Research Publication

Recidivism in NSW:
General Study

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Research Publication No. 31
May 1995
ISSN 0813 5800

NSW Department of Corrective Services

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Definitions Used

Recidivism in this study is defined as the percentage of people with a conviction leading to a sentence of full-time custody in New South Wales (the "subsequent" episode) within two years of being discharged after a sentence of full-time adult custody in New South Wales (the "focal episode").

"First imprisonment group" refers to people whose focal episode was the first time they had served an adult custodial sentence in NSW, and "repeat imprisonment group" to people who had already had an imprisonment episode before the focal one.

Aims of Study

The reduction of recidivism can be seen as one of the fundamental goals of correctional systems. A series of recidivism studies is planned, concentrating on the aspects of recidivism of most potential use to corrections. This will involve examining the recidivism of inmates taking part in different programs, and identifying recidivism groups to target with different interventions.

The first study in this research series is reported here and has two aims:

1. to investigate the development of a model of the recidivism rate that would be valid for several years, using data available on the departmental computerised Offender Records System (ORS);

2. to identify high and low recidivism groups in the total inmate population using data available on the ORS.

Results

For the people discharged after a full-time custodial episode in 1990 or 1991 (the focal episode) overall recidivism was 35% for males and 38% for females, with 76% of the people serving a custodial sentence for the first time not receiving another custodial sentence for at least two years after release. However, using variables on the ORS, groups with recidivism as low as 20% or higher than 60% could be identified. Thus the overall recidivism values have limited meaning.

It should be emphasised that classifying inmates into high and low recidivism groups in no way assigns a probability of recidivating to individual inmates. The fact that in many cases a group could be split into subgroups of high and low recidivism emphasises the non-homogeneity of "recidivism risk" among members of a group.

Recidivism was modelled using data for those discharged in 1990 and the model was checked with data for those discharged in 1991. This process demonstrated a difference in recidivism patterns between the two discharge groups. Thus research designs where the recidivism of groups discharged at different times is used to look at the effect of a particular program should be treated with caution.

Available variables related to recidivism:

Prior adult imprisonment -
people with an adult imprisonment episode before the focal episode had higher recidivism.

Age -
younger people had higher recidivism.

Time between the focal episode and the prior imprisonment episode (if any)-

people who returned more quickly to custody after prior imprisonment had higher recidivism.

Security classification at discharge - people discharged at higher security classifications (A, B, C1 or E) had higher recidivism.

Most serious offence (MSO) -

- for people in the first imprisonment group, those with a most serious offence in the drug or sexual offence categories had lower recidivism and those in the property, assault and other offences categories had higher recidivism;
- for people in the repeat imprisonment group, those with a most serious offence in the property offence category had higher recidivism.

Recidivism was lowest for older people with no prior imprisonment and highest for people who had returned to custody quickly after a prior imprisonment episode.

Aboriginal Recidivism

Overall, inmates who stated they were of Aboriginal or Torres Strait Island descent had higher recidivism than non-Aboriginal or Torres Strait Islander inmates. This was especially evident for those serving their first imprisonment episode (45% Aboriginal vs 24% non-Aboriginal first imprisonment, 52% Aboriginal vs 42% non-Aboriginal repeat imprisonment). However, a large part of this overall difference was because some groups which had high recidivism regardless of Aboriginality (young offenders in the assault and property offence groups) had a high proportion of Aboriginals.

Female Recidivism

It was difficult to compare recidivism patterns between male and female inmates because of the small number of females in most offence categories. In addition, a much larger proportion of the female than the male inmates were discharged as C1 and a much smaller proportion discharged as C2. However, first imprisonment females in the property offences category had lower recidivism than comparable males. Also, the lowest recidivism group identified for women inmates was the first imprisonment drug offence group (also low for men). The highest recidivism group identified for women inmates was the repeat imprisonment property offences group for those who had spent less than one year in the community after their prior imprisonment (also high for males).

Recidivism of MSO Groups

MSO groups had different overall recidivism. In most cases this was related to the age of the offenders for the first imprisonment group and the time in the community after prior imprisonment for the repeat imprisonment group. Although in some respect the concept of MSO groups is artificial since an imprisonment episode may be for a wide range of offences, the results indicate generalised characteristics for each group, shown in the following table.

Summary of Characteristics of Most Serious Offence Groups - Males

MSO Group	Age at Start of Sentence	Time Served	Comparative Recidivism
Homicide	All ages	About half served over 5 yrs	Low. Two out of 82 back for violent offence.
Assault	Two-thirds under 30	Two-thirds served under 6 mths	High. Nearly half of recidivists back for assault.
Sexual	One-third over 40	Over half served 1 to 5 yrs	Low. Only 3% back for violent offences.
Robbery	Three-quarters under 30	Three-quarters served 1 to 5 yrs	Medium for first imprisonment people, high for repeat imprisonment people. About a third of recidivists back for robbery or another violent offence.
Fraud	Half over 30	Three-quarters served under 1 yrs	Medium for first imprisonment people, high for repeat imprisonment people. About two thirds of recidivists back for fraud or property offences.
Property	More than half under 25 (nearly half of first imprisonment group under 21)	Three-quarters served under 1 yrs	Very high. Over half recidivists back for property offences.
Driving	Three-quarters between 21 and 40	Three-quarters served less than 6 mths	Medium. About half recidivists back for driving offences.
Drug	More than half over 30	One-third served under 6 mths and one-half served 6 mths to 2 yrs	Low overall, but medium for repeat imprisonment use or possession of a drug. About half recidivists back for a drug offence.
Breach of Parole	Mostly between 21 and 39	Two-thirds served less than 1 yrs	High. About one third of recidivists back for BOP and about one quarter for property offences.
Other Offences	All ages	Three-quarters served less than 6 mths	Medium/high. About one quarter of recidivists back for violent offences.

1. Introduction

1.1 Background

The reduction of re-offending can be seen as one of the fundamental goals of correctional systems. The Vision Statement of the New South Wales Department of Corrective Services as quoted in the 1992/93 Annual Report was "to return prisoners to the community as law-abiding citizens", with one of the departmental Corporate Objectives being "to provide development programs which are designed to prepare prisoners to lead law abiding and productive lives". Although the vision statement was modified in late 1993 to focus on excellence in correctional management, a departmental principle that was added states that "The Department is obligated to the community to provide individual care and development programs to maximise prospects of the inmate successfully returning to the community" (Corporate Plan of NSW Department of Corrective Services).

While the actual occurrence of re-offending is impossible to quantify since many offences do not lead to identification of the offender, counts of offenders who have a subsequent conviction can be a useful indication of re-offence rate. Thus for the criminal justice system as a whole the most relevant definition of recidivism relates to the number of convicted offenders who are subsequently re-convicted.

For correctional administrators, the most relevant definition of recidivism relates to the number of former inmates who are re-convicted, including those given non-custodial sentences or, considering only the more serious offences, the number of former inmates who are re-imprisoned. At the time of this study, in New South Wales only data on convictions leading to imprisonment was readily available. Thus, by necessity, recidivism in this study is defined as the percentage of people with a conviction leading to a custodial sentence. This definition of recidivism gives a rudimentary measure of the success of the NSW Department of Corrective Services' Corporate Objective. In practical terms, in assessing the performance of the Department it is very relevant to be able to measure changes in recidivism over time or differences between groups of inmates.

Evaluating the effect of a specific program on recidivism usually depends on being able to devise a suitable control group. Where all eligible inmates participate in the program, a possible way of separating the effect of the program from the eligibility criteria is to compare the recidivism of eligible inmates in custody before the start of the program with the recidivism of actual participants. This assumes that recidivism patterns remain constant over time apart from the effect of the program.

In some instances the group to be examined is so small that inmates discharged over several years have to be examined together (for example, people released to a half-way house). In these cases, comparisons are made with inmates in general (taking significant variables such as age, criminal history and offence into account). Again this study design assumes that recidivism patterns remain relatively constant over time.

Another reason for making recidivism estimates is to allow inmates to be targeted appropriately as regards programs aimed at reducing recidivism. In a review of what interventions are successful in reducing re-offending, McLaren (1992) reported that successful interventions seem to share a common set of principles. One of these principles (the risk principle) suggests that

> "higher risk offenders are likely to show greater reductions in re-offending when they receive more intensive interventions and supervision, whereas low risk offenders are likely to respond best to regular levels of intervention intensity, and may even show increases in re-offending rates when exposed to more intensive interventions."

This principle obviously depends on high and low recidivism groups of inmates being readily identifiable.

Where records have to be consulted manually or information gained from interviews, recidivism studies can be very time-consuming and expensive. However, where computerised records can be used, regular large scale recidivism studies become more feasible.

In New South Wales, records relating to an offender's custodial sentences started to be kept on a computerised Offender Records System (ORS) in 1988. A series of recidivism studies is planned using this data, supplemented where necessary for specific evaluations by manual records or interviews. These studies will concentrate on the aspects of recidivism of most potential use to corrections. This will involve examining the recidivism of inmates taking part in different programs, and identifying recidivism groups to target with different interventions.

1.2 Aims of Study

The first study in this research series is reported here and has two aims:

1. to investigate the development of a model of the recidivism rate that would be valid for several years, using data available on the ORS; and

2. to identify high and low recidivism groups in the total inmate population using data available on the ORS.

It should be emphasised that classifying inmates into high and low recidivism groups in no way assigns a probability of recidivating to each inmate. For example, because an inmate is in a group where 50% recidivated in this study does not mean he or she has a 50% chance of recidivating. Research and common-sense both indicate recidivism is determined by a large variety of factors which could include such things as drug use after release, ability to get a job after release, social/family contact and support services after release and determination not to re-offend. Many of these factors are not directly measurable and others can only be approximated by correlates. For example, educational qualification may be related to the ability to get a job. Thus out of 100 people in a 50% recidivism group, 50 may have an almost 100% probability of recidivism and the other 50 may have a very small probability of recidivism. However they are put in the same recidivism group because the factors

that distinguish the high and low recidivism people are uncorrelated with any available variable.

It should also be noted that identifying high and low recidivism groups is not quite the same task as assessing recidivism risk for individual inmates for parole or classification purposes as is done by some jurisdictions. Although both processes try to relate recidivism rates to measurable variables, where assessments of individual recidivism risk are intended to be used as the basis of actions such as release to parole, the individual error of assessment is very important. In contrast, testing whether a group such as young robbers is a high recidivism group deserving special attention can tolerate a much higher individual error.

1.3 Definition of Recidivism for this Study

Recidivism in this study is defined as the percentage of people with a conviction leading to a sentence of full-time custody in New South Wales within two years of being discharged after a sentence of full-time adult custody in New South Wales.

By this definition any subsequent convictions leading to non-custodial sentences, imprisonment for fine default or to periodic detention are ignored. Note that people who are re-imprisoned in other states or countries will also not be counted as recidivists as data is not available, nor are people arrested for another offence but still waiting to have their case heard. It is also possible that the recidivist offence may have been committed before the offence leading to the original imprisonment. It is important to remember that, under the definition of recidivism used in this study, a non-recidivist may actually have continued to commit offences which could lead to a custodial penalty but without being convicted of any of them.

This definition may also slightly undercount the number of recidivists for more serious cases with a long time between arrest and conviction.

Failure-rate analysis gives a long term view of recidivism and is especially useful for a database of people released at different times in the past. However, since the data available for the present study only deals with inmates released in a two year period, recidivism is analysed as the percentage of people who recidivated within two years of discharge.

In this report the term "focal episode" refers to the imprisonment episode to which this discharge relates, the "prior episode" is any imprisonment episode in adult full-time custody in New South Wales immediately before the focal episode and the "subsequent episode" is the first imprisonment episode in adult full time custody in New South Wales after the focal episode. These terms are illustrated in Figure A1 in the Appendix.

1.4 Other Recidivism Studies

Not surprisingly, considering the importance of the measure to correctional systems, there has been a great deal of published research on recidivism. This includes studies relating to criminal careers, reasons for recidivism, and the effect on recidivism of specific correctional programs. Most relevant to this current study are reports relating to all inmates passing through a correctional system, giving

estimates of recidivism rates and factors related to recidivism. Unfortunately the different definitions of recidivism used among various researchers often make it difficult to compare actual rates.

In a table of results published by the South Australian Department of Correctional Services (1989) the only results at all comparable with the definition of recidivism used in this report were from a study by the Illinios Criminal Justice Authority (1986). They found 42% of prisoners released from Illinois prisons in 1983 were re-imprisoned within 27 to 29 months.

Nuffield (1982) described a study of 2,500 male inmates released from Canadian penitentiaries in the years 1970 - 1972 who had entered federal institutions following a criminal conviction. Defining recidivism as re-arrest for any indictable offence within three years and using predictive attribute analysis, the researcher constructed a simple summation scoring system for predicting recidivism from data relating to the focal sentence and criminal history. Thee focal sentence variables were type of offence, age at admission, aggregate sentence, security classification, marital status, number of dependents, and employment status at time of arrest. The criminal history variables were the number of prior imprisonments, age at first adult conviction, time in the community before last imprisonment, previous breach of parole supervision or mandatory supervision, the number of previous escapes, and the numbers of prior convictions for assault, for violent sexual offences, and for break and enter.

Broadhurst and Maller (1990) looked at recidivism of 16,831 prisoners released for the first time from Western Australian prisons from June 30, 1975 to June 30, 1987. Defining recidivism as re-imprisonment and using failure-rate techniques they reported that Aboriginals had much higher recidivism rates than non-Aboriginals and that women had a lower probability of recidivism than their male counterparts. Reading off the graph in their report gave recidivism after two years of about 16% for female non-Aboriginals, 28% for male non-Aboriginals, 44% for female Aboriginals and 57% for male Aboriginals.

They reported that younger prisoners had very much higher probabilities of failure. They also reported that factors such as higher education, being married or divorced, employment before and after prison, and release to parole were all associated with lower probabilities of recidivism. Also, longer sentences and increased seriousness of offence were associated with lower recidivism for non-Aboriginal males. In addition they found a declining trend in recidivism over the period 1975 - 1980 which levelled off from 1981 - 1985, attributing this to important alterations in the definition of the law.

In another study which examined the number and recidivism of offenders who serve more than one custodial episode, Broadhurst and Maller (1991) estimated that for male non-Aboriginals, 2760 imprisonments could be attributed to 1000 people, 550 of whom would be imprisoned only once. They also estimated that recidivism rates would increase according to the number of custodial episodes already

served. For example, for male non-Aborigines the estimated probability of re-imprisonment was 0.45 for people discharged after their first custodial episode, 0.63 for people discharged after the second custodial episode etc, up 0.87 for people discharged after their ninth custodial episode.

Harer (1994) used data on 1,205 inmates released by the U.S. Federal Bureau of Prisons in 1987 having sentences of 3 months or more. Reading from the graph in his report, within two years approximately 31% had been rearrested or had had their parole revoked.

Harer (1994) reported recidivism was related to prior criminal history, race, heroin or alcohol abuse, previous employment, being under Criminal Justice supervision when the focal offence was committed, having a social furlough (leave of absence program), employment on release, age at release, whether living with a spouse upon release, and the population density and unemployment rate of the area where resident on release.

1.5 Modelling Recidivism Rate

A problem with modelling recidivism in the entire inmate population is the probable amount of interaction between the independent variables and the expected non-linearity of the responses. In NSW, the usual lower age limit for adult imprisonment is 18 years. Because people who start a sentence at 18 of age thus have had little opportunity of serving a prior adult imprisonment episode, particularly atypical interactions of recidivism, age and prior imprisonment were expected for this age group. To assist modelling, therefore, people starting sentences under 19 years old were treated separately. The results obtained justify this approach.

1.5.1 Most Serious Offence Groups (MSO)

The Most Serious Offence (MSO) is defined as the offence in the episode with the longest sentence. Where there are several sentences with the same length, the MSO is the offence with the lowest DANCO code - in most cases the most violent offence. Thus an episode with an MSO of stealing means that if there was a violent offence as part of the episode, it was considered by the courts to be relatively minor compared to the stealing offence as reflected in the sentence handed down. It does not mean that there was no violent offence.

It seems reasonable to hypothesise that different MSO groups might have different recidivism patterns. For example, the sort of people whose first custodial sentence was for rape might have a different recidivism pattern to the sort of people whose first custodial sentence was for driving a car without a licence. Therefore, in this study, the data was analysed in MSO groups. As the distinction between MSO groups is likely to be greater for first offenders, people who had no prior imprisonment were analysed separately.

1.5.2 Imprisonment History

Limited to data available on the ORS, the only reliable information about previous criminal history was the date of the last discharge to freedom. (Even this involved some manual checking.) Therefore the only criminal history variable used in this study is the time difference between discharge from the

prior imprisonment episode and the starting date of the focal episode. This variable will be referred to as " time in community ". Because some inmates had back-dated sentences and/or were on remand, this only approximates the actual time at large in the community at risk of re-offending.

The time in community is very much related to the age of the inmate. For example, the time in community for people starting a repeat imprisonment episode at the age of 20 must be between 0 (if they immediately returned to custody) and two years (if they had a short custodial sentence at 18 and not returned to custody since). Similarly, time in community for people starting a repeat imprisonment episode at age 40 could vary from 0 to 22 years. Thus a group of inmates where time in community was less than one year could contain inmates of any age while a group where time in community was over five years could only contain people starting sentences over the age of 23 years.

It should be noted that the prior imprisonment episode refers to full-time adult custody in New South Wales. People listed with no prior imprisonment may have served a custodial sentence in other states or countries and/or may have been imprisoned for fine default or served a sentence as periodic detention. They may also have had a string of convictions with non-custodial sentences such as fines or community service orders.

1.5.3 Security Classification at Discharge

The security classifications for inmates are as follows.

A1 and A2 - to be held in a walled prison.
B - to be kept separate from the community by physical barriers.
C1 - needing to be under supervision at all times.
C2 - can be trusted in open conditions, eligible for work and sport outside the institution under supervision and may be considered for day leave.
C3 - can be trusted to go into the community unescorted for work and/or study.
E1, E2 - recaptured escapees (corresponding to the A2 and B classifications respectively).

The security classification of an inmate at discharge depends on their original offence, the time served, their general behaviour and their participation in programs and industries whilst in custody. Thus, for longer term inmates, classification at discharge is an approximate measure of co-operativeness and participation in programs. Therefore one might hypothesise higher recidivism from those leaving as A1, A2, B or C1, than from those leaving as C2 or C3. One might also look for an interaction between this difference and time served since longer term inmates have more opportunity of improving their classification.

1.5.4 Time Served

Time served, the time between the start of the focal episode and the discharge date could be expected to have an especially complex relationship with recidivism for the following reasons.

Sentence length is related to the type and severity of the offence and to the person's criminal record. One might hypothesise that people with more

serious offences and with more prior convictions will have higher recidivism. However, the total time served does not necessarily relate to the most serious offence of the imprisonment episode.

For example, a two year episode with an MSO of stealing may consist of a one year sentence for stealing with an accumulative six month sentence for assault and a six month sentence for drink driving. Also, a long sentence may be given for a number of counts of a relatively minor offence (for example, multiple counts of break, enter and steal). Thus, time served is not a good indication of the seriousness of the offence, although one could hypothesise that a longer time served (whether relating to one offence or more) indicates a more serious offender and hence one more likely to recidivate.

From a different perspective, some argue that increased time in custody will increase the difficulty of adjusting to outside life, leading to increased recidivism. Conversely, increased time in custody may increase the opportunity to benefit from educational and vocational programs, drug and alcohol services and other rehabilitative programs. Thus one could also argue that long term inmates who participate in these programs might have a lower recidivism. Also, if imprisonment is an effective deterrent to further crime (as some contend) this might perhaps show as a low recidivism for first offenders with sentences too short for the negative aspects of imprisonment to take over.

1.5.5 Type of Discharge

Discharges relating to this recidivism study were grouped into two types: discharge to unconditional freedom and conditional discharge to parole.

Prior to the Sentencing Act 1989, which commenced on 25 September, 1989, the length of a non-parole period, after which the inmate could apply to be released to parole, was entirely at the discretion of the magistrate or judge.

The Sentencing Act introduced the concept of splitting a sentence into a minimum term (which must be served in custody) and an additional term of imprisonment which could be served under supervision in the community. The additional term was intended to be not more than one third of the minimum term except in special circumstances. Where the sum of the minimum and additional term was not more than three years, the inmate was automatically eligible for release to parole at the end of the minimum term. Where the sum was more than three years, release to parole had to be granted by the Offenders Review Board.

Sentences of six months or less (longer than six months only in exceptional circumstances) were served as fixed terms with the inmate discharged to freedom (other sentences permitting).

Hence in general, inmates serving short sentences were released to unconditional freedom (except a few sentenced prior to the Sentencing Act) and inmates serving long sentences were released to parole (except a few who preferred to serve their entire sentence in custody or those whose application for parole was refused by the Offenders Review Board). Discharge type can therefore be seen to be strongly related to time served.

1.5.6 Subsequent Episode

The most serious offence of this episode will not be of much assistance in determining whether ex-inmates move on to more serious offences.

For example, someone who had served prior concurrent sentences for robbery and assault might return to custody with a short sentence for assault occasioning actual bodily harm, but since he or she had a long parole period, the MSO for the subsequent episode might be for breach of parole rather than assault. Similarly, a previous robber who had completed his or her parole period might be arrested for stealing a car to use in a robbery. In both cases the subsequent offence would appear to be non-violent and less serious than the focal MSO of robbery, whereas the person's actual pattern of behaviour in the community had not changed.

1.5.7 Validation

In modelling studies it is standard practice to randomly split the data base into two halves and use one half to construct the model and the other half to validate it. That is, having constructed the model, different data is used to test how well the model fits. In the present study data for all inmates discharged during 1990 and 1991 was available, removing any problems involved in sampling from a discharge set. The main question concerning model validity was whether the model would remain applicable over time.

Policies, programs and general conditions in correctional centres are constantly changing. The years 1990 and 1991 were ones of relative overcrowding. Inmate numbers had risen sharply after the commencement of the Sentencing Act 1989 in September, 1989 but extra accommodation had not yet been opened. There were also riots and lock-ins attributed to changes in inmate property regulations in the latter part of 1990. More positively, educational programs received major enhancements in November 1990 and early 1991, and the Young Offenders Program providing programs to meet the specific needs of younger inmates commenced in late 1991.

Thus, if what happens during imprisonment does have an effect on recidivism, it is possible that people in custody in 1990 might have different recidivism patterns to people in custody in 1991. If this produced different recidivism patterns for people discharged in 1990 to people discharged in 1991, this would have implications in designing studies to look at the effect of recidivism on specific programs. (It should be noted that many of those discharged in 1991 were also in custody during some part of 1990.) It was therefore decided to construct the model for people discharged in 1990 and validate it for people discharged in 1991.

2. Methodology

2.1 Data Set

The data used was for all inmates discharged in 1990 or 1991, after serving a full-time adult custodial sentence in New South Wales. The following variables were obtained from data held on the computerised Offender Records System (ORS).

A. Demographic:

a. Age at start of focal episode

b. Age at discharge from focal episode

c. Aboriginality

d. Country of Birth grouped into those recorded as
· Aboriginal,
· those born in Australia but not recorded as Aboriginal,
· those born in Great Britain, Northern Ireland, Canada, USA, New Zealand or South Africa (where English is a background language), and
· those born elsewhere (where English is not a background language [NESB country]).

B. Focal episode (imprisonment episode to which the initial discharge relates):

a. Time Served (time between episode start date and discharge date);

b. Most Serious Offence (MSO) grouped into ten categories :
· homicide,
· assault,
· sexual offences,
· robbery,
· fraud,
· property offences,
· driving/traffic offences,
· drug offences,
· breach of parole (BOP) and
· other offences.

c. Discharge type:
· to parole or
· to freedom.

d. Security Classification at discharge grouped into six categories according to the time served:
· C2 or C3 (served less than 6 months),
· C2 (served 6 to 12 months),
· C2 (served 12 months and over),
· C3 (served 6 months and over),
· A1, A2, B, C1, E1 or E2, and
· unclassified or classification pending.

C. Prior Episode:

a. Time in community (time between discharge from prior episode and start date of focal episode).

D. Subsequent Episode:

a. Time to re-conviction (time between discharge from focal episode and first conviction date in subsequent imprisonment episode)

b. Most Serious Offence grouped as for focal episode.

2.2 Recidivism Model for Males

The main analysis technique was logistic regression, using an SPSS

package. In this multivariate technique the probability of recidivism (R) is modelled as the inverse of the function (1+exponential(-Z)) where Z is a linear combination of independent variables, i.e.

$$R = \frac{1}{1+e^{-z}}$$

where x_1, x_2, ...,x_n are independent variables and $Z=a_0+a_1x_1+a_2x_2+.....+a_nx_n$,.

The parameters of Z are estimated using the maximum-likelihood method.

This technique was initially used to fit models of recidivism for each MSO group and for people in the first and repeat imprisonment groups separately, using data for males discharged in 1990 who had started sentences over the age of 18.

Age, time served and time in community were all used as linear variables, and also as their square root and logarithm. They were also grouped into categories as appropriate. Interaction terms between variables were used as seemed appropriate.

Variables were initially entered into the model by the forward stepwise method. At each step the variable most strongly related was added to the model, provided that the improvement to the model chi-square was significant at the 1% level and that the co-efficient of the variable in the resultant equation was also significant at the 1% level. Where this did not result in variables initially correlated with recidivism being included, different combinations of likely variables were tried.

The resulting model was validated in three ways using similar data for all males discharged in 1991 for each MSO/imprisonment history group.

1. Logistic regression was used on the 1991 data to test the significance of the variables in the model based on 1990 data.

2. Logistic regression was used on the combined 1990/1991 data to test the significance of the year of discharge.

3. The predicted value of the 1991 data using the model based on 1990 data was compared to the actual value.

2.3 Other Variables:

Logistic regressions on MSO/imprisonment history groups for the combined 1990/1991 data for males was used to test the significance of most serious offence, time served, Aboriginality and country of birth.

2.4 Female Recidivism

Female recidivism was examined in three ways:

1. For each MSO/imprisonment history group the predicted recidivism value for females discharged in 1990 based on 1990 data for males was compared to the actual value.

2. Logistic regressions on MSO/ imprisonment history groups from the combined 1990/1991 data were used to test the significance of gender as a variable.

3. Where numbers permitted, logistic regression was used to look for significant variables using the combined 1990/1991 data for females.

3. Results

3.1 Recidivism Model for Males

3.1.1 MSO/Imprisonment History Groups

Recidivism values for males discharged in 1990 or 1991 in MSO/ imprisonment history groupings are shown in Table 1. For each main MSO grouping the recidivism was lower for those with no prior imprisonment.

There were also differences between the main MSO groups. The sexual offence and drug offence groups had the lowest recidivism and the property, assault and other offence groups had the highest. Table 1 also gives the recidivism for MSO subgroups of the main MSO groupings.

How the MSO/imprisonment history groups were made up in terms of the main independent variables: age at start of sentence, time served, Aboriginality, country of birth, security classification at discharge and time in community (for those with prior imprisonment) is summarised in Table 2 for the combined 1990/1991 data and also given more fully in Tables A1 to A5 in the appendix.

Table 2 also sets out the variables which were included in the final model based on the 1990 data. The model is detailed in Table A6 in the Appendix.

3.1.1.1 Composition of Groups

There were obvious differences between the groups with no prior imprisonment. For example, the sexual offences and fraud groups were made up of comparatively older people (about a third were at least 40 years old at the start of their sentence). In contrast, the property, robbery and assault groups were made up of younger people (nearly half of the property group were under 21 and more than a quarter of the robbery and assault groups).

With regard to time served, over two thirds of those in the driving and assault groups served less than six months. That is, the driving and assault offenders mainly served short sentences compared to the people in the sexual offence and robbery groups where a third served two years or more.

The assault group had by far the highest percentage of Aboriginals (22%) and the drug offences group had by far the highest percentage of people born in a NESB country (28%).

The fraud and driving groups had the lowest percentage of people discharged as A, B, C1 or E.

The groups with the lowest recidivism (sexual and drug offences) also had the lowest percentage of people starting younger than 21.

These trends were similar for the repeat imprisonment groups where, as to be expected, the age at start of sentence was generally higher and the time served generally longer than for the first imprisonment groups.

The property and breach of parole groups which were the MSO groups with the highest recidivism (excluding homicide with 19 cases) also had the highest percentage of people in the community for less than a year after their last imprisonment.

Table 1: Recidivism of Male MSO/Imprisonment History Groups

Most Serious Offence Grouping		First Impr't		Repeat Impr't		TOTAL	
		Recid	N	Recid	N	Recid	N
Homicide	Murder & Attempted Murder	8%	38	18%	11	10%	49
	Manslaughter	16%	25	25%	8	18%	33
	Total Homicide	11%	63	21%	19	13%	82
Assault	Major Assault	27%	221	41%	193	34%	414
	Minor Assault	23%	155	48%	174	36%	329
	Other Assault	29%	188	43%	174	36%	362
	Total Assault	27%	564	44%	541	35%	1105
Sexual	Sexual on Adult	9%	82	33%	40	16%	122
	Sexual on Child	4%	109	19%	32	7%	141
	Total Sexual	6%	191	26%	72	11%	263
Robbery	Armed Robbery	16%	95	48%	128	35%	223
	Other Robbery	22%	72	45%	77	34%	149
	Total Robbery	19%	167	47%	205	34%	372
Fraud	Forgery	19%	42	50%	44	35%	86
	Other Fraud	13%	172	42%	108	24%	280
	Total Fraud	14%	214	44%	152	27%	366
Property	Break, Enter, Steal	44%	497	56%	659	51%	1156
	Larceny Motor Vehicle	41%	241	56%	324	50%	565
	Other Stealing	35%	208	53%	315	46%	523
	Receiving	19%	155	50%	165	35%	320
	Malicious Damage	25%	81	52%	73	38%	154
	Total Property	37%	1182	55%	1536	47%	2718

Most Serious Offence Grouping		First Impr't		Repeat Impr't		TOTAL	
		Recid	N	Recid	N	Recid	N
Driving	Drive Causing Death	5%	37	31%	13	12%	50
	Drive Under Influence	15%	288	30%	272	22%	560
	Dangerous Driving	15%	27	41%	22	27%	49
	Drive without Licence etc	19%	215	37%	216	28%	431
	Total Driving	16%	567	33%	523	24%	1090
Drugs	Possess or Use	18%	68	50%	50	31%	118
	Sell	8%	303	27%	123	14%	426
	Import	2%	55	0%	7	2%	62
	Cultivate	5%	42	0%	11	4%	53
	Total Drugs	9%	468	30%	191	15%	659
Breach of Parole	**Breach of Parole**	-	-	54%	454	54%	454
Other	Breach Recognizance	26%	103	52%	64	36%	167
	Breach Community Service Order	24%	89	26%	39	24%	128
	Breach Periodic Detention Order	9%	35	38%	26	21%	61
	Breach Domestic Violence Order	13%	30	50%	32	32%	62
	Fail to Appear	17%	29	50%	28	33%	57
	Escape from Custody	36%	14	40%	20	38%	34
	Obscene/Violent	42%	26	37%	35	39%	61
	Firearms	7%	14	38%	21	26%	35
	Other	33%	57	53%	43	48%	100
	Total Other	24%	397	44%	308	33%	705

The data refers to inmates discharged in either 1990 or 1991 after serving a full-time custodial sentence in an adult NSW correctional centre (the focal episode). N refers to the number in the discharge group.

Most serious offence grouping refers to the most serious offence of the focal episode.

Repeat Impr't refers to imprisonment in an adult centre in New South Wales prior to the focal episode.

Recid refers to the percentage of inmates convicted of any offence within two years of discharge resulting in a full-time custodial sentence to be served in a New South Wales correctional centre.

Table 2: Characteristics of MSO/Prior Imprisonment Groups and Variables in the 1990 Recidivism Model - Males

First Imprisonment Group

MSO Group	N	Age		Time Served		Abor-iginal %	NESB %	Class-ification A/B/C1/E %	Variables in 1990 Model
		<21 %	40+ %	<6mth %	2yr+ %				
Homicide	63	29	11	2	85	10	17	19	-
Assault	564	27	10	69	4	22	9	22	**Age grouping**: (19,20) (21-29) (30+)
Sexual	191	7	36	10	33	7	10	21	**Age grouping**: (19,20) (21-29) (30+)
Robbery	167	30	2	2	45	10	7	35	**Age grouping**: (19,20) (21+)
Fraud	214	13	27	43	6	2	14	8	**Classification grouping**: >6C3, A/B/C1/E, other
Property	1182	47	4	53	5	15	7	26	**MSO grouping**: theft, receiving, damage. **Classification grouping**: A/B/C1/E, other
Driving	567	14	14	82	0	6	10	8	**Age grouping**: (19,20) (21+) **Aboriginality**
Drugs	468	6	19	31	22	2	28	13	-
Other	397	26	11	79	2	15	9	18	**Logarithm (Age)**
TOTAL	3813	27	12	54	10	12	11	19	-

N = Number of inmates discharged in 1990 or 1991.
Age = Age at start of sentence.
NESB = Born in country other than Australia, Gt Britain, Northern Ireland, Canada, USA, New Zealand or South Africa.
Classification groupings: >6C3 = C3, served at least 6mths
C2/C3<6 = C2 or C3, served under 6mths.
In Community = time between discharge from prior imprisonment and start of focal episode.

Table 2 continued

Repeat Imprisonment Group

MSO Group	N	Age		Time Served		Abor-iginal %	NESB %	Class-ification A/B/C1/E %	Variables in 1990 Model
		<21 %	40+ %	<6mth %	2yr+ %				
Homicide	19	32	26	5	90	16	0	16	-
Assault	541	11	11	60	7	34	5	27	**Square root (In Community) Classification grouping:** A/B/C1/E, other
Sexual	72	10	24	7	57	22	4	35	-
Robbery	205	11	2	2	71	11	10	55	**Logarithm (In Community)** where age >20
Fraud	152	3	18	40	3	5	14	17	**Logarithm (In Community)** where classification not A/B/C1/E
Property	1536	15	6	38	7	15	8	35	**In Community grouping:** (<1Yr), (1-3Yr), (3Yr+) **Classification grouping:** A/B/C1/E, other
Driving	523	4	18	73	1	15	6	11	**Square root (In Community) Classification grouping:** C2/C3<6, A/B/C1/E, other
Drugs	191	0	16	36	17	5	20	23	**Logarithm (In Community)**
Breach of Parole	454	6	6	41	11	15	8	50	**Classification grouping:** A/B/C1/E, other
Other	308	10	14	66	4	19	7	26	**Logarithm (In Community)**
Total	4001	10	10	50	11	17	8	32	-

3.1.1.2 Variables used in Model - First Imprisonment Groups

For the first imprisonment groups, no significant variables were found for the homicide and drug offences groups.

For the other first imprisonment groups the significant variables were generally some function of age at start of sentence. For the assault, sexual offences, robbery and driving categories the best fit was obtained by separating out the youngest people, rather than by using age as a continuous variable. This implies that changes in age had much more effect for younger inmates. For example, the recidivism difference was much bigger between 19 and 24 year olds than between 29 and 34 year olds. The logarithm of age gave the best fit for the other offences categories, again indicating that the age differential had more effect on recidivism for younger inmates.

For the fraud group there was an equally good fit treating those discharged as C3 (served more than 6 months) and those discharged A, B, C1 or E separately or for treating those discharged to freedom or parole separately. For this group a much higher proportion of older people were discharged as C3 than younger people.

The property offence group was the only MSO/first imprisonment group where none of the functions of age had any significant relation to recidivism at even the 5% level. For this group there were significant differences in recidivism between MSO sub-groups (theft, receiving and malicious damage) and for those discharged as A, B, C1 or E or otherwise.

Aboriginality was a significant variable in modelling recidivism for the driving/first imprisonment group, even though the number of Aboriginals was small (58% recidivism for the 12 Aboriginals over 19 years old compared to 16% for the 255 non-Aboriginals).

While examining interactions for first imprisonment offenders, it was noted that in the property group recidivism was significantly higher for people born in NESB countries. However, since this difference was not nearly as marked in the 1991 data, no NESB variable was included in the model.

3.1.1.3 Variables used in Model - Repeat Imprisonment Groups

For the groups with prior imprisonment, the homicide (6 people) and sexual offences (30 people) groups were too small for any variable to be significant.

For the assault, robbery, fraud, driving, drug offences and other offences repeat imprisonment groups the variables giving the best fit were either the square root or the logarithm of time in community. Both functions give less emphasis to differences between higher values. For example, the average recidivism difference was much bigger between people with time in community of six months and one year than between people with time in community of three years six months and four years.

For the property repeat imprisonment group the best model was obtained by grouping time in community for people starting sentences under 45 years old. The 18 people starting sentences at the age of 45 or older had

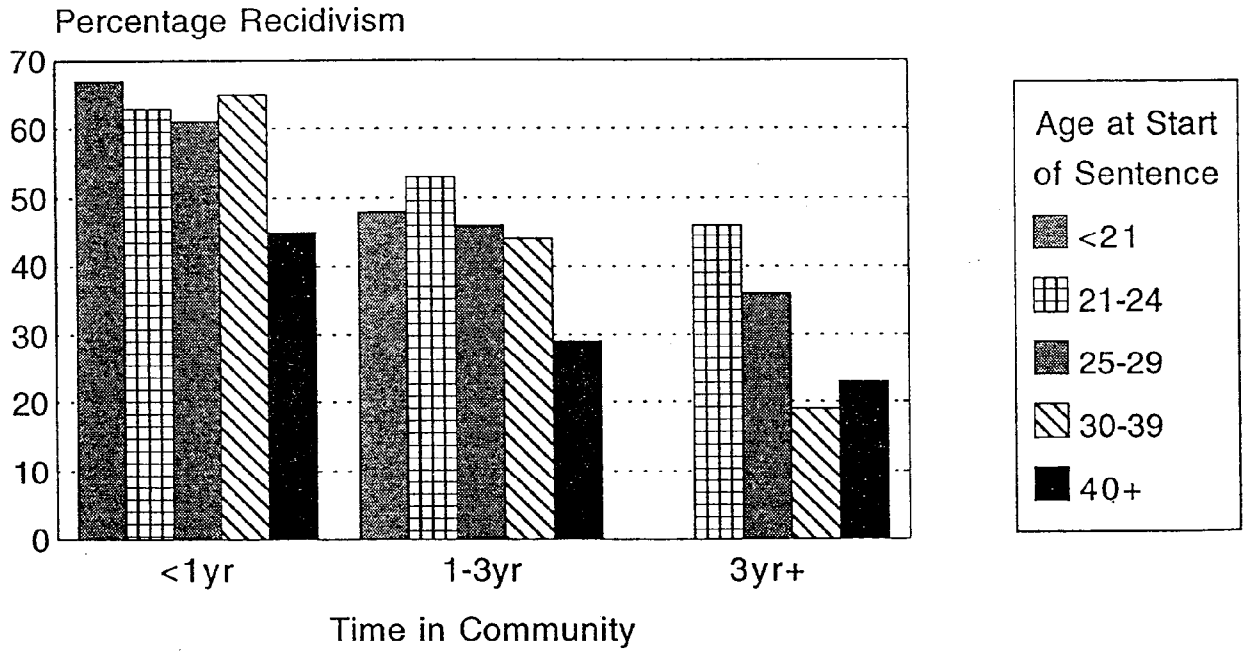
a comparatively high recidivism of 76% for the 1990 discharge group. However since the 18 people 45 or older in the 1991 discharge group had a comparatively low recidivism of 28%, the older inmates were included with the remainder in the final model.

Because time in community is correlated with age at the start of sentence, it was not surprising that age was often also significantly related to recidivism. However when time in community was fitted first into the model, a function of age did not improve the fit at the 1% level for any of the MSO/imprisonment history groups. Time in community was thus used in the model in each case as giving the better fit.

As an example of this, recidivism in time in community/age groups is shown in Figure 1 for repeat imprisonment theft offenders discharged as C2 or C3.

Figure 1 : Recidivism - Time in Community/Age

Repeat Imprisonment/Theft - Classification C2 or C3



Repeat imprisonment males discharged 1990/1991 as C2 or C3 after focal MSO of theft
Time in Community = Time between end of prior imprisonment episode and start of focal episode.

Table 3: Recidivism of Male Subgroups

First Imprisonment Group

MSO Group	Discharged 1990		Discharged 1991	
Homicide	13 % (32)		10 % (31)	
Assault	Age < 19	54 % (26)	Age < 19	65 % (23)
	19 - 20	46 % (41)	19 - 20	35 % (63)
	21 - 29	31 % (108)	21 - 29	17 % (135)
	30 +	13 % (78)	30 +	14 % (90)
Sexual	Age < 21	40 % (5)	Age < 21	25 % (8)
	21 - 29	17 % (24)	21 - 29	0 % (26)
	30 +	1 % (72)	30 +	4 % (56)
Robbery	Age < 19	0 % (5)	Age < 19	25 % (12)
	19 - 20	37 % (19)	19 - 20	36 % (14)
	21 +	7 % (56)	21 +	20 % (61)
Fraud	Classo >6 C3	2 % (56)	Classo >6 C3	4 % (24)
	A/B/C1/E	50 % (6)	A/B/C1/E	0 % (12)
	Other	21 % (66)	Other	22 % (50)
	Discharge Parole	4 % (71)	Discharge Parole	6 % (36)
	Freedom	26 % (57)	Freedom	20 % (50)

MSO Group	Discharged 1990				Discharged 1991			
Property	Classification	A/B/C1/E	Other	Total	Classification	A/B/C1/E	Other	Total
	Theft	60 % (96)	40 % (322)	44 % (418)	Theft	53 % (166)	32 % (362)	39 % (528)
	Receive	30 % (10)	16 % (62)	18 % (72)	Receive	33 % (18)	15 % (65)	19 % (83)
	Damage	8 % (13)	27 % (30)	21 % (43)	Damage	38 % (8)	27 % (30)	29 % (38)
	Age	< 21	21 - 29	30 +	Age	< 21	21 - 29	30 +
	Theft	53 % (206)	36 % (163)	37 % (49)	Theft	49 % (268)	31 % (202)	21 % (58)
	Receive	21 % (19)	22 % (32)	10 % (21)	Receive	35 % (26)	14 % (28)	10 % (29)
	Damage	20 % (20)	22 % (9)	21 % (14)	Damage	45 % (11)	18 % (17)	30 % (10)
	Total	48 % (245)	33 % (204)	27 % (84)	Total	47 % (305)	28 % (247)	19 % (97)
Driving	Age	Non Abor.	Aborig.	Total	Age	Non Abor.	Aborig.	Total
	< 21	35 % (37)	100 % (2)	38 % (39)	< 21	20 % (35)	60 % (5)	25 % (40)
	21 +	13 % (228)	55 % (11)	15 % (239)	21 +	11 % (231)	28 % (18)	12 % (249)
	Total	16 % (265)	62 % (13)	18 % (278)	Total	12 % (266)	35 % (23)	14 % (289)
Drugs	8 % (243)				9 % (225)			
Other	Age < 19	44 % (9)			Age < 19	58 % (12)		
	19 - 20	39 % (36)			19 - 20	22 % (46)		
	21 - 29	24 % (91)			21 - 29	27 % (89)		
	30 +	6 % (51)			30 +	19 % (63)		

Number of cases given in brackets

Table 3 continued

Repeat Imprisonment Group

MSO Group	Discharged 1990				Discharged 1991			
Homicide	33 % (6)				15 % (13)			
Assault		Classification				Classification		
	In Com'ty	A/B/C1/E	Other	Total	In Com'ty	A/B/C1/E	Other	Total
	< 1Yr	68 % (31)	46 % (74)	52 % (105)	< 1Yr	58 % (48)	56 % (79)	57 % (127)
	1 - 3 Yrs	65 % (17)	36 % (53)	43 % (70)	1 - 3 Yrs	40 % (25)	35 % (78)	36 % (103)
	3 Yrs +	43 % (14)	26 % (54)	29 % (68)	3 Yrs +	50 % (12)	30 % (56)	34 % (68)
Sexual	23 % (30)				29 % (42)			
Robbery	Age < 21		91 % (11)		Age < 21		73 % (11)	
	Age 21 + In Com'ty < 1Yr		48 % (40)		Age 21 + In Com'ty < 1Yr		51 % (39)	
	1 - 3 Yrs		39 % (36)		1 - 3 Yrs		34 % (29)	
	3 Yrs +		40 % (20)		3 Yrs +		42 % (19)	
Fraud	Classification A/B/C1/E		86 % (7)		Classification: A/B/C1/E		68 % (19)	
	Other In Com'ty < 1Yr		62 % (29)		Other In Com'ty < 1Yr		64 % (14)	
	1 - 3 Yrs		36 % (17)		1 - 3 Yrs		47 % (19)	
	3 Yrs +		14 % (29)		3 Yrs +		11 % (18)	

MSO Group	Discharged 1990				Discharged 1991			
Property		Classification				Classification		
	In Com'ty	A/B/C1/E	Other	Total	In Com'ty	A/B/C1/E	Other	Total
	< 1 Yr	76 % (152)	67 % (231)	70 % (383)	< 1 Yr	71 % (159)	57 % (234)	63 % (393)
	1 - 3 Yrs	70 % (57)	41 % (142)	49 % (199)	1 - 3 Yrs	50 % (102)	51 % (174)	50 % (276)
	3 Yrs +	38 % (29)	25 % (91)	28 % (120)	3 Yrs +	37 % (46)	32 % (119)	33 % (165)
Driving		Classification				Classification		
	In Com'ty	C2,C2 < 6	A/B/C1/E	Other	C2,C3 < 6	A/B/C1/E	Other	Total
	< 1Yr	34 % (35)	86 % (7)	65 % (17)	39 % (46)	58 % (12)	54 % (28)	47 % (86)
	1 - 3 Yrs	22 % (54)	71 % (7)	47 % (19)	27 % (63)	53 % (15)	25 % (20)	31 % (98)
	3 Yrs +	27 % (63)	43 % (7)	29 % (17)	21 % (68)	42 % (12)	12 % (33)	20 % (113)
Drugs	In Com'ty < 1 Yr		55 % (22)		In Com'ty < 1 Yr		53 % (30)	
	1 - 3 Yrs		28 % (40)		1 - 3 Yrs		23 % (31)	
	3 Yrs +		17 % (42)		3 Yrs +		19 % (26)	
Breach of Parole	Class A/B/C1/E		62 % (114)		Class A/B/C1/E		63 % (112)	
	Other		41 % (103)		Other		50 % (125)	
Other	In Com'ty < 1 Yr		63 % (48)		In Com'ty < 1 Yr		51 % (72)	
	1 - 3 Yr		42 % (33)		1 - 3 Yr		40 % (53)	
	3 Yrs +		31 % (36)		3 Yrs +		33 % (66)	

Number of cases given in brackets
In Comm'ty = Time in Community (time between discharge from prior imprisonment and start of episode.

For any age group recidivism decreased with increased time in community. However recidivism was essentially constant for similar time in community regardless of age except for the oldest people. From the age groupings used, the graph indicates that people 40 and over had lower recidivism than the rest when time in community was under 3 years and that people under 30 had lower recidivism than the rest when time in community was over 3 years.

For the assault, fraud, property, driving and BOP groups, security classification at discharge improved the fit of the model.

Table 4: Prediction of 1991 Male Recidivism from 1990 Model

Most Serious Offence Group	First Imprisonment Group				Repeat Imprisonment Group			
	Number	Recidivism		Sig	Number	Recidivism		Sig
		Actual	Predict			Actual	Predict	
Homicide	31	10%	16%	NA	13	15%	16%	NA
Assault	311	23%	31%	**	298	44%	45%	*, ns
Sexual	90	4%	8%	NS	42	29%	22%	NA
Robbery	87	23%	11%	NS	98	47%	50%	NS
Fraud	86	14%	20%	ns	70	47%	49%	*
Property	649	36%	41%	**, @@	834	53%	56%	**, @
Driving	289	14%	20%	*, @	297	31%	38%	**, ns
Drug	225	9%	8%	NA	87	32%	34%	**
BOP	-	-	-	-	237	56%	51%	@
Other	210	25%	24%	NS	191	42%	46%	*
Total	1978	23%	27%	NA	2167	46%	49%	NA

Predict = Recidivism value predicted for 1991 data from 1990 data model.
Sig = Significance of variables in 1990 data model in 1991 data.
NA = Not applicable.

*, ** = Age, MSO or Time in Community variable in 1990 data model also significant for 1991 data at 95%, 99% significance level respectively.
NS = Age, MSO or Time in community variable in 1990 data model not significant for 1991 data.

@, @@ = Classification or Aboriginality variable in 1990 data model also significant for 1991 data at 95%, 99% significance level respectively.
ns = Classification or Aboriginality variable in 1990 data model not significant for 1991 data.

When looking at interactions for repeat imprisonment offenders, it was noted that the fit of the model was improved for the robbery group by separating out the 11 offenders under 21 at the start of their sentence who had 91% recidivism. Since this was also a high recidivism group using the 1991 data (11 offenders under 21 had 73% recidivism), this effect was included in the model.

Recidivism values for appropriate subgroups of each MSO/imprisonment history group are given in Table 3.

3.1.2 Validation of Model

Recidivism values for males discharged in 1991 in the same subgroups as the 1990 data are given in Table 3.

Using logistic regression, for the first imprisonment groups there was no relationship with the variable in the model (groupings of age) for males over 18 years at start of sentence for the sexual offences, robbery, fraud and other offences groups. Comparing recidivism values for the 1990 and 1991 data sets from Table 3, the 1991 data had lower recidivism for young offenders in the sexual offences and other offence groups, higher recidivism for the older offenders in the robbery and other offence groups and lower recidivism for those discharged A, B, C1 or E for fraud.

Conversely, age was a significant variable for the first imprisonment property group for the 1991 data but not for the 1990 data. Recidivism values in age groupings are included in Table 3. Compared to 1990, older offenders in the 1991 data had lower recidivism.

For the combined 1990/1991 data the month of discharge (numbered from 1 to 24) improved the fit of the model only for the first imprisonment assault (1% level of significance) and property groups (5% level). In both cases, recidivism decreased slightly over time.

The predicted recidivism values calculated from the 1990 model using the 1991 data are shown in Table 4. The biggest difference between predicted and actual recidivism was for the first imprisonment robbery group where the actual 1991 recidivism was 12% higher than the predicted. This was due to the higher recidivism for older offenders in 1991.

3.2 Subsequent Offence

The MSO of the first subsequent imprisonment episode where the first conviction was less than two years after the discharge from the focal episode was classified as a violent offence (homicide, assault, sexual offence or robbery), non-violent offence (fraud, property, driving, drug offence or other offence) or breach of parole (BOP). The percentage of violent and non-violent subsequent MSO's for each focal MSO/imprisonment history grouping with the combined 1990/1991 data is given in Table 5. The MSO's of the subsequent episodes are shown in more detail in Table A7 in the appendix.

In both the first imprisonment and prior imprisonment groups, the assault group had the highest percentage of violent recidivists, followed by the robbery and other offence categories.

Table 5: Distribution of Most Serious Offence Of First Subsequent Episode - Males

Most Serious Offence Group		Number of Cases	Most Serious Offence (%)			
			None	BOP	Non-Viol	Violent
Homicide	First Impr't	63	89 %	6 %	3 %	2 %
	Repeat Impr't	19	79 %	11 %	0 %	11 %
	Total	82	87 %	7 %	2 %	4 %
Assault	First Impr't	564	73 %	2 %	11 %	14 %
	Repeat Impr't	541	56 %	3 %	19 %	21 %
	Total	1105	65 %	3 %	15 %	18 %
Sexual	First Impr't	191	94 %	4 %	1 %	1 %
	Repeat Impr't	72	74 %	13 %	6 %	8 %
	Total	263	89 %	6 %	2 %	3 %
Robbery	First Impr't	167	81 %	7 %	6 %	6 %
	Repeat Impr't	205	53 %	19 %	12 %	16 %
	Total	372	66 %	13 %	9 %	12 %
Fraud	First Impr't	214	86 %	1 %	11 %	1 %
	Repeat Impr't	152	56 %	3 %	38 %	4 %
	Total	366	73 %	2 %	22 %	2 %
Property	First Impr't	1182	63 %	3 %	29 %	5 %
	Repeat Impr't	1536	45 %	6 %	41 %	8 %
	Total	2718	53 %	5 %	36 %	7 %
Driving	First Impr't	567	84 %	*	14 %	2 %
	Repeat Impr't	523	67 %	*	28 %	5 %
	Total	1090	76 %	*	21 %	3 %
Drug	First Impr't	468	91 %	1 %	6 %	1 %
	Repeat Impr't	191	70 %	4 %	23 %	4 %
	Total	659	85 %	2 %	11 %	2 %
Breach	First Impr't	-	-	-	-	-
Of	Repeat Impr't	454	46 %	19 %	28 %	7 %
	Total	454	46 %	19 %	28 %	7 %
Other	First Impr't	397	76 %	1 %	17 %	6 %
	Repeat Impr't	308	56 %	2 %	28 %	14 %
	Total	705	67 %	2 %	22 %	9 %
Total	First Impr't	3813	77 %	2 %	16 %	5 %
	Repeat Impr't	4001	53 %	7 %	30 %	10 %
	Total	7814	65 %	5 %	23 %	7 %

* = less than 0.5%.
Violent = Homicide, assault, sexual offences and robbery categories.
Non-viol = Fraud, property, driving, drug offences and other offences categories.
See Table A7 in the Appendix for more detail.

Although the property groups had the highest recidivism, very few of the first subsequent convictions were for violent offences. Breach of parole was the MSO for at least half of the first subsequent episodes for the recidivists in the homicide and sexual offences groups and for over a third of the recidivists in the robbery group, the groups with the largest proportions released to parole.

Of the 82 men discharged after serving a sentence for homicide, 11 (13%) had a conviction leading to a custodial sentence within two years of discharge, with breach of parole being the MSO of the subsequent episode in six cases. For the other five cases the subsequent MSO was "supplying drugs", "accessory after the fact of stealing a motor vehicle", "robbery", "assault occasioning actual bodily harm" and "shoot at with intent to prevent arrest". That is, none of the homicide group returned with a subsequent MSO for homicide, compared to 16% of the assault group who initially returned for assault, 1% of the sexual offence group who initially returned for a sexual offence, and 7% of robbers who initially returned for robbery.

3.3 Variables not in Model

3.3.1 Time Served

Using the 1990 data, no function of time served made a significant improvement to the fit of the model at the 1% level for any MSO/imprisonment history group. However, for the combined 1990/1991 data, functions of time served were significant at the 5% level for the first imprisonment property group (under 1 month served had a higher recidivism) and at the 1% level for the first imprisonment drug group (longer time served had lower recidivism).

3.3.2 Aboriginality

Of the 7814 males discharged in 1990 or 1991, 1125 (14%) were Aboriginal, comprising 12% of the first imprisonment group and 17% of the repeat imprisonment group. Most were in the property offence (36%) and assault (28%) groups. Compared to the non-Aboriginals in these groups, there was a much higher proportion of younger Aboriginals (Table 6). For example, for the first imprisonment assault group, 37% of the 153 people under 21 at the start of sentence were Aboriginal compared to 10% of the 168 people 30 and older.

Apart from the first imprisonment/driving group (where there was a very small proportion of Aboriginals), adding direct or interaction terms concerning Aboriginality did not improve the fit of the regression model at the 1% level using 1990 data. That is, taking other variables such as age into account, Aboriginality was not a significant factor regarding recidivism.

For the combined 1990/1991 data, Aboriginality was significant at the 1% level only for the driving groups and the first imprisonment property group. For this last group, the difference between Aboriginal and non-Aboriginal recidivism dropped from 17% for those under 21 years old (61% for Aboriginal vs 44% for non-Aboriginal) to a difference of 9% for those 40 and older (31% Aboriginal vs 22% non-Aboriginal). But since over half the Aboriginals were under 21 (the highest recidivism group), the overall recidivism difference for first imprisonment property offenders was 18% (52% Aboriginal vs 34% non-

Aboriginal). That is, although overall recidivism for Aboriginals was higher than for non-Aboriginals, especially for the first imprisonment groups, (45% Aboriginal vs 24% non-Aboriginal first imprisonment, 52% Aboriginal vs 42% repeat imprisonment) this was mostly because a high proportion of Aboriginals were in the high recidivism age and offence groups. Table A8 in the Appendix shows recidivism for the assault, property, BOP and other offences groups by age and Aboriginality.

Looking at recidivism resulting in violent offences, in the assault groups Aboriginality was significant at the 5% level for the first imprisonment group (20% Aboriginals returned initially for assault compared to 11% non-Aboriginal) and at the 1% level for the repeat imprisonment group (25% Aboriginals returned initially for assault compared to 13% non-Aboriginal).

Table 6: Percentage Aboriginality by Age for Selected MSO Groups - Males

MSO Group		Age Groupings					
		<21	21-24	25-29	30-39	40+	Total
Assault	First Impr't	37% (153)	23% (133)	19% (110)	12% (114)	6% (54)	22% (564)
	Repeat Impr't	44% (57)	47% (144)	36% (140)	27% (138)	11% (62)	34% (541)
	Total Assault	39% (210)	35% (277)	28% (250)	20% (252)	9% (116)	28% (1105)
Property	First Impr't	19% (550)	16% (279)	8% (172)	7% (139)	7% (42)	15% (1182)
	Repeat Impr't	25% (228)	20% (446)	10% (407)	10% (363)	8% (92)	15% (1536)
	Total Property	21% (778)	19% (725)	9% (579)	9% (502)	7% (134)	15% (2718)
BOP	Repeat Impr't	33% (27)	18% (113)	11% (126)	12% (160)	18% (28)	15% (454)
Other	First Impr't	15% (103)	28% (102)	13% (78)	6% (72)	2% (42)	15% (397)
	Repeat Impr't	28% (32)	30% (64)	17% (78)	18% (91)	5% (43)	19% (308)
	Total Other	18% (135)	29% (166)	15% (156)	12% (163)	4% (85)	17% (705)

Number of cases given in brackets

3.3.3 Born Overseas

A total of 10% (11% first imprisonment and 8% prior imprisonment) of all males discharged in 1990 were born in NESB countries. For the first imprisonment group, 31% (130) born in NESB countries had an MSO for drug offences, making up 28% of the first imprisonment/drug offence group total, and for the repeat imprisonment group 12% (38) had an MSO for a drug offence, 20% of the repeat imprisonment/drug offence group total.

In deriving the model for 1990 data, people born in NESB countries had a higher recidivism for the first imprisonment/property group but this effect was not apparent for the 1991 data. For the combined 1990/1991 data there was no difference in recidivism for any of the groups.

Overall 6% (440) of the people discharged in 1990 were born in English speaking countries other than Australia (7% of first imprisonment and 4% of repeat imprisonment). They made up between 2% and 11% of the various MSO/imprisonment history groups and did not differ significantly in recidivism from inmates of similar age etc.

3.3.4 Discharge Type

The type of discharge (to parole or to unconditional freedom) was used in the model only for the first imprisonment fraud group where people discharged to parole had significantly lower recidivism. A higher proportion of the first imprisonment fraud people discharged to parole were 30 years or older (71% compared to 39% discharged to freedom), a higher proportion had a C3 security classification (68% compared to 6%) and as expected, a higher proportion served more than six months (93% compared to 21%).

3.3.5 Juvenile Criminal History

For the 185 males discharged in 1990 who had started their sentence under the age of 19, data was obtained from the Office of Juvenile Justice as to whether they had had a conviction leading to custody in a juvenile institution. The people were then grouped according to whether they had a juvenile custodial conviction and/or a prior adult imprisonment. Juvenile history was not available for 10 people who started their sentences before 1987. As shown in Table 7, all the seven people with both juvenile and adult prior custody when starting a sentence under 19 recidivated. Of those with no prior adult imprisonment, the 62 who had a juvenile custodial conviction had a slightly higher recidivism than those who had not.

Table 7: Juvenile Custodial Conviction

Males starting adult custodial sentence under 19 years old

Prior Custodial Sentences	Assault		Property		Total	
	Recidivism	Number	Recidivism	Number	Recidivism	Number
Juvenile & Adult	100%	1	100%	4	100%	7
Juvenile, No Adult	57%	14	68%	38	58%	65
Adult, No Juvenile	0%	1	89%	9	69%	13
No Juvenile or Adult	50%	12	52%	61	47%	96

Juvenile = Juvenile custodial sentence.
Adult = Previous adult custodial sentence.
Note that only the assault and property MSO groups are shown separately. Total includes all MSO groups.

3.4 Female Recidivism

The numbers in each MSO/imprisonment history group for females were small even for the combined 1990/1991 data, with only the property groups having more than 50 people. The age, time served, Aboriginality, classification at discharge, and time in community distributions of the women for the combined 1990/1991 data are summarised in Table 8.

Compared to the men, a smaller proportion of the female property group were under 21 and a larger proportion served under six months. Also, a smaller percentage of the first imprisonment drug offenders served long sentences, and a larger proportion had a time in community of under one year in general. The biggest difference was that in general a much larger percentage of the women were discharged as C1 and a lower percentage discharged as C2 or C3. (See Table A9 in the Appendix).

For the women in the first imprisonment/property group, the actual recidivism for the 1990 data was 19% lower than the predicted value based on the 1990 model for males (Table 9). For these women the only variable significant at even the 5% level was whether or not the classification at discharge was C2 or C3. There was no relationship between recidivism and MSO subgroup (as there was for the 1990 men) or age at start (as there was for the 1991 men).

For the repeat imprisonment property group, the actual recidivism of the women was close to the value predicted by the model for males, with the logarithm of time in community significant at the 1% level and groupings of age significant at the 5% level.

Using the combined 1990/1991 data, gender was significant at the 1% level for the first imprisonment property and other offence groups, with female recidivism lower for the property offences and higher for the other offences.

Table 8: Characteristics of Female Offenders

First Imprisonment Group

MSO Group	Number	Age		Time Served		Aborig-inal %	NESB %	Classi-fication A/B/C1/E %
		%<21	%40+	%<6mth	%2yr+			
Homicide	8	38	38	0	51	13	0	25
Assault	44	25	2	68	5	34	7	61
Sexual	1	0	0	0	0	0	0	0
Robbery	12	25	0	17	25	8	8	67
Fraud	44	2	23	52	2	7	7	36
Property	138	20	3	65	2	13	4	70
Driving	7	0	14	100	0	29	0	43
Drugs	48	4	17	40	8	8	6	35
Other	41	10	10	80	0	10	10	61
Total	343	15	9	59	5	14	6	57

Repeat Imprisonment Group

MSO Group	Number	Age		Time Served		Abor i-ginal %	NESB %	Classi-fication A/B/C1/E %	In Com m-unity %<1Yr
		%<21	%40+	%<6mth	%2yr+				
Homicide	1	0	0	0	100	0	100	0	0
Assault	20	5	5	55	0	20	5	80	55
Sexual	0	-	-	-	-	-	-	-	-
Robbery	9	11	11	11	56	11	0	67	56
Fraud	34	6	0	56	0	18	6	71	47
Property	152	9	6	55	1	17	5	78	59
Driving	4	0	0	100	0	75	0	75	100
Drugs	10	0	20	60	0	0	10	60	20
BOP	31	0	0	52	3	23	6	90	74
Other	36	3	6	61	0	17	8	75	53
Total	297	6	5	55	3	18	6	77	57

Table 8 continued

Total

MSO Group	Number	Age		Time Served		Aborig-inal %	NESB %	Classi-fication A/B/C1/E %
		%<21	%40+	%<6mth	%2yr+			
Homicide	9	33	33	0	55	11	11	22
Assault	64	19	3	64	3	30	6	67
Sexual	1	0	0	0	0	0	0	0
Robbery	21	19	5	14	38	10	5	67
Fraud	78	4	13	54	1	12	6	51
Property	290	14	4	60	2	15	4	74
Driving	11	0	9	100	0	45	0	55
Drugs	58	3	17	43	7	7	7	40
BOP	31	0	0	52	3	23	6	90
Other	77	6	8	71	0	13	9	68
Total	640	11	7	57	4	16	6	66

Number = Number of inmates discharged in 1990 or 1991.
Age = Age at start of sentence.
NESB = Born in country other than Australia, Gt Britain, Northern Ireland, Canada, USA, New Zealand or South Africa.
In Community = Time between discharge from prior imprisonment episode and start of focal episode.

Table 9: Female Recidivism

First Imprisonment Group

	Discharged 1990			Discharged 1991			Discharged 1990 or 1991		
	Number of Cases	Recidivism		Number of Cases	Recidivism		Number of Cases	Recidivism	
		Actual	Predicted		Actual	Predicted		Actual	Predicted
Homicide	5	-	-	3	-	-	8	0%	-
Assault	21	33%	31%	23	26%	32%	44	30%	31%
Sexual	0	-	-	1	-	-	1	0%	-
Robbery	4	-	-	8	-	-	12	25%	15%
Fraud	20	5%	24%	24	21%	27%	44	14%	25%
Property**	71	25%	44%	67	36%	50%	138	30%	47%
Driving	3	-	-	4	-	-	7	14%	-
Drug	23	13%	8%	25	0%	8%	48	6%	8%
Other**	22	41%	21%	19	42%	23%	41	41%	22%
Total	169	24%	30%	174	25%	32%	343	25%	31%

** Gender variable made significant improvement to model

Table 9 continued

Repeat Imprisonment

	Discharged 1990			Discharged 1991			Discharged 1990 or 1991		
	Number of Cases	Recidivism		Number of Cases	Recidivism		Number of Cases	Recidivism	
		Actual	Predicted		Actual	Predicted		Actual	Predicted
Homicide	0	-	-	1	-	-	1	0%	-
Assault	10	40%	61%	10	40%	54%	20	40%	58%
Sexual	0	-	-	0	-	-	0	-	-
Robbery	4	-	-	5	-	-	9	33%	-
Fraud	16	44%	64%	18	61%	74%	34	53%	69%
Property	78	60%	66%	74	55%	66%	152	58%	66%
Driving	0	-	-	4	-	-	4	50%	-
Drug	6	-	-	4	-	-	10	20%	34%
BOP	14	64%	62%	17	65%	59%	31	65%	60%
Other	17	41%	51%	19	47%	48%	36	44%	49%
Total	145	52%	61%	152	54%	63%	297	53%	62%

4. Discussion

4.1 Recidivism Patterns

The data illustrates the diversity of the people coming into the custody of the NSW Department of Corrective Services, spanning a range of ages, offences and backgrounds. About half were serving a custodial sentence for the first time. Others had already served custodial sentences for a range of offences and had had differing times in the community between sentences.

While overall recidivism was 35% for males and 38% for females, it was lowest for older people with no prior imprisonment and highest for people who returned to custody quickly after prior imprisonment. Using variables on the computerised Offender Records System, low recidivism groups (for example, with less than 20% recidivism) or high recidivism groups (for example, with more than 60% recidivism) could be identified. The fact that in many cases a group could be split into subgroups of significantly different recidivism emphasises the non-homogeneity of "recidivism risk" among members of a group.

It should be noted that overall, 76% of the people serving a custodial sentence for the first time did not receive another custodial sentence for at least two years. One could hypothesise that a custodial sentence deters many people from future offending. In actual fact there is no evidence to determine whether re-offending might have been more or less with a non-custodial sentence.

From a financial point of view even small differences in recidivism are significant. There is an estimated theoretical cost per day of $94.11 for keeping an inmate in a minimum security institution, $123.27 in medium security and $139.00 in maximum security. For example, not keeping an inmate serving three months would theoretically save the NSW Department of Corrective Services alone more than $8,000 (not to mention police and court costs). In practice, savings of this order would not be made unless inmate numbers dropped enough to be able to reduce staff or to close a correctional centre or wing. However, if even 10 of the serious offenders discharged each year who would otherwise have spent another 10 years in custody did not return to custody, this would reduce the average inmate numbers by about 100 and could save the New South Wales government a great deal of money.

In contrast, correctly deciding that the recidivism rate has changed for a specific group of inmates is more difficult, especially when numbers in the group being looked at are small. For example, from binomial theory, for a group of 100 inmates each with a 50% chance of recidivating, between 40% and 60% of the group would actually recidivate. Similarly, two such groups of 100 inmates would need to differ by at least 14% to be able to say their recidivism levels were significantly different at the 5% level. In order to show that a group where 45% recidivated came from a population with less than 50% recidivism would need at least 400 in the group. This is impossible when trying to assess the effect of most programs. That is, while small differences in recidivism may be important in reality, in practice only comparatively large differences can be reliably detected unless the groups are big.

4.1.1 MSO Groups

The MSO groups had different overall recidivism. In most cases this was related to the age of the offenders for the first imprisonment groups and the time to re-imprisonment for the repeat imprisonment groups. Although in some respects the concept of MSO groups is artificial since an imprisonment episode may be for a wide range of offences, the results indicate generalised characteristics for each group. It should be remembered that the type of subsequent offence refers only to the first subsequent imprisonment episode after the focal episode.

Most of the small group of people serving sentences for homicide served very long terms and few returned to custody within two years, with only two out of the total of 82 returning for a violent offence.

Most people in the assault groups were relatively young, with over a quarter being young Aboriginals. Over half served less than six months. The recidivism rate was relatively high with nearly half of the recidivists returning for another assault offence.

Sexual offenders tended to be middle-aged and to have a very low recidivism rate during the first two years after discharge. Of the 30 (11%) recidivists, only 7 (3%) returned to custody for violent offences.

Robbers were aged mainly under 30 at the start of their sentence and mostly served two to five years. People in custody for the first time had a medium recidivism rate while people who had been in custody before had a comparatively high recidivism rate, although mainly for non-violent offences. Overall about a third of these recidivists returned to custody for robbery or another violent offence.

About half the people in the fraud offence groups were aged over 30 and most served less than one year. Overall recidivism was medium with about two thirds of recidivists returning for fraud or property offences.

The property offence groups contained about one third of all the inmates, the offence groups with the largest numbers of inmates. Most served less than a year with about half of those in adult custody for the first time serving less than six months. Most were under 25 with nearly half of the first imprisonment group being under 21, and about one fifth of the inmates under 25 being Aboriginal. Recidivism was comparatively high with over half of the recidivists returning for property offences.

People in custody for driving offences covered both young and older age groups with most serving less than six months and with a medium recidivism rate. About half of the recidivists returned for driving offences.

Over half the people in the drug offence groups were aged over 30. Time served included both short and long sentences. Over a quarter of the first imprisonment group had been born in a NESB country and about a fifth of the repeat imprisonment group. Overall recidivism was low, especially for those in custody for importing or cultivating drugs. However people with repeat imprisonment in custody for possession or use of a drug had high recidivism. Only about a fifth of recidivists returned initially for a drug offence.

People whose MSO was breach of

parole were mostly between 22 and 39 years old. Nearly half served less than six months but some served as much a five years, seemingly for long concurrent sentences. About one third of the recidivists returned initially for breach of parole and about one third for property offences.

About half of the other offences were for breaches of recognizance, community service orders, etc. Most of the people in these groups served less than six months. They covered both young and older age groups and about a sixth were Aboriginal. Overall recidivism was at a medium level with about one quarter of recidivists returning initially for violent offences.

It is tempting to speculate on the reasons for the different recidivism values. Is it significant that most of the people in the same age group in custody for the first time had roughly the same recidivism although the subsequent offence was obviously related to the original offence? That is, although the reasons for re-imprisonment seemed to be different, the recidivism levels were of the same order.

For the first imprisonment offenders, the sexual offences, fraud and drug offences groups all had very few inmates starting their sentence under the age of 21 and all had low overall recidivism values. Was this because these offences do not appeal to younger people, because they are more difficult to detect or because young offenders tend to be given non-custodial sentences for these offences? Does the possible difficulty of detection create low recidivism although the offender goes on offending? Are these offences of a nature such that few re-offences occur within two years but there is high recidivism after a longer period or they really "once in a lifetime" offences?

Why do the older offender groups have lower recidivism? Are they better at avoiding detection? Or have they just grown out of their criminal lifestyle? Answers to such questions are outside the scope of this report.

4.1.2 Time Served, Aboriginality, Discharge Type, Classification at Discharge, and Juvenile History

As described in the introduction, time served has potentially very complex relationships with recidivism and it is not surprising few effects were identified here. The increasing recidivism with increased time served for first imprisonment drug offenders was because most of the shorter sentences were for people in the slightly higher recidivism subgroup of use or possession of a drug.

This study highlights the main areas of the imbalance in the number of Aboriginals in custody in New South Wales - Aboriginals are very over-represented among young offenders serving sentences for assault or property offences. Overall, Aboriginals have a noticeably higher recidivism than for non-Aboriginals. However, compared to non-Aboriginals of the same age and MSO groups, the differences in recidivism are not large.

Do young Aboriginals tend to be given custodial sentences for assault or property offences so much more frequently than non-Aboriginals because they offend more, because the apprehension rate of Aboriginal offenders is higher or because Aboriginals are deemed less suitable for non-custodial sentences such as

recognizance, fine or community service order? These questions are beyond the scope of this study but deserve a study in their own right.

Discharge to parole seemed to have little direct effect on the recidivism rates found in this study. The concept of additional terms and parole can be seen as a way of assisting people to return to the community by providing support and direction. However, the results in this study do not indicate that longer sentences and additional terms are assigned with regard to recidivism risk.

One could argue that recidivism might have been worse without parole supervision for those people released to parole. One could also argue that people under parole supervision have an increased chance of returning to custody because of the possibility of having their parole breached for offences which would not otherwise have been given custodial sentences. It should be noted that people who breach their parole but do not return to custody (perhaps someone who stops reporting and cannot be found) are not counted here as recidivists. A fuller study is planned to look at the reasons for breaches of parole.

Simplistically, one would hope for a difference in recidivism between those discharged as A, B, C1 or E and those discharged as C2 or C3, representing the effect of co-operative participation in the correctional centre regime and available programs. However, even for the groups where a classification effect was significant, the difference in recidivism was only moderate. It could be that the time spent in custody by most inmates is too short for them to gain a lasting benefit from the programs offered. Perhaps, more negatively, the main factors leading to recidivism for most offenders are not affected by the programs it is possible to offer in custody. It is also possible that the differences between the groups is due to differing attitudes among the inmates and nothing to do with their treatment in custody. Future studies to look at the effect of specific programs such as work release are planned. It is also hoped to look at exactly which of the currently available programs are being accessed by inmates in the high recidivism groups.

A juvenile custodial conviction made only a small difference to the recidivism of people starting sentences under 19 years old without prior imprisonment. The relationship between juvenile criminal history and adult recidivism needs a study in its own right.

4.2 Female Recidivism

It is difficult to draw conclusions about female recidivism because of the small numbers. Because of the apparent difference in classification to males the male model is not directly applicable. However the lowest recidivism group identified was the first imprisonment drug offence group (also low for males) and the highest group identified was the property repeat imprisonment group for people with less than six months in community (also high for males).

4.3 Comparison with Other Jurisdictions

The most relevant data for the comparison of recidivism values in other jurisdictions in Australia is that published by Broadhurst and Maller (1990) for Western Australian first imprisonment inmates released between 1975 and 1987. Unlike the New South Wales data set, these

included fine defaulters. Recidivism was quoted as the probability of ultimately returning to custody. Reading off the graph in the report, recidivism after 2 years was approximately 28% for male non-Aboriginals (compared to 21% for New South Wales data), 16% for female non-Aboriginals (compared to 21% in New South Wales), 57% for Aboriginal males and 44% for Aboriginal females.

Broadhurst and Maller (1991) estimated that for male non-Aboriginals in Western Australia, 36% of the total inmates received would be for first imprisonment and that 55% of the first imprisonment group would not return to custody. For the New South Wales data, 53% of the male non-Aboriginals had had no prior imprisonment.

The slightly higher recidivism among non-Aboriginal males in Western Australia was consistent with the lower percentage of first offenders. The main difference between the data sets seemed to be the large proportion of high-recidivism driving offenders in Western Australia, a small medium-recidivism group in New South Wales. Since most of these offenders served under six months in custody, this could be the explanation for the significantly higher recidivism for short sentences and the lower recidivism for people released to parole (associated with long sentences) in Western Australia. Neither of these effects were apparent in New South Wales data.

Harer (1994) defined recidivism as re-arrest or revocation of parole for U.S. Federal Bureau of Prisons inmates released in 1987 after sentences over three months. From his graph, 31% of inmates were re-arrested or had their parole revoked after two years, compared to 36% of New South Wales inmates having a conviction leading to a custodial sentence. The obviously lower U.S. recidivism rate may be due to the much larger percentage of drug offenders (a low-recidivism group in NSW) in the U.S. data (39% of the U.S. offenders compared to 8% if NSW) and the much smaller percentage of property offenders (a high-recidivism group in NSW) (17% of U.S. compared to 35% of NSW).

Harer (1994) found that recidivism was related to criminal history and age at release, consistent to the findings in this study. However because of the very different composition of the U.S. inmates, applying his other results to the New South Wales situation should only be done with caution.

4.4 Consistency of Model

The first aim of this study was to investigate the possibility of making a model of recidivism which would be valid for several years, in particular a model equally applicable for people discharged in 1990 and people discharged in 1991.

While discharge groups were chosen as the most practical way of looking at recidivism for the whole inmate population, the distinction between people discharged in 1990 and people discharged in 1991 is rather artificial. In fact, people in the different discharge groups could easily have been in custody at the same time and even in the same correctional centre together. In order to draw conclusions about the effect of specific changes in conditions in correctional centres people known to have experienced each set of conditions would have to be examined separately. However, any model of recidivism should be

applicable to both these discharge groups at least in order to have any general validity.

Unfortunately, this was only partly the case. For the first imprisonment groups the main variable related to recidivism rate was age at start. However looking at inmates over 18 years of age the relationship was not strong enough to be consistently significant for the same MSO group for both years. In particular, the large first imprisonment/property offences group with 432 cases over 18 years old discharged in 1990 showed no relationship between age and recidivism mainly because the older groups had higher recidivism in 1990 than in 1991.

For the repeat imprisonment groups, time in community was consistently related to recidivism. Classification at discharge, where this was related to recidivism for the 1990 data, did not subdivide the time in community groups into the same patterns for the 1991 data.

Part of this lack of consistency is due to random variation and part due to non-random variation of unknown origin. This lack of consistency for discharge groups has implications in designing studies to evaluate the recidivism of subgroups and also in the interpretation of recidivism values.

4.5. High and Low Recidivism Groups

The second aim of this study was to identify high and low recidivism groups using variables available on the computerised offender record system at the time of inmate reception.

The highest recidivism groups were for the repeat imprisonment people who had returned to custody quickly after their last sentence. From Table 3, 9% of inmates were in subgroups based on time in community (known at reception) which had more than 60% recidivism in both 1990 and 1991. These were repeat imprisonment robbery offenders under 21 at the start of their sentence and repeat imprisonment property offenders with less than one year in community. That is, if this effect is consistent for following years, 9% of inmates passing through the system can be identified on reception as belonging to groups with more than 60% recidivism.

It is recommended that a needs analysis be undertaken for inmates in the higher recidivism groups. This would investigate both whether the inmates are participating in the programs etc, now available and what other programs might be offered. If as calculated by Broadhurst and Maller (1991), some offenders return to custody many times, it might be economically viable to allocate a lot of resources into reducing recidivism among the highest offenders.

The lowest recidivism groups were the older first imprisonment people and all the first imprisonment drug offence group.

From Tables 3 as an example, 29% of inmates were in subgroups with recidivism less than 20% in both 1990 and 1991. That is, if this effect is consistent for following years, 29% of inmates passing through the system could be identified on reception as belonging to groups having less than 20% recidivism. It is important to remember that this does not imply that all the inmates identified this way are low recidivism risks. Also, the few recidivists may return to custody many times in the future.

5. Conclusions

1. In general, the following variables available on the departmental computerised Offender Records System were related to recidivism:

Prior adult imprisonment;

Age;

Time between the focal episode and prior imprisonment episode (if any);

Security classification at discharge;

Most serious offence of focal episode.

However the relationship varied for people discharged at different times. Thus research designs where the recidivism at different times is used to look at the effect of a particular program should be treated with caution.

2. Some groups with high or low overall recidivism can be identified for special targetting using variables available on the departmental computerised Offenders Record System. However not all the inmates in each group had a corresponding high or low probability of recidivism.

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Acknowledgements

Grateful thanks to Keith Swarris, Tom Lau and Terry Oates of the Information Branch of the NSW Department of Corrective Services for retrieving the data from the Offender Record System.

Thanks also to the NSW Office of Juvenile Justice for providing information on juvenile convictions.

The assistance of Ed Dickson who helped to edit the data and type the tables, and of Antonia Barila, Simon Eyland and Maria Kevin and others who commented on the draft of this report is also much appreciated.

Appendix

Figure A1: Recidivism Definitions in this Study

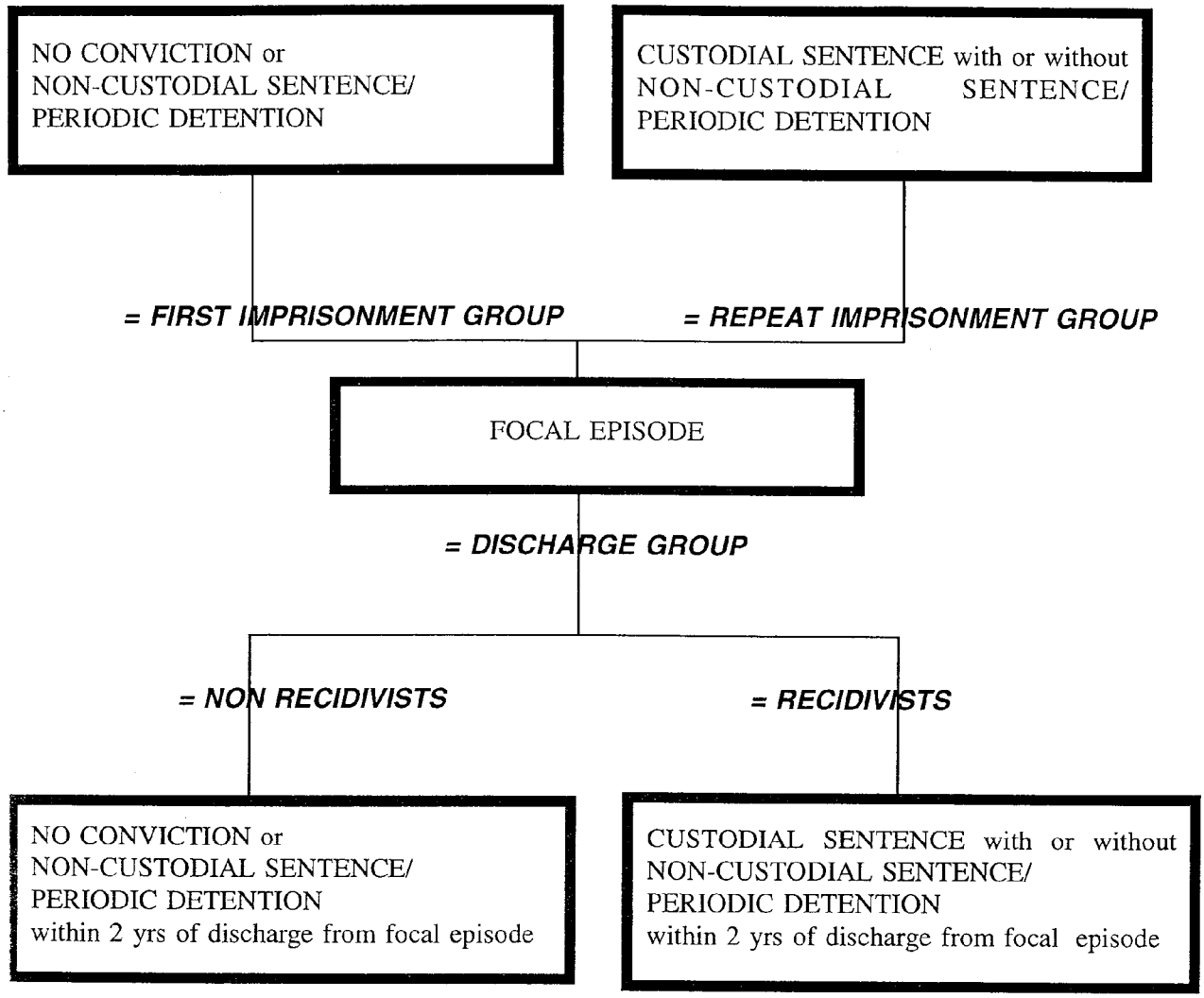

Table A1: Distribution of Age at Start of Sentence - Males

Most Serious Offence Group		Number of Cases	Age at Start (%)				
			< 21	21-24	25-29	30-39	40+
Homicide	First Impr't	63	29 %	19 %	19 %	22 %	11 %
	Repeat Impr't	19	32 %	0 %	5 %	37 %	26 %
	Total	82	29 %	15 %	16 %	26 %	15 %
Assault	First Impr't	564	27 %	24 %	20 %	20 %	10 %
	Repeat Impr't	541	11 %	27 %	26 %	26 %	11 %
	Total	1105	19 %	25 %	23 %	23 %	10 %
Sexual	First Impr't	191	7 %	12 %	15 %	31 %	36 %
	Repeat Impr't	72	10 %	19 %	17 %	31 %	24 %
	Total	263	8 %	14 %	15 %	31 %	33 %
Robbery	First Impr't	167	30 %	28 %	23 %	17 %	2 %
	Repeat Impr't	205	11 %	26 %	38 %	24 %	2 %
	Total	372	19 %	27 %	31 %	21 %	2 %
Fraud	First Impr't	214	13 %	15 %	20 %	25 %	27 %
	Repeat Impr't	152	3 %	18 %	24 %	36 %	18 %
	Total	366	9 %	17 %	21 %	30 %	23 %
Property	First Impr't	1182	47 %	24 %	15 %	12 %	4 %
	Repeat Impr't	1536	15 %	29 %	26 %	24 %	6 %
	Total	2718	29 %	27 %	21 %	18 %	5 %
Driving	First Impr't	567	14 %	22 %	23 %	27 %	14 %
	Repeat Impr't	523	4 %	21 %	26 %	31 %	18 %
	Total	1090	9 %	22 %	24 %	29 %	16 %
Drug	First Impr't	468	6 %	12 %	24 %	39 %	19 %
	Repeat Impr't	191	0 %	15 %	29 %	40 %	16 %
	Total	659	4 %	13 %	25 %	39 %	18 %
Breach	First Impr't	-	-	-	-	-	-
Of	Repeat Impr't	454	6 %	25 %	28 %	35 %	6 %
Parole	Total	454	6 %	25 %	28 %	35 %	6 %
Other	First Impr't	397	26 %	26 %	20 %	18 %	11 %
	Repeat Impr't	308	10 %	21 %	25 %	30 %	14 %
	Total	705	19 %	24 %	22 %	23 %	12 %
Total	First Impr't	3813	27 %	21 %	19 %	21 %	12 %
	Repeat Impr't	4001	10 %	25 %	27 %	28 %	10 %
	Total	7814	18 %	23 %	23 %	25 %	11 %

Table A2: Distribution of Time Served - Males

Most Serious Offence Group		Number of Cases	Time Served (%)				
			< 6 Mth	6- 12Mth	1-2 Yr	2-5 Yr	5Yr+
Homicide	First Impr't	63	2 %	2 %	11 %	33 %	52 %
	Repeat Impr't	19	5 %	0 %	5 %	32 %	58 %
	Total	82	2 %	1 %	10 %	33 %	54 %
Assault	First Impr't	564	69 %	19 %	7 %	4 %	*
	Repeat Impr't	541	60 %	24 %	9 %	6 %	1 %
	Total	1105	65 %	22 %	8 %	5 %	1 %
Sexual	First Impr't	191	10 %	29 %	29 %	31 %	2 %
	Repeat Impr't	72	7 %	17 %	19 %	43 %	14 %
	Total	263	9 %	25 %	26 %	34 %	5 %
Robbery	First Impr't	167	2 %	19 %	35 %	41 %	4 %
	Repeat Impr't	205	2 %	6 %	20 %	61 %	10 %
	Total	372	2 %	12 %	27 %	52 %	7 %
Fraud	First Impr't	214	43 %	30 %	21 %	6 %	0 %
	Repeat Impr't	152	40 %	41 %	15 %	3 %	0 %
	Total	366	42 %	35 %	19 %	5 %	0 %
Property	First Impr't	1182	53 %	29 %	13 %	5 %	0 %
	Repeat Impr't	1536	38 %	34 %	20 %	7 %	*
	Total	2718	45 %	32 %	17 %	6 %	*
Driving	First Impr't	567	82 %	16 %	2 %	*	0 %
	Repeat Impr't	523	73 %	24 %	3 %	1 %	0 %
	Total	1090	78 %	20 %	2 %	*	0 %
Drug	First Impr't	468	31 %	24 %	24 %	19 %	3 %
	Repeat Impr't	191	36 %	25 %	22 %	16 %	1 %
	Total	659	32 %	25 %	23 %	18 %	2 %
Breach	First Impr't	-	-	-	-	-	-
Of	Repeat Impr't	454	41 %	26 %	21 %	11 %	*
Parole	Total	454	41 %	26 %	21 %	11 %	*
Other	First Impr't	397	79 %	14 %	6 %	2 %	0 %
	Repeat Impr't	308	66 %	21 %	10 %	4 %	0 %
	Total	705	73 %	17 %	8 %	2 %	0 %
Total	First Impr't	3813	54 %	23 %	13 %	9 %	1 %
	Repeat Impr't	4001	46 %	27 %	15 %	10 %	1 %
	Total	7814	50 %	25 %	14 %	9 %	1 %

* = less than 0.5%.

Table A3: Distribution of Aboriginality, Country of Birth and Discharge Type - Males

Most Serious Offence Group		Number of Cases	Aboriginal %	Country of Birth		Discharge to Parole %
				ESB%	NESB%	
Homicide	First Impr't	63	10 %	10 %	17 %	98 %
	Repeat Impr't	19	16 %	5 %	0 %	95 %
	Total	82	11 %	9 %	13 %	98 %
Assault	First Impr't	564	22 %	6 %	9 %	21 %
	Repeat Impr't	541	34 %	4 %	5 %	26 %
	Total	1105	28 %	5 %	7 %	24 %
Sexual	First Impr't	191	7 %	9 %	10 %	86 %
	Repeat Impr't	72	22 %	4 %	4 %	76 %
	Total	263	11 %	8 %	8 %	84 %
Robbery	First Impr't	167	10 %	11 %	7 %	87 %
	Repeat Impr't	205	11 %	3 %	10 %	90 %
	Total	372	10 %	7 %	9 %	89 %
Fraud	First Impr't	214	2 %	7 %	14 %	50 %
	Repeat Impr't	152	5 %	8 %	14 %	41 %
	Total	366	3 %	8 %	14 %	46 %
Property	First Impr't	1182	15 %	5 %	7 %	33 %
	Repeat Impr't	1536	15 %	4 %	8 %	45 %
	Total	2718	15 %	5 %	7 %	40 %
Driving	First Impr't	567	6 %	6 %	10 %	7 %
	Repeat Impr't	523	15 %	4 %	6 %	9 %
	Total	1090	11 %	5 %	8 %	8 %
Drug	First Impr't	468	2 %	9 %	28 %	63 %
	Repeat Impr't	191	5 %	7 %	20 %	52 %
	Total	659	3 %	9 %	25 %	60 %
Breach	First Impr't	-	-	-	-	-
Of	Repeat Impr't	454	15 %	5 %	8 %	66 %
Parole	Total	454	15 %	5 %	8 %	66 %
Other	First Impr't	397	15 %	7 %	9 %	12 %
	Repeat Impr't	308	19 %	2 %	7 %	19 %
	Total	705	17 %	5 %	9 %	15 %
Total	First Impr't	3813	12 %	7 %	11 %	36 %
	Repeat Impr't	4001	17 %	4 %	8 %	42 %
	Total	7814	14 %	6 %	10 %	39 %

ESB = Born in Gt Britain, Northern Ireland, Canada, USA, New Zealand or South Africa
NESB = Not born in above countries or Australia

Table A4: Distribution of Security Classification at Focal Discharge - Males

Most Serious Offence Group		Number of Cases	Classification at Discharge (%)						
			>6C3	<6C2/C3	6-12C2	12+C2	C1	B	A
Homicide	First Impr't	63	62 %	2 %	2 %	16 %	3 %	14 %	2%
	Repeat Impr't	19	53 %	5 %	0 %	21 %	5 %	11 %	0 %
	Total	82	60 %	2 %	1 %	17 %	4 %	13 %	1 %
Assault	First Impr't	564	6 %	54 %	11 %	3 %	9 %	8 %	4 %
	Repeat Impr't	541	9 %	47 %	11 %	4 %	12 %	11 %	3 %
	Total	1105	7 %	51 %	11 %	4 %	11 %	10 %	3 %
Sexual	First Impr't	191	32 %	6 %	17 %	23 %	13 %	7 %	1 %
	Repeat Impr't	72	19 %	4 %	11 %	29 %	14 %	19 %	1 %
	Total	263	29 %	6 %	16 %	25 %	13 %	11 %	1 %
Robbery	First Impr't	167	31 %	2 %	9 %	23 %	17 %	11 %	5 %
	Repeat Impr't	205	22 %	1 %	4 %	16 %	21 %	26 %	8 %
	Total	372	26 %	2 %	6 %	19 %	19 %	20 %	7 %
Fraud	First Impr't	214	37 %	38 %	11 %	3 %	3 %	4 %	1 %
	Repeat Impr't	152	17 %	34 %	24 %	7 %	7 %	9 %	1 %
	Total	366	29 %	36 %	16 %	5 %	5 %	6 %	1 %
Property	First Impr't	1182	11 %	39 %	16 %	5 %	9 %	12 %	4 %
	Repeat Impr't	1536	11 %	27 %	16 %	8 %	15 %	15 %	5 %
	Total	2718	11 %	33 %	16 %	7 %	12 %	14 %	4 %
Driving	First Impr't	567	6 %	72 %	9 %	0 %	4 %	2 %	2 %
	Repeat Impr't	523	6 %	63 %	17 %	1 %	5 %	5 %	1 %
	Total	1090	6 %	67 %	13 %	1 %	4 %	4 %	1 %
Drug	First Impr't	468	41 %	28 %	10 %	8 %	5 %	5 %	2 %
	Repeat Impr't	191	27 %	28 %	14 %	7 %	12 %	7 %	3 %
	Total	659	37 %	28 %	11 %	8 %	7 %	6 %	2 %
Breach	First Impr't	-	-	-	-	-	-	-	-
Of	Repeat Impr't	454	7 %	22 %	10 %	9 %	17 %	23 %	10 %
Parole	Total	454	7 %	22 %	10 %	9 %	17 %	23 %	10 %
Other	First Impr't	397	6 %	59 %	8 %	2 %	6 %	8 %	3 %
	Repeat Impr't	308	6 %	54 %	10 %	3 %	6 %	13 %	5 %
	Total	705	6 %	57 %	9 %	2 %	6 %	10 %	4 %
Total	First Impr't	3813	17 %	43 %	12 %	6 %	7 %	8 %	3 %
	Repeat Impr't	4001	11 %	35 %	14 %	7 %	13 %	14 %	4 %
	Total	7814	14 %	39 %	13 %	7 %	10 %	11 %	4 %

>6C3 = C3, served 6mths or over. <6C2/C3 = C3 or C2, served less than 6mths.
6-12C2 = C2, served 6 to 12mths. 12+C2 = C2, served 12 or more months.

Table A5: Distribution of Time in Community - Males

Most Serious Offence Group	Number of Cases	Time in Community		
		< 1 Year	1-2 Years	. 3 Years +
Homicide	19	42%	21%	37%
Assault	541	43%	32%	25%
Sexual	72	28%	18%	54%
Robbery	205	45%	36%	19%
Fraud	152	36%	31%	34%
Property	1536	51%	31%	19%
Driving	523	28%	34%	38%
Drug	191	27%	37%	36%
BOP	454	62%	34%	4%
Other	308	39%	28%	33%
Total	4001	44%	32%	24%

Table A6: 1990 Recidivism Model

MSO Group	First Imprisonment Group				Repeat Imprisonment Group			
	N	Variable	B	SE	N	Variable	B	SE
Homicide	30	-			5	-		
Assault	227	Age 19,20	0.80	0.25	241	Sqrt(In Com'ty)	-0.13	0.05
		21-29	0.17	0.21		Class A/B/C1/E	0.48	0.16
		30+	-0.97			Other	-0.48	
		Constant	-0.95	0.17		Constant	0.57	0.26
Sexual	98	Age 19,20	1.96	1.02	30	-		
		21-29	0.35	0.68				
		30+	-2.31					
		Constant	-1.96	0.61				
Robbery	75	Age 19,20	1.01	0.35	106	Ln (In Com'ty) for Age >20	-0.50	0.17
		21+	-1.01			Constant	1.09	0.45
		Constant	-1.55	0.35				
Fraud	121	Classo >6C3	-2.16	0.73	82	Ln (In Com'ty) for class not A/B/C1/E	-0.72	0.18
		A/B/C1/E	1.83			Constant	1.54	0.53
		Other	0.33	0.49				
		Constant	-1.83	0.45				
		Discharge Parole	-0.96					
		Freedom	0.96	0.34				
		Constant	-2.14	0.34				

MSO Group	First Imprisonment Group				Repeat Imprisonment Group			
	N	Variable	B	SE	N	Variable	B	SE
Property	432	MSO Theft	0.79	0.20	690	In Com'ty <1 Yr	0.84	0.11
		Receiving	-0.27	0.27		1-3 Yr	0.02	0.12
		Damage	-0.52			3 Yr+	-0.86	
		Class A/B/C1/E	0.45	0.13		Class A/B/C1/E	0.37	0.09
		Other	-0.45			Other	-0.37	
		Constant	-0.97	0.20		Constant	0.10	0.10
Driving	267	Age 19,20	0.71	0.22	225	Sqrt(In Com'ty)	-0.14	0.05
		21+	-0.71			Class C2C3<6	-0.86	0.23
		Abor	1.09			A/B/C1/E	0.91	0.35
		Non	-1.09	0.31		Other	-0.05	
		Constant	-0.13	0.35		Constant	0.67	0.34
Drugs	241	-			104	Ln (In Com'ty)	-0.72	0.21
						Constant	1.36	0.68
Breach of Parole	-	-			216	Class A/B/C1/E	0.43	0.14
						Other	-0.43	
						Constant	0.07	0.14
Other	178	Ln (Age)	-3.89	1.03	116	Ln (In Com'ty)	-0.43	0.15
		Constant	11.27	3.26		Constant	1.05	0.47

The model of recidivism probability was fitted in the form:

Recidivism probability = $1/(1+e^{-z})$, where z = Constant + B_1*Variable$_1$ + B_2*Variable$_2$ + ...

eg for first imprisonment property offenders with an MSO of theft who were discharged as C2, Z=0.79-0.45-0.97=-0.63, with a recidivism probability of 35%.

N = Number of cases used for developing model (inmates discharged after a custodial sentence in 1990 who had been at least 19 years old at the start of their sentence).

Variable = Variable$_1$ etc in model.

B = Coefficient of variable in model.

SE = Standard error of B in model.

Table A7: Distribution of Most Serious Offence of First Subsequent Episode - Males

Most Serious Offence Group		Number of Cases	Most Serious Offence of Subsequent Episode (%)										
			Hom	Ass	Sex	Rob	Frd	Prop	Drv	BOP	Drg	Other	None
Homicide	First Impr't	63	0%	2%	0%	0%	0%	2%	0%	6%	2%	0%	89%
	Repeat Impr't	19	0%	5%	0%	5%	0%	0%	0%	11%	0%	0%	79%
	Total	82	0%	2%	0%	1%	0%	1%	0%	7%	1%	0%	87%
Assault	First Impr't	564	0%	13%	1%	1%	1%	5%	2%	2%	0%	3%	73%
	Repeat Impr't	541	0%	18%	1%	2%	1%	11%	3%	3%	1%	4%	56%
	Total	1105	0%	16%	1%	1%	1%	8%	3%	3%	*	4%	65%
Sexual	First Impr't	191	0%	1%	1%	0%	1%	1%	0%	4%	0%	0%	94%
	Repeat Impr't	72	0%	4%	3%	1%	3%	3%	0%	13%	0%	0%	74%
	Total	263	0%	2%	1%	*	1%	1%	0%	6%	0%	0%	89%
Robbery	First Impr't	167	0%	4%	0%	2%	0%	4%	1%	7%	1%	1%	81%
	Repeat Impr't	205	*	4%	*	11%	*	9%	1%	19%	0%	1%	53%
	Total	372	*	4%	*	7%	*	7%	1%	13%	*	1%	66%
Fraud	First Impr't	214	0%	1%	0%	*	3%	5%	1%	1%	*	1%	86%
	Repeat Impr't	152	0%	3%	0%	1%	14%	20%	1%	3%	0%	2%	56%
	Total	366	0%	2%	0%	1%	7%	11%	1%	2%	*	2%	73%
Property	First Impr't	1182	0%	3%	*	1%	1%	23%	2%	3%	1%	2%	63%
	Repeat Impr't	1536	*	5%	*	3%	2%	30%	3%	6%	2%	4%	45%
	Total	2718	*	4%	*	2%	1%	27%	3%	5%	1%	3%	53%
Driving	First Impr't	567	0%	2%	*	0%	0%	3%	8%	*	1%	1%	84%
	Repeat Impr't	523	0%	3%	*	1%	1%	5%	17%	*	2%	3%	67%
	Total	1090	0%	3%	*	1%	1%	4%	12%	*	1%	2%	76%
Drug	First Impr't	468	0%	1%	*	*	1%	2%	*	1%	2%	1%	91%
	Repeat Impr't	191	0%	3%	0%	1%	1%	9%	4%	4%	7%	2%	70%
	Total	659	0%	2%	*	*	1%	4%	1%	2%	3%	1%	85%
Breach	First Impr't	-	-	-	-	-	-	-	-	-	-	-	-
Of	Repeat Impr't	454	*	3%	1%	3%	2%	21%	2%	19%	1%	2%	46%
Parole	Total	454	*	3%	1%	3%	2%	21%	2%	19%	1%	2%	46%
Other	First Impr't	397	0%	5%	1%	1%	1%	9%	4%	1%	1%	3%	76%
	Repeat Impr't	308	1%	10%	0%	3%	2%	13%	5%	2%	1%	8%	56%
	Total	705	*	7%	*	2%	1%	11%	4%	2%	1%	5%	67%
Total	First Impr't	3813	0%	4%	*	1%	1%	10%	3%	2%	1%	2%	77%
	Repeat Impr't	4001	*	7%	*	3%	2%	19%	5%	7%	1%	4%	53%
	Total	7814	*	5%	*	2%	1%	15%	4%	5%	1%	3%	65%

* = less than 0.5%.

Table A8: Aboriginal Recidivism for Selected MSO Groups - Males

MSO Group		Age <21		Age 21-29		Age 30+		Total	
		Abor	Non	Abor	Non	Abor	Non	Abor	Non
Assault	First Impr't	50% (56)	43% (97)	31% (51)	21% (192)	6% (17)	15% (151)	36% (124)	24% (440)
	Repeat Impr't	76% (25)	53% (32)	50% (117)	43% (167)	36% (44)	53% (156)	51% (186)	40% (355)
Property	First Impr't	61% (106)	44% (444)	41% (59)	29% (392)	31% (13)	22% (168)	52% (178)	34% (1004)
	Repeat Impr't	77% (57)	65% (171)	55% (130)	57% (723)	48% (42)	45% (413)	59% (229)	54% (1307)
BOP	Repeat Impr't	44% (9)	39% (18)	68% (34)	59% (205)	63% (24)	46% (164)	63% (67)	52% (387)
Other Offences	First Impr't	47% (15)	32% (92)	28% (43)	29% (167)	0% (5)	15% (116)	30% (63)	25% (375)
	Repeat Impr't	67% (9)	67% (24)	40% (35)	45% (127)	19% (21)	42% (128)	37% (65)	46% (279)

Number of cases given in brackets.

Table A9: Classification at Discharge for Time Served

Time Served	Sex	Number of Cases	A	B	C1	C2	C3	Other
Up to 6 Months	M	3884	4%	7%	7%	75%	3%	4%
	F	366	10%	12%	47%	22%	2%	7%
6 - 12 Months	M	1957	3%	12%	12%	52%	19%	2%
	F	162	10%	15%	38%	19%	18%	1%
1 - 2 Years	M	1121	4%	16%	14%	31%	33%	2%
	F	86	8%	13%	355	10%	29%	5%
2 Years +	M	852	5%	20%	14%	20%	40%	1%
	F	26	12%	8%	275	15%	38%	0%
TOTAL	M	7814	4%	11%	10%	575	15%	3%
	F	640	105	13%	43%	195	11%	5%

M = Males F = Females

Table A10: Distribution of Most Serious Offence of First Subsequent Episode - Females

Most Serious Offence Group		Number of Cases	Most Serious Offence of Subsequent Episode (%)									
			Hom (%)	Ass (%)	Rob (%)	Frd (%)	Prop (%)	Drv (%)	BOP (%)	Drg (%)	Other (%)	None (%)
Homicide	First Impr't	8	0	0	0	0	0	0	0	0	0	100
	Repeat Impr't	1	0	0	0	0	0	0	0	0	0	100
	Total	9	0	0	0	0	0	0	0	0	0	100
Assault	First Impr't	44	0	5	7	2	9	0	0	0	7	70
	Repeat Impr't	20	0	10	5	0	15	0	0	0	10	60
	Total	64	0	6	6	2	11	0	0	0	8	67
Sexual	First Impr't	1	0	0	0	0	0	0	0	0	0	100
	Repeat Impr't	0	-	-	-	-	-	-	-	-	-	-
	Total	1	0	0	0	0	0	0	0	0	0	100
Robbery	First Impr't	12	0	0	0	0	0	0	25	0	0	75
	Repeat Impr't	9	0	0	0	0	11	0	22	0	0	67
	Total	21	0	0	0	0	5	0	24	0	0	71
Fraud	First Impr't	44	0	0	2	2	9	0	0	0	0	86
	Repeat Impr't	34	0	9	0	15	29	0	0	0	0	47
	Total	78	0	4	1	8	18	0	0	0	0	69
Property	First Impr't	138	0	2	0	2	22	0	0	1	3	70
	Repeat Impr't	152	0	1	1	4	40	1	4	2	4	42
	Total	290	0	2	1	3	32	1	2	1	3	55
Driving	First Impr't	7	0	0	0	0	0	14	0	0	0	86
	Repeat Impr't	4	0	0	0	0	0	25	0	25	0	50
	Total	11	0	0	0	0	0	18	0	9	0	73
Drug	First Impr't	48	0	0	0	2	2	2	0	0	0	94
	Repeat Impr't	10	0	10	0	0	0	0	0	0	10	80
	Total	58	0	2	0	2	2	2	0	0	2	91
Breach	First Impr't	0	-	-	-	-	-	-	-	-	-	-
Of	Repeat Impr't	31	0	0	0	10	26	3	19	0	6	35
Parole	Total	31	0	0	0	10	26	3	19	0	6	35
Other	First Impr't	41	0	0	0	0	27	0	2	5	7	59
	Repeat Impr't	36	0	3	0	3	17	3	0	3	17	56
	Total	77	0	1	0	1	22	1	1	4	12	57
Total	First Impr't	343	0	1	1	2	15	1	1	1	3	75
	Repeat	297	0	3	1	5	30	2	5	2	6	47
	Total	640	0	2	1	3	22	1	3	1	4	62