. // Model C.PP.2

.

. // poisson model

. glm dv `pp\_lag\_1\_vars' `covariates' ib(freq).state ib(freq).time, family(poisson) link(log) vce(cl mineid) exposure(hours) iter(50) eform

Iteration 0: log pseudolikelihood = -50296.769

Iteration 1: log pseudolikelihood = -46766.617

Iteration 2: log pseudolikelihood = -46746.061

Iteration 3: log pseudolikelihood = -46745.998

Iteration 4: log pseudolikelihood = -46745.985

Iteration 5: log pseudolikelihood = -46745.981

Iteration 6: log pseudolikelihood = -46745.981

Iteration 7: log pseudolikelihood = -46745.981

Iteration 8: log pseudolikelihood = -46745.981

Generalized linear models No. of obs = 26,110

Optimization : ML Residual df = 25,944

Scale parameter = 1

Deviance = 47776.38483 (1/df) Deviance = 1.84152

Pearson = 1172648.041 (1/df) Pearson = 45.1992

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

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

AIC = 3.593411

Log pseudolikelihood = -46745.98058 BIC = -216076

(Std. Err. adjusted for 1,475 clusters in mineid)

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

| Robust

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

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

sp48\_11\_pp\_1lag | .9999507 .0005496 -0.09 0.929 .998874 1.001029

sp48\_24\_pp\_1lag | 1.001732 .0001652 10.50 0.000 1.001409 1.002056

sp48\_25\_pp\_1lag | 1.000219 .0011895 0.18 0.854 .9978901 1.002553

sp48\_26\_pp\_1lag | 1.000909 .0012104 0.75 0.453 .9985392 1.003284

sp48\_27\_pp\_1lag | .9997425 .0008092 -0.32 0.750 .9981578 1.00133

sp48\_28\_pp\_1lag | .9988336 .0009376 -1.24 0.214 .9969977 1.000673

sp48\_4\_pp\_1lag | .9962936 .0008277 -4.47 0.000 .9946727 .9979171

sp48\_5\_pp\_1lag | .9985389 .001844 -0.79 0.428 .9949312 1.00216

sp48\_6\_pp\_1lag | 1.000148 .0006664 0.22 0.824 .9988428 1.001455

sp48\_7\_pp\_1lag | 1.0006 .000498 1.21 0.228 .9996243 1.001577

sp48\_8\_pp\_1lag | 1.001525 .0012438 1.23 0.220 .9990897 1.003965

sp75\_100\_pp\_1lag | 1.001563 .0015165 1.03 0.302 .9985952 1.00454

sp75\_1002\_pp\_1lag | 1.000094 .0003152 0.30 0.765 .9994766 1.000712

sp75\_1003\_pp\_1lag | .9992983 .0004159 -1.69 0.092 .9984835 1.000114

sp75\_1003\_2\_pp\_1lag | .9988965 .0004837 -2.28 0.023 .9979489 .9998451

sp75\_1311\_pp\_1lag | 1.000735 .0008163 0.90 0.368 .9991365 1.002336

sp75\_1315\_pp\_1lag | .9893615 .0026635 -3.97 0.000 .9841549 .9945957

sp75\_1316\_pp\_1lag | .9977624 .0017365 -1.29 0.198 .9943648 1.001172

sp75\_1318\_pp\_1lag | .6438157 .024808 -11.43 0.000 .5969837 .6943215

sp75\_1400\_pp\_1lag | .9982392 .0009303 -1.89 0.059 .9964174 1.000064

sp75\_1400\_1\_pp\_1lag | .9970299 .0029419 -1.01 0.313 .9912806 1.002813

sp75\_1403\_10\_pp\_1lag | 1.001002 .0001734 5.78 0.000 1.000662 1.001342

sp75\_1403\_5\_pp\_1lag | .9993342 .0002407 -2.77 0.006 .9988626 .999806

sp75\_1403\_6\_pp\_1lag | .999761 .0001245 -1.92 0.055 .999517 1.000005

sp75\_1403\_7\_pp\_1lag | 1.000509 .0006013 0.85 0.397 .999331 1.001688

sp75\_1403\_8\_pp\_1lag | .9993411 .0002215 -2.97 0.003 .9989071 .9997752

sp75\_1404\_pp\_1lag | 1.004304 .0021989 1.96 0.050 1.000003 1.008623

sp75\_1404\_1\_pp\_1lag | .9971286 .0049579 -0.58 0.563 .9874585 1.006893

sp75\_1405\_pp\_1lag | .9996971 .0001638 -1.85 0.065 .9993761 1.000018

sp75\_1405\_1\_pp\_1lag | .9978609 .0012244 -1.75 0.081 .995464 1.000264

sp75\_153\_pp\_1lag | .999842 .0024955 -0.06 0.950 .994963 1.004745

sp75\_156\_pp\_1lag | 1.000113 .0026477 0.04 0.966 .9949375 1.005316

sp75\_160\_pp\_1lag | 1.008311 .0075137 1.11 0.267 .9936918 1.023146

sp75\_1719\_2\_pp\_1lag | .9994961 .0011511 -0.44 0.662 .9972425 1.001755

sp75\_1719\_4\_pp\_1lag | 1.000809 .0005342 1.51 0.130 .9997621 1.001856

sp75\_1720\_pp\_1lag | 1.000223 .0004231 0.53 0.597 .9993945 1.001053

sp75\_1725\_pp\_1lag | .9999227 .0000722 -1.07 0.285 .9997812 1.000064

sp75\_1906\_pp\_1lag | 1.000773 .0008891 0.87 0.385 .9990316 1.002517

sp75\_1916\_pp\_1lag | 1.000918 .0005007 1.83 0.067 .9999372 1.0019

sp75\_203\_pp\_1lag | 1.000467 .0002004 2.33 0.020 1.000074 1.00086

sp75\_204\_pp\_1lag | 1.000172 .0002448 0.70 0.483 .9996919 1.000651

sp75\_205\_pp\_1lag | 1.003286 .0049883 0.66 0.509 .9935569 1.013111

sp75\_207\_pp\_1lag | 1.003789 .0019344 1.96 0.050 1.000005 1.007588

sp75\_208\_pp\_1lag | 1.000411 .0002391 1.72 0.085 .9999426 1.00088

sp75\_209\_pp\_1lag | .9999204 .0012313 -0.06 0.948 .9975101 1.002337

sp75\_212\_pp\_1lag | 1.001624 .0008294 1.96 0.050 .9999998 1.003251

sp75\_213\_pp\_1lag | 1.003319 .0003544 9.38 0.000 1.002624 1.004014

sp75\_215\_pp\_1lag | .9935742 .0025307 -2.53 0.011 .9886264 .9985467

sp75\_332\_pp\_1lag | .9983897 .0012899 -1.25 0.212 .9958648 1.000921

sp75\_334\_pp\_1lag | .9996557 .0004844 -0.71 0.477 .9987067 1.000606

sp75\_337\_pp\_1lag | .9995966 .0004143 -0.97 0.330 .9987851 1.000409

sp75\_340\_pp\_1lag | .9999063 .0001976 -0.47 0.635 .9995191 1.000294

sp75\_343\_pp\_1lag | 1.000592 .0009932 0.60 0.551 .9986471 1.002541

sp75\_373\_pp\_1lag | 1.010474 .0152925 0.69 0.491 .980941 1.040895

sp75\_388\_pp\_1lag | .9994335 .0010816 -0.52 0.601 .9973158 1.001556

sp75\_389\_pp\_1lag | 1.001057 .0013267 0.80 0.425 .99846 1.003661

sp75\_500\_pp\_1lag | .9996185 .0007973 -0.48 0.632 .9980571 1.001182

sp75\_500\_1\_pp\_1lag | 1.000875 .0030956 0.28 0.777 .9948256 1.00696

sp75\_501\_pp\_1lag | .9985568 .0014652 -0.98 0.325 .9956892 1.001433

sp75\_501\_2\_pp\_1lag | .9990193 .002183 -0.45 0.653 .9947498 1.003307

sp75\_502\_pp\_1lag | 1.000457 .0023362 0.20 0.845 .9958882 1.005046

sp75\_503\_pp\_1lag | 1.000054 .0000486 1.11 0.269 .9999585 1.000149

sp75\_505\_pp\_1lag | .9986066 .0022059 -0.63 0.528 .9942925 1.002939

sp75\_506\_1\_pp\_1lag | 1.001136 .0010515 1.08 0.280 .9990776 1.003199

sp75\_507\_pp\_1lag | 1.001042 .0005734 1.82 0.069 .999919 1.002167

sp75\_507\_1\_pp\_1lag | 1.000171 .0005007 0.34 0.732 .9991903 1.001153

sp75\_508\_1\_pp\_1lag | .9750278 .0032634 -7.56 0.000 .9686526 .981445

sp75\_509\_pp\_1lag | 1.002945 .0018816 1.57 0.117 .9992636 1.006639

sp75\_510\_pp\_1lag | .9919428 .0025399 -3.16 0.002 .9869771 .9969334

sp75\_512\_1\_pp\_1lag | 1.001823 .0022036 0.83 0.408 .9975133 1.006151

sp75\_523\_pp\_1lag | .9986861 .0005524 -2.38 0.017 .997604 .9997694

sp75\_523\_3\_pp\_1lag | .9995476 .0001373 -3.29 0.001 .9992785 .9998167

sp75\_524\_pp\_1lag | 1.004072 .0016757 2.44 0.015 1.000793 1.007362

sp75\_602\_pp\_1lag | 1.000105 .0004265 0.25 0.805 .9992698 1.000942

sp75\_603\_pp\_1lag | 1.000738 .0005524 1.34 0.181 .9996562 1.001822

sp75\_604\_pp\_1lag | 1.000194 .000101 1.92 0.054 .9999963 1.000392

sp75\_605\_pp\_1lag | .9999382 .000263 -0.23 0.814 .9994229 1.000454

sp75\_606\_pp\_1lag | .9999424 .0001873 -0.31 0.758 .9995755 1.000309

sp75\_607\_pp\_1lag | .9995803 .0007435 -0.56 0.573 .9981242 1.001039

sp75\_703\_3\_pp\_1lag | 1.002193 .0009137 2.40 0.016 1.000404 1.003985

sp75\_703\_4\_pp\_1lag | 1.002504 .0091619 0.27 0.784 .9847072 1.020623

sp75\_807\_pp\_1lag | 1.000296 .000153 1.93 0.053 .9999959 1.000596

sp75\_810\_pp\_1lag | 1.001312 .0005602 2.34 0.019 1.000214 1.00241

sp75\_811\_pp\_1lag | 1.000671 .0010204 0.66 0.510 .9986736 1.002673

sp75\_812\_pp\_1lag | .9981619 .0016887 -1.09 0.277 .9948577 1.001477

sp75\_816\_pp\_1lag | .9997809 .0003551 -0.62 0.537 .9990852 1.000477

sp75\_817\_pp\_1lag | .99885 .0008684 -1.32 0.186 .9971494 1.000554

sp75\_906\_pp\_1lag | .9926401 .0038129 -1.92 0.054 .985195 1.000141

mine\_time | 1.001413 .0014407 0.98 0.326 .9985935 1.004241

onsite\_insp\_hours | .9995492 .0001237 -3.64 0.000 .9993068 .9997916

|

state |

AL | .9901331 .0804601 -0.12 0.903 .8443517 1.161085

AR | 1.766467 .0897497 11.20 0.000 1.599035 1.951429

CO | .6667732 .0686457 -3.94 0.000 .5449356 .8158514

IL | 1.242824 .097183 2.78 0.005 1.066227 1.448671

IN | 1.094494 .1313055 0.75 0.452 .8651583 1.384622

MD | 1.143809 .1417275 1.08 0.278 .8971862 1.458225

MT | .5069348 .0218281 -15.78 0.000 .465908 .5515742

NM | .6998536 .0291133 -8.58 0.000 .6450569 .7593053

OH | 1.003951 .0764762 0.05 0.959 .8647135 1.16561

OK | 1.718082 .3078862 3.02 0.003 1.209221 2.441081

PA | 1.03084 .1000137 0.31 0.754 .8523271 1.246741

TN | 1.561299 .1508313 4.61 0.000 1.291976 1.886763

UT | .4469631 .0678678 -5.30 0.000 .3319124 .6018937

VA | .8597608 .0651518 -1.99 0.046 .7410959 .9974264

WV | 1.083573 .0530047 1.64 0.101 .9845107 1.192604

WY | .6929005 .0303417 -8.38 0.000 .6359124 .7549956

|

time |

2000.25 | .9230975 .0605156 -1.22 0.222 .811793 1.049663

2000.5 | 1.038379 .0650545 0.60 0.548 .9183921 1.174042

2000.75 | .7791639 .048096 -4.04 0.000 .6903768 .8793698

2001 | .7608234 .0433593 -4.80 0.000 .6804151 .8507339

2001.25 | .8214802 .0443728 -3.64 0.000 .7389566 .9132198

2001.75 | .7743863 .0361307 -5.48 0.000 .7067129 .84854

2002 | .8022137 .0516792 -3.42 0.001 .707058 .9101755

2002.25 | .7938739 .0477856 -3.83 0.000 .7055295 .8932806

2002.5 | .8705523 .0527339 -2.29 0.022 .7730954 .9802947

2002.75 | .774112 .0445544 -4.45 0.000 .6915323 .866553

2003 | .6804308 .0418481 -6.26 0.000 .6031607 .7675999

2003.25 | .7334362 .0453878 -5.01 0.000 .649661 .8280144

2003.5 | .8051224 .0530708 -3.29 0.001 .7075444 .9161575

2003.75 | .6312548 .0378686 -7.67 0.000 .561231 .7100154

2004 | .6403536 .0427039 -6.68 0.000 .5618947 .729768

2004.25 | .6927255 .0447812 -5.68 0.000 .6102885 .7862978

2004.5 | .7684632 .0494708 -4.09 0.000 .6773699 .8718067

2004.75 | .607219 .0398666 -7.60 0.000 .5339004 .6906062

2005 | .5952934 .0413313 -7.47 0.000 .5195555 .6820719

2005.25 | .6595286 .0448206 -6.12 0.000 .577281 .7534943

2005.5 | .7146895 .048126 -4.99 0.000 .6263238 .8155223

2005.75 | .597147 .0430169 -7.16 0.000 .518517 .6877009

2006 | .6123737 .044314 -6.78 0.000 .5313979 .7056887

2006.25 | .58899 .0407756 -7.65 0.000 .5142562 .6745844

2006.5 | .7122129 .0539304 -4.48 0.000 .6139809 .8261612

2006.75 | .5675304 .0415553 -7.74 0.000 .491658 .6551114

2007 | .5687028 .0425951 -7.54 0.000 .4910564 .6586266

2007.25 | .5999135 .0520059 -5.89 0.000 .5061728 .7110143

2007.5 | .6853777 .0503144 -5.15 0.000 .5935294 .7914394

2007.75 | .5975155 .0430421 -7.15 0.000 .5188392 .6881222

2008 | .5513034 .0399568 -8.22 0.000 .4782976 .6354525

2008.25 | .5331177 .0397228 -8.44 0.000 .4606804 .6169451

2008.5 | .6226414 .0483723 -6.10 0.000 .5346987 .7250482

2008.75 | .5151674 .0400116 -8.54 0.000 .4424233 .5998722

2009 | .5136377 .037481 -9.13 0.000 .4451878 .592612

2009.25 | .4729481 .0382513 -9.26 0.000 .4036171 .5541884

2009.5 | .5359055 .0437265 -7.65 0.000 .4567047 .6288412

2009.75 | .4593609 .035099 -10.18 0.000 .3954715 .5335719

2010 | .4644192 .0447477 -7.96 0.000 .384499 .5609512

2010.25 | .4728247 .0422287 -8.39 0.000 .3968972 .5632774

2010.5 | .5528946 .0392179 -8.35 0.000 .4811327 .6353598

2010.75 | .4376668 .0350663 -10.31 0.000 .3740627 .5120858

2011 | .4512672 .0355918 -10.09 0.000 .386633 .5267064

2011.25 | .4179854 .0318404 -11.45 0.000 .3600145 .4852909

2011.5 | .4920791 .0369307 -9.45 0.000 .4247681 .5700565

2011.75 | .3792952 .0290039 -12.68 0.000 .3265035 .4406227

2012 | .4138967 .0326633 -11.18 0.000 .3545831 .4831321

2012.25 | .368165 .0291087 -12.64 0.000 .3153138 .4298749

2012.5 | .4183838 .0337627 -10.80 0.000 .357178 .4900778

2012.75 | .3372176 .0290296 -12.63 0.000 .2848617 .3991963

2013 | .3663292 .0308467 -11.93 0.000 .3105962 .4320629

2013.25 | .3635015 .0336703 -10.93 0.000 .3031526 .435864

2013.5 | .4153853 .0384932 -9.48 0.000 .3463948 .4981165

2013.75 | .3168254 .030201 -12.06 0.000 .2628332 .381909

2014 | .368479 .0359826 -10.22 0.000 .3042926 .4462045

2014.25 | .3787653 .0386986 -9.50 0.000 .3100292 .4627407

2014.5 | .4147216 .0387917 -9.41 0.000 .3452536 .4981673

2014.75 | .375926 .0366327 -10.04 0.000 .3105672 .4550394

2015 | .3565581 .0360216 -10.21 0.000 .2925075 .4346339

2015.25 | .3274905 .0323659 -11.30 0.000 .2698202 .3974871

2015.5 | .4345819 .0420892 -8.60 0.000 .3594454 .5254244

2015.75 | .3244917 .0350413 -10.42 0.000 .2625934 .4009805

2016 | .3702646 .0410002 -8.97 0.000 .2980278 .4600105

|

\_cons | .0001082 6.32e-06 -156.19 0.000 .0000965 .0001213

ln(hours) | 1 (exposure)

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

.

. quietly poisson dv `pp\_lag\_1\_vars' `covariates' ib(freq).state ib(freq).time, vce(cl mineid) exposure(hours) iter(50) irr

. est store pois

. estat gof

Deviance goodness-of-fit = 47776.38

Prob > chi2(25944) = 0.0000

Pearson goodness-of-fit = 1172656

Prob > chi2(25944) = 0.0000

.

. pause "next"

.

. // negative binomial model

. glm dv `pp\_lag\_1\_vars' `covariates' ib(freq).state ib(freq).time, family(nbinomial) link(log) vce(cl mineid) exposure(hours) iter(50) eform

Iteration 0: log pseudolikelihood = -45241.665

Iteration 1: log pseudolikelihood = -44767.459

Iteration 2: log pseudolikelihood = -44764.231

Iteration 3: log pseudolikelihood = -44764.201

Iteration 4: log pseudolikelihood = -44764.196

Iteration 5: log pseudolikelihood = -44764.195

Iteration 6: log pseudolikelihood = -44764.195

Iteration 7: log pseudolikelihood = -44764.195

Iteration 8: log pseudolikelihood = -44764.195

Generalized linear models No. of obs = 26,110

Optimization : ML Residual df = 25,944

Scale parameter = 1

Deviance = 20492.66539 (1/df) Deviance = .7898807

Pearson = 895356.8693 (1/df) Pearson = 34.51113

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

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

AIC = 3.441608

Log pseudolikelihood = -44764.19459 BIC = -243359.7

(Std. Err. adjusted for 1,475 clusters in mineid)

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| Robust

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

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

sp48\_11\_pp\_1lag | 1.000246 .0006744 0.36 0.716 .9989247 1.001568

sp48\_24\_pp\_1lag | 1.001337 .0002063 6.48 0.000 1.000932 1.001741

sp48\_25\_pp\_1lag | .9984305 .0011765 -1.33 0.183 .9961272 1.000739

sp48\_26\_pp\_1lag | 1.001192 .0012804 0.93 0.352 .9986858 1.003705

sp48\_27\_pp\_1lag | 1.000188 .0010385 0.18 0.856 .9981549 1.002226

sp48\_28\_pp\_1lag | .9981269 .0014026 -1.33 0.182 .9953817 1.00088

sp48\_4\_pp\_1lag | .9951571 .0009014 -5.36 0.000 .9933919 .9969255

sp48\_5\_pp\_1lag | 1.001454 .0017546 0.83 0.407 .9980209 1.004899

sp48\_6\_pp\_1lag | .9994855 .0008699 -0.59 0.554 .997782 1.001192

sp48\_7\_pp\_1lag | 1.000808 .0006531 1.24 0.216 .9995291 1.002089

sp48\_8\_pp\_1lag | 1.003156 .0016823 1.88 0.060 .9998642 1.006459

sp75\_100\_pp\_1lag | 1.000356 .0017018 0.21 0.834 .997026 1.003697

sp75\_1002\_pp\_1lag | .9998763 .0004088 -0.30 0.762 .9990755 1.000678

sp75\_1003\_pp\_1lag | .9988374 .0005177 -2.24 0.025 .9978232 .9998525

sp75\_1003\_2\_pp\_1lag | .9985797 .0004234 -3.35 0.001 .9977502 .9994099

sp75\_1311\_pp\_1lag | .9994443 .0012704 -0.44 0.662 .9969576 1.001937

sp75\_1315\_pp\_1lag | .9880623 .0036247 -3.27 0.001 .9809835 .9951922

sp75\_1316\_pp\_1lag | .9958724 .0025879 -1.59 0.111 .9908131 1.000957

sp75\_1318\_pp\_1lag | .6274272 .0241766 -12.10 0.000 .5817871 .6766476

sp75\_1400\_pp\_1lag | .9979295 .0010324 -2.00 0.045 .9959081 .9999551

sp75\_1400\_1\_pp\_1lag | .9976525 .0031582 -0.74 0.458 .9914818 1.003862

sp75\_1403\_10\_pp\_1lag | 1.001061 .0002557 4.15 0.000 1.00056 1.001562

sp75\_1403\_5\_pp\_1lag | .9996098 .0002917 -1.34 0.181 .9990382 1.000182

sp75\_1403\_6\_pp\_1lag | .9997251 .0001482 -1.85 0.064 .9994346 1.000016

sp75\_1403\_7\_pp\_1lag | 1.000591 .000743 0.80 0.427 .9991354 1.002048

sp75\_1403\_8\_pp\_1lag | .9992942 .000234 -3.01 0.003 .9988356 .999753

sp75\_1404\_pp\_1lag | 1.003685 .003679 1.00 0.316 .9965003 1.010922

sp75\_1404\_1\_pp\_1lag | .9960932 .0045374 -0.86 0.390 .9872396 1.005026

sp75\_1405\_pp\_1lag | .9996537 .0002272 -1.52 0.127 .9992086 1.000099

sp75\_1405\_1\_pp\_1lag | .996676 .0011872 -2.80 0.005 .9943518 .9990056

sp75\_153\_pp\_1lag | .9984965 .0035338 -0.43 0.671 .9915943 1.005447

sp75\_156\_pp\_1lag | .9988333 .0046159 -0.25 0.801 .9898272 1.007921

sp75\_160\_pp\_1lag | 1.019202 .0086107 2.25 0.024 1.002464 1.036219

sp75\_1719\_2\_pp\_1lag | .9998814 .0018995 -0.06 0.950 .9961654 1.003611

sp75\_1719\_4\_pp\_1lag | 1.000286 .000538 0.53 0.595 .9992323 1.001341

sp75\_1720\_pp\_1lag | 1.000052 .0004988 0.10 0.917 .9990745 1.00103

sp75\_1725\_pp\_1lag | 1.000026 .0000774 0.33 0.741 .9998739 1.000177

sp75\_1906\_pp\_1lag | 1.001892 .0007951 2.38 0.017 1.000335 1.003452

sp75\_1916\_pp\_1lag | 1.001211 .0007817 1.55 0.121 .9996804 1.002745

sp75\_203\_pp\_1lag | 1.000512 .000258 1.99 0.047 1.000007 1.001018

sp75\_204\_pp\_1lag | 1.000442 .0002876 1.54 0.124 .9998788 1.001006

sp75\_205\_pp\_1lag | 1.01839 .0096957 1.91 0.056 .9995626 1.037571

sp75\_207\_pp\_1lag | 1.002759 .0018679 1.48 0.139 .9991047 1.006427

sp75\_208\_pp\_1lag | .9999813 .0002906 -0.06 0.949 .9994118 1.000551

sp75\_209\_pp\_1lag | 1.000877 .0011636 0.75 0.451 .9985987 1.00316

sp75\_212\_pp\_1lag | 1.001386 .0007509 1.85 0.065 .9999156 1.002859

sp75\_213\_pp\_1lag | 1.002168 .0009991 2.17 0.030 1.000212 1.004128

sp75\_215\_pp\_1lag | .9915443 .0032137 -2.62 0.009 .9852654 .9978631

sp75\_332\_pp\_1lag | .9983007 .0017427 -0.97 0.330 .9948909 1.001722

sp75\_334\_pp\_1lag | .9994053 .0005158 -1.15 0.249 .998395 1.000417

sp75\_337\_pp\_1lag | .9999909 .0007121 -0.01 0.990 .9985961 1.001388

sp75\_340\_pp\_1lag | .9998616 .0002296 -0.60 0.547 .9994116 1.000312

sp75\_343\_pp\_1lag | 1.000237 .0008495 0.28 0.780 .9985739 1.001904

sp75\_373\_pp\_1lag | 1.009781 .0160957 0.61 0.541 .9787215 1.041826

sp75\_388\_pp\_1lag | .999605 .0014119 -0.28 0.780 .9968415 1.002376

sp75\_389\_pp\_1lag | 1.000927 .0026844 0.35 0.730 .9956798 1.006202

sp75\_500\_pp\_1lag | 1.001058 .0015354 0.69 0.491 .9980528 1.004071

sp75\_500\_1\_pp\_1lag | 1.00023 .0033302 0.07 0.945 .993724 1.006778

sp75\_501\_pp\_1lag | .9972401 .0016853 -1.64 0.102 .9939424 1.000549

sp75\_501\_2\_pp\_1lag | .9989148 .0023253 -0.47 0.641 .9943677 1.003483

sp75\_502\_pp\_1lag | .9985552 .0042087 -0.34 0.732 .9903403 1.006838

sp75\_503\_pp\_1lag | 1.00009 .0000653 1.38 0.168 .9999621 1.000218

sp75\_505\_pp\_1lag | .9993041 .0020237 -0.34 0.731 .9953457 1.003278

sp75\_506\_1\_pp\_1lag | 1.001261 .0016321 0.77 0.439 .9980677 1.004465

sp75\_507\_pp\_1lag | 1.001271 .0008576 1.48 0.138 .9995918 1.002954

sp75\_507\_1\_pp\_1lag | .999938 .0005114 -0.12 0.904 .9989363 1.000941

sp75\_508\_1\_pp\_1lag | .9714408 .0034 -8.28 0.000 .9647997 .9781276

sp75\_509\_pp\_1lag | 1.00127 .0020625 0.62 0.538 .9972359 1.005321

sp75\_510\_pp\_1lag | .9915883 .0036985 -2.26 0.024 .9843659 .9988637

sp75\_512\_1\_pp\_1lag | .9989358 .0033751 -0.32 0.753 .9923425 1.005573

sp75\_523\_pp\_1lag | .9983412 .0006413 -2.58 0.010 .997085 .999599

sp75\_523\_3\_pp\_1lag | .9997852 .0001819 -1.18 0.238 .9994287 1.000142

sp75\_524\_pp\_1lag | 1.003367 .0019549 1.73 0.084 .999543 1.007206

sp75\_602\_pp\_1lag | .9998601 .0006269 -0.22 0.823 .9986321 1.00109

sp75\_603\_pp\_1lag | 1.001095 .0007376 1.48 0.138 .9996501 1.002542

sp75\_604\_pp\_1lag | 1.00024 .0001026 2.34 0.019 1.000039 1.000441

sp75\_605\_pp\_1lag | .9999675 .0003619 -0.09 0.928 .9992585 1.000677

sp75\_606\_pp\_1lag | .9999527 .0001769 -0.27 0.789 .999606 1.0003

sp75\_607\_pp\_1lag | .9994522 .0007812 -0.70 0.483 .9979222 1.000984

sp75\_703\_3\_pp\_1lag | 1.002099 .0010412 2.02 0.044 1.000061 1.004142

sp75\_703\_4\_pp\_1lag | .9901873 .0097026 -1.01 0.314 .971352 1.009388

sp75\_807\_pp\_1lag | 1.000285 .0001893 1.51 0.132 .9999141 1.000656

sp75\_810\_pp\_1lag | 1.00088 .0006083 1.45 0.148 .9996886 1.002073

sp75\_811\_pp\_1lag | 1.00047 .0008121 0.58 0.563 .9988794 1.002063

sp75\_812\_pp\_1lag | .9979538 .0016551 -1.24 0.217 .9947152 1.001203

sp75\_816\_pp\_1lag | .9998378 .0004785 -0.34 0.735 .9989004 1.000776

sp75\_817\_pp\_1lag | .9980883 .0015705 -1.22 0.224 .995015 1.001171

sp75\_906\_pp\_1lag | .9932862 .0037742 -1.77 0.076 .9859164 1.000711

mine\_time | 1.001633 .0013575 1.20 0.229 .998976 1.004297

onsite\_insp\_hours | .9995338 .0001191 -3.91 0.000 .9993004 .9997672

|

state |

AL | 1.071866 .1111295 0.67 0.503 .8747604 1.313384

AR | 1.689645 .0784081 11.30 0.000 1.542749 1.850527

CO | .8065524 .102688 -1.69 0.091 .6284344 1.035155

IL | 1.294271 .0792257 4.21 0.000 1.147945 1.459249

IN | 1.086697 .0941158 0.96 0.337 .9170397 1.287741

MD | 1.309281 .2434009 1.45 0.147 .9094752 1.884842

MT | .5520215 .0215889 -15.19 0.000 .511289 .595999

NM | .7634467 .0305485 -6.75 0.000 .7058603 .8257311

OH | 1.034818 .0932896 0.38 0.704 .8672165 1.234811

OK | 1.847201 .3100967 3.66 0.000 1.32929 2.566898

PA | 1.360077 .1013389 4.13 0.000 1.175278 1.573933

TN | 1.770683 .1800968 5.62 0.000 1.450657 2.161309

UT | .5293591 .0984674 -3.42 0.001 .3676345 .7622273

VA | .9484536 .0487724 -1.03 0.303 .8575209 1.049029

WV | 1.299631 .0589413 5.78 0.000 1.189093 1.420444

WY | .744351 .0300733 -7.31 0.000 .6876818 .8056902

|

time |

2000.25 | .9961824 .0754525 -0.05 0.960 .8587514 1.155607

2000.5 | 1.05116 .0754859 0.69 0.487 .9131503 1.210028

2000.75 | .7277637 .0535762 -4.32 0.000 .6299804 .8407246

2001 | .7377086 .0537236 -4.18 0.000 .6395818 .8508904

2001.25 | .8677907 .058822 -2.09 0.036 .7598318 .9910888

2001.75 | .7904753 .0495162 -3.75 0.000 .6991465 .8937343

2002 | .8755043 .099197 -1.17 0.241 .7011563 1.093205

2002.25 | .8304038 .0601817 -2.56 0.010 .7204443 .9571463

2002.5 | .9096551 .0641218 -1.34 0.179 .7922739 1.044427

2002.75 | .7078026 .0510814 -4.79 0.000 .6144432 .8153471

2003 | .7063525 .0579156 -4.24 0.000 .6014913 .8294948

2003.25 | .7647138 .0715868 -2.87 0.004 .6365254 .9187177

2003.5 | .8558435 .065933 -2.02 0.043 .7359003 .9953362

2003.75 | .6079627 .0470035 -6.44 0.000 .5224779 .7074341

2004 | .6446069 .0534949 -5.29 0.000 .5478417 .7584636

2004.25 | .6714034 .053242 -5.02 0.000 .5747561 .7843023

2004.5 | .7405737 .056428 -3.94 0.000 .6378388 .8598557

2004.75 | .5792037 .0441704 -7.16 0.000 .4987906 .6725808

2005 | .5960015 .048018 -6.42 0.000 .5089424 .6979529

2005.25 | .6341486 .0476109 -6.07 0.000 .5473739 .7346796

2005.5 | .6876668 .0526234 -4.89 0.000 .5918889 .7989433

2005.75 | .5542936 .0456044 -7.17 0.000 .4717451 .6512868

2006 | .6243745 .0536944 -5.48 0.000 .5275265 .7390028

2006.25 | .6024802 .0495534 -6.16 0.000 .5127814 .7078697

2006.5 | .6834167 .0545921 -4.77 0.000 .5843736 .7992462

2006.75 | .5594267 .0467829 -6.95 0.000 .4748542 .6590618

2007 | .53268 .0431212 -7.78 0.000 .4545278 .6242698

2007.25 | .5901982 .0519349 -5.99 0.000 .4967019 .7012938

2007.5 | .6829667 .0675702 -3.85 0.000 .5625807 .829114

2007.75 | .5455725 .0480975 -6.87 0.000 .458998 .6484763

2008 | .5125761 .0432258 -7.92 0.000 .4344864 .6047008

2008.25 | .5091565 .0452478 -7.60 0.000 .4277664 .6060325

2008.5 | .5513051 .0490725 -6.69 0.000 .4630472 .6563852

2008.75 | .453746 .0399689 -8.97 0.000 .3817979 .5392525

2009 | .4721991 .0406095 -8.72 0.000 .3989524 .5588937

2009.25 | .4575913 .0418731 -8.54 0.000 .3824603 .5474812

2009.5 | .5134823 .0464216 -7.37 0.000 .4301028 .6130257

2009.75 | .438085 .0393852 -9.18 0.000 .3673099 .5224974

2010 | .4315311 .0390231 -9.29 0.000 .3614419 .5152117

2010.25 | .4344583 .044315 -8.17 0.000 .3557338 .5306048

2010.5 | .5580589 .0476357 -6.83 0.000 .4720867 .6596875

2010.75 | .4384046 .0411887 -8.78 0.000 .364673 .5270436

2011 | .4384505 .0393918 -9.18 0.000 .3676597 .5228718

2011.25 | .4190849 .0366649 -9.94 0.000 .3530466 .4974758

2011.5 | .4750701 .0400181 -8.84 0.000 .4027686 .5603505

2011.75 | .3687969 .0322481 -11.41 0.000 .3107113 .4377413

2012 | .412681 .0380648 -9.60 0.000 .3444304 .4944557

2012.25 | .3602774 .0319059 -11.53 0.000 .3028693 .4285672

2012.5 | .4120987 .040633 -8.99 0.000 .339682 .4999539

2012.75 | .3125827 .0311255 -11.68 0.000 .2571618 .3799475

2013 | .3683071 .0376652 -9.77 0.000 .3014125 .450048

2013.25 | .3418768 .0327463 -11.21 0.000 .2833598 .4124783

2013.5 | .4017456 .0396465 -9.24 0.000 .3310928 .4874752

2013.75 | .3014887 .0307436 -11.76 0.000 .246872 .3681885

2014 | .3438247 .0340438 -10.78 0.000 .2831754 .4174637

2014.25 | .3514039 .0364469 -10.08 0.000 .286762 .4306173

2014.5 | .3759681 .0377746 -9.74 0.000 .3087652 .4577976

2014.75 | .3728628 .0387408 -9.50 0.000 .3041645 .4570773

2015 | .3267837 .0333064 -10.97 0.000 .2676113 .3990399

2015.25 | .3151303 .0321697 -11.31 0.000 .2579861 .384932

2015.5 | .408967 .041374 -8.84 0.000 .335409 .4986569

2015.75 | .3239282 .0361084 -10.11 0.000 .2603544 .4030255

2016 | .3360095 .0390216 -9.39 0.000 .2676083 .4218944

|

\_cons | .0001034 6.53e-06 -145.26 0.000 .0000914 .0001171

ln(hours) | 1 (exposure)

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

.

. pause "next"

.

. eststo clear

. eststo: nbreg dv `pp\_lag\_1\_vars' `covariates' ib(freq).state ib(freq).time, vce(cl mineid) exposure(hours) iter(50) irr

Fitting Poisson model:

Iteration 0: log pseudolikelihood = -191420.87

Iteration 1: log pseudolikelihood = -99301.257

Iteration 2: log pseudolikelihood = -57899.793

Iteration 3: log pseudolikelihood = -48295.044

Iteration 4: log pseudolikelihood = -46955.892

Iteration 5: log pseudolikelihood = -46755.099

Iteration 6: log pseudolikelihood = -46746.027

Iteration 7: log pseudolikelihood = -46745.981

Iteration 8: log pseudolikelihood = -46745.981

Fitting constant-only model:

Iteration 0: log pseudolikelihood = -45952.202

Iteration 1: log pseudolikelihood = -45236.026

Iteration 2: log pseudolikelihood = -45205.288

Iteration 3: log pseudolikelihood = -45205.217

Iteration 4: log pseudolikelihood = -45205.217

Fitting full model:

Iteration 0: log pseudolikelihood = -43811.935

Iteration 1: log pseudolikelihood = -43568.349

Iteration 2: log pseudolikelihood = -43563.093

Iteration 3: log pseudolikelihood = -43563.091

Negative binomial regression Number of obs = 26,110

Wald chi2(164) = .

Dispersion = mean Prob > chi2 = .

Log pseudolikelihood = -43563.091 Pseudo R2 = 0.0363

(Std. Err. adjusted for 1,475 clusters in mineid)

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

| Robust

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

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

sp48\_11\_pp\_1lag | 1.000205 .0005841 0.35 0.725 .999061 1.001351

sp48\_24\_pp\_1lag | 1.001505 .0001817 8.29 0.000 1.001149 1.001861

sp48\_25\_pp\_1lag | .9989334 .0011361 -0.94 0.348 .9967092 1.001163

sp48\_26\_pp\_1lag | 1.001129 .0011694 0.97 0.334 .9988394 1.003423

sp48\_27\_pp\_1lag | 1.000185 .0009744 0.19 0.850 .9982767 1.002096

sp48\_28\_pp\_1lag | .9979787 .0011893 -1.70 0.090 .9956505 1.000312

sp48\_4\_pp\_1lag | .9955434 .000834 -5.33 0.000 .9939101 .9971793

sp48\_5\_pp\_1lag | 1.000666 .0020234 0.33 0.742 .9967081 1.00464

sp48\_6\_pp\_1lag | .9997883 .0007687 -0.28 0.783 .9982828 1.001296

sp48\_7\_pp\_1lag | 1.000594 .0005447 1.09 0.276 .9995266 1.001662

sp48\_8\_pp\_1lag | 1.002694 .0015788 1.71 0.087 .9996046 1.005793

sp75\_100\_pp\_1lag | 1.000775 .0015895 0.49 0.626 .997664 1.003895

sp75\_1002\_pp\_1lag | .9999517 .0003769 -0.13 0.898 .9992132 1.000691

sp75\_1003\_pp\_1lag | .998965 .0004771 -2.17 0.030 .9980304 .9999004

sp75\_1003\_2\_pp\_1lag | .9986816 .0004075 -3.23 0.001 .9978832 .9994806

sp75\_1311\_pp\_1lag | .9999317 .0010604 -0.06 0.949 .9978556 1.002012

sp75\_1315\_pp\_1lag | .9887877 .0031174 -3.58 0.000 .9826966 .9949165

sp75\_1316\_pp\_1lag | .9967063 .0021943 -1.50 0.134 .9924149 1.001016

sp75\_1318\_pp\_1lag | .4765019 .0183584 -19.24 0.000 .441845 .5138771

sp75\_1400\_pp\_1lag | .9979205 .0009951 -2.09 0.037 .995972 .9998728

sp75\_1400\_1\_pp\_1lag | .9974603 .0031793 -0.80 0.425 .9912485 1.003711

sp75\_1403\_10\_pp\_1lag | 1.000991 .0002089 4.75 0.000 1.000582 1.001401

sp75\_1403\_5\_pp\_1lag | .9995161 .0002672 -1.81 0.070 .9989925 1.00004

sp75\_1403\_6\_pp\_1lag | .9997425 .0001394 -1.85 0.065 .9994693 1.000016

sp75\_1403\_7\_pp\_1lag | 1.000783 .0007341 1.07 0.286 .9993449 1.002223

sp75\_1403\_8\_pp\_1lag | .9993128 .0002205 -3.12 0.002 .9988807 .9997451

sp75\_1404\_pp\_1lag | 1.004137 .0032 1.30 0.195 .9978847 1.010429

sp75\_1404\_1\_pp\_1lag | .9963884 .0046087 -0.78 0.434 .9873963 1.005462

sp75\_1405\_pp\_1lag | .9996632 .0001931 -1.74 0.081 .9992848 1.000042

sp75\_1405\_1\_pp\_1lag | .9970614 .0011931 -2.46 0.014 .9947257 .9994026

sp75\_153\_pp\_1lag | .9988432 .0030138 -0.38 0.701 .9929537 1.004768

sp75\_156\_pp\_1lag | .9995392 .0041313 -0.11 0.911 .9914746 1.007669

sp75\_160\_pp\_1lag | 1.016784 .009749 1.74 0.083 .9978549 1.036072

sp75\_1719\_2\_pp\_1lag | .9997097 .0015938 -0.18 0.855 .9965908 1.002838

sp75\_1719\_4\_pp\_1lag | 1.000471 .0005227 0.90 0.368 .999447 1.001496

sp75\_1720\_pp\_1lag | 1.000087 .0004597 0.19 0.851 .999186 1.000988

sp75\_1725\_pp\_1lag | .9999811 .0000705 -0.27 0.789 .9998429 1.000119

sp75\_1906\_pp\_1lag | 1.001798 .0007906 2.28 0.023 1.00025 1.003348

sp75\_1916\_pp\_1lag | 1.001142 .0006948 1.64 0.100 .9997812 1.002505

sp75\_203\_pp\_1lag | 1.000506 .0002346 2.16 0.031 1.000047 1.000966

sp75\_204\_pp\_1lag | 1.000357 .0002728 1.31 0.191 .9998223 1.000892

sp75\_205\_pp\_1lag | 1.013867 .0102301 1.36 0.172 .994013 1.034117

sp75\_207\_pp\_1lag | 1.003138 .0018824 1.67 0.095 .9994552 1.006834

sp75\_208\_pp\_1lag | 1.000172 .0002666 0.64 0.519 .9996495 1.000695

sp75\_209\_pp\_1lag | 1.000608 .0011219 0.54 0.588 .9984117 1.002809

sp75\_212\_pp\_1lag | 1.001463 .0007479 1.96 0.050 .9999983 1.00293

sp75\_213\_pp\_1lag | 1.002676 .0006624 4.05 0.000 1.001378 1.003975

sp75\_215\_pp\_1lag | .9920491 .0031941 -2.48 0.013 .9858085 .9983293

sp75\_332\_pp\_1lag | .9983245 .001632 -1.03 0.305 .995131 1.001528

sp75\_334\_pp\_1lag | .9995313 .0004733 -0.99 0.322 .9986042 1.000459

sp75\_337\_pp\_1lag | .9997417 .0005547 -0.47 0.641 .998655 1.00083

sp75\_340\_pp\_1lag | .9998573 .0002186 -0.65 0.514 .999429 1.000286

sp75\_343\_pp\_1lag | 1.000463 .0008312 0.56 0.577 .9988354 1.002094

sp75\_373\_pp\_1lag | 1.0104 .0156989 0.67 0.505 .9800947 1.041643

sp75\_388\_pp\_1lag | .9994908 .0011638 -0.44 0.662 .9972124 1.001774

sp75\_389\_pp\_1lag | 1.000919 .0020052 0.46 0.647 .9969967 1.004857

sp75\_500\_pp\_1lag | 1.000403 .0011991 0.34 0.737 .9980551 1.002755

sp75\_500\_1\_pp\_1lag | 1.001023 .0031259 0.33 0.743 .9949152 1.007168

sp75\_501\_pp\_1lag | .997935 .001533 -1.35 0.178 .9949349 1.000944

sp75\_501\_2\_pp\_1lag | .998753 .0022103 -0.56 0.573 .9944303 1.003094

sp75\_502\_pp\_1lag | .9985653 .0029476 -0.49 0.627 .9928047 1.004359

sp75\_503\_pp\_1lag | 1.000083 .0000563 1.48 0.138 .9999731 1.000194

sp75\_505\_pp\_1lag | .9992023 .0019255 -0.41 0.679 .9954355 1.002983

sp75\_506\_1\_pp\_1lag | 1.001152 .0014516 0.79 0.427 .9983114 1.004002

sp75\_507\_pp\_1lag | 1.001091 .0007814 1.40 0.163 .9995604 1.002623

sp75\_507\_1\_pp\_1lag | .9999506 .0004889 -0.10 0.920 .9989929 1.000909

sp75\_508\_1\_pp\_1lag | .973048 .0031132 -8.54 0.000 .9669654 .9791689

sp75\_509\_pp\_1lag | 1.001854 .0019947 0.93 0.352 .9979518 1.005771

sp75\_510\_pp\_1lag | .9915183 .003145 -2.69 0.007 .9853734 .9977015

sp75\_512\_1\_pp\_1lag | .9999957 .0028721 -0.00 0.999 .9943823 1.005641

sp75\_523\_pp\_1lag | .9984968 .0006058 -2.48 0.013 .9973102 .9996849

sp75\_523\_3\_pp\_1lag | .9997182 .0001632 -1.73 0.084 .9993983 1.000038

sp75\_524\_pp\_1lag | 1.003865 .0018429 2.10 0.036 1.00026 1.007484

sp75\_602\_pp\_1lag | .9998103 .0005155 -0.37 0.713 .9988006 1.000821

sp75\_603\_pp\_1lag | 1.001038 .0006611 1.57 0.116 .9997428 1.002334

sp75\_604\_pp\_1lag | 1.000252 .0000959 2.63 0.009 1.000064 1.00044

sp75\_605\_pp\_1lag | .9999376 .0003119 -0.20 0.841 .9993265 1.000549

sp75\_606\_pp\_1lag | .9999917 .0001688 -0.05 0.961 .9996609 1.000323

sp75\_607\_pp\_1lag | .9995747 .0007445 -0.57 0.568 .9981166 1.001035

sp75\_703\_3\_pp\_1lag | 1.002254 .0008669 2.60 0.009 1.000557 1.003955

sp75\_703\_4\_pp\_1lag | .9945968 .0098728 -0.55 0.585 .9754335 1.014137

sp75\_807\_pp\_1lag | 1.000289 .0001712 1.69 0.091 .9999536 1.000625

sp75\_810\_pp\_1lag | 1.001134 .0005451 2.08 0.037 1.000066 1.002203

sp75\_811\_pp\_1lag | 1.000645 .0008341 0.77 0.439 .9990116 1.002281

sp75\_812\_pp\_1lag | .9982752 .0016181 -1.06 0.287 .9951087 1.001452

sp75\_816\_pp\_1lag | .9999172 .0004386 -0.19 0.850 .9990579 1.000777

sp75\_817\_pp\_1lag | .998422 .0013425 -1.17 0.240 .9957942 1.001057

sp75\_906\_pp\_1lag | .9932145 .0037449 -1.81 0.071 .9859017 1.000581

mine\_time | 1.001446 .0013187 1.10 0.272 .9988648 1.004034

onsite\_insp\_hours | .9995394 .0001158 -3.98 0.000 .9993125 .9997663

|

state |

AL | 1.060664 .0989666 0.63 0.528 .8833959 1.273504

AR | 1.756592 .0800773 12.36 0.000 1.606451 1.920766

CO | .7584084 .0911981 -2.30 0.021 .5991654 .9599741

IL | 1.268701 .0748122 4.04 0.000 1.130228 1.42414

IN | 1.086509 .1001692 0.90 0.368 .9068969 1.301693

MD | 1.249665 .1907985 1.46 0.144 .9264722 1.685601

MT | .5416571 .02116 -15.69 0.000 .5017323 .5847588

NM | .7599678 .0296434 -7.04 0.000 .7040331 .8203464

OH | 1.042698 .0867251 0.50 0.615 .8858511 1.227315

OK | 1.815109 .3051719 3.55 0.000 1.305543 2.523563

PA | 1.303349 .1018298 3.39 0.001 1.118297 1.519024

TN | 1.700821 .165644 5.45 0.000 1.405269 2.058532

UT | .4973833 .0853561 -4.07 0.000 .3553171 .6962516

VA | .9347015 .0502588 -1.26 0.209 .8412091 1.038585

WV | 1.240393 .0558212 4.79 0.000 1.135672 1.354771

WY | .7406398 .029283 -7.59 0.000 .6854136 .8003158

|

time |

2000.25 | .9809691 .0642376 -0.29 0.769 .8628105 1.115309

2000.5 | 1.055584 .0650175 0.88 0.380 .9355434 1.191027

2000.75 | .7559442 .0495451 -4.27 0.000 .6648159 .8595638

2001 | .7483769 .0465877 -4.66 0.000 .6624173 .8454911

2001.25 | .8640478 .0503858 -2.51 0.012 .770728 .9686669

2001.75 | .7870657 .0426228 -4.42 0.000 .7078072 .8751994

2002 | .8428791 .0659408 -2.18 0.029 .7230585 .9825557

2002.25 | .8248221 .0527978 -3.01 0.003 .7275685 .9350754

2002.5 | .9021019 .0566256 -1.64 0.101 .7976733 1.020202

2002.75 | .738123 .0453994 -4.94 0.000 .6542961 .8326897

2003 | .7008644 .0491781 -5.07 0.000 .6108113 .8041942

2003.25 | .7452013 .0542274 -4.04 0.000 .646149 .859438

2003.5 | .8419223 .0542096 -2.67 0.008 .7421042 .9551665

2003.75 | .6224198 .0415508 -7.10 0.000 .5460844 .7094259

2004 | .6538233 .0474387 -5.86 0.000 .5671536 .7537374

2004.25 | .6892687 .0469697 -5.46 0.000 .6030927 .7877585

2004.5 | .7651514 .050887 -4.02 0.000 .6716416 .8716803

2004.75 | .6022292 .0414211 -7.37 0.000 .5262796 .6891394

2005 | .6017577 .0425679 -7.18 0.000 .5238517 .6912497

2005.25 | .6500375 .0437902 -6.39 0.000 .5696351 .7417886

2005.5 | .7049835 .0482074 -5.11 0.000 .6165568 .8060924

2005.75 | .578692 .0429294 -7.37 0.000 .5003828 .6692566

2006 | .6242943 .0471319 -6.24 0.000 .5384271 .7238555

2006.25 | .6105495 .0445449 -6.76 0.000 .5291982 .7044067

2006.5 | .7059245 .050987 -4.82 0.000 .6127429 .8132765

2006.75 | .5656731 .0422139 -7.63 0.000 .4887017 .6547677

2007 | .5539084 .0406044 -8.06 0.000 .479778 .6394926

2007.25 | .6028301 .0495638 -6.16 0.000 .5131099 .7082383

2007.5 | .6899565 .0575467 -4.45 0.000 .5859037 .8124885

2007.75 | .5663928 .0429794 -7.49 0.000 .4881197 .6572176

2008 | .5256487 .0386371 -8.75 0.000 .4551234 .6071025

2008.25 | .518576 .0406679 -8.37 0.000 .444692 .6047356

2008.5 | .5787322 .046168 -6.86 0.000 .494964 .6766774

2008.75 | .476363 .037655 -9.38 0.000 .4079934 .5561896

2009 | .4806074 .0360959 -9.76 0.000 .4148214 .5568264

2009.25 | .4615041 .0378243 -9.43 0.000 .3930178 .5419247

2009.5 | .5227832 .0416712 -8.14 0.000 .4471694 .6111829

2009.75 | .4474378 .0356672 -10.09 0.000 .3827187 .5231012

2010 | .4423194 .0370602 -9.74 0.000 .3753333 .5212605

2010.25 | .4485658 .042443 -8.47 0.000 .372637 .539966

2010.5 | .5575394 .0422154 -7.72 0.000 .4806455 .6467348

2010.75 | .4404132 .0363277 -9.94 0.000 .3746697 .5176929

2011 | .4447984 .0352442 -10.22 0.000 .3808177 .5195285

2011.25 | .41979 .0323314 -11.27 0.000 .3609726 .4881911

2011.5 | .485729 .0361886 -9.69 0.000 .4197363 .5620975

2011.75 | .3732113 .0288639 -12.74 0.000 .3207182 .4342963

2012 | .4134353 .0331278 -11.02 0.000 .3533477 .4837408

2012.25 | .3624134 .0282414 -13.02 0.000 .311081 .4222162

2012.5 | .4115467 .0352036 -10.38 0.000 .3480226 .4866657

2012.75 | .3219708 .0285882 -12.76 0.000 .2705436 .3831736

2013 | .3652446 .0319104 -11.53 0.000 .3077632 .4334619

2013.25 | .3485892 .030087 -12.21 0.000 .2943379 .4128399

2013.5 | .4031549 .0359176 -10.20 0.000 .3385613 .4800721

2013.75 | .3066393 .0286765 -12.64 0.000 .2552846 .3683248

2014 | .3507 .0319467 -11.50 0.000 .2933569 .4192521

2014.25 | .357493 .0336672 -10.92 0.000 .2972385 .429962

2014.5 | .3863321 .0350044 -10.50 0.000 .3234714 .4614086

2014.75 | .3715768 .0345874 -10.64 0.000 .3096111 .4459444

2015 | .3366565 .0318064 -11.52 0.000 .2797484 .4051411

2015.25 | .3192043 .0300863 -12.12 0.000 .2653624 .3839706

2015.5 | .4201261 .0391624 -9.30 0.000 .3499727 .5043421

2015.75 | .3250349 .0338916 -10.78 0.000 .2649565 .3987359

2016 | .3490933 .0380523 -9.65 0.000 .2819407 .4322404

|

\_cons | .0001033 5.81e-06 -163.05 0.000 .0000925 .0001153

ln(hours) | 1 (exposure)

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

/lnalpha | -1.052596 .0687214 -1.187288 -.917905

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

alpha | .3490303 .0239859 .3050474 .3993548

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

(est1 stored)

. esttab using `"`directory'Model.`injury\_label'.`time\_label'.`violation\_level\_label'.C.PP.2.csv"', replace plain wide p eform

(note: file C:\Users\jbodson\Dropbox (Stanford Law School)\R-code\Injury-Classification\PS Model Summaries 10-10\Estout\Model.PS.Q.SP.C.PP.2.csv not found)

(output written to C:\Users\jbodson\Dropbox (Stanford Law School)\R-code\Injury-Classification\PS Model Summaries 10-10\Estout\Model.PS.Q.SP.C.PP.2.csv)

. est store nbin

.

. pause "next"

.

. // test for over-dispersion

. lrtest pois nbin, stats force

Likelihood-ratio test LR chi2(0) = -6365.78

(Assumption: nbin nested in pois) Prob > chi2 = .

Akaike's information criterion and Bayesian information criterion

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

Model | Obs ll(null) ll(model) df AIC BIC

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

nbin | 26,110 -45205.22 -43563.09 166 87458.18 88814.41

pois | 26,110 -51293.53 -46745.98 166 93823.96 95180.19

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

Note: N=Obs used in calculating BIC; see [R] BIC note.

.

. pause "next"

.

. // final model + diagnostics/assessment

. quietly nbreg dv `pp\_lag\_1\_vars' `covariates' ib(freq).state ib(freq).time, vce(cl mineid) exposure(hours) iter(50) irr

. predict cpp2\_yhat

(option n assumed; predicted number of events)

(4,179 missing values generated)

. gen cpp2\_res = dv - cpp2\_yhat

(4,179 missing values generated)

.

. summ dv cpp2\_yhat

Variable | Obs Mean Std. Dev. Min Max

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

dv | 30,289 2.177721 3.851734 0 71

cpp2\_yhat | 26,110 2.546684 3.719996 2.48e-09 66.63481

. /\*

> pause "next"

>

> scatter dv cpp2\_yhat

>

> pause "next"

>

> scatter cpp2\_res dv

>

> pause "next"

>

> scatter cpp2\_res cpp2\_yhat

> \*/

. pause "complete: C.PP.2"