

The Effect of Changes to Earned Time Awards On Recidivism

Criminal Justice Commission



State of Oregon

1. EXECUTIVE SUMMARY

House Bill 3508 of 2009 directed the Oregon Criminal Justice Commission to study how the changing of earned time awards from 20 percent to 30 percent for certain inmates with a crime commit date between 01 Nov 1989 and 30 June 2009, and sentenced before 01 July 2009, affected recidivism. Those inmates who were resentenced with 30 percent earned time began to be released from incarceration beginning in 2009 through present time. This report examines the release cohorts of 2009, 2010, and 2011 to measure how those resentenced individuals compared to those who maintained a 20 percent earned time award in regards to recidivism.

Using data from the Department of Corrections, this report identified the appropriate inmates affected by HB 3058 and built a data set to measure recidivism. With various statistical analyses, this report found the following:

- There is no statistical difference in recidivism attributable to the variation in earned time from resentencing
- Any differences in recidivism between the earned time categories are attributable to other factors, such as age, education, race, and crime severity
- This is true for the 2009, 2010, and 2011 release cohorts; though not enough time has passed to definitively conclude this result for the 2010 and 2011 cohorts.

This report also examines a smaller subset of data, which has desirable experimental qualities. Senate Bill 1007 suspended earned time awards of 30 percent in Feb 2010. This suspension allows for an examination of a similar group of inmates; one who has a mixture of 20 and 30 percent earned time awardees in the release cohort, and the other only having 20 percent earned time awardees. Since these groups have similar crime types, this report measured the impact of the suspension date on recidivism. This analysis found the following:

- There is no statistical difference in recidivism attributable to the suspension of a 30 percent earned time eligibility
- Any differences in recidivism between the two groups is statistically small, and is not significantly attributable to any of the standard variables used in the resentencing modeling, or other corrections data
- Not enough time has passed to adequately measure whether or not the suspension of earned time affects recidivism in a significant manner

2. INTRODUCTION

HB 3508 and SB 1007 both address the maximum percentage of earned time to be accrued by certain inmates within the Department of Corrections. Section 18, subsection 13 of HB 3508 and Section 7, subsection 13 of SB 1007, direct the Oregon Criminal Justice Commission (CJC) to “conduct a study that includes an assessment of the effects of this section and the amendments to ORS 421.121 by section 17 of this 2009 Act on reducing recidivism.” The CJC interprets this section as a directive to evaluate the effects of the change in earned time, wherein some inmates were awarded 30 percent earned time under a resentencing hearing. This report details that analysis, as well as a subsequent analysis of the effect of suspension of 30 percent earned time qualification.

3. EARNED TIME IN THE OREGON CRIMINAL JUSTICE SYSTEM

Earned time is a system of time credits that inmates can earn which will effectively reduce the time served. Earned Time was enacted in the Oregon Legislature in 1989, in association with the changeover from “Matrix Sentencing” to “Sentencing Guidelines”. At the time of the sentence order, the presiding judge could note in the record that the inmate was eligible for earned time (ORS 1237.750) for crimes that did not fall in the excluded crime list (ORS 137.635, ORS 137.700, and ORS 137.707). However, ORS 137.712 allows for some flexibility if the crime had extenuating circumstances which could give the judge leeway in awarding earned time for crimes otherwise ineligible.

These credits are earned by participating in appropriate treatment programs, and overall good behavior while incarcerated. Earned time is applied to the specific crime or crimes, not the actual inmate. Thus, an inmate who is convicted and sentenced for multiple crimes may have some crimes eligible for earned time, while others may not. In practice, inmates who are eligible for earned time for some crimes, but have other serious crimes within the sentence, may not actually see an early release from earned time due to the overshadowing sentence from the more serious crime.

Since 1989, the rules governing earned time credit accrual and amount have changed, most significantly through HB 3508 and SB 1007, which are later discussed in more depth. By providing a greater incentive for reformative behavior while incarcerated, it may be the case that those who qualify for 30 percent earned time will have lower recidivism rates than those who only qualify for 20 percent. At the same time, the crime types that qualify an inmate for 30 percent also tend to have a higher recidivism rate. Thus, there is ambiguity as to what the expected effect of a higher earned time award on recidivism will be.

The goal of this report is to determine if there is a significant difference in recidivism rates between the two groups, and what drives those rates.

a. Implementation of HB 3508

Determining who is eligible for earned time credit depends on the offense committed, the date committed, the date sentenced, and other extenuating circumstances in the commitment of the crime. HB 3508 introduced “retroactive” earned time, where inmates who were not incarcerated for crimes on the prohibited crime list and sentenced before 01 July 2009 could have their earned time credit maximum increased to 30%, provided the review panel approved the change. Thus, it was not a blanket award to all inmates. Under HB 3508, individuals who committed new felonies on or after 01 July 2009 would also be eligible for a 30% maximum earned time reduction if they met the statutory requirements. For these inmates, they entered incarceration with the full incentive of earned time as a reward for reformative behavior and participation in corrective programs.

b. Implementation of SB 1007

After the implementation of HB 3508, a need was seen to revisit the criteria under which inmates qualified for the 30% maximum credit. SB 1007 was designed to do two things:

- Place a temporary moratorium on the eligibility of 30% earned time
- Redefine the eligibility requirements of inmates who could qualify for 30% earned time

Under SB 1007, HB 3508 eligibility requirements were suspended starting 16 Feb 2010. Those inmates with a crime commit date between 17 February 2010 and 30 June 2011 were not eligible for 30% earned time under *any* circumstances. Under SB 1007, inmates with a crime commit date from 01 July 2011 through 30 June 2013 would again be eligible for 30% maximum earned time, but only under more restrictive requirements. The details regarding who is eligible for 20% and 30% earned time, and when they are eligible for it are outlined in Figure 1 and Figure 2, located in the Technical Appendix of this report.

4. MEASURING RECIDIVISM FOR INMATES

In Oregon, the definition of recidivism that is most commonly used for prison releases is the conviction of a new felony crime within 36 months of release from incarceration. This analysis, given the timing of the two pieces of legislation, recognizes that some cohorts released from prison will not have been released for a full 36 months. For those cohorts, we present the observed recidivism rates for the appropriate window of time: 24 month rates for the 2010 release cohort and 12 month rate for the 2011 cohort.

a. Data Used

This report uses the data set of all persons who have been through the corrections system to construct the samples used in the analysis. This data set keeps track of individual admission cycles, where an admission cycle is defined as a period of time where an individual first is admitted to DOC until that person is completely discharged. Thus, a recidivating event would create a new admission cycle within a person's record identification number. This data also records an inmate's offense, length of stay, and other demographic and institutional variables. Recidivism is determined if an individual has been convicted of a new felony and has a sentence begin date within the 38 month window.¹

Each inmate was identified as either a recidivist, or not. From this identification, the data were then sorted by release date to identify appropriate release cohorts. From here, data were selected based if they belonged to the resentenced population and had either 20 or 30 percent earned time awards. This became primary data set used in analysis.

b. Sample Construction

The primary data set described above was segmented into two analysis samples; the resentenced sample, and the post-resentenced sample.

The resentenced sample consists of all 20 and 30 percent earned time recipients within the 2009, 2010, and 2011 release cohorts that were affected under the HB 3508 resentencing section. Thus, if a person committed a crime between 01 Nov 1989 and 30 June 2009, and sentenced before 01 July 2009, (s) he was counted in the resentenced sample. This group is of interest for comparison, in that the 30% earned time distinction was retroactively approved, without having the known incentive to "behave" while incarcerated. The 30% award was given based on the crime type, as well as other case factors. Since the award of 30% earned time is a retroactive "treatment", this subsample does not have the experimental qualities of a more traditional natural experiment setting. However, the distinction of the split in earned time awards is still worth exploring.

The post-resentenced sample consists of persons who committed a crime between the dates of 01 July 2009 and 30 Jun 2011. This sample is further differentiated by the 17 Feb 2010 date, at which time HB 3508 was suspended and sentences for crimes committed after that date were limited to 20% earned time. The people with a crime commit date before 17 Feb 2010, the pre-suspension group, were awarded a potential earned time at sentencing, and were fully aware of the incentives to participate in correctional treatment programs and comport themselves to ensure continued earned time accrual. This group had the "dangling carrot" from the sentence begin date, with the size

¹ This study used a 38 month window with the sentence begin date as a proxy for the conviction date. The conviction date has more missing data occurrences than the sentence begin date.

of the carrot differing between the 20 and 30 percent groups. While examining the difference in recidivism between these two groups presents a clean distinction in award and behavioral incentives, the awarding of the 20 or 30 percent earned time is conflated with differences in recidivism due to crime type, crime severity ratings, and general criminogenic factors. In short, there are no comparable subjects in both the 20 and 30 percent groups.

The other part of the post-resentenced sample, the post-suspension group, with a crime commit date after 17 Feb 2010 and before 01 July 2011, is limited to only 20 percent earned time. However, since this group is limited to 20 percent due to statute and not to crime type, it consists of a criminogenic mixture of individuals similar to those in the previous subsample. By using the break point of 17 Feb 2010, the two groups of the post-resentenced sample can be compared knowing that the crime types of the two groups are very similar. Since the post-suspension group did not earn 30% earned time, one cannot measure the effect of the change in earned time awards on recidivism for the post resentenced sample. However, one can measure the effect of the suspension date on recidivism, though recidivism is truncated at 12 and 24 months for this sample due to time constraints from the release year to the time of the data extraction.

5. RESULTS OF RECIDIVISM ANALYSIS

This section presents the results of the analysis of recidivism for each of the sampled discussed above. Each section has a table of summary statistics, tests of statistical association, and a table of estimated recidivism rates based on statistical regression models.

The first statistical test to determine whether the earned time eligibility level has any affect on recidivism is a test of association known as a Chi Squared Test. This test measures the observed proportion of counts in a two variable cross-tabulation. This test then computes the proportion of counts under a “what should be” case, based on totals across the tabulation. These proportions are called the expected proportions. The statistical test is measuring the magnitude of the difference in the observed proportions compared to the expected proportions. If the difference is large enough, the test will indicate that the difference in proportions is statistically significant. However, the Chi Squared test does not provide information on the direction of the association, and cannot determine if the earned time award increases, or decreases, recidivism.

Since the Chi-Squared Test does not indicate a direction of association, such as the variable having a positive or negative effect, the relationship must be studied under a regression analysis framework. Because of the binary nature of the outcome variable (whether or not the person recidivated), this study employs a probit regression analysis. This framework is used to compute expected recidivism rates, based on a number of factors included in the model. Further discussion of that analysis is located in the technical appendix.

a. Resentenced Sample Results

Table 1 displays the summary information on the resentenced sample, by release cohort and maximum earned time award, as well as for the whole cohort. For the 2009 cohort, the average recidivism rate is 28%, with a 27% rate for the 20 percent grouping and a 30% rate for the 30 percent grouping. Average length of stay for the cohort is 22.5 months, with an average of 25.7 months for the 20 percent grouping and an average of 18.29 months for the 30 percent grouping. All other categorical and demographic variables are similar across earned time groupings.

For the 2010 cohort, the average recidivism rate is 25%, with a 21% rate for the 20 percent grouping and a 28% rate for the 30 percent grouping. Average length of stay for the cohort is 26.8 months, with an average of 37.7 months for the 20 percent grouping and an average of 20.9 months for the 30 percent grouping. All other categorical and demographic variables are similar across earned time groupings.

For the 2011 cohort, the average recidivism rate is 11%, with an 8% rate for the 20 percent grouping and a 13% rate for the 30 percent grouping. Average length of stay for the cohort is 37.4 months, with an average of 49.7 months for the 20 percent grouping and an average of 28.9 months for the 30 percent grouping. All other categorical and demographic variables are similar across earned time groupings.

Table 1 - Summary Statistics for the Resentenced Sample by Release Cohort

Cohort Variables	20 Percent	30 Percent	Entire Sample
2009 Release Cohort Size	1,060	799	1,859
Percent Recidivism	27%	30%	28%
Average Education Level*	10.68	10.66	10.67
Average Length of Stay**	25.78	18.29	22.56
Average Age	33.42	34.9	34.06
Percent White	75%	74%	75%
Percent Black	9%	8%	8%
Percent Hispanic	12%	15%	13%
2010 Release Cohort Size	973	1,782	2,755
Percent Recidivism	21%	28%	25%
Average Education Level*	10.59	10.73	10.68
Average Length of Stay**	37.71	20.93	26.86
Average Age	32.4	34.8	33.95
Percent White	71%	78%	76%
Percent Black	9%	8%	8%
Percent Hispanic	15%	10%	12%
2011 Release Cohort Size	663	854	1,517
Percent Recidivism	8%	13%	11%
Average Education Level*	10.6	10.69	10.66
Average Length of Stay**	49.45	28.16	37.47
Average Age	33.2	35.3	34.38
Percent White	71%	78%	75%
Percent Black	10%	9%	9%
Percent Hispanic	14%	9%	12%

Source: CJC Analysis of DOC data

* Education Level is self-reported upon inmate intake, and includes imputed values

** Length of Stay is reported in months of incarceration

Observed recidivism rate for the 2010 cohort is a 24 month rate, not 36 month

Observed recidivism rate for the 2011 cohort is a 12 month rate, not 36 month

The Chi-Squared test results shown in Table 2 are tabulated by Severity Score Grouping. This grouping was constructed within the resentenced sample so as to create a close approximation of a “matched pair comparison”, where individuals with the same severity score as well as differing earned time awards were analyzed separately from other severity score groupings. Table 2 identifies the release cohort, the severity score grouping, the Chi-Squared statistic, and a “Yes/No” indicator if the statistic is statistically significant at the .05 threshold.

For the 2009 cohort, there are no statistical differences in recidivism across the severity score groupings. Thus, one could conclude that, for each severity score grouping, the recidivism rates for 20 and 30 percent earned time awardees are statistically equivalent.

For the 2010 cohort, the results are similar to those of the 2009 cohort. However, there are two severity score groupings with statistically significant differences; the 300-350 group, and the 450-500 group. Also, as a whole cohort, the chi-square test shows that there is a significant difference in recidivism due to the earned time award difference. While this result is mostly driven by the disparaging sample size for each group (971 20% ET vs. 1,782 30% ET), it also suggests that the cohort requires more detailed analysis. This is done in the probit regression.

For the 2011 cohort, the results are similar to those of the 2009 cohort where no single severity group has a statistically significant difference. However, as with the 2010 cohort, the chi-square test on the whole 2011 cohort shows that there is a significant difference in recidivism due to the earned time award difference. In this cohort, the sample sizes are similar, but recidivism rates are quite divergent. This also suggests that the 2011 cohort requires more detailed analysis in a regression framework.

Table 2 - Chi Squared Statistical Analysis for the Resentenced Sample

Severity Score Grouping	2009 Cohort		2010 Cohort		2011 Cohort	
	Chi Squared Statistic	Statistically Significant?	Chi Squared Statistic	Statistically Significant?	Chi Squared Statistic	Statistically Significant?
Less than 150	0.741	No	0.004	No	3.521	No
150-200	0.787	No	0.091	No	0.060	No
200-250	0.538	No	3.148	No	1.725	No
250-300	0.002	No	0.770	No	1.048	No
300-350	0.112	No	3.845	Yes	0.443	No
350-400	0.089	No	0.324	No	1.495	No
400-450	0.262	No	0.032	No	0.020	No
450-500	0.023	No	8.361	Yes	0.421	No
500-550	0.079	No	1.390	No	0.577	No
550-600	0.090	No	0.458	No	-	NA
600+	0.118	No	0.251	No	0.647	No
All	1.932	No	13.117	Yes	9.235	Yes

Statistical Significance is determined by the associated P-Value of the test statistic. For this table, statistical significance is a "Yes" if the p-value is less than .05

The probit regression attempts to identify what other factors, either in conjunction with or in place of earned time difference, affect the recidivism rate. Other factors included in the probit regression are race, age, education level at time of intake, and crime severity. Each cohort was analyzed separately, as well as together in the entire resentenced sample. Table 3 shows the predicted recidivism rates of each cohort by earned time, as well as the group average for each cohort and earned time category. The predicted probabilities are very close to actually observed recidivism rates, within two decimal places. The detailed tables in the Technical Appendix show the statistical significance of each

regression variable.² Those regression results show that the main drivers in predicting recidivism are race, education, age, and crime severity. When those variables are held constant, earned time differentiation does not affect the overall recidivism rate.

Table 3 – Predicted Recidivism Rates from Probit Regression Analysis Resentenced Sample

Release Year	20 Percent	30 Percent	Entire Sample
2009	0.27	0.30	0.28
2010	0.21	0.28	0.25
2011	0.08	0.13	0.11
All	0.20	0.25	0.23

b. Post Resentence Sample Results

Because of the legislative mandates set forth in HB 3508 and SB 1007 regarding the awarding and suspension of earned time, this sample is not suitable for measuring the effect of earned time variability on recidivism. However, the break point of 17 Feb 2010 provides an experimental setting, wherein one group has a mixture of 20 and 30 percent earned time awardees, while the later group has only 20 percent awardees, holding all other factors constant between the two groups.

Table 4 shows the summary statistics of the post resentence sample, broken out by the 17 Feb 2010 date. The pre suspension sample size is 290 more individuals than the post suspension group, though there is not a large difference in recidivism (23% vs. 20%). Demographics are roughly equal across both groups, with a slightly higher concentration of minorities in the pre suspension group. 83% of the pre suspension group is 30 percent earned time awardees. Very few of the post suspension group was released from incarceration in 2010, given the fact that the crime committed was after 17 Feb 2010.

² See Table 8 in the Technical Appendix

Table 4 - Summary Statistics for the Post Resentenced Sample

	Before 17 Feb 2010	After 17 Feb 2010	Entire Sample
Sample Size	1,090	800	1,890
Percent Recidivism	23%	20%	22%
Average Education Level*	10.64	10.73	10.68
Average Length of Stay**	12.45	10.68	11.7
Average Age	34.3	34.37	34.33
Percent White	73%	78%	75%
Percent Black	10%	8%	9%
Percent Hispanic	14%	11%	13%
Share of 30% Earned Time	83%	0%	48%
Share Released in 2010	37%	1%	22%
Share Released in 2011	63%	99%	78%

Source: CJC Analysis of DOC data

* Education Level is self-reported upon inmate intake, and includes imputed values

** Length of Stay is reported in months of incarceration

Because of the small number of the post resentence group released in 2010, chi squared tests could not be done by release cohort. Table 5 shows the chi squared test on the pooled sample of all release cohorts, broken out by severity group. The test in question for this group is “Is there a significant difference in recidivism across the pre and post suspension groups?” The chi squared tests show that the post resentenced sample has only one severity group with a statistically significant difference; the 350-400 group. The rest of the severity groups, as well as the whole sample, show that there is no difference in the recidivism rate between the two groups. Thus, suspending earned time did not materially affect the recidivism rate. However, it should be noted that the full window of 36 months has not passed for this sample, and more time should be allowed before making a definite conclusion on the effect of the 30 percent earned time suspension on recidivism.

Table 5 - Chi Squared Statistical Analysis for Post Resentenced Sample

Post Resentence Grouping		
Severity Score Grouping	Chi Squared Statistic	Statistically Significant?
Less than 150	-	NA
150-200	1.477	No
200-250	1.421	No
250-300	0.297	No
300-350	1.063	No
350-400	5.538	Yes
400-450	1.805	No
450-500	0.759	No
500-550	0.029	No
550-600	1.103	No
600+	1.163	No
All	1.466	No

Statistical Significance is determined by the associated P-Value of the test statistic.

For this table, statistical significance is a "Yes" if the p-value is less than .05

Table 6 shows the predicted probabilities of recidivism from the probit analysis. The predicted probabilities reflect those observed in the summary statistics, within two decimal places. Details of the probit regression are located in the Technical Appendix.

Table 6 – Predicted Recidivism Rates from Probit Regression Analysis, Post Resentence Sample

Release Year	Before 17 Feb 2010	After 17 Feb 2010	Entire Sample
All	0.23	0.20	0.22

6. CONCLUSION

This report examined data from the Oregon Department of Corrections to determine if the eligibility of certain inmates to earn 30 percent earned time affected their recidivism rate relative to those who earn 20 percent. It also considers whether or not recidivism is affected by the suspension of earned time through SB 1007. Through statistical tests, this report finds that, on the whole, earned time differentiation does not materially affect the recidivism rates of inmates. There are cases among crime severity types where a significant difference exists. However, when controlled for in a statistical model, crime severity, as well as race, age, and education, are the main drivers of differing recidivism rates; not differences in earned time.

This report also finds that the suspension of earned time does not affect recidivism in a significant manner. The observed difference of recidivism

between the pre and post suspension groups is small enough, such that the statistical model shows that none of the standard factors significantly affect recidivism the same way as they were shown to affect it for the resentenced population.

It is noted that time affects these results significantly, in that a substantial proportion of the inmates in both samples have not had the full 36 months since release to have a recidivating event. These results would be more conclusive, especially for the post resentenced sample, if this study were conducted in two years time.

7. TECHNICAL APPENDIX

This section of the report discusses the data imputation methods to estimate missing values, the results of the imputation models, and the results of the probit models used to estimate the recidivism rates.

a. Data Imputation

When using variables in analysis with missing observations, those variables can inadvertently bias the results in an unknown fashion, since missing values will exclude these observations from the analysis. It can be especially problematic if there is some systematic reason for occurrence of missing values. However, if there is information for these observations that exist which could be used to impute a value for the missing variable, then those observations would not need to be excluded from the analysis. Many methods exist for data imputation. This report uses predictive modeling to impute the missing values of the education level at intake variable collected by DOC.

Education Level Imputation

The Education Level variable (referred to as education) is a numerical value of highest grade completed at the time of inmate intake. For some of the inmates, the education value is missing or unknown. Thus, a predictive model was developed to assign values to these inmates with missing education based on known observable characteristics, such as age and race, known as *covariates*. This model was estimated using those observations which had a known education level. The resulting statistical parameters from the covariates were applied to those observations with missing education level, but had observed covariates.

Table 7 shows the results of the predictive model, and the variables used to determine education values for the missing observations. These results indicate that, all else equal, the baseline education level is a tenth grade level, noted by the intercept value of 10.28. Age does not seem to be a significant predictor of educational level, noted by the lack of statistical significance of the age and age squared coefficients. The racial flag variables are binary indicators that identify the race of the observation (1 if that race, 0 otherwise). The omitted racial group is the Asian/Pacific Island/Native American/Other group. In this model, Caucasians have a 0.15 higher average grade level than the omitted group, though the difference is not statistically significant. African Americans have an average education level 0.238 higher than the omitted group, a difference significant at the 0.1 level. Hispanics have an average education level 1.74 lower than the omitted group, a difference significant at the 0.01 level.

It should be noted that this model was estimated using the entire data sample of 11,175 observations. Of this total, only 612 observations needed to be imputed, a 5.4% missing observation rate.

Table 7 - Regression Model for Education Level Imputation

Variable	Whole Sample	
	Coefficient	Significance Level
Intercept	10.287	.01
Age	0.009	None
Age Squared	0.0001	None
Caucasian Flag	0.153	None
African Amer. Flag	0.238	.1
Hispanic Flag	-1.741	.01

Significance Levels are listed based on the reported coefficient's p-value

If the P-Value is less than 0.1 but greater than or equal to 0.05, then the significance level is 0.1

If the P-Value is less than 0.05 but greater than or equal to 0.01, then the significance level is 0.05

If the P-Value is less than 0.01, then the significance level is 0.01

If the P-Value is greater than 0.1, then there is no statistical significance.

b. Predicted Recidivism Rate Models

The statistical models used to estimate the various recidivism rates discussed above were developed to capture the effect of earned time award variation, while at the same time controlling for other standard factors that are known to affect recidivism. These other factors include education, race, age, and crime severity. Due to the functional form of the probit model, the reported regression coefficients do not provide any information on the magnitude of the marginal effect of a particular variable on the probability of recidivating. However, the sign (positive or negative) and significance level are indicative of the importance of the variables relationship on recidivism.

Table 8 shows the regression coefficients and a significance label for each of the cohort regression models in the resentenced sample. The variable of interest, the earned time flag (0 if 20 percent, 1 if 30 percent), has a coefficient whose sign alternates between a positive and negative effect. However, in each regression model, the coefficient is statistically insignificant, supporting the conclusion that earned time variation does not affect recidivism. This result confirms the findings from the Chi Squared Analysis, where a majority of the tests showed no difference in recidivism rates across earned time groups. Education consistently reports a negative coefficient, and in some cases has statistical significance. This result is in line with the general expectations that higher education leads to lower recidivism.

The racial flag variables are binary indicators that identify the race of the observation (1 if that race, 0 otherwise). The omitted racial group is the Asian/Pacific Island/Native American/Other group. In Table 8, all the coefficients with respect to race are relative to the recidivism rate for the omitted group. For example, for the 2009 cohort, Hispanics have a higher recidivism rate than the omitted group, and that differential in the rate is statistically significant at the 0.01

level. For the same cohort, Caucasians have a lower recidivism rate than the omitted group, but that differential is not statistically significant.

The coefficients for the severity score groupings can be interpreted the same way as the racial flag variables. For severity score, the omitted group is a severity score of 0-150. For the 2009 cohort, all other severity scores are reported to have higher recidivism rates than the omitted group, though there are varying levels of statistical difference across the groups. 450-500 has a significantly higher recidivism rate (0.05 significance) than 0-150. 200-250, 500-550, and 600+ also have statistically significantly higher recidivism rates (0.1 significance) than the omitted group. These results are to be expected, as higher severity crimes indicate longer prison sentences and usually result in lower recidivism.

Table 8 - Probit Model Results for the Resentenced Sample, All Cohorts

Variable	2009 Cohort		2010 Cohort		2011 Cohort		All Cohorts	
	Coefficient	Significance Level						
Intercept	-1.281	.05	-0.445	None	-0.533	None	-0.700	.01
Earned Time Flag	0.037	None	-0.040	None	0.033	None	-0.050	None
Education	-0.017	None	-0.031	.05	-0.034	None	-0.024	.01
Age	0.022	None	-0.027	.1	0.004	None	-0.007	None
Age Squared	-0.001	.05	0.000	None	0.000	None	0.000	None
Caucasian Flag	-0.056	None	0.113	.1	-0.263	.1	-0.006	None
African Amer. Flag	-0.113	None	0.016	None	-0.271	.1	-0.070	None
Hispanic Flag	0.327	.01	0.388	None	-0.020	None	0.293	None
150-200	0.438	None	0.315	None	-0.421	None	0.154	None
200-250	0.691	.1	0.607	.05	0.125	None	0.496	.01
250-300	0.460	None	0.118	None	-0.326	None	0.090	None
300-350	0.448	None	0.471	.1	-0.233	None	0.293	.1
350-400	0.634	None	0.563	.1	0.102	None	0.508	.01
400-450	0.516	None	0.456	None	-0.093	None	0.365	.1
450-500	0.932	.05	0.936	.01	0.226	None	0.793	None
500-550	0.778	.1	0.834	.05	0.027	None	0.687	.01
550-600	0.895	None	0.768	.1	0.399	None	0.712	.01
600+	0.682	.1	0.724	.05	0.073	None	0.585	.01

Significance Levels are listed based on the reported coefficient's p-value

If the P-Value is less than 0.1 but greater than or equal to 0.05, then the significance level is 0.1

If the P-Value is less than 0.05 but greater than or equal to 0.01, then the significance level is 0.05

If the P-Value is less than 0.01, then the significance level is 0.01

If the P-Value is greater than 0.1, then there is no statistical significance.

It is noted that the signs of the coefficients are not always consistent across release cohorts. This is most likely a result of the later cohorts not having enough time to experience the full 36 month window to recidivate. There may also be some idiosyncratic features of the release cohort that is not captured in the data available for this evaluation. As such, more weight should be given to the 2009 release cohort results than those of the other cohorts, or the pooled model in the last column of Table 8.

Table 9 shows the regression results of the post-resentenced sample. This analysis is similar to that of the 2011 cohort, where very few regression

coefficients showed any statistical significance. In this case, the timing surrounding the suspension of HB 3508 legislation was the treatment of interest. The coefficient for the Post Suspension flag variable (1 if crime commit date was after 17 Feb 2010, 0 otherwise) shows that the post suspension group had a higher recidivism rate, but that the result was not statistically significant. The coefficient for the Education variable is negative, but not statistically significant. The race flag variables are categorized the same as the resentenced sample cohorts. The only statistically significant difference reported is with the Hispanic flag coefficient, indicating that Hispanics have a higher recidivism rate than the Asian/Pacific Island/Native American/Other group. The coefficients for the severity group variables are all positive, but statistically insignificant. Like with the 2010 and 2011 release cohorts of the resentenced sample, this sample should not be considered fully mature until the entire sample has a chance to experience the full 36 months to recidivate.

Table 9 - Probit Model Results for the Post Resentenced Sample, All Cohorts

Variable	Post Resentence Cohort	
	Coefficient	Significance Level
Intercept	-4.521	None
Post Suspension Flag	0.054	None
Education	-0.016	None
Age	0.003	None
Age Squared	0.000	None
Caucasian Flag	0.052	None
African Amer. Flag	-0.024	None
Hispanic Flag	0.367	.01
150-200	3.458	None
200-250	3.716	None
250-300	3.418	None
300-350	3.712	None
350-400	3.960	None
400-450	4.051	None
450-500	4.128	None
500-550	4.036	None
550-600	4.539	None
600+	3.700	None

Significance Levels are listed based on the reported coefficient's p-value

If the P-Value is less than 0.1 but greater than or equal to 0.05, then the significance level is 0.1

If the P-Value is less than 0.05 but greater than or equal to 0.01, then the significance level is 0.05

If the P-Value is less than 0.01, then the significance level is 0.01

If the P-Value is greater than 0.1, then there is no statistical significance.

c. HB 3508 and SB 1007 Flow Charts

Figure 1 outlines the decision process of determining earned time eligibility, and what percentage of earned time is eligible, for a given inmate at sentencing. At the first decision node, the topmost diamond shape, it is determined if the crime is eligible for any earned time consideration. If no, then that crime is coded as "0". If yes, then the crime goes into one of four possible nodes (the four parallelogram shapes with date ranges), based on the crime commit date.

The first parallelogram is the resentencing sample with a crime commit date between 01 Nov 1989 and 30 June 2009. If the inmate was sentenced before 01 July 2009, his/her file was reviewed and considered for 30 percent earned time resentence. If found eligible under review, the crimes were checked against the list of excluded crimes listed in HB 3508 or ORS 475.930. If the crime passed both check lists, then it was awarded 30 percent earned time; otherwise it was kept at 20 percent earned time.

The second parallelogram is the first half of HB 3508, the pre suspended group of the post resentenced sample. They have a crime commit date between 01 July 2009 and 16 Feb 2010. These inmates were awarded earned time at sentencing, and did not go through a post-sentence review process. However, the same decision making process was used to evaluate this group as was that for the resentencing group.

The third parallelogram is the post suspension group of the post resentence sample. They have a crime commit date between 17 Feb 2010 and 30 June 2011. They were only eligible for 20 percent earned time for eligible crimes.

The last parallelogram shows the earned time decision process for those who are sentenced under SB 1007. That decision process is detailed in Figure 2. For this group of people, the ability to receive 30 percent earned time is much more restricted than those under the first and second parallelograms of Figure 1.

Figure 1 - Earned Time Credit Eligibility Under HB 3508

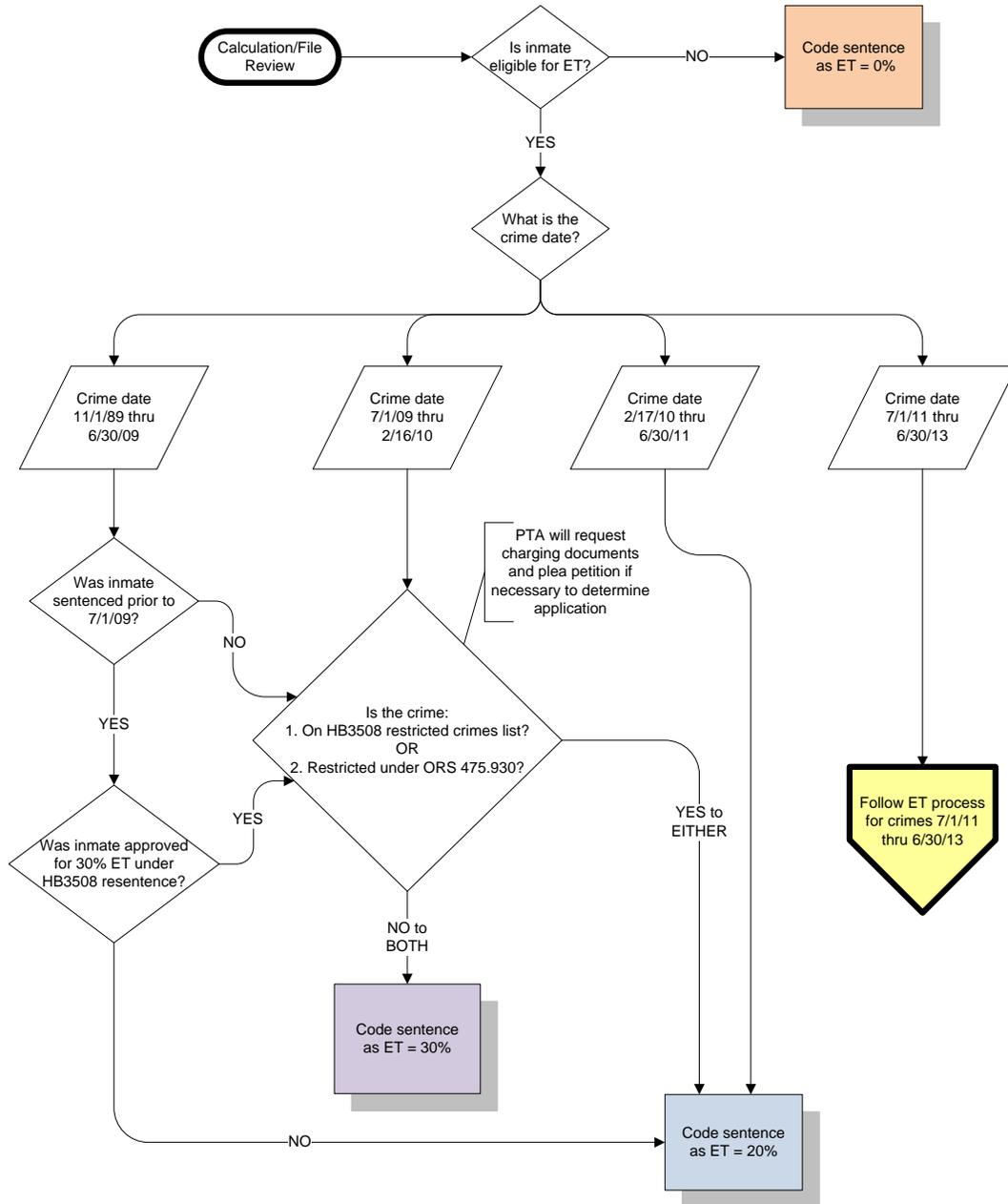


Figure 2 - Earned Time Eligibility Under SB 1007

