.

. // Model B.V.1

.

. eststo clear

. eststo: logit dv\_indicator `count\_vars' `covariates' ib(freq).state ib(freq).time, vce(cl mineid) offset(lnhours) iter(50) or

Iteration 0: log pseudolikelihood = -14562.224

Iteration 1: log pseudolikelihood = -13881.343

Iteration 2: log pseudolikelihood = -13841.557

Iteration 3: log pseudolikelihood = -13841.416

Iteration 4: log pseudolikelihood = -13841.416

Logistic regression Number of obs = 28,337

Wald chi2(81) = .

Log pseudolikelihood = -13841.416 Prob > chi2 = .

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

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

| Robust

dv\_indicator | Odds Ratio Std. Err. z P>|z| [95% Conf. Interval]

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

p48 | 1.023325 .0476864 0.49 0.621 .9340025 1.12119

p75 | 1.012614 .0020244 6.27 0.000 1.008654 1.016589

mine\_time | 1.002781 .0023374 1.19 0.234 .9982097 1.007372

onsite\_insp\_hours | 1.002928 .000507 5.78 0.000 1.001935 1.003922

|

state |

AL | 1.181697 .4199355 0.47 0.638 .5888676 2.371344

AR | 1.88465 .125053 9.55 0.000 1.654819 2.146401

CO | 1.655672 .2783829 3.00 0.003 1.190842 2.301942

IL | 3.571005 1.066698 4.26 0.000 1.988508 6.412887

IN | 1.621215 .2943382 2.66 0.008 1.135799 2.314087

MD | 1.528053 .3394141 1.91 0.056 .9887078 2.361614

MT | .4654787 .0308759 -11.53 0.000 .4087316 .5301043

NM | 2.251982 .1216452 15.03 0.000 2.025749 2.50348

OH | 1.407075 .2572504 1.87 0.062 .983321 2.013443

OK | 3.592971 1.395332 3.29 0.001 1.678376 7.691625

PA | 1.737159 .1850404 5.18 0.000 1.409842 2.140468

TN | 2.23483 .393781 4.56 0.000 1.582199 3.156659

UT | .4952297 .133083 -2.62 0.009 .292458 .8385903

VA | 1.063673 .0761645 0.86 0.389 .9243953 1.223936

WV | 1.702107 .1133936 7.98 0.000 1.493758 1.939517

WY | 2.768753 .6504274 4.34 0.000 1.747119 4.387792

|

time |

2000 | .9316583 .1264494 -0.52 0.602 .7140477 1.215587

2000.25 | 1.33632 .1860837 2.08 0.037 1.017138 1.755663

2000.5 | 1.416408 .1936856 2.55 0.011 1.083406 1.851762

2000.75 | .7310306 .0937135 -2.44 0.015 .5686133 .9398405

2001 | .8124606 .1072342 -1.57 0.116 .6272705 1.052325

2001.5 | 1.046039 .137528 0.34 0.732 .8084188 1.353505

2001.75 | .855775 .1152194 -1.16 0.247 .6572884 1.1142

2002 | .9046811 .1297605 -0.70 0.485 .6829763 1.198355

2002.25 | .7346975 .1041929 -2.17 0.030 .556408 .9701163

2002.5 | 1.051393 .1518425 0.35 0.729 .7921991 1.395391

2002.75 | .7457225 .1084696 -2.02 0.044 .5607446 .9917207

2003 | .7636153 .1138665 -1.81 0.071 .5700956 1.022825

2003.25 | .8484189 .1318315 -1.06 0.290 .6256716 1.150467

2003.5 | 1.248062 .1932789 1.43 0.152 .9213326 1.690659

2003.75 | .6418471 .0965364 -2.95 0.003 .4779775 .8618977

2004 | .694991 .1031246 -2.45 0.014 .5196078 .9295714

2004.25 | .655871 .094791 -2.92 0.004 .4940795 .8706427

2004.5 | .7438603 .1094066 -2.01 0.044 .5575671 .9923974

2004.75 | .5589004 .0802359 -4.05 0.000 .4218282 .7405138

2005 | .5753544 .0844196 -3.77 0.000 .4315607 .7670594

2005.25 | .6226506 .0932827 -3.16 0.002 .4642172 .8351561

2005.5 | .6860482 .0989007 -2.61 0.009 .5171845 .910047

2005.75 | .4710401 .0688308 -5.15 0.000 .3537334 .6272487

2006 | .622692 .0941642 -3.13 0.002 .4629708 .8375158

2006.25 | .5406619 .0801573 -4.15 0.000 .404323 .7229745

2006.5 | .6309854 .0927822 -3.13 0.002 .4729942 .8417494

2006.75 | .5448949 .0841368 -3.93 0.000 .4026051 .7374731

2007 | .4591723 .0685032 -5.22 0.000 .342757 .6151274

2007.25 | .4839314 .0723185 -4.86 0.000 .361061 .6486149

2007.5 | .5563979 .0843168 -3.87 0.000 .4134223 .7488192

2007.75 | .410287 .0620067 -5.89 0.000 .3051024 .5517342

2008 | .4468904 .0697665 -5.16 0.000 .3290905 .6068576

2008.25 | .4403651 .0691016 -5.23 0.000 .323775 .5989388

2008.5 | .4009552 .0606086 -6.05 0.000 .2981451 .5392175

2008.75 | .3606496 .0549583 -6.69 0.000 .2675307 .4861804

2009 | .4029317 .0632007 -5.80 0.000 .2962912 .547954

2009.25 | .4078797 .0671236 -5.45 0.000 .2954284 .5631342

2009.5 | .389691 .0638776 -5.75 0.000 .2826133 .5373388

2009.75 | .333439 .0542964 -6.74 0.000 .2423309 .4588006

2010 | .3825843 .0648823 -5.67 0.000 .2743926 .5334356

2010.25 | .3586036 .057353 -6.41 0.000 .2621069 .4906263

2010.5 | .5078083 .0852992 -4.03 0.000 .3653583 .7057982

2010.75 | .3200024 .0531734 -6.86 0.000 .2310536 .4431938

2011 | .3538533 .0587637 -6.26 0.000 .2555441 .4899825

2011.25 | .4157421 .0708286 -5.15 0.000 .2977198 .5805511

2011.5 | .4962239 .0808183 -4.30 0.000 .3606163 .682826

2011.75 | .3406991 .0566304 -6.48 0.000 .245972 .4719068

2012 | .3496649 .0579157 -6.34 0.000 .2527353 .4837693

2012.25 | .3795779 .0620783 -5.92 0.000 .2754803 .5230115

2012.5 | .3400276 .0600716 -6.11 0.000 .2405111 .4807212

2012.75 | .1792012 .0318883 -9.66 0.000 .1264364 .2539859

2013 | .2976899 .0535532 -6.74 0.000 .2092359 .4235375

2013.25 | .3123814 .0558516 -6.51 0.000 .2200374 .4434799

2013.5 | .326503 .0612968 -5.96 0.000 .2259877 .4717257

2013.75 | .2108959 .0406821 -8.07 0.000 .1445008 .3077983

2014 | .2336562 .0469444 -7.24 0.000 .1576015 .346413

2014.25 | .2274223 .0438589 -7.68 0.000 .1558392 .3318861

2014.5 | .2623722 .0520511 -6.74 0.000 .1778488 .3870657

2014.75 | .3021285 .0603522 -5.99 0.000 .2042482 .4469151

2015 | .2537988 .0509469 -6.83 0.000 .1712464 .3761471

2015.25 | .2018624 .0406333 -7.95 0.000 .1360552 .2994993

2015.5 | .3541461 .0723855 -5.08 0.000 .2372475 .5286439

2015.75 | .2285999 .0481522 -7.01 0.000 .1512792 .3454401

2016 | .1541016 .0371463 -7.76 0.000 .0960781 .2471665

|

\_cons | .0000769 8.26e-06 -88.23 0.000 .0000623 .0000949

lnhours | 1 (offset)

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

(est1 stored)

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

.

. pause "next"

.

. // diagnostics/assessment

. lfit

Logistic model for dv\_indicator, goodness-of-fit test

number of observations = 28337

number of covariate patterns = 28300

Pearson chi2(28215) = 97132.97

Prob > chi2 = 0.0000

.

. pause "next"

.

. linktest

Iteration 0: log likelihood = -19264.887

Iteration 1: log likelihood = -14082.339

Iteration 2: log likelihood = -13601.912

Iteration 3: log likelihood = -13515.801

Iteration 4: log likelihood = -13508.719

Iteration 5: log likelihood = -13508.706

Iteration 6: log likelihood = -13508.706

Logistic regression Number of obs = 28,337

LR chi2(2) = 11512.36

Prob > chi2 = 0.0000

Log likelihood = -13508.706 Pseudo R2 = 0.2988

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

dv\_indicator | Coef. Std. Err. z P>|z| [95% Conf. Interval]

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

\_hat | 1.010954 .0137956 73.28 0.000 .9839149 1.037993

\_hatsq | .1303656 .0043041 30.29 0.000 .1219298 .1388014

\_cons | -.1709593 .016203 -10.55 0.000 -.2027165 -.139202

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

Note: 0 failures and 32 successes completely determined.

.

. pause "next"

.

. estat classification

Logistic model for dv\_indicator

-------- True --------

Classified | D ~D | Total

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

+ | 13688 3765 | 17453

- | 2786 8098 | 10884

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

Total | 16474 11863 | 28337

Classified + if predicted Pr(D) >= .5

True D defined as dv\_indicator != 0

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

Sensitivity Pr( +| D) 83.09%

Specificity Pr( -|~D) 68.26%

Positive predictive value Pr( D| +) 78.43%

Negative predictive value Pr(~D| -) 74.40%

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

False + rate for true ~D Pr( +|~D) 31.74%

False - rate for true D Pr( -| D) 16.91%

False + rate for classified + Pr(~D| +) 21.57%

False - rate for classified - Pr( D| -) 25.60%

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

Correctly classified 76.88%

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

.

. pause "next"

.

. predict bv1\_yhat

(option pr assumed; Pr(dv\_indicator))

(1952 missing values generated)

. gen bv1\_res = dv\_indicator - bv1\_yhat

(1,952 missing values generated)

.

. summ dv\_indicator bv1\_yhat

Variable | Obs Mean Std. Dev. Min Max

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

dv\_indicator | 30,289 .5522797 .4972675 0 1

bv1\_yhat | 28,337 .5813601 .2880561 .0000852 .9999974

. /\*

> pause "next"

>

> scatter dv\_indicator bv1\_yhat

>

> pause "next"

>

> scatter bv1\_res dv\_indicator

>

> pause "next"

>

> scatter bv1\_res bv1\_yhat

> \*/

. pause "complete: B.V.1"