 .1882893 -1.04 0.296 .4825031 1.248706

12 | 1.082482 .0942233 0.91 0.363 .9127019 1.283845

13 | 1.424498 .2082797 2.42 0.016 1.06956 1.897223

14 | .6554822 .0863146 -3.21 0.001 .5063768 .8484924

15 | .7238251 .0460859 -5.08 0.000 .6389071 .8200297

17 | 1.202026 .1452106 1.52 0.128 .9486031 1.523152

|

time |

2000 | 1.055176 .0629042 0.90 0.368 .9388161 1.185958

2002 | .9604105 .064568 -0.60 0.548 .8418427 1.095678

2003 | .8198105 .0572658 -2.84 0.004 .7149158 .9400956

2004 | .886111 .0598072 -1.79 0.073 .7763134 1.011438

2005 | .7578616 .0531296 -3.95 0.000 .6605669 .8694869

2006 | .7233367 .0567183 -4.13 0.000 .6202917 .8434998

2007 | .6804932 .0543364 -4.82 0.000 .5819111 .7957762

2008 | .6509338 .0519144 -5.38 0.000 .5567374 .7610677

2009 | .5599478 .0452578 -7.17 0.000 .4779134 .6560635

2010 | .5375366 .0447697 -7.45 0.000 .4565772 .6328517

2011 | .5568996 .0468007 -6.97 0.000 .4723281 .6566139

2012 | .5708954 .0503062 -6.36 0.000 .4803417 .6785201

2013 | .5271277 .0513169 -6.58 0.000 .4355617 .6379431

2014 | .4739644 .0461465 -7.67 0.000 .391625 .5736158

2015 | .5110093 .0530925 -6.46 0.000 .416861 .6264211

|

\_cons | .0000161 1.05e-06 -169.88 0.000 .0000142 .0000183

ln(hours) | 1 (exposure)

-----------------------------------------------------------------------------------

**. estat gof**

Deviance goodness-of-fit = 7572.031

Prob > chi2(5914) = 0.0000

Pearson goodness-of-fit = 8443.727

Prob > chi2(5914) = 0.0000

**. glm MR `subpart\_violation\_count\_vars' `covariates' ib(freq).state ib(freq).time, family(nbinomial) link(log) vce(cl mineid) exposure(hours) iter(50) eform**

note: sp77\_902\_2 omitted because of collinearity

note: sp75\_1727 omitted because of collinearity

Iteration 0: log pseudolikelihood = -9162.4361

Iteration 1: log pseudolikelihood = -8997.3353

Iteration 2: log pseudolikelihood = -8995.6841

Iteration 3: log pseudolikelihood = -8995.5691

Iteration 4: log pseudolikelihood = -8995.5473

Iteration 5: log pseudolikelihood = -8995.5427

Iteration 6: log pseudolikelihood = -8995.5416

Iteration 7: log pseudolikelihood = -8995.5413

Iteration 8: log pseudolikelihood = -8995.5413

Iteration 9: log pseudolikelihood = -8995.5413

Generalized linear models No. of obs = 6,253

Optimization : ML Residual df = 5,912

Scale parameter = 1

Deviance = 3677.320203 (1/df) Deviance = .6220095

Pearson = 3935.119767 (1/df) Pearson = .6656157

Variance function: V(u) = u+(1)u^2 [Neg. Binomial]

Link function : g(u) = ln(u) [Log]

AIC = 2.98626

Log pseudolikelihood = -8995.541276 BIC = -47998.39

(Std. Err. adjusted for 1,238 clusters in mineid)

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| Robust

MR | IRR Std. Err. z P>|z| [95% Conf. Interval]

------------------+----------------------------------------------------------------

sp47\_41 | .965609 .0409291 -0.83 0.409 .8886312 1.049255

sp48\_11 | 1.026467 .0556573 0.48 0.630 .9229768 1.14156

sp71\_701 | 2.109515 .9696357 1.62 0.104 .8568977 5.193214

sp75\_1001 | .6181699 .2131196 -1.40 0.163 .3145202 1.214975

sp75\_1001\_1 | .9866098 .1738843 -0.08 0.939 .6984351 1.393686

sp75\_1003\_1 | .8403977 .1765593 -0.83 0.408 .5567444 1.268568

sp75\_1400\_1 | .9551773 .3037629 -0.14 0.885 .5121382 1.781479

sp75\_1401 | 1.082135 .2511321 0.34 0.734 .6866607 1.705378

sp75\_1401\_1 | .8745252 .3465323 -0.34 0.735 .402237 1.901352

sp75\_1403\_11 | 1.935037 .5309865 2.41 0.016 1.130093 3.313328

sp75\_1404\_1 | .7958405 .351597 -0.52 0.605 .3347888 1.891826

sp75\_1405\_1 | 1.43112 .3986416 1.29 0.198 .8290335 2.470473

sp75\_1431 | 1.508935 .4384768 1.42 0.157 .8537342 2.666973

sp75\_151 | 1.872017 .7453225 1.57 0.115 .8578542 4.085132

sp75\_1721 | .5153889 .4174477 -0.82 0.413 .1053635 2.52104

sp75\_1731 | .998653 .0027368 -0.49 0.623 .9933034 1.004031

sp75\_1911 | 1.000193 .0102815 0.02 0.985 .9802437 1.020549

sp75\_211 | 1.00744 .0173834 0.43 0.668 .9739387 1.042093

sp75\_341 | .913236 .2933825 -0.28 0.778 .4865522 1.714102

sp75\_506\_1 | 1.230499 .0757204 3.37 0.001 1.09069 1.388229

sp75\_510\_1 | 2.059842 1.245979 1.19 0.232 .629434 6.740895

sp75\_511 | 1.009948 .0445731 0.22 0.823 .926258 1.101199

sp75\_511\_1 | .2900849 .1174044 -3.06 0.002 .1312269 .6412497

sp75\_512\_1 | 1.350287 .2640542 1.54 0.125 .9203862 1.980989

sp75\_513\_1 | 1.188753 .1096132 1.88 0.061 .9922098 1.424229

sp75\_516\_1 | .9049452 .1459963 -0.62 0.536 .6596241 1.241504

sp75\_517\_1 | 1.132596 .1481209 0.95 0.341 .8765057 1.463508

sp75\_518\_1 | 1.011035 .0182119 0.61 0.542 .975963 1.047367

sp75\_523\_1 | 1.007861 .0292467 0.27 0.787 .9521386 1.066845

sp75\_600\_1 | 1.079948 .2414243 0.34 0.731 .696811 1.673749

sp75\_601 | 1.019989 .0168844 1.20 0.232 .9874277 1.053625

sp75\_601\_1 | 1.00095 .013612 0.07 0.944 .9746231 1.027988

sp75\_700\_1 | .7687496 .1014344 -1.99 0.046 .5935689 .9956315

sp75\_701 | 1.017288 .0111468 1.56 0.118 .9956738 1.039372

sp75\_701\_1 | .9452966 .0476383 -1.12 0.264 .8563903 1.043433

sp75\_702\_1 | .9968765 .1328473 -0.02 0.981 .7677278 1.294421

sp75\_703\_1 | .9739204 .5751395 -0.04 0.964 .3060937 3.098793

sp75\_705\_1 | .9382886 .1171723 -0.51 0.610 .7345807 1.198487

sp75\_801 | .933114 .3016571 -0.21 0.830 .4951745 1.758374

sp75\_811 | 1.007898 .0419592 0.19 0.850 .9289254 1.093585

sp75\_821 | 1.13271 .0632578 2.23 0.026 1.015272 1.263733

sp75\_831 | .7866415 .3347984 -0.56 0.573 .341587 1.811558

sp75\_901 | 1.047299 .0879123 0.55 0.582 .8884216 1.234588

sp75\_902\_1 | 1.267578 .2093591 1.44 0.151 .9170362 1.752117

sp77\_1111 | 1.043355 .1760294 0.25 0.801 .7495865 1.452253

sp77\_401 | 1.018504 .0599701 0.31 0.756 .9074934 1.143094

sp77\_403\_1 | 1.048923 .1112581 0.45 0.652 .852035 1.291307

sp77\_411 | .7733719 .5082306 -0.39 0.696 .2133099 2.80392

sp77\_501 | .934283 .0852987 -0.74 0.457 .7812049 1.117357

sp77\_502\_1 | 1.1635 .7601413 0.23 0.817 .3233378 4.18674

sp77\_503\_1 | 1.177383 .3583288 0.54 0.592 .6484254 2.137841

sp77\_506\_1 | 1.013337 .039447 0.34 0.734 .9388979 1.093678

sp77\_508\_1 | 1.097206 .175575 0.58 0.562 .8018239 1.501404

sp77\_511 | .7777544 .1158388 -1.69 0.091 .5808506 1.041407

sp77\_601 | .7876053 .1335944 -1.41 0.159 .564842 1.098222

sp77\_606\_1 | .5586507 .157382 -2.07 0.039 .3216188 .9703741

sp77\_700\_1 | 1.246694 .3026656 0.91 0.364 .7746573 2.006365

sp77\_701 | 1.002274 .0319229 0.07 0.943 .9416194 1.066836

sp77\_701\_1 | .8977264 .143146 -0.68 0.499 .656775 1.227076

sp77\_704\_1 | 1.019769 .1889108 0.11 0.916 .7092798 1.466174

sp77\_800\_1 | 1.068261 .151055 0.47 0.641 .8096834 1.409418

sp77\_801 | .5241213 .2836218 -1.19 0.233 .181474 1.513732

sp77\_801\_1 | 4.79e-06 4.80e-06 -12.21 0.000 6.70e-07 .0000342

sp77\_807\_1 | .6435984 .187291 -1.51 0.130 .3638398 1.138465

sp77\_900\_1 | 1.837292 .56989 1.96 0.050 1.000352 3.374452

sp77\_901 | 1.045523 .1412974 0.33 0.742 .8022276 1.362603

sp77\_901\_1 | .3639503 .112767 -3.26 0.001 .1982915 .6680052

sp47\_42 | .7863602 .1014649 -1.86 0.063 .6106467 1.012635

sp75\_1100\_2 | 1.007383 .0063599 1.17 0.244 .9949946 1.019926

sp75\_1102 | 1.036289 .0479558 0.77 0.441 .9464345 1.134675

sp75\_1106\_2 | .9751805 .0373654 -0.66 0.512 .904628 1.051235

sp75\_1400\_2 | 1.20012 .1669275 1.31 0.190 .9137533 1.576232

sp75\_1402\_2 | .7891803 .2860607 -0.65 0.514 .3878235 1.605899

sp75\_1432 | .907479 .1260854 -0.70 0.485 .691147 1.191524

sp75\_1600\_2 | .9912071 .0223188 -0.39 0.695 .9484142 1.035931

sp75\_1912 | .8889841 .0795943 -1.31 0.189 .7459032 1.059511

sp75\_202 | 1.00239 .0024709 0.97 0.333 .9975591 1.007245

sp75\_212 | .9397682 .0249572 -2.34 0.019 .8921042 .9899789

sp75\_312 | 1.035542 .0268938 1.34 0.179 .9841498 1.089617

sp75\_342 | .9982574 .0061829 -0.28 0.778 .9862125 1.010449

sp75\_352 | .9304656 .0434921 -1.54 0.123 .8490107 1.019735

sp75\_382 | 1.022916 .0507024 0.46 0.648 .9282158 1.127278

sp75\_512 | 1.00302 .0041667 0.73 0.468 .9948869 1.01122

sp75\_512\_2 | 1.011432 .0153566 0.75 0.454 .981777 1.041983

sp75\_516\_2 | 1.039595 .0230417 1.75 0.080 .995401 1.085751

sp75\_523\_2 | 1.023946 .0235794 1.03 0.304 .9787591 1.07122

sp75\_601\_2 | 1.069658 .2689243 0.27 0.789 .6534961 1.750841

sp75\_602 | .9888099 .0362888 -0.31 0.759 .920183 1.062555

sp75\_701\_2 | 1.044511 .0816566 0.56 0.577 .8961249 1.217467

sp75\_702 | .4599962 .3119902 -1.14 0.252 .1217394 1.738111

sp75\_703\_2 | .8581752 .124696 -1.05 0.293 .6454956 1.140929

sp75\_705\_2 | 1.274763 .328513 0.94 0.346 .7692554 2.11246

sp75\_800\_2 | .51196 .16246 -2.11 0.035 .2748684 .9535584

sp75\_802 | .8855813 .1348291 -0.80 0.425 .6571033 1.193502

sp75\_803\_2 | 1.233932 .2359948 1.10 0.272 .8481945 1.795094

sp75\_812 | .8937105 .1816621 -0.55 0.580 .6000334 1.331123

sp75\_832 | .6470718 .499027 -0.56 0.572 .1427247 2.933634

sp75\_900\_2 | .7491205 .1420605 -1.52 0.128 .5165744 1.086352

sp75\_902 | 1.008632 .0232741 0.37 0.710 .9640321 1.055296

sp75\_902\_2 | 1.082595 .066368 1.29 0.195 .9600271 1.220811

sp77\_1112 | .95819 .0981838 -0.42 0.677 .7838459 1.171312

sp77\_1432 | .8747215 .2192715 -0.53 0.593 .5351731 1.429702

sp77\_1802 | 1.043461 .2774276 0.16 0.873 .6196766 1.757063

sp77\_202 | .9565307 .0181505 -2.34 0.019 .9216097 .9927749

sp77\_402 | 1.025604 .0338277 0.77 0.443 .9614006 1.094095

sp77\_403\_2 | 2.355565 1.030656 1.96 0.050 .9992164 5.553036

sp77\_412 | 1.075738 .0727819 1.08 0.281 .9421422 1.228279

sp77\_502 | .9949842 .0111264 -0.45 0.653 .9734141 1.017032

sp77\_502\_2 | 1.010997 .0507347 0.22 0.827 .9162931 1.11549

sp77\_512 | .9615864 .0188311 -2.00 0.045 .9253775 .9992121

sp77\_602 | 1.286249 .3288688 0.98 0.325 .7792725 2.123052

sp77\_701\_2 | .8800206 .1365876 -0.82 0.410 .6491995 1.192909

sp77\_702 | .5233306 .2900089 -1.17 0.243 .1766339 1.550522

sp77\_800\_2 | 1.023902 .0916595 0.26 0.792 .8591305 1.220276

sp77\_802 | .7112402 .2156067 -1.12 0.261 .3926282 1.288401

sp77\_807\_2 | 1.101874 .2105791 0.51 0.612 .7576331 1.602526

sp77\_900\_2 | 1.003683 .1087037 0.03 0.973 .8117216 1.24104

sp77\_902 | 1.08591 .1453197 0.62 0.538 .8353787 1.411575

sp77\_902\_2 | 1 (omitted)

sp47\_43 | 2.611829 1.019914 2.46 0.014 1.214932 5.614839

sp72\_503 | .9089838 .0399662 -2.17 0.030 .8339317 .9907904

sp75\_1106\_3 | 1.029592 .013636 2.20 0.028 1.00321 1.056668

sp75\_1400\_3 | 1.031061 .0530481 0.59 0.552 .9321591 1.140457

sp75\_1403\_3 | .6004754 .1607172 -1.91 0.057 .3553622 1.014657

sp75\_1433 | 1.045729 .0712758 0.66 0.512 .9149598 1.195187

sp75\_153 | 1.163345 .2063537 0.85 0.394 .8217183 1.647003

sp75\_1903 | .9521679 .0266478 -1.75 0.080 .9013457 1.005856

sp75\_1913 | .9768868 .0484795 -0.47 0.637 .8863436 1.076679

sp75\_503 | 1.002533 .0031095 0.82 0.415 .9964568 1.008646

sp75\_513 | .9260098 .0544139 -1.31 0.191 .8252728 1.039043

sp75\_523 | .939407 .0274292 -2.14 0.032 .8871562 .9947353

sp75\_601\_3 | 1.270734 .272145 1.12 0.263 .8351376 1.93353

sp75\_603 | 1.060419 .1061721 0.59 0.558 .8714712 1.290335

sp75\_701\_3 | 1.006213 .0621313 0.10 0.920 .8915178 1.135663

sp75\_703 | 1.040964 .0325413 1.28 0.199 .9790987 1.106738

sp75\_703\_3 | 1.024937 .0671362 0.38 0.707 .9014486 1.165341

sp75\_705\_3 | .6506623 .1394289 -2.01 0.045 .4275173 .9902791

sp75\_800\_3 | 1.066406 .1120067 0.61 0.540 .8679985 1.310164

sp75\_803 | 1.00551 .0872418 0.06 0.949 .8482682 1.1919

sp75\_900\_3 | 1.03863 .0852542 0.46 0.644 .8842835 1.219917

sp75\_903 | 1.063923 .037191 1.77 0.076 .9934709 1.139371

sp77\_103 | .9085122 .1298375 -0.67 0.502 .6865682 1.202203

sp77\_1103 | .9972067 .0191536 -0.15 0.884 .9603642 1.035463

sp77\_1403 | 1.033941 .0883505 0.39 0.696 .8745015 1.22245

sp77\_1433 | .9494243 .2009205 -0.25 0.806 .6270845 1.437456

sp77\_203 | .9863319 .1378807 -0.10 0.922 .7499502 1.29722

sp77\_403 | 1.61094 .3285251 2.34 0.019 1.080167 2.402526

sp77\_413 | 1.022412 .0836073 0.27 0.786 .8710023 1.200142

sp77\_503 | 1.032509 .1102621 0.30 0.765 .8375169 1.272899

sp77\_513 | 1.010356 .0358841 0.29 0.772 .9424164 1.083193

sp77\_603 | 1.757534 .2463419 4.02 0.000 1.335354 2.313188

sp77\_701\_3 | 1.164669 .4578619 0.39 0.698 .5389806 2.516704

sp77\_703 | .8050417 .2955664 -0.59 0.555 .3920169 1.653225

sp77\_803 | 1.606367 1.424145 0.53 0.593 .282619 9.130371

sp77\_807\_3 | 1.023584 .1699181 0.14 0.888 .7393007 1.417181

sp77\_902\_3 | 1.332874 .3420496 1.12 0.263 .8060255 2.204089

sp77\_903 | .786237 .1364431 -1.39 0.166 .5595469 1.104767

sp47\_44 | .9120773 .0529779 -1.58 0.113 .8139349 1.022053

sp48\_24 | .0505088 .0101204 -14.90 0.000 .0341046 .0748035

sp48\_4 | 1.498302 1.147214 0.53 0.597 .3340835 6.719608

sp75\_1103\_4 | 1.017206 .0123566 1.40 0.160 .9932731 1.041715

sp75\_1104 | 1.027921 .0289741 0.98 0.329 .9726734 1.086308

sp75\_1106\_4 | 1.060823 .1024431 0.61 0.541 .8778954 1.281867

sp75\_1107\_14 | 1.442106 .5553287 0.95 0.342 .6779771 3.067463

sp75\_1400\_4 | .9323241 .0793167 -0.82 0.410 .7891356 1.101494

sp75\_1403\_4 | 1.260103 .3033949 0.96 0.337 .7860719 2.019992

sp75\_1404 | 1.201222 .3984158 0.55 0.580 .6270482 2.301155

sp75\_1434 | .9773956 .0742807 -0.30 0.764 .8421322 1.134385

sp75\_1914 | .9950676 .0060807 -0.81 0.418 .9832207 1.007057

sp75\_214 | 1.025479 .0310422 0.83 0.406 .9664069 1.088161

sp75\_324 | .9804878 .0601292 -0.32 0.748 .869444 1.105714

sp75\_344 | 1.013184 .0767899 0.17 0.863 .8733238 1.175443

sp75\_504 | .84032 .0829628 -1.76 0.078 .6924806 1.019722

sp75\_514 | 1.019645 .0153121 1.30 0.195 .9900708 1.050102

sp75\_604 | 1.016759 .0056702 2.98 0.003 1.005706 1.027933

sp75\_701\_4 | 1.567838 .4217927 1.67 0.095 .9253454 2.65643

sp75\_703\_4 | 5.75e-07 4.75e-07 -17.39 0.000 1.14e-07 2.90e-06

sp75\_704 | 1.193699 .1605412 1.32 0.188 .9170989 1.553722

sp75\_800\_4 | 1.073498 .0799079 0.95 0.341 .9277698 1.242115

sp75\_804 | .9422963 .0456858 -1.23 0.220 .8568766 1.036231

sp75\_814 | 1.013284 .1251434 0.11 0.915 .7954363 1.290794

sp75\_834 | 7.02e-07 8.86e-07 -11.22 0.000 5.91e-08 8.33e-06

sp75\_900\_4 | 1.014856 .0294265 0.51 0.611 .9587889 1.074201

sp75\_902\_4 | 1.023629 .0493725 0.48 0.628 .9312933 1.125118

sp75\_904 | 1.005095 .009912 0.52 0.606 .9858542 1.024711

sp77\_104 | .7172009 .1835646 -1.30 0.194 .4342894 1.184411

sp77\_1104 | 1.003783 .007582 0.50 0.617 .9890322 1.018754

sp77\_1434 | 1.537427 .2777284 2.38 0.017 1.079019 2.190583

sp77\_204 | .9712493 .0306719 -0.92 0.356 .9129561 1.033265

sp77\_314 | .232368 .1236542 -2.74 0.006 .0818863 .659389

sp77\_404 | .9910391 .008683 -1.03 0.304 .9741659 1.008204

sp77\_504 | .9336392 .0377927 -1.70 0.090 .862429 1.010729

sp77\_514 | .8015613 .10719 -1.65 0.098 .6167491 1.041754

sp77\_604 | 1.071059 .1352022 0.54 0.587 .8363043 1.371711

sp77\_701\_4 | 1.048944 .1607591 0.31 0.755 .7767816 1.416465

sp77\_704 | .7883675 .2506457 -0.75 0.454 .4227719 1.470115

sp77\_804 | 1.867743 .8254497 1.41 0.157 .7854679 4.441258

sp77\_904 | 1.003634 .034569 0.11 0.916 .9381165 1.073728

sp48\_25 | .9716782 .096837 -0.29 0.773 .7992674 1.18128

sp48\_5 | 1.050305 .0975591 0.53 0.597 .8754879 1.260028

sp75\_1106\_5 | 1.01297 .0435961 0.30 0.765 .9310279 1.102124

sp75\_1403\_5 | .9969285 .0104155 -0.29 0.768 .9767222 1.017553

sp75\_1405 | .9876634 .0165733 -0.74 0.459 .9557086 1.020687

sp75\_1435 | .7353035 .2539375 -0.89 0.373 .3736834 1.44687

sp75\_155 | .8719544 .2478833 -0.48 0.630 .4994709 1.52222

sp75\_1725 | 1.005238 .0048863 1.07 0.282 .9957069 1.014861

sp75\_1915 | 1.153132 .1119398 1.47 0.142 .9533423 1.39479

sp75\_505 | 1.075495 .1224835 0.64 0.523 .8603368 1.34446

sp75\_515 | .971321 .00929 -3.04 0.002 .9532826 .9897007

sp75\_605 | .9989016 .0188439 -0.06 0.954 .9626426 1.036526

sp75\_701\_5 | .8796807 .0825675 -1.37 0.172 .7318645 1.057352

sp75\_705 | 1.456573 .2803486 1.95 0.051 .9988499 2.124047

sp75\_805 | 1.042812 .1858994 0.24 0.814 .7353 1.47893

sp75\_815 | 1.153116 .0995166 1.65 0.099 .9736715 1.365632

sp75\_825 | .9608486 .1102137 -0.35 0.728 .7673938 1.203072

sp75\_905 | .5558135 .0872908 -3.74 0.000 .4085521 .7561549

sp77\_1605 | .9881213 .0089343 -1.32 0.186 .9707647 1.005788

sp77\_1915 | .8343154 .0880729 -1.72 0.086 .6783827 1.026091

sp77\_205 | .9989439 .0088275 -0.12 0.905 .9817913 1.016396

sp77\_305 | 1.063709 .6881978 0.10 0.924 .2993042 3.780356

sp77\_315 | .3836462 .3315244 -1.11 0.268 .0705298 2.086839

sp77\_405 | 1.1044 .1166196 0.94 0.347 .8979324 1.358343

sp77\_505 | 1.007795 .023207 0.34 0.736 .9633213 1.054322

sp77\_515 | 1.433272 .5436496 0.95 0.343 .6814941 3.014359

sp77\_605 | .3300976 .1785809 -2.05 0.040 .1143266 .9530977

sp77\_705 | 1.069795 .0685232 1.05 0.292 .9435799 1.212892

sp77\_805 | .7242328 .1902698 -1.23 0.219 .4327641 1.212007

sp48\_26 | 1.119242 .0724041 1.74 0.082 .9859604 1.27054

sp48\_6 | .9672373 .0589705 -0.55 0.585 .8582958 1.090006

sp75\_1106 | 1.056672 .0810756 0.72 0.472 .9091383 1.228148

sp75\_1106\_6 | .7699743 .4558561 -0.44 0.659 .241285 2.457096

sp75\_1403\_6 | .999231 .0081801 -0.09 0.925 .9833263 1.015393

sp75\_1436 | .8974778 .4191474 -0.23 0.817 .359326 2.241603

sp75\_156 | 1.261093 .2843547 1.03 0.304 .8106174 1.961907

sp75\_1712\_6 | .9816649 .0346823 -0.52 0.600 .9159889 1.05205

sp75\_1726 | 1.076521 .0932914 0.85 0.395 .908359 1.275815

sp75\_506 | .9581584 .0426674 -0.96 0.337 .8780774 1.045543

sp75\_516 | .9800561 .0149019 -1.32 0.185 .9512798 1.009703

sp75\_606 | .9928277 .0099363 -0.72 0.472 .9735427 1.012495

sp75\_706 | .8848328 .0640114 -1.69 0.091 .7678614 1.019623

sp75\_806 | .6762047 .1655102 -1.60 0.110 .4185383 1.092499

sp75\_816 | 1.009228 .0319547 0.29 0.772 .9485017 1.073842

sp77\_1106 | 1.531459 1.204364 0.54 0.588 .3278737 7.15326

sp77\_1606 | 1.022449 .0135215 1.68 0.093 .9962884 1.049297

sp77\_1906 | 1.052662 .1646188 0.33 0.743 .7747744 1.43022

sp77\_1916 | 1.314534 .3178739 1.13 0.258 .8183489 2.111568

sp77\_206 | .9748007 .0525352 -0.47 0.636 .8770852 1.083403

sp77\_216 | 1.071511 .0489606 1.51 0.131 .9797214 1.1719

sp77\_506 | .9491416 .0292395 -1.69 0.090 .893529 1.008215

sp77\_516 | .9943647 .0124166 -0.45 0.651 .9703239 1.019001

sp77\_606 | 1.662196 .2692059 3.14 0.002 1.210106 2.283185

sp77\_906 | .2766822 .1806393 -1.97 0.049 .0769577 .9947426

sp48\_27 | 1.143177 .0830059 1.84 0.065 .9915342 1.318011

sp48\_7 | 1.030189 .0578655 0.53 0.596 .9227943 1.150081

sp75\_1403\_7 | .9298393 .0324746 -2.08 0.037 .8683199 .9957173

sp75\_1437 | .869601 .1702634 -0.71 0.475 .5924601 1.276383

sp75\_1727 | 1 (omitted)

sp75\_337 | 1.017693 .031434 0.57 0.570 .9579115 1.081206

sp75\_507 | 1.057867 .0494219 1.20 0.229 .9653048 1.159306

sp75\_517 | .9970845 .0041779 -0.70 0.486 .9889295 1.005307

sp75\_607 | .9800892 .0425372 -0.46 0.643 .9001654 1.067109

sp75\_807 | 1.01124 .0091119 1.24 0.215 .9935376 1.029258

sp75\_827 | 1.241071 .2366905 1.13 0.257 .8540042 1.803571

sp75\_907 | .943437 .069588 -0.79 0.430 .8164473 1.090179

sp77\_1437 | .8652227 .0920531 -1.36 0.174 .7023709 1.065833

sp77\_207 | 1.075511 .0325731 2.40 0.016 1.013526 1.141286

sp77\_507 | .8434333 .0872664 -1.65 0.100 .6886215 1.033049

sp77\_807 | .7608704 .107342 -1.94 0.053 .5770653 1.003221

sp48\_28 | .9874674 .0734813 -0.17 0.865 .8534568 1.14252

sp48\_8 | 1.01886 .0774964 0.25 0.806 .8777496 1.182656

sp75\_1403\_8 | .9932871 .0083968 -0.80 0.426 .9769652 1.009882

sp75\_1438 | 9.103029 5.2863 3.80 0.000 2.916602 28.41153

sp75\_1728 | 1.446904 .3126828 1.71 0.087 .9473077 2.20998

sp75\_208 | .9808283 .0169185 -1.12 0.262 .9482229 1.014555

sp75\_518 | 1.006327 .0131105 0.48 0.628 .9809558 1.032354

sp75\_705\_8 | .9374156 .2312804 -0.26 0.793 .5779931 1.520344

sp75\_808 | 1.074355 .0828195 0.93 0.352 .9236997 1.249583

sp75\_818 | 1.130009 .1865089 0.74 0.459 .8176934 1.561613

sp77\_1438 | .1642557 .0969721 -3.06 0.002 .051641 .5224521

sp77\_208 | 1.027928 .0180068 1.57 0.116 .9932341 1.063833

sp77\_408 | .958222 .1147347 -0.36 0.722 .7577846 1.211676

sp77\_508 | 1.001217 .1171095 0.01 0.992 .7960959 1.259188

sp77\_704\_8 | 1.217397 .2272374 1.05 0.292 .8443998 1.755158

sp77\_808 | 1.17744 .3008145 0.64 0.523 .7136283 1.942698

sp75\_1403\_9 | .9379829 .0399446 -1.50 0.133 .8628711 1.019633

sp75\_1729 | 1.009026 .1334995 0.07 0.946 .7785457 1.307739

sp75\_1909 | 1.00526 .0051794 1.02 0.309 .9951598 1.015463

sp75\_519 | .5997135 .1786609 -1.72 0.086 .3344737 1.07529

sp75\_809 | .9902984 .0323077 -0.30 0.765 .9289585 1.055689

sp75\_819 | 2.02099 .7460155 1.91 0.057 .9802956 4.1665

sp77\_309 | .1530025 .0417702 -6.88 0.000 .089602 .2612639

sp77\_409 | .8749183 .1763422 -0.66 0.507 .5893936 1.298762

sp77\_509 | .9766561 .0500321 -0.46 0.645 .8833572 1.079809

sp77\_704\_9 | .5416226 .2232743 -1.49 0.137 .2414371 1.215037

sp77\_809 | .8110448 .0490761 -3.46 0.001 .7203423 .9131682

sp72\_610 | .8405499 .144587 -1.01 0.313 .5999903 1.177559

sp72\_620 | 1.048537 .2144403 0.23 0.817 .7022655 1.565548

sp72\_630 | 1.017447 .0087986 2.00 0.045 1.000348 1.034839

sp75\_100 | 1.091053 .1459649 0.65 0.515 .8394 1.418151

sp75\_1101\_20 | .8741551 .1295377 -0.91 0.364 .6538108 1.168759

sp75\_1400 | 1.021172 .0423818 0.50 0.614 .9413936 1.10771

sp75\_1403\_10 | .9975819 .0133719 -0.18 0.857 .9717147 1.024138

sp75\_150 | .7546674 .2764388 -0.77 0.442 .3680915 1.547232

sp75\_160 | .8436026 .2341416 -0.61 0.540 .4896517 1.453412

sp75\_1712\_10 | .9817152 .0722958 -0.25 0.802 .8497694 1.134149

sp75\_1720 | 1.031416 .038665 0.83 0.409 .958351 1.110051

sp75\_1730 | .9083462 .0390794 -2.23 0.025 .8348925 .9882624

sp75\_1910 | 1.001189 .0077926 0.15 0.879 .9860312 1.016579

sp75\_320 | .9506116 .0198566 -2.42 0.015 .9124792 .9903375

sp75\_340 | .9912423 .0101395 -0.86 0.390 .9715671 1.011316

sp75\_520 | 1.034344 .0336706 1.04 0.300 .9704123 1.102488

sp75\_600 | 1.045384 .426664 0.11 0.913 .4697484 2.326409

sp75\_700 | .9816256 .0402225 -0.45 0.651 .9058734 1.063712

sp75\_800 | .9669245 .092426 -0.35 0.725 .8017303 1.166157

sp75\_810 | 1.061452 .044683 1.42 0.157 .9773904 1.152743

sp75\_820 | 1.047211 .1442602 0.33 0.738 .7994208 1.371806

sp75\_900 | .9791931 .0218576 -0.94 0.346 .9372766 1.022984

sp77\_1710 | .9505069 .0206588 -2.34 0.020 .9108667 .9918721

sp77\_200 | 1.01521 .0117408 1.31 0.192 .9924574 1.038485

sp77\_210 | .9427473 .063787 -0.87 0.384 .8256622 1.076436

sp77\_400 | 1.020265 .0111681 1.83 0.067 .9986094 1.042391

sp77\_410 | 1.000969 .0150087 0.06 0.949 .9719802 1.030822

sp77\_500 | .9938704 .1248514 -0.05 0.961 .7769636 1.271332

sp77\_510 | .7519201 .1834688 -1.17 0.243 .466099 1.213012

sp77\_600 | 1.053264 .1598924 0.34 0.732 .7822028 1.418258

sp77\_700 | .9941958 .1008037 -0.06 0.954 .815017 1.212766

sp77\_800 | 1.13661 .2282032 0.64 0.524 .7668512 1.684658

sp77\_810 | .9700257 .1381661 -0.21 0.831 .7337395 1.282403

sp77\_900 | .7718745 .1088449 -1.84 0.066 .5854848 1.017602

mine\_time | .9983343 .0069121 -0.24 0.810 .9848783 1.011974

onsite\_insp\_hours | .9998805 .0000496 -2.41 0.016 .9997833 .9999778

|

state |

1 | 1.277173 .1824752 1.71 0.087 .965239 1.689914

2 | 1.725513 .1411893 6.67 0.000 1.469837 2.025664

3 | .8187074 .1345206 -1.22 0.223 .5932927 1.129766

4 | 1.048079 .1187862 0.41 0.679 .8393077 1.30878

5 | .8443404 .1465985 -0.97 0.330 .6007971 1.186608

6 | .8376192 .0451858 -3.28 0.001 .7535778 .931033

7 | .9172258 .2349807 -0.34 0.736 .5551496 1.515453

8 | 1.261567 .1220381 2.40 0.016 1.043684 1.524936

9 | .8816946 .0769544 -1.44 0.149 .7430623 1.046191

10 | .8420924 .1468707 -0.99 0.324 .5982743 1.185275

11 | .8378076 .2403295 -0.62 0.537 .4774992 1.469995

12 | 1.037825 .0948921 0.41 0.685 .867552 1.241516

13 | 1.454099 .2352919 2.31 0.021 1.058909 1.996776

14 | .6730286 .1018109 -2.62 0.009 .5003454 .9053095

15 | .6762661 .0451882 -5.85 0.000 .5932534 .7708945

17 | 1.101235 .1373259 0.77 0.439 .8624496 1.406133

|

time |

2000 | 1.023396 .0725535 0.33 0.744 .8906317 1.175952

2002 | .9151652 .0670826 -1.21 0.227 .7926939 1.056558

2003 | .8417449 .0685017 -2.12 0.034 .7176442 .987306

2004 | .8159417 .0609097 -2.72 0.006 .7048834 .9444978

2005 | .6951055 .053485 -4.73 0.000 .5977986 .8082517

2006 | .7014438 .0561868 -4.43 0.000 .599529 .8206833

2007 | .6422287 .0539992 -5.27 0.000 .544653 .7572853

2008 | .5804371 .0491283 -6.43 0.000 .4917104 .6851742

2009 | .4710319 .0425336 -8.34 0.000 .394628 .5622284

2010 | .4977926 .0450239 -7.71 0.000 .4169267 .594343

2011 | .5311885 .049021 -6.86 0.000 .4432974 .6365055

2012 | .5462853 .0513824 -6.43 0.000 .4543153 .6568735

2013 | .4531504 .0460331 -7.79 0.000 .3713414 .5529826

2014 | .4138575 .0442902 -8.24 0.000 .3355497 .51044

2015 | .4835686 .0532803 -6.59 0.000 .3896472 .6001291

|

\_cons | .0000173 1.22e-06 -155.14 0.000 .0000151 .0000199

ln(hours) | 1 (exposure)

-----------------------------------------------------------------------------------

**. eststo: nbreg MR `subpart\_violation\_count\_vars' `covariates' ib(freq).state ib(freq).time, vce(cl mineid) exposure(hours) iter(50) irr**

note: sp77\_902\_2 omitted because of collinearity

note: sp75\_1727 omitted because of collinearity

Fitting Poisson model:

Iteration 0: log pseudolikelihood = -115349.09

Iteration 1: log pseudolikelihood = -75280.438 (backed up)

Iteration 2: log pseudolikelihood = -48740.837 (backed up)

Iteration 3: log pseudolikelihood = -28727.933

Iteration 4: log pseudolikelihood = -15635.329

Iteration 5: log pseudolikelihood = -9255.5082

Iteration 6: log pseudolikelihood = -8678.0699

Iteration 7: log pseudolikelihood = -8577.8239

Iteration 8: log pseudolikelihood = -8573.4609

Iteration 9: log pseudolikelihood = -8573.4487

Iteration 10: log pseudolikelihood = -8573.4487

Fitting constant-only model:

Iteration 0: log pseudolikelihood = -9249.9658

Iteration 1: log pseudolikelihood = -8971.6355

Iteration 2: log pseudolikelihood = -8961.958

Iteration 3: log pseudolikelihood = -8961.9317

Iteration 4: log pseudolikelihood = -8961.9317

Fitting full model:

Iteration 0: log pseudolikelihood = -8562.0765

Iteration 1: log pseudolikelihood = -8470.8526

Iteration 2: log pseudolikelihood = -8461.8171

Iteration 3: log pseudolikelihood = -8461.7354

Iteration 4: log pseudolikelihood = -8461.7354

Negative binomial regression Number of obs = 6,253

Wald chi2(338) = .

Dispersion = mean Prob > chi2 = .

Log pseudolikelihood = -8461.7354 Pseudo R2 = 0.0558

(Std. Err. adjusted for 1,238 clusters in mineid)

-----------------------------------------------------------------------------------

| Robust

MR | IRR Std. Err. z P>|z| [95% Conf. Interval]

------------------+----------------------------------------------------------------

sp47\_41 | .9648625 .0369084 -0.94 0.350 .8951686 1.039982

sp48\_11 | .9916179 .0460068 -0.18 0.856 .9054246 1.086017

sp71\_701 | 2.022355 .7905145 1.80 0.072 .9400109 4.350929

sp75\_1001 | .6927723 .1721452 -1.48 0.140 .4256745 1.127466

sp75\_1001\_1 | .9796988 .138848 -0.14 0.885 .7420888 1.29339

sp75\_1003\_1 | .8824586 .1544069 -0.71 0.475 .6262627 1.243461

sp75\_1400\_1 | .9077262 .2644241 -0.33 0.740 .5128574 1.60662

sp75\_1401 | 1.054566 .1987099 0.28 0.778 .7289264 1.525683

sp75\_1401\_1 | .9327874 .3117387 -0.21 0.835 .4845181 1.795789

sp75\_1403\_11 | 1.955738 .4670466 2.81 0.005 1.224719 3.123092

sp75\_1404\_1 | .6944484 .2826239 -0.90 0.370 .3127673 1.541909

sp75\_1405\_1 | 1.3182 .1780407 2.05 0.041 1.011615 1.717701

sp75\_1431 | 1.356742 .3156585 1.31 0.190 .8599184 2.140608

sp75\_151 | 1.910917 .7806677 1.59 0.113 .8580252 4.255823

sp75\_1721 | .5310427 .4515679 -0.74 0.457 .1003037 2.811524

sp75\_1731 | 1.000159 .0024078 0.07 0.947 .9954511 1.00489

sp75\_1911 | .9982499 .0090489 -0.19 0.847 .9806711 1.016144

sp75\_211 | 1.006526 .0167349 0.39 0.696 .9742546 1.039866

sp75\_341 | 1.018647 .2900388 0.06 0.948 .5829907 1.77986

sp75\_506\_1 | 1.232265 .0739452 3.48 0.001 1.095533 1.386062

sp75\_510\_1 | 1.578508 .8497669 0.85 0.396 .5495598 4.533972

sp75\_511 | 1.035259 .0406752 0.88 0.378 .9585293 1.118131

sp75\_511\_1 | .2719069 .0876943 -4.04 0.000 .1445087 .5116185

sp75\_512\_1 | 1.352604 .2802946 1.46 0.145 .9011136 2.030307

sp75\_513\_1 | 1.086781 .0948587 0.95 0.340 .9158952 1.289551

sp75\_516\_1 | .9457904 .1102779 -0.48 0.633 .7525683 1.188622

sp75\_517\_1 | 1.044966 .1085136 0.42 0.672 .8525303 1.280839

sp75\_518\_1 | 1.000255 .0146852 0.02 0.986 .9718822 1.029455

sp75\_523\_1 | .9979378 .025061 -0.08 0.934 .9500083 1.048285

sp75\_600\_1 | .9523496 .1461905 -0.32 0.750 .7049084 1.286649

sp75\_601 | 1.022303 .013961 1.62 0.106 .9953026 1.050035

sp75\_601\_1 | 1.006465 .0119801 0.54 0.588 .9832558 1.030221

sp75\_700\_1 | .8786443 .1066957 -1.07 0.287 .692548 1.114747

sp75\_701 | 1.016109 .0098335 1.65 0.099 .9970178 1.035567

sp75\_701\_1 | .9128605 .0327098 -2.54 0.011 .85095 .9792754

sp75\_702\_1 | .9188404 .1191365 -0.65 0.514 .7126456 1.184695

sp75\_703\_1 | .6880237 .1974044 -1.30 0.192 .3920855 1.20733

sp75\_705\_1 | .891052 .0911933 -1.13 0.260 .7291018 1.088975

sp75\_801 | .7862871 .1910252 -0.99 0.322 .4884108 1.265835

sp75\_811 | .9894949 .0347881 -0.30 0.764 .9236075 1.060082

sp75\_821 | 1.137919 .0515579 2.85 0.004 1.041225 1.243594

sp75\_831 | .7702474 .2657234 -0.76 0.449 .3917228 1.514543

sp75\_901 | 1.070482 .0782516 0.93 0.351 .9275918 1.235383

sp75\_902\_1 | 1.263228 .1707062 1.73 0.084 .9692918 1.646299

sp77\_1111 | .9837027 .1432588 -0.11 0.910 .7394375 1.308658

sp77\_401 | 1.073222 .061249 1.24 0.216 .9596468 1.200239

sp77\_403\_1 | 1.053736 .0991832 0.56 0.578 .8762179 1.267218

sp77\_411 | .8957925 .4446619 -0.22 0.825 .3385946 2.369927

sp77\_501 | .9317678 .0751196 -0.88 0.381 .7955791 1.09127

sp77\_502\_1 | 1.034674 .5925598 0.06 0.953 .3367588 3.178984

sp77\_503\_1 | 1.027016 .217139 0.13 0.900 .6785942 1.554334

sp77\_506\_1 | 1.010787 .0336576 0.32 0.747 .9469254 1.078955

sp77\_508\_1 | 1.022377 .1370041 0.17 0.869 .7862226 1.329465

sp77\_511 | .8676171 .1237697 -1.00 0.320 .6559944 1.147509

sp77\_601 | .8798164 .1223237 -0.92 0.357 .6699568 1.155413

sp77\_606\_1 | .5693174 .1349844 -2.38 0.018 .3577138 .9060937

sp77\_700\_1 | 1.286919 .251609 1.29 0.197 .8772647 1.887869

sp77\_701 | 1.008459 .0272409 0.31 0.755 .9564566 1.063289

sp77\_701\_1 | .8600125 .1233767 -1.05 0.293 .6492202 1.139246

sp77\_704\_1 | 1.11072 .1806135 0.65 0.518 .8075903 1.527629

sp77\_800\_1 | 1.105944 .1441105 0.77 0.440 .8566765 1.42774

sp77\_801 | .7122953 .2321525 -1.04 0.298 .3760409 1.349227

sp77\_801\_1 | 1.28e-09 1.29e-09 -20.41 0.000 1.79e-10 9.15e-09

sp77\_807\_1 | .71382 .1965018 -1.22 0.221 .4161675 1.22436

sp77\_900\_1 | 1.657905 .4283757 1.96 0.050 .9991325 2.751036

sp77\_901 | 1.016788 .1092375 0.15 0.877 .8237257 1.2551

sp77\_901\_1 | .4287293 .1239556 -2.93 0.003 .2432658 .7555885

sp47\_42 | .7988733 .0852542 -2.10 0.035 .6480959 .9847286

sp75\_1100\_2 | 1.005591 .0054086 1.04 0.300 .9950462 1.016248

sp75\_1102 | 1.006105 .0402673 0.15 0.879 .9301989 1.088206

sp75\_1106\_2 | 1.021329 .0355031 0.61 0.544 .9540613 1.093339

sp75\_1400\_2 | 1.152028 .1384856 1.18 0.239 .9102064 1.458096

sp75\_1402\_2 | .9844812 .2848683 -0.05 0.957 .5583478 1.735842

sp75\_1432 | .899765 .1045841 -0.91 0.364 .7164564 1.129974

sp75\_1600\_2 | .9928663 .0190772 -0.37 0.709 .956171 1.03097

sp75\_1912 | .9011288 .0685541 -1.37 0.171 .7763026 1.046027

sp75\_202 | 1.002048 .0021379 0.96 0.338 .9978662 1.006247

sp75\_212 | .9496597 .021386 -2.29 0.022 .9086556 .9925142

sp75\_312 | 1.03957 .0264261 1.53 0.127 .9890447 1.092676

sp75\_342 | 1.003202 .005694 0.56 0.573 .9921041 1.014424

sp75\_352 | .943407 .040415 -1.36 0.174 .8674294 1.026039

sp75\_382 | 1.012816 .0434938 0.30 0.767 .9310585 1.101753

sp75\_512 | 1.000098 .0033951 0.03 0.977 .9934661 1.006775

sp75\_512\_2 | 1.008559 .0128073 0.67 0.502 .9837666 1.033975

sp75\_516\_2 | 1.049107 .0197201 2.55 0.011 1.01116 1.088478

sp75\_523\_2 | .9920685 .0209079 -0.38 0.706 .9519246 1.033905

sp75\_601\_2 | .9961335 .1694796 -0.02 0.982 .7136681 1.390397

sp75\_602 | .9926364 .0339978 -0.22 0.829 .9281891 1.061558

sp75\_701\_2 | 1.030264 .0607766 0.51 0.613 .917773 1.156544

sp75\_702 | .4696458 .310757 -1.14 0.253 .1283938 1.717895

sp75\_703\_2 | .8761851 .123122 -0.94 0.347 .6652495 1.154004

sp75\_705\_2 | 1.18157 .2791351 0.71 0.480 .7436542 1.877362

sp75\_800\_2 | .6030722 .1702703 -1.79 0.073 .3467708 1.048808

sp75\_802 | .9425097 .1152523 -0.48 0.628 .7416498 1.197768

sp75\_803\_2 | 1.327885 .2269811 1.66 0.097 .9498633 1.856351

sp75\_812 | .9900661 .1645156 -0.06 0.952 .7148636 1.371214

sp75\_832 | .7025659 .5083473 -0.49 0.626 .1701348 2.901222

sp75\_900\_2 | .9512039 .1399419 -0.34 0.734 .7129255 1.269121

sp75\_902 | .9933076 .0209473 -0.32 0.750 .9530885 1.035224

sp75\_902\_2 | 1.052391 .0593105 0.91 0.365 .9423348 1.175301

sp77\_1112 | .9592599 .0743217 -0.54 0.591 .824113 1.11657

sp77\_1432 | .9000662 .190763 -0.50 0.619 .5941116 1.363581

sp77\_1802 | .9399803 .2221957 -0.26 0.793 .5914375 1.493924

sp77\_202 | .962921 .0155543 -2.34 0.019 .9329128 .9938945

sp77\_402 | 1.034634 .0274861 1.28 0.200 .9821412 1.089933

sp77\_403\_2 | 2.701002 1.063014 2.52 0.012 1.248888 5.841524

sp77\_412 | 1.08576 .0675786 1.32 0.186 .9610681 1.226629

sp77\_502 | .9919515 .0093534 -0.86 0.391 .9737875 1.010454

sp77\_502\_2 | 1.001141 .0434337 0.03 0.979 .9195309 1.089993

sp77\_512 | .9642283 .016131 -2.18 0.029 .9331249 .9963685

sp77\_602 | 1.107596 .2460499 0.46 0.646 .7166204 1.711882

sp77\_701\_2 | .902235 .1185865 -0.78 0.434 .697334 1.167343

sp77\_702 | .3755616 .1605986 -2.29 0.022 .1624382 .8683088

sp77\_800\_2 | 1.012697 .0780073 0.16 0.870 .8707872 1.177733

sp77\_802 | .7753041 .2115633 -0.93 0.351 .4541486 1.323568

sp77\_807\_2 | 1.02357 .1499736 0.16 0.874 .7680679 1.364067

sp77\_900\_2 | 1.028482 .0977629 0.30 0.768 .8536602 1.239104

sp77\_902 | 1.101039 .1207301 0.88 0.380 .888112 1.365017

sp77\_902\_2 | 1 (omitted)

sp47\_43 | 2.07281 .6370798 2.37 0.018 1.134859 3.785968

sp72\_503 | .9139629 .0370532 -2.22 0.026 .8441503 .9895492

sp75\_1106\_3 | 1.030709 .0113853 2.74 0.006 1.008634 1.053267

sp75\_1400\_3 | 1.044895 .0485632 0.94 0.345 .9539195 1.144547

sp75\_1403\_3 | .6465241 .1298509 -2.17 0.030 .4361396 .9583939

sp75\_1433 | 1.045904 .0589154 0.80 0.426 .9365778 1.167991

sp75\_153 | 1.303589 .192294 1.80 0.072 .9762906 1.740614

sp75\_1903 | .960776 .0232104 -1.66 0.098 .9163447 1.007362

sp75\_1913 | .9837896 .0442356 -0.36 0.716 .9008 1.074425

sp75\_503 | 1.001195 .0028729 0.42 0.677 .9955805 1.006842

sp75\_513 | .9456431 .0519751 -1.02 0.309 .8490689 1.053202

sp75\_523 | .9670546 .0284477 -1.14 0.255 .9128751 1.02445

sp75\_601\_3 | 1.08713 .1974892 0.46 0.646 .7614678 1.552072

sp75\_603 | 1.046614 .0867269 0.55 0.582 .8897175 1.231177

sp75\_701\_3 | 1.045709 .0549761 0.85 0.395 .9433232 1.159207

sp75\_703 | 1.017847 .0276794 0.65 0.515 .9650165 1.073569

sp75\_703\_3 | 1.007334 .0539248 0.14 0.891 .9069992 1.118768

sp75\_705\_3 | .6813067 .1263328 -2.07 0.038 .4737037 .9798928

sp75\_800\_3 | 1.015677 .1014214 0.16 0.876 .8351381 1.235245

sp75\_803 | .9836435 .0710887 -0.23 0.819 .8537303 1.133326

sp75\_900\_3 | 1.023073 .065197 0.36 0.720 .9029475 1.15918

sp75\_903 | 1.045552 .0347898 1.34 0.181 .9795413 1.116012

sp77\_103 | .8622495 .1701632 -0.75 0.453 .5856661 1.269451

sp77\_1103 | 1.000868 .0160746 0.05 0.957 .9698526 1.032874

sp77\_1403 | 1.042151 .078251 0.55 0.582 .8995336 1.20738

sp77\_1433 | .9444181 .1836867 -0.29 0.769 .6450717 1.382677

sp77\_203 | 1.019706 .120405 0.17 0.869 .8090337 1.285237

sp77\_403 | 1.505367 .2498139 2.46 0.014 1.087393 2.084003

sp77\_413 | 1.055645 .06757 0.85 0.398 .9311809 1.196746

sp77\_503 | 1.112798 .1119984 1.06 0.288 .9135797 1.355458

sp77\_513 | 1.010125 .0313911 0.32 0.746 .9504356 1.073563

sp77\_603 | 1.752224 .2483725 3.96 0.000 1.327194 2.313369

sp77\_701\_3 | .8705944 .2682664 -0.45 0.653 .4759104 1.592599

sp77\_703 | .8776119 .2421038 -0.47 0.636 .5110748 1.507025

sp77\_803 | .9401873 .4774644 -0.12 0.903 .3474886 2.543831

sp77\_807\_3 | 1.053574 .1439385 0.38 0.702 .8060731 1.377069

sp77\_902\_3 | 1.299255 .2073112 1.64 0.101 .9503322 1.776289

sp77\_903 | .9218765 .146327 -0.51 0.608 .6754042 1.258293

sp47\_44 | .9126616 .0410708 -2.03 0.042 .8356122 .9968154

sp48\_24 | .0098433 .0019728 -23.06 0.000 .0066457 .0145795

sp48\_4 | 1.478026 1.189751 0.49 0.627 .3051402 7.159202

sp75\_1103\_4 | 1.022254 .0117458 1.92 0.055 .9994896 1.045536

sp75\_1104 | 1.029988 .0262669 1.16 0.247 .9797713 1.082779

sp75\_1106\_4 | 1.074138 .0863289 0.89 0.374 .91759 1.257394

sp75\_1107\_14 | 1.40638 .4754388 1.01 0.313 .7250141 2.728089

sp75\_1400\_4 | .9675156 .0726817 -0.44 0.660 .835053 1.12099

sp75\_1403\_4 | 1.167755 .1876424 0.97 0.334 .8522656 1.60003

sp75\_1404 | 1.267557 .4038796 0.74 0.457 .6788134 2.366924

sp75\_1434 | .9868224 .0686221 -0.19 0.849 .8610884 1.130916

sp75\_1914 | 1 .0049305 0.00 1.000 .9903829 1.009711

sp75\_214 | 1.014071 .0273733 0.52 0.605 .9618147 1.069166

sp75\_324 | .9763841 .04741 -0.49 0.623 .8877469 1.073871

sp75\_344 | 1.067882 .0707954 0.99 0.322 .937762 1.216057

sp75\_504 | .85996 .0776942 -1.67 0.095 .7204027 1.026553

sp75\_514 | 1.021567 .0133962 1.63 0.104 .9956456 1.048164

sp75\_604 | 1.015003 .0051627 2.93 0.003 1.004934 1.025172

sp75\_701\_4 | 1.406626 .2803638 1.71 0.087 .9517441 2.078917

sp75\_703\_4 | 7.49e-10 5.80e-10 -27.16 0.000 1.64e-10 3.41e-09

sp75\_704 | 1.107854 .1556575 0.73 0.466 .8411736 1.459081

sp75\_800\_4 | 1.085757 .0677924 1.32 0.188 .960695 1.2271

sp75\_804 | .9490708 .0402761 -1.23 0.218 .8733248 1.031386

sp75\_814 | 1.032165 .106915 0.31 0.760 .8425174 1.264502

sp75\_834 | 1.82e-10 2.25e-10 -18.17 0.000 1.62e-11 2.05e-09

sp75\_900\_4 | 1.00319 .021631 0.15 0.883 .9616774 1.046495

sp75\_902\_4 | 1.01888 .0430955 0.44 0.658 .937821 1.106946

sp75\_904 | 1.000897 .0082505 0.11 0.913 .9848565 1.017199

sp77\_104 | .7013395 .1762566 -1.41 0.158 .4285576 1.14775

sp77\_1104 | 1.004324 .0062341 0.70 0.487 .992179 1.016617

sp77\_1434 | 1.318091 .1864351 1.95 0.051 .9989614 1.73917

sp77\_204 | .9739849 .0254225 -1.01 0.313 .9254107 1.025109

sp77\_314 | .2257246 .0977913 -3.44 0.001 .096563 .5276515

sp77\_404 | .9868343 .0084346 -1.55 0.121 .9704406 1.003505

sp77\_504 | .9448462 .0294159 -1.82 0.068 .8889159 1.004296

sp77\_514 | .8969863 .0820459 -1.19 0.235 .7497695 1.073109

sp77\_604 | 1.042422 .1028813 0.42 0.674 .8590822 1.264889

sp77\_701\_4 | 1.094282 .1513349 0.65 0.515 .8344719 1.434984

sp77\_704 | .8248211 .262433 -0.61 0.545 .442113 1.538814

sp77\_804 | 1.579426 .3749495 1.93 0.054 .9918077 2.515192

sp77\_904 | 1.00476 .028444 0.17 0.867 .950529 1.062085

sp48\_25 | .9369479 .0679695 -0.90 0.369 .8127675 1.080102

sp48\_5 | 1.046395 .1051776 0.45 0.652 .8592862 1.274247

sp75\_1106\_5 | 1.027788 .0387957 0.73 0.468 .9544943 1.106709

sp75\_1403\_5 | .9979662 .0090874 -0.22 0.823 .9803133 1.015937

sp75\_1405 | .9896105 .0138498 -0.75 0.456 .9628343 1.017131

sp75\_1435 | .7857056 .2113142 -0.90 0.370 .4637999 1.331034

sp75\_155 | .9099364 .2226278 -0.39 0.700 .5633178 1.469835

sp75\_1725 | 1.002838 .0040935 0.69 0.488 .9948465 1.010893

sp75\_1915 | 1.112907 .1009344 1.18 0.238 .9316645 1.329407

sp75\_505 | 1.117203 .1166589 1.06 0.289 .910435 1.370929

sp75\_515 | .971927 .0082672 -3.35 0.001 .9558579 .9882662

sp75\_605 | 1.00159 .016401 0.10 0.923 .9699551 1.034257

sp75\_701\_5 | .8709981 .0682024 -1.76 0.078 .7470763 1.015476

sp75\_705 | 1.375498 .2036744 2.15 0.031 1.02901 1.838654

sp75\_805 | 1.034888 .1513076 0.23 0.815 .7770372 1.378303

sp75\_815 | 1.159628 .0965969 1.78 0.075 .9849485 1.365286

sp75\_825 | 1.046314 .1062814 0.45 0.656 .8574315 1.276804

sp75\_905 | .6301128 .0770512 -3.78 0.000 .495829 .8007642

sp77\_1605 | .9867766 .0078703 -1.67 0.095 .9714711 1.002323

sp77\_1915 | .8573473 .0810415 -1.63 0.103 .7123545 1.031852

sp77\_205 | .9984234 .0066691 -0.24 0.813 .9854375 1.01158

sp77\_305 | 1.121214 .6080804 0.21 0.833 .3872997 3.245862

sp77\_315 | .2681541 .1952557 -1.81 0.071 .0643553 1.117338

sp77\_405 | 1.0333 .0901639 0.38 0.707 .8708672 1.226029

sp77\_505 | 1.009337 .0206482 0.45 0.650 .9696678 1.050629

sp77\_515 | 1.02842 .2433683 0.12 0.906 .6467545 1.635314

sp77\_605 | .3570282 .167229 -2.20 0.028 .142563 .894125

sp77\_705 | 1.072831 .0614612 1.23 0.220 .9588862 1.200316

sp77\_805 | .8077495 .1675299 -1.03 0.303 .5379411 1.212882

sp48\_26 | 1.130041 .0702841 1.97 0.049 1.000352 1.276543

sp48\_6 | .9973883 .0476414 -0.05 0.956 .9082506 1.095274

sp75\_1106 | 1.028393 .0777413 0.37 0.711 .8867736 1.19263

sp75\_1106\_6 | .849076 .4133629 -0.34 0.737 .3270008 2.204673

sp75\_1403\_6 | 1.001881 .0070793 0.27 0.790 .9881016 1.015853

sp75\_1436 | .9110056 .3555867 -0.24 0.811 .4239135 1.957784

sp75\_156 | 1.244113 .2523547 1.08 0.282 .835994 1.851471

sp75\_1712\_6 | .9748991 .0299787 -0.83 0.408 .9178776 1.035463

sp75\_1726 | 1.023398 .0745351 0.32 0.751 .8872599 1.180425

sp75\_506 | .9420227 .0337458 -1.67 0.095 .8781506 1.010541

sp75\_516 | .9892112 .0135035 -0.79 0.427 .9630957 1.016035

sp75\_606 | .9889893 .0080955 -1.35 0.176 .973249 1.004984

sp75\_706 | .891586 .0577699 -1.77 0.077 .7852538 1.012317

sp75\_806 | .7721571 .1598169 -1.25 0.212 .5146696 1.158465

sp75\_816 | .9913375 .0260209 -0.33 0.740 .9416271 1.043672

sp77\_1106 | 1.168858 .7369734 0.25 0.805 .3396825 4.022078

sp77\_1606 | 1.019481 .0127263 1.55 0.122 .9948411 1.044732

sp77\_1906 | 1.07417 .1397591 0.55 0.582 .8323852 1.386188

sp77\_1916 | 1.322322 .233115 1.58 0.113 .9360021 1.868088

sp77\_206 | 1.023207 .0451435 0.52 0.603 .9384447 1.115625

sp77\_216 | 1.066689 .0409596 1.68 0.093 .9893565 1.150067

sp77\_506 | .9525808 .0239445 -1.93 0.053 .9067877 1.000687

sp77\_516 | .9835446 .0103722 -1.57 0.116 .9634241 1.004085

sp77\_606 | 1.743104 .2323763 4.17 0.000 1.342295 2.263594

sp77\_906 | .2679764 .1280551 -2.76 0.006 .1050368 .6836776

sp48\_27 | 1.132704 .0762303 1.85 0.064 .9927299 1.292415

sp48\_7 | 1.012967 .0441925 0.30 0.768 .9299508 1.103393

sp75\_1403\_7 | .9315371 .0293522 -2.25 0.024 .8757482 .99088

sp75\_1437 | .9604298 .173996 -0.22 0.824 .6733765 1.369851

sp75\_1727 | 1 (omitted)

sp75\_337 | 1.017804 .0288278 0.62 0.533 .9628421 1.075903

sp75\_507 | 1.046095 .0446425 1.06 0.291 .9621563 1.137356

sp75\_517 | .9994275 .0037825 -0.15 0.880 .9920414 1.006869

sp75\_607 | .9856934 .0387303 -0.37 0.714 .9126327 1.064603

sp75\_807 | 1.009332 .0077534 1.21 0.227 .9942494 1.024643

sp75\_827 | 1.353547 .2067949 1.98 0.048 1.00329 1.82608

sp75\_907 | .9370662 .0657064 -0.93 0.354 .8167415 1.075117

sp77\_1437 | .8754722 .07249 -1.61 0.108 .7443239 1.029728

sp77\_207 | 1.076764 .0269933 2.95 0.003 1.025137 1.130991

sp77\_507 | .8733915 .0841274 -1.41 0.160 .7231343 1.05487

sp77\_807 | .8288528 .0917339 -1.70 0.090 .6672215 1.029638

sp48\_28 | .9884884 .0730115 -0.16 0.875 .8552643 1.142465

sp48\_8 | .9973239 .0679986 -0.04 0.969 .8725704 1.139914

sp75\_1403\_8 | .99328 .0074045 -0.90 0.366 .978873 1.007899

sp75\_1438 | 9.157286 4.699157 4.32 0.000 3.349376 25.03627

sp75\_1728 | 1.220983 .2664508 0.91 0.360 .7960765 1.872683

sp75\_208 | .9879025 .0148492 -0.81 0.418 .9592231 1.017439

sp75\_518 | 1.005277 .0099971 0.53 0.597 .9858732 1.025064

sp75\_705\_8 | 1.089799 .2507528 0.37 0.709 .6942126 1.710803

sp75\_808 | 1.043118 .0664913 0.66 0.508 .9206098 1.18193

sp75\_818 | 1.031802 .1143236 0.28 0.778 .8303924 1.282063

sp77\_1438 | .2288056 .1088399 -3.10 0.002 .0900661 .5812624

sp77\_208 | 1.023046 .015941 1.46 0.144 .9922747 1.054772

sp77\_408 | .9441219 .0908378 -0.60 0.550 .7818628 1.140055

sp77\_508 | .9152477 .1006059 -0.81 0.420 .7378582 1.135284

sp77\_704\_8 | 1.101578 .1909108 0.56 0.577 .7843257 1.547156

sp77\_808 | 1.250554 .2899439 0.96 0.335 .7938696 1.969951

sp75\_1403\_9 | .951452 .0317417 -1.49 0.136 .8912298 1.015744

sp75\_1729 | 1.051726 .1392647 0.38 0.703 .8113164 1.363373

sp75\_1909 | 1.006244 .0042716 1.47 0.143 .9979061 1.014651

sp75\_519 | .7208966 .2095868 -1.13 0.260 .407758 1.27451

sp75\_809 | .9943108 .0293502 -0.19 0.847 .9384179 1.053533

sp75\_819 | 2.164716 .6960557 2.40 0.016 1.152658 4.065382

sp77\_309 | .1701379 .0409691 -7.36 0.000 .1061286 .2727531

sp77\_409 | .9435594 .1461048 -0.38 0.708 .6965713 1.278124

sp77\_509 | .9637224 .04191 -0.85 0.395 .8849836 1.049467

sp77\_704\_9 | .5044352 .1646975 -2.10 0.036 .2660046 .9565807

sp77\_809 | .8534547 .0429369 -3.15 0.002 .7733158 .9418984

sp72\_610 | .9351645 .1612905 -0.39 0.698 .6669278 1.311285

sp72\_620 | 1.109577 .1875242 0.62 0.538 .7967098 1.545307

sp72\_630 | 1.012883 .0073342 1.77 0.077 .9986099 1.02736

sp75\_100 | 1.069635 .1171934 0.61 0.539 .8629286 1.325857

sp75\_1101\_20 | .8028138 .1067311 -1.65 0.099 .6186582 1.041787

sp75\_1400 | 1.017193 .0328947 0.53 0.598 .9547214 1.083753

sp75\_1403\_10 | .9952724 .0112033 -0.42 0.674 .9735548 1.017474

sp75\_150 | .7652449 .2356346 -0.87 0.385 .4185024 1.399274

sp75\_160 | .8917994 .1875656 -0.54 0.586 .5905276 1.346772

sp75\_1712\_10 | .9627349 .0688671 -0.53 0.595 .8367928 1.107632

sp75\_1720 | 1.039759 .0342628 1.18 0.237 .9747282 1.109129

sp75\_1730 | .9135609 .0349532 -2.36 0.018 .8475596 .984702

sp75\_1910 | .9981019 .0067485 -0.28 0.779 .9849622 1.011417

sp75\_320 | .9590118 .019064 -2.11 0.035 .9223656 .997114

sp75\_340 | .99404 .009137 -0.65 0.515 .976292 1.012111

sp75\_520 | 1.027442 .0294926 0.94 0.346 .9712337 1.086903

sp75\_600 | 1.004762 .2904864 0.02 0.987 .5701285 1.770736

sp75\_700 | .962365 .0304652 -1.21 0.226 .9044691 1.023967

sp75\_800 | 1.013027 .0941304 0.14 0.889 .8443599 1.215387

sp75\_810 | 1.089328 .0409466 2.28 0.023 1.011959 1.172612

sp75\_820 | .9699124 .1139387 -0.26 0.795 .7704406 1.221029

sp75\_900 | .9907675 .0206096 -0.45 0.656 .9511858 1.031996

sp77\_1710 | .9459546 .019382 -2.71 0.007 .9087193 .9847157

sp77\_200 | 1.019337 .0099617 1.96 0.050 .9999981 1.03905

sp77\_210 | .9615126 .0567827 -0.66 0.506 .8564199 1.079501

sp77\_400 | 1.011064 .0093241 1.19 0.233 .992953 1.029505

sp77\_410 | 1.009628 .0135783 0.71 0.476 .983363 1.036595

sp77\_500 | 1.014393 .1388794 0.10 0.917 .7756565 1.32661

sp77\_510 | .8006337 .1545953 -1.15 0.250 .5483708 1.168943

sp77\_600 | 1.104901 .1248285 0.88 0.377 .8854356 1.378763

sp77\_700 | .9500913 .0767695 -0.63 0.526 .8109356 1.113126

sp77\_800 | 1.226385 .2002245 1.25 0.211 .8905458 1.688875

sp77\_810 | 1.089173 .1325755 0.70 0.483 .858 1.38263

sp77\_900 | .8313045 .0994265 -1.54 0.122 .657588 1.050912

mine\_time | .9948212 .0066493 -0.78 0.437 .9818738 1.007939

onsite\_insp\_hours | .9998689 .0000455 -2.88 0.004 .9997798 .999958

|

state |

1 | 1.306462 .1507219 2.32 0.020 1.042069 1.637936

2 | 2.054856 .1460516 10.13 0.000 1.787644 2.362009

3 | .8193837 .1303443 -1.25 0.210 .5999037 1.119162

4 | 1.049207 .0974042 0.52 0.605 .8746592 1.258587

5 | .8559613 .146462 -0.91 0.363 .6120777 1.197021

6 | .901975 .048882 -1.90 0.057 .8110808 1.003055

7 | .983294 .2525701 -0.07 0.948 .5943506 1.626762

8 | 1.154515 .1109163 1.50 0.135 .9563639 1.393721

9 | .9090131 .0646396 -1.34 0.180 .7907541 1.044958

10 | .990792 .1405712 -0.07 0.948 .7502673 1.308425

11 | .7955537 .2025923 -0.90 0.369 .4829544 1.310487

12 | 1.064553 .0930886 0.72 0.474 .8968811 1.263571

13 | 1.413657 .2112564 2.32 0.021 1.054729 1.89473

14 | .6520168 .0904643 -3.08 0.002 .4967735 .855774

15 | .7029958 .0447407 -5.54 0.000 .6205543 .7963897

17 | 1.142763 .1393435 1.09 0.274 .8998376 1.451269

|

time |

2000 | 1.06164 .0660162 0.96 0.336 .9398247 1.199245

2002 | .9590619 .0626729 -0.64 0.522 .8437664 1.090112

2003 | .8363586 .058594 -2.55 0.011 .7290523 .9594589

2004 | .87921 .0593331 -1.91 0.056 .7702819 1.003542

2005 | .7462766 .0521692 -4.19 0.000 .6507223 .8558624

2006 | .7328751 .0558827 -4.08 0.000 .6311385 .8510112

2007 | .6761097 .053358 -4.96 0.000 .5792166 .7892113

2008 | .6367517 .0493906 -5.82 0.000 .5469473 .7413013

2009 | .534893 .0439445 -7.62 0.000 .4553401 .6283447

2010 | .5257045 .0430584 -7.85 0.000 .4477372 .6172489

2011 | .5527786 .0463937 -7.06 0.000 .4689337 .651615

2012 | .5634918 .0489612 -6.60 0.000 .475256 .6681094

2013 | .4973332 .0476 -7.30 0.000 .412267 .5999519

2014 | .4512906 .0442371 -8.12 0.000 .3724076 .5468825

2015 | .503313 .0520274 -6.64 0.000 .4110073 .616349

|

\_cons | .0000166 1.07e-06 -170.04 0.000 .0000146 .0000188

ln(hours) | 1 (exposure)

------------------+----------------------------------------------------------------

/lnalpha | -2.011597 .1532428 -2.311947 -1.711246

------------------+----------------------------------------------------------------

alpha | .1337749 .0205 .0990682 .1806405

-----------------------------------------------------------------------------------

(est1 stored)

**. lrtest pois nbin, stats force**

Likelihood-ratio test LR chi2(1) = 223.43

(Assumption: pois nested in nbin) Prob > chi2 = 0.0000

Akaike's information criterion and Bayesian information criterion

-----------------------------------------------------------------------------

Model | Obs ll(null) ll(model) df AIC BIC

-------------+---------------------------------------------------------------

pois | 6,253 -9569.622 -8573.449 339 17824.9 20110.03

nbin | 6,253 -8961.932 -8461.735 340 17603.47 19895.35

-----------------------------------------------------------------------------

Note: N=Obs used in calculating BIC; see [R] BIC note.

**. summ MR spcv1\_yhat**

Variable | Obs Mean Std. Dev. Min Max

-------------+---------------------------------------------------------

MR | 6,253 1.881017 3.268911 0 37

spcv1\_yhat | 6,253 1.90498 2.973479 6.10e-11 53.48172