. // Model C.V.1

.

. // poisson model

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

Iteration 0: log pseudolikelihood = -53708.83

Iteration 1: log pseudolikelihood = -49528.207

Iteration 2: log pseudolikelihood = -49502.731

Iteration 3: log pseudolikelihood = -49502.715

Iteration 4: log pseudolikelihood = -49502.715

Generalized linear models No. of obs = 28,337

Optimization : ML Residual df = 28,255

Scale parameter = 1

Deviance = 51365.02507 (1/df) Deviance = 1.817909

Pearson = 1171962.428 (1/df) Pearson = 41.47805

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

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

AIC = 3.499645

Log pseudolikelihood = -49502.715 BIC = -238303.1

(Std. Err. adjusted for 1,544 clusters in mineid)

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

| Robust

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

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

p48 | .9996571 .009712 -0.04 0.972 .980802 1.018875

p75 | 1.001505 .000606 2.49 0.013 1.000318 1.002694

mine\_time | 1.001279 .0015056 0.85 0.395 .9983325 1.004234

onsite\_insp\_hours | .9992992 .0001328 -5.28 0.000 .999039 .9995595

|

state |

AL | .9593196 .08415 -0.47 0.636 .8077877 1.139277

AR | 1.732625 .0871598 10.93 0.000 1.569946 1.91216

CO | .6626266 .0687029 -3.97 0.000 .5407717 .8119395

IL | 1.243852 .0921758 2.94 0.003 1.075698 1.438292

IN | 1.092361 .1351126 0.71 0.475 .8572006 1.392035

MD | 1.107226 .1379661 0.82 0.414 .8673053 1.413515

MT | .5021059 .0240475 -14.38 0.000 .4571182 .5515213

NM | .6858583 .0290151 -8.91 0.000 .6312836 .745151

OH | .9223237 .0558683 -1.33 0.182 .8190741 1.038589

OK | 1.742988 .3450286 2.81 0.005 1.182488 2.569163

PA | 1.046168 .1012078 0.47 0.641 .8654761 1.264585

TN | 1.543188 .1445939 4.63 0.000 1.284289 1.854278

UT | .4557334 .0691279 -5.18 0.000 .3385294 .6135153

VA | .8417337 .0633189 -2.29 0.022 .7263461 .9754519

WV | 1.0367 .0570217 0.66 0.512 .9307529 1.154707

WY | .7102661 .0357676 -6.79 0.000 .6435115 .7839456

|

time |

2000 | .9832578 .0551758 -0.30 0.764 .8808501 1.097571

2000.25 | 1.109985 .0603541 1.92 0.055 .9977784 1.23481

2000.5 | 1.267148 .062586 4.79 0.000 1.150232 1.395948

2000.75 | .9264762 .0457643 -1.55 0.122 .8409849 1.020658

2001 | .9110732 .0395744 -2.14 0.032 .8367188 .9920351

2001.5 | 1.196701 .0649713 3.31 0.001 1.075901 1.331065

2001.75 | .9273798 .051968 -1.35 0.179 .8309186 1.035039

2002 | .9652557 .0508432 -0.67 0.502 .8705761 1.070232

2002.25 | .9619829 .0521648 -0.71 0.475 .8649875 1.069855

2002.5 | 1.05098 .0652914 0.80 0.423 .9304947 1.187065

2002.75 | .9354886 .0525997 -1.19 0.236 .8378726 1.044477

2003 | .8160123 .0468767 -3.54 0.000 .7291191 .913261

2003.25 | .887681 .0520835 -2.03 0.042 .7912502 .995864

2003.5 | .9844235 .0547168 -0.28 0.778 .8828156 1.097726

2003.75 | .7476072 .0387162 -5.62 0.000 .6754488 .8274742

2004 | .7647875 .0459529 -4.46 0.000 .6798226 .8603714

2004.25 | .8365217 .0476039 -3.14 0.002 .7482349 .9352258

2004.5 | .9187269 .0506777 -1.54 0.124 .8245814 1.023621

2004.75 | .7227894 .0439132 -5.34 0.000 .641648 .8141918

2005 | .7022641 .041574 -5.97 0.000 .6253302 .7886632

2005.25 | .7961308 .046646 -3.89 0.000 .7097605 .8930114

2005.5 | .8661151 .0537838 -2.31 0.021 .7668632 .9782127

2005.75 | .7179547 .0453621 -5.24 0.000 .6343312 .8126022

2006 | .7336712 .0466114 -4.87 0.000 .6477734 .8309593

2006.25 | .6947883 .0437165 -5.79 0.000 .6141782 .7859785

2006.5 | .8461134 .0614586 -2.30 0.021 .7338383 .9755663

2006.75 | .6679619 .0464624 -5.80 0.000 .582832 .7655261

2007 | .6860796 .0478486 -5.40 0.000 .5984252 .786573

2007.25 | .7076855 .0588219 -4.16 0.000 .6012977 .8328965

2007.5 | .8180307 .055557 -2.96 0.003 .7160771 .9345003

2007.75 | .7264922 .0494887 -4.69 0.000 .6356925 .8302613

2008 | .686797 .0444879 -5.80 0.000 .6049104 .7797685

2008.25 | .6766647 .0460275 -5.74 0.000 .5922074 .7731668

2008.5 | .7887513 .0586713 -3.19 0.001 .6817474 .9125501

2008.75 | .6255864 .0475841 -6.17 0.000 .5389422 .7261601

2009 | .6371184 .0428282 -6.71 0.000 .5584713 .7268409

2009.25 | .5936061 .0462462 -6.69 0.000 .5095462 .6915332

2009.5 | .6723606 .0504687 -5.29 0.000 .580376 .778924

2009.75 | .5839795 .0413322 -7.60 0.000 .5083376 .6708771

2010 | .5875839 .055493 -5.63 0.000 .4882926 .7070655

2010.25 | .5846442 .0494287 -6.35 0.000 .4953668 .6900115

2010.5 | .6900877 .0466774 -5.48 0.000 .6044065 .7879152

2010.75 | .5645727 .0427032 -7.56 0.000 .4867843 .6547917

2011 | .5681652 .0422461 -7.60 0.000 .4911151 .6573036

2011.25 | .5410983 .0410217 -8.10 0.000 .4663854 .6277798

2011.5 | .6215474 .0445341 -6.64 0.000 .5401139 .7152586

2011.75 | .4814813 .0359741 -9.78 0.000 .4158928 .5574134

2012 | .5308073 .0398437 -8.44 0.000 .458188 .6149363

2012.25 | .4698952 .0357195 -9.94 0.000 .4048519 .5453884

2012.5 | .5361703 .0448362 -7.45 0.000 .4551166 .6316592

2012.75 | .4333607 .0365179 -9.92 0.000 .3673851 .5111843

2013 | .4792191 .0397851 -8.86 0.000 .4072554 .5638991

2013.25 | .4734895 .0424383 -8.34 0.000 .3972082 .5644201

2013.5 | .5458961 .0495717 -6.67 0.000 .4568926 .6522377

2013.75 | .4064586 .0364846 -10.03 0.000 .3408871 .4846431

2014 | .4685645 .0455241 -7.80 0.000 .3873197 .5668514

2014.25 | .4938182 .050846 -6.85 0.000 .4035739 .6042422

2014.5 | .5290002 .0483209 -6.97 0.000 .4422867 .6327145

2014.75 | .4937704 .0463914 -7.51 0.000 .4107256 .593606

2015 | .463627 .045766 -7.79 0.000 .382071 .5625916

2015.25 | .4291456 .0412178 -8.81 0.000 .3555085 .5180352

2015.5 | .5633119 .0539811 -5.99 0.000 .4668527 .679701

2015.75 | .431401 .0468175 -7.75 0.000 .3487426 .5336509

2016 | .4879067 .05293 -6.62 0.000 .394453 .6035015

|

\_cons | .0000901 4.75e-06 -176.72 0.000 .0000813 .0000999

ln(hours) | 1 (exposure)

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

.

. quietly poisson dv `count\_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 = 51365.03

Prob > chi2(28255) = 0.0000

Pearson goodness-of-fit = 1171962

Prob > chi2(28255) = 0.0000

.

. pause "next"

.

. // negative binomial model

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

Iteration 0: log pseudolikelihood = -47687.698

Iteration 1: log pseudolikelihood = -47122.107

Iteration 2: log pseudolikelihood = -47117.811

Iteration 3: log pseudolikelihood = -47117.808

Generalized linear models No. of obs = 28,337

Optimization : ML Residual df = 28,255

Scale parameter = 1

Deviance = 22361.04655 (1/df) Deviance = .7914014

Pearson = 877985.2458 (1/df) Pearson = 31.07362

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

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

AIC = 3.33132

Log pseudolikelihood = -47117.80772 BIC = -267307.1

(Std. Err. adjusted for 1,544 clusters in mineid)

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

| Robust

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

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

p48 | 1.004244 .0169093 0.25 0.801 .9716436 1.037939

p75 | 1.003036 .0007221 4.21 0.000 1.001622 1.004453

mine\_time | 1.001743 .001328 1.31 0.189 .9991439 1.004349

onsite\_insp\_hours | .9991771 .0001536 -5.35 0.000 .9988761 .9994783

|

state |

AL | 1.023335 .1071671 0.22 0.826 .8334454 1.256488

AR | 1.628062 .0713054 11.13 0.000 1.494137 1.773992

CO | .7999367 .1041712 -1.71 0.087 .6197386 1.03253

IL | 1.282351 .0763403 4.18 0.000 1.141126 1.441054

IN | 1.090309 .0953979 0.99 0.323 .9184866 1.294275

MD | 1.284217 .2386339 1.35 0.178 .8922115 1.848456

MT | .5615975 .0215927 -15.01 0.000 .5208319 .6055538

NM | .7440525 .0281534 -7.81 0.000 .6908693 .8013298

OH | .9713683 .0775841 -0.36 0.716 .8306109 1.135979

OK | 1.843839 .3207177 3.52 0.000 1.311187 2.592872

PA | 1.37855 .1011716 4.37 0.000 1.193858 1.591813

TN | 1.766809 .1667664 6.03 0.000 1.468405 2.125853

UT | .5362192 .0947583 -3.53 0.000 .3792466 .7581638

VA | .9369096 .0464767 -1.31 0.189 .8501052 1.032578

WV | 1.286341 .0597743 5.42 0.000 1.174362 1.408997

WY | .8037529 .047654 -3.68 0.000 .7155754 .9027963

|

time |

2000 | .8979254 .0824669 -1.17 0.241 .7500056 1.075019

2000.25 | 1.062303 .0972868 0.66 0.509 .887758 1.271166

2000.5 | 1.178728 .1036282 1.87 0.061 .9921562 1.400384

2000.75 | .7807822 .0670566 -2.88 0.004 .6598199 .92392

2001 | .7959297 .0632523 -2.87 0.004 .6811299 .9300782

2001.5 | 1.078965 .0785429 1.04 0.296 .9355011 1.244429

2001.75 | .8492967 .0632743 -2.19 0.028 .7339108 .9828238

2002 | .9623445 .1122395 -0.33 0.742 .7656914 1.209504

2002.25 | .9088005 .0708725 -1.23 0.220 .779988 1.058886

2002.5 | .9737094 .073085 -0.35 0.723 .8405036 1.128026

2002.75 | .7731921 .0704345 -2.82 0.005 .6467651 .9243325

2003 | .7585702 .0739298 -2.84 0.005 .6266689 .918234

2003.25 | .842301 .090219 -1.60 0.109 .6828023 1.039058

2003.5 | .934534 .088099 -0.72 0.473 .7768763 1.124186

2003.75 | .6472189 .0594741 -4.73 0.000 .5405461 .7749427

2004 | .6989837 .0670656 -3.73 0.000 .5791573 .8436019

2004.25 | .7400712 .0708229 -3.15 0.002 .6135016 .8927529

2004.5 | .7946638 .0720891 -2.53 0.011 .6652201 .9492957

2004.75 | .6275597 .053495 -5.47 0.000 .5310019 .7416756

2005 | .6408685 .0600602 -4.75 0.000 .5333312 .7700889

2005.25 | .6875947 .0631876 -4.08 0.000 .574262 .8232941

2005.5 | .7408457 .0655687 -3.39 0.001 .6228621 .8811778

2005.75 | .6047811 .058915 -5.16 0.000 .4996641 .7320122

2006 | .6843637 .0691939 -3.75 0.000 .5613382 .834352

2006.25 | .6387249 .0629915 -4.55 0.000 .5264629 .7749255

2006.5 | .7261499 .0702411 -3.31 0.001 .6007431 .8777357

2006.75 | .6017854 .0606552 -5.04 0.000 .4939094 .7332229

2007 | .5801669 .0578862 -5.46 0.000 .4771163 .7054752

2007.25 | .6206419 .0641085 -4.62 0.000 .5068941 .7599149

2007.5 | .7441167 .0825966 -2.66 0.008 .5986294 .9249622

2007.75 | .5939061 .0609504 -5.08 0.000 .4856932 .7262289

2008 | .5781413 .0570184 -5.56 0.000 .4765247 .7014272

2008.25 | .5804338 .0595006 -5.31 0.000 .4747833 .709594

2008.5 | .6107649 .0631415 -4.77 0.000 .4987421 .7479493

2008.75 | .5037022 .0517482 -6.68 0.000 .4118367 .6160595

2009 | .5179043 .0523707 -6.51 0.000 .4247914 .6314272

2009.25 | .5290152 .0575675 -5.85 0.000 .4274057 .6547809

2009.5 | .5749032 .0606174 -5.25 0.000 .4675678 .7068787

2009.75 | .4903075 .051146 -6.83 0.000 .3996468 .6015349

2010 | .4859553 .0514571 -6.82 0.000 .3948788 .5980381

2010.25 | .4909895 .0587332 -5.95 0.000 .3883736 .6207186

2010.5 | .6196578 .0632513 -4.69 0.000 .5073012 .7568991

2010.75 | .4967554 .0532022 -6.53 0.000 .402698 .6127817

2011 | .4918943 .0515625 -6.77 0.000 .4005394 .6040855

2011.25 | .4718006 .0484554 -7.31 0.000 .385778 .5770049

2011.5 | .5320257 .0529417 -6.34 0.000 .4377537 .6465997

2011.75 | .4181434 .0427329 -8.53 0.000 .3422434 .5108758

2012 | .4658642 .049723 -7.16 0.000 .3779272 .5742627

2012.25 | .4015258 .0413385 -8.86 0.000 .3281551 .4913011

2012.5 | .466204 .0521523 -6.82 0.000 .374417 .5804922

2012.75 | .3540301 .0399276 -9.21 0.000 .283819 .44161

2013 | .4200244 .0475867 -7.66 0.000 .3363857 .5244588

2013.25 | .3922352 .0423977 -8.66 0.000 .3173497 .4847916

2013.5 | .4636188 .0513129 -6.95 0.000 .3732079 .5759319

2013.75 | .3359969 .0381396 -9.61 0.000 .2689761 .4197172

2014 | .3822979 .0429386 -8.56 0.000 .3067591 .476438

2014.25 | .400279 .0459654 -7.97 0.000 .319607 .5013133

2014.5 | .4207586 .0476309 -7.65 0.000 .337035 .5252802

2014.75 | .4255899 .0491389 -7.40 0.000 .3393994 .5336685

2015 | .3756187 .0424973 -8.65 0.000 .3009142 .4688693

2015.25 | .360173 .0402909 -9.13 0.000 .2892618 .4484677

2015.5 | .4641694 .0525562 -6.78 0.000 .3717903 .5795019

2015.75 | .3803885 .0463472 -7.93 0.000 .2995818 .4829912

2016 | .3974881 .0498856 -7.35 0.000 .3108112 .508337

|

\_cons | .0000938 7.43e-06 -117.00 0.000 .0000803 .0001096

ln(hours) | 1 (exposure)

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

.

. pause "next"

.

. eststo clear

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

Fitting Poisson model:

Iteration 0: log pseudolikelihood = -52439.384

Iteration 1: log pseudolikelihood = -49534.717

Iteration 2: log pseudolikelihood = -49502.726

Iteration 3: log pseudolikelihood = -49502.715

Iteration 4: log pseudolikelihood = -49502.715

Fitting constant-only model:

Iteration 0: log pseudolikelihood = -48337.833

Iteration 1: log pseudolikelihood = -47621.385

Iteration 2: log pseudolikelihood = -47591.372

Iteration 3: log pseudolikelihood = -47591.309

Iteration 4: log pseudolikelihood = -47591.309

Fitting full model:

Iteration 0: log pseudolikelihood = -46200.813

Iteration 1: log pseudolikelihood = -45960.255

Iteration 2: log pseudolikelihood = -45955.108

Iteration 3: log pseudolikelihood = -45955.106

Negative binomial regression Number of obs = 28,337

Wald chi2(81) = .

Dispersion = mean Prob > chi2 = .

Log pseudolikelihood = -45955.106 Pseudo R2 = 0.0344

(Std. Err. adjusted for 1,544 clusters in mineid)

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

| Robust

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

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

p48 | 1.000487 .0143019 0.03 0.973 .9728452 1.028915

p75 | 1.002577 .0006223 4.15 0.000 1.001358 1.003797

mine\_time | 1.001468 .0012987 1.13 0.258 .998926 1.004017

onsite\_insp\_hours | .9992209 .0001457 -5.34 0.000 .9989353 .9995066

|

state |

AL | 1.013168 .0974789 0.14 0.892 .839046 1.223425

AR | 1.707518 .0733449 12.46 0.000 1.569649 1.857496

CO | .7489716 .0920166 -2.35 0.019 .5886932 .9528876

IL | 1.257397 .0714394 4.03 0.000 1.124893 1.405509

IN | 1.092176 .1033788 0.93 0.352 .9072415 1.314807

MD | 1.22197 .1886184 1.30 0.194 .9029683 1.653669

MT | .5478433 .0216415 -15.23 0.000 .5070272 .5919452

NM | .7400727 .0274907 -8.10 0.000 .6881067 .7959633

OH | .9675225 .0691758 -0.46 0.644 .8410116 1.113064

OK | 1.822815 .3225441 3.39 0.001 1.288617 2.578465

PA | 1.32172 .1015304 3.63 0.000 1.13698 1.536477

TN | 1.697391 .1556093 5.77 0.000 1.418233 2.031498

UT | .5065487 .0841735 -4.09 0.000 .3657434 .7015619

VA | .9198847 .0478025 -1.61 0.108 .8308069 1.018513

WV | 1.218753 .0568455 4.24 0.000 1.112279 1.33542

WY | .7843054 .0418341 -4.55 0.000 .7064525 .870738

|

time |

2000 | .9371566 .0678921 -0.90 0.370 .8131057 1.080133

2000.25 | 1.087125 .0786639 1.15 0.248 .9433801 1.252772

2000.5 | 1.208778 .0819935 2.80 0.005 1.058298 1.380654

2000.75 | .8370041 .0574056 -2.59 0.009 .7317256 .9574297

2001 | .8352579 .052467 -2.87 0.004 .7385027 .9446896

2001.5 | 1.113725 .0694394 1.73 0.084 .9856136 1.258489

2001.75 | .875966 .0556197 -2.09 0.037 .7734638 .9920522

2002 | .9511358 .075671 -0.63 0.529 .8138083 1.111637

2002.25 | .9283736 .0615969 -1.12 0.263 .8151662 1.057303

2002.5 | 1.003985 .0668117 0.06 0.952 .8812167 1.143857

2002.75 | .8266706 .0600594 -2.62 0.009 .7169534 .9531782

2003 | .7790218 .060301 -3.23 0.001 .6693627 .906646

2003.25 | .8435078 .0685888 -2.09 0.036 .7192413 .9892443

2003.5 | .9535367 .0702943 -0.65 0.519 .8252532 1.101762

2003.75 | .6847192 .049504 -5.24 0.000 .594254 .7889561

2004 | .7313505 .0572175 -4.00 0.000 .6273812 .8525495

2004.25 | .7789377 .0600476 -3.24 0.001 .6697063 .9059851

2004.5 | .850134 .0617965 -2.23 0.026 .7372474 .9803056

2004.75 | .6723551 .0465133 -5.74 0.000 .587101 .7699891

2005 | .6654772 .0492729 -5.50 0.000 .5755843 .7694092

2005.25 | .7255308 .0539477 -4.32 0.000 .6271389 .8393595

2005.5 | .7851203 .0575281 -3.30 0.001 .6800897 .9063716

2005.75 | .6483559 .0523645 -5.37 0.000 .5534345 .7595577

2006 | .7029976 .0573441 -4.32 0.000 .5991293 .824873

2006.25 | .6708491 .0544743 -4.92 0.000 .5721443 .7865822

2006.5 | .7751788 .0625057 -3.16 0.002 .66186 .9078992

2006.75 | .6278412 .0520986 -5.61 0.000 .5336009 .7387254

2007 | .6225323 .0518089 -5.70 0.000 .5288378 .7328267

2007.25 | .6563671 .0586042 -4.72 0.000 .5509938 .7818923

2007.5 | .7755838 .0686668 -2.87 0.004 .6520292 .9225511

2007.75 | .637464 .0535751 -5.36 0.000 .5406511 .7516129

2008 | .6123492 .0492262 -6.10 0.000 .5230845 .7168471

2008.25 | .6093922 .0516562 -5.84 0.000 .5161112 .7195326

2008.5 | .665514 .05812 -4.66 0.000 .5608167 .789757

2008.75 | .543829 .0471452 -7.03 0.000 .45885 .6445462

2009 | .5502318 .0453318 -7.25 0.000 .4681855 .646656

2009.25 | .5446822 .048696 -6.80 0.000 .457134 .6489973

2009.5 | .6066979 .0531172 -5.71 0.000 .5110327 .7202715

2009.75 | .5199192 .0452147 -7.52 0.000 .4384411 .6165388

2010 | .5158559 .0474518 -7.20 0.000 .430754 .617771

2010.25 | .5213898 .0534543 -6.35 0.000 .4264763 .6374264

2010.5 | .6446904 .0544147 -5.20 0.000 .5463942 .7606701

2010.75 | .5189389 .0461156 -7.38 0.000 .4359875 .6176726

2011 | .5163102 .0450117 -7.58 0.000 .4352146 .6125169

2011.25 | .492364 .0423562 -8.24 0.000 .4159687 .5827898

2011.5 | .5644625 .046553 -6.93 0.000 .4802129 .663493

2011.75 | .4391057 .0374487 -9.65 0.000 .371514 .5189948

2012 | .4859634 .0429824 -8.16 0.000 .4086172 .5779504

2012.25 | .4211965 .0361736 -10.07 0.000 .3559434 .498412

2012.5 | .4843701 .0454616 -7.72 0.000 .4029822 .5821953

2012.75 | .3791932 .0367077 -10.02 0.000 .3136608 .4584172

2013 | .4343959 .0407278 -8.89 0.000 .3614759 .5220259

2013.25 | .4153122 .0386671 -9.44 0.000 .3460386 .4984536

2013.5 | .4825461 .0460832 -7.63 0.000 .4001741 .5818736

2013.75 | .3569644 .0350391 -10.49 0.000 .2944911 .4326908

2014 | .4055997 .0400603 -9.14 0.000 .3342152 .4922312

2014.25 | .4243837 .0427815 -8.50 0.000 .3482975 .5170911

2014.5 | .4495326 .0440191 -8.17 0.000 .3710308 .5446436

2014.75 | .4416258 .0437584 -8.25 0.000 .3636748 .536285

2015 | .3998962 .0398233 -9.20 0.000 .3289888 .4860863

2015.25 | .3805104 .0375283 -9.80 0.000 .3136286 .4616548

2015.5 | .4945276 .0490088 -7.11 0.000 .407225 .6005464

2015.75 | .3958495 .0433164 -8.47 0.000 .3194377 .4905396

2016 | .4264725 .0485368 -7.49 0.000 .3412055 .5330478

|

\_cons | .0000913 5.79e-06 -146.83 0.000 .0000807 .0001034

ln(hours) | 1 (exposure)

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

/lnalpha | -1.007975 .0666837 -1.138673 -.8772774

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

alpha | .3649573 .0243367 .3202438 .4159137

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

(est1 stored)

. esttab using `"`directory'Model.`injury\_label'.`time\_label'.`violation\_level\_label'.C.V.1.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.V.1.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.V.1.csv)

. est store nbin

.

. pause "next"

.

. // test for over-dispersion

. lrtest pois nbin, stats force

Likelihood-ratio test LR chi2(1) = 7095.22

(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 | 28,337 -53929.83 -49502.72 82 99169.43 99846.09

nbin | 28,337 -47591.31 -45955.11 83 92076.21 92761.12

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

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

.

. pause "next"

.

. // final model + diagnostics/assessment

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

. predict cv1\_yhat

(option n assumed; predicted number of events)

(1,952 missing values generated)

. gen cv1\_res = dv - cv1\_yhat

(1,952 missing values generated)

.

. summ dv cv1\_yhat

Variable | Obs Mean Std. Dev. Min Max

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

dv | 30,289 2.177721 3.851734 0 71

cv1\_yhat | 28,337 2.450718 3.794498 .0001007 46.8787

. /\*

> pause "next"

>

> scatter dv cv1\_yhat

>

> pause "next"

>

> scatter cv1\_res dv

>

> pause "next"

>

> scatter cv1\_res cv1\_yhat

> \*/

. pause "complete: C.V.1"