THE EFFECTIVENESS OF CRIMINAL SANCTIONS: A NATURAL EXPERIMENT, REPORT 33/96-7 TO THE CRIMINOLOGY RESEARCH COUNCIL

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Executive summary

Are some criminal sanctions more effective than others in reducing re-offending? As prison numbers expand and justice authorities examine the advantages of different community options, it is timely to examine the current impact of criminal sentencing, using the best available methods.

This study examined the question in the context of NSW local courts, using a unit-record database supplied by the NSW Bureau of Crime Statistics and Research. Criminal non-traffic matters were selected for analysis, and recidivism was measured as re-conviction within 1,2,3 or 4 years after sentence. The natural processes of the court provided the basis for a controlled indirect experiment: some courts randomly allocate defendants to magistrates; this was the case for 21 courts and 57 magistrates within those courts. The cohorts of offenders were tracked and compared within each court, both in terms of the sentence mix used by the magistrate and subsequent re-offending. This approach was complemented with a weaker experimental design in which cohorts of offenders matched by offence characteristics (e.g. persons convicted on one count of cannabis use) were compared in terms of re-conviction rates and sentence mixes to other cohorts apparently identical apart from the magistrate. Some 110 magistrates had large enough case loads to permit analysis.

Supervisory orders (community service or probation) were found to reduce re-offending rates compared to detention (prison or periodic detention) by about 3 percentage points for the most serious offenders, such as repeat offenders convicted of multiple counts of theft, assault or drug selling or manufacturing. At the other end of the scale, minimal sanctions (such as bonds and dismissals without conviction) were more effective than low-level fines in ensuring that first offenders did not return to court. Again, the effect was about 3 percentage points. For intermediate offenders, variations in sentence use had no detectable impact on re-offending.

Longer prison sentences had a short-term measurable impact on re-offending, compared to short prison sentences (though both were less effective than community sanctions). However this effect was illusory and disappeared by the end of the fourth year. Meanwhile fines seemed no more (or less) effective than community sanctions. In general the level of fines made no difference, but for a few offences lower fines resulted in less re-offending.

The study showed that sentencing decisions by magistrates can have a small but significant impact on re-offending, and therefore community safety. This provides evidence for the view that mandatory sentencing laws (at least those that require prison) are likely to increase not reduce crime. It also provides support for greater use of community sanctions as an instrument to reduce re-offending amongst more serious offenders. The study also established the feasibility of using natural experiments in the Australian policy environment.

Background and issues [1]

Introduction

One of the key objectives of a system of criminal sentencing and punishment is to increase public safety by reducing re-offending. Some offenders may be *incapacitated* for a period by imprisoning them, or by supervising them closely. Others are given *treatments* for conditions thought to be associated with offending behaviour. Still others (including potential offenders) may be *deterred* by penalties given or threatened. Whichever sanction is chosen, one outcome is expected to be a reduction in criminal behaviour, and a corresponding increase in public safety.

The nexus between criminal sanctions and rates of recidivism, or re-offending, is the subject of considerable debate within the criminological literature (reviewed below). Some argue that more punitive sanctions reduce crime, others that it increases crime. Given the range of sentencing options available to courts, and the vastly different costs associated with each, it is relevant to review the evidence about the relative impact of different penalties. Clearly, if expensive punishments like prison are shown to increase public safety, then the benefits of the programs can be weighed against alternative ways of achieving the same objectives (through better policing, crime prevention or early intervention programs). On the other hand, if less expensive sanctions (like community service orders or fines) show promising results in terms of public safety, more attention might be paid to fine-tuning these to increase their impact.

The 'just deserts' approach to criminal sanctions disputes the requirement that punishments be useful, insisting that they must primarily be fair. Exponents of this position might not find the issues canvassed in this report convincing, since the utilitarian assumptions used here are denied. However the report does take up two of the principles for allocating punishment proposed by the person most associated with this position, Andrew von Hirsch: parsimony (von Hirsch 1976, p.5) and avoiding harm (p xxxiv). Punishments should be the least intrusive consistent with the gravity of the crime, and should minimise the amount of harm inflicted. Indeed a fundamental question raised by von Hirsch is whether punishment should be inflicted at all for some offenders. These considerations are central to the deliberations of the New South Wales (NSW) magistrates who form the focus of the study. From a 'just deserts' perspective, the question this report addresses is: what is the implication of parsimonious sentencing practices for public safety? And does it reduce or increase one form of harm (offences against the public) if another form of harm (penal punishment) is minimised?

The field of recidivism studies in criminology has accumulated a considerable body of research evidence, and a modest investigation like this is unlikely to provide any fundamental challenges to that body of knowledge. However, there are a number of features of the current study which make it highly relevant to current debates:

- It uses one of the most reliable methodologies available for policy research – the controlled experiment. Most previous studies comparing the impact of sanctions have used less reliable approaches -aggregate correlations (e.g. crime rates and imprisonment levels), quasi-experimental designs with retrospectively matched samples, or longitudinal surveys where sanction and outcome differences may have been related to unmeasured variables (e.g. defiance). The few experimental studies have been largely limited to narrow comparisons such as between day fines and probation or intensive probation and regular probation.

- It uses Australian data, contributing to the small, but growing body of Australian research on recidivism. Given the local debates about 'three strikes' provisions, habitual offender laws and mandatory minimum sentences, local data could be more credible than conclusions drawn from countries with different crime and sentencing patterns.

- It provides evidence about the impact of sentences passed at the lower-level courts, for (mostly) minor offenders. There is considerable research about top-end penalties (capital punishment, intensive probation, boot camps, and imprisonment), but relatively little impact research about community service orders, fines, bonds and dismissals.

- It takes advantage of a normal administrative process – the random allocation of cases to magistrates within a court – to provide the experimental conditions for the study. Such a method, if proved useful, could have wide applicability in a range of other policy areas where such allocation procedures are used.

Much of the debate about the impact of different sanctions has focused on higher-level penalties, and higher level courts, yet most offenders go before lower level courts, and receive non-custodial penalties.

In NSW in 1999, some 136,000 adult defendants appeared before the courts. Of these cases, 133,000 (97 per cent) were held at a local court, 93 at the Supreme Court and 1,127 at the District Court. Of the 133,000, 107,000 (or 80 per cent) were found guilty and so came up for sentencing before magistrates. Fines were by far the most common sanction, with almost 60 per cent of offenders receiving that sanction as their most severe penalty. Another 14 per cent had 'no conviction recorded' or were given a 'recognisance without conviction'. About 7 per cent were given a prison sentence, and another 7 per cent a supervisory order (community service order or recognisance with supervision, i.e. probation). About the same percentage received a recognisance without supervision, (a good behaviour bond).

A balanced approach to sentencing reform (it can be argued) should consider the full range of available penalties. In many countries (including Australia), most offenders receive a fine or less, so a sentencing review must examine the most-frequently used sanctions. Even the United States, with its high rates of incarceration, makes extensive use of lower-level penalties such as deferral of sentence, (equivalent to a bond) in local, municipal and misdemeanor courts. One of the reasons few studies examine this issue is that most of the

lower courts do not have computerized sentencing databases. Fortunately, NSW local courts have kept systematic computerised records about offenders and offences in a consistent form since at least 1992.

This study was funded by the Criminology Research Council. The project was originally designed to use data from Victoria, but when the (then) Chief Magistrate declined access to Magistrates' Courts data from Victoria, the Bureau of Crime Statistics and Research kindly agreed to allow access to NSW local courts data for 1992 to 1997. The Criminology Research Council consented to this change in data source.

Aims

The main aims of the study were:

- to measure:

  o the impact of different penalties on subsequent re-offending;

  o the incapacitation effect of imprisonment; and

  o possible impacts of different penalties on future court workloads; and

- to identify the usefulness of the methodology of the 'natural experiment'. There are several possible advantages:

  o low cost (a real experiment would cost millions of dollars);

  o real data from natural settings (not based on a contrived manipulation of the setting); and

  o currently available data (not data produced over the life of the experiment, requiring long delays before information is produced).

Theoretical framework: a review of relevant literature

As noted above, a key objective of criminal sentencing is to reduce the likelihood of re-offending.

Perhaps the most promising approach for reducing crime is the 'crime prevention' literature. It is concerned with minimising risk for society as a whole, and reducing the aggregate level of crime in the community (O'Malley and Sutton 1997). Such studies have, for example, examined the impact of particular strategies of crime prevention amongst white collar workers (Weisburd, Waring and Chayet 1995), and nursing home managers (Braithwaite and Makkai 1991). This particular theoretical tradition focuses on reducing the overall amount of crime in the community, rather than on reducing crime committed by repeat offenders. Issues of particular relevance include education and employment programs, urban design and social cohesion.

While the decisions of courts might not have the same impact as programs focusing on crime rather than punishment, the judicial process is a major component of the criminal justice system, and its contribution to public safety is a major source of criminological enquiry. The most comprehensive review of the impact of various policy interventions on crime was presented in a major National Institute of Justice-funded study to the US Congress (Sherman, *et al.* 1998). The report includes chapters on crime prevention, and police as well as court processes.

This literature can usefully be classified under several headings: incapacitation, alternatives to incarceration, use of fines and minimal penalties.

Incapacitation

One of the main objectives of those who advocate stronger sanctions to bring about lower levels of crime is reflected in the term 'incapacitation' (Greenwood and Abrahamse 1982). It can mean removing offenders from the community by killing or exiling them or removing their tools of trade. But in practice it is used to refer to imprisonment – isolation of offenders from the general community. Every extra day offenders are detained is another day they are prevented from offending against the general community. Visher estimated that the doubling of prison populations in the US produced a decline in crime rates of between 10 and 30 per cent (cited in Sherman, *et al.* 1998, p. 9-9). Others dispute the link, or find the contribution to crime reduction modest (Zimring and Hawkins 1995). Most of the studies are based on aggregate correlations, in which a change in one indicator (usually the crime rate) is attributed to a policy such as stronger policing or harsher sentencing.

Incapacitation, it has been argued, should be more effective in (relatively) low imprisonment regimes such as NSW, since extra persons detained are more likely to include high-risk offenders. In US states with incarceration levels already five times the NSW rate, additional persons imprisoned are likely to be 'low-rate' offenders (Sherman, *et al.* 1998, p. 9-11).

Incapacitation of offenders can mean different things according to the length of sentence. One is the removal from the community of offenders for a substantial portion of their criminal career. This form of incapacitation is relevant to serious crimes, such as murder or rape, heard in NSW before the higher level courts. Local courts hand out mostly short sentences, on average about three months. Even the short sentences imposed by magistrates *might* have some impact on the size of the offending cohort on the streets: if say 10 per cent of the burglars are locked up at any one time, there might be expected to be, on average, 10 per cent fewer burglaries. Or, to express it in terms of individuals, if an offender is incapacitated for six months in one year, their annual offence tally should be halved (ignoring deterrence, rehabilitation and any other possible impact of punishment). So the question posed in this study is whether short-term incapacitation produces any real decline in re-offending, or whether offenders 'catch up' for any lost time spent incarcerated. In a meta-analysis of the research studies on the topic, Gendreau and Goggin find a slight *increase* in recidivism associated with sentence length, contradicting the incapacitation hypothesis (1999, p. 16).

Crime rates are not just the result of activities of those appearing before magistrates. Many crimes are not reported, or the offenders are not caught (Blankenburg 1976). So even if the

incapacitation 'works' for the relatively few offenders sentenced, it may not have any overall impact.

One of the implications of an 'incapacitation' approach is to focus not on the punishment itself, but the length of time the offender would be out of circulation. A recent review of available research on the deterrent effect of the severity of punishment, particularly length of prison sentence, finds no overall pattern (von Hirsch, *et al.* 1999). However the authors suggest that offenders with strong social ties are more likely to change their behaviour in response to calculations of arrest or increased punishment. Less integrated offenders meanwhile are more likely to act on impulse, and to be insensitive to variations either in apprehension or punishment.

Alternatives to incarceration and community sanctions

The Solicitor General of Canada commissioned a meta-analysis of recent studies done on recidivism in relation to prison and its alternatives (Gendreau and Goggin 1999). The 105 studies reviewed showed a slight increase in recidivism associated with detention rather than community sanctions – 49 versus 42 per cent (p. 16); the difference disappeared once the samples were weighted. The one clear conclusion the authors draw is that 'lower risk' offenders who were imprisoned display higher recidivism levels (p.19). If this is the case, it is possible that 'higher risk' offenders are deterred by imprisonment, resulting in the overall reported finding of no net impact.

Most of the studies reviewed were quasi-experimental, with offenders imprisoned compared with others receiving other sanctions. 'Strong' designs were those using five or more items to match offenders.

A Home Office study compared the reconviction rates for those released from prison or completing community orders between 1987 and 1995 in England and Wales (Nuttall 1998, p. 91). This was carried out by retrospectively matching offenders on a range of characteristics. The results reported indicated there was no difference between the groups. A previous study by the current author compared suspended prison sentences in Victoria with immediate prison sentences (Tait 1995). This found that this sanction (or threat of sanction) produced no higher re-conviction rates immediate incarceration; nor did it result in a 'deferred blowout' of the prison population due to subsequent activation as reported in the English situation. Again, the study used retrospective matching of offenders, and it is possible that the matched offenders differed on unmeasured characteristics.

Boot camps, home detention, intensive probation and 'short sharp shock' periods of imprisonment have been extensively examined in the US. Some of these have used more reliable experimental methods. The findings are that such punishments are unlikely to reduce re-offending and some program actually increase it (Sherman, *et al.* 1998, p. 9-15). The question that must be asked is 'compared to what?', and in the US the comparison group frequently receives another top-end penalty such as prison or probation. In Australia and the United Kingdom (UK) fines or bonds are often the alternative.

Fines

In the UK as in Australia, fines are the most widely used sanction, although (as in Australia) there has been penalty escalation towards supervisory sanctions. Morris and Tonry conclude from their reading of the literature than fines are likely to be more successful than community sanctions (1990, p. 145); a finding endorsed by Lipton, Martinson and Wilks (1976, p. 55).

A recent Home Office study concluded more cautiously that 'there is no evidence that the switch from fines to community penalties that has occurred over the past 20 years has achieved anything by way of crime reduction.' (Nuttall 1998, p. 98). Another Home Office study followed offenders given different dispositions in 1993 (Nuttall 1998, p. 98). That study suggested that fines and conditional discharges resulted in lower re-conviction rates than expected from the offenders' characteristics, while probation and community service resulted in slightly higher than expected re-offending. The use of retrospective matching characteristic of both studies means that the conclusions are of limited validity. On the other hand, this finding from prior studies that fines can be effective suggests the need for research using experimental techniques.

Studies reviewed by Sherman and others using experimental techniques focused on the narrower issue of day fines found that they could be more effective than traditional fines. Another quasi-experimental study found that offenders receiving fines re-offended at about the same rate as those receiving prison or probation (Sherman, *et al.* 1998, p. 9-14). So putting together the various studies, there is some evidence that fines are at least as effective as community sanctions in reducing re-offending.

Minimal penalties.

This section examines penalties regarded as less serious in penal severity than a fine: warnings, good behaviour bonds, conditional discharges, deferrals (used in US municipal courts) and various findings of guilt without conviction. It does not include those who are found not guilty. Most of the relevant research concerns police activities rather than court decisions. This is one area where strong experimental designs have been used and clear patterns found.

Summarising a 1986 experimental study by Klein, Sherman and colleagues show that more 'legalistic' interventions by police result in more recorded re-offending (Sherman, *et al.* 1998, p. 8-23). Since this refers to low-level treatment of minor offenders, it provides information relevant to the current study. If this conclusion operated within the courts as well, it would suggest that less 'legalistic' interventions could be most effective for first offenders. Another finding from a review of police procedure is that positive attitudes to police tend to go along with lower re-offending. For example, Sherman and others summarise Paternoster's re-analysis of a domestic violence experiment, in which he found that lower recidivism resulted from police 'taking the time to listen to the offender's side of the story' (Sherman, *et al.* 1998, p. 8-34). In a low penalty court where frequently the 'process is the punishment', process issues such as the interaction between magistrate and defendant could be relevant to subsequent behaviour.

A Home Office study concluded that first offenders receiving a police caution were no more likely to re-offend than those convicted by the courts (Nuttall 1998, p. 86). A longitudinal study by Farrington concluded offenders who committed identical offences were more likely to re-offend if they were exposed to higher levels of intervention from the criminal justice system (Walker, Farrington and Tucker 1981).

Preliminary findings from a Canberra study of police diversionary conferences with young offenders suggest that attitudes to police and satisfaction with process are relevant to the likelihood of future offending (Sherman, Strang and Woods 2000). It is not just the decision made by the court or conference which determines future behaviour, but how the decision was made and how the participants responded to the process.

The most effective form of intervention with young offenders appears to be being given a job – averaging all 443 studies on the issue, employment cut recidivism by about one third, whereas 'deterrence' programs added, on average, another 12 percentage points to the recidivism rates (Sherman, *et al.* 1998, table 9-7, summarizing the work of Lipsey 1992).

There is little research about the use of minimal penalties (e.g. bonds) by adult courts on re-offending. Most of the research reported above refers to police and to juveniles. Extrapolating from these setting to the adult courts, it can be hypothesised that avoiding punishment altogether may be one of the most effective decisions magistrates can make. This might sound a radical notion, but it is what many magistrates actually do in their everyday sentencing practices. And it is consistent with the principles of parsimony and avoiding harm enunciated by von Hirsch.

Interpreting disparity

A considerable body of literature examines sentencing reform (Blumstein, Cohen, Martin and Tonry 1983), particularly the 'disparity' in sentencing (Grabosky and Rizzo 1980; Kapardis 1985; Victoria 1987; Douglas,1989), or the reasoning processes used to calculate sentences (Lawrence and Homel 1987). The current study diverges from the mainstream approach at this point: where other studies refer to 'disparity' this study sees 'diversity'. Indeed the whole basis of the method is the natural variability between magistrates. It is precisely because magistrates in the same court deal with apparently identical cases differently that we are able to draw inferences about the impact of their decisions. If NSW magistrates studiously followed a sentencing grid, and offenders were given the same punishment regardless of the magistrate they appeared before, then this study would be impossible.

Hypotheses

The brief review of the literature can be summarised with the following hypotheses:

- Longer periods of incarceration result in shorter periods at risk of re-offending, and hence fewer re-offences are committed by incarcerated offenders than equivalent groups(based on Greenwood and Abrahamse 1982, though not supported by von Hirsch, *et al.* 1999, or by Zimring and Hawkins 1995).

- Community sanctions result in lower or equivalent levels of re-offending than imprisonment (supported by Gendreau and Goggin 1999; Nuttall 1998).

- Monetary penalties produce lower re-conviction rates than do community sanctions (Morris and Tonry 1990, p. 145, and supported by Lipton, Martinson and Wilks 1976, p. 55, and not contradicted by Nuttall 1998).

- Discharging first offenders without conviction (or giving them a bond) results in lower re-appearance rates than more severe sanctions (based on Farrington's longitudinal study, summarised in Farrington, Ohlin and Wilson 1986, p. 90, supported by Klein's study of 'legalistic' interventions by police, summarised in Sherman, *et al.* 1998, p. 8-23).

Methodology and results

The study uses an experimental design, in which randomly allocated cohorts of offenders within NSW local courts are compared in terms of re-conviction. Because random allocation assumes all other differences between offenders are taken into account, any differences in re-offending are assumed to be produced by the sentence mix – the combination of penalties used by individual magistrates.

There are several features of this experimental design:

- It uses a 'natural' experiment': the variability being used relies on everyday allocative procedures of the courts and normal decision made by magistrates in the course of their work. Only the small everyday differences which characterise real magistrates are used, so conclusions can only be drawn for changes within that range.

- The measurement of impacts is 'indirect': we do not have offenders who are individually matched with equivalent offenders who receive other sanctions, we have cohorts (at the most 110 of these), which are matched to other cohorts. It is not morally or politically possible to randomly allocate offenders to prison or alternatives; this approach allows an experimental analysis to be used without any changes to justice procedures.

- The method, being indirect, is a blunt instrument and requires large samples to be able to draw any conclusions; statistically speaking it lacks 'power' to detect small differences. However there are fairly large samples available, permitting at least some conclusions to be drawn.

- A 'strong' and a 'weak' experimental design are used.

    o The strong design compares cohorts appearing before each magistrate *within each court*. Courts where random allocation of cases is practiced were selected. (21 of the 152 local courts met these conditions). Magistrates with equivalent case distributions in those court were identified (N=57), and compared in terms of their sentence mix and re-conviction rates. Effectively there are 36 samples to compare once the 'court effect' is removed.

    o The 'weak' design ignores courts. It compares cohorts sentenced by each magistrate for very specific combinations of offence, count and prior record (e.g. first offenders convicted on one count of using cannabis) for each magistrate with more than 25 cases of that specific mix. Between 70 and 115 cohorts were available for comparison. The weak design allows more narrowly targeted offence types to be considered than the stronger within-court design.

Research strategy

The research plan adopted comprised:

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- initial specification of the file required from the Local Court database, to include court appearance and offence details for each defendant appearing before NSW local courts from 1992 to 1997;

- identification of 'in-scope' courts and defendant populations;

- identification of individual defendants and matching of their criminal records within the six year period;

- calculation of the re-offending history for each selected defendant;

- construction of cohorts, being offenders sentenced by one magistrate (either within a particular court, or for specific offence characteristics);

- calculation of re-offending rates and sentencing characteristics for each cohort;

- comparison of cohorts in terms of re-offending, based on penalties received;

- restatement of penalty mixes as forms of diversion from one sanction type to another; and

- estimation of the impact of particular forms of penalty diversion on re-offending rates.

Identification of in-scope courts and defendant populations

Selection of eligible courts

For the 'strong' design, all NSW local courts[1] with more than 1000 non-traffic criminal cases between 1992 and 1997 were considered for inclusion in the analysis, providing they had two or more magistrates with at least 300 cases each.

A crucial assumption of the experimental model applied in this study is that magistrates *within* each court had a similar mix of cases. There are a variety of reasons why this might not be the case, including specialisation, loading of more complex cases to resident rather than visiting magistrates, remands to courts more convenient to the defendant on plea of guilty and, potentially, 'judge shopping'.

Any courts where there were sufficient variations in the types of cases allocated to magistrates to cast some doubt on the assumption that case mixes were similar were eliminated from the sample, regardless of the reasons for differences in offence mix. All the courts selected met the assumption that the distribution of offence types between magistrates was consistent with random allocation (using a chi-square test and p=.05 criterion). All distributions were also manually inspected; and an additional court which met the chi-square

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[1] During the years 1992-97, 152 local courts are listed on the database. Of these, 58 had 1000 or more cases within the scope of the study. Some 121 magistrates sentenced 300 or more offenders on criminal charges during this period, and another 149 were recorded as having fewer cases. Some of the latter may have been miscoded, while others probably dealt mostly with traffic matters.

criterion was eliminated because there was a consistent (but small) bias across all offences. One court which was on the boundary (p=.06) was checked, but kept in because the variation followed no obvious pattern. (Refer to Tables 1 and 2 in Appendix 1.)

It was recognised that despite the selection process there might still be some undetected biases in particular sub-sets of each cohort resulting, perhaps, from variations in case mixes across years, or just 'lumpiness' produced by random allocation when using small numbers. To allow for this possibility a case mix index was produced (see 'Offence severity index' further below), and fitted as a covariate to most models to adjust for any remaining biases [2].

One potential bias which may still remain is 'judge shopping'. There are anecdotal reports of lawyers seeking adjournments to get judges or magistrates thought to be more sympathetic (read 'less punitive'). There are also counter-stories that magistrates reputed to be more punitive are sometimes harsher in their words than their practices. It is probably more likely to be an issue in higher courts where more is at risk. Whatever the truth of the matter, it would only affect the results reported here if there was a systematic relationship between judge-shopping and re-offending, i.e. if those who invested resources in getting a supposedly more sympathetic magistrates also were consistently likely to have lower (or possibly higher) re-conviction rates. It also relies on a consistent and identifiable pattern for magistrates, whereas the magistrates in this study varied somewhat in their severity according to the type of case, making stereotyping difficult. This stratagem is most likely to be used where there is a real risk of imprisonment, it is rather unlikely where the most the offender will get is a low fine. This effect can be tested in a follow-up to this study, by identifying those magistrates reputed to be 'harsher' and comparing their re-conviction rates with similar magistrates with similar sentencing patterns but without such a reputation; and by getting information about adjournments, allocating offenders to the cohort of the initial magistrate rather then magistrate passing sentence.

Defendant population

The court selection process resulted in a population comprising 62,045 initial appearances during the period 1992 to 1997. (Only 'final' appearances at which the case is determined are counted, not preliminary hearings, plea hearings, adjourned hearings etc.) Offenders could meet the eligibility criterion more than once during the study period by appearing before the courts on more than one occasion. Up to nine initial appearances during the study period are counted for any one offender (plus all subsequent re-convictions until the end of 1997), and are tracked as nine distinct persons. This picks up 99.0 per cent of eligible appearances. (Refer to Table 3 in Appendix 1.)

Sub-populations

The main population used for the 'stronger' study design is offenders making their first appearance before eligible courts during 1992 to 1996 (thus providing a one-year recidivism measure). However to confirm the patterns do not change after the end of year 1, a second

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[2] In fact, the term never achieved statistical significance and did not reduce the parameter estimates of the other terms, so the assumption of random allocation within courts seems to have been met.

sample is used of those making their first appearance before those courts in 1992 and 1993, thus enabling a four-year recidivism estimate.

The 1992 to 1996 sub-population comprises 54,670 offenders appearing before 57 magistrates at twenty courts. (One court is split in two to reflect two distinct patterns of sentence mix). A few magistrates sat at more than one court during that period, so are counted more than once. Each magistrate dealt with between 195 and 2997 cases, with a mean case load of 959. In thirteen of the courts there were only two magistrates meeting the selection criterion, in three courts there were three magistrates, in three courts four magistrates, and in two courts five magistrates.

The cohort size for the 1992 to 1993 sub-population (the four-year recidivism group) is 14,539 defendants appearing before 29 magistrates at twelve courts [3]. The number of eligible cases per magistrate ranges from 42[4] to 802 with a mean of 370. In eight courts, there were two magistrates meeting the selection criteria, in three courts three magistrates, and in one court four magistrates. There were fewer magistrates in the second sub-population sample because some magistrates were not appointed until after 1993, and some simply had too few eligible cases.

For the 'weak design' sample, the following groupings of offence characteristics were used. These were chosen both because the sub-samples were large enough to permit analysis and because the information was more complete (those selected were those with complete information about prior record and number of counts).

Multiple offenders, with prior record

- Burglary/car theft, N offenders 4179, N magistrates 73
- Theft/ receiving stolen goods, N offenders 6457, N magistrates 91
- Assault, N offenders 13981, N magistrates 110
- Sell/manufacture drugs, N offenders 5299, N magistrates 73
- Use cannabis, N offenders 5634, N magistrates 70

First offenders, convicted on one charge only

- Theft/ receiving stolen goods, N offenders 7135, N magistrates 97
- Assault, N offenders 7809, N magistrates 115
- Shop-stealing, N offenders 2791, N magistrates 55
- Use cannabis, N offenders 4348, N magistrates 87
- Offensive behaviour, N offenders 3991, N magistrates 70

The magistrates could be selected from any court, not just those apparently applying random allocation. The assumption here is that on average a first offender charged with one count of

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[3] Again, magistrates may preside in more than one court so an individual magistrate could be counted more than once.

[4] Note that once the length of possible recidivism is reduced the sample size falls, in some cases well below the original 300 cut-off for each magistrate.

(say) offensive behaviour in one part of NSW is likely to be equivalent to another offender charged the same in another part of the state. Given that the police and courts are state bodies and follow similar formal procedures, there is likely to be a certain level of consistency. Further, the Bureau of Crime Statistics and Research monitors the way court statistics are collected and reported, and requests corrections of any inconsistencies it finds. Nevertheless, there could be differences between police and courts in:

- How police use their discretion in charging (perhaps related to number of Aboriginals in the local population)
- How police prosecutors use their discretion in dropping charges
- How charges are aggregated for the purposes of prosecution (e.g. does swearing at two police officers constitute two charges?)
- How vigilant police are in tracking down prior record and how carefully court staff record such information

There could be also be local differences (reflected in part in court-level data) in

- Willingness of citizens to report crimes, and appear as witnesses
- Cultural acceptance or rejection of certain offences (using cannabis might be more socially acceptable in Paddington than Wyong, for example)
- Opportunities to commit crime, or get assistance in avoiding future criminal activity
- State of labour markets – an important factor in accounting for desistance from minor delinquency

So this 'weaker' research design is used to elaborate the finer contours of the impact of sentencing on re-offending; it is not used to establish the broad patterns.

Construction of offence seriousness and penalty severity indices

To facilitate analysis, two indices were constructed. The first, an offence severity index, was required to:

- provide a summary measure of offence mix to test the assumption of equivalent case mixes between magistrates in particular sub-groups of the population; and

- allow adjustment for any remaining biases if necessary.

The second index, a penalty severity index, was constructed to:

- provide a summary measure of the relative severity or leniency of any magistrate, taking into account both categorical differences in sanction (detention, supervision, monetary penalty, no penalty) and amount of sanction (months of detention, hours of community service, dollars of fine);

- test whether any apparent effect of particular sanctions really reflected just an overall level of magistrate penal severity; and

- allow the development of a simplified offence type grouping based on the levels of penalty they attracted.

Construction processes

Severity scale

Twelve broad offence groupings were identified based on the official classifications (with property offences broken down to reflect the large numbers of cases):

- break and enter (burglary);
- assault;
- vehicle theft;
- fraud;
- shop-stealing;
- other theft;
- property damage;
- selling/manufacturing drugs;
- breach of order, other justice offences;
- offensive behaviour, other public order offences;
- drug possession and use; and
- other.

The penalties awarded for the most serious offence were also grouped, resulting in 27 categories. Because many penalties are concentrated at a limited number of points (for example prison at one, three and six months, fines at $100, $200, $300 etc.), those points are singled out in the following classifications:

- prison, 12 months or over;
- prison, over 6 months but under 12 months;

- prison, 6 months;
- prison, over 3 months but less than 6 months;
- prison, over 1 month, up to and including 3 months;
- prison, 1 month;
- prison, under 1 month;
- periodic detention, over 6 months;
- periodic detention, 6 months;
- periodic detention, under 6 months;
- community service order (CSO), 200 hours or more
- CSO, 150-199 hours;
- CSO, 100-149 hours;
- CSO, 51-99 hours;
- CSO, 50 hours;
- CSO, less than 50 hours;
- recognisance with supervision (probation);
- fine, $1000 or more;
- fine, $501-999;
- fine, $500;
- fine, $301-499;
- fine, $300;
- fine, $201-299
- fine, $200;
- fine, under $200;
- recognisance without supervision (bond); and
- dismissal, discharge with conviction, rising of court.

Offences which resulted in other rarely used penalties, such as home detention and licence disqualification, were excluded from the analysis. (See Table 4 in Appendix 1 for offence by sentence.)

A 12 x 27 table was created of offence by penalty, using the above classifications. In order to get as large as possible sample size, all offenders were used for this analysis, not just those meeting the experimental conditions. A multi-dimensional scaling process (using correspondence analysis) was used to transform the two categorical variables into interval-level variables. The dimension which summarises most of the variation can be considered to be an estimate of severity. The results are displayed in Table 5 in Appendix 1. It is, in effect, a conceptual map of magistrates' perceptions of where penalties fit within the empirical sentence hierarchy. Thus, for example, a three month prison sentence is perceived by magistrates as equivalent in severity to a CSO of 200 or more hours; a recognisance with supervision (probation) is considered somewhere between a high-level fine and the lowest CSO.

There are a few apparent anomalies in the correspondence analysis, which should be noted. For example, a CSO of 51-99 hours is estimated to be more severe than a CSO of less than 50 hours, probably because of the relatively small numbers of defendants awarded that penalty. Of greater note, perhaps, is the estimated severity for recognisance without supervision (bond) which appears to be as severe as a fine of $500. Perhaps magistrates do regard bonds as direct alternatives to fines, and not as a 'lower' penalty. The anomalies were

not corrected for in the following analysis, but would need to be attended to if the scale were to be used directly for constructing equivalence scales.

Penalty severity index

Using the severity scale derived above, a new measure was constructed for each penalty type and quantum for each offender. A six month prison sentence counted, for example, as 1.0, a 50 hours CSO counted as 0.57, a $500 fine counted as 0.06, a dismissal counted as -0.60. Thus, for any given cohort of offenders for each magistrate (for example, first offenders convicted of property damage during 1992) a severity score can be produced by adding up the values of penalty severity for each member of the cohort.

Offence severity index

For the offence severity index, the average penalty severity was initially determined for each offence type, based on the twelve categories of offence identified above. However, this proved to be too crude to provide a reasonably precise measure of how 'serious' any offence was. To address that problem a more detailed variable was created which included information about prior record and number of counts (distinguishing between first offenders with one count, repeat offenders with multiple counts, and other). Grouping offences that attracted similar penalties (such as car theft and burglary, fraud and drug trafficking, shop-stealing and damaging property, other theft, justice and firearm offences) resulted in 21 categories. Adding up the values of average penalty severity for each of the 21 categories provided an index of offence severity which could be used to recode offence characteristics for each individual. The average offence severity score for cohorts of offenders allows the case mixes to be compared in terms of their overall seriousness. If the score for one magistrate were significantly higher than another magistrate that would indicate that the raw material given them by the scheduling officer was not representative of the court's overall case mix.

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Development of offence groupings

One serious limitation of the indirect nature of the experiment is that very large numbers are required to get reliable estimates. Because the experiment does not compare individuals, but cohorts appearing before particular magistrates, the 21 groupings of offences referred to above resulted in sample sizes too small to calculate the size of any effects of penalty mix. To do so required a more powerful classification with very few categories.

A more refined version of the offence severity index described in the previous section was constructed, based on the twelve offence classifications listed earlier. In this instance, cannabis use was distinguished from other drug use to reflect the considerable differences in penalties awarded, thus providing thirteen categories. Cross-classification by prior record and counts, using a four-level classification (priors, one count; priors, two-plus counts; no priors, one count; no priors, two-plus counts), resulted in 52 categories, which were sorted according to the average penalty severity for offenders in each category. (See Table 13, Appendix 1).

This distribution shows the most severe penalties were awarded for burglary where the person had a prior record and more than one charge (0.71). In about the middle is selling or growing drugs where the person had no prior record but was convicted on more than one count (-0.05), and at the other extreme is offensive behaviour, or other public order offences, where the person had no prior record and was convicted on only one count (-0.45).

Analysis of the natural breaks in the distribution of penalty severity suggests that the 52 groups could be clustered into five offence type categories, as described below.

Offence type 1 – all four groups of burglary and three of car theft, plus the most serious cases of fraud, shop-stealing and other theft;

Offence type 2 – three of the four categories of selling and growing drugs, the most serious cases of assault, breaching orders, and using drugs (other than cannabis), middle-level cases of fraud, and the least serious cases of car theft;

Offence type 3 – the most serious cases of property damage, middle-level cases of using drugs (other than cannabis), assault, shop-stealing, the least serious cases of selling or growing drugs and fraud;

Offence type 4 – the most serious cases of using cannabis, middle-level cases of damaging property, shop-stealing, the least serious cases of using drugs (other than cannabis), breach of orders, and assault; and

Offence type 5 – all four groups of offensive behaviour, the lowest three categories of using cannabis, the least serious cases of property damage and shop-stealing.

Recidivism measures

The recidivism measures applied are very basic, reflecting both the inherent limitations of the data and the need to get a large sample to produce robust estimates. The measures are simply whether or not the defendant was re-convicted by any magistrate in NSW during the following one year, two year, three year or four year period. For the one-year cohort, the sample included all offenders in eligible courts sentenced during 1992 to 1996; for the four-year cohort, during 1992 to 1993. For the 1992 to 1993 sample the re-conviction rate was 19 per cent within one year, 27 per cent within two years, 32 per cent within three years and 36 per cent within four years.

Whether or not the person was re-convicted of a violent offence was recorded in the data set, but the sample size was inadequate to get reliable estimates of the impact of sentence on the likelihood of committing subsequent violent offences. (A similar problem would have been encountered with drug offences).

One unresolved problem with the data was the treatment of 'immediate recidivism', that is, offenders who were re-convicted within a short period after the appearance under consideration. Clearly, some immediate recidivism is likely to be 'spurious recidivism', or 'pseudo-reconvictions' (Lloyd, Mair and Hough 1994), in that a person might be sentenced for offences committed before the initial court appearance in question. This arises, in part, because police do not necessarily consolidate charges emanating from different police stations or districts. Spurious recidivism does not introduce bias into the estimates, as there is no reason to expect that defendants coming before magistrate x would be any more likely to have other charges pending them than those coming before magistrate y [5]. It could, however, dampen the impact of any magistrate effect, by adding yet another influence on a person's offending career. For example, if an offender were counted in the sample as receiving a fine, but a week later received a prison sentence from another magistrate it is likely than the 'effect' of the fine (if any) would be overshadowed by the effect of the prison sentence. Nevertheless, where that occurred the defendant could not be excluded from the initial sample without jeopardising the completeness of the sample and violating the experimental conditions.

To eliminate some of the spurious recidivism, re-convictions within a week were not counted as recidivism for the purposes of this study. Although this period is admittedly arbitrary, and perhaps should be set at two weeks, a month or six weeks, there appears to be no reliable way of providing a definitive cut-off.

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[5] Spurious recidivism will, of course, inflate estimated recidivism rates.

Method for estimating sanction effects

Logit modeling is used to estimate the odds of re-conviction for each offender, based on (a) court, and (b) cohort sentence mix. For the weaker design, identity of court is not included. No offender-level data are included, so effectively the model is dealing at a cohort level. While the number of individuals in the cohorts is usually well over 1000, the number of data points is relatively small, ranging from 36 (in the 'strong' model to 115 in the 'weaker' design).

The small number of data points and the cohort nature of the data produce a number of problems: identification, grouping and naming of effects.

Identification

The effects under consideration are aggregate ones, based not on discrete pieces of information (for example magistrate age or sex), but related data from the same distribution, such as sentence. (Previous studies using indirect experiments tended to have dichotomous variables, such as whether a compensation case was split between findings of responsibility and estimations of damages (Zeisel, 87)).Under these conditions an increased use of supervisory sanctions could be identified as a lower use of fines and detention (the sanctions on either side of it), or simply as higher levels of supervisory sanctions. There is no way of saying which is correct. Where there are two effects at work the problems of identification multiply: should the apparent 'success' of fines and prison in reducing recidivism be identified as such, or classified as 'failures' of supervisory sanctions or bonds? The relative size of parameter estimates would not necessarily resolve such problems. Further, there are relatively few data points, so there is not much scope for reliably estimating interaction effects of more than two predictor variables.

Grouping

The aggregate nature of the sentence data makes it imperative to group the sentences into meaningful clusters because reliable estimates cannot be produced for specific points on the sentence hierarchy, such as a $200 fine. Even estimates for some less frequent penalties (periodic detention, probation, or bonds) could not be produced reliably, so the following broader groupings were used: detention (prison or periodic detention), supervision (CSO or probation), monetary penalty (fines) and no penalty (bond or dismissal), see table 14. Detention was sub-divided to reflect sentence length, thus providing two categories: longer sentences (six months or more prison, and over six months periodic detention) and shorter sentences (less than six months prison, and periodic detention up to and including six months). Fines were also sub-divided into higher-level fines (those $300 or over) and lower-level fines.

It was clear that these classifications were context-specific. For example, prison was not a serious possibility for most cannabis users or those convicted of offensive behaviour, but variation between higher- and lower-level fines was a plausible distinction to examine. Similarly, repeat burglars were unlikely to have a dismissal recorded, but differences

between higher and lower prison sentences were more likely to produce impacts on re-conviction.

Naming of effects

It is possible to describe variations in the likelihood of re-conviction according to the broad penalty type. To some extent this is interpretable at the upper and lower extremes of the sentence distribution: for example, the higher levels of imprisonment imply that there are lower levels of everything else, and dismissal implies that there are higher levels of everything else. But for sanctions in the middle of the hierarchy, it is less helpful. Does greater use of supervisory orders, for example, represent diversion from prison or net-widening from fines?

To deal with this uncertainty a set of five forms of possible diversion were identified: from longer to shorter prison sentences (or periods of periodic detention); from short periods of detention to supervisory orders; from supervisory orders to higher-level fines; from higher- to lower-level fines and from lower-level fines to bonds or dismissals. The cut-off points for prison and fines were determined by examining the offence groups where those choices were most relevant. The most likely forms of diversion are highlighted in bold in table 14. These forms of diversion are expressed as ratios of one sentence type to another.

Using this approach the re-named effects reflect the extent of diversion from one penalty (or level) to the next one down – for example, for the ratio of short prison sentences to supervisory orders. This assumes that only short sentences are diverted, and that magistrates would be unlikely to convert a long sentence into a CSO. Of course, sometimes the unlikely happens, but what the diversion variables seek to do is to provide a way of describing dominant patterns. The advantage of this way of presenting the sentence differences between magistrates is that they are more readily interpretable than are proportions receiving each sanction. If the magistrate consistently diverts from one level to the next, this would also be reflected in the overall penalty severity index (representing greater than average leniency), so the index would account for more variation than any of the individual diversion measures.

Multiple regression

The preliminary method used to measure impacts of sentence on re-conviction was multiple regression, comparing pairs of magistrates within each court, with any differences in the proportion of offenders re-convicted being explained in terms of differences in the proportion given each sanction (or using each form of diversion). For courts with two magistrates, there was one comparison, with the difference weighted according to the mean of the two cohorts. For courts with three or more magistrates, the magistrate with the largest case load was used as the base category and all others are compared with that. Again the differences were weighted by the mean of the two cohorts. The maximum number of magistrate pairs was 36, although once pairs with small sample sizes were eliminated, the number of pairs for most sub-populations was more like 25. The problem with the multiple regression approach is the spurious 'significance' arising whenever there are too many pairs with small populations in which case the relationships are fully determined once one or two variables are included. This method is illustrated in Table 12 (see Appendix 1) using the one-year re-conviction rates for offence type 5.

The number of 'extra' re-convictions was calculated by applying the re-conviction rate for magistrate 1 to magistrate 2's cohort (actually the weighted average of the two populations). The difference between the observed and the expected frequency is the difference reported in the table. The same process was repeated for calculating differences between expected and observed cases of dismissal or bonds (rather than lower-level fines).

It is evident in Table 8 that there is a generally negative relationship between the use of bonds or dismissals and the extent of re-conviction in relation to the least serious offences coming before the courts with the largest offender populations. Of the thirteen pairs, nine show a negative relationship. Summing across all thirteen pairs, there were 313 'extra' bonds or dismissals than would have been expected given the sentencing patterns of magistrate 1, but 142 fewer persons re-convicted. Putting this into a more familiar form, if this pattern could be generalised, for every 100 persons diverted from lower-level fines to bonds or dismissals, we would expect about 45 fewer re-convictions.

Another way of reporting the relationship between two continuous variables (as these rates are) is to examine the correlation coefficient for the two variables. This suggests that for every 100 cases diverted to bonds and dismissals, there could be about eighteen fewer re-convictions (but due to the small sample size and the variability, this difference is not statistically significant). The point here is to identify how the calculations are made and what they mean. The regression results are reported here to clarify the meaning of the relationships; the logit models reported below are more reliable and used for most of the analysis.

Logit modelling

The major method for estimating the impact of sentencing on re-conviction is logit modelling, where the odds of re-conviction for each offender is estimated based on cohort characteristics – that is, the odds for all members of the same cohort of receiving each sanction (for example persons sentenced by the same magistrate during 1992 to 1993 for offence type 2). Using this approach, the court itself is fitted as a covariate; all variations associated with the court are fitted first before any additional magistrate-specific information is included. The sanction types and forms of diversion listed above were entered, individually and in groups, as well as overall sentence mix and severity measures. Most relationships were not significant, and only those which achieve statistical significance of .05 are reported here. This cutoff is somewhat arbitrary, so estimates close to this (above or below) were checked to see if they should be included or rejected.

Results

One-year recidivism

Offence type 1

For the most serious offenders (mostly persons convicted of burglary or car theft), the magistrate has at least four types of choice: the length of custodial sentence; whether a supervisory sanction should be imposed rather than a short custodial sentence; whether a large fine should be imposed rather than a supervisory order; and whether a smaller fine should be used instead of a larger fine

The only significant effect found using both regression analysis and logit modelling was the extent of diversion from a short custodial sentence to supervision. Using the unstandardised regression coefficient (-0.12, t=-2.0, p=.05), derived from multiple regression, it can be estimated that for every 100 persons diverted from short periods of detention to supervisory orders there will be about twelve fewer persons re-convicted within the first year.

Using the coefficient derived from the logit model (-0.67), it can be interpreted that for a 15 percentage point increase in the use of diversion from detention to supervisory orders (the average between magistrates), the odds of re-conviction decline by about 0.90:1. (See table 15, Appendix 1).

When severity was added to check whether magistrates who used prison more were just more punitive overall, the apparent impact of diversion from prison increased slightly (-0.84, chi-square=10.1, p=.001), while severity was not significant. Because it is likely that a general measure of diversion should reduce the effect size for any one of its constituent parts, such an increase is implausible, and the simpler estimate is preferred.

Following Sherman and others, (Sherman, *et al.* 1998) it is simplest to express this in relation to the impact on the overall recidivism rate (in this case 29 per cent) for a typical pair of magistrates, where the difference in ratio of lower levels of detention to supervisory sanctions is 15 points (the average difference). This can be expressed as an expected decrease in the recidivism rate from 29.0 per cent to 26.2 per cent. (In subsequent discussion this is referred to as a 29/26 effect.)

A useful heuristic device for comparing the regression estimates and the logit estimates is that the former estimates that for every 100 persons diverted there will be a reduction of twelve offenders being re-convicted: a 'payoff' of 12 cents in the dollar (to use a monetary metaphor). By contrast, the logit model estimates that a 15 percentage point increase in diversion yields a 2.8 percentage point decrease in recidivism, a payoff of 18 cents in the dollar.

Offence type 2

This is the offence type which includes most of the categories of growing or selling drugs. For this offence grouping, long prison sentences are unlikely, so the areas of choice for magistrate are whether a supervisory sanction should be imposed rather than a short

custodial sentence, whether a higher-level fine should be imposed rather than a supervisory order, and whether a lower-level fine should be used instead of a higher-level fine.

No significant effects were identified.

Offence type 3

For this offence grouping, the same areas of choice were relevant as for offence type 2, plus the choice of whether to divert from a lower-level fine to no formal penalty.

No significant effects were identified. This is not surprising, given the narrow range of penalties used, most of which are fines.

Offence type 4

For this grouping, the two relevant forms of diversion are from higher- to lower-level fines, and from lower-level fines to bonds or dismissals.

Using the regression approach, only the diversion from lower-level fines was significant: for every 100 cases diverted, the drop in re-convictions was estimated to be seven.

Using logit modelling, both forms of diversion seemed to have an impact. The estimated impact on recidivism is 16/14 for diversion from higher- to lower-level fines, and 16/13 from lower-level fines to bonds or dismissal. For the diversion to lower fines, a 17 point increase in diversion (the average between magistrates) yields a 2.1 percentage point decrease in recidivism, a payoff of 12 cents in the dollar. For the diversion from fines to bonds or dismissals, a 24 point increase in diversion yields a 2.8 percentage point decline in re-offending, a payoff of 12 cents in the dollar.

Offence type 5

For this grouping, the two relevant forms of diversion are from higher- to lower-level fines, and from lower-level fines to bonds or dismissals.

Both regression and logit approaches identify diversion from lower-level fines to bonds or dismissal as the only significant contributor to reducing re-conviction rates.

Using the regression approach, it is estimated that for every 100 cases diverted from low fines, the drop in re-convictions would be eighteen.

Using logit modelling, the estimated impact on recidivism of diversion from lower-level fines is 20/17, a payoff of 17 cents in the dollar.

Recidivism over 2,3,4 years

Short-term impacts on recidivism may not continue, so it is necessary to re-examine the estimated impacts of sentence mix over a longer period.

In order to keep the sample size large enough, it was necessary to combine offence types; in this case 2, 3 and 4. Because the combination of three groups could lead to some variations in offence mix between magistrates, the offence mix index described above was used to test for variations from random assignment. In no cases did the index approach significance.

The comparison shows that there are two effects present in predicting re-conviction for years 1,2,3, and 4 – diversion from higher to lower fines and diversion from low-level fines to bonds or dismissals. The parameter estimates remain fairly constant over this period. In other words, the one-year estimates used in this study seem to suggest the same patterns as 2, 3 or 4 year estimates.

Using the overall one, two, three and four-year recidivism rates of 19, 27, 32 and 36 per cent respectively (for this sample) the estimated impact of diversion from higher to lower-level fines is 19/16 for one year recidivism, 27/23 for two-year recidivism, 32/27 for three-year recidivism, and 36/30 for four-year recidivism. This can be interpreted, using the money metaphor developed above, as a payoff of 20, 26,31 and 35 cents in the dollar respectively.

The impact of diversion from low-level fines to bonds and dismissals is slightly lower at 19/16, 27/25, 32/29 and 36/32 for the four years. This translates into payoffs of 20, 19, 22 and 25 cents in the dollar.

There are only 12 courts and 29 magistrates in the sample, (even though there are 14,539 offenders), so only 17 data points from which an estimate can be made (16 degrees of freedom), once the court effect is removed. The size of the parameters should be treated with some caution. The lower estimates provided for the individual offence types are probably more reliable. However the comparison with four-year re-conviction patterns provides greater confidence that the one-year re-conviction estimates are reasonably stable, at least for this group of less serious offenders. (For more serious offenders, length of prison sentence may also be relevant, as discussed in a following section).

Impacts of sentence mix on specific offence types

The 'weaker' experimental design permits examination of 10 specific sub-populations, offence types with large numbers of offenders, distinguishing between first offenders with a single charge, and multiple offenders with a prior record. (see tables 16 and 17). Given the less reliable character of the design, greater caution is exercised in making claims.

Offenders with prior record and multiple counts

For three offences – theft, assault and selling/manufacturing drugs – detention appears to increase re-conviction rates. This is generally consistent with the pattern reported from the

'stronger' experimental design. But the larger sample and larger number of data points also provide an interesting insight into possible incapacitation.

For two of the offences – theft and assault - longer sentences seem to provide an incapacitative effect relative to shorter prison sentences. This is not surprising for re-conviction measured at the end of year 1, though the effect washes out by the end of year 4. But there is a clear and measurable short-term effect. However for drug selling and manufacturing, longer prison sentences seem to *increase* re-conviction rates, even within the first year after sentence. This effect may not be replicated in other studies, so not too much should be made of it. But it does suggest that, whatever penalties are applied to the low-level drug dealers who come before magistrates, prison is unlikely to serve as a deterrent, and is likely to increase recidivism sooner rather than later.

For cannabis users with a prior record, there appears to be some impact according to level of fine. Higher-level fines result in lower re-conviction. Since the level of fine probably varies as much by the capacity of the offender as by the gravity of offence, not too much should be made of this. (The experimental model assumes that the mix of offenders before each magistrate are the same in terms of capacity to pay; this will tend to be the case in the 'strong' design, but there is likely to be some bias with the 'weaker' design). Nevertheless it does suggest that levels of fine may have some deterrent effect under some circumstances.

For the most serious group in this category, those convicted of car theft or burglary, there does not seem to be any penalty which makes any significant difference to re-conviction. In the absence of any particular pattern applying to this sub-group, it is likely that the general pattern for group 1 obtains – that diversion from prison to community service or probation reduces re-offending.

Offenders with no prior record and a single charge

For three offences – theft, assault and using cannabis – detention appears to increase re-conviction rates. In the 'stronger' design, it was reported that detention had no significant impact on the lower level offences. The emergence of such an impact here suggests either that the larger number of data points allows finer identification of small effects, or that the study design introduces a bias. One possible bias is that there is an area effect – offenders living in regions or suburbs with low levels of integration (or a 'stake in society") might respond adversely when imprisoned for minor offences. Magistrates in those areas might also use prison more frequently, resulting in an apparent correlation between imprisonment rates and re-offending. A conservative conclusion from both research designs would be that that greater use of imprisonment is most unlikely to reduce re-offending of first-time offenders.

Bonds or dismissals, on the contrary, were generally associated with lower re-conviction rates. Indeed in two cases, the sample size permitted examination of the relative impact of dismissals and bonds. Dismissals appear to be more effective. For first-time cannabis users, diversion from supervision to high-level fines appeared to reduce re-conviction rates. The apparent 'success' of higher level fines for cannabis users, both compared to low-level fines (for repeat offenders) and compared to supervision orders (for first offenders) suggest that this is one offence where monetary penalties have the most impact. Whether the offender is

also criminalized (as in NSW) or pays an on-the-spot fine (as in South Australia) is a further issue to be explored.

There are no offences where prison appears to have a positive impact and no offences where low-level penalties have a harmful effect. Fines, however, show a rather complex and inconsistent pattern, and more attention could be given to how they are calculated and applied. It is possible that fines are more (or less) harmful when they are paid in full, paid in instalments, or paid as compensation to a victim. Or when they are calibrated according to the person's means, or where the offender has some input into the level. The only clear conclusion in relation to fines is that, in general, they appear to be as successful as community orders or probation in reducing re-offending.

Interpretations and conclusion

The study found several consistent patterns linking sentence decisions of magistrates to subsequent offending. Sentencing can make an impact on re-offending, but the patterns are context-specific.

For top-end offences (such as theft, assault and drug selling, where the offender had a prior record), diversion from detention reduces re-offending. Cohorts sentenced by magistrates using a lower ratio of prison to community sanctions have, on average, a 3 per cent lower reconviction rate. Given the experimental conditions of the study, it is possible to conclude with some confidence that prison is less effective than community sanctions in reducing crime through re-offending.

There is another possible explanation for this pattern, the labelling effect of prison: offenders who serve jail time are more visible to police and more likely to be arrested. This could well be the case in comparing former prisoners with those sentenced to a less visible sanction like a fine or bond. However the comparison being made is with another highly visible punishment – supervisory sanctions. Many of these would last for a substantial portion of the re-offending period being considered, and many offenders on community orders would have probably more contact with correctional staff or law enforcement than former prisoners. So labelling is unlikely to provide the explanation.

It is also possible that offenders serving time in prison are more likely to end up before a District Court next time round (and so not be counted in the local courts database as a re-offender). If this was the case, it would suggest that the differences reported here are understated. This effect is not likely, given that the offenders are assumed to be equivalent in all other aspects (apart from magistrate); this equivalence would include dangerousness and propensity to commit offences likely to go before a judge (such as armed robbery). However it is possible that prison (as a school for crime) could change offending preferences, and increase the harmful impacts of prison beyond those reported here.

Longer prison sentences appear to have a short-term incapacitative effect relative to shorter sentences (but are less successful than community sanctions in reducing re-offending). However the effect is illusory and offenders given longer prison sentences eventually catch up to those serving shorter sentences. The longer prison sentences being served in NSW (the main cause of the blowout of the prison population) will therefore have no impact on public safety.

For the middle offence severity groups, there appear to be no sanctions that work better than any others. In part, this is because a high proportion of these offenders get a fine, and so there is limited variation.

For the lower-level offences, diversion from fines to bonds and dismissals reduces re-offending, and for some groups dismissals are more effective than bonds. Diversion from prison to community sanctions may also reduce re-offending, but the evidence is uncertain on this, partly because so few offenders get prison for minor offences that it is hard to get a reliable estimate.

The overall differences are small. Sanctions make a relatively small impact on re-offending compared to finding a job or settling down. The model of the controlled experiment provides a way of eliminating all (or most) of the individual background differences that allow other studies to claim larger effects. Nevertheless there are clear impacts, largely consistent with those found in other studies. Community sanctions are more effective than detention for serious offenders. This is consistent with the Canadian study reviewed in the previous chapter that provided a meta-analysis of previous research. Bonds and dismissals are more effective than fines for the least serious offenders. This supports the work of Farrington, Klein and others who argued for less 'legalistic' interventions. However fines and community sanctions appear to be show no strong differences in impact, despite the optimism shown by Morris and Tonry for this form of diversion. Perhaps the transition from fines to community sanctions is over, or the impacts are too subtle to measure with this rather blunt research design.

The impacts are small in part because the estimates are for cohorts, not individuals. It could hardly be expected that the level of diversion from detention to a supervisory sanction (for example) would affect the likelihood of re-offending of others in the cohort who received another sanction, such as a fine. And yet the only estimate available, given the experimental design, is for the cohort as a whole. So if a relationship taken from one part of the sentencing space has an overall impact on the whole cohort, it is possible that individual-level relationships might show stronger trends. How much more is not possible to state precisely[1].

There is, however, another possible reason why the differences are so small: there is considerable variation between courts. For some courts, diversion is associated with higher levels of re-offending, for others it is associated with lower levels. Why the variability? In a sense the research design used here does not seek to explain court variability. It assumes that the 'natural' variability within the court, the differences that make such a study possible, are produced by a whole range of factors which are not amenable to investigation from the data set. Some courts just happen to have a high proportion of persons charged with multiple offences; this could be because offenders are more active, or the active ones are disproportionately detected, or police are more vigilant in those areas, or citizens more likely to report, or police wait longer to consolidate cases into briefs.

Indeed, there could be a number of plausible and practical explanations for variations in the use of particular sanctions: courts in some areas may have particularly good relationships

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[1] Some (very rough) guidance can be taken from the size of the 'divertible' group in question relative to the whole cohort. With offence type 1, for example, the 'divertible from detention' group comprised, on average, about a half of each cohort. Thus a decrease in recidivism of 2.8 per cent for the cohort as a whole might appear to be consistent with an impact on individual-level recidivism for those immediately affected by the sentence of about 5.6 per cent. On the other hand the 2.8 percent was calculated by assuming that *all* magistrates changed their ratio of prison: community sanctions by 15 per cent, the average difference within courts. Since there has to be a 'base-line' magistrate to form the lower end of each comparison point, it is obvious that bringing all magistrates down to the lower point would involve a change from only half of them. Hence $5.6/2 = 2.8$. So the estimates provided here are probably roughly in line with what the individual effects might be.

with community corrections officers, or a lot of lawns that need mowing, or disproportionately large numbers of people unable to pay fines. In short, there is a range of possible explanations, none of which need to be tested for within-court experimental comparisons to be made. But it could be that features of the court help explain some of the variability, not just in the use of particular sanctions, but in their apparent effectiveness. For example, courts based in areas that have higher proportions of respondents with a 'stake in society' might find that punitive sanctions work more frequently, whereas those in less affluent areas might find that lower level interventions are more effective.

While it is plausible that it is the sanction itself which produces the impact on recidivism, other explanations must also be considered. One of these is magisterial style. As reported in the literature review, Sherman and others have argued that the quality of the process has a clear impact on recidivism; that offenders who feel they were treated fairly and could have their say were less likely to re-offend, regardless of what action or penalty was imposed. (Sherman *et al.* 2000). While this conclusion is drawn from police interactions or diversionary conferences, it is possible to argue that magistrates who treat defendants politely and allow defendants to have their say are likely to give participants a more positive view of the court. (A contrary view might be taken, that magistrates who succeed in scaring offenders through a stern lecture are more successful, regardless of penalty). These issues of judicial style might be part of the unexplained variation in re-offending. Or there could be a consistent bias, in that magistrates who listen more might be less quick to condemn and more willing to extend opportunities to offenders through the use of community sanctions (rather than detention) and bonds or dismissals (rather than fines). This is entirely hypothetical at this stage; but it does identify the problem of correctly specifying the nature of the 'intervention' in the experiment: was it the sanction itself or the process which led to it? With prison sentences, it is likely that the sentence itself rather than the demeanour of the magistrate had a more pronounced impact on the person's life, but with less intrusive penalties the less tangible issues of magistrate style and defendant satisfaction with the court process could come in.

It is quite possible that many other sanctions or levels of sanction may have an impact on re-conviction. However the low 'power' of the model resulting from indirect nature of the experiment, means that such effects could not be identified. Fines, for example, may have a deterrent effect for those convicted of fraud, while some forms of bond which include drug treatment may have a useful impact on drug addiction (and therefore on the need to raise large amounts of money to support the habit). The design of this indirect experiment does not allow such specific impacts to be measured. However it is possible that if additional court or magistrate-specific information were also collected some of the 'noise' in the data would be reduced and more powerful estimates produced. Such data might include an indication of the average amount of information provided to defendants, average number of follow-up contacts made by court staff, and the mean defendant satisfaction with magistrate or court.

Impact on case loads of courts

With an annual throughput of about 40,000 cases in NSW local courts in the offence types under consideration, a decline of 3-5 per cent in the number of offenders coming back to court would mean only about 1200 to 2000 fewer cases. Given that measurable impacts can only be detected for the high- and low-end categories of offenders, this number would drop to about 700-1200. Further it is unlikely that magistrates will change from one end of the current range within their court to the other end. So it must be concluded that variations in sentencing patterns between magistrates have limited impact on future case loads. The transfer of jurisdiction from District to local courts of some offences is likely to have had a far more dramatic impact.

Increasing use of prison will have a limited impact on the likely number of offenders re-appearing in court. However it could have a more serious impact on the number of prison beds required, both immediately and as those imprisoned return to court in larger numbers.

The usefulness of natural or indirect experiments in criminal justice

The study design was sufficiently robust to identify 'relatively successful' penalties for three of the five offence types. This establishes the general usefulness of the method. Because the data came from a natural setting, it is likely that the results can be generalised to other local courts in NSW, and probably to magistrates courts or courts of petty sessions in other Australian jurisdictions.

Given the near impossibility of carrying out direct experiments (randomly allocating offenders to prison or probation etc.), an indirect experimental approach provides the most reliable way of testing impact of sentence that is actually feasible. Its bluntness and the difficulty in identifying single effects from a distribution make issues of interpretation less simple than from a direct experiment. But the effects reported here are both significant and largely consistent with some of the hypotheses outlined in the introduction.

It is possible that similar effects could be found with District, or County, Courts, since there are substantial uses of short prison sentences and fines in those courts. However the indirect experimental approach (comparing cohorts within a court) would not be sensitive enough to prove such effects.

The data set used here was very simple, the addition of extra data would allow the effects to be measured with more precision. Future studies should consider including data about courts (urban/rural status, SES and mobility of area), magistrates (style, provision of information to defendants, willingness to listen), court processes (use of adjournments), as well as finer details about offence (date of commission, to eliminate spurious recidivism).

This study has confirmed that community sanctions can have a positive impact on reducing re-offending. But which sanctions, with what conditions, and for which offenders? Fuller data about courts and magistrates could take out some of the 'noise' in the data used here and allow more specific questions to be answered. This study considered only the major penalty; further work could consider combinations (including compensation or drug treatment orders, for example).

Appendix 1: tables

Table 1: Calculations for keeping or dropping courts and magistrates: Courts with more than 1000 relevant cases in 1992-1997

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Table 15: Offenders sentenced by magistrates within selected courts, 1992-96, Odds of re-offending within one year, by offence grouping.

Table 16: 'Weak' experimental model. Offenders with a prior record and multiple counts sentenced by magistrates within all courts, 1992-96, Odds of re-offending within one year, by offence.

Table 17: 'Weak' experimental model. First offenders convicted on a single count sentenced by magistrates within all courts, 1992-96,
Odds of re-offending within one year, by offence.

Table 18: All offenders, 1992-97. Offence group, penalty distribution and one-year re-offending rates.

Table 19: All offenders, 1992-6 cohort, by offence grouping: Odds of re-conviction without controlling for personal characteristics, and odds-ratios of re-conviction.

Table 20: 1992-6 cohort: Estimated impact of magistrates sentencing patterns on re-conviction. Calculations and summary.

Table 21 1992-3 cohort: Estimated impact of magistrates sentencing patterns on re-conviction. Calculations and summary.

Court ID	No. cases	chi-square	df	Probability	Decision
11	2115	15.8	12	0.198	keep
23	3076	40.1	4	0.001	drop
31	5738	17.4	8	0.027	drop category 2
42	1653	19.8	8	0.011	drop category 2
47	1713	3.5	4	0.481	keep - categories 1 & 2
50	4699	22.8	8	0.004	drop category 3
56	1410	23.7	8	0.003	drop
59	1463	5	4	0.286	keep
62	4458	7.6	4	0.11	keep
80	1843	7.5	4	0.11	drop - big diffs in categories 1 & 5
89	4292	48.5	8	0.001	drop
99	3435	9.96	8	0.268	keep
100	2109	4.3	4	0.37	keep
117	1512	9.8	4	0.04	drop
124	1453	22.7	8	0.004	drop
128	2267	18.4	8	0.02	drop
135	2793	40.9	8	0.001	drop category 2
137	4365	29.1	8	0.001	drop category 1
141	2107	10.9	4	0.028	drop
143	4844	23.7	4	0.001	drop
167	4720	11	12	0.528	keep
168	2289	21.8	4	0.001	drop
170	1455	38.5	4	0.0001	drop
171	2503	5.57	8	0.695	keep
180	2962	53.8	8	0.001	drop
182	5148	8.3	16	0.941	keep
183	3904	6.7	12	0.879	keep
192	1690	19.5	4	0.001	drop
193	1268	13.8	4	0.008	drop
197	2086	27.5	4	0.001	drop
204	1724	1.62	4	0.805	keep
226	2057	0.58	4	0.966	keep
230	2519	23.6	4	0.001	drop
235	5249	19.4	8	0.013	drop category 3
244	1254	7.9	4	0.097	keep
247	3652	15.9	16	0.463	keep
250	1471	9.9	4	0.042	drop

Table 1: Calculations for keeping or dropping courts and magistrates: Courts with more than 1000 relevant cases in 1992-1997

Court	No. cases	chi-square	df	Probability	Decision
11	2115	15.8	12	0.198	keep
31	3606	2.6	4	0.629	keep
42	1264	2.8	4	0.593	keep
47 - categories 1 & 2	2641	5.7	4	0.222	keep
47 - categories 3 & 4	1713	3.5	4	0.481	keep
50	3983	7.2	4	0.123	keep
59	1463	5	4	0.286	keep
62	4458	7.6	4	0.11	keep
99	3435	9.96	8	0.268	keep
100	2109	4.3	4	0.37	keep
135	2012	2.9	4	0.572	keep
137	4200	15.02	8	0.06	keep - no systematic bias
167	4720	11	12	0.528	keep
171	2503	5.57	8	0.695	keep
182	5148	8.3	16	0.941	keep
183	3904	6.7	12	0.879	keep
204	1724	1.62	4	0.805	keep
226	2057	0.58	4	0.966	keep
235	4092	7.3	4	0.121	keep
244	1254	7.9	4	0.097	keep
247	3652	15.9	16	0.463	keep

Table 2: Review of calculations for keeping selected courts and magistrates: Courts with more than 1000 relevant cases in 1992-1997

Appearances	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	29262	47.0	29262	47.0
2	12584	20.2	41846	67.2
3	7637	12.3	49483	79.5
4	5012	8.0	54495	87.5
5	3214	5.2	57709	92.7
6	1859	3.0	59568	95.7
7	1086	1.7	60654	97.4
8	606	1.0	61260	98.4
9	373	0.6	61633	99.0
10	213	0.3	61846	99.3
11	131	0.2	61977	99.5
12	84	0.1	62061	99.7
13	101	0.2	62162	99.8
14	16	0.0	62178	99.8
15	30	0.0	62208	99.9
16	10	0.0	62218	99.9
17	7	0.0	62225	99.9
18	14	0.0	62239	99.9
19	3	0.0	62242	100.0
20	9	0.0	62251	100.0
21	5	0.0	62256	100.0
22	1	0.0	62257	100.0
23	2	0.0	62259	100.0
24	7	0.0	62266	100.0
25	1	0.0	62267	100.0
27	5	0.0	62272	100.0
43	1	0.0	62273	100.0
Total	**62273**	**100**		

Table 3: Offenders: number of appearance in local courts 1992-1997

	Car theft	Burglary	Theft	Fraud	Damage	Assault	Shop-stealing	Drug selling	Cannabis use	Other drug use	Breach of order	Offensive behaviour	Other	Total	N
Persons	1704	2107	9657	1983	4578	14493	5117	2642	5228	1534	2657	6189	4183	100	62072
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	
Penalty															
Prison 12+	5.5	8.3	0.4	1.3	0.1	0.4	0.1	0.3	0.0	0.1	0.1	0.0	0.4	0.7	429
Prison 9 mths	5.3	5.7	0.7	1.0	0.1	0.5	0.2	0.5	0.1	0.0	0.4	0.0	0.3	0.7	414
Prison 6 mths	9.3	8.4	2.7	2.6	0.6	1.7	1.5	2.0	0.2	0.9	2.3	0.1	0.6	1.9	1174
Prison 4 mths	3.2	2.6	1.2	1.6	0.4	0.9	0.9	0.8	0.2	0.3	1.5	0.1	0.3	0.9	546
Prison 3 mths	3.3	3.6	2.6	2.2	0.7	1.6	1.8	1.2	0.5	0.8	3.6	0.1	0.7	1.6	987
Prison 2 mths	1.5	1.0	1.0	0.8	0.6	0.9	0.8	0.5	0.4	0.6	2.8	0.1	0.5	0.8	508
Prison 1 mth	1.3	1.8	1.6	1.0	0.7	1.0	1.5	1.1	1.2	2.2	3.6	0.1	1.2	1.2	775
Prison < 1 mth	0.6	0.7	0.7	0.6	0.7	0.6	0.6	0.3	0.6	1.2	4.0	0.1	0.5	0.7	438
Per det >6 mths	2.2	4.2	0.5	1.2	0.1	0.5	0.2	1.1	0.1	0.1	0.2	0.0	0.2	0.5	336
Per det 6 mths	2.2	1.8	0.8	0.7	0.2	0.8	0.4	1.0	0.1	0.3	0.7	0.0	0.3	0.6	378
Per det <6 mths	1.6	1.6	1.2	0.6	0.5	1.0	0.9	1.0	0.6	0.8	2.2	0.0	0.3	0.9	545
CSO 200+ hrs	1.3	2.4	0.4	1.3	0.1	0.6	0.0	1.2	0.1	0.1	0.3	0.0	0.1	0.4	275
CSO 150-200 hrs	6.2	8.8	2.4	4.7	0.9	2.1	1.1	3.6	0.5	0.5	1.4	0.0	0.6	1.9	1199
CSO 100-149	5.2	4.3	2.7	3.4	1.1	2.4	1.7	2.6	0.7	0.6	1.6	0.3	0.5	1.9	1187
CSO 75 hrs	0.5	1.4	0.7	0.7	0.3	0.8	0.9	0.7	0.2	0.4	0.9	0.1	0.4	0.6	376
CSO 50 hrs	0.4	1.0	0.8	0.7	0.5	0.9	0.7	0.6	0.3	0.8	0.6	0.1	0.2	0.6	378
CSO < 50 hrs	0.9	1.4	0.8	0.9	0.6	0.3	0.5	0.5	0.2	0.5	0.9	0.0	0.1	0.5	313
Probation	4.4	12.0	5.2	7.9	3.6	5.8	4.2	2.5	1.0	3.4	5.6	0.9	2.0	4.3	2658

Table 4: Persons sentenced by magistrates, 1992-1997: Offence by sentence

Penalty	Car theft %	Burglary %	Theft %	Fraud %	Damage %	Assault %	Shop-stealing %	Drug selling %	Cannabis use %	Other drug use %	Breach of order %	Offensive behaviour %	Other %	Total %	N
Fine $1000+	3.9	1.2	2.2	3.5	1.5	2.6	1.0	8.3	2.3	3.0	1.2	0.2	2.6	2.3	1414
Fine $750	4.0	1.5	3.1	2.8	2.8	3.9	2.6	8.7	3.3	3.7	1.5	1.3	2.7	3.2	1976
Fine $500	7.7	3.8	8.4	6.7	8.0	8.1	5.9	9.3	6.3	10.4	5.5	1.8	7.3	6.9	4295
Fine $400	3.9	2.6	8.6	4.4	8.2	7.4	7.9	7.5	7.0	9.5	5.2	4.2	8.0	7.0	4332
Fine $300	4.2	2.0	8.8	5.0	9.9	7.2	11.0	8.0	11.0	10.8	6.2	6.8	9.6	8.1	5054
Fine $250	2.1	1.1	7.2	3.7	8.7	5.4	9.2	6.3	9.0	8.5	5.1	6.7	8.0	6.7	4134
Fine $200	4.2	1.6	9.6	8.4	14.2	7.9	14.3	8.6	15.0	13.4	6.9	15.1	14.2	10.7	6642
Fine $150	1.8	0.9	5.4	4.6	8.8	3.6	8.5	6.1	17.5	7.2	2.7	22.0	10.6	8.2	5098
Fine $100	2.4	1.2	4.3	4.3	7.1	3.4	5.4	3.8	10.4	7.0	3.9	18.0	11.9	6.7	4131
Fine< $100	0.5	0.3	1.4	2.7	2.6	1.2	1.3	1.7	3.3	1.6	1.3	10.5	3.7	2.6	1634
Bond	7.1	10.1	7.3	13.9	6.1	15.6	4.9	4.2	1.1	4.0	10.4	1.1	2.8	7.7	4789
Dismissed	3.1	2.7	7.4	7.0	10.3	11.0	10.0	6.1	6.8	7.3	17.6	10.2	9.4	9.1	5657
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**62072**

Table 4 (cont.): Persons sentenced by magistrates, 1992-1997: Offence by sentence

Sentence

Prison 12+	1.34828
Prison 9 mths	1.29986
Prison 6 mths	1.01558
Prison 4 mths	0.85337
Prison 3 mths	0.79171
Prison 2 mths	0.6669
Prison 1 mth-	0.52538
Per det <6 mths	0.65327
Per det 6 mths	0.81563
Per det >6 mths	1.07126
CSO 200+ hours	0.78396
CSO 150-200 hours	0.7315
CSO 100-149	0.61137
CSO 75 hours	0.53737
CSO 50 hours	0.5698
CSO < 50 hours	0.54844
Fine $1000+	0.18487
Fine $750	0.10116
Fine $500	0.05836
Fine $400	-0.04316
Fine $300	-0.09499
Fine $250	-0.16249
Fine $200	-0.20092
Fine < $200	-0.36981
Recog w sup	0.42606
Recog w/o sup	0.05545
Dismissed	-0.59809

Table 5: Estimated metric of sentence severity based on correspondence analysis

Penalty type	Car theft %	Burglary %	Theft %	Fraud %	Damage %	Assault %	Shop-stealing %	Drug selling %	Cannabis use %	Other drug use %	Breach of order %	Offensive behaviour %	Other %	Total %	N
Detention	36	40	13	13	5	10	9	10	4	7	21	1	5	11	
Supervision	19	31	13	20	7	13	9	12	3	6	11	1	4	10	
Fine $300+	24	11	31	22	30	29	28	42	30	37	20	14	30	28	
Fine < $300	11	5	28	24	41	22	39	27	55	38	20	72	48	35	
No penalty	10	13	15	21	16	27	15	10	8	11	28	11	12	17	
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
Persons	1704	2107	9657	1983	4578	14493	5117	2642	5228	1534	2657	6189	4183	62072	

Table 6 Offence by penalty type: Offenders sentenced in NSW local courts, 1992-1997 (Bold used to highlight penalty ranges used most frequently)

Court	Magistrate 1 %	2 %	3 %	4 %	5 %	Average %	Maximum Difference %	N
1	4	6	4	2	-	4	4.4	1964
3	10	9	12	-	-	10	3.8	5517
4	6	-	6	-	-	6	0.5	1261
5	-	-	9	9	-	9	0.3	1713
6	7	9	5	-	-	7	4.5	3731
8	10	12	-	-	-	11	2.8	1153
9	6	10	-	-	-	7	3.8	3641
12	7	5	7	-	-	6	2.6	2871
13	14	11	-	-	-	14	3.2	1786
17	4	-	4	-	-	4	0.2	1602
18	-	14	11	12	-	12	2.9	3126
21	7	8	8	7	-	8	0.7	4508
24	6	6	5	-	-	6	0.6	2031
26	0	11	8	8	9	9	10.9	4335
27	5	2	2	0	-	2	4.8	3891
31	10	8	-	-	-	9	2.0	1667
32	5	22	-	-	-	7	16.9	1759
34	16	13	-	-	-	14	3.2	3773
35	5	7	-	-	-	6	2.1	1146
36	12	20	7	20	13	14	12.9	3205
Total								54680

Table 7: Selected courts by magistrate: Percentage use of imprisonment

Table 7 shows that courts range in their average use of imprisonment from 4 per cent to 14 per cent. The maximum difference within courts ranges between 0.2 per cent to 16.9 per cent.

	Magistrate						Maximum	
Court	1	2	3	4	5	Average	Difference	N
	%	%	%	%	%	%	%	
1	15	14	20	21	-	18	6.7	1964
3	17	26	12	-	-	18	13.8	5517
4	14	-	13	-	-	13	0.2	1261
5	-	-	17	17	-	17	0.1	1713
6	25	10	23	-	-	19	15.1	3731
8	13	24	-	-	-	18	11.6	1153
9	13	21	-	-	-	14	8.2	3641
12	18	27	20	-	-	22	8.9	2871
13	13	10	-	-	-	13	2.6	1786
17	24	-	23	-	-	23	1.8	1602
18	-	15	10	7	-	11	7.2	3126
21	6	17	26	14	-	14	20.0	4508
24	17	8	33	-	-	18	24.4	2031
26	11	16	19	17	7	14	12.4	4335
27	6	19	17	25	-	20	19.0	3891
31	23	20	-	-	-	21	3.2	1667
32	15	17	-	-	-	16	1.5	1759
34	8	17	-	-	-	14	8.5	3773
35	27	15	-	-	-	21	12.4	1146
36	35	20	10	13	7	14	28.0	3205
Total								**54680**

Table 8 Selected Court by magistrate: Percentage use of bonds and dismissals

Table 8 shows that courts range in their average use of imprisonment from 11 per cent to 23 per cent. The within court range is even larger with up to 28 per cent variation between magistrates.

| | Magistrate | | | | | | Maximum | |
| Court | 1 | 2 | 3 | 4 | 5 | Average | Difference | N |
	%	%	%	%	%	%	%	
1	16	19	14	14	-	16	5.0	1964
3	21	20	22	-	-	21	2.4	5517
4	29	-	30	-	-	29	0.8	1261
5	-	-	17	18	-	17	0.8	1713
6	22	19	17	-	-	21	5.7	3731
8	22	21	-	-	-	22	1.0	1153
9	25	22	-	-	-	25	3.1	3641
12	23	19	20	-	-	21	3.4	2871
13	20	22	-	-	-	20	2.6	1786
17	31	-	25	-	-	28	6.5	1602
18	-	20	26	22	-	24	5.9	3126
21	22	19	18	20	-	20	4.5	4508
24	24	28	21	-	-	25	6.6	2031
26	11	16	17	18	17	17	6.8	4335
27	26	26	27	21	-	24	5.7	3891
31	14	15	-	-	-	15	1.7	1667
32	23	19	-	-	-	23	4.3	1759
34	19	19	-	-	-	19	0.2	3773
35	20	17	-	-	-	18	3.1	1146
36	20	20	25	17	21	20	7.7	3205
Total							**3.9**	**54680**

Table 9 Offenders sentenced in NSW local courts, 1992-1996: One year re-conviction rate by court, by magistrate

Table 9 shows there is a reasonable range of variation both within and between courts. The court average ranged between 15 and 29 per cent one year re-offending rates, while the average differences within courts was 3.9 per cent.

Proportion re-offending within one year (1992-1996 cohorts only)

Penalty type	Car theft %	Burglary %	Theft %	Fraud %	Damage %	Assault %	Shop-stealing %	Drug selling %	Cannabis use %	Other drug use %	Breach of order %	Offensive behaviour %	Other %	Total %	N
Detention	31	32	35	29	42	31	37	25	18	30	31	29	23	32	5715
Supervision	29	26	26	18	27	25	33	14	20	26	28	22	23	25	5595
Fine $300+	20	20	22	15	24	18	24	13	18	23	20	23	24	20	14895
Fine < $300	22	23	19	17	23	21	18	14	18	19	24	24	26	21	19515
No penalty	23	21	14	9	12	12	12	12	9	15	22	8	11	13	8960
Total	**26**	**27**	**22**	**17**	**23**	**19**	**22**	**15**	**17**	**21**	**25**	**22**	**24**	**21**	**54680**

Proportion re-offending within four years (1992-1993 cohorts only)

	Car theft	Burglary	Theft	Fraud	Damage	Assault	Shop-stealing	Drug selling	Cannabis use	Other drug use	Breach of order	Offensive behaviour	Other	Total	N
Detention	70	63	67	60	72	61	69	55	55	55	52	60	56	63	2644
Supervision	46	51	47	37	54	50	56	36	46	54	59	44	41	48	2459
Fine $300+	44	39	37	31	46	36	33	23	37	42	37	41	44	37	7042
Fine < $300	44	54	35	35	43	40	30	28	34	32	40	45	44	39	9302
No penalty	50	44	29	24	26	25	16	26	20	36	41	16	25	26	3874
Total	**54**	**53**	**40**	**35**	**44**	**38**	**36**	**29**	**35**	**39**	**45**	**42**	**43**	**40**	**25321**

Table 10: Re-conviction rates by offence and penalty

Table 10 shows there are marked variations in re-offending, both according to type of offence and penalty. Persons convicted of car theft and burglary are the most likely group to come back, with over half of each group re-offending within four years. Persons convicted of selling or manufacturing drugs have the lowest rate of re-appearance in local courts (partly because a re-offence might result in charges being heard at the District Court).

Offenders given a custodial sentence were by far the most likely to re-offend (63%), followed by supervision (48%), fines (37 and 39%), while offenders given bonds and dismissals were least likely to return (26%). The most likely sub-group to re-offend were those imprisoned for vehicle theft (70%), while the least likely group to return were persons convicted of shop-stealing or offensive behaviour who were given 'no penalty' (both 16%).

Proportion re-offending within one year (1992-1996 cohorts only)

Penalty	Car theft %	Burglary %	Theft %	Fraud %	Damage %	Assault %	Shop-stealing %	Drug selling %	Cannabis use %	Other drug use %	Breach of order %	Offensive behaviour %	Other %	Total %	N
Prison 12+	18	19	17	17	67	30	25	14	-	50	67	-	0	20	379
Prison 9 mths	35	32	38	25	-	28	-	9	-	-	36	-	20	30	358
Prison 6 mths	30	31	32	30	26	30	49	26	0	67	30	20	17	31	1013
Prison 4 mths	19	32	38	40	36	34	33	29	33	40	27	20	27	33	473
Prison 3 mths	43	39	36	33	43	29	33	34	13	15	24	20	10	32	891
Prison 2 mths	32	44	35	15	35	37	32	17	24	13	31	25	41	33	429
Prison 1 mth	44	16	39	26	55	28	40	28	13	29	32	44	35	33	689
Prison < 1 mth	29	33	31	22	53	43	44	57	25	28	37	50	37	38	395
Per det >6 mths	39	38	32	27	67	27	29	18	40	0	33	0	0	32	290
Per det 6 mths	42	53	42	23	29	25	39	20	0	0	40	0	10	33	327
Per det <6 mths	40	60	32	50	38	29	38	24	29	25	27	0	11	33	471
Total															**5715**

Table 11 Offenders incarcerated by NSW local courts, 1992-1997: Re-offence rates, by offence and length of detention

Proportion re-offending within four years (1992-1993 cohorts only)

Penalty	Car theft %	Burglary %	Theft %	Fraud %	Damage %	Assault %	Shop-stealing %	Drug selling %	Cannabis use %	Other drug use %	Breach of order %	Offensive behaviour %	Other %	Total %	N
Prison 12+	72	63	50	58	100	55	-	-	-	100	100	-	50	61	160
Prison 9 mths	66	65	78	75	0	59	100	67	33	0	75	0	40	66	161
Prison 6 mths	76	66	62	55	70	60	77	69	0	88	61	100	60	65	426
Prison 4 mths	67	52	54	36	75	59	79	54	40	67	45	67	60	57	194
Prison 3 mths	79	65	69	59	78	68	65	53	58	60	30	67	50	64	440
Prison 2 mths	75	54	67	40	69	60	58	78	67	29	57	20	90	62	232
Prison 1 mth	63	50	76	85	76	68	69	53	53	47	71	60	60	67	360
Prison < 1 mth	75	88	63	60	65	73	100	0	69	60	53	50	60	65	208
Per det >6 mths	58	61	75	55	100	38	100	22	100	0	100	0	0	55	106
Per det 6 mths	57	58	67	60	25	50	86	60	0	0	75	100	0	58	124
Per det <6 mths	50	76	69	100	80	59	53	43	68	43	33	100	33	60	233
Total															**2644**

Table 11 (cont.): Offenders incarcerated by NSW local courts, 1992-1997: Re-offence rates, by offence and length of detention

Do longer terms of incarceration result in a decline in re-offending? Table 11 shows that after one year, those who had been given sentences of a year or more had re-conviction rates one- third lower than those with shorter sentences. However by the end of the fourth year this difference had disappeared.

It might be assumed that offenders given a one year prison sentence could not re-offend at all within that period, let alone at a rate two-thirds the level of other offenders given a prison term. This can be explained partly by convictions for prior convictions (pseudo-re-convicions) and partly by prison sentences which were partially suspended.

Magistrate Pair*	N	Re-convictions	Dismissals/Bonds
1	270	6.5	2.7
2	553	15.5	16
3	203.5	-20.4	8.1
4	217	-8.7	8.7
5	308	-6.2	15.1
6	316.5	-23.1	20.3
7	437	-27.1	28.8
8	267	-17.6	17.6
9	201.5	2.4	15.5
10	403	-42.3	36.7
11	335.5	-13.8	36.2
12	395.5	2	53.4
13	335.5	-9.1	53.7
Total	4243	-141.9	312.8

Correlation coefficient for relationship between re-convictions and dismissals R = 0.18 (t=.07, p=.52)
* Pairs of magistrates within courts with average sample size of 200 or more

Table 12: Impact of dismissals and bonds on re-conviction for offence type 5: 'Extra persons' compared to magistrate 1

It is evident in table 12 that there is a generally negative relationship between the use of bonds or dismissals and the extent of re-conviction in relation to the least serious offences coming before the courts with the largest offender populations. Of the thirteen pairs, nine show a negative relationship. Summing across all 13 pairs, there were 313 'extra' bonds or dismissals than would have been expected given the sentencing patterns of magistrate 1, but 142 fewer persons re-convicted. Putting this into a more familiar form, if this pattern could be generalised, for every 100 persons diverted from lower-level fines to bonds or dismissals, we would expect about 45 fewer re-convictions.

Offence group	Offence	Prior record and counts	N	severity	
1	Burglary	Priors, 2+ counts	740	0.71	
	Car theft	Priors, 2+ counts	776	0.59	
	Burglary	Priors, 1 count	777	0.58	
	Car theft	Priors, 1 count	360	0.40	
	Burglary	No priors, 2+ counts	160	0.29	
	Fraud	Priors, 2+ counts	570	0.27	
	Theft	Priors, 2+ counts	2111	0.27	
	Car theft	No priors, 2+ counts	167	0.26	
	Shopstealing	Priors, 2+ counts	610	0.24	
	Burglary	No priors, 1 count	198	0.22	6469
2	Breach of order	Priors, 2+ counts	346	0.17	
	Assault	Priors, 2+ counts	3807	0.16	
	Fraud	Priors, 1 count	525	0.15	
	Manufacture/sell drugs	Priors, 2+ counts	1001	0.13	
	Breach of order	No priors, 2+ counts	39	0.13	
	Car theft	No priors, 1 count	187	0.12	
	Manufacture/sell drugs	Priors, 1 count	715	0.10	
	Theft	Priors, 1 count	3318	0.09	
	Fraud	No priors, 2+ counts	299	0.08	
	Breach of order	Priors, 1 count	1558	0.07	
	Assault	Priors, 1 count	5133	0.06	
	Use drugs (not cannabis)	Priors, 2+ counts	340	0.06	17268
3	Theft	No priors, 2+ counts	795	0.03	
	Use drugs (not cannabis)	Priors, 1 count	437	0.02	
	Shopstealing	Priors, 1 count	2448	0.02	
	Damage	Priors, 2+ counts	831	0.01	
	Manufacture/sell drugs	No priors, 1 count	325	-0.01	
	Fraud	No priors, 1 count	375	-0.03	
	Manufacture/sell drugs	No priors, 2+ counts	348	-0.05	
	Assault	No priors, 2+ counts	1106	-0.05	
	Other	Priors, 1 count	1500	-0.06	
	Damage	Priors, 1 count	1991	-0.07	
	Other	Priors, 2+ counts	624	-0.07	10780
4	Use cannabis	Priors, 1 count	1599	-0.11	
	Breach of order	No priors, 1 count	265	-0.11	
	Use cannabis	Priors, 2+ counts	1630	-0.11	
	Theft	No priors, 1 count	2450	-0.12	
	Assault	No priors, 1 count	2349	-0.14	
	Use drugs (not cannabis)	No priors, 1 count	421	-0.17	
	Use drugs (not cannabis)	No priors, 2+ counts	207	-0.18	
	Damage	No priors, 2+ counts	229	-0.19	
	Shopstealing	No priors, 2+ counts	109	-0.19	
	Other	No priors, 2+ counts	272	-0.20	9531

5 Offensive behaviour	Priors, 2+ counts	994	-0.21	
Damage	No priors, 1 count	987	-0.23	
Other	No priors, 1 count	1309	-0.25	
Use cannabis	No priors, 1 count	735	-0.26	
Use cannabis	No priors, 2+ counts	667	-0.26	
Offensive behaviour	Priors, 1 count	2917	-0.27	
Shopstealing	No priors, 1 count	1290	-0.27	
Offensive behaviour	No priors, 2+ counts	316	-0.32	
Offensive behaviour	No priors, 1 count	1417	-0.36	10632
Total		54680	0.00	5468(

Table 13: Production of 5 offence groupings, based on offence, prior record and number of counts, using severity of punishment as criterion.

	Offence group					
Sentence	**1**	**2**	**3**	**4**	**5**	**Total**
Prison - 6 months or more	**13.4%**	3.3%	1.5%	0.6%	0.1%	3.1%
Prison - under 6 months	**12.8%**	8.1%	4.3%	2.3%	0.6%	5.5%
Periodic detention	**3.8%**	1.9%	1.0%	0.7%	0.1%	1.4%
CSO	**12.9%**	**7.9%**	4.6%	3.2%	0.8%	5.7%
Probation	**7.9%**	**6.5%**	4.3%	2.6%	1.1%	4.5%
Fine $300+	19.1%	**30.9%**	**31.9%**	**29.7%**	17.1%	26.7%
Fine u $300	18.8%	**23.0%**	**38.4%**	**33.5%**	**59.6%**	34.2%
Bond	6.6%	11.2%	6.1%	**8.5%**	**1.9%**	7.4%
Dismissal	4.5%	7.3%	7.9%	**19.0%**	**18.5%**	11.3%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
N	29102	73801	41097	41703	44861	230564

Table 14: Persons sentenced by magistrates, 1992-97, Offence group by sentence type. 'Action' in the table (areas where diversion most likely to be applicable) highlighted in bold.

Logit models
Odds of re-conviction within one year

Offence type

1   Diversion from prison to supervisory sanction
$$b = -.67 \ (\_^2 = 7.33, \ p=.007)$$

2   No significant effects

3   No significant effects

4   Diversion from high to low fine
$$b = -.82 \ (\_^2 = 6.85, \ p=.009)$$
Diversion from low fine to no sanction
$$b = -.80 \ (\_^2 = 8.81, \ p=.003)$$

5   Diversion from low fine to no sanction
$$b = -.90 \ (\_^2 = 5.4, \ p=.02)$$

Table 15: 'Strong' experimental model. Offenders sentenced by magistrates within selected courts, 1992-96, Odds of re-offending within one year, by offence grouping.

Notes:
1. There are 21 courts and 57 magistrates in the sample. The court effect (using up 20 degrees of freedom) is fitted first. All the effects reported above are net of this court effect.

Offence type	**Logit models** **Odds of re-conviction within one year**
Burglary/car theft	No significant effects
Theft/receiving stolen goods	(1) Detention (vs all other sanctions) $b = 1.86$ $(\_^2 = 12.0, \; p=.0005)$, N (mag) $=91$ (2) Length of prison sentence (log) $b = -.88$ $(\_^2 = 5.6, \; p=.02)$
Assault	(1) Detention (vs all other sanctions) $b = 2.12$ $(\_^2 = 24.2, \; p<.00001)$, N (mag) $=110$ (2) Length of prison sentence (log) $b = -1.01$ $(\_^2 = 9.5, \; p=.002)$
Sell/manufacture drugs	(1) Detention (vs all other sanctions) $b = 1.22$ $(\_^2 = 10.0, \; p=.002)$, N (mag) $=73$ ....*OR*................. (1) Length of prison sentence (log) $b = .97$ $(\_^2 = 15.6, \; p=.0001)$
Use cannabis	(1) Diversion from fine over \$200 to fine \$200 or less $b=.28$ $(\_^2 = 3.97, p=.05)$, N (mag)$= 70$

Table 16: 'Weak' experimental model. Offenders with a prior record and multiple counts sentenced by magistrates within all courts, 1992-96, Odds of re-offending within one year, by offence.

Notes:
1. Offence types with over 1000 cases selected.
2. Magistrates with over 25 cases of selected offence were included in sample. (Hence the variation in number of magistrates used between different offences).
3. All parameters reported used 1 degree of freedom
4. Models include all variables listed unless otherwise specified ('or' indicates either of the terms can be used, but not both).

Logit models
Odds of re-conviction within one year

Offence type

Theft/ receiving stolen (1) Detention (vs all other sanctions)
goods
$b = 2.7$ ($\_^2 = 14.6$, p=.0001), N (mag)=97
(2) Diversion from bond to dismissal
$b = -1.4$ ($\_^2 = 70.1$, p<.0001)
...........OR..................
(1) Detention (vs all other sanctions)
$b = 4.2$ ($\_^2 = 36.2$, p<.0001)
(2) Diversion from fine to bond/dismissal
$b = -0.5$ ($\_^2 = 8.3$, p=.004)

Assault
(1) Detention (vs all other sanctions)
$b = 5.2$ ($\_^2 = 12.8$, p=.0003), N (mag)=115
(2) Dismissal (vs all other sanctions)
$b = -0.6$ ($\_^2 = 5.3$, p=.02)
...........OR..................
(1) Diversion from bond to dismissal
$b = -0.5$ ($\_^2 = 7.7$, p=.006)

Use cannabis
(1) Detention (vs all other sanctions)
$b = 9.4$ ($\_^2 = 6.8$, p=.0003), N (mag)=87
(2) Diversion from supervision to fine
$b = -0.3$ ($\_^2 = 3.7$, p=.05)

Offensive behaviour
(1) Fines (vs all other sanctions)
$b = -6.5$ ($\_^2 = 5.7$, p=.02), N (mag)=70
(2) Bonds/dismissals (vs all other sanctions)
$b = -6.7$ ($\_^2 = 6.1$, p=.01)

Shopstealing
No significant effects

Table 17: 'Weak' experimental model. First offenders convicted on a single count sentenced by magistrates within all courts, 1992-96,
Odds of re-offending within one year, by offence.

Notes:
1. Offence types with over 1000 cases selected.
2. Magistrates with over 25 cases of selected offence were included in sample. (Hence the variation in number of magistrates used between different offences).
3. All parameters reported used 1 degree of freedom
4. Models include all variables listed unless otherwise specified ('or' indicates either of the terms can be used, but not both).

Offenders

Sentence	1	2	3	4	5	Total
Prison - 6 months or more		3914	2414	608	240	65	7241
Prison - under 6 months		3737	5960	1768	946	259	12670
Periodic detention		1117	1401	411	292	65	3286
CSO		3767	5800	1904	1327	363	13161
Probation		2311	4812	1787	1064	497	10471
Fine $300+		5567	22791	13126	12385	7687	61556
Fine u $300		5481	16978	15766	13989	26744	78958
Bond		1907	8267	2493	3556	865	17088
Dismissal		1301	5378	3234	7904	8316	26133
		29102	73801	41097	41703	44861	230564

Sentence distribution

Sentence	1	2	3	4	5	Total
Prison - 6 months or more		13.4%	3.3%	1.5%	0.6%	0.1%	3.1%
Prison - under 6 months		12.8%	8.1%	4.3%	2.3%	0.6%	5.5%
Periodic detention		3.8%	1.9%	1.0%	0.7%	0.1%	1.4%
CSO		12.9%	7.9%	4.6%	3.2%	0.8%	5.7%
Probation		7.9%	6.5%	4.3%	2.6%	1.1%	4.5%
Fine $300+		19.1%	30.9%	31.9%	29.7%	17.1%	26.7%
Fine u $300		18.8%	23.0%	38.4%	33.5%	59.6%	34.2%
Bond		6.6%	11.2%	6.1%	8.5%	1.9%	7.4%
Dismissal		4.5%	7.3%	7.9%	19.0%	18.5%	11.3%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Percentage re-offending within one year

	1	2	3	4	5	*Total*
Prison - 6 months or more	31.4%	30.3%	28.6%	27.0%	20.8%	*30.6%*
Prison - under 6 months	39.2%	36.1%	37.4%	32.3%	36.5%	*36.9%*
Periodic detention	41.0%	30.7%	28.5%	31.7%	28.3%	*34.1%*
CSO	29.2%	27.3%	25.3%	20.3%	27.4%	*26.8%*
Probation	29.7%	25.2%	25.1%	19.3%	19.7%	*25.4%*
Fine $300+	24.3%	21.9%	23.1%	17.6%	20.3%	*21.3%*
Fine u $300	27.1%	23.8%	23.7%	17.8%	22.9%	*22.7%*
Bond	22.9%	19.0%	16.8%	12.2%	14.8%	*17.5%*
Dismissal	18.6%	17.1%	13.0%	6.6%	8.0%	*10.7%*
Total	*29.0%*	*23.9%*	*23.1%*	*15.9%*	*19.8%*	*22.2%*

Table 18: All offenders, 1992-97. Offence group, penalty distribution and one-year re-offending rates.

Odds of re-conviction

	1	2	3	4	5	Total
Detention	0.56	0.51	0.52	0.46	0.48	*0.53*
Supervision	0.42	0.36	0.34	0.25	0.3	*0.35*
Higher fines	0.32	0.28	0.3	0.21	0.25	*0.27*
Lower fines	0.37	0.31	0.31	0.22	0.3	*0.29*
Bonds/dismissals	0.27	0.22	0.17	0.09	0.09	*0.15*

Odds-ratios of re-conviction

	1	2	3	4	5	Total
Detention:supervision	1.35	1.43	1.54	1.84	1.62	*1.49*
Supervision-high fines	1.3	1.28	1.12	1.16	1.17	*1.31*
High-low fines	0.86	0.9	0.97	0.99	0.86	*0.92*
Fines-bonds/dismissals	1.39	1.4	1.81	2.38	3.14	*1.9*

Table 19: All offenders, 1992-6 cohort, by offence grouping: Odds of re-conviction without controlling for personal characteristics, and odds-ratios of re-conviction.

Note: this table provides a guide to likely differences in re-conviction resulting from differences in sentence distribution. It provides a base-line against which the results from the logit model can be compared.

Offence type	form of diversion	average difference	b	exp (b)	inverse	base	average rate	summary
1	to supervision	15.4	0.10	1.1	0.9	29.0	26.2	29/26
4	to low fine	17.1	0.14	1.2	0.9	15.9	13.8	16/14
4	to bond etc	24.2	0.19	1.2	0.8	15.9	13.1	16/13
5	to bond etc	14.5	0.13	1.1	0.9	19.8	17.4	20/17

Table 20 1992-6 cohort: Estimated impact of magistrates sentencing patterns on re-conviction. Calculations and summary.

Notes:

1. The average differences between magistrates represents the mean difference between each pair of magistrates in the sample in the relevant variable, i.e. ratios of high to low fines and ratios of fines to bonds/dismissals.

2. The parameter, *b*, is the estimate of the impact on the re-conviction rate produced by an increase in one unit in the dependant variable. Since 'one unit' effectively means replacing all of one with all of the other (an unrealistic situation empirically), the parameter is weighted down to something more reasonable – the actual mean differences (expressed in odds-ratios) between magistrates.

3. The 'base percentage' is the overall re-conviction rate for the relevant cohort.

High-low fines		*Mean difference*	*b*	*weighted*	*exp (b)*	*inverse*	*base*	*average rate*	*summary*
Year	-1	16.7	1.14	0.19	1.2	0.8	19.0	15.7	19/16
	2	16.7	1.05	0.18	1.2	0.8	27.0	22.7	27/23
	3	16.7	1.06	0.18	1.2	0.8	32.0	26.8	32/27
	4	16.7	1.07	0.18	1.2	0.8	36.0	30.1	36/31

Low fines- bonds/dismissals		*Mean difference*	*b*	*weighted*	*exp (b)*	*inverse*	*base*	*average rate*	*summary*
Year	-1	14.7	1.18	0.17	1.2	0.8	19.0	16.0	19/16
	2	14.7	0.73	0.11	1.1	0.9	27.0	24.3	27/24
	3	14.7	0.73	0.11	1.1	0.9	32.0	28.7	32/29
	4	14.7	0.73	0.11	1.1	0.9	36.0	32.3	36/32

Table 21 1992-3 cohort: Estimated impact of magistrates sentencing patterns on re-conviction. Calculations and summary.

Notes:
1. The average differences between magistrates represents the mean difference between each pair of magistrates in the sample in the relevant variable, i.e. ratios of high to low fines and ratios of fines to bonds/dismissals.
2. The parameter, *b*, is the estimate of the impact on the re-conviction rate produced by an increase in one unit in the dependant variable. Since 'one unit' effectively means replacing all of one with all of the other (an unrealistic situation empirically), the parameter is weighted down to something more reasonable – the actual mean differences (expressed in odds-ratios) between magistrates.
3. The 'base percentage' is the overall re-conviction rate for the relevant cohort.

Bibliography

Blankenburg, E. 1976, 'The selectivity of legal sanctions: an empirical investigation of shoplifting', *Law and Society Review*, 11, 109-130.

Blumstein, A., Cohen, J., Martin, S. and Tonry, M. 1983, *Research on Sentencing: The Search for Reform*, vols. 1 & 2, Washington, National Academy Press.

Braithwaite, J. and Makkai, T. 1991, 'Testing an expected utility model of corporate deterrence', *Law and Society Review*, 25, 7-40.

Broadhurst, R. and Maller, R. 1991, *Sex Offending and Recidivism*, Perth, Crime Research Centre, University of Western Australia.

Chan, J. 1992, *Doing Less Time*, Sydney, Institute of Criminology, University of Sydney. (Monograph no. 2.)

Douglas, Roger 1989, 'Does the magistrate matter? Sentencers and sentence in the Victorian Magistrates' Court', *Australian and New Zealand Journal of Criminology*, 22, 40-59.

Farrington, D., Ohlin, L. and Wilson, J. 1986, *Understanding and Controlling Crime: Towards a New Research Strategy*, New York, Springer-Verlag.

Freiberg, A., Ross, S. and Tait, D. 1996, *Change and Stability in Sentencing: a Victorian Study*, Melbourne, University of Melbourne.

Gendreau, P. and Goggin, C. 1999, The Effects of Prison Sentences on Recidivism, Ottawa, Solicitor General.

Gottfredson, D. and Barton, W. 1993, 'Deinstitutionalization of juvenile offenders', *Criminology*, 31, 591-610.

Grabosky, P. and Rizzo, C. 1980, 'Dispositional disparities in courts of summary jurisdiction: the conviction and sentencing of shoplifters in South Australia and New South Wales 1980', *Australian and New Zealand Journal of Criminology*, 16, 146-162.

Greenwood, P. and Abrahamse, A. 1982, *Selective Incapacitation*, Santa Monica, Rand Corporation.

Haapanen, R. 1990, *Selective Incapacitation and the Serious Offender*, New York, Springer-Verlag.

Home Office, 1994, 'The criminal history of those cautioned in 1985, 1988 and 1991', *Home Office Statistical Bulletin* 8/94, London, Home Office.

Homel, R. 1988, *Policing and Punishing the Drinking Driver: A Study of General and Specific Deterrence*, New York, Springer-Verlag.

Kapardis, A. 1985, *Sentencing by English Magistrates as a Human Process*, Cyprus, Asselia Publishers.

Lawrence, J. and Homel, R. 1987, 'Sentencing in magistrates' courts: the magistrate as professional decision maker', in *Sentencing in Australia: Issues, Policy and Reform: Proceedings of a Seminar*, ed. I. Potas, Canberra, Australian Institute of Criminology, 151-189.

Lipsey, M. 1992, 'Juvenile delinquency treatment: a meta-analytic inquiry into the variability of effects', in *Meta-analysis for Explanation: A Casebook*, ed. T. Cook *et al*, New York, Russell Sage Foundation.

Lipton, D., Martinson, R. and Wilks, J. 1976, *The Effectiveness of Correctional Treatment: A Survey of Treatment Evaluation Studies*, New York, Praeger.

Lloyd, C., Mair, G. and Hough, M. 1994, *Explaining Reconviction Rates*, London, HMSO, (Home Office Research Study 136).

Mackenzie, D. and Brame, R. 1995, 'Shock incarceration and positive adjustment during community supervision', *Journal of Quantitative Criminology*, 11, 111-142.

Morris, N. and Tonry, M. 1990, *Between Prison and Probation: Intermediate Punishments in a Rational Sentencing System*, New York, Oxford University Press.

Nuttall, C. 1998, *Reducing offending: an assessment of research evidence on ways of dealing with offending behaviour,* London, Home Office, Research and Statistics Directorate, (Home Office Research Study 187).

O'Malley, P. and Sutton, A. (eds) 1997, *Crime Prevention in Australia: Issues in Policy and Research*, Sydney, Federation Press.

Polk, K. and Tait, D. 1988, 'The use of imprisonment by magistrates' courts', *Australian and New Zealand Journal of Criminology*, 21, 31-44.

Ross, S. 1988, *Evaluating the Diversionary Impact of Community Based Corrections*, Melbourne, Office of Corrections.

Sherman, L., Gottfredson, D., MacKenzie, D., Eck, J., Reuter, P. and Bushway, S. 1998, *Preventing Crime: What Works, What Doesn't, What's Promising. A Report to the United States Congress,* University of Maryland, prepared for the National Institute of Justice.

Sherman, L., Strang, H. and Woods, D. 2000, *Recidivism Patterns in the Canberra Reintegrative Shaming Experiments, Centre for Restorative Justice,* Canberra, Research School of Social Sciences, Australian National University http://www.aic.gov.au/rjustice/rise/recidivism/index.html [last accessed December 2000].

Smith, L.G. and Akers, R.L. 1993, 'A comparison of recidivism of Florida's community control and prison: a five-year survival analysis', *Journal of Research in Crime and Delinquency*, 30, 267-292.

Tait, D. 1995, 'The invisible sanction: the use of suspended sentences in Victoria', *Australian and New Zealand Journal of Criminology*, 28 (2), 143-161.

Tarling, R. 1994, *Analysing offending. Data, models and interpretations,* London, HMSO. Victoria Parliament, Crime Prevention Committee 1993, *Developing a Safer Public Transport System*, Melbourne, Government Printer.

Victoria, Sentencing Committee 1987, 'The systematic control of judicial discretion', in *Discussion Paper*, Melbourne, Victoria Sentencing Committee.

von Hirsch, A. 1976, *Doing Justice: The Choice of Punishments*, New York, Hill and Wang.

Walker, N., Farrington, D. and Tucker, G. 1981, 'Reconviction rates of adult males after different sentences', *British Journal of Criminology*, 21, 357-360.

Weisburd, D., Waring, E. and Chayet, E. 1995, 'Specific deterrence in a sample of offenders convicted of white-collar crimes', *Criminology*, 33, 587-607.

Wiebush, R. 1993, 'Juvenile intensive supervision: the impact on felony offenders diverted from institutional placement', *Crime and Delinquency*, 39, 68-89.

Zeisel, H. 1967, 'The Law', chapter 4 in Lazarsfeld, P, Sewell, W. and Wilensky, H. (eds), *The Uses of Sociology*, New York, Basic Books.
Zimring, F. and Hawkins, G. 1991, *The Scale of Imprisonment*, Chicago, University of Chicago Press.

Zimring, F. and Hawkins, G. 1995, *Incapacitation: Penal Confinement and the Restraint of Crime*, New York, Oxford University Press.