

No. 150

# Australian Corrections: Main Demographic Characteristics of Prison Populations

**Carlos Carcach and Anna Grant**

*Understanding the demographics of the prison population is essential to good management. Changes in sentencing legislation and practices, and changes in levels and patterns of crime in the community have affected the demographic structure of the Australian prison population.*

*This paper gives a valuable insight into the demographic composition of the prison population and its changes over the ten years between 1988 and 1998. Among its findings are that the gender composition has remained stable; approximately 95 per cent of the prison population is male. It also finds that there has been an increase in the median age of the prison population—because prisoners are spending longer in prison and the age of admission to prison has increased. The study shows that three-quarters of prisoners were born in Australia but that there are differences in the structure of offences. Prisoners born in Australia, New Zealand, the United Kingdom and Ireland are more commonly remanded or sentenced for violent offences. Drug offences contribute a significant proportion of prisoners born in other countries, in particular Vietnam and other Asian countries.*

**Adam Graycar**  
Director

The national prison population, as counted on 30 June each year, has grown by 4.1 per cent annually over the seventeen years between 1982 and 1998. Such growth in imprisonment has not been uniform across the states and territories, nor has it been uniform over time. Changes in the size of prison populations are the result of factors such as legislative and policy changes favouring imprisonment for offences that could otherwise be sanctioned with alternative forms of punishment, and that affect the length of sentence and the time prisoners spend under incarceration (Carcach and Grant 1999a). By affecting the potential and actual length of imprisonment, these changes will affect the demographic composition of prison populations.

On the other hand, sentencing legislation and practices, as well as executive decisions about the use of parole and other early release mechanisms are in turn affected by changes in the levels and patterns of crime in the community. Such changes may have an effect on the demographic composition of prison populations. Shifts in the average age of offending, variations in the average length and intensity of criminal careers, changes in the gender or ethnic composition of offenders, police and prosecution practices that may be biased towards offenders with certain characteristics, are among the many factors that may influence the demographic structure of prison populations.

Recent research has focused on the policy implications of the aging of Australian prison populations (Grant 1999). Analysing the

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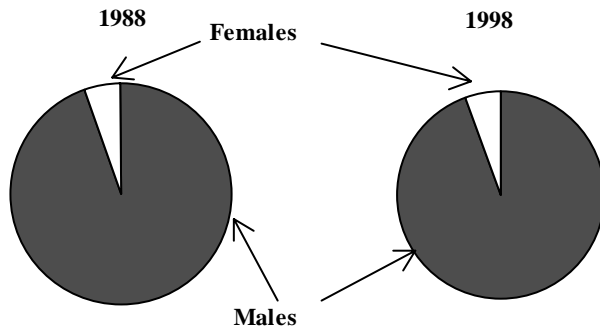
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**Figure 1: AUSTRALIA, Distribution of the Prison Population, 1988 and 1998**



demographic composition of prisoners and its changes over time is important to obtain useful information into the characteristics that are relevant to the management of prison populations. It may also give some clues to changes in offending and the punishment of offenders.

### Gender-Age Composition

As shown in Figure 1, females are only a small proportion of the total Australian prison population. They represented 5.3 per cent and 5.7 per cent of the total count of prisoners during the 1988 and 1998 prison censuses respectively.

There has been an increase in the median age at census date over the ten years between 1988 and 1998. In 1988, the median age at census date, that is the age below which the ages of 50 per cent of prisoners fall, was 28.2 years for males and 28.7 years for females. In 1998, median ages were 30.0 years for males and 29.8 years for females. While the median age for males increased by 1.8 years, the increase among females was 1.2 years. Figure 2 shows boxplots of the distribution of age at census date for males and females during 1988 and 1998.

In 1988, the female prison population was on average 0.5 years older than its male counterpart; however, this trend reversed in 1998 when the median ages of males and females were similar.

Two factors may operate jointly to produce an increase in the median age of prisoners at census date. First, it may be that prisoners are being sentenced to longer terms of imprisonment or

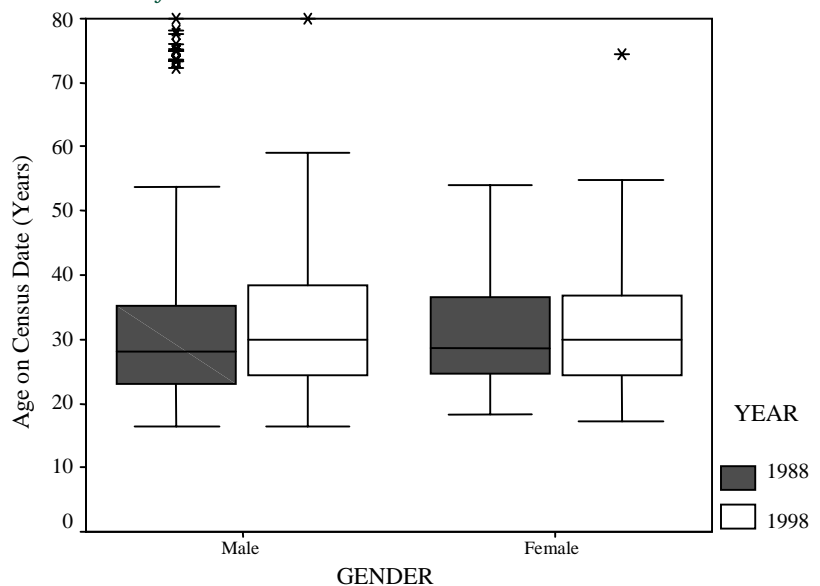
that they are spending longer periods under incarceration. Nationally, the median sentence length has declined, but the median expected time to serve has increased between 1988 and 1998 (Carcach and Chisholm, forthcoming). In addition, no significant changes have occurred to the offence structure of the prison population over the same period (Carcach and Grant, forthcoming).

The second factor has to do with likely changes in the age at which prisoners are admitted to

prison. Figure 3 shows the distribution of prisoners counted on 30 June of 1988 and 1998 according to the age of admission to prison. Consistent with increases in the average age of the general Australian population, the median age at admission has increased over the 1988-98 period. Male prisoners were admitted at average ages of 26.8 and 28.4 years in 1988 and 1998 respectively, an increase of 1.6 years. Female prisoners recorded median ages at admission of 27.9 and 28.9 years in 1988 and 1998 respectively, an increase of 1 year. Note that females tend to be admitted to prison at slightly older median ages than males; however, the gap between gender groups seems to be narrowing.

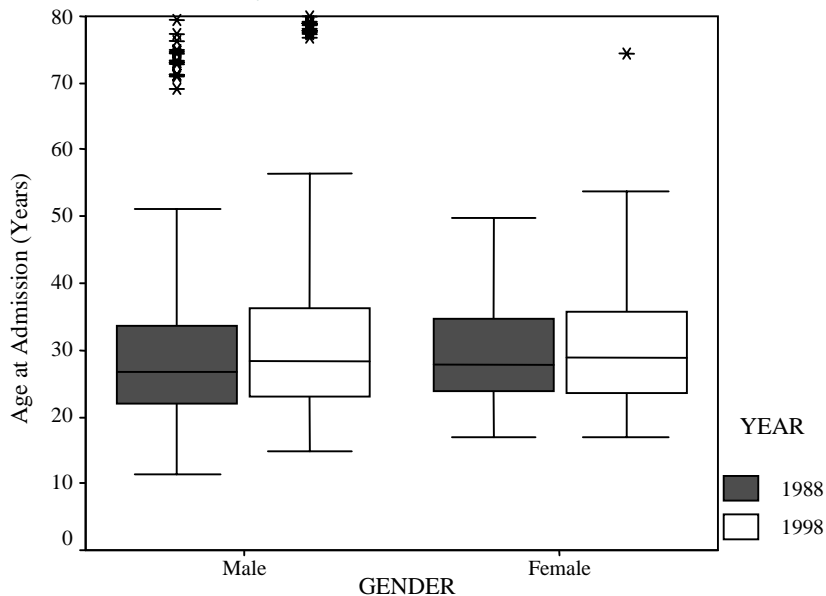
The difference between age at census date and age at

**Figure 2: AUSTRALIA, Distribution of the Prison Population, 1988 & 1998, Age at Census Date, by Genders**



The Boxplot is a schematic representation of the body of a data set excluding outliers and extreme values. These are represented individually by xs situated beyond a conveniently selected cut off value. The boxplot shows at a glance the location, spread, skewness, tail length and outlying/extreme data points. The location of the distribution is summarised by the median, the crossbar in the interior of the box. The length of the box shows the spread of the distribution, measured as the difference between the upper and lower sides of the box, the former representing the first quartile and the latter, the third quartile. From the relative positions of the median, the first and third quartile, it is possible to assess the skewness of the distribution. If the median is closer to the first quartile, the distribution is positively skewed. A median closer to the third quartile is associated with a negatively skewed distribution. The lines at the lower and upper ends of the graph indicate the length of the tails. Boxplots are convenient to represent distributions for variables such as age which are known to be highly skewed. It pictures the median and the quartiles, which are resistant to the impact of extreme values.

**Figure 3: AUSTRALIA, Distribution of the Prison Population, 1988 and 1998, Age at Admission to Prison, by Gender**



admission gives a rough indication of the median time already spent in prison. Among males, the former exceeded the latter by 1.4 years in 1988 and by 1.6 years in 1998, while among females the differentials were 0.8 and 0.9 years respectively. These results confirm other findings regarding increased lengths of stay in prison (Carcach and Chisholm, forthcoming), but also show that males are spending longer average periods in prison than females.

Figures 2 and 3 confirm the skewed nature of the distribution of prisoners, both according to age at census date and age at admission to prison.

Figure 4 shows the more detailed distribution of the age at census date for males and females, during 1988 and 1998. Note that among males, there has been an increase in the percent-

age of prisoners aged 35 years and above. Interestingly, the percentage of males aged below 25 years has declined over the ten years under study. The percentage of male prisoners in the 25-34 year band has remained stable.

Among female prisoners, increases were observed in the percentage of prisoners with ages at census date in the 34-54 year band, and among those aged 19 years and under. Contrary to males, the contribution of females aged 20-34 years to the total female prison population has declined between 1988 and 1998.

Figure 5 shows the distribution of prisoners according to the age at admission to prison. Note that this distribution follows closely that for age at census date and confirms our results about a trend towards increases in the age of admission to prison. Whether this is due to shifts in the patterns

of offending and criminal careers of serious offenders, or it is caused by shifts of a purely demographic nature is an issue requiring further research.

### Most Serious Offence

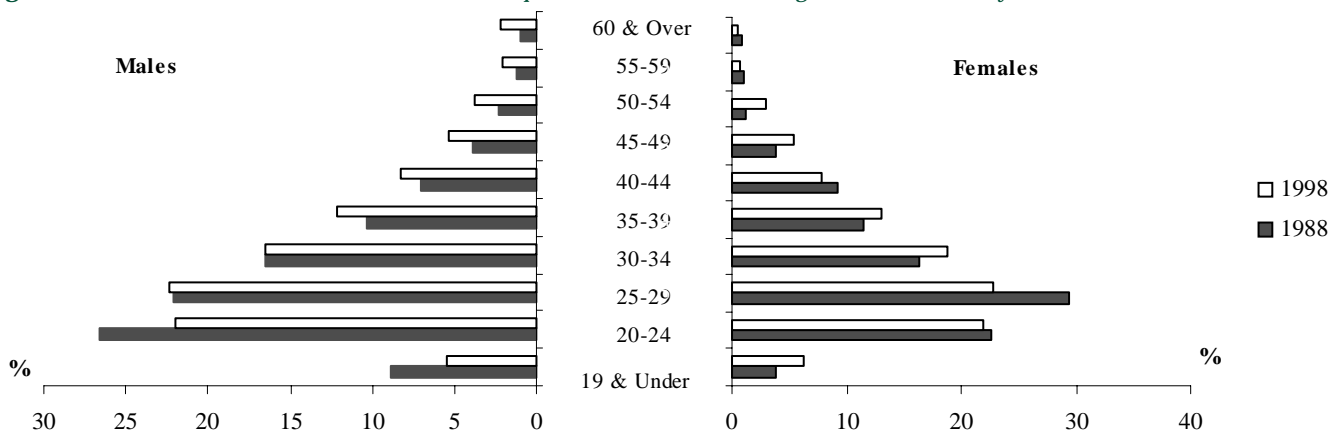
The types of offence for which individuals are serving imprisonment affect the gender-age distribution of prison populations at a given point in time. Holding other factors constant, sentence length is positively associated with the degree of seriousness of offences. Longer sentences, together with early-release practices leading to increases in effective times of imprisonment, may in turn be associated with changes in the age structure of prison populations.

The analysis of most serious offences from prison census data is problematic. Carcach and Grant (forthcoming) discuss the main issues related to the recording of most serious offence in the Australian prison census. Figure 6 shows median ages at census date and at admission to prison for males and females, during 1988 and 1998.

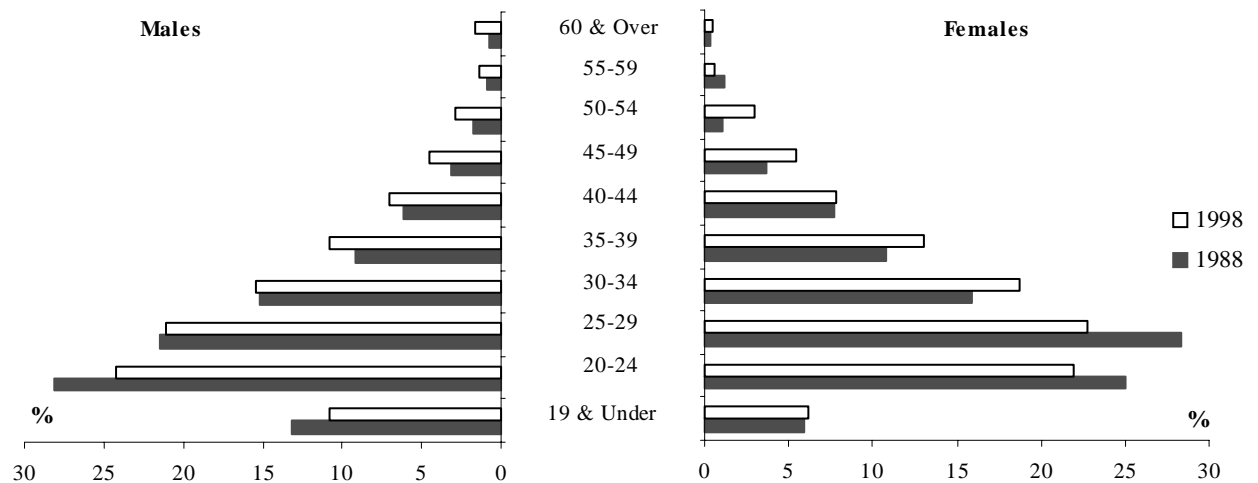
As shown by Figure 5, the median age at census date has increased for males and females for the majority of offence groups. Robbery, which recorded a decline in median age for both males and females, was an exception to this general trend. Another exception was assault, for which the median age of female offenders remained unchanged over the 1988-98 period.

The data show that the me-

**Figure 4: AUSTRALIA, Distribution of the Prison Population, 1988 and 1998, Age at Census Date, by Gender**



**Figure 5: AUSTRALIA, Distribution of the Prison Population, 1988 and 1998, Age at Admission, by Gender**



dian age at admission of male and female prisoners increased over the ten years between 1988 and 1998 across all offences, except for robbery which recorded a decline.

### Country of Birth

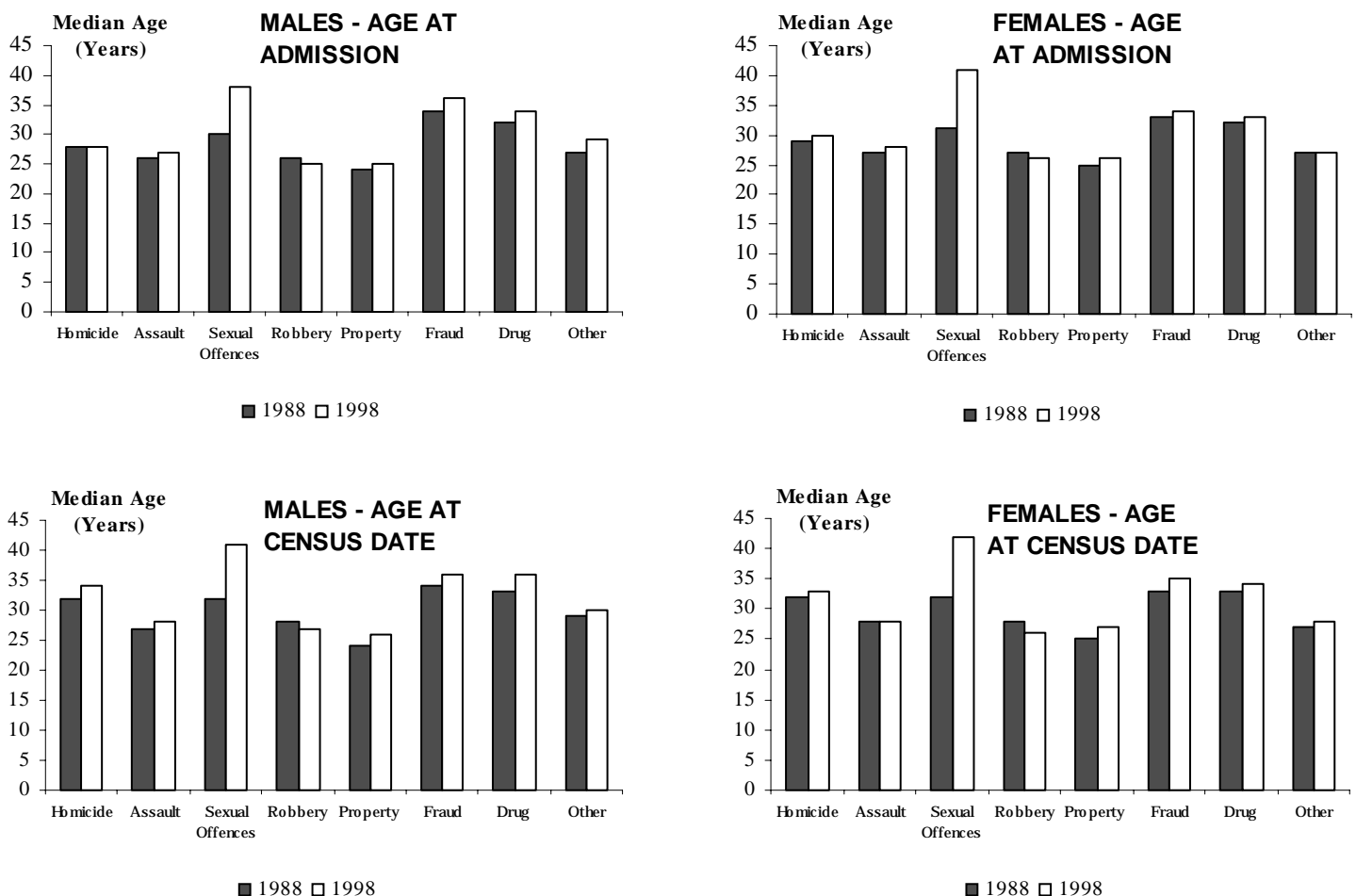
The country of birth of prisoners is determined from prisoner interviews (ABS 1998). Information on country of birth, as col-

lected by the National Prison Census, cannot, however, be taken as a measure of ethnicity, nor can it be taken as an indicator of the involvement of members of ethnic/migrant groups in crime. The link between ethnicity and crime is of a complex nature and it is a topic subject to controversy. Mukherjee (1999) discusses the issue within an Australian context.

Data from the prison census show that 76.9 per cent and 78.3

per cent of prisoners counted on 30 June 1998 and 1988 respectively were born in Australia (ABS 1998, Australian Institute of Criminology 1988). This represents a decline of 1.4 per cent in the contribution of Australian born prisoners to the total prison population, which is the same as the decline recorded by the Australian-born as a percentage of the total population over the same period (ABS 1999).

**Figure 6: AUSTRALIA, Prison Population, 1988 and 1998, Most Serious Offence, by Gender**



**Figure 7: AUSTRALIA, Distribution of the Prison Population, 1988 and 1998, Number of Prisoners as a Percentage of the Total Prison Population, Ratio of Country Rate to Australia's Rate of Imprisonment per 100,000 Total Population, Country of Birth**

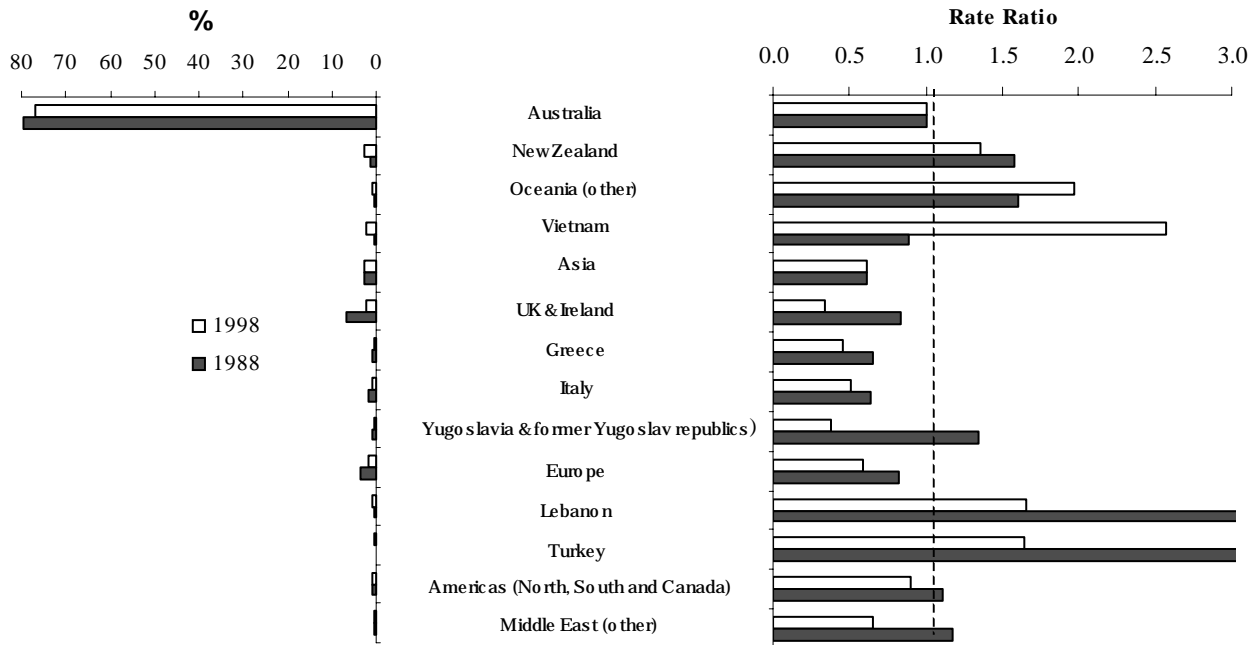


Figure 7 shows side by side, for each country, prisoners as a percentage of the total prison population and the ratio of the country's imprisonment rate to the Australian rate per 100,000 total population, during 1998. As mentioned earlier, prisoners born in Australia dominate the prison population. Relative to the total prison population, the contribution of countries other than Australia is negligible as shown by the left-hand panel of Figure 7.

Different results emerge when data on imprisonment are analysed with reference to the total population born in specific countries. The right-hand panel of Figure 7 shows rates of imprisonment in Australia relative to the rate for the Australian born which takes on the value of 1. The graph shows that during 1998, rates of imprisonment for Australians born in Vietnam, Oceania (other), New Zealand, Lebanon and Turkey exceeded the rate of those born in Australia. Except for Vietnam, the situation was similar in 1988. For those born in the remaining countries, the rates were below the Australian rate both in 1988 and 1998. Note that, in 1988, the ratios for persons born in the Middle East (other than Lebanon and Turkey) and Yugoslavia were above the rate for the Australian born. These

results are consistent with previous findings (Mukherjee 1999); however, they may not represent the offending patterns of Australian residents born in specific countries, but may instead represent how they are dealt with by police and the justice system.

A comparison with the situation in 1988 shows that some changes have occurred to the ratio of imprisonment according to country of birth. While in 1988 persons born in Vietnam were under-represented in the total prison population, in 1998 they were over-represented. Note also that the ratio of the rate of imprisonment for persons born in other countries to the rate of those born in Australia has declined in 1998, relative to 1988.

It is of interest to know whether the offence composition of prisoners varies when controlling for their country of birth. Figure 8 shows the percentage composition of prisoners by country of birth during 1998. Offences were grouped into 4 groups: violent, property, drugs and other offences.

The graph in Figure 8 suggests that there may be some differences in the offence composition of prisoners according to country of birth. Violent offences tend to dominate the offence composition of all prisoners,

except for those born in Vietnam and Asia. Prisoners born in Vietnam and Asia are more likely to be remanded or sentenced for drug offences than other offence types. Note also that little less than one-third of prisoners born in European countries and about one-fifth of those born in Middle East countries were remanded or sentenced for drug offences.

Except for prisoners born in Vietnam, Asia and the category of other or unclassified countries, the contribution of property offences to the total offences of the prison population is similar across the countries of birth.

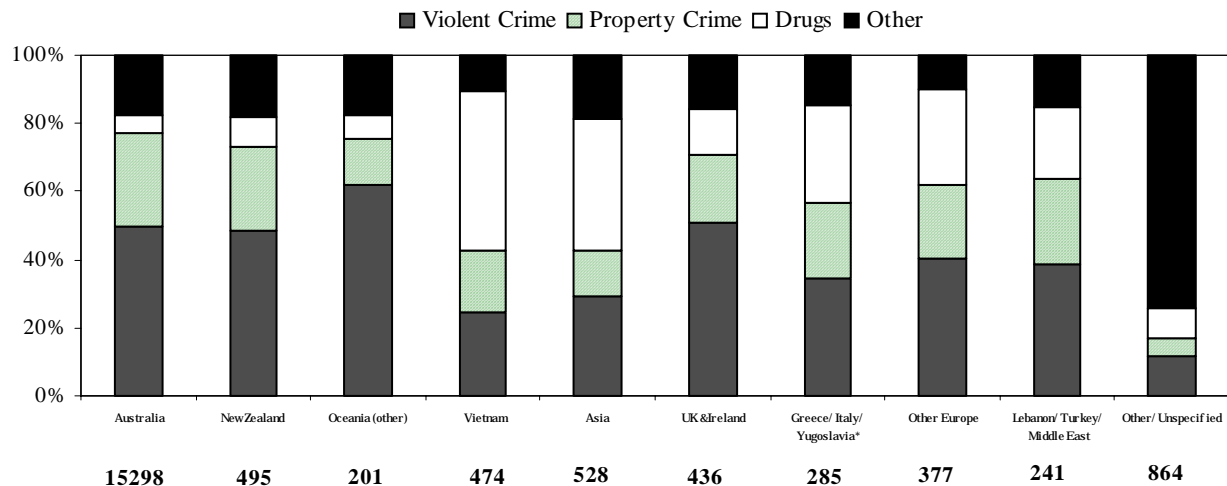
Property offences accounted for over 20 per cent of prisoners born in most countries. Vietnam (18 per cent), the Middle East other than Turkey and Lebanon (16 per cent), other Oceania (13 per cent) and the Americas (11 per cent) were exceptions to this trend.

## Conclusion

The demographic structure of the Australian prison population has experienced some changes during the ten years between 1988 and 1998. While its gender composition has remained stable over this period, there have been increases in the median age, both at census



Figure 8: AUSTRALIA, Distribution of the Prison Population, 1998, Offence Composition and Country of Birth



\*Includes Yugoslavia and Former Yugoslav Republics

and admission dates, across gender groups. In general, there is a trend towards an aging in prison populations, with males recording larger increases than females.

The results indicate that this aging results from two separate sources. First, prisoners counted on census date are being admitted at older ages. This finding has important implications as it suggests that significant shifts in the length, duration and intensity of criminal careers may have occurred during the ten years covered by this study. Second, there is evidence that prisoners are spending longer periods under detention despite the decline observed in lengths of sentence (Carcach and Chisholm, forthcoming), which may have the net effect of increasing the median age of correctional populations.

Increases in median ages, both at census and admission dates, are consistent across offences, independently of gender group, with the exception of robbery and to a lesser extent assault.

Regarding country of birth, the results indicate that there are important differences in the structure of offences. Prisoners born in Australia, New Zealand the United Kingdom and Ireland are more commonly remanded or sentenced for violent offences. Drug offences contribute a sig-

nificant proportion of prisoners born in other countries, in particular Vietnam and other Asian countries. Property offences account for about 20 per cent of prisoners regardless of birthplace. These findings cannot, however, be taken as evidence that people born in particular countries are at high risk of engaging in criminal activities.

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