. // Model SP.C.PP.1

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

note: sp75\_1727\_pp omitted because of collinearity

note: sp77\_606\_pp omitted because of collinearity

note: sp77\_902\_2\_pp omitted because of collinearity

Iteration 0: log pseudolikelihood = -9212.7808

Iteration 1: log pseudolikelihood = -8622.0083

Iteration 2: log pseudolikelihood = -8616.5446

Iteration 3: log pseudolikelihood = -8616.3309

Iteration 4: log pseudolikelihood = -8616.2831

Iteration 5: log pseudolikelihood = -8616.271

Iteration 6: log pseudolikelihood = -8616.2684

Iteration 7: log pseudolikelihood = -8616.2678

Iteration 8: log pseudolikelihood = -8616.2676

Iteration 9: log pseudolikelihood = -8616.2676

Iteration 10: log pseudolikelihood = -8616.2676

Generalized linear models No. of obs = 6,253

Optimization : ML Residual df = 5,926

Scale parameter = 1

Deviance = 7657.669474 (1/df) Deviance = 1.292216

Pearson = 8560.069665 (1/df) Pearson = 1.444494

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

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

AIC = 2.860473

Log pseudolikelihood = -8616.267584 BIC = -44140.41

(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\_pp | .9990718 .0006917 -1.34 0.180 .997717 1.000429

sp47\_42\_pp | .9992496 .0024445 -0.31 0.759 .99447 1.004052

sp47\_44\_pp | .9991613 .0011026 -0.76 0.447 .9970025 1.001325

sp48\_11\_pp | 1.000609 .0006414 0.95 0.342 .9993525 1.001867

sp48\_24\_pp | .955606 .002737 -15.85 0.000 .9502567 .9609854

sp48\_25\_pp | .999691 .0013241 -0.23 0.816 .9970992 1.00229

sp48\_26\_pp | 1.002971 .0010551 2.82 0.005 1.000906 1.005041

sp48\_27\_pp | 1.001138 .0008302 1.37 0.170 .9995117 1.002766

sp48\_28\_pp | .9984908 .0013174 -1.14 0.252 .9959119 1.001076

sp48\_4\_pp | 1.014458 .0020015 7.28 0.000 1.010543 1.018389

sp48\_5\_pp | 1.000581 .0014635 0.40 0.691 .9977171 1.003454

sp48\_6\_pp | 1.000459 .0007307 0.63 0.530 .9990282 1.001892

sp48\_7\_pp | .9999398 .0006156 -0.10 0.922 .9987339 1.001147

sp48\_8\_pp | .999231 .0012188 -0.63 0.528 .9968451 1.001623

sp71\_701\_pp | 1.001829 .0060546 0.30 0.762 .9900321 1.013766

sp72\_503\_pp | .997301 .0008482 -3.18 0.001 .99564 .9989649

sp72\_610\_pp | .9961814 .0029749 -1.28 0.200 .9903678 1.002029

sp72\_620\_pp | 1.006801 .0037752 1.81 0.071 .9994286 1.014227

sp72\_630\_pp | 1.000132 .0000986 1.33 0.182 .9999383 1.000325

sp75\_100\_pp | 1.001547 .0016361 0.95 0.344 .9983456 1.004759

sp75\_1001\_1\_pp | 1.003127 .0039767 0.79 0.431 .9953635 1.010952

sp75\_1001\_pp | 1.00211 .0049739 0.42 0.671 .9924082 1.011906

sp75\_1003\_1\_pp | .9949482 .0025493 -1.98 0.048 .9899642 .9999573

sp75\_1100\_2\_pp | 1.000215 .0001138 1.89 0.059 .9999916 1.000438

sp75\_1101\_20\_pp | .9973815 .0024318 -1.08 0.282 .9926266 1.002159

sp75\_1102\_pp | .9989154 .0007488 -1.45 0.148 .9974488 1.000384

sp75\_1103\_4\_pp | 1.000045 .000165 0.28 0.783 .999722 1.000369

sp75\_1104\_pp | .9996794 .0005724 -0.56 0.576 .9985582 1.000802

sp75\_1106\_2\_pp | .9998523 .000584 -0.25 0.800 .9987084 1.000998

sp75\_1106\_3\_pp | 1.000298 .0001797 1.66 0.097 .9999459 1.00065

sp75\_1106\_4\_pp | 1.000479 .001565 0.31 0.759 .9974167 1.003551

sp75\_1106\_5\_pp | 1.000982 .0006663 1.47 0.140 .9996768 1.002289

sp75\_1106\_6\_pp | 1.000005 .0050934 0.00 0.999 .9900712 1.010038

sp75\_1106\_pp | 1.00078 .0012424 0.63 0.530 .9983482 1.003218

sp75\_1107\_14\_pp | 1.00523 .0030862 1.70 0.089 .9991998 1.011297

sp75\_1400\_1\_pp | .9983506 .0026763 -0.62 0.538 .9931189 1.00361

sp75\_1400\_2\_pp | .9977217 .0036291 -0.63 0.531 .9906342 1.00486

sp75\_1400\_3\_pp | 1.000929 .0008632 1.08 0.281 .9992389 1.002623

sp75\_1400\_4\_pp | .9996133 .0019119 -0.20 0.840 .995873 1.003368

sp75\_1400\_pp | .9994262 .0007021 -0.82 0.414 .9980512 1.000803

sp75\_1401\_1\_pp | 1.001804 .0076616 0.24 0.814 .9868991 1.016933

sp75\_1401\_pp | 1.001056 .0047189 0.22 0.823 .9918498 1.010348

sp75\_1403\_10\_pp | 1.000365 .0001994 1.83 0.067 .9999744 1.000756

sp75\_1403\_11\_pp | 1.005296 .002847 1.86 0.062 .9997309 1.010891

sp75\_1403\_3\_pp | .9912687 .0039085 -2.22 0.026 .9836378 .9989589

sp75\_1403\_4\_pp | 1.003854 .0022994 1.68 0.093 .9993574 1.008371

sp75\_1403\_5\_pp | .999732 .0001715 -1.56 0.118 .9993958 1.000068

sp75\_1403\_6\_pp | 1.000096 .0001041 0.92 0.359 .9998914 1.0003

sp75\_1403\_7\_pp | .999787 .0006233 -0.34 0.733 .9985662 1.001009

sp75\_1403\_8\_pp | .9998086 .0001915 -1.00 0.317 .9994334 1.000184

sp75\_1403\_9\_pp | .9991717 .0006405 -1.29 0.196 .9979172 1.000428

sp75\_1404\_1\_pp | .9801209 .0080243 -2.45 0.014 .9645191 .995975

sp75\_1404\_pp | 1.003205 .0050497 0.64 0.525 .9933567 1.013151

sp75\_1405\_1\_pp | 1.001459 .001995 0.73 0.464 .9975564 1.005377

sp75\_1405\_pp | .9999362 .0001898 -0.34 0.737 .9995643 1.000308

sp75\_1431\_pp | 1.00351 .0024247 1.45 0.147 .9987692 1.008274

sp75\_1432\_pp | .9954897 .0017073 -2.64 0.008 .9921491 .9988416

sp75\_1433\_pp | .9993815 .0013838 -0.45 0.655 .996673 1.002097

sp75\_1434\_pp | 1.002167 .0013118 1.65 0.098 .9995994 1.004742

sp75\_1435\_pp | .9928207 .0079772 -0.90 0.370 .9773082 1.008579

sp75\_1437\_pp | 1.003005 .0038188 0.79 0.431 .9955484 1.010518

sp75\_150\_pp | 1.002231 .0024026 0.93 0.352 .9975334 1.006951

sp75\_151\_pp | .9958912 .0030969 -1.32 0.185 .98984 1.001979

sp75\_153\_pp | 1.004569 .0015431 2.97 0.003 1.001549 1.007598

sp75\_156\_pp | .9999398 .0036477 -0.02 0.987 .9928159 1.007115

sp75\_160\_pp | 1.00267 .005396 0.50 0.620 .9921495 1.013302

sp75\_1600\_2\_pp | .9996549 .0003163 -1.09 0.275 .9990351 1.000275

sp75\_1712\_10\_pp | .999383 .0012264 -0.50 0.615 .9969823 1.00179

sp75\_1712\_6\_pp | .9998904 .0007011 -0.16 0.876 .9985172 1.001265

sp75\_1720\_pp | 1.000478 .0004727 1.01 0.312 .9995521 1.001405

sp75\_1721\_pp | 1.014915 .0017552 8.56 0.000 1.011481 1.018361

sp75\_1725\_pp | .9999579 .0000579 -0.73 0.467 .9998445 1.000071

sp75\_1726\_pp | .9993157 .0015786 -0.43 0.665 .9962266 1.002414

sp75\_1727\_pp | 1 (omitted)

sp75\_1728\_pp | 1.001883 .0022271 0.85 0.397 .9975276 1.006258

sp75\_1729\_pp | .9997165 .0020024 -0.14 0.887 .9957997 1.003649

sp75\_1730\_pp | 1.000637 .0016048 0.40 0.691 .9974969 1.003788

sp75\_1731\_pp | .9999686 .0000366 -0.86 0.392 .9998968 1.00004

sp75\_1903\_pp | .9995662 .0005595 -0.78 0.438 .9984702 1.000663

sp75\_1909\_pp | 1.000032 .0000806 0.40 0.689 .9998743 1.00019

sp75\_1910\_pp | 1.000039 .0001311 0.29 0.768 .9997818 1.000295

sp75\_1911\_pp | .999788 .0001853 -1.14 0.252 .999425 1.000151

sp75\_1912\_pp | .9990001 .0015695 -0.64 0.524 .9959287 1.002081

sp75\_1913\_pp | 1.002021 .0018926 1.07 0.285 .9983189 1.005738

sp75\_1914\_pp | 1.000218 .0001083 2.01 0.044 1.000006 1.00043

sp75\_1915\_pp | 1.00235 .0017461 1.35 0.178 .9989335 1.005778

sp75\_202\_pp | 1.000019 .0000364 0.53 0.593 .9999482 1.000091

sp75\_208\_pp | 1.000175 .0002129 0.82 0.411 .9997578 1.000592

sp75\_211\_pp | 1.000423 .0002336 1.81 0.070 .9999652 1.000881

sp75\_212\_pp | .9994093 .0006097 -0.97 0.333 .998215 1.000605

sp75\_214\_pp | .9995982 .0005044 -0.80 0.426 .9986102 1.000587

sp75\_312\_pp | 1.000103 .0005281 0.19 0.846 .9990681 1.001138

sp75\_320\_pp | .999583 .0002983 -1.40 0.162 .9989985 1.000168

sp75\_324\_pp | .9992827 .0007106 -1.01 0.313 .9978909 1.000677

sp75\_337\_pp | 1.000197 .0003408 0.58 0.562 .9995298 1.000865

sp75\_340\_pp | 1.000161 .0001652 0.97 0.330 .9998373 1.000485

sp75\_341\_pp | .9905999 .0115095 -0.81 0.416 .9682966 1.013417

sp75\_342\_pp | 1.000084 .0000814 1.04 0.300 .9999248 1.000244

sp75\_344\_pp | 1.000017 .0012176 0.01 0.989 .9976337 1.002407

sp75\_352\_pp | .9989315 .0007401 -1.44 0.149 .997482 1.000383

sp75\_382\_pp | 1.000014 .000705 0.02 0.984 .9986331 1.001397

sp75\_503\_pp | .9999866 .0000427 -0.31 0.754 .9999028 1.00007

sp75\_504\_pp | .9990901 .0013526 -0.67 0.501 .9964426 1.001745

sp75\_505\_pp | 1.001324 .0023354 0.57 0.570 .9967574 1.005912

sp75\_506\_1\_pp | 1.003656 .0014758 2.48 0.013 1.000768 1.006553

sp75\_506\_pp | .9981513 .0010402 -1.78 0.076 .9961146 1.000192

sp75\_507\_pp | .9999195 .0006154 -0.13 0.896 .9987141 1.001126

sp75\_511\_1\_pp | .9785747 .0056396 -3.76 0.000 .9675835 .9896908

sp75\_511\_pp | 1.001579 .0006449 2.45 0.014 1.000316 1.002844

sp75\_512\_1\_pp | 1.006484 .0049485 1.31 0.189 .9968318 1.01623

sp75\_512\_2\_pp | 1.000107 .0001866 0.57 0.566 .9997413 1.000473

sp75\_512\_pp | 1.000021 .0000577 0.37 0.713 .9999082 1.000134

sp75\_513\_1\_pp | .9999473 .0018843 -0.03 0.978 .996261 1.003647

sp75\_513\_pp | .9991589 .0008217 -1.02 0.306 .9975498 1.000771

sp75\_514\_pp | 1.000247 .0002058 1.20 0.230 .9998436 1.00065

sp75\_515\_pp | .99953 .0001465 -3.21 0.001 .9992429 .9998172

sp75\_516\_1\_pp | .9985696 .0017686 -0.81 0.419 .9951092 1.002042

sp75\_516\_2\_pp | 1.000665 .0003453 1.93 0.054 .9999881 1.001342

sp75\_516\_pp | .9998574 .000261 -0.55 0.585 .999346 1.000369

sp75\_517\_1\_pp | 1.000147 .0021509 0.07 0.945 .9959403 1.004372

sp75\_517\_pp | .9999954 .0000475 -0.10 0.923 .9999023 1.000089

sp75\_518\_1\_pp | 1.000005 .0002815 0.02 0.986 .9994533 1.000557

sp75\_518\_pp | 1.000106 .0001655 0.64 0.523 .9997815 1.00043

sp75\_519\_pp | 1.000206 .0047008 0.04 0.965 .9910352 1.009462

sp75\_520\_pp | 1.000644 .0003674 1.75 0.080 .999924 1.001364

sp75\_523\_1\_pp | .9995162 .0005145 -0.94 0.347 .9985083 1.000525

sp75\_523\_2\_pp | 1.000188 .0003854 0.49 0.626 .9994328 1.000943

sp75\_523\_pp | .9995632 .0006803 -0.64 0.521 .9982308 1.000897

sp75\_600\_1\_pp | .9970978 .0015821 -1.83 0.067 .9940018 1.000203

sp75\_600\_pp | .998284 .0039083 -0.44 0.661 .9906531 1.005974

sp75\_601\_1\_pp | 1.000062 .0002016 0.31 0.760 .9996665 1.000457

sp75\_601\_2\_pp | .9991347 .0028655 -0.30 0.763 .9935341 1.004767

sp75\_601\_3\_pp | .9979794 .00161 -1.25 0.210 .9948289 1.00114

sp75\_601\_pp | 1.000566 .0002219 2.55 0.011 1.000131 1.001001

sp75\_602\_pp | .9995232 .0006752 -0.71 0.480 .9982008 1.000847

sp75\_603\_pp | .9989818 .0007309 -1.39 0.164 .9975504 1.000415

sp75\_604\_pp | 1.000168 .0000668 2.52 0.012 1.000037 1.000299

sp75\_605\_pp | 1.000091 .0003388 0.27 0.788 .9994273 1.000755

sp75\_606\_pp | .9999539 .0001129 -0.41 0.683 .9997326 1.000175

sp75\_607\_pp | .9997933 .0006345 -0.33 0.745 .9985504 1.001038

sp75\_700\_1\_pp | .9953602 .0034818 -1.33 0.184 .9885595 1.002208

sp75\_700\_pp | .9988612 .0007538 -1.51 0.131 .9973849 1.00034

sp75\_701\_1\_pp | .9978519 .0007432 -2.89 0.004 .9963962 .9993097

sp75\_701\_2\_pp | 1.000664 .0009354 0.71 0.478 .9988325 1.002499

sp75\_701\_3\_pp | 1.002739 .001137 2.41 0.016 1.000513 1.00497

sp75\_701\_4\_pp | 1.002207 .0028988 0.76 0.446 .9965412 1.007904

sp75\_701\_5\_pp | .9975505 .0011415 -2.14 0.032 .9953157 .9997904

sp75\_701\_pp | 1.000012 .0001644 0.07 0.941 .9996901 1.000334

sp75\_702\_1\_pp | .9973109 .0021924 -1.22 0.221 .9930231 1.001617

sp75\_702\_pp | .9923793 .0105363 -0.72 0.471 .971942 1.013246

sp75\_703\_1\_pp | .9875938 .0058888 -2.09 0.036 .9761192 .9992033

sp75\_703\_2\_pp | .9990007 .0041155 -0.24 0.808 .990967 1.0071

sp75\_703\_3\_pp | 1.000569 .0008502 0.67 0.503 .998904 1.002237

sp75\_703\_4\_pp | .7071568 .0188639 -12.99 0.000 .6711341 .7451129

sp75\_703\_pp | 1.000471 .0003909 1.21 0.228 .9997052 1.001237

sp75\_704\_pp | .9996466 .0022417 -0.16 0.875 .9952625 1.00405

sp75\_705\_1\_pp | .9991935 .0010403 -0.77 0.438 .9971568 1.001234

sp75\_705\_3\_pp | .9951354 .0046512 -1.04 0.297 .9860609 1.004293

sp75\_705\_8\_pp | .9985331 .0045434 -0.32 0.747 .9896677 1.007478

sp75\_705\_pp | 1.004419 .002065 2.14 0.032 1.000379 1.008474

sp75\_706\_pp | .9990841 .0010843 -0.84 0.398 .9969612 1.001212

sp75\_800\_2\_pp | .5626086 .0208848 -15.49 0.000 .5231288 .6050679

sp75\_800\_3\_pp | .9993347 .0015568 -0.43 0.669 .996288 1.002391

sp75\_800\_4\_pp | 1.002056 .001384 1.49 0.137 .999347 1.004772

sp75\_800\_pp | .9984019 .0008997 -1.77 0.076 .99664 1.000167

sp75\_801\_pp | .9966105 .0032754 -1.03 0.302 .9902115 1.003051

sp75\_802\_pp | 1.001322 .0021131 0.63 0.531 .9971886 1.005472

sp75\_803\_2\_pp | 1.003245 .0025283 1.29 0.199 .998302 1.008213

sp75\_803\_pp | 1.000765 .0010204 0.75 0.453 .9987673 1.002767

sp75\_804\_pp | .9998821 .0005666 -0.21 0.835 .9987722 1.000993

sp75\_805\_pp | .9999239 .0023776 -0.03 0.974 .9952747 1.004595

sp75\_806\_pp | .9886091 .0030561 -3.71 0.000 .9826373 .9946171

sp75\_807\_pp | 1.000109 .000139 0.78 0.434 .9998362 1.000381

sp75\_808\_pp | .9991513 .0009559 -0.89 0.375 .9972796 1.001027

sp75\_809\_pp | .9999194 .0004962 -0.16 0.871 .9989473 1.000892

sp75\_810\_pp | 1.000672 .0007973 0.84 0.399 .9991109 1.002236

sp75\_811\_pp | .9992208 .0005827 -1.34 0.181 .9980793 1.000364

sp75\_812\_pp | .9982232 .001575 -1.13 0.260 .995141 1.001315

sp75\_814\_pp | 1.000193 .0016564 0.12 0.907 .9969521 1.003445

sp75\_815\_pp | 1.002148 .0010403 2.07 0.039 1.000111 1.004189

sp75\_816\_pp | .9996618 .0003649 -0.93 0.354 .9989468 1.000377

sp75\_818\_pp | .9983362 .0025641 -0.65 0.517 .9933234 1.003374

sp75\_820\_pp | 1.001513 .0010161 1.49 0.136 .9995232 1.003506

sp75\_821\_pp | 1.001367 .0005731 2.39 0.017 1.000245 1.002491

sp75\_825\_pp | 1.001274 .0013629 0.94 0.350 .9986061 1.003949

sp75\_827\_pp | 1.004009 .0016814 2.39 0.017 1.000719 1.00731

sp75\_831\_pp | .9954776 .0040015 -1.13 0.259 .9876657 1.003351

sp75\_832\_pp | .99271 .0117601 -0.62 0.537 .9699263 1.016029

sp75\_834\_pp | .4867839 .0288358 -12.15 0.000 .4334243 .5467127

sp75\_900\_2\_pp | 1.001606 .0021861 0.73 0.462 .9973299 1.005899

sp75\_900\_3\_pp | 1.000508 .0011008 0.46 0.645 .9983523 1.002667

sp75\_900\_4\_pp | .9998184 .0003904 -0.47 0.642 .9990535 1.000584

sp75\_900\_pp | 1.000256 .000331 0.77 0.440 .999607 1.000905

sp75\_901\_pp | .9992767 .0012394 -0.58 0.560 .9968504 1.001709

sp75\_902\_1\_pp | 1.002523 .0030892 0.82 0.414 .9964864 1.008596

sp75\_902\_2\_pp | 1.000373 .0007825 0.48 0.634 .9988401 1.001907

sp75\_902\_4\_pp | 1.00007 .0007698 0.09 0.927 .9985625 1.00158

sp75\_902\_pp | 1.000518 .0003682 1.41 0.159 .9997971 1.00124

sp75\_903\_pp | 1.000869 .0004714 1.85 0.065 .9999459 1.001794

sp75\_904\_pp | 1.000001 .0001355 0.01 0.995 .9997352 1.000266

sp75\_905\_pp | .9931581 .0021615 -3.15 0.002 .9889306 .9974037

sp75\_907\_pp | .9996708 .0011825 -0.28 0.781 .9973557 1.001991

sp77\_103\_pp | .998873 .0011813 -0.95 0.340 .9965604 1.001191

sp77\_104\_pp | .9908131 .0044177 -2.07 0.038 .9821922 .9995096

sp77\_1103\_pp | 1.000015 .0003578 0.04 0.966 .9993143 1.000717

sp77\_1104\_pp | 1.000023 .0001423 0.16 0.873 .9997439 1.000302

sp77\_1106\_pp | 1.002541 .0084228 0.30 0.763 .9861677 1.019186

sp77\_1111\_pp | .9961028 .0034085 -1.14 0.254 .9894446 1.002806

sp77\_1112\_pp | 1.000526 .0009679 0.54 0.587 .9986311 1.002425

sp77\_1403\_pp | 1.002496 .0009914 2.52 0.012 1.000555 1.004442

sp77\_1432\_pp | 1.007779 .0031159 2.51 0.012 1.001691 1.013905

sp77\_1433\_pp | .994213 .00266 -2.17 0.030 .9890131 .9994402

sp77\_1434\_pp | 1.005616 .0021419 2.63 0.009 1.001426 1.009823

sp77\_1437\_pp | .9979347 .0012126 -1.70 0.089 .995561 1.000314

sp77\_1438\_pp | .9831422 .009292 -1.80 0.072 .9650979 1.001524

sp77\_1605\_pp | .9998297 .0001517 -1.12 0.261 .9995324 1.000127

sp77\_1606\_pp | 1.000337 .0002267 1.49 0.137 .9998931 1.000782

sp77\_1710\_pp | .9992911 .0003526 -2.01 0.044 .9986001 .9999825

sp77\_1802\_pp | .9980927 .0043873 -0.43 0.664 .9895308 1.006729

sp77\_1906\_pp | 1.006888 .0039689 1.74 0.082 .9991391 1.014697

sp77\_1915\_pp | 1.001011 .0016589 0.61 0.542 .9977651 1.004268

sp77\_1916\_pp | 1.002805 .0019938 1.41 0.159 .9989047 1.00672

sp77\_200\_pp | 1.000049 .0002115 0.23 0.819 .999634 1.000463

sp77\_202\_pp | .9993902 .0003172 -1.92 0.055 .9987686 1.000012

sp77\_203\_pp | 1.00161 .0017128 0.94 0.347 .9982581 1.004972

sp77\_204\_pp | .9995405 .0003461 -1.33 0.184 .9988625 1.000219

sp77\_205\_pp | 1.000011 .0001478 0.07 0.943 .999721 1.0003

sp77\_206\_pp | 1.00156 .0008015 1.95 0.051 .9999903 1.003132

sp77\_207\_pp | 1.000931 .000497 1.87 0.061 .9999573 1.001906

sp77\_208\_pp | 1.000588 .0002737 2.15 0.032 1.000052 1.001125

sp77\_210\_pp | .9994741 .0009601 -0.55 0.584 .9975941 1.001358

sp77\_216\_pp | 1.001058 .0004931 2.15 0.032 1.000092 1.002025

sp77\_305\_pp | 1.017163 .0079045 2.19 0.029 1.001788 1.032774

sp77\_309\_pp | .9766683 .0040492 -5.69 0.000 .9687641 .984637

sp77\_314\_pp | .9712097 .0087274 -3.25 0.001 .9542541 .9884666

sp77\_315\_pp | .973571 .0097328 -2.68 0.007 .9546808 .9928349

sp77\_400\_pp | 1.000113 .0001437 0.79 0.431 .9998314 1.000395

sp77\_401\_pp | 1.000533 .0009234 0.58 0.563 .9987252 1.002345

sp77\_402\_pp | .9989906 .0007844 -1.29 0.198 .9974544 1.000529

sp77\_403\_1\_pp | 1.001197 .0013123 0.91 0.361 .9986284 1.003773

sp77\_403\_2\_pp | 1.017827 .0058078 3.10 0.002 1.006507 1.029274

sp77\_403\_pp | 1.00971 .0023198 4.21 0.000 1.005173 1.014267

sp77\_404\_pp | .999875 .0001392 -0.90 0.369 .9996021 1.000148

sp77\_405\_pp | 1.001344 .001416 0.95 0.342 .9985726 1.004123

sp77\_408\_pp | .9984081 .0016014 -0.99 0.321 .9952744 1.001552

sp77\_409\_pp | .9878012 .0056426 -2.15 0.032 .9768037 .9989226

sp77\_410\_pp | 1.000489 .0002428 2.02 0.044 1.000014 1.000966

sp77\_411\_pp | .9934042 .0055314 -1.19 0.235 .9826218 1.004305

sp77\_412\_pp | .999735 .001125 -0.24 0.814 .9975325 1.001942

sp77\_413\_pp | .9979369 .0020457 -1.01 0.314 .9939353 1.001955

sp77\_500\_pp | 1.000486 .0018594 0.26 0.794 .9968479 1.004137

sp77\_501\_pp | .9977455 .001316 -1.71 0.087 .9951696 1.000328

sp77\_502\_1\_pp | 1.010428 .0096621 1.08 0.278 .9916675 1.029544

sp77\_502\_2\_pp | 1.001286 .0008438 1.52 0.127 .9996334 1.002941

sp77\_502\_pp | 1.000026 .0001582 0.17 0.867 .9997164 1.000337

sp77\_503\_1\_pp | 1.003403 .0030717 1.11 0.267 .9974008 1.009442

sp77\_503\_pp | 1.002456 .0020325 1.21 0.226 .9984802 1.006448

sp77\_504\_pp | .9989344 .0005302 -2.01 0.045 .9978957 .9999742

sp77\_505\_pp | .999995 .0003462 -0.01 0.989 .9993168 1.000674

sp77\_506\_1\_pp | .9998806 .0004273 -0.28 0.780 .9990436 1.000718

sp77\_506\_pp | .9994331 .0004997 -1.13 0.257 .9984541 1.000413

sp77\_507\_pp | 1.000451 .0018144 0.25 0.804 .9969007 1.004013

sp77\_508\_1\_pp | .9977873 .0048672 -0.45 0.650 .9882932 1.007372

sp77\_508\_pp | .996551 .0022473 -1.53 0.126 .9921561 1.000965

sp77\_509\_pp | .9992698 .0006468 -1.13 0.259 .9980029 1.000538

sp77\_510\_pp | .995959 .0027955 -1.44 0.149 .990495 1.001453

sp77\_511\_pp | .9961008 .0024981 -1.56 0.119 .9912165 1.001009

sp77\_512\_pp | .9997738 .0002649 -0.85 0.393 .9992548 1.000293

sp77\_513\_pp | 1.000443 .000447 0.99 0.321 .9995675 1.00132

sp77\_514\_pp | .9940364 .0057949 -1.03 0.305 .9827433 1.005459

sp77\_515\_pp | 1.001938 .0097179 0.20 0.842 .9830716 1.021167

sp77\_516\_pp | .9995348 .0002264 -2.05 0.040 .999091 .9999787

sp77\_600\_pp | .9998824 .0026076 -0.05 0.964 .9947848 1.005006

sp77\_601\_pp | .9980845 .0026654 -0.72 0.473 .9928741 1.003322

sp77\_602\_pp | .9982143 .0028226 -0.63 0.527 .9926974 1.003762

sp77\_603\_pp | 1.012544 .0033362 3.78 0.000 1.006027 1.019104

sp77\_604\_pp | 1.001545 .0017124 0.90 0.367 .9981945 1.004907

sp77\_605\_pp | .9674831 .0161356 -1.98 0.047 .9363691 .9996309

sp77\_606\_1\_pp | .9875072 .0031969 -3.88 0.000 .9812613 .9937929

sp77\_606\_pp | 1 (omitted)

sp77\_700\_1\_pp | 1.006072 .0025437 2.39 0.017 1.001099 1.01107

sp77\_700\_pp | .9993768 .0014113 -0.44 0.659 .9966144 1.002147

sp77\_701\_1\_pp | .9998363 .0023685 -0.07 0.945 .9952049 1.004489

sp77\_701\_2\_pp | .9981361 .0024724 -0.75 0.451 .993302 1.002994

sp77\_701\_3\_pp | 1.00546 .0025818 2.12 0.034 1.000412 1.010533

sp77\_701\_4\_pp | .9988098 .0036084 -0.33 0.742 .9917624 1.005907

sp77\_701\_pp | .9991129 .0004704 -1.89 0.059 .9981913 1.000035

sp77\_703\_pp | .9990093 .0036241 -0.27 0.785 .9919314 1.006138

sp77\_704\_1\_pp | 1.000832 .0013516 0.62 0.538 .9981868 1.003485

sp77\_704\_8\_pp | .9973964 .0025362 -1.03 0.305 .992438 1.00238

sp77\_704\_9\_pp | .9882714 .0025579 -4.56 0.000 .9832707 .9932977

sp77\_704\_pp | .9965981 .0033151 -1.02 0.306 .9901218 1.003117

sp77\_705\_pp | 1.000649 .0008703 0.75 0.455 .998945 1.002357

sp77\_800\_1\_pp | 1.002833 .0025172 1.13 0.260 .9979116 1.007779

sp77\_800\_2\_pp | .999331 .0019781 -0.34 0.735 .9954615 1.003216

sp77\_800\_pp | 1.00754 .0031257 2.42 0.015 1.001432 1.013685

sp77\_801\_pp | .9951663 .0068623 -0.70 0.482 .981807 1.008707

sp77\_802\_pp | .9955881 .0030009 -1.47 0.142 .9897238 1.001487

sp77\_803\_pp | 1.000779 .0044749 0.17 0.862 .9920471 1.009589

sp77\_804\_pp | 1.004992 .0020962 2.39 0.017 1.000892 1.009109

sp77\_805\_pp | .9942331 .0023194 -2.48 0.013 .9896975 .9987894

sp77\_807\_1\_pp | .9975118 .0030807 -0.81 0.420 .991492 1.003568

sp77\_807\_2\_pp | 1.000788 .0030228 0.26 0.794 .9948808 1.00673

sp77\_807\_3\_pp | 1.000513 .0017113 0.30 0.764 .9971645 1.003873

sp77\_807\_pp | .99987 .0021432 -0.06 0.952 .9956782 1.004079

sp77\_808\_pp | 1.010668 .0039692 2.70 0.007 1.002918 1.018478

sp77\_809\_pp | .9994961 .000875 -0.58 0.565 .9977825 1.001213

sp77\_810\_pp | 1.004947 .0018852 2.63 0.009 1.001259 1.008649

sp77\_900\_1\_pp | 1.010375 .0035699 2.92 0.003 1.003402 1.017396

sp77\_900\_2\_pp | 1.00199 .0017381 1.15 0.252 .9985892 1.005402

sp77\_900\_pp | .9980509 .0022033 -0.88 0.377 .9937418 1.002379

sp77\_901\_1\_pp | .986622 .0047379 -2.80 0.005 .9773795 .9959519

sp77\_901\_pp | .9987193 .0014617 -0.88 0.381 .9958585 1.001588

sp77\_902\_2\_pp | 1 (omitted)

sp77\_902\_3\_pp | .9986956 .0044303 -0.29 0.769 .99005 1.007417

sp77\_902\_pp | 1.002043 .0016765 1.22 0.222 .9987627 1.005335

sp77\_903\_pp | 1.000152 .0025523 0.06 0.952 .995162 1.005167

sp77\_904\_pp | 1.00032 .0004811 0.67 0.506 .9993776 1.001263

mine\_time | .9960592 .0066707 -0.59 0.555 .9830704 1.00922

onsite\_insp\_hours | .9998801 .0000503 -2.38 0.017 .9997814 .9999788

|

state |

1 | 1.108247 .0882841 1.29 0.197 .9480451 1.29552

2 | 2.23161 .1777801 10.08 0.000 1.909008 2.608728

3 | .7627501 .1217307 -1.70 0.090 .5578728 1.042868

4 | 1.082075 .0840885 1.02 0.310 .9292015 1.260098

5 | .8934866 .131031 -0.77 0.443 .670283 1.191017

6 | .9715457 .0580693 -0.48 0.629 .8641455 1.092294

7 | 1.036071 .2640225 0.14 0.889 .6287491 1.707268

8 | .9911069 .1043235 -0.08 0.932 .8063496 1.218197

9 | .8642441 .0577623 -2.18 0.029 .7581338 .9852058

10 | 1.195559 .1320579 1.62 0.106 .9628309 1.484541

11 | .8938646 .2152132 -0.47 0.641 .5576098 1.432891

12 | 1.028777 .0964263 0.30 0.762 .8561282 1.236242

13 | 1.340291 .20356 1.93 0.054 .9952242 1.805001

14 | .6457245 .081913 -3.45 0.001 .5035802 .8279915

15 | .6991993 .0471431 -5.31 0.000 .6126455 .7979813

17 | 1.046201 .1703285 0.28 0.781 .7603856 1.439449

|

time |

2000 | 1.098047 .0671844 1.53 0.126 .973957 1.237947

2002 | 1.001031 .0643574 0.02 0.987 .882516 1.135461

2003 | .873187 .0573751 -2.06 0.039 .7676738 .9932024

2004 | .921575 .0595123 -1.26 0.206 .8120128 1.04592

2005 | .783369 .0510881 -3.74 0.000 .6893734 .8901808

2006 | .7726936 .0561832 -3.55 0.000 .6700631 .8910435

2007 | .665888 .0544749 -4.97 0.000 .5672391 .7816931

2008 | .5822332 .0471665 -6.68 0.000 .496754 .6824211

2009 | .5156823 .0448768 -7.61 0.000 .4348176 .6115857

2010 | .5133909 .0428237 -7.99 0.000 .4359599 .6045746

2011 | .5301891 .0462418 -7.28 0.000 .4468801 .6290289

2012 | .5449315 .0465098 -7.11 0.000 .4609906 .644157

2013 | .5112873 .0477128 -7.19 0.000 .4258256 .6139008

2014 | .4409387 .0440415 -8.20 0.000 .3625427 .5362871

2015 | .482855 .05021 -7.00 0.000 .3938256 .5920106

|

\_cons | .0000166 1.04e-06 -175.53 0.000 .0000147 .0000188

ln(hours) | 1 (exposure)

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

**. estat gof**

Deviance goodness-of-fit = 7818.669

Prob > chi2(5937) = 0.0000

Pearson goodness-of-fit = 8720.29

Prob > chi2(5937) = 0.0000

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

note: sp75\_1727\_pp omitted because of collinearity

note: sp77\_606\_pp omitted because of collinearity

note: sp77\_902\_2\_pp omitted because of collinearity

Iteration 0: log pseudolikelihood = -9168.7579

Iteration 1: log pseudolikelihood = -9011.0129

Iteration 2: log pseudolikelihood = -9009.24

Iteration 3: log pseudolikelihood = -9009.113

Iteration 4: log pseudolikelihood = -9009.0838

Iteration 5: log pseudolikelihood = -9009.0769

Iteration 6: log pseudolikelihood = -9009.0753

Iteration 7: log pseudolikelihood = -9009.0749

Iteration 8: log pseudolikelihood = -9009.0748

Iteration 9: log pseudolikelihood = -9009.0748

Generalized linear models No. of obs = 6,253

Optimization : ML Residual df = 5,924

Scale parameter = 1

Deviance = 3704.387213 (1/df) Deviance = .6253186

Pearson = 3984.429468 (1/df) Pearson = .6725911

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

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

AIC = 2.98675

Log pseudolikelihood = -9009.074781 BIC = -48076.21

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

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

| Robust

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

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

sp47\_41\_pp | .9988987 .0007705 -1.43 0.153 .9973898 1.00041

sp47\_42\_pp | .9972387 .0024381 -1.13 0.258 .9924715 1.002029

sp47\_44\_pp | 1.000387 .0015718 0.25 0.805 .9973114 1.003473

sp48\_11\_pp | 1.001479 .0008536 1.73 0.083 .9998072 1.003153

sp48\_24\_pp | .9581258 .0027426 -14.94 0.000 .9527654 .9635163

sp48\_25\_pp | 1.000082 .0020532 0.04 0.968 .9960663 1.004115

sp48\_26\_pp | 1.002487 .0011478 2.17 0.030 1.00024 1.00474

sp48\_27\_pp | 1.001057 .0008641 1.22 0.221 .999365 1.002752

sp48\_28\_pp | .9983894 .0018085 -0.89 0.374 .9948511 1.00194

sp48\_4\_pp | 1.014692 .0025417 5.82 0.000 1.009722 1.019686

sp48\_5\_pp | 1.000496 .0017312 0.29 0.775 .9971085 1.003895

sp48\_6\_pp | .999828 .0009456 -0.18 0.856 .9979764 1.001683

sp48\_7\_pp | 1.000263 .0008398 0.31 0.754 .9986179 1.00191

sp48\_8\_pp | .9998705 .001225 -0.11 0.916 .9974723 1.002274

sp71\_701\_pp | .993925 .0073156 -0.83 0.408 .9796897 1.008367

sp72\_503\_pp | .9969741 .0009416 -3.21 0.001 .9951303 .9988214

sp72\_610\_pp | .9960461 .0031346 -1.26 0.208 .9899213 1.002209

sp72\_620\_pp | 1.004777 .0043315 1.11 0.269 .9963227 1.013302

sp72\_630\_pp | 1.000212 .0001194 1.78 0.075 .9999782 1.000446

sp75\_100\_pp | .9997341 .0021535 -0.12 0.902 .9955221 1.003964

sp75\_1001\_1\_pp | .9995363 .0044349 -0.10 0.917 .9908817 1.008267

sp75\_1001\_pp | .9999536 .0071188 -0.01 0.995 .9860978 1.014004

sp75\_1003\_1\_pp | .9953184 .0038004 -1.23 0.219 .9878975 1.002795

sp75\_1100\_2\_pp | 1.000114 .0001292 0.88 0.378 .9998606 1.000367

sp75\_1101\_20\_pp | .9979862 .0018851 -1.07 0.286 .9942983 1.001688

sp75\_1102\_pp | .999973 .0009555 -0.03 0.977 .9981021 1.001847

sp75\_1103\_4\_pp | 1.000071 .0001831 0.39 0.697 .9997126 1.00043

sp75\_1104\_pp | .9997796 .0006341 -0.35 0.728 .9985376 1.001023

sp75\_1106\_2\_pp | .9988959 .0006955 -1.59 0.113 .9975335 1.00026

sp75\_1106\_3\_pp | 1.000405 .0002215 1.83 0.067 .9999711 1.000839

sp75\_1106\_4\_pp | 1.000441 .0017717 0.25 0.803 .9969743 1.003919

sp75\_1106\_5\_pp | 1.000368 .0007107 0.52 0.604 .9989764 1.001762

sp75\_1106\_6\_pp | .9974086 .0063176 -0.41 0.682 .9851029 1.009868

sp75\_1106\_pp | 1.000468 .0016556 0.28 0.777 .9972285 1.003718

sp75\_1107\_14\_pp | 1.004654 .0050489 0.92 0.356 .9948071 1.014599

sp75\_1400\_1\_pp | .9990013 .0036833 -0.27 0.786 .9918082 1.006247

sp75\_1400\_2\_pp | .9999996 .0046528 -0.00 1.000 .9909217 1.009161

sp75\_1400\_3\_pp | 1.000634 .0009738 0.65 0.515 .9987267 1.002544

sp75\_1400\_4\_pp | .9984135 .0022272 -0.71 0.477 .9940579 1.002788

sp75\_1400\_pp | .9999632 .0008335 -0.04 0.965 .998331 1.001598

sp75\_1401\_1\_pp | .997703 .008504 -0.27 0.787 .9811739 1.014511

sp75\_1401\_pp | 1.005624 .0046389 1.22 0.224 .9965729 1.014757

sp75\_1403\_10\_pp | 1.000525 .0002958 1.77 0.076 .9999451 1.001105

sp75\_1403\_11\_pp | 1.004352 .0036028 1.21 0.226 .9973152 1.011438

sp75\_1403\_3\_pp | .9905234 .0045968 -2.05 0.040 .9815547 .9995739

sp75\_1403\_4\_pp | 1.002834 .0044059 0.64 0.519 .9942361 1.011507

sp75\_1403\_5\_pp | .9996791 .0002153 -1.49 0.136 .9992572 1.000101

sp75\_1403\_6\_pp | 1.000042 .0001315 0.32 0.750 .9997843 1.0003

sp75\_1403\_7\_pp | .9995665 .0007044 -0.62 0.538 .9981868 1.000948

sp75\_1403\_8\_pp | .9999374 .0002389 -0.26 0.793 .9994692 1.000406

sp75\_1403\_9\_pp | .9990471 .0009046 -1.05 0.292 .9972757 1.000822

sp75\_1404\_1\_pp | .9831217 .0052828 -3.17 0.002 .9728219 .9935305

sp75\_1404\_pp | 1.003826 .0049459 0.78 0.438 .9941794 1.013567

sp75\_1405\_1\_pp | 1.005207 .006459 0.81 0.419 .9926267 1.017946

sp75\_1405\_pp | .9999401 .0002779 -0.22 0.829 .9993955 1.000485

sp75\_1431\_pp | 1.004779 .0026504 1.81 0.071 .9995977 1.009987

sp75\_1432\_pp | .9963426 .0022194 -1.64 0.100 .9920021 1.000702

sp75\_1433\_pp | 1.001057 .0018249 0.58 0.562 .9974864 1.00464

sp75\_1434\_pp | 1.00225 .0014074 1.60 0.110 .9994949 1.005012

sp75\_1435\_pp | .9947438 .0070316 -0.75 0.456 .9810571 1.008621

sp75\_1437\_pp | 1.000472 .0047287 0.10 0.920 .991247 1.009784

sp75\_150\_pp | 1.001983 .0026398 0.75 0.452 .9968222 1.00717

sp75\_151\_pp | .9953587 .00427 -1.08 0.278 .9870248 1.003763

sp75\_153\_pp | 1.002286 .0017336 1.32 0.187 .9988942 1.00569

sp75\_156\_pp | 1.001921 .0039147 0.49 0.623 .9942776 1.009623

sp75\_160\_pp | 1.004891 .0080969 0.61 0.545 .9891457 1.020886

sp75\_1600\_2\_pp | .9994484 .0003978 -1.39 0.166 .998669 1.000228

sp75\_1712\_10\_pp | .9994122 .0012791 -0.46 0.646 .9969083 1.001922

sp75\_1712\_6\_pp | .9996853 .000773 -0.41 0.684 .9981715 1.001201

sp75\_1720\_pp | 1.000195 .0005559 0.35 0.725 .9991065 1.001285

sp75\_1721\_pp | 1.011708 .0025591 4.60 0.000 1.006704 1.016736

sp75\_1725\_pp | 1.000044 .0000731 0.60 0.546 .9999009 1.000187

sp75\_1726\_pp | 1.000766 .0015679 0.49 0.625 .9976978 1.003844

sp75\_1727\_pp | 1 (omitted)

sp75\_1728\_pp | 1.005598 .0037721 1.49 0.137 .9982323 1.013019

sp75\_1729\_pp | .9995873 .002087 -0.20 0.843 .9955052 1.003686

sp75\_1730\_pp | 1.000106 .0016312 0.06 0.948 .9969135 1.003308

sp75\_1731\_pp | .9999512 .0000387 -1.26 0.207 .9998753 1.000027

sp75\_1903\_pp | .9995773 .0007097 -0.60 0.552 .9981872 1.000969

sp75\_1909\_pp | 1.000012 .0001017 0.11 0.909 .9998123 1.000211

sp75\_1910\_pp | 1.000015 .0001766 0.09 0.930 .9996693 1.000362

sp75\_1911\_pp | .9999152 .0002288 -0.37 0.711 .9994669 1.000364

sp75\_1912\_pp | .9988673 .0018637 -0.61 0.544 .9952211 1.002527

sp75\_1913\_pp | 1.002863 .0018472 1.55 0.121 .9992495 1.00649

sp75\_1914\_pp | 1.000094 .0001325 0.71 0.478 .9998343 1.000354

sp75\_1915\_pp | 1.002945 .0020146 1.46 0.143 .9990046 1.006902

sp75\_202\_pp | 1.000024 .0000384 0.63 0.529 .9999488 1.0001

sp75\_208\_pp | 1.000008 .0002723 0.03 0.978 .999474 1.000541

sp75\_211\_pp | 1.000107 .0002344 0.46 0.648 .9996477 1.000566

sp75\_212\_pp | .9992728 .0006525 -1.11 0.265 .9979948 1.000552

sp75\_214\_pp | .9999517 .0005426 -0.09 0.929 .9988888 1.001016

sp75\_312\_pp | .9998432 .0005935 -0.26 0.792 .9986806 1.001007

sp75\_320\_pp | .9994751 .0003074 -1.71 0.088 .9988729 1.000078

sp75\_324\_pp | .9988769 .0009635 -1.17 0.244 .9969902 1.000767

sp75\_337\_pp | 1.000165 .0003713 0.45 0.656 .9994379 1.000893

sp75\_340\_pp | .9999645 .0001824 -0.19 0.846 .999607 1.000322

sp75\_341\_pp | .987526 .0130091 -0.95 0.341 .9623549 1.013355

sp75\_342\_pp | 1.000042 .0000922 0.46 0.647 .9998615 1.000223

sp75\_344\_pp | .9989274 .0015489 -0.69 0.489 .9958962 1.001968

sp75\_352\_pp | .9980973 .0008794 -2.16 0.031 .9963752 .9998223

sp75\_382\_pp | 1.000036 .0009125 0.04 0.969 .9982492 1.001826

sp75\_503\_pp | .9999941 .0000534 -0.11 0.912 .9998894 1.000099

sp75\_504\_pp | .9981776 .0016894 -1.08 0.281 .9948719 1.001494

sp75\_505\_pp | 1.002067 .0018214 1.14 0.256 .9985036 1.005643

sp75\_506\_1\_pp | 1.003951 .0013167 3.01 0.003 1.001374 1.006535

sp75\_506\_pp | .9995528 .0010671 -0.42 0.675 .9974635 1.001646

sp75\_507\_pp | 1.000132 .0007168 0.18 0.854 .9987279 1.001538

sp75\_511\_1\_pp | .9777044 .0076248 -2.89 0.004 .9628738 .9927635

sp75\_511\_pp | 1.000968 .0007667 1.26 0.206 .9994667 1.002472

sp75\_512\_1\_pp | 1.007565 .003968 1.91 0.056 .9998178 1.015372

sp75\_512\_2\_pp | 1.000091 .0002228 0.41 0.682 .9996547 1.000528

sp75\_512\_pp | 1.000089 .0000645 1.38 0.167 .9999628 1.000216

sp75\_513\_1\_pp | 1.00095 .002427 0.39 0.695 .9962048 1.005718

sp75\_513\_pp | .9988147 .0009798 -1.21 0.227 .9968962 1.000737

sp75\_514\_pp | 1.000171 .0002654 0.64 0.520 .9996508 1.000691

sp75\_515\_pp | .9995266 .0001844 -2.57 0.010 .9991653 .999888

sp75\_516\_1\_pp | .995487 .0022644 -1.99 0.047 .9910587 .9999351

sp75\_516\_2\_pp | 1.000548 .0004297 1.28 0.202 .9997066 1.001391

sp75\_516\_pp | .9997793 .0002868 -0.77 0.442 .9992174 1.000341

sp75\_517\_1\_pp | 1.002642 .0022547 1.17 0.241 .9982328 1.007071

sp75\_517\_pp | .9999594 .0000568 -0.72 0.475 .9998481 1.000071

sp75\_518\_1\_pp | .9999469 .0002988 -0.18 0.859 .9993614 1.000533

sp75\_518\_pp | 1.000132 .0002135 0.62 0.535 .9997141 1.000551

sp75\_519\_pp | .9988201 .0062292 -0.19 0.850 .9866855 1.011104

sp75\_520\_pp | 1.000431 .0005026 0.86 0.391 .9994463 1.001416

sp75\_523\_1\_pp | .9999508 .0005754 -0.09 0.932 .9988237 1.001079

sp75\_523\_2\_pp | 1.000838 .0004385 1.91 0.056 .999979 1.001698

sp75\_523\_pp | .9987673 .0006181 -1.99 0.046 .9975565 .9999796

sp75\_600\_1\_pp | .997126 .0023932 -1.20 0.230 .9924464 1.001828

sp75\_600\_pp | 1.000484 .0074713 0.06 0.948 .9859474 1.015235

sp75\_601\_1\_pp | .9998683 .0002318 -0.57 0.570 .999414 1.000323

sp75\_601\_2\_pp | 1.000769 .0041128 0.19 0.852 .9927407 1.008863

sp75\_601\_3\_pp | .9995657 .0021006 -0.21 0.836 .995457 1.003691

sp75\_601\_pp | 1.00041 .0002768 1.48 0.139 .9998674 1.000952

sp75\_602\_pp | .9998439 .0007214 -0.22 0.829 .9984309 1.001259

sp75\_603\_pp | .9992503 .001378 -0.54 0.587 .996553 1.001955

sp75\_604\_pp | 1.000196 .000085 2.30 0.021 1.000029 1.000362

sp75\_605\_pp | .9999781 .0003509 -0.06 0.950 .9992907 1.000666

sp75\_606\_pp | 1.000066 .000148 0.44 0.657 .9997757 1.000356

sp75\_607\_pp | .9996507 .0006577 -0.53 0.595 .9983625 1.000941

sp75\_700\_1\_pp | .9928335 .0029916 -2.39 0.017 .9869873 .9987144

sp75\_700\_pp | .9993556 .0011156 -0.58 0.564 .9971716 1.001544

sp75\_701\_1\_pp | .9993747 .00122 -0.51 0.608 .9969865 1.001769

sp75\_701\_2\_pp | 1.001827 .0015048 1.22 0.224 .9988819 1.004781

sp75\_701\_3\_pp | 1.002165 .0012861 1.69 0.092 .9996472 1.004689

sp75\_701\_4\_pp | 1.00662 .0050519 1.31 0.189 .9967669 1.01657

sp75\_701\_5\_pp | .995812 .0014814 -2.82 0.005 .9929127 .9987198

sp75\_701\_pp | 1.000152 .0001866 0.81 0.416 .9997859 1.000517

sp75\_702\_1\_pp | .9989191 .0026069 -0.41 0.679 .9938226 1.004042

sp75\_702\_pp | .9913125 .0107852 -0.80 0.423 .9703977 1.012678

sp75\_703\_1\_pp | .9984066 .0114764 -0.14 0.890 .9761648 1.021155

sp75\_703\_2\_pp | .9959518 .0036404 -1.11 0.267 .9888422 1.003113

sp75\_703\_3\_pp | 1.000095 .0012662 0.07 0.940 .9976161 1.00258

sp75\_703\_4\_pp | .7198811 .021487 -11.01 0.000 .6789756 .763251

sp75\_703\_pp | 1.000665 .0004963 1.34 0.180 .9996924 1.001638

sp75\_704\_pp | 1.001695 .0017228 0.98 0.325 .9983245 1.005078

sp75\_705\_1\_pp | 1.000448 .0014639 0.31 0.760 .9975824 1.003321

sp75\_705\_3\_pp | .9950152 .0058862 -0.84 0.398 .9835451 1.006619

sp75\_705\_8\_pp | .9966551 .005608 -0.60 0.552 .985724 1.007707

sp75\_705\_pp | 1.005497 .0021762 2.53 0.011 1.001241 1.009771

sp75\_706\_pp | .9990257 .0013786 -0.71 0.480 .9963273 1.001731

sp75\_800\_2\_pp | .5827685 .0216345 -14.55 0.000 .5418716 .6267521

sp75\_800\_3\_pp | 1.001678 .0022786 0.74 0.461 .9972224 1.006154

sp75\_800\_4\_pp | 1.00154 .0018865 0.82 0.414 .9978498 1.005245

sp75\_800\_pp | .9981405 .0014323 -1.30 0.195 .9953371 1.000952

sp75\_801\_pp | .9994872 .005254 -0.10 0.922 .9892423 1.009838

sp75\_802\_pp | .9997763 .0024824 -0.09 0.928 .9949227 1.004654

sp75\_803\_2\_pp | 1.002997 .0021558 1.39 0.164 .9987807 1.007231

sp75\_803\_pp | 1.000894 .0012896 0.69 0.488 .9983694 1.003425

sp75\_804\_pp | .9996953 .0007541 -0.40 0.686 .9982184 1.001174

sp75\_805\_pp | 1.000149 .0024944 0.06 0.952 .995272 1.00505

sp75\_806\_pp | .985654 .0049729 -2.86 0.004 .9759552 .9954491

sp75\_807\_pp | 1.000159 .0001627 0.97 0.330 .9998397 1.000478

sp75\_808\_pp | .9994673 .0011693 -0.46 0.649 .9971783 1.001762

sp75\_809\_pp | 1.000056 .0005888 0.10 0.924 .9989027 1.001211

sp75\_810\_pp | 1.000841 .0008946 0.94 0.347 .9990897 1.002596

sp75\_811\_pp | 1.000022 .0007524 0.03 0.977 .9985482 1.001498

sp75\_812\_pp | .9956876 .00232 -1.85 0.064 .9911508 1.000245

sp75\_814\_pp | 1.001758 .0025879 0.68 0.497 .9966984 1.006843

sp75\_815\_pp | 1.001926 .0013324 1.45 0.148 .9993174 1.00454

sp75\_816\_pp | .9999852 .0004625 -0.03 0.974 .9990792 1.000892

sp75\_818\_pp | 1.003571 .0041091 0.87 0.384 .9955492 1.011657

sp75\_820\_pp | 1.000742 .0014409 0.52 0.606 .997922 1.00357

sp75\_821\_pp | 1.001105 .0007455 1.48 0.138 .9996452 1.002568

sp75\_825\_pp | .9983841 .0018079 -0.89 0.372 .994847 1.001934

sp75\_827\_pp | 1.00207 .0024129 0.86 0.391 .9973515 1.00681

sp75\_831\_pp | .995785 .0058973 -0.71 0.476 .9842933 1.007411

sp75\_832\_pp | .9872449 .0132224 -0.96 0.338 .9616667 1.013504

sp75\_834\_pp | .5178729 .032143 -10.60 0.000 .458555 .584864

sp75\_900\_2\_pp | .9967529 .0031355 -1.03 0.301 .9906264 1.002917

sp75\_900\_3\_pp | .9987069 .0014138 -0.91 0.361 .9959397 1.001482

sp75\_900\_4\_pp | .9999797 .0006335 -0.03 0.974 .9987389 1.001222

sp75\_900\_pp | 1.000088 .0003526 0.25 0.803 .9993972 1.000779

sp75\_901\_pp | .9994664 .001599 -0.33 0.739 .9963373 1.002605

sp75\_902\_1\_pp | 1.002112 .0031564 0.67 0.503 .9959442 1.008317

sp75\_902\_2\_pp | 1.001088 .0013669 0.80 0.426 .9984124 1.00377

sp75\_902\_4\_pp | 1.000019 .0008304 0.02 0.981 .9983932 1.001648

sp75\_902\_pp | 1.000604 .0004104 1.47 0.141 .9998 1.001409

sp75\_903\_pp | 1.001198 .000556 2.16 0.031 1.000108 1.002288

sp75\_904\_pp | 1.000126 .0001706 0.74 0.459 .9997919 1.000461

sp75\_905\_pp | .9900817 .002512 -3.93 0.000 .9851705 .9950174

sp75\_907\_pp | .9999746 .001041 -0.02 0.981 .9979363 1.002017

sp77\_103\_pp | .9993315 .0014654 -0.46 0.648 .9964636 1.002208

sp77\_104\_pp | .9915134 .0051746 -1.63 0.102 .9814231 1.001707

sp77\_1103\_pp | .9998805 .0003947 -0.30 0.762 .9991073 1.000654

sp77\_1104\_pp | .9999305 .0001634 -0.43 0.671 .9996103 1.000251

sp77\_1106\_pp | 1.007996 .0138094 0.58 0.561 .9812904 1.035429

sp77\_1111\_pp | .9986256 .0038907 -0.35 0.724 .991029 1.006281

sp77\_1112\_pp | 1.000403 .0014908 0.27 0.787 .9974855 1.003329

sp77\_1403\_pp | 1.002452 .0011996 2.05 0.041 1.000104 1.004806

sp77\_1432\_pp | 1.003174 .003659 0.87 0.385 .9960284 1.010372

sp77\_1433\_pp | .9968054 .0024486 -1.30 0.193 .9920178 1.001616

sp77\_1434\_pp | 1.005934 .0028701 2.07 0.038 1.000324 1.011575

sp77\_1437\_pp | .997268 .0015485 -1.76 0.078 .9942377 1.000308

sp77\_1438\_pp | .9835902 .0088987 -1.83 0.067 .9663028 1.001187

sp77\_1605\_pp | .9998888 .0001916 -0.58 0.562 .9995133 1.000264

sp77\_1606\_pp | 1.00029 .0002685 1.08 0.280 .9997637 1.000816

sp77\_1710\_pp | .9994303 .0004207 -1.35 0.176 .9986061 1.000255

sp77\_1802\_pp | 1.001159 .0085557 0.14 0.892 .9845297 1.018069

sp77\_1906\_pp | 1.006692 .0048516 1.38 0.166 .9972274 1.016246

sp77\_1915\_pp | .9996693 .0019637 -0.17 0.866 .9958279 1.003525

sp77\_1916\_pp | 1.002438 .002959 0.82 0.409 .996655 1.008254

sp77\_200\_pp | .9999517 .0002561 -0.19 0.850 .9994499 1.000454

sp77\_202\_pp | .9992129 .0004344 -1.81 0.070 .9983618 1.000065

sp77\_203\_pp | 1.000815 .0025133 0.32 0.746 .9959013 1.005753

sp77\_204\_pp | .999254 .0005102 -1.46 0.144 .9982546 1.000254

sp77\_205\_pp | 1.000108 .0001823 0.59 0.553 .999751 1.000466

sp77\_206\_pp | 1.000618 .0009793 0.63 0.528 .9987006 1.002539

sp77\_207\_pp | 1.000426 .0006366 0.67 0.503 .9991789 1.001674

sp77\_208\_pp | 1.000714 .0003157 2.26 0.024 1.000095 1.001333

sp77\_210\_pp | .9984439 .0012607 -1.23 0.217 .9959759 1.000918

sp77\_216\_pp | 1.001163 .0006286 1.85 0.064 .9999317 1.002396

sp77\_305\_pp | 1.015697 .011144 1.42 0.156 .9940879 1.037775

sp77\_309\_pp | .9750859 .0048428 -5.08 0.000 .9656402 .9846239

sp77\_314\_pp | .9744872 .0108583 -2.32 0.020 .9534359 .9960033

sp77\_315\_pp | .9788901 .0113506 -1.84 0.066 .9568943 1.001391

sp77\_400\_pp | 1.000322 .000193 1.67 0.095 .9999436 1.0007

sp77\_401\_pp | .999934 .0011139 -0.06 0.953 .9977532 1.00212

sp77\_402\_pp | .9994043 .0009525 -0.63 0.532 .9975392 1.001273

sp77\_403\_1\_pp | 1.000158 .00173 0.09 0.927 .9967734 1.003555

sp77\_403\_2\_pp | 1.024092 .0072013 3.39 0.001 1.010075 1.038304

sp77\_403\_pp | 1.010128 .0027704 3.67 0.000 1.004713 1.015572

sp77\_404\_pp | .9999129 .0001533 -0.57 0.570 .9996125 1.000213

sp77\_405\_pp | 1.002065 .0017701 1.17 0.243 .9986021 1.005541

sp77\_408\_pp | .9990598 .0022858 -0.41 0.681 .9945899 1.00355

sp77\_409\_pp | .9867672 .0061026 -2.15 0.031 .9748784 .9988008

sp77\_410\_pp | 1.000393 .0003326 1.18 0.237 .9997414 1.001045

sp77\_411\_pp | .9855595 .0072962 -1.96 0.049 .9713624 .9999641

sp77\_412\_pp | .9994442 .0013181 -0.42 0.673 .9968641 1.002031

sp77\_413\_pp | .9933497 .0025098 -2.64 0.008 .9884427 .998281

sp77\_500\_pp | 1.000252 .0023447 0.11 0.914 .9956673 1.004858

sp77\_501\_pp | .9971704 .0017697 -1.60 0.110 .9937079 1.000645

sp77\_502\_1\_pp | 1.011748 .0122674 0.96 0.335 .9879875 1.03608

sp77\_502\_2\_pp | 1.002254 .0010751 2.10 0.036 1.000149 1.004363

sp77\_502\_pp | 1.000031 .0002174 0.14 0.888 .9996046 1.000457

sp77\_503\_1\_pp | 1.003841 .0058085 0.66 0.508 .9925204 1.01529

sp77\_503\_pp | 1.000052 .0025493 0.02 0.984 .9950684 1.005062

sp77\_504\_pp | .9982995 .0007245 -2.35 0.019 .9968805 .9997205

sp77\_505\_pp | .9997597 .0004073 -0.59 0.555 .9989617 1.000558

sp77\_506\_1\_pp | 1.000252 .0007435 0.34 0.735 .9987953 1.00171

sp77\_506\_pp | .9994471 .0006026 -0.92 0.359 .9982668 1.000629

sp77\_507\_pp | .9996384 .0021875 -0.17 0.869 .9953601 1.003935

sp77\_508\_1\_pp | 1.002075 .0044073 0.47 0.637 .9934743 1.010751

sp77\_508\_pp | .9994535 .0022904 -0.24 0.811 .9949744 1.003953

sp77\_509\_pp | .9997021 .0009101 -0.33 0.743 .9979199 1.001487

sp77\_510\_pp | .9931775 .0041859 -1.62 0.104 .9850072 1.001416

sp77\_511\_pp | .9939512 .0030803 -1.96 0.050 .9879323 1.000007

sp77\_512\_pp | .9996329 .0003479 -1.05 0.291 .9989513 1.000315

sp77\_513\_pp | 1.000489 .000598 0.82 0.414 .9993174 1.001661

sp77\_514\_pp | .9842664 .0070137 -2.23 0.026 .9706153 .9981094

sp77\_515\_pp | 1.009007 .0123163 0.73 0.463 .9851536 1.033437

sp77\_516\_pp | .9997748 .0002813 -0.80 0.423 .9992236 1.000326

sp77\_600\_pp | 1.001166 .0029367 0.40 0.691 .9954271 1.006939

sp77\_601\_pp | .9966634 .0028946 -1.15 0.250 .9910063 1.002353

sp77\_602\_pp | 1.001554 .0039956 0.39 0.697 .9937533 1.009416

sp77\_603\_pp | 1.009492 .00322 2.96 0.003 1.003201 1.015823

sp77\_604\_pp | 1.00144 .0023434 0.62 0.538 .9968579 1.006044

sp77\_605\_pp | .967274 .016787 -1.92 0.055 .9349253 1.000742

sp77\_606\_1\_pp | .986315 .0049743 -2.73 0.006 .9766135 .9961128

sp77\_606\_pp | 1 (omitted)

sp77\_700\_1\_pp | 1.003627 .0043591 0.83 0.405 .9951195 1.012207

sp77\_700\_pp | .9997286 .0018873 -0.14 0.886 .9960365 1.003434

sp77\_701\_1\_pp | 1.00206 .0030551 0.68 0.500 .9960901 1.008066

sp77\_701\_2\_pp | .9990383 .0031058 -0.31 0.757 .9929695 1.005144

sp77\_701\_3\_pp | 1.007977 .005249 1.53 0.127 .9977419 1.018318

sp77\_701\_4\_pp | 1.000447 .0034124 0.13 0.896 .9937812 1.007158

sp77\_701\_pp | .9991286 .0005881 -1.48 0.139 .9979766 1.000282

sp77\_703\_pp | .9953884 .0045906 -1.00 0.316 .9864315 1.004427

sp77\_704\_1\_pp | 1.00119 .0019246 0.62 0.536 .9974245 1.004969

sp77\_704\_8\_pp | .9966304 .0041586 -0.81 0.419 .988513 1.004814

sp77\_704\_9\_pp | .9858885 .002823 -4.96 0.000 .980371 .9914369

sp77\_704\_pp | .9942958 .0047222 -1.20 0.228 .9850833 1.003594

sp77\_705\_pp | .9998224 .0010884 -0.16 0.870 .9976914 1.001958

sp77\_800\_1\_pp | 1.003058 .0027473 1.11 0.265 .9976876 1.008457

sp77\_800\_2\_pp | 1.000946 .0021433 0.44 0.659 .9967535 1.005155

sp77\_800\_pp | 1.005597 .0032564 1.72 0.085 .9992348 1.012

sp77\_801\_pp | .9873484 .0122483 -1.03 0.305 .9636317 1.011649

sp77\_802\_pp | .9917059 .0039356 -2.10 0.036 .9840221 .9994496

sp77\_803\_pp | 1.007177 .0125022 0.58 0.565 .9829692 1.031982

sp77\_804\_pp | 1.001807 .0023844 0.76 0.448 .9971448 1.006492

sp77\_805\_pp | .992614 .0026638 -2.76 0.006 .9874068 .9978487

sp77\_807\_1\_pp | .995897 .0038264 -1.07 0.285 .9884255 1.003425

sp77\_807\_2\_pp | 1.004788 .0041673 1.15 0.249 .9966528 1.012989

sp77\_807\_3\_pp | 1.000563 .0015573 0.36 0.717 .997516 1.00362

sp77\_807\_pp | .9995286 .0028441 -0.17 0.868 .9939698 1.005119

sp77\_808\_pp | 1.012106 .0055488 2.19 0.028 1.001288 1.02304

sp77\_809\_pp | .9980359 .0010179 -1.93 0.054 .9960429 1.000033

sp77\_810\_pp | 1.002317 .00242 0.96 0.338 .9975848 1.007071

sp77\_900\_1\_pp | 1.012503 .0053693 2.34 0.019 1.002033 1.023081

sp77\_900\_2\_pp | 1.000808 .0020731 0.39 0.696 .9967535 1.00488

sp77\_900\_pp | .9968342 .002371 -1.33 0.182 .9921979 1.001492

sp77\_901\_1\_pp | .9844981 .0054966 -2.80 0.005 .9737836 .9953304

sp77\_901\_pp | .9991851 .0020372 -0.40 0.689 .9952003 1.003186

sp77\_902\_2\_pp | 1 (omitted)

sp77\_902\_3\_pp | 1.002167 .0074115 0.29 0.770 .9877457 1.016799

sp77\_902\_pp | 1.002016 .0026813 0.75 0.452 .9967741 1.007285

sp77\_903\_pp | .9972622 .0026891 -1.02 0.309 .9920055 1.002547

sp77\_904\_pp | 1.000183 .0006327 0.29 0.772 .9989443 1.001424

mine\_time | 1.000669 .0070108 0.10 0.924 .9870221 1.014505

onsite\_insp\_hours | .9998978 .0000508 -2.01 0.044 .9997982 .9999974

|

state |

1 | 1.141063 .1415768 1.06 0.288 .8947406 1.455198

2 | 1.694311 .1728143 5.17 0.000 1.38731 2.06925

3 | .7787185 .1255221 -1.55 0.121 .5677731 1.068037

4 | .9885092 .0905605 -0.13 0.900 .8260369 1.182938

5 | .8401118 .1347748 -1.09 0.277 .6134557 1.150512

6 | .8510935 .0457475 -3.00 0.003 .7659915 .9456504

7 | .9315764 .2244695 -0.29 0.769 .5809194 1.493899

8 | 1.110507 .1029214 1.13 0.258 .9260455 1.331712

9 | .898959 .0842239 -1.14 0.256 .748153 1.080163

10 | .8736172 .1521213 -0.78 0.438 .6210164 1.228964

11 | .8649179 .2130304 -0.59 0.556 .5337315 1.401609

12 | .9937532 .0892097 -0.07 0.944 .8334236 1.184926

13 | 1.351619 .227976 1.79 0.074 .9711431 1.881159

14 | .6574369 .0910941 -3.03 0.002 .5010858 .8625734

15 | .656063 .044716 -6.18 0.000 .574023 .7498283

17 | 1.019568 .1290975 0.15 0.878 .7954947 1.306758

|

time |

2000 | 1.049101 .06996 0.72 0.472 .9205652 1.195585

2002 | .9405435 .0640919 -0.90 0.368 .822953 1.074936

2003 | .8575095 .06625 -1.99 0.047 .737015 .9977038

2004 | .8272661 .0597771 -2.62 0.009 .7180233 .9531295

2005 | .7161606 .0526151 -4.54 0.000 .6201178 .8270785

2006 | .7356453 .0564611 -4.00 0.000 .6329048 .8550639

2007 | .6281102 .0534784 -5.46 0.000 .5315732 .742179

2008 | .525321 .047072 -7.18 0.000 .4407089 .6261778

2009 | .4344082 .0411181 -8.81 0.000 .3608519 .5229582

2010 | .4736707 .0429502 -8.24 0.000 .396546 .5657954

2011 | .4950222 .0460046 -7.57 0.000 .41259 .5939235

2012 | .517172 .0483478 -7.05 0.000 .4305865 .6211688

2013 | .4334522 .0432006 -8.39 0.000 .3565373 .5269597

2014 | .3884127 .0416884 -8.81 0.000 .3147269 .4793503

2015 | .452333 .0494988 -7.25 0.000 .3650155 .5605382

|

\_cons | .0000182 1.24e-06 -160.03 0.000 .000016 .0000208

ln(hours) | 1 (exposure)

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

**. eststo: nbreg MR `subpart\_penalty\_point\_vars' `covariates' ib(freq).state ib(freq).time if sample\_pp == 1, vce(cl mineid) exposure(hours) iter(50) irr**

note: sp75\_1001\_pp omitted because of collinearity

note: sp75\_1106\_6\_pp omitted because of collinearity

note: sp75\_1431\_pp omitted because of collinearity

note: sp75\_1727\_pp omitted because of collinearity

note: sp75\_511\_1\_pp omitted because of collinearity

note: sp75\_800\_2\_pp omitted because of collinearity

note: sp75\_806\_pp omitted because of collinearity

note: sp77\_413\_pp omitted because of collinearity

note: sp77\_606\_pp omitted because of collinearity

note: sp77\_804\_pp omitted because of collinearity

note: sp77\_902\_2\_pp omitted because of collinearity

Fitting Poisson model:

Iteration 0: log pseudolikelihood = -47793.159

Iteration 1: log pseudolikelihood = -26768.234 (backed up)

Iteration 2: log pseudolikelihood = -18599.67

Iteration 3: log pseudolikelihood = -10152.762

Iteration 4: log pseudolikelihood = -5719.1424

Iteration 5: log pseudolikelihood = -4486.4411

Iteration 6: log pseudolikelihood = -4372.1882

Iteration 7: log pseudolikelihood = -4364.9495

Iteration 8: log pseudolikelihood = -4364.8313

Iteration 9: log pseudolikelihood = -4364.8311

Fitting constant-only model:

Iteration 0: log pseudolikelihood = -4833.1956

Iteration 1: log pseudolikelihood = -4642.8135

Iteration 2: log pseudolikelihood = -4639.576

Iteration 3: log pseudolikelihood = -4639.57

Iteration 4: log pseudolikelihood = -4639.57

Fitting full model:

Iteration 0: log pseudolikelihood = -4429.0469

Iteration 1: log pseudolikelihood = -4368.0059

Iteration 2: log pseudolikelihood = -4356.5875

Iteration 3: log pseudolikelihood = -4355.8162

Iteration 4: log pseudolikelihood = -4355.8052

Iteration 5: log pseudolikelihood = -4355.8052

Negative binomial regression Number of obs = 3,333

Wald chi2(309) = .

Dispersion = mean Prob > chi2 = .

Log pseudolikelihood = -4355.8052 Pseudo R2 = 0.0612

(Std. Err. adjusted for 727 clusters in mineid)

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| Robust

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

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

sp47\_41\_pp | .9993869 .0006412 -0.96 0.339 .998131 1.000644

sp47\_42\_pp | .9993039 .0022106 -0.31 0.753 .9949807 1.003646

sp47\_44\_pp | .9994618 .0011162 -0.48 0.630 .9972766 1.001652

sp48\_11\_pp | 1.001373 .0007943 1.73 0.084 .9998168 1.002931

sp48\_24\_pp | .9404447 .0026938 -21.44 0.000 .9351798 .9457392

sp48\_25\_pp | 1.000504 .0015412 0.33 0.744 .9974876 1.003529

sp48\_26\_pp | 1.002863 .0010668 2.69 0.007 1.000774 1.004956

sp48\_27\_pp | 1.001587 .0008988 1.77 0.077 .9998268 1.00335

sp48\_28\_pp | .9987434 .0016363 -0.77 0.443 .9955414 1.001956

sp48\_4\_pp | 1.012381 .0022105 5.64 0.000 1.008058 1.016723

sp48\_5\_pp | .9989718 .0018016 -0.57 0.568 .9954469 1.002509

sp48\_6\_pp | 1.00107 .0007965 1.34 0.179 .9995104 1.002633

sp48\_7\_pp | .9995196 .0007118 -0.67 0.500 .9981255 1.000916

sp48\_8\_pp | 1.00006 .0012067 0.05 0.960 .9976976 1.002428

sp71\_701\_pp | .9952415 .0061483 -0.77 0.440 .9832637 1.007365

sp72\_503\_pp | .9970582 .0009298 -3.16 0.002 .9952375 .9988822

sp72\_610\_pp | .9980469 .0034811 -0.56 0.575 .9912473 1.004893

sp72\_620\_pp | 1.003405 .002975 1.15 0.252 .9975913 1.009253

sp72\_630\_pp | 1.000191 .0001063 1.80 0.073 .9999825 1.000399

sp75\_100\_pp | 1.002471 .0018748 1.32 0.187 .998803 1.006152

sp75\_1001\_1\_pp | .9969606 .0042451 -0.71 0.475 .9886749 1.005316

sp75\_1001\_pp | 1 (omitted)

sp75\_1003\_1\_pp | .9993158 .0032722 -0.21 0.834 .992923 1.00575

sp75\_1100\_2\_pp | 1.000122 .0001124 1.09 0.276 .9999021 1.000343

sp75\_1101\_20\_pp | .996792 .0022391 -1.43 0.153 .9924131 1.00119

sp75\_1102\_pp | 1.000072 .0008765 0.08 0.935 .9983551 1.001791

sp75\_1103\_4\_pp | 1.00015 .0001675 0.90 0.369 .9998221 1.000479

sp75\_1104\_pp | .9993718 .0005764 -1.09 0.276 .9982427 1.000502

sp75\_1106\_2\_pp | .999832 .000688 -0.24 0.807 .9984845 1.001181

sp75\_1106\_3\_pp | 1.00032 .0001935 1.65 0.098 .9999408 1.000699

sp75\_1106\_4\_pp | 1.000493 .0014965 0.33 0.742 .9975644 1.00343

sp75\_1106\_5\_pp | 1.000188 .0006693 0.28 0.779 .9988766 1.0015

sp75\_1106\_6\_pp | 1 (omitted)

sp75\_1106\_pp | 1.001044 .0014196 0.74 0.462 .9982651 1.00383

sp75\_1107\_14\_pp | 1.002968 .003618 0.82 0.411 .9959021 1.010084

sp75\_1400\_1\_pp | .9976709 .0032155 -0.72 0.469 .9913886 1.003993

sp75\_1400\_2\_pp | 1.001258 .0039127 0.32 0.748 .9936183 1.008956

sp75\_1400\_3\_pp | 1.000621 .000847 0.73 0.463 .9989622 1.002282

sp75\_1400\_4\_pp | .9993507 .0018536 -0.35 0.726 .9957243 1.00299

sp75\_1400\_pp | .9988954 .0007564 -1.46 0.144 .997414 1.000379

sp75\_1401\_1\_pp | 1.002648 .0079256 0.33 0.738 .9872339 1.018303

sp75\_1401\_pp | 1.008585 .0041989 2.05 0.040 1.000389 1.016848

sp75\_1403\_10\_pp | 1.000167 .0003138 0.53 0.595 .999552 1.000782

sp75\_1403\_11\_pp | 1.005976 .0039059 1.53 0.125 .99835 1.013661

sp75\_1403\_3\_pp | .9948252 .0044208 -1.17 0.243 .9861983 1.003528

sp75\_1403\_4\_pp | .993916 .0129816 -0.47 0.640 .9687956 1.019688

sp75\_1403\_5\_pp | 1.00001 .0001632 0.06 0.953 .9996899 1.000329

sp75\_1403\_6\_pp | 1.000091 .0001424 0.64 0.523 .9998119 1.00037

sp75\_1403\_7\_pp | .9997991 .000692 -0.29 0.772 .9984438 1.001156

sp75\_1403\_8\_pp | .9991239 .0003161 -2.77 0.006 .9985045 .9997437

sp75\_1403\_9\_pp | 1.001204 .0008274 1.46 0.145 .9995836 1.002827

sp75\_1404\_1\_pp | .9807306 .0147771 -1.29 0.197 .9521915 1.010125

sp75\_1404\_pp | 1.00607 .0052519 1.16 0.246 .9958286 1.016416

sp75\_1405\_1\_pp | 1.001872 .0031891 0.59 0.557 .9956406 1.008142

sp75\_1405\_pp | 1.000017 .0002259 0.08 0.939 .9995747 1.00046

sp75\_1431\_pp | 1 (omitted)

sp75\_1432\_pp | .9964039 .001825 -1.97 0.049 .9928333 .9999874

sp75\_1433\_pp | 1.000158 .0013365 0.12 0.906 .997542 1.002781

sp75\_1434\_pp | 1.001561 .0015282 1.02 0.307 .9985698 1.00456

sp75\_1435\_pp | .9994344 .0065773 -0.09 0.931 .9866259 1.012409

sp75\_1437\_pp | .9989539 .0040953 -0.26 0.798 .9909595 1.007013

sp75\_150\_pp | 1.001708 .0025383 0.67 0.501 .9967456 1.006695

sp75\_151\_pp | .9964171 .0033972 -1.05 0.292 .989781 1.003098

sp75\_153\_pp | 1.003785 .0017701 2.14 0.032 1.000321 1.00726

sp75\_156\_pp | 1.000819 .0037954 0.22 0.829 .993408 1.008286

sp75\_160\_pp | 1.007649 .0066277 1.16 0.247 .9947425 1.020723

sp75\_1600\_2\_pp | .9995808 .0003544 -1.18 0.237 .9988864 1.000276

sp75\_1712\_10\_pp | .9995852 .0010621 -0.39 0.696 .9975057 1.001669

sp75\_1712\_6\_pp | .9998503 .0006478 -0.23 0.817 .9985814 1.001121

sp75\_1720\_pp | .9998653 .0005027 -0.27 0.789 .9988806 1.000851

sp75\_1721\_pp | 1.01507 .0021536 7.05 0.000 1.010858 1.0193

sp75\_1725\_pp | 1.000054 .0000679 0.80 0.426 .9999209 1.000187

sp75\_1726\_pp | .9991368 .0013033 -0.66 0.508 .9965857 1.001694

sp75\_1727\_pp | 1 (omitted)

sp75\_1728\_pp | 1.003346 .0023166 1.45 0.148 .9988163 1.007897

sp75\_1729\_pp | .9976777 .0016106 -1.44 0.150 .9945259 1.00084

sp75\_1730\_pp | 1.002172 .0015895 1.37 0.171 .9990616 1.005292

sp75\_1731\_pp | 1.000015 .000033 0.44 0.659 .9999499 1.000079

sp75\_1903\_pp | .9993302 .000635 -1.05 0.292 .9980865 1.000575

sp75\_1909\_pp | .9999624 .0000881 -0.43 0.670 .9997897 1.000135

sp75\_1910\_pp | 1.000002 .0001473 0.01 0.990 .9997132 1.000291

sp75\_1911\_pp | .999845 .0002006 -0.77 0.440 .9994518 1.000238

sp75\_1912\_pp | .9985915 .0017118 -0.82 0.411 .995242 1.001952

sp75\_1913\_pp | 1.002385 .0021477 1.11 0.266 .9981846 1.006603

sp75\_1914\_pp | 1.000205 .0001255 1.63 0.102 .9999592 1.000451

sp75\_1915\_pp | 1.002892 .0019421 1.49 0.136 .9990928 1.006706

sp75\_202\_pp | .9999765 .0000318 -0.74 0.460 .9999141 1.000039

sp75\_208\_pp | 1.000139 .0002383 0.58 0.560 .9996719 1.000606

sp75\_211\_pp | 1.000311 .0002463 1.26 0.207 .9998282 1.000794

sp75\_212\_pp | .999689 .00064 -0.49 0.627 .9984354 1.000944

sp75\_214\_pp | 1.000041 .0005279 0.08 0.938 .9990066 1.001076

sp75\_312\_pp | 1.00026 .0005166 0.50 0.614 .9992484 1.001273

sp75\_320\_pp | .9994311 .0002937 -1.94 0.053 .9988556 1.000007

sp75\_324\_pp | .9995524 .0008248 -0.54 0.587 .9979371 1.00117

sp75\_337\_pp | 1.000259 .0003369 0.77 0.441 .9995993 1.00092

sp75\_340\_pp | 1.000045 .0001774 0.25 0.799 .9996975 1.000393

sp75\_341\_pp | .9983442 .008617 -0.19 0.848 .9815972 1.015377

sp75\_342\_pp | 1.000115 .0000866 1.33 0.185 .9999451 1.000285

sp75\_344\_pp | .9986995 .00146 -0.89 0.373 .995842 1.001565

sp75\_352\_pp | .9986111 .0008266 -1.68 0.093 .9969923 1.000233

sp75\_382\_pp | .9995169 .0007224 -0.67 0.504 .9981021 1.000934

sp75\_503\_pp | 1.000018 .0000448 0.39 0.695 .9999297 1.000105

sp75\_504\_pp | .9989825 .0014718 -0.69 0.490 .996102 1.001871

sp75\_505\_pp | 1.003757 .0017449 2.16 0.031 1.000343 1.007183

sp75\_506\_1\_pp | 1.003602 .0013938 2.59 0.010 1.000873 1.006337

sp75\_506\_pp | .9981513 .0011964 -1.54 0.123 .9958091 1.000499

sp75\_507\_pp | .9994689 .0006312 -0.84 0.400 .9982325 1.000707

sp75\_511\_1\_pp | 1 (omitted)

sp75\_511\_pp | 1.001298 .0007256 1.79 0.073 .9998771 1.002721

sp75\_512\_1\_pp | 1.002787 .0046162 0.60 0.545 .9937798 1.011875

sp75\_512\_2\_pp | 1.000182 .0002067 0.88 0.378 .9997772 1.000587

sp75\_512\_pp | 1.000014 .0000665 0.21 0.834 .9998836 1.000144

sp75\_513\_1\_pp | 1.000149 .0020295 0.07 0.942 .9961788 1.004134

sp75\_513\_pp | .9990271 .0008501 -1.14 0.253 .9973623 1.000695

sp75\_514\_pp | 1.000087 .0002168 0.40 0.687 .9996626 1.000512

sp75\_515\_pp | .999687 .000165 -1.90 0.058 .9993637 1.00001

sp75\_516\_1\_pp | .9992179 .0019387 -0.40 0.687 .9954254 1.003025

sp75\_516\_2\_pp | 1.000596 .000356 1.67 0.094 .9998985 1.001294

sp75\_516\_pp | .9997872 .0002807 -0.76 0.448 .9992373 1.000337

sp75\_517\_1\_pp | 1.003534 .0019641 1.80 0.072 .9996914 1.00739

sp75\_517\_pp | .9999986 .0000528 -0.03 0.979 .9998952 1.000102

sp75\_518\_1\_pp | 1.000289 .00027 1.07 0.284 .9997602 1.000819

sp75\_518\_pp | 1.000021 .0001791 0.12 0.906 .9996703 1.000372

sp75\_519\_pp | 1.023129 .0093476 2.50 0.012 1.004971 1.041615

sp75\_520\_pp | 1.00068 .0003983 1.71 0.088 .9998993 1.00146

sp75\_523\_1\_pp | .9989808 .0005882 -1.73 0.083 .9978286 1.000134

sp75\_523\_2\_pp | .9999314 .0004409 -0.16 0.876 .9990676 1.000796

sp75\_523\_pp | .9994769 .0007207 -0.73 0.468 .9980654 1.00089

sp75\_600\_1\_pp | .9977524 .0017701 -1.27 0.205 .9942891 1.001228

sp75\_600\_pp | .9990981 .0047308 -0.19 0.849 .9898687 1.008413

sp75\_601\_1\_pp | .9999812 .0002243 -0.08 0.933 .9995418 1.000421

sp75\_601\_2\_pp | 1.002041 .002356 0.87 0.386 .9974344 1.00667

sp75\_601\_3\_pp | 1.0002 .001853 0.11 0.914 .9965753 1.003839

sp75\_601\_pp | 1.000645 .0002435 2.65 0.008 1.000168 1.001122

sp75\_602\_pp | .9986911 .0008283 -1.58 0.114 .9970691 1.000316

sp75\_603\_pp | .9986959 .0008104 -1.61 0.108 .9971089 1.000285

sp75\_604\_pp | 1.000172 .0000725 2.38 0.017 1.00003 1.000315

sp75\_605\_pp | 1.00014 .0003203 0.44 0.663 .999512 1.000768

sp75\_606\_pp | 1.000003 .0001161 0.03 0.980 .9997755 1.00023

sp75\_607\_pp | .9997093 .0006639 -0.44 0.662 .998409 1.001011

sp75\_700\_1\_pp | .9959849 .0032922 -1.22 0.224 .9895532 1.002458

sp75\_700\_pp | .9988223 .0009935 -1.18 0.236 .996877 1.000771

sp75\_701\_1\_pp | .9977565 .0009999 -2.24 0.025 .9957988 .9997182

sp75\_701\_2\_pp | 1.000924 .001235 0.75 0.454 .9985061 1.003347

sp75\_701\_3\_pp | 1.000585 .0012339 0.47 0.635 .9981696 1.003006

sp75\_701\_4\_pp | 1.003754 .0037241 1.01 0.313 .9964814 1.01108

sp75\_701\_5\_pp | .9980675 .0014609 -1.32 0.186 .9952084 1.000935

sp75\_701\_pp | .9999628 .0001771 -0.21 0.834 .9996158 1.00031

sp75\_702\_1\_pp | .9978747 .0024684 -0.86 0.390 .9930484 1.002724

sp75\_702\_pp | .9921244 .010575 -0.74 0.458 .9716127 1.013069

sp75\_703\_1\_pp | .9953908 .0053616 -0.86 0.391 .9849375 1.005955

sp75\_703\_2\_pp | 1.005661 .0068256 0.83 0.406 .9923714 1.019128

sp75\_703\_3\_pp | 1.000065 .0010709 0.06 0.951 .9979684 1.002166

sp75\_703\_4\_pp | .6042589 .0177819 -17.12 0.000 .570393 .6401355

sp75\_703\_pp | 1.0006 .0003992 1.50 0.133 .9998176 1.001382

sp75\_704\_pp | 1.000578 .0021117 0.27 0.784 .9964482 1.004726

sp75\_705\_1\_pp | 1.000203 .0013489 0.15 0.880 .9975626 1.00285

sp75\_705\_3\_pp | .9931175 .0056022 -1.22 0.221 .982198 1.004159

sp75\_705\_8\_pp | .9996504 .0050485 -0.07 0.945 .9898044 1.009594

sp75\_705\_pp | 1.005425 .003501 1.55 0.120 .9985867 1.012311

sp75\_706\_pp | .9994105 .0011981 -0.49 0.623 .997065 1.001761

sp75\_800\_2\_pp | 1 (omitted)

sp75\_800\_3\_pp | .9993245 .0016274 -0.41 0.678 .9961401 1.002519

sp75\_800\_4\_pp | 1.002922 .0014908 1.96 0.050 1.000005 1.005848

sp75\_800\_pp | .9975668 .0010149 -2.39 0.017 .9955796 .999558

sp75\_801\_pp | .9956001 .0037608 -1.17 0.243 .9882562 1.002999

sp75\_802\_pp | 1.001662 .0021835 0.76 0.446 .9973916 1.005951

sp75\_803\_2\_pp | 1.003887 .0023546 1.65 0.098 .9992831 1.008513

sp75\_803\_pp | 1.000825 .0011964 0.69 0.491 .9984824 1.003172

sp75\_804\_pp | .9998843 .0022326 -0.05 0.959 .9955181 1.00427

sp75\_805\_pp | 1.000171 .0023402 0.07 0.942 .9955945 1.004768

sp75\_806\_pp | 1 (omitted)

sp75\_807\_pp | 1.000066 .0001566 0.42 0.675 .9997588 1.000373

sp75\_808\_pp | .9983548 .0009968 -1.65 0.099 .9964029 1.00031

sp75\_809\_pp | .9998772 .0005284 -0.23 0.816 .998842 1.000913

sp75\_810\_pp | 1.000884 .0007637 1.16 0.247 .9993881 1.002382

sp75\_811\_pp | .9994851 .0005933 -0.87 0.386 .9983229 1.000649

sp75\_812\_pp | .9981947 .0018488 -0.98 0.329 .9945777 1.001825

sp75\_814\_pp | 1.00103 .0018912 0.55 0.586 .9973306 1.004744

sp75\_815\_pp | 1.002103 .0010571 1.99 0.046 1.000033 1.004177

sp75\_816\_pp | .9997023 .000421 -0.71 0.480 .9988774 1.000528

sp75\_818\_pp | .9999361 .0028528 -0.02 0.982 .9943603 1.005543

sp75\_820\_pp | 1.00146 .0011465 1.27 0.203 .999215 1.003709

sp75\_821\_pp | 1.002399 .0008685 2.77 0.006 1.000698 1.004103

sp75\_825\_pp | 1.000791 .0013613 0.58 0.561 .998126 1.003462

sp75\_827\_pp | 1.002845 .0015943 1.79 0.074 .9997252 1.005975

sp75\_831\_pp | .9977898 .0041171 -0.54 0.592 .9897531 1.005892

sp75\_832\_pp | .9925374 .010765 -0.69 0.490 .9716611 1.013862

sp75\_834\_pp | .3729975 .021453 -17.15 0.000 .3332337 .4175063

sp75\_900\_2\_pp | 1.00115 .0022803 0.50 0.614 .9966903 1.005629

sp75\_900\_3\_pp | .9990055 .0011671 -0.85 0.394 .9967207 1.001296

sp75\_900\_4\_pp | 1.000076 .0004422 0.17 0.863 .9992098 1.000943

sp75\_900\_pp | 1.000264 .000351 0.75 0.451 .9995766 1.000952

sp75\_901\_pp | .9995584 .0015011 -0.29 0.769 .9966206 1.002505

sp75\_902\_1\_pp | .9962345 .0039059 -0.96 0.336 .9886084 1.003919

sp75\_902\_2\_pp | .9999547 .0007175 -0.06 0.950 .9985494 1.001362

sp75\_902\_4\_pp | 1.000013 .0006941 0.02 0.985 .9986538 1.001375

sp75\_902\_pp | 1.000684 .0003942 1.74 0.083 .9999116 1.001457

sp75\_903\_pp | 1.001116 .0005681 1.97 0.049 1.000003 1.00223

sp75\_904\_pp | .9999482 .0001768 -0.29 0.770 .9996018 1.000295

sp75\_905\_pp | .993056 .0025038 -2.76 0.006 .9881607 .9979755

sp75\_907\_pp | .9997069 .0011266 -0.26 0.795 .9975013 1.001917

sp77\_103\_pp | .999429 .0013476 -0.42 0.672 .9967913 1.002074

sp77\_104\_pp | .9892374 .0060188 -1.78 0.075 .9775108 1.001105

sp77\_1103\_pp | 1.000035 .0003834 0.09 0.928 .9992836 1.000786

sp77\_1104\_pp | .9997992 .0001332 -1.51 0.132 .999538 1.00006

sp77\_1106\_pp | 1.003196 .0089476 0.36 0.721 .9858113 1.020887

sp77\_1111\_pp | .9949948 .0036158 -1.38 0.167 .9879333 1.002107

sp77\_1112\_pp | 1.000001 .001017 0.00 0.999 .9980101 1.001997

sp77\_1403\_pp | 1.002608 .0011724 2.23 0.026 1.000313 1.004908

sp77\_1432\_pp | 1.009727 .0033487 2.92 0.004 1.003185 1.016311

sp77\_1433\_pp | .9959488 .0023575 -1.71 0.086 .991339 1.00058

sp77\_1434\_pp | 1.005467 .0023227 2.36 0.018 1.000925 1.010029

sp77\_1437\_pp | .9991434 .0013018 -0.66 0.511 .9965951 1.001698

sp77\_1438\_pp | .9423397 .0202357 -2.77 0.006 .9035015 .9828475

sp77\_1605\_pp | .999887 .0001665 -0.68 0.497 .9995607 1.000213

sp77\_1606\_pp | 1.000267 .000253 1.06 0.291 .9997714 1.000763

sp77\_1710\_pp | .9996191 .0004591 -0.83 0.407 .9987197 1.000519

sp77\_1802\_pp | 1.081197 .0263754 3.20 0.001 1.030718 1.134147

sp77\_1906\_pp | 1.009683 .0048967 1.99 0.047 1.000132 1.019326

sp77\_1915\_pp | 1.001362 .0016865 0.81 0.419 .9980624 1.004674

sp77\_1916\_pp | 1.004953 .0019494 2.55 0.011 1.00114 1.008781

sp77\_200\_pp | 1.000011 .0003607 0.03 0.976 .9993039 1.000718

sp77\_202\_pp | .9987115 .00053 -2.43 0.015 .9976734 .9997508

sp77\_203\_pp | 1.00435 .00192 2.27 0.023 1.000594 1.008121

sp77\_204\_pp | .9995287 .0005825 -0.81 0.419 .9983877 1.000671

sp77\_205\_pp | 1.000386 .0001727 2.23 0.026 1.000047 1.000724

sp77\_206\_pp | 1.001918 .0008284 2.32 0.020 1.000296 1.003543

sp77\_207\_pp | 1.000495 .0005474 0.90 0.366 .9994225 1.001568

sp77\_208\_pp | 1.000693 .0002806 2.47 0.013 1.000143 1.001243

sp77\_210\_pp | .9994242 .0009698 -0.59 0.553 .9975252 1.001327

sp77\_216\_pp | 1.001122 .000532 2.11 0.035 1.00008 1.002165

sp77\_305\_pp | 1.01781 .0095685 1.88 0.060 .9992277 1.036738

sp77\_309\_pp | .9758285 .0042437 -5.63 0.000 .9675463 .9841816

sp77\_314\_pp | .979098 .0103127 -2.01 0.045 .9590926 .9995207

sp77\_315\_pp | .9712557 .0106414 -2.66 0.008 .9506212 .9923381

sp77\_400\_pp | 1.000104 .0002182 0.47 0.635 .9996761 1.000531

sp77\_401\_pp | 1.000814 .0010825 0.75 0.452 .998695 1.002938

sp77\_402\_pp | .998848 .000835 -1.38 0.168 .9972127 1.000486

sp77\_403\_1\_pp | 1.000255 .0012923 0.20 0.844 .9977251 1.002791

sp77\_403\_2\_pp | 1.019644 .0067034 2.96 0.003 1.00659 1.032867

sp77\_403\_pp | 1.009897 .0024442 4.07 0.000 1.005118 1.014699

sp77\_404\_pp | .9998692 .0001432 -0.91 0.361 .9995885 1.00015

sp77\_405\_pp | 1.000674 .0014965 0.45 0.652 .9977451 1.003611

sp77\_408\_pp | .9991424 .0018613 -0.46 0.645 .995501 1.002797

sp77\_409\_pp | 1.003189 .0076786 0.42 0.677 .9882512 1.018352

sp77\_410\_pp | 1.000356 .0002879 1.24 0.216 .9997918 1.000921

sp77\_411\_pp | .986931 .005423 -2.39 0.017 .9763591 .9976173

sp77\_412\_pp | 1.000328 .0012168 0.27 0.787 .9979462 1.002716

sp77\_413\_pp | 1 (omitted)

sp77\_500\_pp | 1.001793 .0024511 0.73 0.464 .9970001 1.006608

sp77\_501\_pp | .9970043 .0017225 -1.74 0.082 .993634 1.000386

sp77\_502\_1\_pp | 1.011907 .014903 0.80 0.422 .9831152 1.041542

sp77\_502\_2\_pp | 1.001832 .0010044 1.83 0.068 .9998653 1.003802

sp77\_502\_pp | .9999303 .0001766 -0.39 0.693 .9995843 1.000276

sp77\_503\_1\_pp | 1.004627 .0035577 1.30 0.192 .9976784 1.011624

sp77\_503\_pp | 1.00057 .0026241 0.22 0.828 .9954402 1.005726

sp77\_504\_pp | .9990714 .000654 -1.42 0.156 .9977903 1.000354

sp77\_505\_pp | .9998528 .0003677 -0.40 0.689 .9991324 1.000574

sp77\_506\_1\_pp | .9996684 .0004198 -0.79 0.430 .9988459 1.000492

sp77\_506\_pp | .9995826 .0005536 -0.75 0.451 .9984981 1.000668

sp77\_507\_pp | 1.002211 .0021411 1.03 0.301 .9980229 1.006416

sp77\_508\_1\_pp | .9999173 .005186 -0.02 0.987 .9898045 1.010133

sp77\_508\_pp | .9964206 .0022025 -1.62 0.105 .9921131 1.000747

sp77\_509\_pp | 1.00028 .0007294 0.38 0.701 .9988517 1.001711

sp77\_510\_pp | .997868 .0094878 -0.22 0.822 .9794444 1.016638

sp77\_511\_pp | .9953513 .0025785 -1.80 0.072 .9903103 1.000418

sp77\_512\_pp | .9997834 .0002945 -0.74 0.462 .9992063 1.000361

sp77\_513\_pp | 1.000066 .0004886 0.13 0.893 .9991087 1.001024

sp77\_514\_pp | .993594 .0055766 -1.15 0.252 .9827239 1.004584

sp77\_515\_pp | 1.001707 .0104115 0.16 0.870 .981507 1.022322

sp77\_516\_pp | .999322 .0002435 -2.78 0.005 .9988448 .9997994

sp77\_600\_pp | .9993269 .0027786 -0.24 0.809 .9938957 1.004788

sp77\_601\_pp | .9927465 .0043224 -1.67 0.095 .9843108 1.001255

sp77\_602\_pp | .9990779 .0030288 -0.30 0.761 .9931593 1.005032

sp77\_603\_pp | 1.009052 .0036615 2.48 0.013 1.001901 1.016254

sp77\_604\_pp | 1.001776 .0022843 0.78 0.436 .9973091 1.006264

sp77\_605\_pp | .9713384 .0144509 -1.95 0.051 .9434242 1.000079

sp77\_606\_1\_pp | .9879288 .0036023 -3.33 0.001 .9808936 .9950144

sp77\_606\_pp | 1 (omitted)

sp77\_700\_1\_pp | 1.004569 .0028147 1.63 0.104 .9990677 1.010101

sp77\_700\_pp | .9980622 .0016866 -1.15 0.251 .9947621 1.001373

sp77\_701\_1\_pp | 1.000774 .0027531 0.28 0.779 .9953926 1.006184

sp77\_701\_2\_pp | .9998362 .002456 -0.07 0.947 .9950341 1.004661

sp77\_701\_3\_pp | 1.0059 .0065028 0.91 0.363 .9932347 1.018726

sp77\_701\_4\_pp | 1.000388 .0036873 0.11 0.916 .9931873 1.007642

sp77\_701\_pp | .9994639 .0004853 -1.10 0.269 .9985131 1.000416

sp77\_703\_pp | .9968702 .0037092 -0.84 0.400 .9896267 1.004167

sp77\_704\_1\_pp | 1.001364 .0014455 0.94 0.345 .9985349 1.004201

sp77\_704\_8\_pp | .9960106 .0031055 -1.28 0.200 .9899424 1.002116

sp77\_704\_9\_pp | .9897478 .0031806 -3.21 0.001 .9835335 .9960012

sp77\_704\_pp | .9886561 .0044962 -2.51 0.012 .9798828 .9975079

sp77\_705\_pp | 1.00029 .0009027 0.32 0.748 .9985222 1.002061

sp77\_800\_1\_pp | 1.003742 .002468 1.52 0.129 .9989161 1.008591

sp77\_800\_2\_pp | 1.000705 .0018801 0.37 0.708 .9970266 1.004396

sp77\_800\_pp | 1.007373 .0031727 2.33 0.020 1.001174 1.013611

sp77\_801\_pp | .9866787 .0072007 -1.84 0.066 .9726661 1.000893

sp77\_802\_pp | .9924511 .0033294 -2.26 0.024 .9859471 .998998

sp77\_803\_pp | .9963631 .0028436 -1.28 0.202 .9908053 1.001952

sp77\_804\_pp | 1 (omitted)

sp77\_805\_pp | .9927739 .0027282 -2.64 0.008 .9874411 .9981354

sp77\_807\_1\_pp | .9989878 .0036939 -0.27 0.784 .9917742 1.006254

sp77\_807\_2\_pp | .9997862 .003021 -0.07 0.944 .9938827 1.005725

sp77\_807\_3\_pp | 1.001051 .0017421 0.60 0.546 .9976418 1.004471

sp77\_807\_pp | .9991732 .0026025 -0.32 0.751 .9940853 1.004287

sp77\_808\_pp | 1.01193 .0051463 2.33 0.020 1.001894 1.022067

sp77\_809\_pp | .9998676 .0009886 -0.13 0.893 .9979319 1.001807

sp77\_810\_pp | 1.005042 .0020394 2.48 0.013 1.001053 1.009047

sp77\_900\_1\_pp | 1.011894 .0041364 2.89 0.004 1.00382 1.020034

sp77\_900\_2\_pp | 1.001993 .0019087 1.05 0.296 .9982593 1.005741

sp77\_900\_pp | .9986079 .002197 -0.63 0.527 .9943111 1.002923

sp77\_901\_1\_pp | .9872488 .0049742 -2.55 0.011 .9775476 .9970463

sp77\_901\_pp | .9979537 .0020443 -1.00 0.317 .9939551 1.001968

sp77\_902\_2\_pp | 1 (omitted)

sp77\_902\_3\_pp | .9991273 .0050041 -0.17 0.862 .9893674 1.008983

sp77\_902\_pp | 1.001476 .0022706 0.65 0.515 .997036 1.005937

sp77\_903\_pp | 1.001304 .002387 0.55 0.585 .9966365 1.005993

sp77\_904\_pp | .9996871 .0005172 -0.60 0.545 .998674 1.000701

mine\_time | .9933471 .0070471 -0.94 0.347 .9796306 1.007256

onsite\_insp\_hours | .9998491 .0000518 -2.91 0.004 .9997476 .9999507

|

state |

1 | 1.475169 .2384942 2.40 0.016 1.074548 2.025152

2 | 2.541193 .2876873 8.24 0.000 2.035512 3.172501

3 | .9007183 .1703038 -0.55 0.580 .6217955 1.304759

4 | 1.050809 .1319349 0.39 0.693 .8215817 1.343993

5 | .9510568 .2123841 -0.22 0.822 .6139336 1.473301

6 | .9831209 .0694345 -0.24 0.810 .8560309 1.129079

7 | 1.275166 .2764232 1.12 0.262 .8337739 1.950228

8 | .8522019 .1147595 -1.19 0.235 .6545122 1.109602

9 | .9723598 .1329962 -0.20 0.838 .7437079 1.27131

10 | .9392806 .1843607 -0.32 0.750 .6393264 1.379965

11 | .8084985 .3537872 -0.49 0.627 .3429303 1.906131

12 | 1.046612 .1422908 0.34 0.738 .8017925 1.366186

13 | 1.256281 .2324288 1.23 0.218 .8741841 1.805387

14 | .7352027 .1654098 -1.37 0.172 .4730415 1.142655

15 | .7041877 .060364 -4.09 0.000 .5952813 .8330185

17 | 1.003007 .1943288 0.02 0.988 .686099 1.466294

|

time |

2007 | 1.129951 .0759733 1.82 0.069 .9904399 1.289112

2009 | .8816517 .06265 -1.77 0.076 .7670272 1.013406

2010 | .8507571 .0638248 -2.15 0.031 .7344249 .9855162

2011 | .8942384 .064278 -1.56 0.120 .7767277 1.029527

2012 | .9040392 .0697707 -1.31 0.191 .7771313 1.051671

2013 | .8397718 .0704631 -2.08 0.037 .712425 .9898819

2014 | .72682 .0635343 -3.65 0.000 .6123784 .8626485

2015 | .8171246 .0774988 -2.13 0.033 .6785119 .9840544

|

\_cons | .0000101 7.67e-07 -151.69 0.000 8.71e-06 .0000117

ln(hours) | 1 (exposure)

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

/lnalpha | -2.903418 .5021807 -3.887674 -1.919162

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

alpha | .0548355 .0275373 .020493 .1467299

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

(est1 stored)

**. lrtest pois nbin, stats force**

Likelihood-ratio test LR chi2(5) = -8681.93

(Assumption: nbin nested in pois) Prob > chi2 = 1.0000

Akaike's information criterion and Bayesian information criterion

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

Model | Obs ll(null) ll(model) df AIC BIC

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

nbin | 3,333 -4639.57 -4355.805 311 9333.61 11234.33

pois | 6,253 -9569.622 -8696.768 316 18025.54 20155.63

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

Note: N=Obs used in calculating BIC; see [R] BIC note.

**. summ MR spcpp1\_yhat**

Variable | Obs Mean Std. Dev. Min Max

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

MR | 6,253 1.881017 3.268911 0 37

spcpp1\_yhat | 6,253 1.899393 2.880909 4.83e-16 38.75384