. // Model B.SSV.2

.

. eststo clear

. eststo: logit dv\_indicator `ss\_lag\_1\_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 = -1771.8503

Iteration 2: log pseudolikelihood = -1734.5872

Iteration 3: log pseudolikelihood = -1733.5963

Iteration 4: log pseudolikelihood = -1733.5942

Iteration 5: log pseudolikelihood = -1733.5942

Logistic regression Number of obs = 6,242

Wald chi2(31) = .

Log pseudolikelihood = -1733.5942 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\_1lag | 1.201064 .1980842 1.11 0.267 .8693261 1.659395

p75\_ss\_1lag | 1.00562 .0046153 1.22 0.222 .9966149 1.014707

mine\_time | 1.019686 .0198666 1.00 0.317 .9814824 1.059377

onsite\_insp\_hours | 1.003606 .0004365 8.28 0.000 1.002751 1.004462

|

state |

1 | 1.121546 .8563406 0.15 0.881 .2511275 5.008873

2 | .6662749 .0923071 -2.93 0.003 .5078391 .8741394

3 | 1.425272 .6104232 0.83 0.408 .6156592 3.299552

4 | 4.681222 3.571219 2.02 0.043 1.049525 20.87976

5 | .9379418 .4700244 -0.13 0.898 .3512522 2.504567

6 | .4759687 .068088 -5.19 0.000 .3595943 .630005

7 | 2.114535 2.17372 0.73 0.466 .2819609 15.85773

8 | .8248606 .1152044 -1.38 0.168 .6273316 1.084586

9 | .21725 .0297442 -11.15 0.000 .1661193 .2841187

10 | .6766194 .2804261 -0.94 0.346 .300305 1.524496

11 | 3.171819 2.734293 1.34 0.181 .5854944 17.1828

12 | .5249547 .1139036 -2.97 0.003 .3431072 .8031818

13 | 1.860486 1.239098 0.93 0.351 .5043353 6.863306

14 | .4226057 .1762723 -2.06 0.039 .1865917 .9571465

15 | .6250872 .1076647 -2.73 0.006 .4459951 .8760948

17 | 1 (empty)

|

time |

2000 | 1.028939 .1949474 0.15 0.880 .7097691 1.491633

2002 | .6944577 .1341827 -1.89 0.059 .4755292 1.014179

2003 | .923697 .2098642 -0.35 0.727 .5917473 1.441859

2004 | .5368649 .115795 -2.88 0.004 .3517804 .8193292

2005 | .4897834 .1024674 -3.41 0.001 .3250308 .7380464

2006 | .5028172 .1092377 -3.16 0.002 .3284623 .7697235

2007 | .3303284 .0719179 -5.09 0.000 .2155884 .5061351

2008 | .2400713 .0529085 -6.47 0.000 .1558644 .3697716

2009 | .2808601 .0705487 -5.06 0.000 .1716637 .4595171

2010 | .2072164 .0508688 -6.41 0.000 .1280754 .3352607

2011 | .2530651 .0623777 -5.57 0.000 .1561064 .4102456

2012 | .178294 .0440166 -6.98 0.000 .1098993 .2892534

2013 | .2665999 .07846 -4.49 0.000 .149745 .4746434

2014 | .1678455 .0492335 -6.08 0.000 .094456 .2982564

2015 | .114649 .0358738 -6.92 0.000 .062091 .2116959

|

\_cons | .0001212 .0000222 -49.34 0.000 .0000847 .0001734

lnhours | 1 (offset)

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

Note: 0 failures and 20 successes completely determined.

(est1 stored)

. esttab using `"`directory'Model.`injury\_label'.`time\_label'.`violation\_level\_label'.B.SSV.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.Y.P.B.SSV.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.Y.P.B.SSV.2.csv)

.

. pause "next"

.

. // diagnostics/assessment

. lfit

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

number of observations = 6242

number of covariate patterns = 6227

Pearson chi2(6192) = 7960.67

Prob > chi2 = 0.0000

.

. pause "next"

.

. linktest

Iteration 0: log likelihood = -2826.3083

Iteration 1: log likelihood = -1951.544

Iteration 2: log likelihood = -1760.536

Iteration 3: log likelihood = -1746.09

Iteration 4: log likelihood = -1737.1345

Iteration 5: log likelihood = -1722.4592

Iteration 6: log likelihood = -1722.0072

Iteration 7: log likelihood = -1722.0066

Iteration 8: log likelihood = -1722.0066

Logistic regression Number of obs = 6,242

LR chi2(2) = 2208.60

Prob > chi2 = 0.0000

Log likelihood = -1722.0066 Pseudo R2 = 0.3907

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

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

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

\_hat | .9656765 .0408548 23.64 0.000 .8856026 1.04575

\_hatsq | .0732659 .0172745 4.24 0.000 .0394084 .1071233

\_cons | -.1455175 .0568806 -2.56 0.011 -.2570015 -.0340336

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

Note: 0 failures and 289 successes completely determined.

.

. pause "next"

.

. estat classification

Logistic model for dv\_indicator

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

Classified | D ~D | Total

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

+ | 5029 611 | 5640

- | 164 438 | 602

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

Total | 5193 1049 | 6242

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

True D defined as dv\_indicator != 0

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

Sensitivity Pr( +| D) 96.84%

Specificity Pr( -|~D) 41.75%

Positive predictive value Pr( D| +) 89.17%

Negative predictive value Pr(~D| -) 72.76%

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

False + rate for true ~D Pr( +|~D) 58.25%

False - rate for true D Pr( -| D) 3.16%

False + rate for classified + Pr(~D| +) 10.83%

False - rate for classified - Pr( D| -) 27.24%

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

Correctly classified 87.58%

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

.

. pause "next"

.

. predict bssv2\_yhat

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

(11 missing values generated)

. gen bssv2\_res = dv\_indicator - bssv2\_yhat

(11 missing values generated)

.

. summ dv\_indicator bssv2\_yhat

Variable | Obs Mean Std. Dev. Min Max

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

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

bssv2\_yhat | 6,242 .8319449 .2239364 .0024314 1

. /\*

> pause "next"

>

> scatter dv\_indicator bssv2\_yhat

>

> pause "next"

>

> scatter bssv2\_res dv\_indicator

>

> pause "next"

>

> scatter bssv2\_res bssv2\_yhat

> \*/

. pause "complete: B.SSV.2"