// Model SP.C.PP.3

**. glm MR `subpart\_pp\_lag\_4\_vars' `covariates' ib(freq).state ib(freq).time, family(poisson) link(log) vce(cl mineid) exposure(hours) iter(50) eform**

note: sp77\_606\_pp\_c\_4lag omitted because of collinearity

Iteration 0: log pseudolikelihood = -17613.694

Iteration 1: log pseudolikelihood = -16503.464

Iteration 2: log pseudolikelihood = -16492.257

Iteration 3: log pseudolikelihood = -16492.136

Iteration 4: log pseudolikelihood = -16492.109

Iteration 5: log pseudolikelihood = -16492.103

Iteration 6: log pseudolikelihood = -16492.102

Iteration 7: log pseudolikelihood = -16492.101

Iteration 8: log pseudolikelihood = -16492.101

Iteration 9: log pseudolikelihood = -16492.101

Generalized linear models No. of obs = 22,446

Optimization : ML Residual df = 22,063

Scale parameter = 1

Deviance = 18031.67689 (1/df) Deviance = .8172813

Pearson = 263247.2433 (1/df) Pearson = 11.93162

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

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

AIC = 1.503618

Log pseudolikelihood = -16492.10134 BIC = -203014.6

(Std. Err. adjusted for 1,293 clusters in mineid)

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| Robust

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

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

sp47\_41\_pp\_c\_4lag | .999408 .00062 -0.95 0.340 .9981935 1.000624

sp47\_42\_pp\_c\_4lag | .9974471 .0022973 -1.11 0.267 .9929546 1.00196

sp47\_44\_pp\_c\_4lag | .9995336 .0010793 -0.43 0.666 .9974205 1.001651

sp48\_11\_pp\_c\_4lag | 1.0012 .0005719 2.10 0.036 1.000079 1.002321

sp48\_24\_pp\_c\_4lag | .963123 .0027591 -13.12 0.000 .9577305 .968546

sp48\_25\_pp\_c\_4lag | 1.000551 .0010395 0.53 0.596 .9985154 1.00259

sp48\_26\_pp\_c\_4lag | 1.003354 .0008459 3.97 0.000 1.001697 1.005013

sp48\_27\_pp\_c\_4lag | 1.000231 .0008228 0.28 0.779 .9986194 1.001845

sp48\_28\_pp\_c\_4lag | .9981455 .001402 -1.32 0.186 .9954014 1.000897

sp48\_4\_pp\_c\_4lag | 1.013127 .0015346 8.61 0.000 1.010123 1.016139

sp48\_5\_pp\_c\_4lag | 1.000384 .0014893 0.26 0.797 .9974688 1.003307

sp48\_6\_pp\_c\_4lag | 1.000505 .0007076 0.71 0.475 .9991193 1.001893

sp48\_7\_pp\_c\_4lag | 1.000277 .0005038 0.55 0.582 .9992906 1.001265

sp48\_8\_pp\_c\_4lag | 1.001246 .0009872 1.26 0.207 .9993126 1.003182

sp71\_701\_pp\_c\_4lag | 1.008926 .0039259 2.28 0.022 1.001261 1.01665

sp72\_503\_pp\_c\_4lag | .9986048 .0007864 -1.77 0.076 .9970647 1.000147

sp72\_610\_pp\_c\_4lag | .9988412 .002705 -0.43 0.669 .9935535 1.004157

sp72\_620\_pp\_c\_4lag | 1.007733 .002522 3.08 0.002 1.002802 1.012689

sp72\_630\_pp\_c\_4lag | 1.000151 .0000884 1.71 0.087 .9999779 1.000324

sp75\_100\_pp\_c\_4lag | 1.001276 .0013663 0.93 0.350 .9986016 1.003958

sp75\_1001\_1\_pp\_c\_4lag | 1.000893 .0026035 0.34 0.731 .9958036 1.006009

sp75\_1001\_pp\_c\_4lag | .9998737 .004258 -0.03 0.976 .991563 1.008254

sp75\_1003\_1\_pp\_c\_4lag | .9917735 .0027767 -2.95 0.003 .9863462 .9972305

sp75\_1100\_2\_pp\_c\_4lag | 1.000255 .0001037 2.46 0.014 1.000052 1.000458

sp75\_1101\_20\_pp\_c\_4lag | .9953168 .0019183 -2.44 0.015 .9915641 .9990837

sp75\_1102\_pp\_c\_4lag | .9981974 .000738 -2.44 0.015 .996752 .9996449

sp75\_1103\_4\_pp\_c\_4lag | 1.000076 .0001609 0.47 0.636 .9997609 1.000392

sp75\_1104\_pp\_c\_4lag | .9993321 .0004816 -1.39 0.166 .9983885 1.000277

sp75\_1106\_2\_pp\_c\_4lag | 1.000289 .0005239 0.55 0.581 .9992631 1.001317

sp75\_1106\_3\_pp\_c\_4lag | 1.000123 .0001672 0.73 0.462 .9997952 1.000451

sp75\_1106\_4\_pp\_c\_4lag | .9995643 .0015531 -0.28 0.779 .996525 1.002613

sp75\_1106\_5\_pp\_c\_4lag | .9998742 .0007117 -0.18 0.860 .9984802 1.00127

sp75\_1106\_6\_pp\_c\_4lag | .9936583 .0033899 -1.86 0.062 .9870365 1.000325

sp75\_1106\_pp\_c\_4lag | 1.00139 .0010584 1.31 0.189 .9993174 1.003466

sp75\_1107\_14\_pp\_c\_4lag | 1.003303 .0025417 1.30 0.193 .9983339 1.008297

sp75\_1400\_1\_pp\_c\_4lag | 1.000696 .0019692 0.35 0.724 .9968434 1.004563

sp75\_1400\_2\_pp\_c\_4lag | 1.000752 .0032672 0.23 0.818 .9943689 1.007176

sp75\_1400\_3\_pp\_c\_4lag | 1.000521 .000636 0.82 0.413 .9992751 1.001768

sp75\_1400\_4\_pp\_c\_4lag | .998079 .0015137 -1.27 0.205 .9951166 1.00105

sp75\_1400\_pp\_c\_4lag | .9995806 .0007611 -0.55 0.582 .9980901 1.001073

sp75\_1401\_1\_pp\_c\_4lag | 1.002618 .006745 0.39 0.698 .9894851 1.015926

sp75\_1401\_pp\_c\_4lag | .9992395 .0028924 -0.26 0.793 .9935865 1.004925

sp75\_1403\_10\_pp\_c\_4lag | 1.000245 .0001825 1.34 0.180 .9998871 1.000603

sp75\_1403\_11\_pp\_c\_4lag | 1.000236 .0021156 0.11 0.911 .996098 1.004391

sp75\_1403\_3\_pp\_c\_4lag | .9936949 .0027087 -2.32 0.020 .9884 .9990181

sp75\_1403\_4\_pp\_c\_4lag | 1.004383 .0016603 2.65 0.008 1.001135 1.007643

sp75\_1403\_5\_pp\_c\_4lag | .9997654 .0001227 -1.91 0.056 .9995248 1.000006

sp75\_1403\_6\_pp\_c\_4lag | 1.000022 .0001026 0.21 0.831 .9998208 1.000223

sp75\_1403\_7\_pp\_c\_4lag | 1.000053 .0004743 0.11 0.910 .9991242 1.000984

sp75\_1403\_8\_pp\_c\_4lag | .999929 .0001227 -0.58 0.563 .9996885 1.00017

sp75\_1403\_9\_pp\_c\_4lag | .9988347 .0005064 -2.30 0.021 .9978426 .9998278

sp75\_1404\_1\_pp\_c\_4lag | .9863281 .0059605 -2.28 0.023 .9747147 .9980798

sp75\_1404\_pp\_c\_4lag | .997434 .0045374 -0.56 0.572 .9885803 1.006367

sp75\_1405\_1\_pp\_c\_4lag | .9987383 .001481 -0.85 0.395 .9958398 1.001645

sp75\_1405\_pp\_c\_4lag | .9998917 .000185 -0.59 0.558 .9995292 1.000254

sp75\_1431\_pp\_c\_4lag | .9834969 .0020627 -7.93 0.000 .9794624 .987548

sp75\_1432\_pp\_c\_4lag | .9990531 .0013152 -0.72 0.472 .9964786 1.001634

sp75\_1433\_pp\_c\_4lag | 1.00002 .00132 0.02 0.988 .9974363 1.00261

sp75\_1434\_pp\_c\_4lag | .9994876 .0010168 -0.50 0.614 .9974968 1.001482

sp75\_1435\_pp\_c\_4lag | 1.001047 .0031866 0.33 0.742 .9948204 1.007312

sp75\_1437\_pp\_c\_4lag | 1.005265 .0031763 1.66 0.097 .9990591 1.01151

sp75\_150\_pp\_c\_4lag | 1.003809 .0017675 2.16 0.031 1.000351 1.007279

sp75\_151\_pp\_c\_4lag | .995667 .0032989 -1.31 0.190 .9892222 1.002154

sp75\_153\_pp\_c\_4lag | 1.003909 .0016731 2.34 0.019 1.000635 1.007193

sp75\_156\_pp\_c\_4lag | 1.004697 .0029689 1.59 0.113 .9988951 1.010533

sp75\_160\_pp\_c\_4lag | 1.006061 .0040247 1.51 0.131 .9982036 1.01398

sp75\_1600\_2\_pp\_c\_4lag | .9995133 .0002916 -1.67 0.095 .9989419 1.000085

sp75\_1712\_10\_pp\_c\_4lag | .9980701 .0009462 -2.04 0.042 .9962172 .9999263

sp75\_1712\_6\_pp\_c\_4lag | 1.000904 .0005489 1.65 0.100 .9998283 1.00198

sp75\_1720\_pp\_c\_4lag | 1.000267 .0003691 0.72 0.470 .9995436 1.00099

sp75\_1721\_pp\_c\_4lag | 1.011642 .008224 1.42 0.154 .9956512 1.02789

sp75\_1725\_pp\_c\_4lag | .9999947 .0000482 -0.11 0.913 .9999002 1.000089

sp75\_1726\_pp\_c\_4lag | 1.001013 .001019 0.99 0.320 .9990176 1.003012

sp75\_1727\_pp\_c\_4lag | .9919259 .0183467 -0.44 0.661 .9566111 1.028544

sp75\_1728\_pp\_c\_4lag | 1.003824 .002233 1.72 0.086 .9994574 1.008211

sp75\_1729\_pp\_c\_4lag | .9990757 .0015397 -0.60 0.548 .9960625 1.002098

sp75\_1730\_pp\_c\_4lag | 1.002904 .0014805 1.96 0.049 1.000006 1.00581

sp75\_1731\_pp\_c\_4lag | 1.000003 .0000313 0.11 0.916 .9999419 1.000065

sp75\_1903\_pp\_c\_4lag | 1.0002 .000509 0.39 0.694 .9992034 1.001198

sp75\_1909\_pp\_c\_4lag | 1.000067 .0000828 0.81 0.418 .9999048 1.000229

sp75\_1910\_pp\_c\_4lag | 1.000147 .0001242 1.19 0.235 .999904 1.000391

sp75\_1911\_pp\_c\_4lag | .9996893 .0001584 -1.96 0.050 .9993789 .9999999

sp75\_1912\_pp\_c\_4lag | 1.000907 .0009927 0.91 0.361 .9989635 1.002855

sp75\_1913\_pp\_c\_4lag | 1.000544 .0015625 0.35 0.728 .9974863 1.003611

sp75\_1914\_pp\_c\_4lag | 1.000148 .0000922 1.61 0.107 .9999677 1.000329

sp75\_1915\_pp\_c\_4lag | 1.002456 .001222 2.01 0.044 1.000063 1.004853

sp75\_202\_pp\_c\_4lag | .9999854 .0000289 -0.50 0.614 .9999287 1.000042

sp75\_208\_pp\_c\_4lag | 1 .0001908 0.00 1.000 .9996262 1.000374

sp75\_211\_pp\_c\_4lag | 1.000259 .0001868 1.39 0.165 .999893 1.000625

sp75\_212\_pp\_c\_4lag | .9993849 .0004549 -1.35 0.176 .9984937 1.000277

sp75\_214\_pp\_c\_4lag | .9999058 .0004859 -0.19 0.846 .998954 1.000858

sp75\_312\_pp\_c\_4lag | .9995814 .0004735 -0.88 0.377 .9986538 1.00051

sp75\_320\_pp\_c\_4lag | .9995098 .0003013 -1.63 0.104 .9989195 1.000101

sp75\_324\_pp\_c\_4lag | .9995609 .0006888 -0.64 0.524 .9982117 1.000912

sp75\_337\_pp\_c\_4lag | 1.000153 .0003178 0.48 0.631 .9995301 1.000776

sp75\_340\_pp\_c\_4lag | 1.000158 .0001536 1.03 0.303 .9998572 1.000459

sp75\_341\_pp\_c\_4lag | .9865441 .0070207 -1.90 0.057 .9728792 1.000401

sp75\_342\_pp\_c\_4lag | .9999975 .0000815 -0.03 0.976 .9998378 1.000157

sp75\_344\_pp\_c\_4lag | .9992567 .0010073 -0.74 0.461 .9972843 1.001233

sp75\_352\_pp\_c\_4lag | .999207 .0005843 -1.36 0.175 .9980624 1.000353

sp75\_382\_pp\_c\_4lag | .9993091 .0005772 -1.20 0.231 .9981786 1.000441

sp75\_503\_pp\_c\_4lag | .9999408 .0000428 -1.38 0.167 .999857 1.000025

sp75\_504\_pp\_c\_4lag | 1.001271 .0014155 0.90 0.369 .9985002 1.004049

sp75\_505\_pp\_c\_4lag | 1.000052 .002297 0.02 0.982 .9955601 1.004564

sp75\_506\_1\_pp\_c\_4lag | 1.002187 .0014108 1.55 0.121 .999426 1.004956

sp75\_506\_pp\_c\_4lag | .9991345 .0009048 -0.96 0.339 .9973627 1.000909

sp75\_507\_pp\_c\_4lag | .9996884 .0005491 -0.57 0.570 .9986129 1.000765

sp75\_511\_1\_pp\_c\_4lag | .971656 .0041165 -6.79 0.000 .9636213 .9797577

sp75\_511\_pp\_c\_4lag | 1.001389 .0005351 2.60 0.009 1.000341 1.002438

sp75\_512\_1\_pp\_c\_4lag | 1.001232 .0077638 0.16 0.874 .98613 1.016565

sp75\_512\_2\_pp\_c\_4lag | 1.000388 .0001853 2.09 0.036 1.000025 1.000751

sp75\_512\_pp\_c\_4lag | .9999639 .0000571 -0.63 0.528 .999852 1.000076

sp75\_513\_1\_pp\_c\_4lag | .9999843 .0019322 -0.01 0.993 .9962043 1.003779

sp75\_513\_pp\_c\_4lag | .9997973 .0009364 -0.22 0.829 .9979636 1.001634

sp75\_514\_pp\_c\_4lag | 1.000129 .0001857 0.70 0.486 .9997655 1.000494

sp75\_515\_pp\_c\_4lag | .9996195 .0001282 -2.97 0.003 .9993683 .9998708

sp75\_516\_1\_pp\_c\_4lag | .9970795 .0026116 -1.12 0.264 .9919739 1.002211

sp75\_516\_2\_pp\_c\_4lag | 1.000247 .0003989 0.62 0.536 .9994655 1.001029

sp75\_516\_pp\_c\_4lag | .9999429 .000258 -0.22 0.825 .9994374 1.000449

sp75\_517\_1\_pp\_c\_4lag | 1.001784 .0024847 0.72 0.472 .9969262 1.006666

sp75\_517\_pp\_c\_4lag | .9999631 .0000456 -0.81 0.419 .9998737 1.000053

sp75\_518\_1\_pp\_c\_4lag | .999918 .0003088 -0.27 0.791 .999313 1.000523

sp75\_518\_pp\_c\_4lag | 1.000263 .0001835 1.44 0.151 .9999038 1.000623

sp75\_519\_pp\_c\_4lag | .9982779 .0037729 -0.46 0.648 .9909105 1.0057

sp75\_520\_pp\_c\_4lag | 1.000187 .0002983 0.63 0.531 .9996022 1.000772

sp75\_523\_1\_pp\_c\_4lag | .9990342 .0005767 -1.67 0.094 .9979045 1.000165

sp75\_523\_2\_pp\_c\_4lag | 1.000116 .0003578 0.32 0.745 .9994153 1.000818

sp75\_523\_pp\_c\_4lag | .9995314 .0004917 -0.95 0.341 .9985681 1.000496

sp75\_600\_1\_pp\_c\_4lag | .9979386 .0025925 -0.79 0.427 .9928703 1.003033

sp75\_600\_pp\_c\_4lag | 1.002078 .003165 0.66 0.511 .9958935 1.0083

sp75\_601\_1\_pp\_c\_4lag | 1.000043 .0001833 0.24 0.814 .9996839 1.000403

sp75\_601\_2\_pp\_c\_4lag | 1.000663 .0020526 0.32 0.746 .9966485 1.004695

sp75\_601\_3\_pp\_c\_4lag | .9974716 .0017286 -1.46 0.144 .9940893 1.000865

sp75\_601\_pp\_c\_4lag | 1.000206 .0002291 0.90 0.369 .9997571 1.000655

sp75\_602\_pp\_c\_4lag | 1.00086 .000548 1.57 0.116 .999787 1.001935

sp75\_603\_pp\_c\_4lag | .9993878 .0006307 -0.97 0.332 .9981525 1.000625

sp75\_604\_pp\_c\_4lag | 1.000166 .0000671 2.47 0.014 1.000034 1.000297

sp75\_605\_pp\_c\_4lag | 1.000402 .0002248 1.79 0.074 .9999614 1.000843

sp75\_606\_pp\_c\_4lag | 1.000023 .0001121 0.21 0.835 .9998037 1.000243

sp75\_607\_pp\_c\_4lag | 1.000168 .0005954 0.28 0.777 .9990021 1.001336

sp75\_700\_1\_pp\_c\_4lag | .997312 .0023532 -1.14 0.254 .9927105 1.001935

sp75\_700\_pp\_c\_4lag | .9993716 .000607 -1.03 0.301 .9981826 1.000562

sp75\_701\_1\_pp\_c\_4lag | .9986116 .0007687 -1.80 0.071 .9971061 1.000119

sp75\_701\_2\_pp\_c\_4lag | 1.000585 .0007403 0.79 0.430 .9991347 1.002037

sp75\_701\_3\_pp\_c\_4lag | 1.002241 .0007748 2.89 0.004 1.000723 1.00376

sp75\_701\_4\_pp\_c\_4lag | 1.003969 .0024914 1.60 0.110 .9990978 1.008864

sp75\_701\_pp\_c\_4lag | 1.000131 .0001681 0.78 0.435 .9998018 1.000461

sp75\_702\_1\_pp\_c\_4lag | .9957144 .0025597 -1.67 0.095 .9907101 1.000744

sp75\_702\_pp\_c\_4lag | .9990341 .0023958 -0.40 0.687 .9943495 1.003741

sp75\_703\_1\_pp\_c\_4lag | .9972172 .0037561 -0.74 0.459 .9898826 1.004606

sp75\_703\_2\_pp\_c\_4lag | 1.003116 .0050256 0.62 0.535 .9933139 1.013014

sp75\_703\_3\_pp\_c\_4lag | 1.000553 .0010433 0.53 0.596 .9985103 1.0026

sp75\_703\_4\_pp\_c\_4lag | 1.006859 .0063413 1.09 0.278 .994507 1.019365

sp75\_703\_pp\_c\_4lag | 1.001001 .0003695 2.71 0.007 1.000277 1.001726

sp75\_704\_pp\_c\_4lag | .997496 .0023562 -1.06 0.289 .9928885 1.002125

sp75\_705\_1\_pp\_c\_4lag | .9971052 .0018767 -1.54 0.123 .9934337 1.00079

sp75\_705\_3\_pp\_c\_4lag | 1.022577 .0041622 5.49 0.000 1.014452 1.030767

sp75\_705\_8\_pp\_c\_4lag | .9984862 .0043067 -0.35 0.725 .9900809 1.006963

sp75\_705\_pp\_c\_4lag | 1.00393 .0022677 1.74 0.083 .999495 1.008384

sp75\_706\_pp\_c\_4lag | 1.000607 .0009465 0.64 0.521 .9987538 1.002464

sp75\_800\_2\_pp\_c\_4lag | .6565644 .023544 -11.73 0.000 .6120032 .7043702

sp75\_800\_3\_pp\_c\_4lag | .9980442 .0015763 -1.24 0.215 .9949595 1.001138

sp75\_800\_4\_pp\_c\_4lag | 1.001389 .0012638 1.10 0.271 .998915 1.003869

sp75\_800\_pp\_c\_4lag | .9992194 .0006993 -1.12 0.264 .9978498 1.000591

sp75\_801\_pp\_c\_4lag | 1.001261 .0027223 0.46 0.643 .9959396 1.006611

sp75\_802\_pp\_c\_4lag | 1.00157 .0023544 0.67 0.505 .9969658 1.006195

sp75\_803\_2\_pp\_c\_4lag | 1.003603 .0028261 1.28 0.201 .9980797 1.009158

sp75\_803\_pp\_c\_4lag | .9993674 .0009944 -0.64 0.525 .9974202 1.001318

sp75\_804\_pp\_c\_4lag | .999842 .0008201 -0.19 0.847 .998236 1.001451

sp75\_805\_pp\_c\_4lag | 1.002175 .0019717 1.10 0.269 .9983179 1.006047

sp75\_806\_pp\_c\_4lag | 1.008064 .0051795 1.56 0.118 .9979635 1.018267

sp75\_807\_pp\_c\_4lag | 1.000304 .0001271 2.39 0.017 1.000055 1.000553

sp75\_808\_pp\_c\_4lag | .9989484 .0011723 -0.90 0.370 .9966533 1.001249

sp75\_809\_pp\_c\_4lag | .999693 .0004926 -0.62 0.533 .998728 1.000659

sp75\_810\_pp\_c\_4lag | 1.000396 .0006719 0.59 0.556 .9990795 1.001713

sp75\_811\_pp\_c\_4lag | 1.000772 .0004174 1.85 0.064 .9999548 1.001591

sp75\_812\_pp\_c\_4lag | 1.000752 .0019621 0.38 0.701 .9969135 1.004605

sp75\_814\_pp\_c\_4lag | .9993385 .0011858 -0.56 0.577 .9970171 1.001665

sp75\_815\_pp\_c\_4lag | 1.002521 .0010322 2.45 0.014 1.0005 1.004546

sp75\_816\_pp\_c\_4lag | .9999314 .0003643 -0.19 0.851 .9992175 1.000646

sp75\_818\_pp\_c\_4lag | 1.000857 .0018192 0.47 0.638 .9972973 1.004429

sp75\_820\_pp\_c\_4lag | 1.001887 .0007919 2.38 0.017 1.000336 1.00344

sp75\_821\_pp\_c\_4lag | 1.000932 .0005168 1.80 0.071 .9999197 1.001946

sp75\_825\_pp\_c\_4lag | 1.000833 .001587 0.52 0.600 .9977268 1.003948

sp75\_827\_pp\_c\_4lag | 1.001258 .0009037 1.39 0.164 .9994883 1.003031

sp75\_831\_pp\_c\_4lag | .9945046 .0026278 -2.09 0.037 .9893675 .9996684

sp75\_832\_pp\_c\_4lag | .9923346 .0130043 -0.59 0.557 .9671711 1.018153

sp75\_834\_pp\_c\_4lag | .552848 .0339202 -9.66 0.000 .4902074 .6234929

sp75\_900\_2\_pp\_c\_4lag | .9981469 .0022207 -0.83 0.404 .9938039 1.002509

sp75\_900\_3\_pp\_c\_4lag | 1.001097 .0010184 1.08 0.281 .999103 1.003095

sp75\_900\_4\_pp\_c\_4lag | .9999169 .0003349 -0.25 0.804 .9992607 1.000573

sp75\_900\_pp\_c\_4lag | .9999137 .0003449 -0.25 0.802 .9992379 1.00059

sp75\_901\_pp\_c\_4lag | .9991095 .0011729 -0.76 0.448 .9968132 1.001411

sp75\_902\_1\_pp\_c\_4lag | 1.00386 .0026185 1.48 0.140 .9987413 1.009006

sp75\_902\_2\_pp\_c\_4lag | 1.000098 .0004791 0.21 0.837 .9991598 1.001038

sp75\_902\_4\_pp\_c\_4lag | 1.000337 .0006195 0.54 0.586 .9991239 1.001552

sp75\_902\_pp\_c\_4lag | 1.000406 .0003322 1.22 0.222 .9997551 1.001057

sp75\_903\_pp\_c\_4lag | 1.000305 .0004992 0.61 0.542 .9993266 1.001283

sp75\_904\_pp\_c\_4lag | .9998316 .0001382 -1.22 0.223 .9995608 1.000102

sp75\_905\_pp\_c\_4lag | 1.004995 .0035719 1.40 0.161 .9980182 1.01202

sp75\_907\_pp\_c\_4lag | 1.00076 .001024 0.74 0.458 .9987549 1.002769

sp77\_103\_pp\_c\_4lag | .9990093 .0013626 -0.73 0.467 .9963423 1.001684

sp77\_104\_pp\_c\_4lag | 1.001898 .0065803 0.29 0.773 .9890834 1.014879

sp77\_1103\_pp\_c\_4lag | .9995234 .0003258 -1.46 0.144 .998885 1.000162

sp77\_1104\_pp\_c\_4lag | 1.000222 .0001179 1.88 0.060 .9999905 1.000453

sp77\_1106\_pp\_c\_4lag | 1.006326 .0071919 0.88 0.378 .9923283 1.020521

sp77\_1111\_pp\_c\_4lag | .9931506 .0040651 -1.68 0.093 .9852151 1.00115

sp77\_1112\_pp\_c\_4lag | 1.000145 .0008719 0.17 0.868 .9984374 1.001855

sp77\_1403\_pp\_c\_4lag | 1.001187 .0011609 1.02 0.306 .9989138 1.003464

sp77\_1432\_pp\_c\_4lag | .999505 .0031246 -0.16 0.874 .9933996 1.005648

sp77\_1433\_pp\_c\_4lag | .9960268 .0026173 -1.52 0.130 .9909101 1.00117

sp77\_1434\_pp\_c\_4lag | .999953 .0020976 -0.02 0.982 .9958502 1.004073

sp77\_1437\_pp\_c\_4lag | .9954555 .0012692 -3.57 0.000 .992971 .9979463

sp77\_1438\_pp\_c\_4lag | .9822478 .0077239 -2.28 0.023 .9672254 .9975036

sp77\_1605\_pp\_c\_4lag | .9999405 .0001663 -0.36 0.721 .9996146 1.000267

sp77\_1606\_pp\_c\_4lag | 1.000579 .0002339 2.48 0.013 1.000121 1.001037

sp77\_1710\_pp\_c\_4lag | .9997094 .0003691 -0.79 0.431 .9989863 1.000433

sp77\_1802\_pp\_c\_4lag | .998142 .0029222 -0.64 0.525 .992431 1.003886

sp77\_1906\_pp\_c\_4lag | 1.004115 .0030473 1.35 0.176 .9981597 1.010105

sp77\_1915\_pp\_c\_4lag | 1.002577 .0015892 1.62 0.104 .9994674 1.005697

sp77\_1916\_pp\_c\_4lag | 1.000869 .0016739 0.52 0.604 .9975933 1.004155

sp77\_200\_pp\_c\_4lag | 1.00003 .0001609 0.19 0.850 .999715 1.000346

sp77\_202\_pp\_c\_4lag | .9994609 .0002083 -2.59 0.010 .9990528 .9998692

sp77\_203\_pp\_c\_4lag | 1.001444 .0015632 0.92 0.355 .9983845 1.004512

sp77\_204\_pp\_c\_4lag | .9992342 .0003389 -2.26 0.024 .9985702 .9998987

sp77\_205\_pp\_c\_4lag | 1.000024 .0001066 0.22 0.824 .9998148 1.000233

sp77\_206\_pp\_c\_4lag | 1.000895 .0006132 1.46 0.144 .9996939 1.002098

sp77\_207\_pp\_c\_4lag | 1.00099 .0004744 2.09 0.037 1.000061 1.00192

sp77\_208\_pp\_c\_4lag | 1.000345 .0002739 1.26 0.208 .9998081 1.000882

sp77\_210\_pp\_c\_4lag | .9998242 .0009067 -0.19 0.846 .9980487 1.001603

sp77\_216\_pp\_c\_4lag | 1.000277 .0004368 0.63 0.526 .999421 1.001133

sp77\_305\_pp\_c\_4lag | 1.018277 .0057658 3.20 0.001 1.007039 1.029641

sp77\_309\_pp\_c\_4lag | .9998273 .0038393 -0.04 0.964 .9923307 1.007381

sp77\_314\_pp\_c\_4lag | .9959843 .0079833 -0.50 0.616 .9804595 1.011755

sp77\_315\_pp\_c\_4lag | .9877766 .0060927 -1.99 0.046 .975907 .9997907

sp77\_400\_pp\_c\_4lag | 1.000143 .0001149 1.24 0.213 .9999178 1.000368

sp77\_401\_pp\_c\_4lag | 1.000322 .0008952 0.36 0.719 .9985687 1.002078

sp77\_402\_pp\_c\_4lag | .9995332 .000681 -0.69 0.493 .9981994 1.000869

sp77\_403\_1\_pp\_c\_4lag | 1.000849 .0012395 0.69 0.493 .9984225 1.003281

sp77\_403\_2\_pp\_c\_4lag | 1.009735 .0043105 2.27 0.023 1.001321 1.018218

sp77\_403\_pp\_c\_4lag | 1.006072 .0024823 2.45 0.014 1.001219 1.010949

sp77\_404\_pp\_c\_4lag | .9997444 .0001404 -1.82 0.069 .9994693 1.00002

sp77\_405\_pp\_c\_4lag | .9992931 .001066 -0.66 0.507 .997206 1.001385

sp77\_408\_pp\_c\_4lag | .9988151 .0013114 -0.90 0.367 .9962482 1.001389

sp77\_409\_pp\_c\_4lag | .990863 .0037507 -2.42 0.015 .9835389 .9982415

sp77\_410\_pp\_c\_4lag | 1.000412 .0002072 1.99 0.047 1.000006 1.000819

sp77\_411\_pp\_c\_4lag | .9950533 .0054996 -0.90 0.370 .9843326 1.005891

sp77\_412\_pp\_c\_4lag | 1.000782 .0008359 0.94 0.349 .999145 1.002422

sp77\_413\_pp\_c\_4lag | .9867551 .002153 -6.11 0.000 .9825444 .9909839

sp77\_500\_pp\_c\_4lag | .9997686 .0014655 -0.16 0.875 .9969003 1.002645

sp77\_501\_pp\_c\_4lag | 1.000082 .0011835 0.07 0.945 .9977652 1.002405

sp77\_502\_1\_pp\_c\_4lag | 1.007197 .004071 1.77 0.076 .999249 1.015207

sp77\_502\_2\_pp\_c\_4lag | .9994496 .0008869 -0.62 0.535 .9977128 1.001189

sp77\_502\_pp\_c\_4lag | .9998572 .0001323 -1.08 0.281 .9995979 1.000117

sp77\_503\_1\_pp\_c\_4lag | .9996524 .0045127 -0.08 0.939 .9908468 1.008536

sp77\_503\_pp\_c\_4lag | 1.001752 .0019784 0.89 0.375 .9978824 1.005637

sp77\_504\_pp\_c\_4lag | .9987961 .000554 -2.17 0.030 .9977108 .9998825

sp77\_505\_pp\_c\_4lag | .9999433 .0003433 -0.17 0.869 .9992707 1.000616

sp77\_506\_1\_pp\_c\_4lag | 1.000109 .0003831 0.28 0.776 .9993581 1.00086

sp77\_506\_pp\_c\_4lag | .9995855 .0004795 -0.86 0.387 .9986462 1.000526

sp77\_507\_pp\_c\_4lag | 1.000133 .0015628 0.08 0.932 .9970743 1.003201

sp77\_508\_1\_pp\_c\_4lag | .9969246 .0036202 -0.85 0.396 .9898543 1.004045

sp77\_508\_pp\_c\_4lag | .9995798 .0019959 -0.21 0.833 .9956755 1.003499

sp77\_509\_pp\_c\_4lag | .9992841 .0007029 -1.02 0.309 .9979073 1.000663

sp77\_510\_pp\_c\_4lag | .9964117 .0024117 -1.49 0.137 .991696 1.00115

sp77\_511\_pp\_c\_4lag | .9968298 .0024448 -1.29 0.195 .9920495 1.001633

sp77\_512\_pp\_c\_4lag | .999883 .000349 -0.34 0.737 .9991992 1.000567

sp77\_513\_pp\_c\_4lag | .9997639 .0005545 -0.43 0.670 .9986776 1.000851

sp77\_514\_pp\_c\_4lag | .9983918 .0038412 -0.42 0.676 .9908915 1.005949

sp77\_515\_pp\_c\_4lag | 1.001536 .0091899 0.17 0.867 .9836847 1.01971

sp77\_516\_pp\_c\_4lag | .9996356 .0001594 -2.29 0.022 .9993232 .9999481

sp77\_600\_pp\_c\_4lag | 1.002579 .0020509 1.26 0.208 .9985674 1.006607

sp77\_601\_pp\_c\_4lag | 1.001489 .0024793 0.60 0.548 .9966419 1.00636

sp77\_602\_pp\_c\_4lag | .9996398 .0017039 -0.21 0.833 .9963058 1.002985

sp77\_603\_pp\_c\_4lag | 1.0134 .0028061 4.81 0.000 1.007915 1.018915

sp77\_604\_pp\_c\_4lag | .99894 .0015293 -0.69 0.488 .9959471 1.001942

sp77\_605\_pp\_c\_4lag | .9925241 .0065208 -1.14 0.253 .9798254 1.005387

sp77\_606\_1\_pp\_c\_4lag | .9934792 .0037841 -1.72 0.086 .9860902 1.000924

sp77\_606\_pp\_c\_4lag | 1 (omitted)

sp77\_700\_1\_pp\_c\_4lag | 1.000215 .002388 0.09 0.928 .9955456 1.004907

sp77\_700\_pp\_c\_4lag | .9990831 .0014691 -0.62 0.533 .9962079 1.001967

sp77\_701\_1\_pp\_c\_4lag | 1.000997 .0023084 0.43 0.666 .9964829 1.005532

sp77\_701\_2\_pp\_c\_4lag | .9982508 .001993 -0.88 0.381 .9943522 1.002165

sp77\_701\_3\_pp\_c\_4lag | 1.004451 .0021386 2.09 0.037 1.000268 1.008651

sp77\_701\_4\_pp\_c\_4lag | 1.001688 .00254 0.67 0.506 .9967221 1.006679

sp77\_701\_pp\_c\_4lag | .9994824 .0005044 -1.03 0.305 .9984942 1.000471

sp77\_703\_pp\_c\_4lag | .9993484 .0035358 -0.18 0.854 .9924423 1.006302

sp77\_704\_1\_pp\_c\_4lag | 1.000126 .0009566 0.13 0.895 .998253 1.002003

sp77\_704\_8\_pp\_c\_4lag | .9967108 .0026079 -1.26 0.208 .9916126 1.001835

sp77\_704\_9\_pp\_c\_4lag | .9843523 .0056839 -2.73 0.006 .9732748 .9955559

sp77\_704\_pp\_c\_4lag | 1.000738 .0034288 0.22 0.830 .99404 1.007481

sp77\_705\_pp\_c\_4lag | 1.001056 .0010598 1.00 0.319 .9989813 1.003136

sp77\_800\_1\_pp\_c\_4lag | .999013 .0025744 -0.38 0.702 .99398 1.004072

sp77\_800\_2\_pp\_c\_4lag | .9982023 .0021211 -0.85 0.397 .9940537 1.002368

sp77\_800\_pp\_c\_4lag | 1.000268 .003457 0.08 0.938 .993515 1.007066

sp77\_801\_pp\_c\_4lag | .9901524 .0058492 -1.68 0.094 .9787543 1.001683

sp77\_802\_pp\_c\_4lag | .9971422 .0022406 -1.27 0.203 .9927603 1.001543

sp77\_803\_pp\_c\_4lag | 1.000436 .0017715 0.25 0.806 .9969699 1.003914

sp77\_804\_pp\_c\_4lag | 1.005964 .0072705 0.82 0.411 .9918143 1.020315

sp77\_805\_pp\_c\_4lag | .9994444 .0023786 -0.23 0.815 .9947933 1.004117

sp77\_807\_1\_pp\_c\_4lag | .9995109 .0045943 -0.11 0.915 .9905466 1.008556

sp77\_807\_2\_pp\_c\_4lag | .9998404 .0024402 -0.07 0.948 .9950692 1.004635

sp77\_807\_3\_pp\_c\_4lag | 1.001554 .0014363 1.08 0.279 .9987427 1.004373

sp77\_807\_pp\_c\_4lag | 1.000728 .0016142 0.45 0.652 .9975688 1.003896

sp77\_808\_pp\_c\_4lag | 1.010406 .003016 3.47 0.001 1.004512 1.016334

sp77\_809\_pp\_c\_4lag | .9996641 .0007092 -0.47 0.636 .998275 1.001055

sp77\_810\_pp\_c\_4lag | 1.002558 .0016907 1.52 0.130 .99925 1.005877

sp77\_900\_1\_pp\_c\_4lag | 1.010259 .003155 3.27 0.001 1.004094 1.016461

sp77\_900\_2\_pp\_c\_4lag | 1.002564 .0016319 1.57 0.116 .999371 1.005768

sp77\_900\_pp\_c\_4lag | .9966059 .0027563 -1.23 0.219 .9912184 1.002023

sp77\_901\_1\_pp\_c\_4lag | .9907989 .0041453 -2.21 0.027 .9827075 .998957

sp77\_901\_pp\_c\_4lag | 1.001033 .001468 0.70 0.481 .9981603 1.003915

sp77\_902\_2\_pp\_c\_4lag | .849012 .0099726 -13.93 0.000 .8296893 .8687848

sp77\_902\_3\_pp\_c\_4lag | .9953855 .0031956 -1.44 0.150 .989142 1.001668

sp77\_902\_pp\_c\_4lag | 1.00233 .0016587 1.41 0.160 .9990839 1.005586

sp77\_903\_pp\_c\_4lag | 1.002145 .0021062 1.02 0.308 .9980257 1.006282

sp77\_904\_pp\_c\_4lag | .9998404 .0004508 -0.35 0.723 .9989572 1.000724

mine\_time | .9984043 .00172 -0.93 0.354 .9950389 1.001781

onsite\_insp\_hours | .9998335 .0001152 -1.45 0.148 .9996078 1.000059

|

state |

AL | 1.056282 .0786765 0.74 0.462 .9128066 1.222309

AR | 2.251756 .1720613 10.62 0.000 1.938561 2.615553

CO | .7429863 .119796 -1.84 0.065 .5416723 1.019119

IL | 1.136092 .0905619 1.60 0.109 .9717644 1.328207

IN | .9047371 .1271121 -0.71 0.476 .6869606 1.191552

MD | 1.105802 .2194693 0.51 0.612 .7494435 1.631609

MT | .8565674 .0866933 -1.53 0.126 .7024434 1.044508

NM | .8762486 .0593141 -1.95 0.051 .7673769 1.000567

OH | 1.206634 .1295288 1.75 0.080 .9776904 1.489188

OK | .8618686 .276946 -0.46 0.644 .4591164 1.617929

PA | .9605512 .0944148 -0.41 0.682 .7922349 1.164628

TN | 1.205511 .1852943 1.22 0.224 .8919416 1.629319

UT | .6131194 .0688631 -4.36 0.000 .4919734 .764097

VA | .6935456 .0553915 -4.58 0.000 .5930508 .8110695

WV | 1.025062 .061461 0.41 0.680 .9114096 1.152887

WY | 1.220882 .1549119 1.57 0.116 .9520701 1.565592

|

time |

2000.75 | 1.838884 .2464351 4.55 0.000 1.414106 2.39126

2001 | 1.902348 .2455461 4.98 0.000 1.477137 2.44996

2001.25 | 1.660193 .2149233 3.92 0.000 1.288145 2.139698

2001.5 | 2.089352 .281738 5.46 0.000 1.604101 2.721395

2001.75 | 1.772673 .2242666 4.53 0.000 1.383376 2.271522

2002 | 1.84244 .2331866 4.83 0.000 1.437679 2.361157

2002.25 | 1.635784 .2224552 3.62 0.000 1.25305 2.13542

2002.5 | 2.002413 .2613257 5.32 0.000 1.550484 2.586069

2002.75 | 1.867173 .2378398 4.90 0.000 1.454651 2.396681

2003 | 1.556804 .2017557 3.42 0.001 1.207596 2.006995

2003.25 | 1.796832 .2339618 4.50 0.000 1.392112 2.319213

2003.5 | 1.887188 .2208628 5.43 0.000 1.500364 2.373742

2003.75 | 1.457415 .180809 3.04 0.002 1.142831 1.858594

2004 | 1.711313 .2076685 4.43 0.000 1.349074 2.170816

2004.25 | 1.70653 .199122 4.58 0.000 1.357669 2.145034

2004.5 | 1.684251 .2043739 4.30 0.000 1.327757 2.136462

2004.75 | 1.548084 .1848588 3.66 0.000 1.225043 1.95631

2005 | 1.322996 .1637409 2.26 0.024 1.038029 1.686195

2005.25 | 1.641427 .1936311 4.20 0.000 1.302595 2.068395

2005.5 | 1.530166 .1977847 3.29 0.001 1.187722 1.971343

2005.75 | 1.349248 .1753959 2.30 0.021 1.045778 1.740781

2006 | 1.360396 .1711431 2.45 0.014 1.063117 1.740804

2006.25 | 1.369131 .1743915 2.47 0.014 1.066656 1.757381

2006.5 | 1.589887 .1925462 3.83 0.000 1.253949 2.015824

2006.75 | 1.282404 .157058 2.03 0.042 1.008735 1.63032

2007 | 1.362445 .1708821 2.47 0.014 1.065513 1.742125

2007.25 | 1.212209 .1629266 1.43 0.152 .9314763 1.577549

2007.5 | 1.251217 .1532005 1.83 0.067 .9842617 1.590577

2007.75 | 1.292126 .1586907 2.09 0.037 1.015701 1.643781

2008 | .9937563 .118841 -0.05 0.958 .7861161 1.256241

2008.25 | 1.044506 .1253799 0.36 0.717 .8255334 1.32156

2008.5 | 1.290955 .1360579 2.42 0.015 1.050027 1.587165

2009 | 1.001056 .1108909 0.01 0.992 .8056886 1.243796

2009.25 | .9475261 .112525 -0.45 0.650 .7507673 1.195851

2009.5 | 1.148589 .1379285 1.15 0.249 .9077118 1.453387

2009.75 | .8503324 .1108297 -1.24 0.214 .6586365 1.097821

2010 | .8857445 .115089 -0.93 0.350 .6866062 1.142639

2010.25 | .9428029 .1235354 -0.45 0.653 .7292694 1.21886

2010.5 | 1.069682 .1299809 0.55 0.579 .8429899 1.357336

2010.75 | .8424797 .1086803 -1.33 0.184 .6542654 1.084838

2011 | .9639201 .115824 -0.31 0.760 .7616601 1.219891

2011.25 | .9440809 .1127665 -0.48 0.630 .7470277 1.193113

2011.5 | 1.056393 .1306527 0.44 0.657 .8289928 1.346172

2011.75 | .8808247 .1121994 -1.00 0.319 .6862202 1.130617

2012 | 1.086429 .1363086 0.66 0.509 .8495826 1.389304

2012.25 | .9632744 .1206606 -0.30 0.765 .7535772 1.231324

2012.5 | 1.095181 .1345681 0.74 0.459 .8607885 1.393399

2012.75 | .9085692 .119345 -0.73 0.465 .7023418 1.175351

2013 | .9468205 .1181978 -0.44 0.662 .7413214 1.209285

2013.25 | .7999882 .1067171 -1.67 0.094 .6159346 1.039041

2013.5 | 1.063486 .1387929 0.47 0.637 .8234622 1.373472

2013.75 | .85104 .1116973 -1.23 0.219 .6580085 1.100699

2014 | .8093704 .1120955 -1.53 0.127 .6169618 1.061784

2014.25 | .8584681 .1101476 -1.19 0.234 .6675887 1.103925

2014.5 | .9049705 .1156117 -0.78 0.434 .7045176 1.162457

2014.75 | .8474931 .1100325 -1.27 0.202 .6570859 1.093076

2015 | .7832037 .1026079 -1.87 0.062 .6058406 1.012491

2015.25 | .8695241 .1164352 -1.04 0.296 .6688057 1.130481

2015.5 | 1.141422 .1511993 1.00 0.318 .8804229 1.479794

2015.75 | .7184128 .1102642 -2.15 0.031 .5317764 .9705527

2016 | .9341912 .1318554 -0.48 0.630 .708425 1.231906

|

\_cons | 8.80e-06 9.85e-07 -103.97 0.000 7.07e-06 .000011

ln(hours) | 1 (exposure)

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**. estat gof**

Deviance goodness-of-fit = 18203.84

Prob > chi2(22081) = 1.0000

Pearson goodness-of-fit = 277605.4

Prob > chi2(22081) = 0.0000

**. glm MR `subpart\_pp\_lag\_4\_vars' `covariates' ib(freq).state ib(freq).time, family(nbinomial) link(log) vce(cl mineid) exposure(hours) iter(50) eform**

note: sp77\_606\_pp\_c\_4lag omitted because of collinearity

Iteration 0: log pseudolikelihood = -17138.152

Iteration 1: log pseudolikelihood = -16928.629

Iteration 2: log pseudolikelihood = -16927.888

Iteration 3: log pseudolikelihood = -16927.775

Iteration 4: log pseudolikelihood = -16927.753

Iteration 5: log pseudolikelihood = -16927.748

Iteration 6: log pseudolikelihood = -16927.747

Iteration 7: log pseudolikelihood = -16927.746

Iteration 8: log pseudolikelihood = -16927.746

Generalized linear models No. of obs = 22,446

Optimization : ML Residual df = 22,062

Scale parameter = 1

Deviance = 12358.43504 (1/df) Deviance = .5601684

Pearson = 229691.0994 (1/df) Pearson = 10.41116

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

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

AIC = 1.542524

Log pseudolikelihood = -16927.74646 BIC = -208677.8

(Std. Err. adjusted for 1,293 clusters in mineid)

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| Robust

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

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

sp47\_41\_pp\_c\_4lag | .9992478 .0006858 -1.10 0.273 .9979045 1.000593

sp47\_42\_pp\_c\_4lag | .9970843 .0024428 -1.19 0.233 .992308 1.001884

sp47\_44\_pp\_c\_4lag | 1.000085 .0013507 0.06 0.950 .9974408 1.002735

sp48\_11\_pp\_c\_4lag | 1.001768 .0007293 2.43 0.015 1.00034 1.003198

sp48\_24\_pp\_c\_4lag | .9636347 .0027596 -12.94 0.000 .9582412 .9690586

sp48\_25\_pp\_c\_4lag | .999318 .0012126 -0.56 0.574 .9969441 1.001698

sp48\_26\_pp\_c\_4lag | 1.003391 .0008843 3.84 0.000 1.001659 1.005125

sp48\_27\_pp\_c\_4lag | .9998398 .0008532 -0.19 0.851 .9981689 1.001514

sp48\_28\_pp\_c\_4lag | .9980286 .0015559 -1.27 0.206 .9949838 1.001083

sp48\_4\_pp\_c\_4lag | 1.012033 .0016405 7.38 0.000 1.008822 1.015253

sp48\_5\_pp\_c\_4lag | .9995294 .0014504 -0.32 0.746 .9966907 1.002376

sp48\_6\_pp\_c\_4lag | 1.000069 .0007216 0.10 0.923 .998656 1.001485

sp48\_7\_pp\_c\_4lag | 1.000228 .0006664 0.34 0.733 .9989224 1.001535

sp48\_8\_pp\_c\_4lag | 1.001585 .0011224 1.41 0.158 .9993873 1.003787

sp71\_701\_pp\_c\_4lag | 1.007133 .0043044 1.66 0.096 .9987317 1.015605

sp72\_503\_pp\_c\_4lag | .9986286 .0008044 -1.70 0.088 .9970533 1.000206

sp72\_610\_pp\_c\_4lag | 1.00013 .0031191 0.04 0.967 .9940356 1.006262

sp72\_620\_pp\_c\_4lag | 1.005854 .0027131 2.16 0.030 1.00055 1.011185

sp72\_630\_pp\_c\_4lag | 1.000154 .0000971 1.58 0.114 .9999633 1.000344

sp75\_100\_pp\_c\_4lag | 1.000952 .0017115 0.56 0.578 .9976032 1.004312

sp75\_1001\_1\_pp\_c\_4lag | .9994364 .002463 -0.23 0.819 .9946205 1.004276

sp75\_1001\_pp\_c\_4lag | .9996774 .0047077 -0.07 0.945 .9904929 1.008947

sp75\_1003\_1\_pp\_c\_4lag | .9909372 .0029024 -3.11 0.002 .9852648 .9966421

sp75\_1100\_2\_pp\_c\_4lag | 1.000223 .0001092 2.04 0.041 1.000009 1.000437

sp75\_1101\_20\_pp\_c\_4lag | .9941712 .0021646 -2.68 0.007 .9899377 .9984227

sp75\_1102\_pp\_c\_4lag | .9985383 .0007998 -1.83 0.068 .9969719 1.000107

sp75\_1103\_4\_pp\_c\_4lag | 1.000118 .000165 0.71 0.475 .9997945 1.000441

sp75\_1104\_pp\_c\_4lag | .9994425 .0005239 -1.06 0.287 .9984162 1.00047

sp75\_1106\_2\_pp\_c\_4lag | 1.000128 .0005459 0.23 0.815 .9990583 1.001198

sp75\_1106\_3\_pp\_c\_4lag | 1.000185 .0001922 0.96 0.336 .9998084 1.000562

sp75\_1106\_4\_pp\_c\_4lag | .9998819 .0016762 -0.07 0.944 .9966021 1.003173

sp75\_1106\_5\_pp\_c\_4lag | .9996249 .0007234 -0.52 0.604 .9982082 1.001044

sp75\_1106\_6\_pp\_c\_4lag | .9887176 .0041405 -2.71 0.007 .9806355 .9968662

sp75\_1106\_pp\_c\_4lag | 1.002675 .0015046 1.78 0.075 .9997302 1.005628

sp75\_1107\_14\_pp\_c\_4lag | 1.001805 .0033073 0.55 0.585 .9953433 1.008308

sp75\_1400\_1\_pp\_c\_4lag | 1.000364 .0021032 0.17 0.863 .9962499 1.004494

sp75\_1400\_2\_pp\_c\_4lag | 1.001614 .0032036 0.50 0.614 .9953547 1.007913

sp75\_1400\_3\_pp\_c\_4lag | 1.00069 .0006379 1.08 0.280 .9994401 1.001941

sp75\_1400\_4\_pp\_c\_4lag | .9972508 .001784 -1.54 0.124 .9937603 1.000754

sp75\_1400\_pp\_c\_4lag | .9997134 .0007897 -0.36 0.717 .9981668 1.001262

sp75\_1401\_1\_pp\_c\_4lag | 1.001294 .0072556 0.18 0.858 .9871739 1.015616

sp75\_1401\_pp\_c\_4lag | .999462 .0035311 -0.15 0.879 .992565 1.006407

sp75\_1403\_10\_pp\_c\_4lag | 1.000424 .0002397 1.77 0.077 .9999545 1.000894

sp75\_1403\_11\_pp\_c\_4lag | .9991723 .0029364 -0.28 0.778 .9934336 1.004944

sp75\_1403\_3\_pp\_c\_4lag | .9917323 .0027524 -2.99 0.003 .9863523 .9971417

sp75\_1403\_4\_pp\_c\_4lag | 1.004845 .0026377 1.84 0.066 .9996883 1.010028

sp75\_1403\_5\_pp\_c\_4lag | .999779 .0001713 -1.29 0.197 .9994432 1.000115

sp75\_1403\_6\_pp\_c\_4lag | 1.000032 .0001123 0.29 0.775 .999812 1.000252

sp75\_1403\_7\_pp\_c\_4lag | .999892 .0005616 -0.19 0.848 .998792 1.000993

sp75\_1403\_8\_pp\_c\_4lag | .9999222 .000147 -0.53 0.597 .9996341 1.00021

sp75\_1403\_9\_pp\_c\_4lag | .9988584 .0005296 -2.15 0.031 .997821 .9998969

sp75\_1404\_1\_pp\_c\_4lag | .9812539 .0065963 -2.82 0.005 .9684101 .994268

sp75\_1404\_pp\_c\_4lag | .9989923 .0055399 -0.18 0.856 .9881931 1.009909

sp75\_1405\_1\_pp\_c\_4lag | .9994949 .0027583 -0.18 0.855 .9941034 1.004916

sp75\_1405\_pp\_c\_4lag | .9998022 .0002128 -0.93 0.352 .9993853 1.000219

sp75\_1431\_pp\_c\_4lag | .9839433 .0021351 -7.46 0.000 .9797675 .9881369

sp75\_1432\_pp\_c\_4lag | .9995723 .001469 -0.29 0.771 .9966973 1.002456

sp75\_1433\_pp\_c\_4lag | 1.000043 .0014132 0.03 0.976 .9972767 1.002816

sp75\_1434\_pp\_c\_4lag | .9991116 .0011129 -0.80 0.425 .9969327 1.001295

sp75\_1435\_pp\_c\_4lag | .9988622 .0038961 -0.29 0.770 .9912552 1.006528

sp75\_1437\_pp\_c\_4lag | 1.003165 .0037033 0.86 0.392 .9959325 1.010449

sp75\_150\_pp\_c\_4lag | 1.003442 .0018095 1.91 0.057 .9999016 1.006995

sp75\_151\_pp\_c\_4lag | .9960155 .0039096 -1.02 0.309 .9883822 1.003708

sp75\_153\_pp\_c\_4lag | 1.002579 .0015939 1.62 0.105 .9994598 1.005708

sp75\_156\_pp\_c\_4lag | 1.004755 .002748 1.73 0.083 .9993836 1.010156

sp75\_160\_pp\_c\_4lag | 1.001708 .0040037 0.43 0.669 .9938919 1.009586

sp75\_1600\_2\_pp\_c\_4lag | .9995399 .0003229 -1.42 0.154 .9989073 1.000173

sp75\_1712\_10\_pp\_c\_4lag | .9978491 .0009846 -2.18 0.029 .9959211 .9997808

sp75\_1712\_6\_pp\_c\_4lag | 1.000462 .0006336 0.73 0.466 .9992207 1.001705

sp75\_1720\_pp\_c\_4lag | 1.000278 .0004115 0.68 0.499 .9994721 1.001085

sp75\_1721\_pp\_c\_4lag | 1.009338 .0077892 1.20 0.228 .9941862 1.02472

sp75\_1725\_pp\_c\_4lag | 1.000014 .0000546 0.26 0.793 .9999073 1.000121

sp75\_1726\_pp\_c\_4lag | 1.001788 .0012326 1.45 0.147 .9993751 1.004207

sp75\_1727\_pp\_c\_4lag | .9916707 .019431 -0.43 0.669 .9543088 1.030495

sp75\_1728\_pp\_c\_4lag | 1.004045 .0028749 1.41 0.159 .9984258 1.009695

sp75\_1729\_pp\_c\_4lag | .9991244 .0015216 -0.58 0.565 .9961466 1.002111

sp75\_1730\_pp\_c\_4lag | 1.002132 .0015259 1.40 0.162 .9991454 1.005127

sp75\_1731\_pp\_c\_4lag | .9999831 .000036 -0.47 0.639 .9999127 1.000054

sp75\_1903\_pp\_c\_4lag | 1.000264 .0005726 0.46 0.644 .9991427 1.001387

sp75\_1909\_pp\_c\_4lag | 1.000037 .0000972 0.38 0.707 .999846 1.000227

sp75\_1910\_pp\_c\_4lag | 1.000147 .0001432 1.02 0.306 .9998661 1.000427

sp75\_1911\_pp\_c\_4lag | .9997505 .0001845 -1.35 0.176 .999389 1.000112

sp75\_1912\_pp\_c\_4lag | 1.001108 .001248 0.89 0.374 .9986648 1.003557

sp75\_1913\_pp\_c\_4lag | 1.001015 .0017919 0.57 0.571 .9975093 1.004534

sp75\_1914\_pp\_c\_4lag | 1.000131 .000107 1.22 0.222 .999921 1.000341

sp75\_1915\_pp\_c\_4lag | 1.00236 .0014409 1.64 0.101 .99954 1.005188

sp75\_202\_pp\_c\_4lag | .9999897 .0000319 -0.32 0.747 .9999272 1.000052

sp75\_208\_pp\_c\_4lag | .9999384 .0002283 -0.27 0.787 .9994911 1.000386

sp75\_211\_pp\_c\_4lag | 1.000137 .0001892 0.72 0.470 .999766 1.000508

sp75\_212\_pp\_c\_4lag | .9991345 .0004404 -1.96 0.049 .9982717 .999998

sp75\_214\_pp\_c\_4lag | 1.000145 .0004941 0.29 0.770 .9991767 1.001114

sp75\_312\_pp\_c\_4lag | .9996652 .000467 -0.72 0.474 .9987503 1.000581

sp75\_320\_pp\_c\_4lag | .9995172 .0002852 -1.69 0.091 .9989584 1.000076

sp75\_324\_pp\_c\_4lag | .9990082 .0007881 -1.26 0.208 .9974647 1.000554

sp75\_337\_pp\_c\_4lag | 1.000156 .000344 0.45 0.651 .9994816 1.00083

sp75\_340\_pp\_c\_4lag | 1.000084 .000172 0.49 0.627 .9997464 1.000421

sp75\_341\_pp\_c\_4lag | .9871529 .0073935 -1.73 0.084 .9727678 1.001751

sp75\_342\_pp\_c\_4lag | .9999738 .0000837 -0.31 0.754 .9998097 1.000138

sp75\_344\_pp\_c\_4lag | .9988004 .0012251 -0.98 0.328 .9964021 1.001204

sp75\_352\_pp\_c\_4lag | .9989492 .0006693 -1.57 0.117 .9976383 1.000262

sp75\_382\_pp\_c\_4lag | .9996667 .0007688 -0.43 0.665 .9981609 1.001175

sp75\_503\_pp\_c\_4lag | .9999608 .0000473 -0.83 0.408 .999868 1.000054

sp75\_504\_pp\_c\_4lag | 1.000106 .0014406 0.07 0.941 .9972868 1.002934

sp75\_505\_pp\_c\_4lag | 1.000835 .0021778 0.38 0.701 .9965758 1.005113

sp75\_506\_1\_pp\_c\_4lag | 1.003018 .0013875 2.18 0.029 1.000302 1.005741

sp75\_506\_pp\_c\_4lag | .9992326 .0009562 -0.80 0.422 .9973602 1.001109

sp75\_507\_pp\_c\_4lag | .9995027 .0005669 -0.88 0.381 .9983922 1.000615

sp75\_511\_1\_pp\_c\_4lag | .9702372 .0043942 -6.67 0.000 .9616629 .978888

sp75\_511\_pp\_c\_4lag | 1.001443 .0006186 2.34 0.020 1.000232 1.002657

sp75\_512\_1\_pp\_c\_4lag | 1.001067 .0072543 0.15 0.883 .9869489 1.015386

sp75\_512\_2\_pp\_c\_4lag | 1.000337 .0002016 1.67 0.095 .9999416 1.000732

sp75\_512\_pp\_c\_4lag | .9999961 .0000613 -0.06 0.949 .9998759 1.000116

sp75\_513\_1\_pp\_c\_4lag | .9998179 .0018956 -0.10 0.923 .9961096 1.00354

sp75\_513\_pp\_c\_4lag | .9995543 .0009286 -0.48 0.631 .997736 1.001376

sp75\_514\_pp\_c\_4lag | 1.0001 .0002057 0.49 0.626 .9996971 1.000504

sp75\_515\_pp\_c\_4lag | .9995575 .000145 -3.05 0.002 .9992733 .9998417

sp75\_516\_1\_pp\_c\_4lag | .9964405 .0026179 -1.36 0.175 .9913227 1.001585

sp75\_516\_2\_pp\_c\_4lag | 1.000053 .0003912 0.14 0.891 .9992871 1.00082

sp75\_516\_pp\_c\_4lag | .9998607 .0002505 -0.56 0.578 .9993698 1.000352

sp75\_517\_1\_pp\_c\_4lag | 1.00284 .0020381 1.40 0.163 .9988536 1.006843

sp75\_517\_pp\_c\_4lag | .9999772 .0000464 -0.49 0.623 .9998862 1.000068

sp75\_518\_1\_pp\_c\_4lag | .9998642 .000315 -0.43 0.666 .9992471 1.000482

sp75\_518\_pp\_c\_4lag | 1.000246 .0001809 1.36 0.173 .9998917 1.000601

sp75\_519\_pp\_c\_4lag | .9990375 .0045668 -0.21 0.833 .9901266 1.008029

sp75\_520\_pp\_c\_4lag | 1.000177 .0003628 0.49 0.625 .9994664 1.000888

sp75\_523\_1\_pp\_c\_4lag | .9991096 .0005692 -1.56 0.118 .9979945 1.000226

sp75\_523\_2\_pp\_c\_4lag | 1.000451 .0004204 1.07 0.284 .9996269 1.001275

sp75\_523\_pp\_c\_4lag | .9992792 .0005189 -1.39 0.165 .9982626 1.000297

sp75\_600\_1\_pp\_c\_4lag | .9971002 .0031266 -0.93 0.354 .990991 1.003247

sp75\_600\_pp\_c\_4lag | 1.002263 .0044894 0.50 0.614 .9935027 1.011101

sp75\_601\_1\_pp\_c\_4lag | .9999917 .0001954 -0.04 0.966 .9996088 1.000375

sp75\_601\_2\_pp\_c\_4lag | .9991263 .0023233 -0.38 0.707 .994583 1.00369

sp75\_601\_3\_pp\_c\_4lag | .9984294 .0021554 -0.73 0.467 .9942137 1.002663

sp75\_601\_pp\_c\_4lag | 1.000099 .0002517 0.40 0.693 .9996063 1.000593

sp75\_602\_pp\_c\_4lag | 1.000611 .000602 1.01 0.310 .9994316 1.001791

sp75\_603\_pp\_c\_4lag | .9993878 .0007422 -0.82 0.410 .9979342 1.000844

sp75\_604\_pp\_c\_4lag | 1.000159 .0000729 2.18 0.029 1.000016 1.000302

sp75\_605\_pp\_c\_4lag | 1.000421 .0002705 1.56 0.119 .9998914 1.000952

sp75\_606\_pp\_c\_4lag | 1.00006 .0001255 0.48 0.634 .9998138 1.000306

sp75\_607\_pp\_c\_4lag | 1.000484 .0006461 0.75 0.453 .9992189 1.001751

sp75\_700\_1\_pp\_c\_4lag | .9975605 .0027577 -0.88 0.377 .99217 1.00298

sp75\_700\_pp\_c\_4lag | .9992824 .0006916 -1.04 0.300 .9979279 1.000639

sp75\_701\_1\_pp\_c\_4lag | .9992835 .0008796 -0.81 0.416 .997561 1.001009

sp75\_701\_2\_pp\_c\_4lag | 1.000909 .0008855 1.03 0.305 .9991745 1.002646

sp75\_701\_3\_pp\_c\_4lag | 1.001396 .0008116 1.72 0.085 .9998065 1.002988

sp75\_701\_4\_pp\_c\_4lag | 1.006933 .002959 2.35 0.019 1.001151 1.01275

sp75\_701\_pp\_c\_4lag | 1.000234 .0001761 1.33 0.184 .9998889 1.000579

sp75\_702\_1\_pp\_c\_4lag | .996479 .0030275 -1.16 0.246 .9905627 1.002431

sp75\_702\_pp\_c\_4lag | .9994732 .0020803 -0.25 0.800 .9954041 1.003559

sp75\_703\_1\_pp\_c\_4lag | 1.001894 .004894 0.39 0.699 .9923473 1.011532

sp75\_703\_2\_pp\_c\_4lag | 1.001754 .0052472 0.33 0.738 .9915227 1.012092

sp75\_703\_3\_pp\_c\_4lag | 1.000367 .0010806 0.34 0.734 .9982508 1.002487

sp75\_703\_4\_pp\_c\_4lag | 1.008567 .0069687 1.23 0.217 .9950005 1.022318

sp75\_703\_pp\_c\_4lag | 1.001144 .0004182 2.74 0.006 1.000325 1.001964

sp75\_704\_pp\_c\_4lag | .9997945 .0022282 -0.09 0.927 .9954369 1.004171

sp75\_705\_1\_pp\_c\_4lag | .9971672 .0018915 -1.50 0.135 .9934669 1.000881

sp75\_705\_3\_pp\_c\_4lag | 1.019426 .0045975 4.27 0.000 1.010455 1.028477

sp75\_705\_8\_pp\_c\_4lag | .9965066 .0052497 -0.66 0.507 .9862704 1.006849

sp75\_705\_pp\_c\_4lag | 1.004954 .0022217 2.24 0.025 1.000609 1.009318

sp75\_706\_pp\_c\_4lag | 1.000027 .0010898 0.02 0.980 .9978932 1.002165

sp75\_800\_2\_pp\_c\_4lag | .6603742 .0238913 -11.47 0.000 .6151698 .7089004

sp75\_800\_3\_pp\_c\_4lag | .9993433 .0017182 -0.38 0.702 .9959814 1.002717

sp75\_800\_4\_pp\_c\_4lag | 1.001561 .0014379 1.09 0.277 .9987469 1.004383

sp75\_800\_pp\_c\_4lag | .9990354 .0010236 -0.94 0.346 .9970311 1.001044

sp75\_801\_pp\_c\_4lag | 1.000894 .0030955 0.29 0.773 .994845 1.006979

sp75\_802\_pp\_c\_4lag | .9992081 .0022532 -0.35 0.725 .9948017 1.003634

sp75\_803\_2\_pp\_c\_4lag | 1.00554 .0043988 1.26 0.207 .9969557 1.014199

sp75\_803\_pp\_c\_4lag | 1.000263 .0010894 0.24 0.809 .99813 1.0024

sp75\_804\_pp\_c\_4lag | .9996275 .000966 -0.39 0.700 .9977361 1.001523

sp75\_805\_pp\_c\_4lag | 1.002064 .0021403 0.97 0.334 .9978776 1.006268

sp75\_806\_pp\_c\_4lag | 1.00681 .0039137 1.75 0.081 .9991688 1.01451

sp75\_807\_pp\_c\_4lag | 1.000316 .0001391 2.27 0.023 1.000044 1.000589

sp75\_808\_pp\_c\_4lag | .9998307 .0012293 -0.14 0.890 .9974242 1.002243

sp75\_809\_pp\_c\_4lag | .9998152 .0005368 -0.34 0.731 .9987636 1.000868

sp75\_810\_pp\_c\_4lag | 1.0002 .0006946 0.29 0.773 .9988398 1.001563

sp75\_811\_pp\_c\_4lag | 1.000943 .0004814 1.96 0.050 1 1.001887

sp75\_812\_pp\_c\_4lag | .9996169 .0025191 -0.15 0.879 .9946916 1.004566

sp75\_814\_pp\_c\_4lag | .9995678 .0012304 -0.35 0.725 .9971591 1.001982

sp75\_815\_pp\_c\_4lag | 1.002601 .0011107 2.34 0.019 1.000426 1.00478

sp75\_816\_pp\_c\_4lag | 1.000042 .0003949 0.11 0.916 .9992681 1.000816

sp75\_818\_pp\_c\_4lag | 1.000365 .0022599 0.16 0.872 .9959452 1.004804

sp75\_820\_pp\_c\_4lag | 1.001452 .0008464 1.72 0.086 .9997948 1.003113

sp75\_821\_pp\_c\_4lag | 1.00071 .0005393 1.32 0.188 .9996534 1.001767

sp75\_825\_pp\_c\_4lag | 1.000434 .0017717 0.24 0.807 .9969671 1.003912

sp75\_827\_pp\_c\_4lag | 1.001255 .0014009 0.90 0.370 .9985133 1.004005

sp75\_831\_pp\_c\_4lag | .9959386 .0029025 -1.40 0.163 .990266 1.001644

sp75\_832\_pp\_c\_4lag | .990226 .0134359 -0.72 0.469 .9642392 1.016913

sp75\_834\_pp\_c\_4lag | .5598219 .034878 -9.31 0.000 .4954712 .6325303

sp75\_900\_2\_pp\_c\_4lag | .9968894 .002796 -1.11 0.267 .9914245 1.002385

sp75\_900\_3\_pp\_c\_4lag | 1.000661 .0010946 0.60 0.546 .998518 1.002809

sp75\_900\_4\_pp\_c\_4lag | .9999856 .0004108 -0.04 0.972 .9991808 1.000791

sp75\_900\_pp\_c\_4lag | .9998015 .0003387 -0.59 0.558 .9991379 1.000466

sp75\_901\_pp\_c\_4lag | .999384 .0013764 -0.45 0.655 .99669 1.002085

sp75\_902\_1\_pp\_c\_4lag | 1.003586 .0026856 1.34 0.181 .9983365 1.008864

sp75\_902\_2\_pp\_c\_4lag | 1.000578 .0006314 0.92 0.360 .9993412 1.001816

sp75\_902\_4\_pp\_c\_4lag | 1.000303 .0006678 0.45 0.650 .9989946 1.001612

sp75\_902\_pp\_c\_4lag | 1.000318 .0003549 0.90 0.370 .9996228 1.001014

sp75\_903\_pp\_c\_4lag | 1.000432 .0005234 0.82 0.410 .9994062 1.001458

sp75\_904\_pp\_c\_4lag | .9998659 .000153 -0.88 0.381 .999566 1.000166

sp75\_905\_pp\_c\_4lag | 1.00446 .0032649 1.37 0.171 .9980817 1.01088

sp75\_907\_pp\_c\_4lag | 1.000801 .0011135 0.72 0.471 .9986215 1.002986

sp77\_103\_pp\_c\_4lag | 1.000162 .0013266 0.12 0.903 .9975655 1.002766

sp77\_104\_pp\_c\_4lag | 1.003808 .0078986 0.48 0.629 .9884462 1.019409

sp77\_1103\_pp\_c\_4lag | .9996634 .0003341 -1.01 0.314 .9990087 1.000318

sp77\_1104\_pp\_c\_4lag | 1.000179 .0001286 1.39 0.163 .9999273 1.000431

sp77\_1106\_pp\_c\_4lag | 1.007735 .0095022 0.82 0.414 .9892823 1.026532

sp77\_1111\_pp\_c\_4lag | .9943479 .0046112 -1.22 0.222 .985351 1.003427

sp77\_1112\_pp\_c\_4lag | 1.0001 .0008599 0.12 0.907 .9984161 1.001787

sp77\_1403\_pp\_c\_4lag | 1.001245 .0009906 1.26 0.209 .999305 1.003188

sp77\_1432\_pp\_c\_4lag | .9983939 .0033585 -0.48 0.633 .9918331 1.004998

sp77\_1433\_pp\_c\_4lag | .9975444 .0023628 -1.04 0.299 .9929242 1.002186

sp77\_1434\_pp\_c\_4lag | .9997978 .0025948 -0.08 0.938 .994725 1.004897

sp77\_1437\_pp\_c\_4lag | .996098 .0013613 -2.86 0.004 .9934335 .9987697

sp77\_1438\_pp\_c\_4lag | .9842855 .0064831 -2.40 0.016 .9716604 .9970746

sp77\_1605\_pp\_c\_4lag | .9999819 .0001839 -0.10 0.921 .9996214 1.000342

sp77\_1606\_pp\_c\_4lag | 1.000491 .0002633 1.87 0.062 .9999752 1.001007

sp77\_1710\_pp\_c\_4lag | .9998722 .0003909 -0.33 0.744 .9991063 1.000639

sp77\_1802\_pp\_c\_4lag | .9955001 .003516 -1.28 0.202 .9886326 1.002415

sp77\_1906\_pp\_c\_4lag | 1.003036 .0034154 0.89 0.373 .9963638 1.009752

sp77\_1915\_pp\_c\_4lag | 1.002068 .0017184 1.20 0.228 .998706 1.005442

sp77\_1916\_pp\_c\_4lag | 1.000525 .0021991 0.24 0.811 .9962237 1.004844

sp77\_200\_pp\_c\_4lag | 1.000082 .0001915 0.43 0.668 .999707 1.000458

sp77\_202\_pp\_c\_4lag | .9993102 .0002396 -2.88 0.004 .9988408 .9997799

sp77\_203\_pp\_c\_4lag | 1.001885 .001646 1.15 0.252 .9986639 1.005116

sp77\_204\_pp\_c\_4lag | .9991104 .0003895 -2.28 0.022 .9983473 .999874

sp77\_205\_pp\_c\_4lag | 1.000082 .0001281 0.64 0.522 .9998309 1.000333

sp77\_206\_pp\_c\_4lag | 1.000937 .00065 1.44 0.149 .9996637 1.002212

sp77\_207\_pp\_c\_4lag | 1.001106 .0005251 2.11 0.035 1.000077 1.002135

sp77\_208\_pp\_c\_4lag | 1.00032 .0002679 1.19 0.232 .9997951 1.000845

sp77\_210\_pp\_c\_4lag | .9993277 .0010076 -0.67 0.505 .9973547 1.001305

sp77\_216\_pp\_c\_4lag | 1.000422 .0005572 0.76 0.449 .9993303 1.001514

sp77\_305\_pp\_c\_4lag | 1.019931 .0061879 3.25 0.001 1.007875 1.032132

sp77\_309\_pp\_c\_4lag | .999575 .0041789 -0.10 0.919 .991418 1.007799

sp77\_314\_pp\_c\_4lag | .9944632 .0093287 -0.59 0.554 .9763464 1.012916

sp77\_315\_pp\_c\_4lag | .9853405 .0066102 -2.20 0.028 .9724694 .9983819

sp77\_400\_pp\_c\_4lag | 1.000114 .0001353 0.84 0.400 .9998487 1.000379

sp77\_401\_pp\_c\_4lag | .9998095 .0010322 -0.18 0.854 .9977885 1.001835

sp77\_402\_pp\_c\_4lag | .9993854 .0007332 -0.84 0.402 .9979495 1.000823

sp77\_403\_1\_pp\_c\_4lag | 1.000465 .0012941 0.36 0.719 .9979316 1.003004

sp77\_403\_2\_pp\_c\_4lag | 1.012668 .0046899 2.72 0.007 1.003518 1.021902

sp77\_403\_pp\_c\_4lag | 1.006214 .0028589 2.18 0.029 1.000626 1.011833

sp77\_404\_pp\_c\_4lag | .9997682 .0001393 -1.66 0.096 .9994952 1.000041

sp77\_405\_pp\_c\_4lag | 1.00037 .0011854 0.31 0.755 .9980498 1.002696

sp77\_408\_pp\_c\_4lag | .9998773 .0015175 -0.08 0.936 .9969074 1.002856

sp77\_409\_pp\_c\_4lag | .9883854 .0053453 -2.16 0.031 .9779642 .9989176

sp77\_410\_pp\_c\_4lag | 1.000272 .0002512 1.08 0.280 .9997793 1.000764

sp77\_411\_pp\_c\_4lag | .9929055 .0060914 -1.16 0.246 .9810381 1.004916

sp77\_412\_pp\_c\_4lag | 1.001525 .0010294 1.48 0.138 .9995099 1.003545

sp77\_413\_pp\_c\_4lag | .9837171 .0022205 -7.27 0.000 .9793745 .9880789

sp77\_500\_pp\_c\_4lag | .9989979 .0016643 -0.60 0.547 .9957412 1.002265

sp77\_501\_pp\_c\_4lag | .9997098 .0015741 -0.18 0.854 .9966293 1.0028

sp77\_502\_1\_pp\_c\_4lag | 1.011847 .0075956 1.57 0.117 .9970685 1.026844

sp77\_502\_2\_pp\_c\_4lag | .9998601 .0008951 -0.16 0.876 .9981072 1.001616

sp77\_502\_pp\_c\_4lag | .9998875 .000148 -0.76 0.447 .9995975 1.000178

sp77\_503\_1\_pp\_c\_4lag | 1.003133 .0047403 0.66 0.508 .9938847 1.012466

sp77\_503\_pp\_c\_4lag | .999532 .0022189 -0.21 0.833 .9951924 1.003891

sp77\_504\_pp\_c\_4lag | .9987726 .0006176 -1.99 0.047 .9975629 .9999838

sp77\_505\_pp\_c\_4lag | 1.000042 .0003595 0.12 0.908 .9993371 1.000746

sp77\_506\_1\_pp\_c\_4lag | 1.000301 .0004897 0.61 0.539 .9993416 1.001261

sp77\_506\_pp\_c\_4lag | .9996407 .0004123 -0.87 0.384 .9988329 1.000449

sp77\_507\_pp\_c\_4lag | 1.000322 .0018191 0.18 0.860 .9967625 1.003893

sp77\_508\_1\_pp\_c\_4lag | .9988374 .0048144 -0.24 0.809 .9894457 1.008318

sp77\_508\_pp\_c\_4lag | 1.000732 .002154 0.34 0.734 .9965195 1.004963

sp77\_509\_pp\_c\_4lag | .9990262 .0007729 -1.26 0.208 .9975125 1.000542

sp77\_510\_pp\_c\_4lag | .9961937 .0040007 -0.95 0.342 .9883833 1.004066

sp77\_511\_pp\_c\_4lag | .9951369 .0027496 -1.76 0.078 .9897623 1.000541

sp77\_512\_pp\_c\_4lag | .9998142 .000372 -0.50 0.618 .9990854 1.000544

sp77\_513\_pp\_c\_4lag | .9998634 .0005687 -0.24 0.810 .9987494 1.000979

sp77\_514\_pp\_c\_4lag | .9956908 .0056146 -0.77 0.444 .984747 1.006756

sp77\_515\_pp\_c\_4lag | 1.00162 .0085758 0.19 0.850 .9849519 1.01857

sp77\_516\_pp\_c\_4lag | .99957 .000187 -2.30 0.021 .9992037 .9999365

sp77\_600\_pp\_c\_4lag | 1.003949 .0020084 1.97 0.049 1.00002 1.007893

sp77\_601\_pp\_c\_4lag | 1.000522 .002882 0.18 0.856 .9948889 1.006186

sp77\_602\_pp\_c\_4lag | .9996813 .0017563 -0.18 0.856 .9962448 1.00313

sp77\_603\_pp\_c\_4lag | 1.010438 .003099 3.39 0.001 1.004382 1.01653

sp77\_604\_pp\_c\_4lag | .9987543 .0016434 -0.76 0.449 .9955386 1.00198

sp77\_605\_pp\_c\_4lag | .9927789 .0067023 -1.07 0.283 .9797292 1.006002

sp77\_606\_1\_pp\_c\_4lag | .9907372 .0040351 -2.28 0.022 .9828601 .9986775

sp77\_606\_pp\_c\_4lag | 1 (omitted)

sp77\_700\_1\_pp\_c\_4lag | 1.00131 .0024945 0.53 0.599 .9964332 1.006212

sp77\_700\_pp\_c\_4lag | .9993875 .0014866 -0.41 0.680 .996478 1.002305

sp77\_701\_1\_pp\_c\_4lag | 1.00058 .0025133 0.23 0.817 .9956662 1.005518

sp77\_701\_2\_pp\_c\_4lag | .9981594 .0022486 -0.82 0.413 .993762 1.002576

sp77\_701\_3\_pp\_c\_4lag | 1.005959 .0035954 1.66 0.096 .9989371 1.013031

sp77\_701\_4\_pp\_c\_4lag | 1.002045 .0023416 0.87 0.382 .9974662 1.006645

sp77\_701\_pp\_c\_4lag | .9995674 .0005304 -0.82 0.415 .9985284 1.000607

sp77\_703\_pp\_c\_4lag | .9985922 .0043963 -0.32 0.749 .9900128 1.007246

sp77\_704\_1\_pp\_c\_4lag | 1.000131 .0010741 0.12 0.903 .9980279 1.002238

sp77\_704\_8\_pp\_c\_4lag | .996146 .0030906 -1.24 0.213 .9901069 1.002222

sp77\_704\_9\_pp\_c\_4lag | .9823485 .0066423 -2.63 0.008 .9694157 .9954537

sp77\_704\_pp\_c\_4lag | .9990165 .0045527 -0.22 0.829 .9901332 1.00798

sp77\_705\_pp\_c\_4lag | 1.001134 .0010514 1.08 0.281 .9990752 1.003197

sp77\_800\_1\_pp\_c\_4lag | .9994712 .0027803 -0.19 0.849 .9940368 1.004935

sp77\_800\_2\_pp\_c\_4lag | .9996472 .0021419 -0.16 0.869 .9954579 1.003854

sp77\_800\_pp\_c\_4lag | 1.000143 .0039698 0.04 0.971 .9923929 1.007954

sp77\_801\_pp\_c\_4lag | .9886362 .0077498 -1.46 0.145 .973563 1.003943

sp77\_802\_pp\_c\_4lag | .9954755 .0028134 -1.60 0.109 .9899765 1.001005

sp77\_803\_pp\_c\_4lag | .9992418 .0015723 -0.48 0.630 .9961648 1.002328

sp77\_804\_pp\_c\_4lag | 1.005134 .0074753 0.69 0.491 .9905893 1.019893

sp77\_805\_pp\_c\_4lag | .9997399 .0030464 -0.09 0.932 .9937869 1.005729

sp77\_807\_1\_pp\_c\_4lag | .9996566 .0049137 -0.07 0.944 .9900722 1.009334

sp77\_807\_2\_pp\_c\_4lag | .9995939 .0024727 -0.16 0.870 .9947593 1.004452

sp77\_807\_3\_pp\_c\_4lag | 1.001368 .0017687 0.77 0.439 .9979078 1.004841

sp77\_807\_pp\_c\_4lag | 1.001663 .0016112 1.03 0.302 .9985103 1.004826

sp77\_808\_pp\_c\_4lag | 1.009694 .0036199 2.69 0.007 1.002624 1.016813

sp77\_809\_pp\_c\_4lag | .9991477 .0008512 -1.00 0.317 .9974807 1.000818

sp77\_810\_pp\_c\_4lag | 1.00073 .001836 0.40 0.691 .9971381 1.004335

sp77\_900\_1\_pp\_c\_4lag | 1.011594 .0038647 3.02 0.003 1.004048 1.019197

sp77\_900\_2\_pp\_c\_4lag | 1.002063 .0016963 1.22 0.223 .9987436 1.005393

sp77\_900\_pp\_c\_4lag | .9951912 .0024582 -1.95 0.051 .9903848 1.000021

sp77\_901\_1\_pp\_c\_4lag | .989854 .004768 -2.12 0.034 .9805528 .9992434

sp77\_901\_pp\_c\_4lag | 1.000857 .0017815 0.48 0.630 .9973712 1.004354

sp77\_902\_2\_pp\_c\_4lag | .8537193 .010007 -13.49 0.000 .8343295 .8735597

sp77\_902\_3\_pp\_c\_4lag | .996128 .0038749 -1.00 0.319 .9885622 1.003752

sp77\_902\_pp\_c\_4lag | 1.002682 .0021631 1.24 0.214 .9984512 1.00693

sp77\_903\_pp\_c\_4lag | 1.002316 .0020027 1.16 0.247 .9983984 1.006249

sp77\_904\_pp\_c\_4lag | .9997249 .0004945 -0.56 0.578 .9987561 1.000695

mine\_time | .9988231 .0017396 -0.68 0.499 .9954194 1.002238

onsite\_insp\_hours | .9998192 .0001318 -1.37 0.170 .999561 1.000078

|

state |

AL | 1.162017 .1181494 1.48 0.140 .9520632 1.418272

AR | 2.198883 .200923 8.62 0.000 1.838331 2.630151

CO | .8106223 .1383177 -1.23 0.219 .5801987 1.132558

IL | 1.164708 .0853285 2.08 0.037 1.00892 1.344552

IN | .9206134 .1260448 -0.60 0.546 .7039405 1.203978

MD | 1.141932 .2261505 0.67 0.503 .7745806 1.683503

MT | .9181618 .1021784 -0.77 0.443 .7382315 1.141947

NM | .9887913 .0856275 -0.13 0.896 .8344343 1.171702

OH | 1.079465 .1567782 0.53 0.599 .8120499 1.434943

OK | .9091193 .2819232 -0.31 0.759 .4950605 1.669488

PA | 1.073704 .0973693 0.78 0.433 .8988615 1.282555

TN | 1.295373 .202153 1.66 0.097 .9540214 1.75886

UT | .6546362 .0794948 -3.49 0.000 .5159833 .8305474

VA | .7283555 .0537063 -4.30 0.000 .6303458 .8416044

WV | 1.127704 .0626522 2.16 0.031 1.011358 1.257435

WY | 1.332301 .1552936 2.46 0.014 1.060195 1.674244

|

time |

2000.75 | 1.887082 .2662393 4.50 0.000 1.431195 2.488185

2001 | 1.940456 .2592752 4.96 0.000 1.493379 2.521376

2001.25 | 1.813767 .2579049 4.19 0.000 1.372608 2.396715

2001.5 | 2.036453 .2648084 5.47 0.000 1.578298 2.627602

2001.75 | 1.958881 .259887 5.07 0.000 1.510352 2.54061

2002 | 1.859855 .2467772 4.68 0.000 1.433958 2.412247

2002.25 | 1.652666 .2293184 3.62 0.000 1.259143 2.169177

2002.5 | 2.081903 .2827554 5.40 0.000 1.595342 2.716859

2002.75 | 2.012319 .2682661 5.25 0.000 1.549607 2.613197

2003 | 1.703053 .2280085 3.98 0.000 1.309988 2.214057

2003.25 | 1.923467 .273859 4.59 0.000 1.455099 2.542594

2003.5 | 1.993634 .2532971 5.43 0.000 1.554167 2.557367

2003.75 | 1.431126 .1849076 2.77 0.006 1.110961 1.843558

2004 | 1.821591 .2488709 4.39 0.000 1.393661 2.380918

2004.25 | 1.682983 .2167534 4.04 0.000 1.307532 2.166242

2004.5 | 1.668414 .2166045 3.94 0.000 1.293586 2.151853

2004.75 | 1.554718 .2065592 3.32 0.001 1.198288 2.017167

2005 | 1.337362 .185408 2.10 0.036 1.019157 1.754919

2005.25 | 1.689562 .2209807 4.01 0.000 1.307507 2.183254

2005.5 | 1.469633 .1952119 2.90 0.004 1.132774 1.906664

2005.75 | 1.404821 .1980166 2.41 0.016 1.065712 1.851834

2006 | 1.452034 .1916303 2.83 0.005 1.12109 1.880672

2006.25 | 1.458813 .2043978 2.70 0.007 1.1085 1.919833

2006.5 | 1.663642 .2167061 3.91 0.000 1.288791 2.147521

2006.75 | 1.285953 .1597369 2.02 0.043 1.008072 1.640433

2007 | 1.331235 .1733369 2.20 0.028 1.031388 1.718255

2007.25 | 1.218813 .1595978 1.51 0.131 .9429234 1.575426

2007.5 | 1.32332 .170539 2.17 0.030 1.027942 1.703574

2007.75 | 1.285399 .1614402 2.00 0.046 1.004919 1.644164

2008 | .9904336 .1209128 -0.08 0.937 .7796687 1.258174

2008.25 | 1.086321 .1439232 0.62 0.532 .8378862 1.408416

2008.5 | 1.278897 .1429904 2.20 0.028 1.027223 1.592232

2009 | .9246827 .1066244 -0.68 0.497 .7376348 1.159162

2009.25 | .912935 .113968 -0.73 0.466 .71479 1.166007

2009.5 | 1.086956 .1392338 0.65 0.515 .8456238 1.397162

2009.75 | .8276147 .1120711 -1.40 0.162 .6346921 1.079178

2010 | .8758761 .1185562 -0.98 0.328 .6717789 1.141981

2010.25 | .9451668 .1237612 -0.43 0.667 .7312252 1.221703

2010.5 | 1.15249 .1566521 1.04 0.296 .882953 1.504308

2010.75 | .8408885 .1134794 -1.28 0.199 .6454569 1.095493

2011 | 1.009716 .1285151 0.08 0.939 .786791 1.295802

2011.25 | .9585027 .1234132 -0.33 0.742 .7447247 1.233647

2011.5 | 1.079214 .1374352 0.60 0.549 .8408316 1.385179

2011.75 | .8600759 .11212 -1.16 0.248 .6661525 1.110452

2012 | 1.065619 .1313272 0.52 0.606 .8369502 1.356764

2012.25 | .9618403 .1275435 -0.29 0.769 .7417039 1.247313

2012.5 | 1.165252 .1560645 1.14 0.253 .8962248 1.515037

2012.75 | .8792443 .1221495 -0.93 0.354 .6696623 1.154418

2013 | .8955996 .120718 -0.82 0.413 .6876704 1.1664

2013.25 | .753597 .1080917 -1.97 0.049 .5689153 .9982303

2013.5 | .9887506 .1316628 -0.08 0.932 .761623 1.283611

2013.75 | .8746319 .1221916 -0.96 0.338 .6651308 1.150121

2014 | .7483023 .1048517 -2.07 0.039 .5686004 .9847977

2014.25 | .835449 .1166056 -1.29 0.198 .6355003 1.098308

2014.5 | .8958211 .1245293 -0.79 0.429 .6821732 1.176381

2014.75 | .8502251 .1200546 -1.15 0.251 .644676 1.121312

2015 | .8036731 .1159908 -1.51 0.130 .6056603 1.066424

2015.25 | .8883023 .1370481 -0.77 0.443 .6565029 1.201946

2015.5 | 1.176535 .1636994 1.17 0.243 .8957181 1.545391

2015.75 | .7235977 .1201899 -1.95 0.051 .5225312 1.002033

2016 | .9310051 .1421962 -0.47 0.640 .6901518 1.255913

|

\_cons | 8.28e-06 9.38e-07 -103.28 0.000 6.63e-06 .0000103

ln(hours) | 1 (exposure)

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**. eststo: nbreg MR `subpart\_pp\_lag\_4\_vars' `covariates' ib(freq).state ib(freq).time if sample\_pp == 1, vce(cl mineid) exposure(hours) irr**

note: sp75\_1001\_pp\_c\_4lag omitted because of collinearity

note: sp75\_1106\_6\_pp\_c\_4lag omitted because of collinearity

note: sp75\_1431\_pp\_c\_4lag omitted because of collinearity

note: sp75\_511\_1\_pp\_c\_4lag omitted because of collinearity

note: sp77\_413\_pp\_c\_4lag omitted because of collinearity

note: sp77\_606\_pp\_c\_4lag omitted because of collinearity

note: sp77\_804\_pp\_c\_4lag omitted because of collinearity

Fitting Poisson model:

Iteration 0: log pseudolikelihood = -57589.129

Iteration 1: log pseudolikelihood = -35760.484 (backed up)

Iteration 2: log pseudolikelihood = -31955.692

Iteration 3: log pseudolikelihood = -23814.434

Iteration 4: log pseudolikelihood = -10468.715

Iteration 5: log pseudolikelihood = -9511.5562

Iteration 6: log pseudolikelihood = -9160.479

Iteration 7: log pseudolikelihood = -9143.0783

Iteration 8: log pseudolikelihood = -9142.5609

Iteration 9: log pseudolikelihood = -9142.5591

Iteration 10: log pseudolikelihood = -9142.5591

Fitting constant-only model:

Iteration 0: log pseudolikelihood = -9706.168

Iteration 1: log pseudolikelihood = -9527.6991

Iteration 2: log pseudolikelihood = -9523.71

Iteration 3: log pseudolikelihood = -9523.7

Iteration 4: log pseudolikelihood = -9523.7

Fitting full model:

Iteration 0: log pseudolikelihood = -9191.3474

Iteration 1: log pseudolikelihood = -9142.624

Iteration 2: log pseudolikelihood = -9136.3701

Iteration 3: log pseudolikelihood = -9135.8042

Iteration 4: log pseudolikelihood = -9135.7935

Iteration 5: log pseudolikelihood = -9135.7934

Negative binomial regression Number of obs = 13,003

Wald chi2(342) = .

Dispersion = mean Prob > chi2 = .

Log pseudolikelihood = -9135.7934 Pseudo R2 = 0.0407

(Std. Err. adjusted for 808 clusters in mineid)

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| Robust

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

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

sp47\_41\_pp\_c\_4lag | .9995223 .0005957 -0.80 0.423 .9983554 1.000691

sp47\_42\_pp\_c\_4lag | .9966891 .0022161 -1.49 0.136 .9923551 1.001042

sp47\_44\_pp\_c\_4lag | .9993456 .0010803 -0.61 0.545 .9972305 1.001465

sp48\_11\_pp\_c\_4lag | 1.001492 .0007159 2.09 0.037 1.00009 1.002896

sp48\_24\_pp\_c\_4lag | .9338498 .0026744 -23.90 0.000 .9286228 .9391063

sp48\_25\_pp\_c\_4lag | 1.00147 .0010307 1.43 0.153 .999452 1.003492

sp48\_26\_pp\_c\_4lag | 1.00277 .0009115 3.04 0.002 1.000985 1.004558

sp48\_27\_pp\_c\_4lag | 1.000465 .0008501 0.55 0.585 .9987997 1.002132

sp48\_28\_pp\_c\_4lag | .9996866 .0014527 -0.22 0.829 .9968435 1.002538

sp48\_4\_pp\_c\_4lag | 1.012677 .0017197 7.42 0.000 1.009312 1.016053

sp48\_5\_pp\_c\_4lag | .9999447 .0016177 -0.03 0.973 .9967792 1.00312

sp48\_6\_pp\_c\_4lag | 1.00096 .0007065 1.36 0.174 .9995758 1.002345

sp48\_7\_pp\_c\_4lag | .9998736 .0005509 -0.23 0.819 .9987945 1.000954

sp48\_8\_pp\_c\_4lag | 1.00184 .001062 1.73 0.083 .9997612 1.003924

sp71\_701\_pp\_c\_4lag | 1.005811 .003961 1.47 0.141 .9980778 1.013605

sp72\_503\_pp\_c\_4lag | .9985775 .0008637 -1.65 0.100 .9968861 1.000272

sp72\_610\_pp\_c\_4lag | .9997897 .0025633 -0.08 0.935 .9947784 1.004826

sp72\_620\_pp\_c\_4lag | 1.005419 .0023585 2.30 0.021 1.000807 1.010052

sp72\_630\_pp\_c\_4lag | 1.000136 .0000953 1.43 0.153 .9999494 1.000323

sp75\_100\_pp\_c\_4lag | 1.000785 .0016008 0.49 0.624 .9976522 1.003927

sp75\_1001\_1\_pp\_c\_4lag | .9952485 .0018961 -2.50 0.012 .9915391 .9989718

sp75\_1001\_pp\_c\_4lag | 1 (omitted)

sp75\_1003\_1\_pp\_c\_4lag | .9917637 .0023353 -3.51 0.000 .9871971 .9963514

sp75\_1100\_2\_pp\_c\_4lag | 1.000222 .0000972 2.28 0.023 1.000031 1.000412

sp75\_1101\_20\_pp\_c\_4lag | .9945262 .0018742 -2.91 0.004 .9908597 .9982063

sp75\_1102\_pp\_c\_4lag | .9985063 .0007682 -1.94 0.052 .9970017 1.000013

sp75\_1103\_4\_pp\_c\_4lag | 1.0001 .0001656 0.60 0.547 .9997752 1.000425

sp75\_1104\_pp\_c\_4lag | .9991674 .0006232 -1.34 0.182 .9979468 1.000389

sp75\_1106\_2\_pp\_c\_4lag | 1.000055 .0005428 0.10 0.919 .9989921 1.00112

sp75\_1106\_3\_pp\_c\_4lag | 1.000115 .0001823 0.63 0.528 .9997579 1.000472

sp75\_1106\_4\_pp\_c\_4lag | .9985388 .0017815 -0.82 0.412 .9950533 1.002037

sp75\_1106\_5\_pp\_c\_4lag | .9998903 .0007022 -0.16 0.876 .9985149 1.001268

sp75\_1106\_6\_pp\_c\_4lag | 1 (omitted)

sp75\_1106\_pp\_c\_4lag | 1.001297 .0011397 1.14 0.255 .9990659 1.003534

sp75\_1107\_14\_pp\_c\_4lag | 1.002184 .0029319 0.75 0.456 .9964539 1.007947

sp75\_1400\_1\_pp\_c\_4lag | .9973449 .0025967 -1.02 0.307 .9922684 1.002447

sp75\_1400\_2\_pp\_c\_4lag | 1.000795 .0035496 0.22 0.823 .9938622 1.007776

sp75\_1400\_3\_pp\_c\_4lag | 1.000577 .0005857 0.99 0.325 .9994295 1.001725

sp75\_1400\_4\_pp\_c\_4lag | .9972276 .0014641 -1.89 0.059 .9943621 1.000101

sp75\_1400\_pp\_c\_4lag | .9990771 .0007759 -1.19 0.234 .9975575 1.000599

sp75\_1401\_1\_pp\_c\_4lag | 1.002374 .0068995 0.34 0.730 .9889423 1.015989

sp75\_1401\_pp\_c\_4lag | .9996518 .0030363 -0.11 0.909 .9937184 1.005621

sp75\_1403\_10\_pp\_c\_4lag | 1.000075 .0002647 0.28 0.777 .9995562 1.000594

sp75\_1403\_11\_pp\_c\_4lag | .9989382 .0024157 -0.44 0.660 .9942147 1.003684

sp75\_1403\_3\_pp\_c\_4lag | .994503 .0031822 -1.72 0.085 .9882856 1.00076

sp75\_1403\_4\_pp\_c\_4lag | 1.006082 .0046036 1.33 0.185 .9970996 1.015146

sp75\_1403\_5\_pp\_c\_4lag | .9999708 .000157 -0.19 0.852 .9996631 1.000279

sp75\_1403\_6\_pp\_c\_4lag | .9999067 .0001164 -0.80 0.423 .9996786 1.000135

sp75\_1403\_7\_pp\_c\_4lag | 1.000101 .0005071 0.20 0.842 .9991074 1.001095

sp75\_1403\_8\_pp\_c\_4lag | .9998369 .0001376 -1.19 0.236 .9995672 1.000107

sp75\_1403\_9\_pp\_c\_4lag | .9996414 .0005258 -0.68 0.495 .9986114 1.000672

sp75\_1404\_1\_pp\_c\_4lag | .9889845 .0070828 -1.55 0.122 .9751995 1.002964

sp75\_1404\_pp\_c\_4lag | .9994662 .0052774 -0.10 0.919 .9891761 1.009863

sp75\_1405\_1\_pp\_c\_4lag | .9999234 .0023017 -0.03 0.973 .9954223 1.004445

sp75\_1405\_pp\_c\_4lag | .9998095 .0001797 -1.06 0.289 .9994572 1.000162

sp75\_1431\_pp\_c\_4lag | 1 (omitted)

sp75\_1432\_pp\_c\_4lag | .9990605 .0015254 -0.62 0.538 .9960753 1.002055

sp75\_1433\_pp\_c\_4lag | 1.00077 .0012982 0.59 0.553 .9982288 1.003318

sp75\_1434\_pp\_c\_4lag | .998039 .001041 -1.88 0.060 .9960008 1.000081

sp75\_1435\_pp\_c\_4lag | .9997663 .0040963 -0.06 0.955 .9917699 1.007827

sp75\_1437\_pp\_c\_4lag | 1.001952 .002884 0.68 0.498 .996315 1.00762

sp75\_150\_pp\_c\_4lag | 1.004314 .0015357 2.82 0.005 1.001308 1.007328

sp75\_151\_pp\_c\_4lag | .9983373 .0038658 -0.43 0.667 .9907892 1.005943

sp75\_153\_pp\_c\_4lag | 1.002029 .001497 1.36 0.175 .9990989 1.004967

sp75\_156\_pp\_c\_4lag | 1.004726 .0029725 1.59 0.111 .9989169 1.010569

sp75\_160\_pp\_c\_4lag | 1.006012 .0043939 1.37 0.170 .9974366 1.014661

sp75\_1600\_2\_pp\_c\_4lag | .9994596 .0002894 -1.87 0.062 .9988925 1.000027

sp75\_1712\_10\_pp\_c\_4lag | .9980098 .0008875 -2.24 0.025 .9962718 .9997508

sp75\_1712\_6\_pp\_c\_4lag | 1.000738 .0005785 1.28 0.202 .9996047 1.001872

sp75\_1720\_pp\_c\_4lag | 1.000018 .0003777 0.05 0.963 .9992778 1.000758

sp75\_1721\_pp\_c\_4lag | 1.014777 .0045652 3.26 0.001 1.005869 1.023764

sp75\_1725\_pp\_c\_4lag | 1.000021 .0000508 0.41 0.682 .9999213 1.00012

sp75\_1726\_pp\_c\_4lag | 1.000862 .0009737 0.89 0.376 .998955 1.002772

sp75\_1727\_pp\_c\_4lag | .5846674 .0133549 -23.50 0.000 .5590696 .6114372

sp75\_1728\_pp\_c\_4lag | 1.00484 .0020166 2.41 0.016 1.000895 1.0088

sp75\_1729\_pp\_c\_4lag | 1.000566 .0015974 0.35 0.723 .9974404 1.003702

sp75\_1730\_pp\_c\_4lag | 1.003239 .0015516 2.09 0.037 1.000203 1.006285

sp75\_1731\_pp\_c\_4lag | 1.00001 .0000302 0.33 0.742 .9999508 1.000069

sp75\_1903\_pp\_c\_4lag | .9999855 .0005171 -0.03 0.978 .9989725 1.001

sp75\_1909\_pp\_c\_4lag | 1.000069 .0000899 0.77 0.441 .9998931 1.000246

sp75\_1910\_pp\_c\_4lag | 1.000111 .0001311 0.84 0.399 .9998536 1.000368

sp75\_1911\_pp\_c\_4lag | .9997156 .0001711 -1.66 0.097 .9993803 1.000051

sp75\_1912\_pp\_c\_4lag | 1.00062 .0010242 0.61 0.545 .9986142 1.002629

sp75\_1913\_pp\_c\_4lag | 1.000336 .0018187 0.19 0.853 .9967783 1.003907

sp75\_1914\_pp\_c\_4lag | 1.000066 .000098 0.67 0.500 .999874 1.000258

sp75\_1915\_pp\_c\_4lag | 1.002659 .0013018 2.05 0.041 1.000111 1.005214

sp75\_202\_pp\_c\_4lag | .999977 .0000295 -0.78 0.437 .9999192 1.000035

sp75\_208\_pp\_c\_4lag | .9999311 .0002105 -0.33 0.744 .9995186 1.000344

sp75\_211\_pp\_c\_4lag | 1.00021 .0002006 1.05 0.296 .9998167 1.000603

sp75\_212\_pp\_c\_4lag | .9994193 .0004869 -1.19 0.233 .9984654 1.000374

sp75\_214\_pp\_c\_4lag | 1.000206 .00047 0.44 0.662 .999285 1.001127

sp75\_312\_pp\_c\_4lag | .9998053 .0004498 -0.43 0.665 .9989241 1.000687

sp75\_320\_pp\_c\_4lag | .9995503 .000277 -1.62 0.105 .9990076 1.000093

sp75\_324\_pp\_c\_4lag | .9999522 .0007926 -0.06 0.952 .9983999 1.001507

sp75\_337\_pp\_c\_4lag | 1.000261 .0003139 0.83 0.405 .9996461 1.000877

sp75\_340\_pp\_c\_4lag | 1.000139 .0001718 0.81 0.417 .9998027 1.000476

sp75\_341\_pp\_c\_4lag | .9872828 .0071702 -1.76 0.078 .973329 1.001437

sp75\_342\_pp\_c\_4lag | .9999974 .0000769 -0.03 0.973 .9998466 1.000148

sp75\_344\_pp\_c\_4lag | .9977974 .0012357 -1.78 0.075 .9953784 1.000222

sp75\_352\_pp\_c\_4lag | .9992844 .0006071 -1.18 0.239 .9980952 1.000475

sp75\_382\_pp\_c\_4lag | .9990377 .0005318 -1.81 0.071 .997996 1.000081

sp75\_503\_pp\_c\_4lag | .9999822 .0000417 -0.43 0.670 .9999004 1.000064

sp75\_504\_pp\_c\_4lag | 1.001195 .0013937 0.86 0.391 .9984676 1.003931

sp75\_505\_pp\_c\_4lag | 1.001394 .0020943 0.67 0.505 .9972976 1.005507

sp75\_506\_1\_pp\_c\_4lag | 1.002099 .001382 1.52 0.129 .9993935 1.004811

sp75\_506\_pp\_c\_4lag | .9987477 .0010185 -1.23 0.219 .9967534 1.000746

sp75\_507\_pp\_c\_4lag | .9994609 .0005775 -0.93 0.351 .9983296 1.000593

sp75\_511\_1\_pp\_c\_4lag | 1 (omitted)

sp75\_511\_pp\_c\_4lag | 1.000661 .0005765 1.15 0.252 .9995315 1.001791

sp75\_512\_1\_pp\_c\_4lag | .9909082 .0055602 -1.63 0.104 .9800702 1.001866

sp75\_512\_2\_pp\_c\_4lag | 1.000462 .0001838 2.51 0.012 1.000102 1.000822

sp75\_512\_pp\_c\_4lag | .9999477 .0000621 -0.84 0.400 .999826 1.000069

sp75\_513\_1\_pp\_c\_4lag | 1.00002 .0019911 0.01 0.992 .9961248 1.00393

sp75\_513\_pp\_c\_4lag | .9988904 .0008777 -1.26 0.206 .9971717 1.000612

sp75\_514\_pp\_c\_4lag | 1.000013 .0002054 0.07 0.948 .9996108 1.000416

sp75\_515\_pp\_c\_4lag | .9997059 .0001372 -2.14 0.032 .9994371 .9999748

sp75\_516\_1\_pp\_c\_4lag | .9974369 .0028026 -0.91 0.361 .991959 1.002945

sp75\_516\_2\_pp\_c\_4lag | 1.000146 .000405 0.36 0.719 .999352 1.00094

sp75\_516\_pp\_c\_4lag | .9999422 .000256 -0.23 0.821 .9994405 1.000444

sp75\_517\_1\_pp\_c\_4lag | 1.005115 .0019236 2.67 0.008 1.001352 1.008892

sp75\_517\_pp\_c\_4lag | .9999604 .000047 -0.84 0.399 .9998683 1.000052

sp75\_518\_1\_pp\_c\_4lag | 1.000026 .0002872 0.09 0.929 .9994627 1.000589

sp75\_518\_pp\_c\_4lag | 1.000145 .000185 0.78 0.435 .9997819 1.000507

sp75\_519\_pp\_c\_4lag | .9974755 .0032958 -0.77 0.444 .9910368 1.003956

sp75\_520\_pp\_c\_4lag | 1.000376 .0003256 1.16 0.248 .9997382 1.001014

sp75\_523\_1\_pp\_c\_4lag | .9981134 .000585 -3.22 0.001 .9969674 .9992606

sp75\_523\_2\_pp\_c\_4lag | .9997799 .0003823 -0.58 0.565 .9990309 1.00053

sp75\_523\_pp\_c\_4lag | 1.000008 .0005769 0.01 0.989 .9988782 1.00114

sp75\_600\_1\_pp\_c\_4lag | .998135 .002748 -0.68 0.498 .9927635 1.003536

sp75\_600\_pp\_c\_4lag | 1.002668 .0036091 0.74 0.459 .995619 1.009767

sp75\_601\_1\_pp\_c\_4lag | 1.000075 .0001874 0.40 0.691 .9997073 1.000442

sp75\_601\_2\_pp\_c\_4lag | .9999183 .0024503 -0.03 0.973 .9951273 1.004732

sp75\_601\_3\_pp\_c\_4lag | .998056 .0018994 -1.02 0.307 .9943402 1.001786

sp75\_601\_pp\_c\_4lag | 1.000106 .0002413 0.44 0.662 .9996326 1.000579

sp75\_602\_pp\_c\_4lag | 1.000283 .0007052 0.40 0.689 .9989014 1.001666

sp75\_603\_pp\_c\_4lag | .9995556 .0006649 -0.67 0.504 .9982533 1.00086

sp75\_604\_pp\_c\_4lag | 1.000162 .0000676 2.40 0.016 1.00003 1.000294

sp75\_605\_pp\_c\_4lag | 1.000439 .0002424 1.81 0.070 .9999644 1.000915

sp75\_606\_pp\_c\_4lag | 1.000058 .0001106 0.52 0.602 .9998409 1.000274

sp75\_607\_pp\_c\_4lag | 1.00027 .000634 0.43 0.670 .999028 1.001513

sp75\_700\_1\_pp\_c\_4lag | .9989206 .0024297 -0.44 0.657 .9941698 1.003694

sp75\_700\_pp\_c\_4lag | .9991581 .0007435 -1.13 0.258 .997702 1.000616

sp75\_701\_1\_pp\_c\_4lag | .9986038 .0008672 -1.61 0.108 .9969056 1.000305

sp75\_701\_2\_pp\_c\_4lag | 1.000718 .0008737 0.82 0.411 .9990075 1.002432

sp75\_701\_3\_pp\_c\_4lag | 1.001591 .0008467 1.88 0.060 .9999327 1.003252

sp75\_701\_4\_pp\_c\_4lag | 1.004208 .002501 1.69 0.092 .9993183 1.009122

sp75\_701\_pp\_c\_4lag | 1.00009 .0001702 0.53 0.595 .9997568 1.000424

sp75\_702\_1\_pp\_c\_4lag | .9967461 .002636 -1.23 0.218 .991593 1.001926

sp75\_702\_pp\_c\_4lag | .999449 .0021053 -0.26 0.794 .9953311 1.003584

sp75\_703\_1\_pp\_c\_4lag | 1.002263 .0039019 0.58 0.562 .9946444 1.00994

sp75\_703\_2\_pp\_c\_4lag | 1.013424 .0059824 2.26 0.024 1.001766 1.025217

sp75\_703\_3\_pp\_c\_4lag | 1.000556 .0012904 0.43 0.667 .9980297 1.003088

sp75\_703\_4\_pp\_c\_4lag | 1.00679 .0071112 0.96 0.338 .9929486 1.020825

sp75\_703\_pp\_c\_4lag | 1.000976 .0003927 2.49 0.013 1.000206 1.001746

sp75\_704\_pp\_c\_4lag | .9979267 .0023485 -0.88 0.378 .9933343 1.00254

sp75\_705\_1\_pp\_c\_4lag | .9976841 .001484 -1.56 0.119 .9947798 1.000597

sp75\_705\_3\_pp\_c\_4lag | 1.021117 .0045277 4.71 0.000 1.012281 1.030029

sp75\_705\_8\_pp\_c\_4lag | .9996468 .0046376 -0.08 0.939 .9905986 1.008778

sp75\_705\_pp\_c\_4lag | 1.006319 .0029998 2.11 0.035 1.000457 1.012216

sp75\_706\_pp\_c\_4lag | 1.00067 .0010625 0.63 0.528 .9985898 1.002755

sp75\_800\_2\_pp\_c\_4lag | .6233593 .0149331 -19.73 0.000 .5947675 .6533255

sp75\_800\_3\_pp\_c\_4lag | .9977047 .0014801 -1.55 0.121 .994808 1.00061

sp75\_800\_4\_pp\_c\_4lag | 1.001942 .0013494 1.44 0.150 .9993003 1.00459

sp75\_800\_pp\_c\_4lag | .9988067 .0008113 -1.47 0.142 .9972178 1.000398

sp75\_801\_pp\_c\_4lag | 1.000248 .0026129 0.09 0.924 .9951395 1.005382

sp75\_802\_pp\_c\_4lag | 1.001008 .0023924 0.42 0.673 .9963303 1.005709

sp75\_803\_2\_pp\_c\_4lag | 1.003291 .0028466 1.16 0.247 .9977276 1.008886

sp75\_803\_pp\_c\_4lag | 1.000176 .0010007 0.18 0.860 .9982167 1.002139

sp75\_804\_pp\_c\_4lag | .9999493 .0023156 -0.02 0.983 .9954211 1.004498

sp75\_805\_pp\_c\_4lag | 1.002624 .0020537 1.28 0.201 .9986066 1.006657

sp75\_806\_pp\_c\_4lag | 1.023707 .0043622 5.50 0.000 1.015192 1.032292

sp75\_807\_pp\_c\_4lag | 1.000294 .0001387 2.12 0.034 1.000022 1.000566

sp75\_808\_pp\_c\_4lag | .9991955 .0011936 -0.67 0.500 .9968588 1.001538

sp75\_809\_pp\_c\_4lag | .999715 .000522 -0.55 0.585 .9986924 1.000739

sp75\_810\_pp\_c\_4lag | 1.000651 .0006311 1.03 0.302 .9994147 1.001889

sp75\_811\_pp\_c\_4lag | 1.001007 .000419 2.40 0.016 1.000186 1.001828

sp75\_812\_pp\_c\_4lag | 1.001293 .0021128 0.61 0.540 .9971609 1.005443

sp75\_814\_pp\_c\_4lag | 1.000176 .0010821 0.16 0.870 .9980578 1.0023

sp75\_815\_pp\_c\_4lag | 1.002587 .0010685 2.42 0.015 1.000495 1.004683

sp75\_816\_pp\_c\_4lag | 1.000048 .0003759 0.13 0.899 .999311 1.000785

sp75\_818\_pp\_c\_4lag | 1.001053 .0019926 0.53 0.597 .9971552 1.004966

sp75\_820\_pp\_c\_4lag | 1.001503 .0007247 2.08 0.038 1.000083 1.002924

sp75\_821\_pp\_c\_4lag | 1.001011 .0007129 1.42 0.156 .9996144 1.002409

sp75\_825\_pp\_c\_4lag | 1.000457 .0014679 0.31 0.755 .9975845 1.003339

sp75\_827\_pp\_c\_4lag | 1.000831 .0012509 0.66 0.506 .9983819 1.003285

sp75\_831\_pp\_c\_4lag | .9961946 .00238 -1.60 0.111 .9915408 1.00087

sp75\_832\_pp\_c\_4lag | .9924622 .0126052 -0.60 0.551 .9680615 1.017478

sp75\_834\_pp\_c\_4lag | .3300687 .0200086 -18.29 0.000 .2930927 .3717096

sp75\_900\_2\_pp\_c\_4lag | .9986986 .0021003 -0.62 0.536 .9945905 1.002824

sp75\_900\_3\_pp\_c\_4lag | 1.000517 .0009339 0.55 0.580 .9986886 1.002349

sp75\_900\_4\_pp\_c\_4lag | .9999965 .0003224 -0.01 0.991 .9993649 1.000629

sp75\_900\_pp\_c\_4lag | .9997865 .0003613 -0.59 0.555 .9990786 1.000495

sp75\_901\_pp\_c\_4lag | .9993686 .0013976 -0.45 0.652 .9966332 1.002111

sp75\_902\_1\_pp\_c\_4lag | 1.00128 .0035625 0.36 0.719 .9943219 1.008287

sp75\_902\_2\_pp\_c\_4lag | 1.000125 .0004869 0.26 0.798 .9991709 1.00108

sp75\_902\_4\_pp\_c\_4lag | 1.000042 .0007099 0.06 0.953 .9986514 1.001434

sp75\_902\_pp\_c\_4lag | 1.000704 .0003553 1.98 0.047 1.000008 1.001401

sp75\_903\_pp\_c\_4lag | 1.00058 .0005358 1.08 0.279 .9995306 1.001631

sp75\_904\_pp\_c\_4lag | .9997765 .0001567 -1.43 0.154 .9994694 1.000084

sp75\_905\_pp\_c\_4lag | 1.002217 .0025347 0.88 0.381 .9972616 1.007198

sp75\_907\_pp\_c\_4lag | 1.000765 .0011068 0.69 0.489 .9985981 1.002937

sp77\_103\_pp\_c\_4lag | .9995072 .0014772 -0.33 0.739 .9966162 1.002407

sp77\_104\_pp\_c\_4lag | 1.003064 .0078193 0.39 0.695 .9878552 1.018507

sp77\_1103\_pp\_c\_4lag | .9995045 .0003822 -1.30 0.195 .9987557 1.000254

sp77\_1104\_pp\_c\_4lag | 1.00013 .0001125 1.15 0.250 .999909 1.00035

sp77\_1106\_pp\_c\_4lag | 1.003856 .0072772 0.53 0.596 .9896934 1.01822

sp77\_1111\_pp\_c\_4lag | .9895072 .0044667 -2.34 0.019 .9807912 .9983007

sp77\_1112\_pp\_c\_4lag | 1.000223 .0008554 0.26 0.795 .9985474 1.001901

sp77\_1403\_pp\_c\_4lag | 1.001941 .00104 1.87 0.062 .9999044 1.003981

sp77\_1432\_pp\_c\_4lag | .9994801 .0029441 -0.18 0.860 .9937265 1.005267

sp77\_1433\_pp\_c\_4lag | .9978691 .0026677 -0.80 0.425 .9926542 1.003111

sp77\_1434\_pp\_c\_4lag | 1.00044 .0021843 0.20 0.840 .9961679 1.00473

sp77\_1437\_pp\_c\_4lag | .9961962 .0013602 -2.79 0.005 .9935338 .9988658

sp77\_1438\_pp\_c\_4lag | .9688048 .0135186 -2.27 0.023 .9426678 .9956665

sp77\_1605\_pp\_c\_4lag | .9999147 .0001736 -0.49 0.623 .9995745 1.000255

sp77\_1606\_pp\_c\_4lag | 1.000462 .0002622 1.76 0.078 .9999483 1.000976

sp77\_1710\_pp\_c\_4lag | 1.000012 .00042 0.03 0.976 .9991895 1.000836

sp77\_1802\_pp\_c\_4lag | .9923002 .007095 -1.08 0.280 .9784913 1.006304

sp77\_1906\_pp\_c\_4lag | 1.005323 .002966 1.80 0.072 .9995263 1.011153

sp77\_1915\_pp\_c\_4lag | 1.002308 .0016283 1.42 0.156 .9991216 1.005505

sp77\_1916\_pp\_c\_4lag | 1.001102 .0018339 0.60 0.548 .9975143 1.004703

sp77\_200\_pp\_c\_4lag | 1.000302 .0002825 1.07 0.285 .9997482 1.000856

sp77\_202\_pp\_c\_4lag | .9994682 .0002684 -1.98 0.048 .9989422 .9999944

sp77\_203\_pp\_c\_4lag | 1.002089 .0017569 1.19 0.234 .9986512 1.005538

sp77\_204\_pp\_c\_4lag | .9997448 .0004326 -0.59 0.555 .9988973 1.000593

sp77\_205\_pp\_c\_4lag | 1.000215 .000141 1.53 0.127 .9999388 1.000492

sp77\_206\_pp\_c\_4lag | 1.001148 .0005678 2.02 0.043 1.000036 1.002262

sp77\_207\_pp\_c\_4lag | 1.000748 .0005291 1.41 0.157 .9997114 1.001785

sp77\_208\_pp\_c\_4lag | 1.000229 .0002754 0.83 0.405 .9996898 1.000769

sp77\_210\_pp\_c\_4lag | .9994186 .0008732 -0.67 0.506 .9977087 1.001131

sp77\_216\_pp\_c\_4lag | 1.000257 .000469 0.55 0.583 .9993386 1.001177

sp77\_305\_pp\_c\_4lag | 1.015837 .0058401 2.73 0.006 1.004455 1.027348

sp77\_309\_pp\_c\_4lag | 1.001217 .0040896 0.30 0.766 .9932332 1.009264

sp77\_314\_pp\_c\_4lag | .9990121 .007752 -0.13 0.899 .9839334 1.014322

sp77\_315\_pp\_c\_4lag | .981391 .0060881 -3.03 0.002 .9695307 .9933964

sp77\_400\_pp\_c\_4lag | 1.000074 .0001899 0.39 0.696 .999702 1.000446

sp77\_401\_pp\_c\_4lag | 1.00073 .0010726 0.68 0.496 .9986301 1.002834

sp77\_402\_pp\_c\_4lag | .9995216 .000749 -0.64 0.523 .9980548 1.000991

sp77\_403\_1\_pp\_c\_4lag | 1.000655 .001132 0.58 0.563 .9984387 1.002876

sp77\_403\_2\_pp\_c\_4lag | 1.011162 .0046084 2.44 0.015 1.00217 1.020235

sp77\_403\_pp\_c\_4lag | 1.004611 .0028948 1.60 0.110 .9989531 1.0103

sp77\_404\_pp\_c\_4lag | .9997702 .0001404 -1.64 0.102 .999495 1.000045

sp77\_405\_pp\_c\_4lag | .9994465 .0010918 -0.51 0.612 .9973089 1.001589

sp77\_408\_pp\_c\_4lag | .999885 .0014965 -0.08 0.939 .9969563 1.002822

sp77\_409\_pp\_c\_4lag | .9935486 .0040983 -1.57 0.117 .9855485 1.001614

sp77\_410\_pp\_c\_4lag | 1.000353 .0002363 1.50 0.135 .9998903 1.000817

sp77\_411\_pp\_c\_4lag | .9945393 .0056641 -0.96 0.336 .9834996 1.005703

sp77\_412\_pp\_c\_4lag | 1.001366 .0008342 1.64 0.101 .9997326 1.003003

sp77\_413\_pp\_c\_4lag | 1 (omitted)

sp77\_500\_pp\_c\_4lag | 1.000804 .0018438 0.44 0.663 .9971969 1.004425

sp77\_501\_pp\_c\_4lag | .9996568 .0016096 -0.21 0.831 .996507 1.002817

sp77\_502\_1\_pp\_c\_4lag | 1.007683 .0049758 1.55 0.121 .9979776 1.017483

sp77\_502\_2\_pp\_c\_4lag | .9994128 .000891 -0.66 0.510 .9976681 1.001161

sp77\_502\_pp\_c\_4lag | .9998879 .0001517 -0.74 0.460 .9995907 1.000185

sp77\_503\_1\_pp\_c\_4lag | 1.000111 .0042211 0.03 0.979 .9918719 1.008418

sp77\_503\_pp\_c\_4lag | 1.001475 .0022096 0.67 0.504 .9971536 1.005815

sp77\_504\_pp\_c\_4lag | .9989326 .0006358 -1.68 0.093 .9976872 1.00018

sp77\_505\_pp\_c\_4lag | .9999621 .0003549 -0.11 0.915 .9992668 1.000658

sp77\_506\_1\_pp\_c\_4lag | 1.00006 .0003921 0.15 0.878 .9992922 1.000829

sp77\_506\_pp\_c\_4lag | .9994916 .0004862 -1.05 0.296 .9985391 1.000445

sp77\_507\_pp\_c\_4lag | 1.00121 .0019074 0.63 0.526 .9974781 1.004955

sp77\_508\_1\_pp\_c\_4lag | .9972415 .003751 -0.73 0.463 .9899167 1.00462

sp77\_508\_pp\_c\_4lag | .9998393 .0019138 -0.08 0.933 .9960953 1.003597

sp77\_509\_pp\_c\_4lag | .9998543 .0006902 -0.21 0.833 .9985025 1.001208

sp77\_510\_pp\_c\_4lag | 1.004403 .005112 0.86 0.388 .9944338 1.014473

sp77\_511\_pp\_c\_4lag | .9973276 .0025489 -1.05 0.295 .9923442 1.002336

sp77\_512\_pp\_c\_4lag | .9998031 .000355 -0.55 0.579 .9991076 1.000499

sp77\_513\_pp\_c\_4lag | .9995687 .0005577 -0.77 0.439 .9984763 1.000662

sp77\_514\_pp\_c\_4lag | .9949343 .0057027 -0.89 0.376 .9838197 1.006175

sp77\_515\_pp\_c\_4lag | .9999734 .0073893 -0.00 0.997 .985595 1.014562

sp77\_516\_pp\_c\_4lag | .9995568 .0001657 -2.67 0.008 .9992321 .9998817

sp77\_600\_pp\_c\_4lag | 1.002872 .0019736 1.46 0.145 .9990111 1.006747

sp77\_601\_pp\_c\_4lag | .9998683 .0039403 -0.03 0.973 .9921752 1.007621

sp77\_602\_pp\_c\_4lag | 1.000393 .0019658 0.20 0.841 .9965477 1.004254

sp77\_603\_pp\_c\_4lag | 1.007454 .0033339 2.24 0.025 1.00094 1.014009

sp77\_604\_pp\_c\_4lag | .9995933 .001642 -0.25 0.804 .9963802 1.002817

sp77\_605\_pp\_c\_4lag | .990868 .0072703 -1.25 0.211 .9767205 1.005221

sp77\_606\_1\_pp\_c\_4lag | .9931828 .0039292 -1.73 0.084 .9855114 1.000914

sp77\_606\_pp\_c\_4lag | 1 (omitted)

sp77\_700\_1\_pp\_c\_4lag | 1.000558 .0025359 0.22 0.826 .9956004 1.005541

sp77\_700\_pp\_c\_4lag | .9990655 .0015117 -0.62 0.537 .9961071 1.002033

sp77\_701\_1\_pp\_c\_4lag | 1.001048 .0025714 0.41 0.683 .9960212 1.006101

sp77\_701\_2\_pp\_c\_4lag | .9994525 .0018778 -0.29 0.771 .9957788 1.00314

sp77\_701\_3\_pp\_c\_4lag | 1.004501 .0049513 0.91 0.362 .9948434 1.014252

sp77\_701\_4\_pp\_c\_4lag | 1.00128 .0030251 0.42 0.672 .995368 1.007226

sp77\_701\_pp\_c\_4lag | .9996839 .0004912 -0.64 0.520 .9987216 1.000647

sp77\_703\_pp\_c\_4lag | .9998646 .0037554 -0.04 0.971 .9925311 1.007252

sp77\_704\_1\_pp\_c\_4lag | .9997659 .0009177 -0.26 0.799 .9979687 1.001566

sp77\_704\_8\_pp\_c\_4lag | .9990543 .0027134 -0.35 0.728 .9937502 1.004387

sp77\_704\_9\_pp\_c\_4lag | .9851375 .0059454 -2.48 0.013 .9735535 .9968593

sp77\_704\_pp\_c\_4lag | .9978105 .0039287 -0.56 0.578 .9901401 1.00554

sp77\_705\_pp\_c\_4lag | 1.001116 .0009925 1.12 0.261 .9991723 1.003063

sp77\_800\_1\_pp\_c\_4lag | .9986279 .0023482 -0.58 0.559 .9940361 1.003241

sp77\_800\_2\_pp\_c\_4lag | .998751 .0020796 -0.60 0.548 .9946833 1.002835

sp77\_800\_pp\_c\_4lag | .9990865 .0032497 -0.28 0.779 .9927376 1.005476

sp77\_801\_pp\_c\_4lag | .9865681 .0066698 -2.00 0.045 .9735818 .9997276

sp77\_802\_pp\_c\_4lag | .996093 .002723 -1.43 0.152 .9907703 1.001444

sp77\_803\_pp\_c\_4lag | 1.000402 .0016616 0.24 0.809 .9971503 1.003664

sp77\_804\_pp\_c\_4lag | 1 (omitted)

sp77\_805\_pp\_c\_4lag | .9994334 .002555 -0.22 0.825 .9944382 1.004454

sp77\_807\_1\_pp\_c\_4lag | 1.002902 .0042728 0.68 0.496 .9945626 1.011312

sp77\_807\_2\_pp\_c\_4lag | .9995244 .0018734 -0.25 0.800 .9958593 1.003203

sp77\_807\_3\_pp\_c\_4lag | 1.001703 .001499 1.14 0.256 .9987692 1.004645

sp77\_807\_pp\_c\_4lag | 1.000652 .0016063 0.41 0.685 .9975092 1.003806

sp77\_808\_pp\_c\_4lag | 1.010448 .0029432 3.57 0.000 1.004695 1.016233

sp77\_809\_pp\_c\_4lag | .9995733 .0007842 -0.54 0.586 .9980375 1.001112

sp77\_810\_pp\_c\_4lag | 1.001869 .0017892 1.05 0.296 .9983686 1.005382

sp77\_900\_1\_pp\_c\_4lag | 1.007031 .0027069 2.61 0.009 1.001739 1.01235

sp77\_900\_2\_pp\_c\_4lag | 1.002841 .0015923 1.79 0.074 .999725 1.005967

sp77\_900\_pp\_c\_4lag | .9968432 .0025794 -1.22 0.222 .9918005 1.001912

sp77\_901\_1\_pp\_c\_4lag | .9890322 .0042378 -2.57 0.010 .980761 .9973732

sp77\_901\_pp\_c\_4lag | .9996147 .002008 -0.19 0.848 .9956868 1.003558

sp77\_902\_2\_pp\_c\_4lag | .748917 .008813 -24.57 0.000 .7318414 .7663909

sp77\_902\_3\_pp\_c\_4lag | .9947211 .0033336 -1.58 0.114 .9882088 1.001276

sp77\_902\_pp\_c\_4lag | 1.001502 .0018745 0.80 0.423 .9978342 1.005182

sp77\_903\_pp\_c\_4lag | 1.00333 .0017181 1.94 0.052 .999968 1.006703

sp77\_904\_pp\_c\_4lag | .999355 .0004969 -1.30 0.194 .9983814 1.000329

mine\_time | .9975753 .0018029 -1.34 0.179 .994048 1.001115

onsite\_insp\_hours | .9998438 .0001292 -1.21 0.227 .9995906 1.000097

|

state |

AL | 1.278575 .2354845 1.33 0.182 .8911569 1.834417

AR | 2.549422 .2363506 10.09 0.000 2.125832 3.057416

CO | .7804031 .1427315 -1.36 0.175 .5453042 1.116861

IL | 1.055001 .116083 0.49 0.627 .8503431 1.308916

IN | .8645855 .1706042 -0.74 0.461 .5872794 1.272832

KY | .9534536 .061763 -0.74 0.462 .8397699 1.082527

MD | 1.228326 .209381 1.21 0.228 .8794628 1.715576

MT | .6995593 .0992001 -2.52 0.012 .529811 .9236939

NM | .9440676 .0980302 -0.55 0.579 .770222 1.157152

OH | 1.041086 .1670746 0.25 0.802 .7601244 1.425897

OK | .6992061 .3340785 -0.75 0.454 .2740967 1.783638

PA | .889448 .1138627 -0.92 0.360 .6920763 1.143108

TN | 1.08056 .1995475 0.42 0.675 .7524141 1.551817

UT | .6343562 .1392514 -2.07 0.038 .412554 .9754064

VA | .6821326 .0596469 -4.37 0.000 .574696 .809654

WY | 1.139757 .1811011 0.82 0.410 .8347588 1.556193

|

time |

2007 | 1.315967 .1631078 2.22 0.027 1.032149 1.677827

2007.25 | 1.182964 .1537526 1.29 0.196 .9169359 1.526175

2007.5 | 1.236459 .1527461 1.72 0.086 .9705692 1.57519

2007.75 | 1.255846 .1543923 1.85 0.064 .9869395 1.59802

2008 | .9808346 .1167381 -0.16 0.871 .7767593 1.238526

2008.25 | 1.038112 .1280112 0.30 0.762 .8152317 1.321926

2008.5 | 1.274386 .1335871 2.31 0.021 1.037705 1.565049

2009 | .9883264 .1092776 -0.11 0.915 .7957643 1.227485

2009.25 | .9348051 .1128119 -0.56 0.576 .7379016 1.184251

2009.5 | 1.14568 .1398129 1.11 0.265 .9019595 1.455257

2009.75 | .8549331 .1105783 -1.21 0.226 .6634931 1.10161

2010 | .8915867 .1145968 -0.89 0.372 .6930388 1.147016

2010.25 | .9645091 .1222626 -0.29 0.776 .7523273 1.236533

2010.5 | 1.090834 .1362498 0.70 0.486 .8539652 1.393406

2010.75 | .8441428 .104857 -1.36 0.173 .6617319 1.076836

2011 | .9681739 .1145731 -0.27 0.785 .767755 1.220911

2011.25 | .9312002 .1113584 -0.60 0.551 .7366333 1.177158

2011.5 | 1.045489 .1262266 0.37 0.713 .8251831 1.324613

2011.75 | .8676027 .1092287 -1.13 0.259 .6778866 1.110413

2012 | 1.063868 .1277608 0.52 0.606 .840749 1.346199

2012.25 | .9483024 .1184241 -0.43 0.671 .7424184 1.211281

2012.5 | 1.09161 .1341842 0.71 0.476 .8578965 1.388992

2012.75 | .8922639 .1156818 -0.88 0.379 .6920463 1.150407

2013 | .9381779 .115138 -0.52 0.603 .7376007 1.193298

2013.25 | .7834921 .1050893 -1.82 0.069 .6023703 1.019074

2013.5 | 1.041208 .1366794 0.31 0.758 .8050079 1.346712

2013.75 | .8451214 .1121272 -1.27 0.205 .6516061 1.096107

2014 | .7811938 .1068505 -1.81 0.071 .5974929 1.021374

2014.25 | .8392053 .1067863 -1.38 0.168 .6539664 1.076914

2014.5 | .902118 .1141691 -0.81 0.416 .7039439 1.156082

2014.75 | .8447132 .1091282 -1.31 0.191 .6557569 1.088117

2015 | .801638 .1049847 -1.69 0.091 .6201584 1.036225

2015.25 | .8808538 .1199896 -0.93 0.352 .6744558 1.150414

2015.5 | 1.145455 .1532784 1.01 0.310 .8812005 1.488953

2015.75 | .7206612 .1126365 -2.10 0.036 .5305076 .9789728

2016 | .9153756 .1309912 -0.62 0.537 .6914989 1.211733

|

\_cons | 9.42e-06 1.02e-06 -107.25 0.000 7.63e-06 .0000116

ln(hours) | 1 (exposure)

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

/lnalpha | -2.704621 .4541023 -3.594646 -1.814597

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

alpha | .0668956 .0303775 .0274704 .1629035

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(est1 stored)

**. lrtest pois nbin, stats force**

Likelihood-ratio test LR chi2(21) = -14884.78

(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 | 13,003 -9523.7 -9135.793 344 18959.59 21530.28

pois | 22,446 -17381.19 -16578.18 365 33886.37 36813.25

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

Note: N=Obs used in calculating BIC; see [R] BIC note.

**. summ MR spcpp3\_yhat**

Variable | Obs Mean Std. Dev. Min Max

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

MR | 30,289 .4096207 .9550592 0 14

spcpp3\_yhat | 22,446 .4948501 .7415173 1.47e-23 11.36205