



# Imprisonment rates in NSW and Victoria: Explaining the difference

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In November 1991 there were 5,937 prisoners in NSW and 2,298 prisoners in Victoria.<sup>1</sup> Adjusted for population size the differential means that NSW has a prisoner population rate which is nearly twice that of Victoria. The higher prisoner population rate in NSW is not new. NSW has had a higher rate than Victoria for at least the last ten years.

The contrast between these two States in their prisoner population rates is particularly surprising in light of their demographic similarities. NSW and

Victoria are Australia's two most densely populated and highly urbanised States. As can be seen from Table 1, they have similar unemployment rates and a similar proportion of the population in the high offender age bracket of 15 to 34 years. Furthermore, a similar percentage of all families in NSW and Victoria are single parent families. These are all demographic factors that have been positively linked to crime rates.<sup>2</sup>

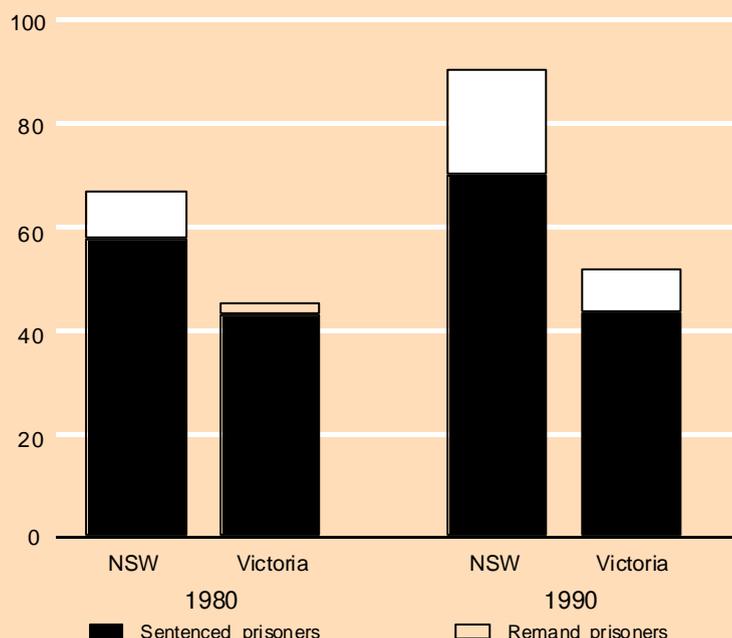
The size of a prison population is dependent on two factors: the rate at

**Table 1: Selected demographic characteristics of NSW and Victoria**

Characteristic	NSW	Victoria
Urbanisation(%) <sup>3</sup>	87.9	88.1
Unemployment (%) <sup>4</sup>	9.3	10.2
Aged 15-34 (%) <sup>5</sup>	31.7	33.1
Single parent families (%) <sup>6</sup>	15.3	13.0

**Figure 1: Prisoner population rates for NSW and Victoria, 1980 and 1990**

Rate per 100,000 population



which offenders are sent to prison and their length of stay in prison. In order to explore the reasons for the prison population differential between NSW and Victoria both of these factors need to be compared. Further, as the prison population consists of both remand and sentenced prisoners, these two factors need to be compared for both types of prisoners.

The aim of this bulletin is to explain the difference in the NSW and Victorian prison populations by comparing the available NSW and Victorian statistics regarding:

- the numbers of sentenced and remand prisoners per 100,000 population, and
- the structure of these populations in terms of arrival rates and length of stay.

### WHY IS THIS COMPARISON IMPORTANT?

There are high economic costs associated with a high prisoner population. It costs

\$30,000 a year to keep a person in prison in NSW<sup>7</sup> and upwards of \$59 million to build a new 300-cell prison.<sup>8</sup> Prison overcrowding is also associated with particular social costs, including reduced opportunities for rehabilitation programs and increased risks of prison violence. The present Minister for Justice, in response to both these issues has pledged to cut the prison population by 10 per cent.<sup>9</sup> A better understanding of the factors which affect the prison population may help identify strategies for reducing the prison population.

### RELATED LITERATURE

A 1980 study by Porritt, Gordon and Sutton for the NSW Department of Corrective Services, concluded that differences in the length of stay in prison explained the large differences in the rate of sentenced prisoners per 100,000 population in NSW and Victoria.<sup>10</sup> Their study found that, while NSW and Victoria were receiving prisoners at approximately the same rate, NSW was detaining prisoners longer and this accounted for its higher prisoner population rate.

A 1990 study by Biles<sup>11</sup> examined the structure of Australia's remand population in terms of intake numbers and length of stay. In recommending strategies for reducing the remand population, Biles suggested that NSW has to consider both a high intake and a high average length of stay. Victoria, according to Biles' analysis, has a much lower intake, but an average length of stay very similar to that of NSW.

This bulletin examines the NSW and Victorian prison populations to determine whether variations in length of stay are still a valid explanation for the proportionally larger NSW prison population. This study, however, goes beyond those of Porritt et al. and Biles, by examining the structure of both the sentenced and remand prisoner populations.

### SOURCES OF DATA

Data from two sources are discussed. The rates of sentenced and remand

**Table 2: Average monthly prison population and rate per 100,000 population, NSW and Victoria, 1990**

Jurisdiction	Total prisoners		Sentenced prisoners		Remand prisoners <sup>15</sup>	
	Average number in custody	Rate per 100,000 population	Average number in custody	Rate per 100,000 population	Average number in custody	Rate per 100,000 population
NSW	5,311.1	91.2	4,091.0	70.2	1,220.1	20.9
Victoria	2,291.0	52.4	1,917.9	43.9	373.1	8.5

prisoners per 100,000 population and the intake rates of sentenced prisoners are derived from *Australian Prison Trends*, a monthly series of correctional statistics published by the Australian Institute of Criminology.<sup>12</sup>

Data on the intake rate of remand prisoners are not published in *Australian Prison Trends*. In an attempt to draw some conclusions from the best available alternative data, some observations about the actual time spent on remand of those prisoners who were included in the 1990 national prison census were drawn from the publication, *Australian Prisoners 1990*.<sup>13</sup>

It should be noted that the series *Australian Prison Trends* does not include information about persons remanded in police custody or serving short sentences in police facilities. The size of this population is unknown because at present no national level data are collected about the number of people in police watchhouses. Accordingly, this subgroup is missing from this analysis of NSW and Victorian prison populations.

### PRISONER RATES PER 100,000 POPULATION IN NSW AND VICTORIA

The 1990 average monthly prison population and prisoner population rates are shown in Table 2.<sup>14</sup> Table 3 gives similar data for 1980. The magnitude of the difference in the prisoner rates per 100,000 population between NSW and Victoria is shown in Figure 1: each State's average prisoner population rate is displayed as a combination of its sentenced prisoner and remand components.

As can be seen from the figure and from Table 2, NSW has a substantially higher prisoner population rate for both sentenced and remand prisoners. The differences in the remand rate between NSW and Victoria are even greater than the differences in sentenced prisoner rates. The remand rate in NSW is approximately 2.5 times that of Victoria, while the rate of sentenced prisoners per 100,000 population is 1.6 times that of Victoria.

**Table 3: Average monthly prison population and rate per 100,000 population, NSW and Victoria, 1980**

Jurisdiction	Total prisoners		Sentenced prisoners		Remand prisoners	
	Average number in custody	Rate per 100,000 population	Average number in custody	Rate per 100,000 population	Average number in custody	Rate per 100,000 population
NSW	3,461.7	67.4	2,968.3	57.8	493.3	9.6
Victoria	1,775.4	45.6	1,671.3	43.0	104.1	2.7

**Table 4: Sentenced prisoners, NSW and Victoria, 1990**

<i>Jurisdiction</i>	<i>Average number in custody (P)</i>	<i>Average number of receptions per month (A)</i>	<i>Estimated average length of stay (S)</i>
NSW	4,091.0	471.3	8.7 months
Victoria	1,917.9	164.3	11.7 months

Figure 1 and a comparison of Tables 2 and 3 shows that over the ten year period from 1980 to 1990 the NSW prisoner population rate has grown at a faster pace than the Victorian rate. In NSW there has been a 35% increase in the total prisoner population rate compared with a 15% increase in Victoria.

### SENTENCED PRISONER RATES

We now turn to the question of why NSW has a higher prisoner population rate than Victoria. As indicated earlier, the size of the prison population is a function of the rate of entry to it and the length of stay within it.

In a stable institutional population<sup>16</sup> the prison population (P) is given by the product of the prisoner arrival rate (A) and the average length of stay (S), where the arrival rate is the average number of prisoners arriving in a specified time period (e.g. one month) and the average length of stay is measured in the same units of time (e.g. months).

In mathematical terms,<sup>17</sup> where:

P = number of prisoners in custody

A = number of prisoner receptions per unit time

and S = length of stay in prison

$$P = A \times S \quad (1)$$

It follows that the average length of stay in prison, S, can be derived from P and A:

$$S = P/A \quad (2)$$

We can now apply this equation to sentenced prisoners to obtain estimated average lengths of stay in prison in NSW and Victoria.

We know that in 1990 the average monthly sentenced prisoner population was 4091.0 prisoners in NSW and 1917.9 prisoners in Victoria (see Table 2). We also know that in 1990 the average number of sentenced prisoner receptions per month was 471.3 for NSW and 164.3 for Victoria.<sup>18</sup>

From equation (2) therefore, the estimated average length of stay in NSW prisons in 1990 was 8 months and 20 days, while the average length of stay in Victorian prisons was 11 months and 20 days. The details of these computations are shown in Table 4.<sup>19</sup>

Table 4 reveals the surprising fact that, despite the higher sentenced prisoner population rate in NSW, sentenced prisoners in NSW appear to spend shorter periods in custody than their Victorian counterparts. Clearly, the higher sentenced prisoner population rate in NSW must be due to a higher prisoner reception rate in NSW.

Indeed, the 471.3 prisoner receptions per month in NSW is equivalent to a rate of 8.1 per 100,000 population.<sup>20</sup> In Victoria the 164.3 prisoner receptions per month is equivalent to a rate of 3.8 per 100,000 population. The sentenced prisoner arrival rate in NSW is more than twice the rate in Victoria.

### REMAND PRISONER RATES

It is a more difficult problem to explain the remand rate differences between NSW and Victoria. Unfortunately there are no data on remand prisoner reception rates or on average lengths of stay on remand. We know only the size of the remand populations in the two States.

However, *Australian Prisoners 1990*, which reports a census of all prisoners, including those on remand, does give us information about time already spent on remand by remandees. The information provided for each State includes both the average time already spent on remand and a frequency distribution for the time already spent on remand.<sup>21</sup> The frequency distributions for NSW and Victoria are reproduced in Table 5.

The proportions of remandees within each category of time already served on remand are similar in the two States.<sup>22</sup> However, the average time already served was 4.4 months in NSW and 3.8 months in Victoria. Given the similarity of the frequency distributions, this longer

**Table 5: Number of remandees, NSW and Victoria, 20 June 1990**

<i>Time already served on remand</i>	<i>NSW</i>		<i>Victoria</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
Under 1 month	295	34.7	105	29.0
1 and under 3 months	203	23.9	99	27.3
3 and under 6 months	149	17.6	89	24.6
6 and under 12 months	139	16.4	50	13.8
One year and over	63	7.4	19	5.2
<b>Total</b>	<b>849</b>	<b>100.0</b>	<b>362</b>	<b>100.0</b>

average time in NSW is probably due to the average time already spent on remand for the 'one year and over' category being longer in NSW than in Victoria.

It should be noted that the average time already spent in prison by remandees at the time of the census is not an estimate of the amount of time spent on remand. Nevertheless, if the average lengths of time spent in custody by remand prisoners in NSW and Victoria were markedly different one would expect this to show up as a difference in time already spent on remand at the time of the census. The fact that there is little difference in time already spent on remand may be taken as evidence that, in all likelihood, the total time spent in custody by remand prisoners in these two jurisdictions is fairly similar in length (except perhaps for a relatively small number of prisoners who spend longer on remand in NSW).

The disproportionate size of the remand populations in the two States would therefore appear to be due to a significantly higher remand prisoner arrival rate in NSW. Since a proportion of all those remanded in custody end up as sentenced prisoners this finding suggests that there may be a single explanation for the observed differences in sentenced and remand prisoner arrival rates.

In summary, compared with Victoria, the higher prisoner rate per 100,000 population in NSW would appear to be attributable to relatively more people being sent to gaol, whether as sentenced or remand prisoners, rather than to the length of time spent by prisoners in custody.

### PRISONER ARRIVAL RATES

There are a number of possible, although certainly not mutually exclusive, explanations for the higher rate of sentenced and remand prisoner arrivals in NSW.

Note first that the higher rates of arrival in NSW might indicate that

- (1) a higher proportion of court appearances involve a decision to remand in custody or sentence to imprisonment in NSW, and/or

- (2) there is a higher overall number of persons being brought before the NSW courts.

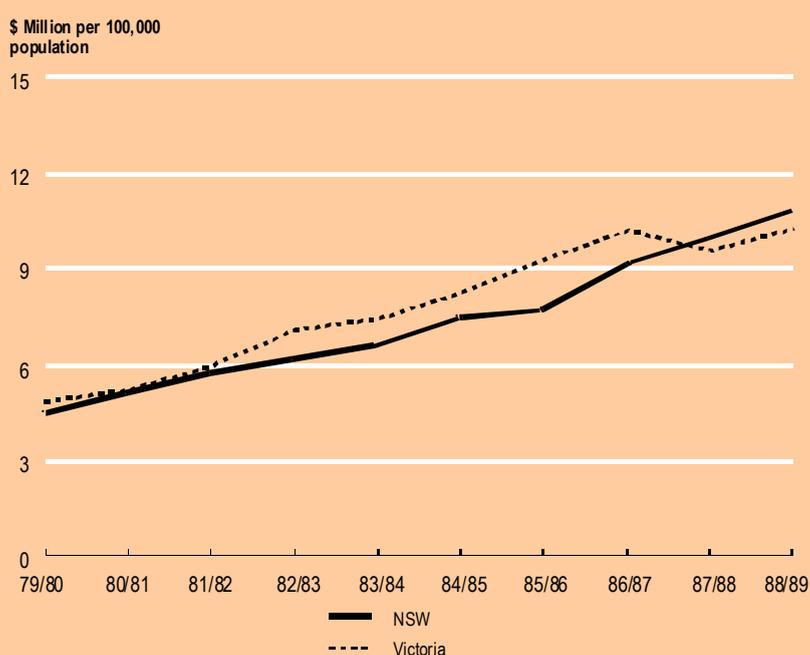
Let us consider the situation in the Higher Courts first. Although fewer cases are decided by the Higher Courts, a higher proportion of those found guilty can be expected to receive prison sentences. Out of the 5,532 cases decided by the Higher Courts in NSW in 1990 there were 4,019 persons found guilty, of which 1,867 offenders or 46.5 per cent were sentenced to imprisonment.<sup>23</sup> Of the 2,345 dispositions by the Higher Courts in Victoria,<sup>24</sup> there were 1,796 findings of guilt, of which 878 offenders<sup>25</sup> or 48.9 per cent received prison sentences.

At the Higher Court level, then, the proportion of offenders sentenced to prison terms seems comparable between the two States. The NSW Higher Courts, however, disposed of more than twice as many cases in 1990 as their Victorian counterparts, thereby sending a much greater number of sentenced prisoners to gaol that year. This higher caseload in the NSW Higher Courts may also explain the higher arrival rate for remand prisoners in NSW.

The Lower Courts deal with the bulk of all criminal cases in both NSW and Victoria. Of the 109,210 Local Court appearances finalised in NSW in 1990, there were 94,509 findings of guilt, of which 5,356 cases or 5.7 per cent of those found guilty received prison sentences.<sup>26</sup>

It is not possible to obtain comparable data on the number of cases disposed of in the Victorian Magistrates' Courts. The Victorian publication, *Sentencing Statistics Magistrates' Courts Victoria 1990*,<sup>27</sup> does, however, provide detailed information on the outcome of about three-quarters of the summary matters disposed of by Victorian magistrates. These data suggest that Victorian magistrates imprison approximately 3.9 per cent of convicted offenders. The range of matters dealt with in the sentencing statistics for the Victorian Magistrates' Courts, however, include a significant number of minor offences excluded from the scope of the Bureau's Local Court statistical collection. These may be excluded so as to improve the comparability of the two collections.

Figure 2: Expenditure on police per 100,000 population



This reduces the total comparable guilty dispositions in Victoria from 71,637 to 45,076. Of this revised figure, 2,765 persons or 6.1 per cent of those found guilty received a prison sentence, a figure which is very close to the percentage of offenders imprisoned by magistrates in NSW. It would appear that at the Magistrates' Court level, as at the Higher Court level, comparable proportions of convicted offenders are being given prison penalties in NSW and Victoria.

The best explanation for the higher reception rate of sentenced prisoners in NSW would appear to be a higher volume of cases passing through its courts. This in turn suggests that police in NSW are arresting more people than their Victorian counterparts. A higher arrest rate might signify a higher crime rate, better policing, a concentration of policing efforts on offences which generate high rates of arrest (e.g. drug offences), and/or higher levels of investment in law enforcement.

At present, only the last of these possibilities may be dismissed. The two States have similar levels of policing: 216 police per 100,000 population in NSW<sup>28</sup> and 227 police per 100,000 population in Victoria.<sup>29</sup> Moreover, as indicated in Figure 2, per capita spending on police has been comparable for many years, with spending in Victoria only recently dropping below that of NSW.<sup>30</sup> A comparison of the offence profiles of NSW and Victoria would be of great interest, as it may indicate whether there are more serious crimes committed in NSW. The comparison, however, must await the first production of the national uniform crime statistics report by the National Crime Statistics Unit of the Australian Bureau of Statistics.

## CONCLUSION

The higher numbers of prisoners per 100,000 population in NSW, compared with Victoria, appear to be due to relatively more people being sent to prison in NSW.

These higher prisoner reception rates in NSW, both for sentenced and remand prisoners, appear to be due to relatively more people appearing before the courts.

## NOTES

- 1 Walker, J., 1992, *Australian Prison Trends*, No. 186 Australian Institute of Criminology, Canberra.
- 2 Devery, C., 1991, *Disadvantage and Crime in New South Wales*, NSW Bureau of Crime Statistics and Research, Sydney.
- 3 Australian Bureau of Statistics, 1990, *Australian Yearbook 1990*, Australian Bureau of Statistics, Canberra, p. 112.
- 4 Australian Bureau of Statistics, November 1991, *The Labour Force, Australia*, Catalogue No. 6203.0, Australian Bureau of Statistics, Canberra, p. 10.
- 5 Australian Bureau of Statistics, June 1991, *Estimated Resident Population by Sex and Age, States and Territories of Australia*, Catalogue No. 3201.0, Australian Bureau of Statistics, Canberra, p. 7.
- 6 Australian Bureau of Statistics, 1991, *Australia's One Parent Families*, Catalogue No. 2511.0, Australian Bureau of Statistics, Canberra, p. 4.
- 7 Minister for Justice, Mr Terry Griffiths, quoted in *The Sun-Herald*, 3 November 1991, p. 27.
- 8 NSW Department of Corrective Services, 1990, *Annual Report 89/90*, NSW Department of Corrective Services, Sydney, p. 94.
- 9 Minister for Justice, Mr Terry Griffiths, quoted in *The Sun-Herald*, 3 November 1991, p. 27.
- 10 Porritt, D., Gordon, G. and Sutton, A., 1980, *Prisoner to Population Ratios in NSW, Victoria and the Netherlands*, Research Bulletin No. 1, NSW Department of Corrective Services, Sydney.
- 11 Biles, D., 1990, *Remand Imprisonment in Australia*, Trends and Issues No. 27, Australian Institute of Criminology, Canberra.
- 12 It is perhaps more precise to say that *Australian Prison Trends* gives the numbers of unsentenced prisoners, rather than remand prisoners, since it includes in this category prisoners who are unconvicted, awaiting sentence or awaiting deportation and, for NSW, those who are awaiting appeal. The term 'remand' is used in *Australian Prison Trends* and will be used in this bulletin.
- 13 Walker, J., 1991, *Australian Prisoners 1990*, Australian Institute of Criminology, Canberra.
- 14 The average monthly prison population was determined as follows. The numbers of prisoners in custody on the first day of the month (first Sunday of the month for NSW) were obtained from *Australian Prison Trends* for each month of the year. These numbers were summed and divided by twelve to determine an average.  
  
The prisoner population rate is the number of prisoners per 100,000 population. Each month *Australian Prison Trends* provides a projected estimated resident population for each State. The estimates for each month of the year were summed, then divided by twelve, to obtain an average estimated resident population. Then, to calculate an average prisoner population rate, the average monthly prison population was divided by the average estimated resident population.  
  
This procedure was followed for both prisoners on remand and sentenced prisoners (calculated by subtracting prisoners on remand from the total number of prisoners).
- 15 Remand prisoners in the two States are not strictly comparable as they include prisoners awaiting appeal in NSW but not in Victoria. In Victoria appellants are included with sentenced prisoners. *Australian Prison Trends* reports the number of appellants each month for NSW but not for Victoria. However the number of appellants in Victoria is very small: at the 30 June 1990 prison census there were only 4 prisoners awaiting appeal in Victoria. (See Walker, J., 1991, *Australian Prisoners 1990*, Australian Institute of Criminology, Canberra.) The contribution of appellants to the Victorian prison population can therefore be considered to be negligible. In NSW the average monthly number of appellants in 1990 was 412. If these 412 appellants are excluded from the NSW remand prisoners, the remand prisoner population rate reduces to about 14 per 100,000 population, which is still considerably in excess of the Victorian remand rate. Hence, regardless of whether appellants are included or excluded, the prisoner population rate in NSW is higher than in Victoria.
- 16 A stable institutional population is one where the mean arrival rates and lengths of stay are constant, that is, do not change over time, and hence the population also remains constant. The assumption that NSW and Victoria have stable prison populations may be queried, since we know that the size of those populations has increased over the last ten years (see Tables 2 and 3). It is assumed here that the assumption is valid over the relatively short time period of one year. Nevertheless it is acknowledged that during 1990 the NSW prison population was not stable but grew by 15%. As will be noted later, an analysis over a shorter period of time, where stability can be assumed, confirmed the conclusions derived from applying the assumption to the whole of 1990.
- 17 For a derivation of this formula, see Greenberg, D.F., 1979, *Mathematical Criminology*, Rutgers University Press, New Brunswick, New Jersey.
- 18 For Victoria, the numbers of sentenced prisoner receptions were obtained from *Australian Prison Trends* for each month in 1990 and a monthly average determined. The same data source could not be used for NSW as the published reception data include prisoners arriving to serve sentences of periodic detention. They are therefore not comparable with the population data which does not include periodic detainees. The monthly numbers of sentenced prisoner receptions excluding periodic detainees were obtained from the NSW Department of Corrective Services.
- 19 Sentenced prisoner receptions include fine defaulters for both NSW and Victoria. Fine defaulters generally have very short stays in prison. Hence the average length of stay is likely to be influenced by the number of fine defaulters. In order to exclude fine defaulters from our analysis we would need to know the numbers of fine defaulters in both prisoner receptions and the prison population. *Australian Prison Trends* provides the numbers of fine defaulters included in prisoner receptions for NSW for all of 1990 but only for the last 5 months of the year for Victoria. The numbers of fine defaulters included in the prison population data are not published but are likely to be small because, as noted above, their lengths of stay in prison are very short.  
  
To determine whether the numbers of fine defaulters influence our results, the analysis was repeated for the last 5 months of 1990 only, excluding fine defaulters from the prisoner reception data. Using the months of August to December 1990, with fine defaulters excluded from prisoner receptions, the estimated average lengths of stay (S) were 11.3 months in NSW and 15.8 months in Victoria. Hence, excluding fine defaulters gave a similar result to the analysis in Table 4, that is, the estimated stay in prison was much longer in Victoria than in NSW.

- Two other points are worth noting. First, for these five months fine defaulters accounted for the same proportion of sentenced prisoner receptions: 23% in both States. Second, over this shorter period there was much greater stability in the population and reception data (see Note 16).
- 20 The population data used to calculate rates are the same as those used for the prisoner population rates (see Note 14).
- 21 Walker, J., 1991, *Australian Prisoners 1990*, Australian Institute of Criminology, Canberra, pp. 59 and 99.
- 22 This conclusion is supported by a comparison of the cumulative frequency distributions of the time already spent on remand by remandees in the two States. There is no statistically significant difference between the two distributions (Smirnov test).
- 23 NSW Bureau of Crime Statistics and Research, 1991, *New South Wales Higher Criminal Court Statistics 1990*, NSW Bureau of Crime Statistics and Research, Sydney, pp. 12 and 15-17. In NSW a case may involve one or more offenders, each charged with one or more offences.
- 24 Unpublished data from the Attorney-General's Department, Victoria. Dispositions in Victoria are counts of persons dealt with by the courts and are therefore not directly comparable with cases disposed of in NSW.
- 25 Courts Management Division, 1991, *Sentencing Statistics Higher Criminal Courts Victoria 1990*, Attorney-General's Department, Melbourne, p. 156.
- 26 NSW Bureau of Crime Statistics and Research, 1991, *New South Wales Lower Criminal Courts and Children's Courts Statistics 1990*, NSW Bureau of Crime Statistics and Research, Sydney, p. 12.
- 27 Courts Management Division, 1991, *Sentencing Statistics Magistrates' Courts Victoria 1990*, Attorney-General's Department, Melbourne. This report only covers courts in the Victorian 'Courtlink' system.
- 28 NSW Police Service, 1991, *N.S.W. Police Service Annual Report 1989/1990*, Sydney.
- 29 Victorian Police Department, 1991, *Victorian Police 1989-90 Annual Report*, Melbourne.
- 30 Mukherjee, S. K., Scandia, A., Dagger, D. and Matthews, W., 1988, *Source Book of Australian Criminal and Social Statistics 1804 - 1988*, Australian Institute of Criminology, Canberra. This publication provided data up to 1986/87. The data for years 1987/88 and 1988/89 were provided by the Australian Institute of Criminology.

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