.

. // Model B.SSV.3

.

. eststo clear

. eststo: logit dv\_indicator `ss\_lag\_4\_vars' `covariates' ib(freq).state ib(freq).time, vce(cl mineid) offset(lnhours) iter(50) or

note: 17.state != 0 predicts success perfectly

17.state dropped and 11 obs not used

Iteration 0: log pseudolikelihood = -1977.2679

Iteration 1: log pseudolikelihood = -1771.6792

Iteration 2: log pseudolikelihood = -1734.433

Iteration 3: log pseudolikelihood = -1733.4447

Iteration 4: log pseudolikelihood = -1733.4425

Iteration 5: log pseudolikelihood = -1733.4425

Logistic regression Number of obs = 6,242

Wald chi2(31) = .

Log pseudolikelihood = -1733.4425 Prob > chi2 = .

(Std. Err. adjusted for 1,237 clusters in mineid)

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

| Robust

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

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

p48\_ss\_c\_4lag | 1.119522 .0784537 1.61 0.107 .9758485 1.284349

p75\_ss\_c\_4lag | 1.00088 .0011664 0.75 0.450 .9985964 1.003169

mine\_time | 1.019044 .0199168 0.97 0.334 .9807463 1.058838

onsite\_insp\_hours | 1.00368 .0004446 8.29 0.000 1.002809 1.004552

|

state |

1 | 1.123052 .8577 0.15 0.879 .2513729 5.017432

2 | .6536847 .0921669 -3.02 0.003 .4958524 .8617559

3 | 1.390999 .5962246 0.77 0.441 .6004489 3.222388

4 | 4.629443 3.54118 2.00 0.045 1.033767 20.73169

5 | .9216137 .4639655 -0.16 0.871 .3435823 2.472105

6 | .4768375 .0683167 -5.17 0.000 .360096 .631426

7 | 2.12849 2.157968 0.75 0.456 .2917976 15.52608

8 | .8120071 .1124807 -1.50 0.133 .6189418 1.065295

9 | .2103235 .0286738 -11.44 0.000 .1610059 .2747475

10 | .6779925 .2818061 -0.93 0.350 .3002097 1.531175

11 | 3.228108 2.781385 1.36 0.174 .5964039 17.47253

12 | .5168246 .1119138 -3.05 0.002 .3380827 .790066

13 | 1.858347 1.236482 0.93 0.352 .5043891 6.846802

14 | .4220341 .1768032 -2.06 0.039 .1856747 .959273

15 | .6271755 .10836 -2.70 0.007 .447016 .8799441

17 | 1 (empty)

|

time |

2000 | 1.034797 .1967547 0.18 0.857 .7128676 1.502108

2002 | .6882057 .1331802 -1.93 0.053 .4709723 1.005637

2003 | .9151268 .2079221 -0.39 0.696 .5862507 1.428497

2004 | .5331805 .1148092 -2.92 0.003 .3496116 .813135

2005 | .4863375 .1015326 -3.45 0.001 .3230222 .7322224

2006 | .4983779 .1082692 -3.21 0.001 .3255675 .7629156

2007 | .3273663 .0711583 -5.14 0.000 .213802 .501252

2008 | .2362009 .0520861 -6.54 0.000 .1533126 .3639028

2009 | .2761137 .069252 -5.13 0.000 .1688878 .4514166

2010 | .2057116 .0504829 -6.44 0.000 .1271654 .3327735

2011 | .2497614 .0615754 -5.63 0.000 .1540539 .404928

2012 | .1757751 .0434351 -7.04 0.000 .1082979 .2852953

2013 | .2597848 .0761876 -4.60 0.000 .1462111 .4615802

2014 | .1635919 .047987 -6.17 0.000 .0920611 .2907017

2015 | .1110403 .0346682 -7.04 0.000 .0602178 .204756

|

\_cons | .0001236 .0000225 -49.43 0.000 .0000865 .0001766

lnhours | 1 (offset)

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

Note: 0 failures and 21 successes completely determined.

(est1 stored)

. esttab using `"`directory'Model.`injury\_label'.`time\_label'.`violation\_level\_label'.B.SSV.3.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.Y.P.B.SSV.3.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.Y.P.B.SSV.3.csv)

.

. pause "next"

.

. // diagnostics/assessment

. lfit

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

number of observations = 6242

number of covariate patterns = 6226

Pearson chi2(6191) = 8198.20

Prob > chi2 = 0.0000

.

. pause "next"

.

. linktest

Iteration 0: log likelihood = -2826.3083

Iteration 1: log likelihood = -1952.2101

Iteration 2: log likelihood = -1760.4198

Iteration 3: log likelihood = -1745.7935

Iteration 4: log likelihood = -1737.1258

Iteration 5: log likelihood = -1722.3624

Iteration 6: log likelihood = -1721.8973

Iteration 7: log likelihood = -1721.8968

Iteration 8: log likelihood = -1721.8968

Logistic regression Number of obs = 6,242

LR chi2(2) = 2208.82

Prob > chi2 = 0.0000

Log likelihood = -1721.8968 Pseudo R2 = 0.3908

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

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

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

\_hat | .9654842 .0408544 23.63 0.000 .885411 1.045557

\_hatsq | .0730702 .0172475 4.24 0.000 .0392656 .1068748

\_cons | -.1448422 .0568455 -2.55 0.011 -.2562572 -.0334271

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

Note: 0 failures and 285 successes completely determined.

.

. pause "next"

.

. estat classification

Logistic model for dv\_indicator

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

Classified | D ~D | Total

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

+ | 5028 610 | 5638

- | 165 439 | 604

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

Total | 5193 1049 | 6242

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

True D defined as dv\_indicator != 0

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

Sensitivity Pr( +| D) 96.82%

Specificity Pr( -|~D) 41.85%

Positive predictive value Pr( D| +) 89.18%

Negative predictive value Pr(~D| -) 72.68%

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

False + rate for true ~D Pr( +|~D) 58.15%

False - rate for true D Pr( -| D) 3.18%

False + rate for classified + Pr(~D| +) 10.82%

False - rate for classified - Pr( D| -) 27.32%

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

Correctly classified 87.58%

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

.

. pause "next"

.

. predict bssv3\_yhat

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

(11 missing values generated)

. gen bssv3\_res = dv\_indicator - bssv3\_yhat

(11 missing values generated)

.

. summ dv\_indicator bssv3\_yhat

Variable | Obs Mean Std. Dev. Min Max

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

dv\_indicator | 6,253 .8322405 .3736824 0 1

bssv3\_yhat | 6,242 .8319449 .223968 .0024162 1

. /\*

> pause "next"

>

> scatter dv\_indicator bssv3\_yhat

>

> pause "next"

>

> scatter bssv3\_res dv\_indicator

>

> pause "next"

>

> scatter bssv3\_res bssv3\_yhat

> \*/

. pause "complete: B.SSV.3"