. // 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 = -50571.63

Iteration 1: log pseudolikelihood = -47086.4

Iteration 2: log pseudolikelihood = -47070.544

Iteration 3: log pseudolikelihood = -47070.537

Iteration 4: log pseudolikelihood = -47070.537

Generalized linear models No. of obs = 26,110

Optimization : ML Residual df = 26,029

Scale parameter = 1

Deviance = 48425.49802 (1/df) Deviance = 1.860444

Pearson = 1170970.118 (1/df) Pearson = 44.98713

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

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

AIC = 3.611761

Log pseudolikelihood = -47070.53717 BIC = -216291.3

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

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

| Robust

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

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

p48\_pp\_1lag | 1.000033 .0001782 0.19 0.853 .9996838 1.000382

p75\_pp\_1lag | 1.000015 6.00e-06 2.46 0.014 1.000003 1.000027

mine\_time | 1.000667 .0015362 0.43 0.664 .9976601 1.003682

onsite\_insp\_hours | .9994207 .0001499 -3.86 0.000 .9991268 .9997146

|

state |

AL | .9778129 .0861889 -0.25 0.799 .8226726 1.16221

AR | 1.803675 .0964393 11.03 0.000 1.624224 2.002952

CO | .6666258 .0687598 -3.93 0.000 .5446081 .8159812

IL | 1.26996 .1091556 2.78 0.005 1.073069 1.502978

IN | 1.096251 .1383659 0.73 0.467 .8559996 1.403933

MD | 1.120606 .1368384 0.93 0.351 .8820874 1.42362

MT | .5064552 .0232036 -14.85 0.000 .4629591 .5540379

NM | .6869232 .0299239 -8.62 0.000 .6307074 .7481496

OH | .9300088 .060492 -1.12 0.265 .818693 1.05646

OK | 1.688843 .3147785 2.81 0.005 1.172024 2.433561

PA | 1.027993 .1015876 0.28 0.780 .8469802 1.247691

TN | 1.517808 .1504058 4.21 0.000 1.249879 1.843172

UT | .4474205 .0680345 -5.29 0.000 .3321106 .6027665

VA | .8366192 .0651142 -2.29 0.022 .718255 .974489

WV | 1.033188 .0573309 0.59 0.556 .926716 1.151892

WY | .6872796 .0292842 -8.80 0.000 .6322149 .7471403

|

time |

2000.25 | .918796 .0602249 -1.29 0.196 .808025 1.044752

2000.5 | 1.037524 .0646446 0.59 0.554 .9182533 1.172286

2000.75 | .7662822 .0471678 -4.32 0.000 .679194 .8645371

2001 | .7572683 .0426729 -4.93 0.000 .6780842 .8456993

2001.25 | .8175336 .0450033 -3.66 0.000 .7339204 .9106726

2001.75 | .7754095 .0370481 -5.32 0.000 .7060928 .8515309

2002 | .7989495 .050567 -3.55 0.000 .7057408 .9044684

2002.25 | .7932577 .0472839 -3.89 0.000 .7057917 .8915631

2002.5 | .8741458 .0523006 -2.25 0.025 .7774206 .9829053

2002.75 | .7715905 .0435802 -4.59 0.000 .690733 .8619133

2003 | .6798379 .0415075 -6.32 0.000 .6031638 .7662589

2003.25 | .7342843 .0452405 -5.01 0.000 .6507592 .8285298

2003.5 | .8147794 .0499449 -3.34 0.001 .722541 .9187928

2003.75 | .6286818 .0375803 -7.76 0.000 .5591768 .7068262

2004 | .6395871 .0413871 -6.91 0.000 .563403 .7260729

2004.25 | .692019 .0444169 -5.74 0.000 .6102167 .7847874

2004.5 | .7727846 .0497767 -4.00 0.000 .6811311 .8767711

2004.75 | .6085074 .0407362 -7.42 0.000 .533682 .6938237

2005 | .5945289 .0416883 -7.42 0.000 .5181874 .6821174

2005.25 | .6682052 .0461825 -5.83 0.000 .5835522 .7651383

2005.5 | .725377 .0500284 -4.66 0.000 .6336615 .8303672

2005.75 | .6046728 .0435168 -6.99 0.000 .5251237 .6962726

2006 | .6149917 .0452736 -6.60 0.000 .5323615 .7104473

2006.25 | .5870093 .0412365 -7.58 0.000 .5115044 .6736597

2006.5 | .7245881 .054822 -4.26 0.000 .6247262 .8404128

2006.75 | .5601594 .0416192 -7.80 0.000 .4842486 .64797

2007 | .5731723 .0428193 -7.45 0.000 .495103 .6635518

2007.25 | .6043161 .0522127 -5.83 0.000 .5101767 .7158264

2007.5 | .673882 .0500958 -5.31 0.000 .5825138 .7795814

2007.75 | .5941845 .0431123 -7.17 0.000 .5154192 .6849864

2008 | .549457 .0392781 -8.38 0.000 .4776231 .6320945

2008.25 | .5429074 .0400235 -8.29 0.000 .4698665 .6273024

2008.5 | .6394261 .0523858 -5.46 0.000 .5445711 .7508033

2008.75 | .5028845 .0407731 -8.48 0.000 .4289968 .589498

2009 | .5159849 .0380874 -8.96 0.000 .4464837 .5963049

2009.25 | .4743064 .04051 -8.73 0.000 .4011981 .560737

2009.5 | .5413059 .0456233 -7.28 0.000 .4588812 .6385359

2009.75 | .4656058 .0357574 -9.95 0.000 .4005421 .5412384

2010 | .474103 .0473166 -7.48 0.000 .3898709 .5765335

2010.25 | .4691987 .043617 -8.14 0.000 .3910467 .5629698

2010.5 | .5577796 .0403863 -8.06 0.000 .483984 .6428272

2010.75 | .4487482 .0363608 -9.89 0.000 .3828532 .5259847

2011 | .4613277 .03782 -9.44 0.000 .3928505 .5417411

2011.25 | .4328346 .0349967 -10.36 0.000 .3694011 .5071608

2011.5 | .5025742 .0395561 -8.74 0.000 .4307296 .5864023

2011.75 | .3856983 .0310851 -11.82 0.000 .3293409 .4516996

2012 | .427669 .0348401 -10.43 0.000 .3645562 .5017081

2012.25 | .3779643 .0314696 -11.69 0.000 .3210546 .4449616

2012.5 | .4312227 .0373001 -9.72 0.000 .363977 .5108921

2012.75 | .3469561 .0300138 -12.24 0.000 .2928467 .4110632

2013 | .3834368 .033442 -10.99 0.000 .3231878 .4549173

2013.25 | .3791575 .0363369 -10.12 0.000 .3142274 .4575043

2013.5 | .4373888 .042004 -8.61 0.000 .3623463 .5279728

2013.75 | .3278984 .0309009 -11.83 0.000 .272598 .3944174

2014 | .3827192 .0387529 -9.49 0.000 .3138271 .4667348

2014.25 | .3984743 .0436392 -8.40 0.000 .3214995 .4938788

2014.5 | .4286876 .0415335 -8.74 0.000 .3545455 .5183342

2014.75 | .3957373 .0404355 -9.07 0.000 .3239165 .4834825

2015 | .3695514 .0395784 -9.29 0.000 .2995798 .455866

2015.25 | .3438911 .0355216 -10.33 0.000 .280865 .4210602

2015.5 | .4574321 .0481092 -7.44 0.000 .3722236 .5621465

2015.75 | .3429955 .039371 -9.32 0.000 .273894 .4295307

2016 | .3865219 .0442555 -8.30 0.000 .3088263 .4837644

|

\_cons | .0001118 6.38e-06 -159.44 0.000 .0000999 .000125

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 = 48425.5

Prob > chi2(26029) = 0.0000

Pearson goodness-of-fit = 1170970

Prob > chi2(26029) = 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 = -45269.385

Iteration 1: log pseudolikelihood = -44827.583

Iteration 2: log pseudolikelihood = -44824.473

Iteration 3: log pseudolikelihood = -44824.471

Generalized linear models No. of obs = 26,110

Optimization : ML Residual df = 26,029

Scale parameter = 1

Deviance = 20613.2181 (1/df) Deviance = .7919328

Pearson = 903165.4298 (1/df) Pearson = 34.69843

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

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

AIC = 3.439714

Log pseudolikelihood = -44824.47094 BIC = -244103.6

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

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| Robust

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

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

p48\_pp\_1lag | .9998901 .0001445 -0.76 0.447 .9996069 1.000173

p75\_pp\_1lag | 1.000023 6.45e-06 3.61 0.000 1.000011 1.000036

mine\_time | 1.001119 .0013698 0.82 0.414 .9984378 1.003807

onsite\_insp\_hours | .999428 .0001329 -4.30 0.000 .9991677 .9996884

|

state |

AL | 1.049456 .1084199 0.47 0.640 .8570897 1.284998

AR | 1.733009 .0789261 12.07 0.000 1.58502 1.894816

CO | .8040499 .1035008 -1.69 0.090 .6247592 1.034793

IL | 1.310252 .0833778 4.25 0.000 1.156615 1.484298

IN | 1.096126 .1035725 0.97 0.331 .9108163 1.319138

MD | 1.304424 .2391499 1.45 0.147 .910671 1.868426

MT | .5607784 .0208233 -15.58 0.000 .5214154 .6031132

NM | .7471234 .029116 -7.48 0.000 .6921822 .8064256

OH | .9789798 .0827243 -0.25 0.801 .8295581 1.155316

OK | 1.826444 .3110187 3.54 0.000 1.308152 2.550084

PA | 1.352761 .1019801 4.01 0.000 1.166949 1.56816

TN | 1.745007 .1809137 5.37 0.000 1.424127 2.138186

UT | .5292408 .0977775 -3.44 0.001 .3684626 .7601744

VA | .9312181 .0476898 -1.39 0.164 .8422857 1.02954

WV | 1.274755 .0610962 5.06 0.000 1.160461 1.400306

WY | .7452818 .0277202 -7.90 0.000 .6928844 .8016416

|

time |

2000.25 | .9916983 .075103 -0.11 0.912 .8549025 1.150383

2000.5 | 1.046583 .0753034 0.63 0.527 .9089251 1.205088

2000.75 | .7233867 .0532653 -4.40 0.000 .6261722 .835694

2001 | .7404489 .0501025 -4.44 0.000 .6484828 .8454573

2001.25 | .8941624 .0673264 -1.49 0.137 .7714801 1.036354

2001.75 | .7950533 .0495637 -3.68 0.000 .7036104 .8983802

2002 | .8745944 .0988291 -1.19 0.236 .7008433 1.091421

2002.25 | .8296591 .0600672 -2.58 0.010 .7199011 .9561512

2002.5 | .9095857 .0639496 -1.35 0.178 .7924991 1.043971

2002.75 | .7043206 .0507718 -4.86 0.000 .6115199 .8112043

2003 | .7047336 .0575653 -4.28 0.000 .600476 .827093

2003.25 | .763003 .0714601 -2.89 0.004 .6350469 .916741

2003.5 | .8608942 .0661277 -1.95 0.051 .7405709 1.000767

2003.75 | .6072277 .047018 -6.44 0.000 .521726 .7067416

2004 | .6485422 .0535719 -5.24 0.000 .5516022 .7625187

2004.25 | .6701161 .0532599 -5.04 0.000 .5734529 .7830733

2004.5 | .7436152 .0569378 -3.87 0.000 .6399893 .8640201

2004.75 | .5842914 .044525 -7.05 0.000 .5032283 .6784127

2005 | .5984937 .0483656 -6.35 0.000 .5108249 .7012083

2005.25 | .6379931 .0482555 -5.94 0.000 .5500905 .7399422

2005.5 | .6922385 .0531693 -4.79 0.000 .5954933 .8047013

2005.75 | .5603443 .0463693 -7.00 0.000 .4764495 .6590116

2006 | .6311506 .0546557 -5.31 0.000 .532625 .7479016

2006.25 | .604976 .0500981 -6.07 0.000 .5143398 .711584

2006.5 | .6904921 .0553452 -4.62 0.000 .5901089 .8079516

2006.75 | .5616989 .0471528 -6.87 0.000 .4764836 .6621543

2007 | .5364585 .0436197 -7.66 0.000 .4574298 .6291406

2007.25 | .5951397 .0526859 -5.86 0.000 .5003393 .7079022

2007.5 | .6915681 .0681783 -3.74 0.000 .5700581 .8389783

2007.75 | .5492274 .0479137 -6.87 0.000 .462908 .6516428

2008 | .5175582 .0428582 -7.95 0.000 .4400202 .6087596

2008.25 | .5182645 .0449032 -7.59 0.000 .4373227 .6141873

2008.5 | .5596668 .0492338 -6.60 0.000 .471031 .6649815

2008.75 | .4585645 .0394816 -9.06 0.000 .3873588 .5428594

2009 | .4790473 .0401593 -8.78 0.000 .4064629 .5645935

2009.25 | .4614963 .0423928 -8.42 0.000 .3854582 .5525342

2009.5 | .5156298 .0467281 -7.31 0.000 .431717 .6158526

2009.75 | .4367381 .0385684 -9.38 0.000 .3673257 .519267

2010 | .4392605 .0398333 -9.07 0.000 .3677332 .5247004

2010.25 | .4361373 .0453887 -7.97 0.000 .3556632 .53482

2010.5 | .5661565 .0481436 -6.69 0.000 .4792409 .6688353

2010.75 | .4403294 .0410118 -8.81 0.000 .3668579 .5285154

2011 | .4460917 .0399838 -9.01 0.000 .3742223 .5317635

2011.25 | .4242341 .0370539 -9.82 0.000 .3574861 .5034451

2011.5 | .4815968 .0403232 -8.73 0.000 .4087089 .5674833

2011.75 | .3733956 .0324897 -11.32 0.000 .3148508 .4428264

2012 | .4214445 .0384989 -9.46 0.000 .3523574 .5040777

2012.25 | .3645289 .0321525 -11.44 0.000 .3066575 .4333216

2012.5 | .4207221 .0412827 -8.82 0.000 .3471143 .509939

2012.75 | .3167018 .0313048 -11.63 0.000 .260923 .3844047

2013 | .3732833 .0376872 -9.76 0.000 .3062669 .454964

2013.25 | .3496609 .0335494 -10.95 0.000 .2897181 .4220059

2013.5 | .4114864 .040568 -9.01 0.000 .3391849 .4991998

2013.75 | .3048303 .0307108 -11.79 0.000 .2502084 .3713764

2014 | .3489804 .0345627 -10.63 0.000 .2874081 .4237437

2014.25 | .3610154 .0375415 -9.80 0.000 .2944493 .4426302

2014.5 | .3807288 .0380336 -9.67 0.000 .3130281 .4630716

2014.75 | .3812085 .039741 -9.25 0.000 .3107598 .4676278

2015 | .3292157 .0334182 -10.95 0.000 .2698214 .4016842

2015.25 | .3211212 .0327926 -11.12 0.000 .2628724 .3922771

2015.5 | .4173947 .04271 -8.54 0.000 .3415447 .5100895

2015.75 | .334076 .0374864 -9.77 0.000 .2681221 .4162536

2016 | .3442364 .0401005 -9.15 0.000 .2739677 .4325281

|

\_cons | .0001055 6.59e-06 -146.53 0.000 .0000933 .0001193

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 = -47692.174

Iteration 1: log pseudolikelihood = -47072.09

Iteration 2: log pseudolikelihood = -47070.538

Iteration 3: log pseudolikelihood = -47070.537

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 = -43891.106

Iteration 1: log pseudolikelihood = -43671.436

Iteration 2: log pseudolikelihood = -43667.041

Iteration 3: log pseudolikelihood = -43667.04

Negative binomial regression Number of obs = 26,110

Wald chi2(81) = .

Dispersion = mean Prob > chi2 = .

Log pseudolikelihood = -43667.04 Pseudo R2 = 0.0340

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

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

| Robust

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

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

p48\_pp\_1lag | .9998992 .0001414 -0.71 0.476 .999622 1.000176

p75\_pp\_1lag | 1.000022 6.07e-06 3.59 0.000 1.00001 1.000034

mine\_time | 1.000815 .0013411 0.61 0.543 .9981896 1.003447

onsite\_insp\_hours | .9994261 .0001318 -4.35 0.000 .9991679 .9996845

|

state |

AL | 1.038134 .0990765 0.39 0.695 .8610275 1.251669

AR | 1.799229 .0806753 13.10 0.000 1.647857 1.964506

CO | .7555016 .0920317 -2.30 0.021 .5950398 .9592344

IL | 1.28727 .0810627 4.01 0.000 1.137804 1.456371

IN | 1.097941 .110885 0.93 0.355 .9007688 1.338274

MD | 1.236066 .1868908 1.40 0.161 .9190551 1.662423

MT | .5466406 .0210491 -15.68 0.000 .5069034 .5894928

NM | .7428926 .0284782 -7.75 0.000 .6891217 .8008592

OH | .975661 .0735414 -0.33 0.744 .8416641 1.130991

OK | 1.790499 .3061004 3.41 0.001 1.28072 2.503191

PA | 1.295311 .1028558 3.26 0.001 1.108622 1.513439

TN | 1.667803 .1652946 5.16 0.000 1.373355 2.025381

UT | .4980819 .0852622 -4.07 0.000 .3561158 .6966431

VA | .9148919 .0492324 -1.65 0.098 .8233124 1.016658

WV | 1.208352 .0575601 3.97 0.000 1.100643 1.326602

WY | .7386812 .0269962 -8.29 0.000 .6876202 .7935338

|

time |

2000.25 | .9769383 .0641962 -0.36 0.723 .8588816 1.111223

2000.5 | 1.050229 .0650444 0.79 0.429 .9301785 1.185774

2000.75 | .7491859 .0492911 -4.39 0.000 .6585467 .8523003

2001 | .7499118 .0440033 -4.90 0.000 .6684416 .8413118

2001.25 | .8697999 .0549788 -2.21 0.027 .7684509 .9845156

2001.75 | .7923925 .0429 -4.30 0.000 .7126174 .8810981

2002 | .8424644 .0660177 -2.19 0.029 .7225189 .9823221

2002.25 | .823201 .0527448 -3.04 0.002 .7260508 .9333505

2002.5 | .9028713 .0566695 -1.63 0.104 .7983612 1.021062

2002.75 | .7329252 .0451013 -5.05 0.000 .649651 .8268739

2003 | .6992089 .0489691 -5.11 0.000 .6095272 .8020858

2003.25 | .7442468 .0545225 -4.03 0.000 .6447022 .8591615

2003.5 | .8475743 .0545178 -2.57 0.010 .7471824 .961455

2003.75 | .6212455 .0416916 -7.09 0.000 .5446774 .7085772

2004 | .6567482 .0474451 -5.82 0.000 .5700409 .7566442

2004.25 | .6872543 .0471114 -5.47 0.000 .600852 .7860813

2004.5 | .7682143 .0515523 -3.93 0.000 .6735365 .8762008

2004.75 | .60677 .0419565 -7.23 0.000 .5298658 .694836

2005 | .6041502 .0430719 -7.07 0.000 .5253635 .6947523

2005.25 | .6548481 .0445906 -6.22 0.000 .5730331 .7483444

2005.5 | .7102451 .0489172 -4.97 0.000 .6205586 .8128936

2005.75 | .5847664 .0437267 -7.18 0.000 .505048 .6770679

2006 | .6318753 .0483208 -6.00 0.000 .543924 .7340481

2006.25 | .6122482 .0452464 -6.64 0.000 .5296902 .7076738

2006.5 | .713815 .0517968 -4.65 0.000 .619184 .8229087

2006.75 | .56668 .0425821 -7.56 0.000 .4890755 .6565983

2007 | .5579733 .0412611 -7.89 0.000 .4826904 .6449977

2007.25 | .6081034 .0504929 -5.99 0.000 .5167723 .7155757

2007.5 | .693324 .0575782 -4.41 0.000 .5891784 .8158787

2007.75 | .5681534 .0431714 -7.44 0.000 .4895382 .6593934

2008 | .530509 .0385454 -8.72 0.000 .4600942 .6117005

2008.25 | .5273152 .0406574 -8.30 0.000 .4533571 .6133385

2008.5 | .5877705 .0472257 -6.61 0.000 .5021299 .6880174

2008.75 | .4766491 .0372806 -9.47 0.000 .4089055 .5556159

2009 | .4882676 .0359839 -9.73 0.000 .4225975 .5641427

2009.25 | .4647001 .0382653 -9.31 0.000 .3954408 .5460899

2009.5 | .5267614 .0427895 -7.89 0.000 .4492311 .6176723

2009.75 | .4469914 .0352505 -10.21 0.000 .3829764 .5217066

2010 | .4506079 .0383773 -9.36 0.000 .3813325 .5324683

2010.25 | .4496677 .0435139 -8.26 0.000 .3719819 .5435778

2010.5 | .5664004 .0431996 -7.45 0.000 .4877554 .657726

2010.75 | .4451669 .0368602 -9.77 0.000 .3784798 .523604

2011 | .452993 .0363079 -9.88 0.000 .3871389 .5300492

2011.25 | .4272388 .0335142 -10.84 0.000 .3663526 .498244

2011.5 | .4936672 .0371692 -9.38 0.000 .4259372 .5721671

2011.75 | .3787672 .0296616 -12.40 0.000 .3248733 .4416017

2012 | .4240067 .0341601 -10.65 0.000 .3620726 .4965348

2012.25 | .3679214 .0290785 -12.65 0.000 .3151235 .4295654

2012.5 | .4217285 .0366045 -9.95 0.000 .3557555 .4999358

2012.75 | .3272763 .0290227 -12.60 0.000 .2750619 .3894025

2013 | .3737143 .0325451 -11.30 0.000 .3150739 .4432687

2013.25 | .3581437 .0313623 -11.73 0.000 .3016606 .4252028

2013.5 | .4158858 .0373972 -9.76 0.000 .3486845 .4960387

2013.75 | .3120031 .0288768 -12.58 0.000 .2602421 .374059

2014 | .3575859 .0329392 -11.16 0.000 .2985186 .4283407

2014.25 | .3693851 .0356133 -10.33 0.000 .3057828 .4462165

2014.5 | .3928752 .0359094 -10.22 0.000 .3284381 .4699545

2014.75 | .3820865 .0361955 -10.16 0.000 .3173412 .4600416

2015 | .3407865 .0325453 -11.27 0.000 .2826131 .4109344

2015.25 | .327441 .0311958 -11.72 0.000 .2716676 .3946646

2015.5 | .4318046 .0413467 -8.77 0.000 .3579167 .5209459

2015.75 | .336627 .0357179 -10.26 0.000 .2734211 .414444

2016 | .3599908 .0396564 -9.27 0.000 .2900838 .4467447

|

\_cons | .0001059 5.93e-06 -163.50 0.000 .0000949 .0001182

ln(hours) | 1 (exposure)

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

/lnalpha | -1.02319 .0673955 -1.155282 -.8910968

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

alpha | .3594466 .0242251 .3149686 .4102056

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

(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.P.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.P.C.PP.2.csv)

. est store nbin

.

. pause "next"

.

. // test for over-dispersion

. lrtest pois nbin, stats force

Likelihood-ratio test LR chi2(2) = 6806.99

(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 | 26,110 -51293.53 -47070.54 81 94303.07 94964.85

nbin | 26,110 -45205.22 -43667.04 83 87500.08 88178.2

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

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 2.556322 3.722368 .0000991 40.4815

. /\*

> pause "next"

>

> scatter dv cpp2\_yhat

>

> pause "next"

>

> scatter cpp2\_res dv

>

> pause "next"

>

> scatter cpp2\_res cpp2\_yhat

> \*/

. pause "complete: C.PP.2"