. // Model C.PP.4

.

. // poisson model

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

Iteration 0: log pseudolikelihood = -39896.495

Iteration 1: log pseudolikelihood = -36990.958

Iteration 2: log pseudolikelihood = -36976.802

Iteration 3: log pseudolikelihood = -36976.749

Iteration 4: log pseudolikelihood = -36976.739

Iteration 5: log pseudolikelihood = -36976.736

Iteration 6: log pseudolikelihood = -36976.736

Iteration 7: log pseudolikelihood = -36976.736

Iteration 8: log pseudolikelihood = -36976.736

Generalized linear models No. of obs = 19,291

Optimization : ML Residual df = 19,208

Scale parameter = 1

Deviance = 37606.99648 (1/df) Deviance = 1.957882

Pearson = 1091605.93 (1/df) Pearson = 56.8308

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

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

AIC = 3.842179

Log pseudolikelihood = -36976.7356 BIC = -151925.9

(Std. Err. adjusted for 1,288 clusters in mineid)

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

| Robust

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

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

p48\_pp\_c\_lag\_all | 1.000059 .000064 0.93 0.355 .9999338 1.000185

p75\_pp\_c\_lag\_all | 1 5.10e-07 0.34 0.736 .9999992 1.000001

mine\_time | 1.001099 .0019169 0.57 0.566 .9973486 1.004863

onsite\_insp\_hours | .9995143 .0001716 -2.83 0.005 .999178 .9998506

|

state |

AL | .9709407 .090528 -0.32 0.752 .8087772 1.165619

CO | .6715377 .0726117 -3.68 0.000 .5432905 .8300586

IL | 1.293435 .103829 3.21 0.001 1.105135 1.513818

IN | 1.135499 .1415292 1.02 0.308 .8893907 1.449709

MD | 1.30809 .1500474 2.34 0.019 1.044717 1.63786

MT | .0000101 .0000102 -11.47 0.000 1.42e-06 .0000724

NM | .6907617 .0354438 -7.21 0.000 .6246721 .7638435

OH | .9349107 .066558 -0.95 0.344 .8131517 1.074902

OK | 1.790229 .3384356 3.08 0.002 1.235926 2.593133

PA | .9683151 .1052188 -0.30 0.767 .7825708 1.198146

TN | 1.463613 .1742635 3.20 0.001 1.158988 1.848305

UT | .4456288 .0487679 -7.39 0.000 .3596011 .5522369

VA | .8353295 .0840917 -1.79 0.074 .685754 1.01753

WV | 1.010709 .0614986 0.18 0.861 .8970835 1.138725

WY | .700643 .0396918 -6.28 0.000 .6270119 .7829206

|

time |

2000.25 | 1.126946 .0514407 2.62 0.009 1.030503 1.232416

2000.5 | 1.275847 .056113 5.54 0.000 1.170475 1.390706

2000.75 | .9336531 .0510941 -1.25 0.210 .8386941 1.039364

2001 | .9366418 .051393 -1.19 0.233 .8411405 1.042986

2001.25 | .9907506 .0558986 -0.16 0.869 .8870319 1.106597

2001.5 | 1.22483 .0835033 2.97 0.003 1.07163 1.399932

2001.75 | .9394002 .0610608 -0.96 0.336 .8270328 1.067035

2002 | .9846358 .0576304 -0.26 0.791 .8779203 1.104323

2002.25 | .969219 .0567298 -0.53 0.593 .8641712 1.087036

2002.5 | 1.03664 .0713824 0.52 0.601 .9057637 1.186428

2002.75 | .9413157 .0640265 -0.89 0.374 .8238311 1.075554

2003 | .8170988 .0549365 -3.00 0.003 .7162179 .932189

2003.25 | .8946369 .0652706 -1.53 0.127 .7754345 1.032163

2003.5 | .9552903 .0581212 -0.75 0.452 .8479048 1.076276

2003.75 | .7516485 .0498963 -4.30 0.000 .6599484 .8560904

2004 | .7573421 .0513876 -4.10 0.000 .6630341 .8650641

2004.25 | .8390241 .0554908 -2.65 0.008 .7370183 .9551479

2004.5 | .9123731 .0609063 -1.37 0.170 .8004786 1.039909

2004.75 | .7179102 .0549809 -4.33 0.000 .6178474 .8341787

2005 | .700071 .0500051 -4.99 0.000 .6086139 .8052714

2005.25 | .770428 .0569576 -3.53 0.000 .6665043 .8905559

2005.5 | .8759545 .0685183 -1.69 0.090 .751449 1.021089

2005.75 | .7131954 .0545984 -4.42 0.000 .6138258 .8286515

2006 | .710895 .0542743 -4.47 0.000 .6120955 .8256419

2006.25 | .6545731 .0490308 -5.66 0.000 .5651959 .7580841

2006.5 | .8244876 .0629926 -2.53 0.012 .7098237 .9576741

2006.75 | .656457 .0487426 -5.67 0.000 .5675495 .7592921

2007 | .6703526 .0509696 -5.26 0.000 .5775414 .7780788

2007.25 | .6551469 .0599684 -4.62 0.000 .547551 .7838858

2007.5 | .804212 .0632239 -2.77 0.006 .6893703 .9381852

2007.75 | .7419485 .0608925 -3.64 0.000 .6317056 .8714306

2008 | .6779618 .0553066 -4.76 0.000 .5777848 .7955076

2008.25 | .6670993 .0580316 -4.65 0.000 .5625275 .7911107

2008.5 | .8134089 .0748818 -2.24 0.025 .6791222 .9742488

2008.75 | .6389542 .053491 -5.35 0.000 .5422631 .7528863

2009 | .6495456 .0502523 -5.58 0.000 .5581568 .7558979

2009.25 | .6038815 .0513168 -5.94 0.000 .511232 .7133215

2009.5 | .6517569 .0542027 -5.15 0.000 .5537278 .7671406

2009.75 | .5665551 .0425532 -7.56 0.000 .4890008 .6564093

2010 | .5324486 .0488859 -6.86 0.000 .4447603 .6374255

2010.25 | .5728195 .054057 -5.90 0.000 .4760908 .6892007

2010.5 | .6663373 .0530541 -5.10 0.000 .5700606 .778874

2010.75 | .5526339 .0451061 -7.27 0.000 .4709364 .6485042

2011 | .5516916 .0470532 -6.97 0.000 .466765 .6520704

2011.25 | .5106772 .0435157 -7.89 0.000 .4321296 .6035022

2011.5 | .5811098 .0469298 -6.72 0.000 .4960394 .6807698

2011.75 | .4607759 .0368003 -9.70 0.000 .3940104 .5388549

2012 | .49635 .0426467 -8.15 0.000 .419423 .5873863

2012.25 | .4641025 .0403229 -8.84 0.000 .391434 .5502618

2012.5 | .5350813 .0516879 -6.47 0.000 .4427873 .6466129

2012.75 | .4126225 .03868 -9.44 0.000 .3433679 .4958453

2013 | .4562987 .0427109 -8.38 0.000 .3798169 .5481814

2013.25 | .4477288 .0439794 -8.18 0.000 .3693204 .5427836

2013.5 | .5267711 .055167 -6.12 0.000 .4290208 .6467932

2013.75 | .392989 .0376987 -9.74 0.000 .3256313 .4742797

2014 | .4615684 .0469518 -7.60 0.000 .3781377 .5634069

2014.25 | .469271 .0550248 -6.45 0.000 .3729197 .5905167

2014.5 | .5117057 .0507754 -6.75 0.000 .4212671 .6215599

2014.75 | .4750633 .0472256 -7.49 0.000 .3909618 .5772563

2015 | .4412482 .0489828 -7.37 0.000 .3549698 .5484973

2015.25 | .384549 .0399891 -9.19 0.000 .3136431 .4714849

2015.5 | .5293624 .0566389 -5.94 0.000 .4292192 .6528706

2015.75 | .3914783 .0486526 -7.55 0.000 .3068464 .4994526

2016 | .4334727 .0526754 -6.88 0.000 .3416049 .5500465

|

\_cons | .000091 5.11e-06 -165.72 0.000 .0000815 .0001015

ln(hours) | 1 (exposure)

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

.

. quietly poisson dv `pp\_lag\_all\_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 = 37607

Prob > chi2(19208) = 0.0000

Pearson goodness-of-fit = 1091624

Prob > chi2(19208) = 0.0000

.

. pause "next"

.

. // negative binomial model

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

Iteration 0: log pseudolikelihood = -35603.932

Iteration 1: log pseudolikelihood = -35236.954

Iteration 2: log pseudolikelihood = -35235.168

Iteration 3: log pseudolikelihood = -35235.135

Iteration 4: log pseudolikelihood = -35235.131

Iteration 5: log pseudolikelihood = -35235.131

Iteration 6: log pseudolikelihood = -35235.131

Iteration 7: log pseudolikelihood = -35235.131

Generalized linear models No. of obs = 19,291

Optimization : ML Residual df = 19,208

Scale parameter = 1

Deviance = 15281.58819 (1/df) Deviance = .7955846

Pearson = 787666.2522 (1/df) Pearson = 41.0072

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

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

AIC = 3.661617

Log pseudolikelihood = -35235.13062 BIC = -174251.3

(Std. Err. adjusted for 1,288 clusters in mineid)

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

| Robust

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

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

p48\_pp\_c\_lag\_all | 1.000031 .0000725 0.43 0.669 .9998889 1.000173

p75\_pp\_c\_lag\_all | 1 4.49e-07 0.19 0.853 .9999992 1.000001

mine\_time | 1.002324 .0018324 1.27 0.204 .9987389 1.005922

onsite\_insp\_hours | .9994673 .000144 -3.70 0.000 .999185 .9997496

|

state |

AL | 1.052317 .1136776 0.47 0.637 .8515196 1.300464

CO | .802094 .1049947 -1.68 0.092 .6205865 1.036688

IL | 1.375687 .0927135 4.73 0.000 1.205462 1.56995

IN | 1.147384 .1244428 1.27 0.205 .9276608 1.41915

MD | 1.594438 .2833955 2.62 0.009 1.125421 2.258917

MT | .0000367 .0000368 -10.18 0.000 5.14e-06 .0002621

NM | .7277823 .0362364 -6.38 0.000 .6601156 .8023853

OH | .980161 .0989967 -0.20 0.843 .8041289 1.194728

OK | 1.88556 .334515 3.57 0.000 1.331771 2.66963

PA | 1.330013 .1277731 2.97 0.003 1.101746 1.605573

TN | 1.615007 .210479 3.68 0.000 1.25095 2.085014

UT | .4850174 .0654899 -5.36 0.000 .3722401 .6319628

VA | .9385865 .0569585 -1.04 0.296 .8333334 1.057134

WV | 1.277343 .0727227 4.30 0.000 1.142474 1.428134

WY | .7790771 .0496262 -3.92 0.000 .6876382 .882675

|

time |

2000.25 | 1.188594 .071428 2.87 0.004 1.056528 1.337169

2000.5 | 1.284335 .080126 4.01 0.000 1.136513 1.451384

2000.75 | .8531771 .0569206 -2.38 0.017 .7486009 .9723621

2001 | .9055298 .0615024 -1.46 0.144 .7926661 1.034464

2001.25 | 1.052069 .1052301 0.51 0.612 .864779 1.27992

2001.5 | 1.215091 .094231 2.51 0.012 1.043752 1.414555

2001.75 | .9597788 .0753968 -0.52 0.601 .822818 1.119537

2002 | 1.107686 .14292 0.79 0.428 .860181 1.426408

2002.25 | 1.030146 .0854539 0.36 0.720 .8755664 1.212017

2002.5 | 1.055918 .0906617 0.63 0.526 .8923716 1.249439

2002.75 | .8497821 .0631811 -2.19 0.029 .7345492 .9830922

2003 | .845182 .0697213 -2.04 0.041 .7190057 .9935006

2003.25 | .943799 .0883726 -0.62 0.537 .7855562 1.133918

2003.5 | .9707694 .0699477 -0.41 0.681 .8429149 1.118017

2003.75 | .720988 .0601237 -3.92 0.000 .6122739 .8490052

2004 | .7513748 .0613175 -3.50 0.000 .6403134 .8816997

2004.25 | .8058824 .0626824 -2.77 0.006 .6919334 .9385967

2004.5 | .8526196 .0663089 -2.05 0.040 .732077 .9930107

2004.75 | .6726581 .0568335 -4.69 0.000 .5700009 .7938038

2005 | .7038717 .0599182 -4.13 0.000 .5957083 .8316744

2005.25 | .7093795 .0569113 -4.28 0.000 .6061629 .8301716

2005.5 | .8424152 .0674105 -2.14 0.032 .7201328 .9854616

2005.75 | .6599525 .0571655 -4.80 0.000 .556905 .7820676

2006 | .7344447 .0665047 -3.41 0.001 .6150097 .8770741

2006.25 | .6365451 .0527649 -5.45 0.000 .5410917 .7488373

2006.5 | .7709516 .0634646 -3.16 0.002 .6560794 .9059367

2006.75 | .6523277 .0579012 -4.81 0.000 .5481664 .7762814

2007 | .61726 .0501592 -5.94 0.000 .526379 .7238318

2007.25 | .6157755 .0591529 -5.05 0.000 .5100983 .7433459

2007.5 | .8190023 .0947855 -1.73 0.084 .6527895 1.027536

2007.75 | .6841692 .0629842 -4.12 0.000 .5712187 .8194541

2008 | .6370976 .055114 -5.21 0.000 .5377375 .754817

2008.25 | .6272413 .0564143 -5.19 0.000 .5258686 .7481557

2008.5 | .7254538 .0683656 -3.41 0.001 .6031063 .8726211

2008.75 | .5817835 .0514362 -6.13 0.000 .4892216 .6918584

2009 | .6111174 .0507432 -5.93 0.000 .5193336 .7191224

2009.25 | .6439096 .0654338 -4.33 0.000 .527626 .7858211

2009.5 | .6420003 .0635744 -4.48 0.000 .5287429 .7795175

2009.75 | .5486123 .0470874 -6.99 0.000 .4636678 .6491187

2010 | .4991834 .047018 -7.38 0.000 .4150359 .6003917

2010.25 | .5580726 .0683071 -4.77 0.000 .4390411 .7093756

2010.5 | .7115418 .0643658 -3.76 0.000 .5959379 .8495713

2010.75 | .5814669 .0590193 -5.34 0.000 .4765709 .7094511

2011 | .5544458 .0520935 -6.28 0.000 .461194 .6665528

2011.25 | .505043 .045847 -7.53 0.000 .4227247 .6033914

2011.5 | .5659229 .0488417 -6.60 0.000 .4778533 .6702238

2011.75 | .4579654 .0406032 -8.81 0.000 .3849153 .5448791

2012 | .4913361 .0496763 -7.03 0.000 .4030123 .5990169

2012.25 | .4731864 .0444092 -7.97 0.000 .3936822 .5687464

2012.5 | .5580277 .0591802 -5.50 0.000 .4532979 .6869542

2012.75 | .3844745 .0396091 -9.28 0.000 .3141779 .4704998

2013 | .4858373 .0559064 -6.27 0.000 .3877405 .6087522

2013.25 | .4296978 .0439743 -8.25 0.000 .3516033 .5251377

2013.5 | .5055294 .0543047 -6.35 0.000 .409552 .6239988

2013.75 | .3684988 .0385952 -9.53 0.000 .3001127 .4524679

2014 | .4487283 .0454018 -7.92 0.000 .3680102 .5471509

2014.25 | .4353006 .0497079 -7.28 0.000 .3480077 .5444898

2014.5 | .4690846 .0489149 -7.26 0.000 .3823756 .5754561

2014.75 | .4968259 .0560981 -6.20 0.000 .3981919 .6198919

2015 | .4074371 .0426698 -8.57 0.000 .3318306 .5002702

2015.25 | .3574033 .0384028 -9.58 0.000 .2895324 .441184

2015.5 | .4892153 .0513168 -6.82 0.000 .3983017 .6008801

2015.75 | .3757396 .0454187 -8.10 0.000 .2964799 .4761883

2016 | .3923661 .0503565 -7.29 0.000 .3051039 .504586

|

\_cons | .0000869 5.06e-06 -160.53 0.000 .0000775 .0000974

ln(hours) | 1 (exposure)

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

.

. pause "next"

.

. eststo clear

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

Fitting Poisson model:

Iteration 0: log pseudolikelihood = -37215.98

Iteration 1: log pseudolikelihood = -36977.675

Iteration 2: log pseudolikelihood = -36976.753

Iteration 3: log pseudolikelihood = -36976.737

Iteration 4: log pseudolikelihood = -36976.736

Iteration 5: log pseudolikelihood = -36976.736

Iteration 6: log pseudolikelihood = -36976.736

Fitting constant-only model:

Iteration 0: log pseudolikelihood = -36163.905

Iteration 1: log pseudolikelihood = -35503.284

Iteration 2: log pseudolikelihood = -35464.22

Iteration 3: log pseudolikelihood = -35464.069

Iteration 4: log pseudolikelihood = -35464.069

Fitting full model:

Iteration 0: log pseudolikelihood = -34405.859

Iteration 1: log pseudolikelihood = -34212.544

Iteration 2: log pseudolikelihood = -34207.928

Iteration 3: log pseudolikelihood = -34207.926

Negative binomial regression Number of obs = 19,291

Wald chi2(82) = .

Dispersion = mean Prob > chi2 = .

Log pseudolikelihood = -34207.926 Pseudo R2 = 0.0354

(Std. Err. adjusted for 1,288 clusters in mineid)

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

| Robust

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

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

p48\_pp\_c\_lag\_all | 1.000042 .0000654 0.65 0.519 .999914 1.00017

p75\_pp\_c\_lag\_all | 1 4.34e-07 0.37 0.710 .9999993 1.000001

mine\_time | 1.001546 .0017764 0.87 0.384 .9980704 1.005034

onsite\_insp\_hours | .9994905 .000141 -3.61 0.000 .9992142 .9997668

|

state |

AL | 1.037201 .1038433 0.36 0.715 .8523968 1.262072

CO | .7537815 .0942343 -2.26 0.024 .5899731 .9630721

IL | 1.334479 .0865581 4.45 0.000 1.17517 1.515386

IN | 1.149169 .1253884 1.27 0.203 .9279133 1.423182

MD | 1.462271 .222154 2.50 0.012 1.0857 1.969454

MT | 1.84e-06 1.84e-06 -13.17 0.000 2.58e-07 .0000131

NM | .7320581 .0353858 -6.45 0.000 .6658872 .8048045

OH | .9781634 .0862037 -0.25 0.802 .8229939 1.162589

OK | 1.860083 .3291399 3.51 0.000 1.314961 2.631186

PA | 1.237432 .1253155 2.10 0.035 1.014658 1.509118

TN | 1.566279 .1919451 3.66 0.000 1.231844 1.991511

UT | .4723214 .0566042 -6.26 0.000 .3734456 .5973761

VA | .9192154 .0608271 -1.27 0.203 .8074039 1.046511

WV | 1.19227 .066252 3.16 0.002 1.06924 1.329457

WY | .760855 .0438953 -4.74 0.000 .6795076 .8519408

|

time |

2000.25 | 1.16204 .0620397 2.81 0.005 1.04659 1.290225

2000.5 | 1.270965 .0686442 4.44 0.000 1.143301 1.412885

2000.75 | .8830162 .0533524 -2.06 0.039 .7844018 .9940284

2001 | .9090987 .054346 -1.59 0.111 .8085859 1.022106

2001.25 | 1.018382 .0762837 0.24 0.808 .8793259 1.179428

2001.5 | 1.20104 .0803464 2.74 0.006 1.053451 1.369307

2001.75 | .9412694 .0627741 -0.91 0.364 .8259363 1.072708

2002 | 1.033608 .0879201 0.39 0.698 .8748864 1.221126

2002.25 | .9971231 .0669336 -0.04 0.966 .8741992 1.137332

2002.5 | 1.037748 .071954 0.53 0.593 .9058832 1.188807

2002.75 | .8768728 .0586239 -1.97 0.049 .7691817 .9996415

2003 | .822198 .059259 -2.72 0.007 .7138829 .9469473

2003.25 | .9012134 .0677084 -1.38 0.166 .7778156 1.044188

2003.5 | .9568214 .0609874 -0.69 0.489 .8444533 1.084142

2003.75 | .7262 .0534736 -4.34 0.000 .6286056 .8389465

2004 | .7553034 .0552843 -3.83 0.000 .6543617 .8718164

2004.25 | .8215839 .057955 -2.79 0.005 .7154967 .9434007

2004.5 | .8797897 .0622542 -1.81 0.070 .7658568 1.010672

2004.75 | .6941129 .0548731 -4.62 0.000 .5944815 .8104419

2005 | .6975298 .0525403 -4.78 0.000 .6017934 .8084965

2005.25 | .7268077 .0531463 -4.36 0.000 .6297632 .8388066

2005.5 | .8544404 .0630976 -2.13 0.033 .7393044 .987507

2005.75 | .6795358 .0547505 -4.80 0.000 .5802707 .7957818

2006 | .7191877 .0580713 -4.08 0.000 .6139195 .8425062

2006.25 | .6474426 .0498515 -5.65 0.000 .5567508 .7529076

2006.5 | .7932136 .0596778 -3.08 0.002 .6844624 .9192437

2006.75 | .6525459 .0519225 -5.36 0.000 .5583182 .7626765

2007 | .6388166 .0488666 -5.86 0.000 .5498739 .7421459

2007.25 | .6297805 .0589512 -4.94 0.000 .5242176 .7566007

2007.5 | .8084894 .0769884 -2.23 0.026 .6708395 .9743837

2007.75 | .7024114 .0582964 -4.26 0.000 .5969616 .8264883

2008 | .6460915 .0512616 -5.51 0.000 .5530428 .7547956

2008.25 | .6363291 .054294 -5.30 0.000 .5383368 .7521588

2008.5 | .7526155 .068321 -3.13 0.002 .6299451 .8991738

2008.75 | .6016135 .0499836 -6.12 0.000 .5112078 .7080071

2009 | .6165842 .0468338 -6.37 0.000 .5312976 .7155615

2009.25 | .619236 .0557301 -5.33 0.000 .5190984 .7386909

2009.5 | .6375801 .0565924 -5.07 0.000 .5357733 .758732

2009.75 | .5490649 .0429437 -7.67 0.000 .4710306 .6400268

2010 | .5029736 .0445189 -7.76 0.000 .4228673 .5982548

2010.25 | .5615762 .0637223 -5.09 0.000 .449596 .7014471

2010.5 | .6914473 .0583327 -4.37 0.000 .5860692 .8157728

2010.75 | .5645629 .0505973 -6.38 0.000 .4736154 .6729749

2011 | .5493415 .0476965 -6.90 0.000 .4633796 .6512502

2011.25 | .5032813 .0430942 -8.02 0.000 .4255254 .5952455

2011.5 | .5697368 .0457885 -7.00 0.000 .4867042 .6669349

2011.75 | .4546979 .0368854 -9.72 0.000 .3878581 .5330562

2012 | .4878354 .0437829 -8.00 0.000 .4091462 .5816585

2012.25 | .4632774 .0397835 -8.96 0.000 .391512 .5481977

2012.5 | .5411621 .0513961 -6.47 0.000 .4492476 .651882

2012.75 | .3908647 .0371913 -9.87 0.000 .3243647 .4709984

2013 | .4609307 .0451238 -7.91 0.000 .3804568 .5584263

2013.25 | .4287961 .0404905 -8.97 0.000 .3563471 .5159747

2013.5 | .5032774 .0501552 -6.89 0.000 .4139798 .6118371

2013.75 | .3736283 .0362301 -10.15 0.000 .3089586 .4518344

2014 | .4459946 .0432647 -8.32 0.000 .3687711 .5393892

2014.25 | .4347566 .0467725 -7.74 0.000 .3521042 .5368107

2014.5 | .473333 .0456954 -7.75 0.000 .3917347 .5719282

2014.75 | .4734373 .0473859 -7.47 0.000 .3891047 .5760478

2015 | .4104224 .0411828 -8.88 0.000 .3371471 .4996233

2015.25 | .359718 .0362305 -10.15 0.000 .2952772 .4382223

2015.5 | .4969927 .0486551 -7.14 0.000 .4102213 .6021182

2015.75 | .3766059 .0441476 -8.33 0.000 .2992988 .4738809

2016 | .3996433 .0479847 -7.64 0.000 .3158419 .5056796

|

\_cons | .0000885 4.70e-06 -175.77 0.000 .0000798 .0000982

ln(hours) | 1 (exposure)

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

/lnalpha | -1.08395 .0811036 -1.24291 -.9249901

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

alpha | .3382567 .0274338 .2885432 .3965354

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

(est1 stored)

. esttab using `"`directory'Model.`injury\_label'.`time\_label'.`violation\_level\_label'.C.PP.4.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.P.C.PP.4.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.P.C.PP.4.csv)

. est store nbin

.

. pause "next"

.

. // test for over-dispersion

. lrtest pois nbin, stats force

Likelihood-ratio test LR chi2(1) = 5537.62

(Assumption: pois nested in nbin) Prob > chi2 = 0.0000

Akaike's information criterion and Bayesian information criterion

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

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

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

pois | 19,291 -40650.43 -36976.74 83 74119.47 74772.46

nbin | 19,291 -35464.07 -34207.93 84 68583.85 69244.71

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

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

.

. pause "next"

.

. // final model + diagnostics/assessment

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

. predict cpp4\_yhat

(option n assumed; predicted number of events)

(10,998 missing values generated)

. gen cpp4\_res = dv - cpp4\_yhat

(10,998 missing values generated)

.

. summ dv cpp4\_yhat

Variable | Obs Mean Std. Dev. Min Max

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

dv | 30,289 2.177721 3.851734 0 71

cpp4\_yhat | 19,291 2.94977 4.081441 3.00e-07 36.71082

. /\*

> pause "next"

>

> scatter dv cpp4\_yhat

>

> pause "next"

>

> scatter cpp4\_res dv

>

> pause "next"

>

> scatter cpp4\_res cpp4\_yhat

> \*/

. pause "complete: C.PP.4"