DISADVANTAGE AND CRIME IN NEW SOUTH WALES

Christopher Devery

New South Wales Bureau of Crime Statistics and Research

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PREFACE

Crime control policy in New South Wales (and much of the rest of Australia) has always been dominated by notions of deterrence. The popular response to most perceived crime problems has historically been either to demand an increase in the statutory maximum penalty for some offence or to demand an increase in police numbers. The attraction of these initiatives to Governments is that they are particularly effective, at least in the short term, in allaying public concern about crime. They create the impression of a Government acting decisively in response to an apparent threat to law and order while simultaneously allowing it to reaffirm the power of the State over those who set out wilfully to breach its rules. The appeal of the 'additional police-stiffer penalties' formula is enhanced by the fact that it is widely, if erroneously, viewed by the media and large sections of the community as the most effective if not the only solution to most major crime problems.

Stiffer penalties and increased numbers of police, however, while very useful in some circumstances as crime control strategies, also have definite limitations. There are four reasons for such limitations. Firstly, previous research has shown that much violent crime is either unpremeditated or embarked upon with apparent indifference to the risks or consequences of apprehension. Secondly, the risks of apprehension for many predatory offences (e.g. break, enter and steal or car theft) are probably too small for increased penalties to exert any significant deterrent effect. Thirdly, with a few notable exceptions (e.g. drink-driving), unless we are prepared for massive increases in police resources, simply increasing the number of police seems to do little or nothing to alter the rates of many important offences (though it may bring a great many more people before the court on minor offences). Finally, those disposed to involvement in predatory crime are often inclined to respond to the denial of one criminal opportunity simply by looking for another.

It is trite to observe that prevention is better than cure. Crime prevention in Australia, however, is in its infancy and is still often conceived of solely in terms of policing strategies such as neighbourhood watch or target hardening strategies such as installing ignition locks or alarms in cars. These are valuable initiatives because they offer the promise of reducing the opportunities for crime and therefore the 'criminal productivity' of offenders. In its broadest conception, though, crime prevention embraces strategies which not only work to reduce offending opportunities but also work to prevent the emergence of communities with high proportions of offenders. These strategies must be constructed not out of information bearing on the situational factors associated with crime (e.g. empty or unguarded houses, poor vehicle security) but out of information bearing on the factors which are associated with offender-prone communities.

What are these factors? The present study confirms the results of overseas research in showing that regional differences in the rate per head of population of proven offenders are closely linked to regional differences in social and economic conditions (e.g. level of unemployment, proportion of poor/single parent families). Socio-economic disadvantage in New South Wales, no less than anywhere else in the industrialized world, would seem to provide fertile conditions for potential offenders. Thus while we may look toward strategies such as target hardening as a means of reducing the 'productivity' of existing offenders, we also need to develop crime prevention strategies (e.g. minimizing juvenile

unemployment) directed at limiting the socio-economic conditions which appear to create offenders in the first place. This, by corollary, suggests that long term crime prevention ought to be as much the concern and responsibility of those who fashion economic and social policy as it is the concern and responsibility of the police.

The idea that we can reduce crime by tackling poverty and unemployment is, of course, hardly new. It is often compared unfavourably with the more direct approach of 'getting tough' with offenders. This is partly because of an antipathy in some quarters to what is sometimes called 'social engineering'. It is also perhaps partly because of an implicit realization that reducing or ameliorating the effects of socio-economic disadvantage is far from easy. The two approaches, however, are not inconsistent and the concern surrounding 'social engineering' is misguided. Socio-economic disadvantage may provide an explanation but it does not provide an excuse for offending. In any event if ameliorating the effects of socio-economic disadvantage is social engineering it is no more so than attempting to deter offenders through tougher penalties. If we are serious about crime prevention we need to start looking beyond the historical confines of policing and penal policy. The present report suggests that the factors which underpin social disadvantage may be a useful point of departure.

Dr Don Weatherburn
Director

May 1991

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CONTENTS

MAPS AND TABLES

SUMMARY

This report examines Local Court proven offender rates for a range of violent and property offences for each Local Government Area (LGA) in NSW during the years 1987 and 1988. It contains the following findings:

1. There are marked differences in proven offender rates between LGAs which cannot be accounted for by police discretion or the existence of biases in the court system. For both violent and property offences, country LGAs had the highest proven offender rates, although the difference between country LGAs and LGAs in the Sydney Statistical Division was less pronounced for property crimes than for violent crimes. Proven offender rates for all offences against the person ranged from 3,572.27 per 100,000 in Bourke Shire down to 32.95 per 100,000 in Nymboida Shire. For all property offences proven offender rates ranged from 916.57 per 100,000 in Bourke Shire down to 28.18 in Copmanhurst Shire.

2. In the Sydney Statistical Division, LGAs with high proven offender rates tend to have high proportions of poor families, high unemployment, and high proportions of single parent families. In country LGAs, high proven offender rates are associated with high proportions of single parent families, public renters, and Aborigines. Unemployment was more strongly associated with property crime than violent crime in the country LGAs.

3. A multivariate analysis indicates that Local Court proven offender rates are associated with socio-economic status, with areas of low socio-economic status tending to have higher rates. The report concludes that social policy has an important role to play in crime prevention.

INTRODUCTION

This report examines the regional patterns in Local Court conviction rates in NSW with a view to shedding light on the socio-economic factors which influence crime rates. Local Court conviction rates tell us how many people are convicted by the Local Courts per unit population in each Local Government Area (LGA) over a given period. These calculations reveal that the likelihood of being convicted by the Local Courts varies considerably between LGAs. Some LGAs have very high conviction rates: people who live in these areas are much more likely to be convicted of criminal charges by the Local Courts than people who live in LGAs with low conviction rates.

The report examines these patterns and attempts to explain them in terms of the socio-economic characteristics of the LGAs. Insofar as Local Court convictions can be regarded as indicators of the rate of crimes committed, then this report is concerned with the general socio-economic correlates of crime. Of course, the social and economic context of court conviction rates is worth investigating whatever we think about the relationship between the amount of crime in an area and the resulting number of court convictions. The question is relevant, for example, to the question of whether we can predict demand for court services from social factors. However, in this report we take the position that court conviction rates (with some adjustments)[1] can be regarded as indicators (albeit imperfect ones) of variations in the amount of crime committed and recorded. This does not mean that other factors which may contribute to variation in the amount of crime recorded are regarded as unproblematic. For example, there is a pressing need for research into the crime recording process in NSW, and until we have a more explicit understanding of how crime recording works, our conclusions about the distribution and severity of offending will always be somewhat tentative.

Rather than being concerned with the processes that determine whether any particular individual will commit a crime, the report focuses on the community level factors which can be said to increase the risk of offending. There has often been disagreement between those who wish to offer explanations of crime based on the psychological dynamics of individual motivation and those who stress the importance of social factors.[2] In this report, individual and group level processes are regarded as complementary (Reiss 1986, pp. 7 – 8), but the view is taken that much can be gained through an examination of the community level processes that lead to some areas having higher rates of offending.

The potential value of such research in NSW derives in part from our ignorance concerning spatial variation in offending. Although there has been a great deal of research conducted in the United States and Great Britain which has examined the role of social factors in the explanation of variation in crime rates[3], little has been done along these lines in NSW.[4] In consequence, whereas there exists a body of literature from overseas examining the influence of factors such as unemployment, poverty, inequality and family disruption on crime rates, we are not sure of the extent to which these or other factors are associated with overall crime patterns in NSW. We know even less about how these factors interact with each other and with crime rates on a regional basis. As a result our policy making on crime is to some extent conducted in an empirical vacuum.

This is especially the case for country NSW. There has been comparatively little overseas

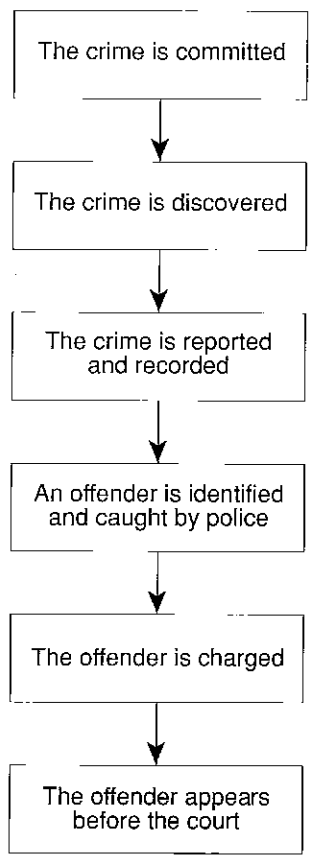
research on the community level factors pertaining to rural crime, and very little local community level research on rural crime.[5] It is particularly important to come to some understanding of the roots of rural crime because in some country areas in NSW, court conviction rates are very high, even when compared with the inner city areas of Sydney.

In order to examine these questions, the report is organized into five sections. The first section defends the use of court statistics as indicators of cross sectional crime rates and provides a review of relevant literature. The second section discusses the conviction rate variables and their overall patterns of regional variation. The third section provides a descriptive analysis of some of the relationships that pertain between a number of important socio-economic indicators and conviction rates for several offence categories in NSW LGAs. In this section separate analyses for LGAs in the country and LGAs in the Sydney Statistical Division are described. The fourth section uses principal components analysis to examine the relationships between the social variables and therefore to clarify the results of the analysis in section three. Section five presents discussion and conclusions.

1. CRIME, CRIME STATISTICS AND COURT STATISTICS

1.1 PROBLEMS WITH THE PRODUCTION OF CRIME STATISTICS

A major criticism of the type of analysis attempted here has been that the data generated by the police and courts are poor indicators of crime. This is because there are significant sources of variation in official crime data that have nothing to do with the variation in the number of crimes committed. The following is a simple outline of the steps leading from a crime being committed to a person appearing before the courts:



Ideally, variation in crime statistics would be entirely due to variation in the number of crimes committed. However, at every step outlined above, variation can be introduced. First, for example, some crimes are more likely to be discovered than others. It is probable that white collar crime (computer fraud, etc.) is much less likely to be discovered than traditional crimes such as theft or assault. Second, once a crime is discovered it may or may not be reported to the police. Victim surveys have revealed that crimes such as motor vehicle theft are much more likely to be reported than sexual assault or domestic violence (ABS 1986). However, since the victim surveys carried out in Australia have not had sample sizes adequate for making regional comparisons, we have no reliable way of knowing whether particular types of crimes are more likely to be reported in some areas than others. Third, major variation can occur in the propensity of police to clear reported

crimes. NSW Police Service statistics reveal that police in country areas claim much higher clear-up rates than those in the Sydney metropolitan area. Some implications of this are discussed later in the report.

The observation of these sources of variation in recorded crime rates has led some criminologists to question the use of official crime statistics to study the incidence of crime. For example, it is often claimed that the use of official data in the investigation of the relationship between socio-economic status or class and crime is problematic because the organization of the police and the processes of the courts are inherently prejudiced against the working class. It is argued that police are more likely to arrest lower status people or members of minorities than white Anglo-Saxon members of the middle or upper status groups. If this is the case, the use of official data to study the relationship between class and crime will produce biased results: official data will tend to underestimate the amount of crime perpetrated by members of higher socio-economic status groups. As a consequence, it is argued that official crime statistics tell us more about the law enforcement process than about the frequency of criminal acts (Kitsuse and Cicourel 1963).

On a superficial reckoning, then, it seems that research into the causes of crime which employs official data is problematic. Findings that crime is associated with poverty, or inequality, appear chronically vulnerable to the claim that observed relationships are the product of police behaviour and organization rather than the apparent class relationships. Obviously, these sorts of criticisms can be mounted against court conviction data, which is even further removed from the number of actual offences than are police statistics. However, even if we admit that formal and informal variations in policing are factors that must be taken into account in interpreting patterns of crime reports or court convictions, it is by no means clear that such variations alone are sufficient to explain away observed associations between class and crime.[6] Nor is it clear that the relationship between court conviction rates and crime rates is so weak that the former can never be used as an index of the latter.

Unfortunately, empirical research examining the role of the police in determining differential rates of recorded crime is rather scarce. The research which has been conducted has not supported the contention that variations in official crime rates can be explained away through differences in police staffing levels and effectiveness. For example in an examination of the processes whereby crime came to be reported to or detected by the police in Sheffield, Mawby (1979) concluded that although there were particular cases where policing had an effect, overall the impact of policing strategies on recorded regional crime rates was minimal. S. Smith (1986) collected data pertaining to crime in Birmingham from seven sources. These included records of telephone box vandalism, vandalism to parks, vandalism and criminal incidents on buses, malicious false fire alarms and suspicious fires. She concluded that the patterns of crime recorded by police and the patterns of these alternative indicators were very similar (S. Smith 1986, p. 36).

On the other hand, in a study by Farrington and Dowds (1985) it was found that at least two-thirds of the difference between official crime statistics in Nottinghamshire and two other British counties could be attributed to differences in recording practices. Of the three counties, it was the one which had the highest rates of officially recorded crime (Nottinghamshire) where official crime rates were closest to crime rates revealed through

a crime victim survey. This led Farrington and Dowds (1985, p. 71) to conclude it could be that the recording practices in Nottinghamshire were revealing more of the 'iceberg of hidden crime' than the practices followed in the other counties. It needs to be remembered that the Farrington and Dowds study was motivated by the observation that the official crime rate of Nottinghamshire was higher than other counties which were similar in demographic and social characteristics. It is unclear whether differences in recorded crime rates in other counties not considered in the study were equally attributable to differences in police recording practices. Indeed, given Mawby's (1979) conclusions that individual instances where policing strategies had an undue influence on the crime rate do not overly influence the overall patterns of regional crime rates, it is possible that Farrington and Dowds are pointing to an exceptional case in Nottinghamshire. Certainly, a number of the differences in police recording procedures between counties discussed by Farrington and Dowds seem to indicate that in Britain regional police forces have greater autonomy with respect to recording practices than do divisional police in NSW. This means that some of the major sources of variation in police statistics identified by Farrington and Dowds do not operate in NSW.

A study by D. Smith (1986) which compared sixty neighbourhoods in three cities in the United States found that victims in high-crime areas are less likely to have the incident recorded by the police. D. Smith suggests that there may be a threshold effect whereby offences must reach a higher level of seriousness in higher crime areas before police record them. In other words, in the highest crime areas police become relatively inured to less serious offences. A more prosaic explanation might be that in the highest crime areas police are simply too busy to record more trivial offences. Whatever explanation is preferred, D. Smith's results suggest that police recording practices may lead to an underestimation of the amount of offending in the highest crime rate areas.

However, in a review of US research relevant to this question, Gove, Hughes and Geerken (1985, p. 474) conclude that there are four factors which strongly influence whether the police record a crime upon responding to a complaint. The first is whether the police conclude that the evidence indicates that a crime has occurred (and police and public perceptions on this issue often differ). The second is whether or not the victim would prefer to treat the matter informally: the police rarely record a crime if the victim does not want them to take action. Third is the seriousness of the crime: the more serious the crime the more likely it is that an offence is recorded. On this issue research indicates that police and public perceptions of crime seriousness are quite similar. Fourth is the level of professionalism of the police force: the greater the level of professionalism and organization of the police force the more complete and more accurate is crime recording. None of the studies reviewed by Gove et al. provides evidence that police are more likely to record crime in which lower class people are either victims or offenders, independently of crime seriousness.

As has been pointed out by Mawby (1989), for many offences the impact of police strategies on area crime rates is minimized because most crime is reported to the police rather than discovered by them. S. Smith (1986, p. 40) suggests that as little as one recorded crime in seven is discovered by the police rather than reported to them by the public. This means that we can have some confidence in police crime statistics, at least for those offences that are primarily reported to police (such as violent offences and property crimes). As Lowman (1982) points out, however, this is not the case for offences (such as drugs and prostitution) whose discovery depends almost entirely on police activity.

The fact that many crimes are reported to police rather than detected by them has led Mawby (1979) and Chatterton (1976) to suggest that the propensity of citizens to report crime may be more important than police discretion. That is, much police access to crime related information is controlled by the public who determine whether or not a large proportion of offences come to the notice of the police. Gove et al. (1985) refer to many studies which have used victimization surveys to investigate the reasons why citizens report crime to the police. For example, Gottfredson and Hindelang (1979) analyzed US National Crime Survey Data for the years 1974 – 1976. They found that perceived seriousness was a much more powerful predictor of the decision to report an offence than such factors as income, poverty, town or city size, and the marital status or education of the victim. Skogan (1976) found that factors relating to offence seriousness, such as the amount of financial loss, the use of force, the use of a weapon, the extent of injury, the assailant being a stranger, the invasion of one's home and the threat of death, were more important influences on the decision to report than were the individual attributes of the victim. These and other studies with very similar results led Gove et al. to conclude that it is the seriousness of the crime that is the key determinant of whether it is reported to the police. The attributes of the individual or the characteristics of the area in which they live appear to play only a minor role.

This has important consequences when comparing the results of crime victim surveys and official crime statistics. Certainly, victim surveys contribute to our understanding of the magnitude of the 'dark figure' of unreported crime. On the other hand it has been argued by Skogan (1978, p. 14) that many crimes reported in victim surveys are relatively trivial. This is because trivial crimes are much more common than serious crimes, and therefore more likely to be sampled than serious crimes. On the basis of a systematic comparison of official crime data and US crime victim survey data, Gove et al. (1985, pp. 489 – 490) concluded that officially recorded crime rates in the United States may be a better measure of social disruption than the 'true rates' reported in victim surveys which will include a much greater number of relatively trivial incidents. That is, because seriousness is an important influence on the decision to report, official crime rates are in part a measure of the extent to which the public feel injured, frightened and financially hurt by a criminal act.

The observation that the activities of the police make a significant contribution to the production of crime statistics has been an important one. But, as the studies referred to above make clear, it has not been demonstrated that differential policing or the class prejudices of the police are sufficient to account for all, or even most of, the regional differences that are apparent in recorded crime rates. Unfortunately, all of the research cited so far pertains to the United States or Great Britain. This will remain the case until crime victim surveys with sufficient sample size are conducted in NSW on a regular basis and it becomes possible to conduct research into the effect of NSW police personnel levels, organization and recording protocols. However, it seems reasonable to conclude that police statistics, in spite of their manifest weaknesses, do provide acceptable indicators of the incidence of those crimes which tend to be reported to police rather than those which are detected by them.

The final source of potential variation in crime statistics to be discussed here is variation in the tendency of a reported crime to result in a court appearance.[7] That is, there is variation in the proportion of crimes that the police claim to clear. This factor is directly relevant to this report since we rely on court data for our analysis. Recently, clear-up rates have

received considerable attention and it is worth making the point that clear-up rates are probably a poor indicator of police performance. As suggested earlier, police are to a great extent dependent on the co-operation of the public for access to information concerning crime. This means that clear-up rates are partly dependent on the level of community support afforded police in their investigations.

Examination of regional police statistics in NSW reveals that, in general, country police claim much higher clear-up rates than police in the city. In the Sydney metropolitan area[8] police cleared 20.3% of all recorded crime in 1987/88 whereas in the country 37.3% of all recorded crime was cleared in the same period. It is easy to think of reasons why this may be so. For example, people in the country may be more willing to assist police in their enquiries than police in the city. Witnesses to a crime in the country areas may be more likely to be able to identify an offender than witnesses in the city. Country police may be more likely to identify and locate suspects than their urban counterparts. These factors are indicative of the greater anonymity afforded offenders in the urban environment and the possibility that police are more integrated into the community in country areas. However, it may be that variation in workload makes a substantial contribution to the variation in regional clear-up rates. If a suspect who is arrested for a break, enter and steal admits to a series of such offences over a period of time, police must verify the details of each of these offences with reference to the original reports if such admissions are to be recorded as clearances. This could be a difficult procedure: around 100,000 cases of break, enter and steal are recorded in NSW in a year. It is possible that police in the country areas simply have more time to pursue such details than do police in the city, and in consequence country police record better clear-up rates.

This variation in clear-up rates in urban and rural areas obviously presents a problem for the analysis of Local Court data. However, it can partly be dealt with by conducting separate analyses for the metropolitan and country areas. Examination of clear-up rate statistics for 1987 – 88 reveals that most country police districts had very similar clear-up rates. The only exceptions were the Wollongong and Newcastle districts which had intermediate clear-up rates, as would be expected given our discussion of possible reasons for urban-rural variations in clear-up rates. As will become clear from the analysis and discussion to follow there are other reasons to justify conducting separate analyses for the metropolitan and country areas.

In conclusion, although it is easy to hypothesize widespread biases in the production of crime statistics, and some support can be found for these hypotheses, on the whole it would seem that these biases are not large enough to explain away the very great differences in rates of officially recorded crime between LGAs. If we conclude that variations in policing cannot account for differences in regional crime rates, then the question of why some areas have high crime rates and others low crime rates resurfaces. A plethora of characteristics of individuals and areas like unemployment, income, inequality, population density, crowding and age have been suggested as correlates of crime. Our general strategy will be to take differences between LGAs in court conviction rates as indicators of the differences between those areas in crime rates. We will then see if these differences can be linked in any useful way to the social and economic factors that differentiate one LGA from another.

1.2 SOCIO-ECONOMIC FACTORS ASSOCIATED WITH CRIME RATES

1.2.1 Self report and victimization studies

Much of the research which has emphasized policing as a causal factor in the generation of crime statistics has been concerned with explaining away the observation that lower class individuals and lower class areas tend to be responsible for the majority of recorded crime. A frequently quoted example is a study by Tittle, Villemez and Smith (1978) which argues that it is a fallacy to suppose that lower status groups are responsible for a large amount of crime and urges criminologists to 'shift away from class-based theories to those emphasising more generic processes' (Tittle et al. 1978 p. 654).

Tittle et al. argue that data from self report studies, where juveniles are interviewed and asked about their participation in a range of activities, do not support the class-crime hypothesis. They review a number of such studies which suggest that youths from higher socio-economic status groups are just as likely to engage in delinquent behaviour as lower status youths. However, other studies commonly find a strong negative correlation between class and crime (Braithwaite, 1981a, 1981b, 1978, Blau and Blau 1982, Thornberry and Farnworth 1982, Sampson and Castellano 1982, Sampson 1986, Bursik 1988). These studies find that, for example, those people who are employed in unskilled or semi-skilled occupations, or who have low incomes, or who live in areas characterized by high proportions of such people, are more likely to be offenders and victims of crime. According to Braithwaite (1981b), the literature review that formed the basis of Tittle et al.'s paper was very incomplete and selective. Furthermore, as Clelland and Carter (1980) point out, conclusions derived from self report studies of juveniles may not be generalizable to adult offending. They also claim that the questions in self report studies commonly refer to very trivial sorts of behaviours, or even behaviours which do not necessarily have anything to do with crime at all, so that rather than uncovering serious delinquency, some self report studies merely uncover examples of normal adolescent behaviour.

There is a long tradition of research on the effect of class or socio-economic status on crime, and a convenient review of much of this literature can be found in Braithwaite (1981a). There is an equally long and venerable tradition in the social sciences of arguing about theoretical differences in the definition of class or socio-economic status. However, as Braithwaite (1978, p. 23) has observed, in empirical studies of the relationship between class and crime the concept of class has almost always been measured in the same way. That is, it is assumed that the lower class, working class, or low socio-economic status group, are those who are employed in unskilled or semi-skilled occupations, or who are unemployed. Although Braithwaite does not mention income in his definition, this variable is also often employed as an indicator of 'class' (see, for example, Sampson and Castellano 1982).

Victimization studies have an important contribution to make to the study of crime and socio-economic status because victim survey data are not subject to the same set of potential biases as police data. Findings that victimization and socio-economic status are related provide powerful support for the class-crime relationship that has been commonly found in studies employing official statistics. A particularly telling study by Sampson and Castellano (1982) employed data not generated by the criminal justice system (the US National Crime Survey) and found a strong association between crime victimization and socio-economic status. Other studies of victimization (Hough and Mayhew 1985) clearly show that spatial patterns of victimization correspond to spatial patterns of offending

evident in official crime statistics.

Both victimization data and official crime statistics lead to the observation that crime rates for traditional crimes tend to be higher in areas characterized by low socio-economic status. It is often pointed out that such generalizations made at the aggregate level cannot be used to draw conclusions about individual behaviour. This criticism has its origins in Robinson's (1950) classic article on ecological correlation, but continues to be mounted against criminology that uses aggregate data (see Baldwin 1979). However, as Clelland and Carter (1980, p. 329) have suggested, if the observation of the negative class-crime relationship at the area level is spurious this must be because higher status persons living in low status areas commit crime very often, or lower status persons living in high status areas commit crime very rarely. As Sampson and Castellano (1982, p. 380) comment, empirical evidence for this conclusion is not forthcoming.

1.2.2 The link between unemployment, socio-economic status and offending

Of the individual elements of socio-economic status that have been examined by criminologists, one factor which has been the subject of quite extensive research is unemployment.[9] Unfortunately, this research has not consistently demonstrated that crime rates are sensitive to changes in unemployment rates. It certainly is the case that when we consider persons who appear before the courts, the unemployed are highly over represented. According to Braithwaite (1978, p. 54), the fact that the unemployed are much more likely to be convicted of both serious and minor crimes is 'one of the few fairly well supported facts of criminology'. As a whole, however, studies which have tried to show a relationship between rates of unemployment and crime rates have given mixed results. Studies which use aggregate level data on a cross sectional basis have tended to demonstrate a positive relationship between unemployment and crime, concluding that crime rates tend to be higher in areas where unemployment is high. On the other hand time series studies which compare trends in crime rates and unemployment rates have had mixed findings (Braithwaite 1978, Chiricos 1987). According to Belknap (1989) the majority of studies employing data about the employment status and criminality of individuals have supported a link between unemployment and crime.

There are a number of theoretical reasons why class and unemployment and crime might be related. Most simply, unemployment or poverty may motivate people to commit property crimes in order to get the things that they would otherwise be denied. That is, unemployment causes financial hardship, and this is a motivation for crime intended to relieve hardship (Farrington, Gallagher, Morley, Raymond and West, 1986). This commonsense account of criminal motivation was formalised in Durkheim's theory of anomie[10], part of a more general theory of modernization. The notion that many social ills are associated with periods of rapid social change is not a recent one. Durkheim argued that suicide was more common during periods of rapid economic change because of a growing disjuncture between socially defined norms and expectations and the reality of attaining them (Durkheim 1951). This theory, as further developed by Merton (1957), and known as strain theory, has been enormously influential in twentieth century criminology. Merton generalized Durkheim's anomie theory of suicide and proposed that certain socially generated pressures drive people to commit crimes (Vold and Bernard, 1986, ch. 13). According to Merton's (1957) theory, we are all socialized to strive for material success. Many people, however, are denied such success because of factors like poverty and unemployment. When legitimate means for obtaining the trappings of success are

denied, the individual is under strain to use illegitimate means such as crime to achieve the socially defined goals.

While the link between unemployment and/or poverty and property crime seems obvious, many studies have also found a link between violent crime and economic factors (Belknap 1989, Braithwaite 1978). It is commonly suggested that economic hardship gives rise to frustrations which increase the frequency of aggressive acts (South and Cohen 1985, pp. 326 – 327). Another suggestion, referred to as the subculture of violence hypothesis, is that working class subcultures are often inherently more violent than middle class subcultures. Particularly associated with the work of Wolfgang and Ferracuti (1981), the subculture of violence hypothesis suggests that violent reaction is a strategy learned in specific subcultures. In Wolfgang's (1958, pp. 188 – 189) terms: 'Quick resort to physical combat as a measure of daring, courage, or defense of status appears to be a cultural expression, especially for lower socio-economic class males'.

The notion of a subculture of violence suggests that the influence of socio-economic status may be more subtly manifested than strain theories propose. In other words, economic factors constitute only part of what it means to be a member of a 'low socio-economic status group'. Ecological studies have identified other characteristics of urban areas with high crime rates such as high population density, crowded accommodation, transient population (often migrants) and dilapidation.[11] Stark (1987), for example, has recently published the outline of a theory of the ways in which poverty and these other factors interact in urban areas to increase the risk of crime occurring. The point is that crime is a phenomenon that is open to many different influences and it is a mistake to pin too many hopes on one or other of the individual explanatory factors, which can interact in subtle and complex ways.

1.2.3 Family factors and offending

Certainly the family is an important locus of economic and cultural factors in the explanation of crime trends, albeit one which has not received much attention in ecological research in criminology. Although a comprehensive examination of the way in which economic and cultural factors interact in the causality of crime is far too large a project to examine in this report, the importance of the family as a primary economic and social unit means that it warrants some attention.

Many studies have investigated the role of the family in the origins and maintenance of criminal behaviour (See Conklin 1981, pp. 232 – 236 and Loeber and Stouthamer-Loeber 1986). In general, it can be concluded that the family plays a crucial role. This is not surprising since the family is a primary institution in the socialization and supervision of children. Loeber and Stouthamer-Loeber (1986, pp. 38 – 40) have suggested that there are four modes of family function that are particularly associated with child conduct problems. First, parents may neglect to supervise their children's activities, only becoming aware of more serious acts from neighbours or police. Children in such situations may 'do their own thing' and be at risk of becoming alienated from their parents. Second, parents and children may become embroiled in escalations of conflict. This mode of family function is particularly associated with the inability of parents to impose discipline that would curtail problem behaviour. Third, parents may themselves engage in illegal activity, or may display attitudes which encourage children to indulge in serious misbehaviour. They may fail to label serious misbehaviour as problematic.

Fourth, chronic conflict between spouses may have direct or indirect influences on children's behaviour. Parents in this situation may fail to teach positive social values to children or to deal with children's problem behaviours effectively.

Cohen and Felson (1979, p. 589) have hypothesized that many criminal acts require three minimal elements: motivated offenders, suitable targets and the absence of capable guardians against a violation. As Cohen and Felson (1979, p. 590) comment, the role of the police as guardians has been widely analyzed, but the role of ordinary citizens as guardians of one another and of property has been neglected. They suggest that persons living in single adult households and those employed outside the home should have higher victimization rates because the course of their activities makes them more likely to come into contact with motivated offenders in the absence of guardians. The high levels of victimization suffered by the unemployed, Cohen and Felson suggest, may reflect their residential proximity to high concentrations of potential offenders as well as their age and race.

Sampson (1986) has argued that the family is an important instrument of informal social control (or guardianship). He quotes research which suggests that married couple families have a higher rate of contact with neighbours than do divorced and single people. In this situation neighbours may be more likely to take note of strangers, watch over each other's property or intervene in local disturbances (Sampson 1986, p. 278). Other research quoted by Sampson suggests that two parent households provide increased supervision for public activities in their neighbourhoods, not only for their own children and property.

Individual level studies have supported Sampson's hypotheses about the effect of parental supervision. For example, Loeber and Stouthamer-Loeber (1986, p. 78) report that single mothers and unhappily married mothers did not supervise their children as closely as happily married mothers. According to Loeber and Stouthamer-Loeber (1986), poor marital relations, parental absence or broken homes all have a positive effect on the risk of children becoming involved in crime.

Sampson (1986, p. 279), however, points out that the role of family disruption as a cause of higher crime rates at the ecological level does not necessarily depend on the children of divorced or separated parents being more likely to be engaged in crime. Young people in areas with high proportions of stable families are more likely to be subject to more community supervision, even if their own family is disrupted.

It must be pointed out that family disruption is often a primary cause of poverty, especially where it results in the formation of single parent families. In Sydney in 1986 one in twenty families were single parent families and nearly half of these had a family income of $9,000 or less (Horvath, Harrison and Dowling 1989, p. 32). Ross and Whiteford (1990, p. 16) found that 82.1% of non-Aboriginal and 92.3% of Aboriginal single parent families with three or more children had incomes below the Henderson poverty line in 1986. In the Sydney metropolitan area, over half of all the poor families counted in the 1986 Census were single parent families while of the very poor female headed single parent families in Sydney in 1986, 42.0% had two or more children (Horvath et al.1989, p. 66). The proportion of single parent families in an area is likely to function as a sensitive indicator of the existence of a group of highly disadvantaged young adults and children. It is possible that the effects of family disruption, lack of supervision and poverty combined can have a marked influence on the risk of offending.

1.2.4 Age and offending

Another factor which has been implicated as a major contributor to variation in crime rates is age. It has often been observed that rates of offending are much higher among the young. As described by Farrington (1986, p. 189): 'Typically, in official statistics, the crime rate increases from the minimum age of criminal responsibility to reach a peak in the teenage years; it then declines, at first quickly but gradually more slowly.' There has been considerable debate about the age-crime relationship since Hirschi and Gottfredson (1980) claimed that it was invariant at different times and in different countries. This means that although the amplitude of the curve relating age and crime can vary, such that, for example, young males are more crime prone than young females, the fact that crime peaks in the teenage years and then declines remains constant for both males and females. Even though data quoted by Farrington (1986) and other critics (e.g. Greenberg 1985) indicate that the relationship is not invariant, it is still true that the majority of offenders that we know about are aged less than 25. Given this observation, it could be suggested that one cause of differential crime rates is variation in the number of people in this age group. Put simply, if an area has a high proportion of its population in the high offending age group then it should exhibit crime rates that are higher than areas with a smaller proportion of their population in the high risk age group.

Even if the age-crime relationship is invariant in the sense implied by Hirschi and Gottfredson, given the previous discussion we should expect that the risk of someone in the high crime age group becoming an offender should be modified by their employment status, family background, area of residence and other factors. That is, although age-specific crime rates might peak in the teenage years for all males, regardless of socio-economic status, it is still the case that lower socio-economic status young males exhibit higher crime rates than higher socio-economic status young males. It is improbable, therefore, that the simple abundance of people in the high crime age group is a more important determinant of the crime rate than socio-economic factors. This conclusion is supported by research quoted by Conklin (1981, p. 133) which attributed less than 20% of the growth in arrests for a number of offences in the United States between 1960 and 1970 to changes in the age composition of the population.

2. GENERAL PATTERNS OF COURT CONVICTION RATES IN NSW LGAs

2.1 DATA AND VARIABLES USED IN THIS STUDY

In order to examine the evidence for the existence of relationships between crime and the social and economic factors discussed in the previous section, data for Local Court appearances were determined for the 176 LGAs in NSW.[12] Local Court appearance data from 1987 and 1988 were used to produce the offence data used in the LGA level dataset. This means that, in all, 186,304 appearances were available for analysis. In all cases, LGA was coded as the area of residence of the offender.

Rates were calculated for a number of offence categories that constitute predatory violations, which have been defined as illegal acts where 'someone definitely and intentionally takes or damages the person or property of another' (Glaser 1971, p. 4).[13] These are offences which by their nature produce a victim who, aggrieved by injury or loss, is the agent generally responsible for reporting the offence to the police.

The offences employed in this report are (i) all offences against the person, (ii) common assaults, (iii) assaults occasioning actual bodily harm, (iv) all property offences, (v) break, enter and steal, (vi) motor vehicle theft and (vii) larceny. Note that (ii) and (iii) are subsets of (i); (v), (vi) and (vii) are subsets of (iv). Common assaults in this report include the offences of assault female and assault child, but exclude offences concerning assault police.[14] This is because assault police offences may be particularly likely to reflect policing rather than serve as indices of the level of violence in the community. Similarly, previous Bureau research (Bonney 1989) has revealed that numbers of appearances for offensive behaviour are particularly sensitive to variations in policing so this offence category is not dealt with here, even though it is a common offence. Tables showing rates for individual offence categories for each LGA in NSW can be found in Appendix 1.

The rates for these seven offences were calculated from the number of proven offenders in each offence category. That is, the rates were calculated on the basis of proven offenders rather than alleged offenders. For property offences the proportion of charges not proven in 1988 was 8.9% while for offences against the person around 32.0% of charges were not proven (Bureau of Crime Statistics and Research 1989, pp. 24 – 25). These figures may reflect greater difficulty in establishing the facts of violent offences compared with property offences. However, there is no evidence that there is systematic spatial variation in these proportions. For all of the offence variables discussed in this report the correlation between the total appearance rates and the rate of proven offences was greater than 0.95, except for motor vehicle theft (0.93) and break enter and steal (0.63). This means that either way of counting offences will result in statistically similar results.

The population and the socio-economic data employed were derived from the Australian Bureau of Statistics 1986 Census of population and housing.[15] In all, 22 independent variables measuring various aspects of socio-economic status, family status, age, ethnicity, crowding and Aboriginality were generated.[16] Two stages of analysis were undertaken. In the following sections the relationships between selected independent variables and court conviction rates for the seven offence categories are examined. This analysis allows us to come to some conclusions about the more general patterns of social factors that are

associated with court convictions. Then a principal components analysis was employed to reduce the 22 independent variables to a smaller number of new variables that attempt to describe the structure in the original data set. That is, the method is used to produce a set of mathematical constructs which summarize the variation in the set of socio-economic variables. These new variables are then correlated back against the original set of court conviction data in order to assess the relative power of the various components in explaining variations in court conviction rates.

It was mentioned in the previous section that in order to control for differences in clear-up rates between the Sydney area and the rest of the State, separate analyses would be conducted for the LGAs in the Sydney Statistical Division and the remainder of the LGAs in NSW. This strategy has the advantage of allowing us to address an anomaly that has been noticed in overseas research. Whereas consistent support has been found for relationships between socio-economic status and offending in urban areas, such relationships have not been found in rural areas.[17]

2.2 COURT CONVICTION RATES IN RURAL LGAs

Before embarking on the analysis of the correlations between offence categories and some socio-economic variables, it is worth examining the rankings of the LGAs in terms of conviction rates. Rankings are presented for two of the seven offence categories, all offences against the person in Table 1 and all property offences in Table 2. This is justified by Table 3 which shows that in all cases positive correlations exist between the various offence categories, although in some cases the correlations are small. This means that if an area has a high rate for one offence category it tends to have high rates for all offence categories. Importantly, Table 3 shows that for the country LGAs all offences against the person is an acceptable indicator of the variation in conviction rates for common assault and assaults occasioning actual bodily harm. Also, all property offences is an acceptable indicator of the variation of the specific property offence categories (break, enter and steal, motor vehicle theft and larceny) across the country LGAs. Graphical representation of these patterns and the patterns of some individual offence categories is shown in Maps 1 – 7 for the country LGAs.

Tables 1 and 2 and Maps 1 – 7 reveal that there is a crime problem of considerable dimensions in some LGAs in the North Western and Far West Statistical Divisions. Of the top 20 country LGAs for proven offences against the person in 1987 and 1988, 11 are in these two Statistical Divisions and another, Bogan, is ranked at 21. Of the 14 LGAs in the North Western Division, only Narromine (31), Gilgandra (36), Mudgee (50), Coolah (91) and Coonabarabran (99) rank outside the top 21 country LGAs for convictions for offences against the person. The prominence of LGAs in the North Western and Far West Statistical Divisions in Table 1 is also apparent in Map 1 which presents the court conviction rates for all offences against the person and shows that many of the LGAs in the North West and Far West of NSW are in the top 25% of the rankings for this offence category. This pattern is repeated on the Map 2 which depicts conviction rates for common assault and Map 3 which depicts conviction rates for assault occasioning actual bodily harm. In these three maps the Eastern and South Eastern LGAs tend to have conviction rates in the bottom 50% of the rankings for offences against the person.

Table 1: NSW country LGAs ranked in order of conviction rate for all offences against the person Local Court convictions in 1987 and 1988, Rate per 100,000 population

Rank	LGA of residence of offender	Conviction rate for all offences against the person
1	Bourke (S)	3572.27
2	Central Darling (S)	2996.37
3	Brewarrina (S)	2801.81
4	Walgett (S)	2007.61
5	Unincorporated Far West	1502.15
6	Moree Plains (S)	1233.99
7	Broken Hill (C)	846.28
8	Coonamble (S)	806.88
9	Conargo (S)	768.78
10	Warren (S)	714.68
11	Greater Lithgow (C)	657.06
12	Queanbeyan (C)	638.82
13	Dubbo (C)	627.47
14	Narrandera (S)	622.80
15	Wellington (S)	608.04
16	Cobar (S)	603.37
17	Guyra (S)	585.04
18	Albury (C)	581.34
19	Kempsey (S)	576.42
20	Parkes (S)	569.11
21	Bogan (S)	548.40
22	Inverell (S)	538.95
23	Wagga Wagga (C)	532.38
24	Griffith (S)	526.62
25	Tumut (S)	521.42
26	Casino (M)	517.99
27	Crookwell (S)	516.19
28	Goulburn (C)	515.03
29	Wentworth (S)	514.91
30	Junee (S)	498.08
31	Narromine (S)	495.20
32	Balranald (S)	473.61
33	Lachlan (S)	472.11
34	Mulwaree (S)	467.19
35	Weddin (S)	464.32
36	Gilgandra (S)	463.80
37	Narrabri (S)	457.12
38	Coffs Harbour (S)	453.38
39	Cowra (S)	449.48
40	Shellharbour (M)	439.92
41	Murrurundi (S)	434.97
42	Orange (C)	432.04
43	Armidale (C)	430.22
44	Richmond River (S)	429.69
45	Lismore (C)	429.12
46	Cootamundra (S)	428.86
47	Muswellbrook (S)	423.05
48	Quirindi (S)	421.86
49	Scone (S)	419.45
50	Mudgee (S)	410.91
51	Murrumbidgee (S)	388.10
52	Newcastle (C)	385.36
53	Young (S)	384.90
54	Jerilderie (S)	372.79
55	Tamworth (C)	366.14
56	Bellingen (S)	365.68
57	Rylstone (S)	365.34
58	Cessnock (C)	364.22
59	Forbes (S)	363.26
60	Uralla (S)	361.86
61	Ulmarra (S)	358.73
62	Dumaresq (S)	355.48
63	Gundagai (S)	355.33
64	Harden (S)	354.07
65	Culcairn (S)	348.19
66	Leeton (S)	345.80
67	Maitland (C)	343.00
68	Wollongong (C)	339.56
69	Oberon (S)	338.10
70	Lake Macquarie (C)	337.37
71	Coolamon (S)	334.71
72	Cabonne (S)	333.83
73	Tweed (S)	330.49
74	Hume (S)	326.15
75	Walcha (S)	324.68
76	Severn (S)	323.31
77	Eurobodalla (S)	316.00
78	Yarrowlumla (S)	313.82
79	Yass (S)	311.18
80	Evans (S)	306.28
81	Bathurst (C)	302.53
82	Nambucca (S)	301.62
83	Glen Innes (M)	301.46
84	Barraba (S)	297.73
85	Nundle (S)	296.74
86	Greater Taree (C)	295.09
87	Kyogle (S)	293.16
88	Deniliquin (M)	290.77
89	Blayney (S)	289.61
90	Port Stephens (S)	288.80
91	Coolah (S)	283.69
92	Ballina (S)	282.60
93	Tumbarumba (S)	282.56
94	Hay (S)	282.34
95	Manilla (S)	275.48
96	Tenterfield (S)	274.10
97	Yallaroi (S)	261.71
98	Singleton (S)	260.46
99	Coonabarabran (S)	258.08
100	Wingecarribee (S)	255.44
101	Lockhart (S)	249.17
102	Berrigan (S)	248.56
103	Corowa (S)	234.81
104	Holbrook (S)	232.56
105	Parry (S)	230.41
106	Urana (S)	227.01
107	Great Lakes (S)	220.16
108	Cooma-Monaro (S)	219.00
109	Byron (S)	218.08
110	Merriwa (S)	212.49
111	Windouran (S)	210.53
112	Hastings (M)	210.51
113	Bega Valley (S)	210.46
114	Shoalhaven (C)	201.86
115	Bland (S)	183.29
116	Snowy River (S)	180.26
117	Grafton (C)	180.21
118	Gloucester (S)	177.27
119	Boorowa (S)	158.73
120	Dungog (S)	151.19
121	Carrathool (S)	151.10
122	Gunning (S)	150.83
123	Kiama (M)	148.78
124	Wakool (S)	148.18
125	Gunnedah (S)	134.07
126	Maclean (S)	133.08
127	Bombala (S)	132.19
128	Copmanhurst (S)	112.71
129	Murray (S)	110.57
130	Bingara (S)	87.34
131	Temora (S)	80.12
132	Tallaganda (S)	41.93
133	Nymboida (S)	32.95

C – City, S – Shire, M – Municipality

Table 2: NSW country LGAs ranked in order of conviction rate for all property offences Local Court convictions in 1987 and 1988, Rate per 100,000 population

Rank	LGA of residence of offender	Conviction rate for all property offences
1	Bourke (S)	916.57
2	Brewarrina (S)	782.86
3	Unincorporated Far West	715.31
4	Central Darling (S)	696.13
5	Walgett (S)	669.20
6	Guyra (S)	626.83
7	Moree Plains (S)	564.11
8	Coonamble (S)	561.31
9	Kempsey (S)	558.95
10	Dumaresq (S)	519.55
11	Lismore (C)	512.78
12	Orange (C)	510.88
13	Wellington (S)	506.70
14	Albury (C)	488.32
15	Newcastle (C)	487.30
16	Queanbeyan (C)	462.60
17	Goulburn (C)	454.71
18	Coffs Harbour (S)	448.73
19	Richmond River (S)	442.71
20	Mulwaree (S)	426.57
21	Carrathool (S)	423.09
22	Windouran (S)	421.05
23	Wentworth (S)	420.05
24	Byron (S)	403.45
25	Wagga Wagga (C)	402.83
26	Quirindi (S)	402.68
27	Greater Taree (C)	395.31
28	Casino (M)	386.14
29	Cessnock (C)	380.99
30	Inverell (S)	378.54
31	Lake Macquarie (C)	376.45
32	Lachlan (S)	372.72
33	Maitland (C)	372.33
34	Bathurst (C)	363.86
35	Armidale (C)	363.64
36	Parkes (S)	362.81
37	Ballina (S)	360.42
38	Lockhart (S)	359.91
39	Broken Hill (C)	359.77
40	Hastings (M)	356.43
41	Evans (S)	350.03
42	Forbes (S)	344.63
43	Dubbo (C)	342.84
44	Tumut (S)	338.92
45	Muswellbrook (S)	335.75
46	Wollongong (C)	334.80
47	Warren (S)	329.85
48	Kyogle (S)	325.73
49	Junee (S)	325.67
50	Griffith (S)	325.55
51	Singleton (S)	324.13
52	Severn (S)	323.31
53	Wingecarribee (S)	322.84
54	Tamworth (C)	321.12
55	Deniliquin (M)	317.21
56	Oberon (S)	312.09
57	Tweed (S)	310.79
58	Nambucca (S)	308.47
59	Port Stephens (S)	308.24
60	Narrabri (S)	302.60
61	Culcairn (S)	301.76
62	Cobar (S)	301.69
63	Glen Innes (M)	301.46
64	Mudgee (S)	296.40
65	Ulmarra (S)	295.42
66	Cowra (S)	293.89
67	Narrandera (S)	284.32
68	Scone (S)	279.63
69	Eurobodalla (S)	278.82
70	Bogan (S)	274.20
71	Great Lakes (S)	273.97
72	Coonabarabran (S)	271.67
73	Greater Lithgow (C)	267.88
74	Gloucester (S)	265.90
75	Gilgandra (S)	262.15
76	Shellharbour (M)	262.13
77	Tenterfield (S)	258.87
78	Parry (S)	257.00
79	Bellingen (S)	256.97
80	Cootamundra (S)	252.27
81	Yarrowlumla (S)	235.37
82	Crookwell (S)	234.63
83	Jerilderie (S)	232.99
84	Gundagai (S)	228.43
85	Bega Valley (S)	218.87
86	Manilla (S)	214.26
87	Snowy River (S)	214.06
88	Wakool (S)	211.69
89	Dungog (S)	211.67
90	Shoalhaven (C)	210.79
91	Berrigan (S)	209.31
92	Temora (S)	208.30
93	Walcha (S)	206.61
94	Leeton (S)	200.20
95	Maclean (S)	199.62
96	Young (S)	197.15
97	Holbrook (S)	193.80
98	Gunnedah (S)	193.65
99	Blayney (S)	187.39
100	Narromine (S)	185.70
101	Bland (S)	183.29
102	Hume (S)	181.19
103	Tumbarumba (S)	179.81
104	Hay (S)	179.67
105	Cooma-Monaro (S)	177.29
106	Harden (S)	177.04
107	Cabonne (S)	175.70
108	Bingara (S)	174.67
109	Murrurundi (S)	173.99
110	Boorowa (S)	158.73
111	Rylstone (S)	156.58
112	Gunning (S)	150.83
113	Grafton (C)	150.18
114	Barraba (S)	148.86
115	Kiama (M)	148.78
116	Nundle (S)	148.37
117	Balranald (S)	135.32
118	Bombala (S)	132.19
119	Murrumbidgee (S)	129.37
120	Yass (S)	124.47
121	Weddin (S)	122.19
122	Conargo (S)	118.27
123	Urana (S)	113.51
124	Corowa (S)	110.50
125	Uralla (S)	108.56
126	Coolamon (S)	102.99
127	Tallaganda (S)	83.86
128	Yallaroi (S)	78.51
129	Murray (S)	66.34
130	Nymboida (S)	65.90
131	Coolah (S)	47.28
132	Merriwa (S)	42.50
133	Copmanhurst (S)	28.18

C – City, S – Shire, M – Municipality

Table 3: Rank correlation matrix of conviction rates per 100,000 population for various offence categories across country LGAs, 1987 and 1988

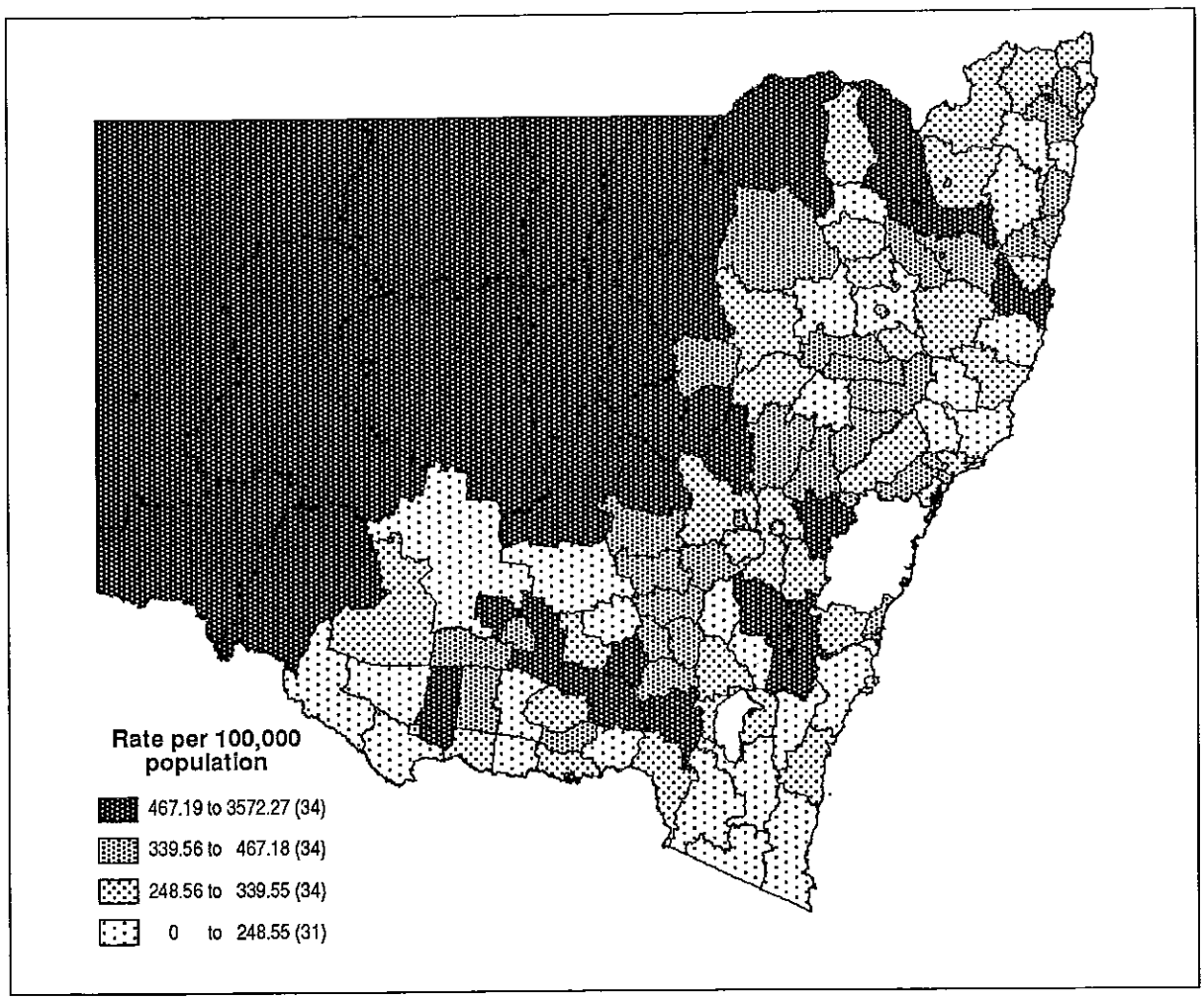
	All offences against the person	Common assault	Assault, actual bodily harm	All property offences	Break, enter and steal	Motor vehicle theft	Larceny
All offences against the person	1.00	0.88	0.58	0.56	0.49	0.38	0.50
Common assault		1.00	0.34	0.55	0.36	0.33	0.53
Assault, actual bodily harm			1.00	0.33	0.47	0.28	0.24
All property offences				1.00	0.66	0.42	0.80
Break, enter and steal					1.00	0.25	0.39
Motor vehicle theft						1.00	0.30
Larceny							1.00

Table 2 and Map 4 show that for all property offences, conviction rates in the country LGAs show the same general pattern as for offences against the person. LGAs in the North Western and Far Western Division like Bourke, Brewarrina, Unincorporated Far West, Central Darling and Walgett head the list. For the individual offence categories, the pattern of break, enter and steal (Map 5) is most like that of all offences against the person. In comparison, the patterns demonstrated by motor vehicle theft (Map 6) and larceny (Map 7) are slightly more dispersed than those for the violent offences.

It is apparent from Tables 1 and 2 that there is huge variation across the country LGAs for the broad offence categories. That is, even though the Maps classify the LGAs into quartiles with approximately equal numbers, the tables reveal that some LGAs have conviction rates that are many times those of LGAs near the bottom of the range. The LGA with the highest rate of guilty findings for offences against the person, Bourke, has a rate that is more than 100 times that of the LGA with the lowest rate, Nymboida. For property offences the range of rates is smaller but still considerable, with the rate for Bourke, the highest LGA, being 32.5 times that of the lowest, Copmanhurst. It should be remembered that the conviction rates reported here are calculated from total convictions for each LGA and rates will not necessarily be uniform within LGAs. That is, each LGA will contain areas with higher and lower rates. These patterns, however, cannot be addressed with the methods used here.

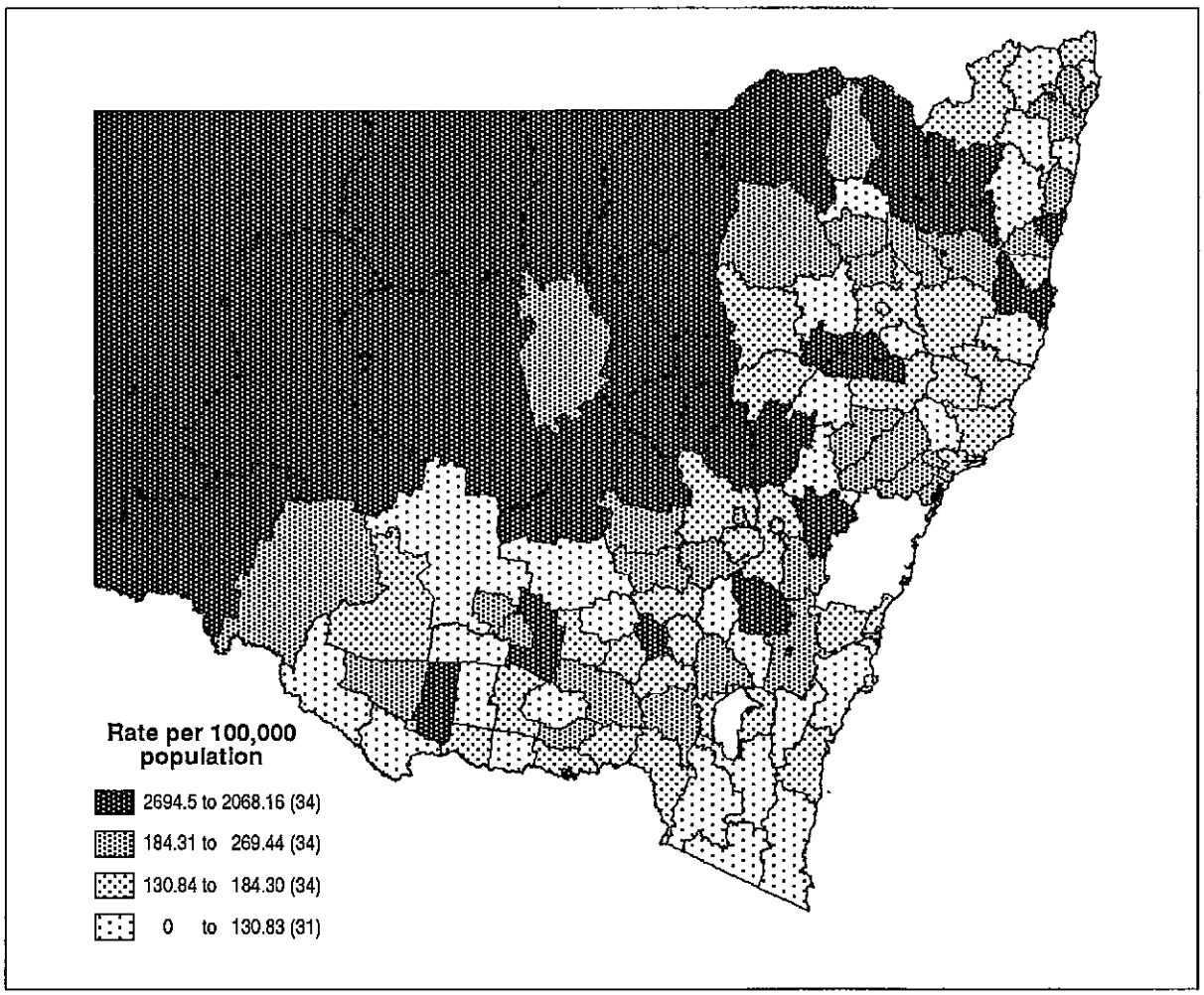
Map 1: All offences against the person, Local Courts, 1987 and 1988 NSW Country LGAs

Convicted offenders, Rate per 100,000 population



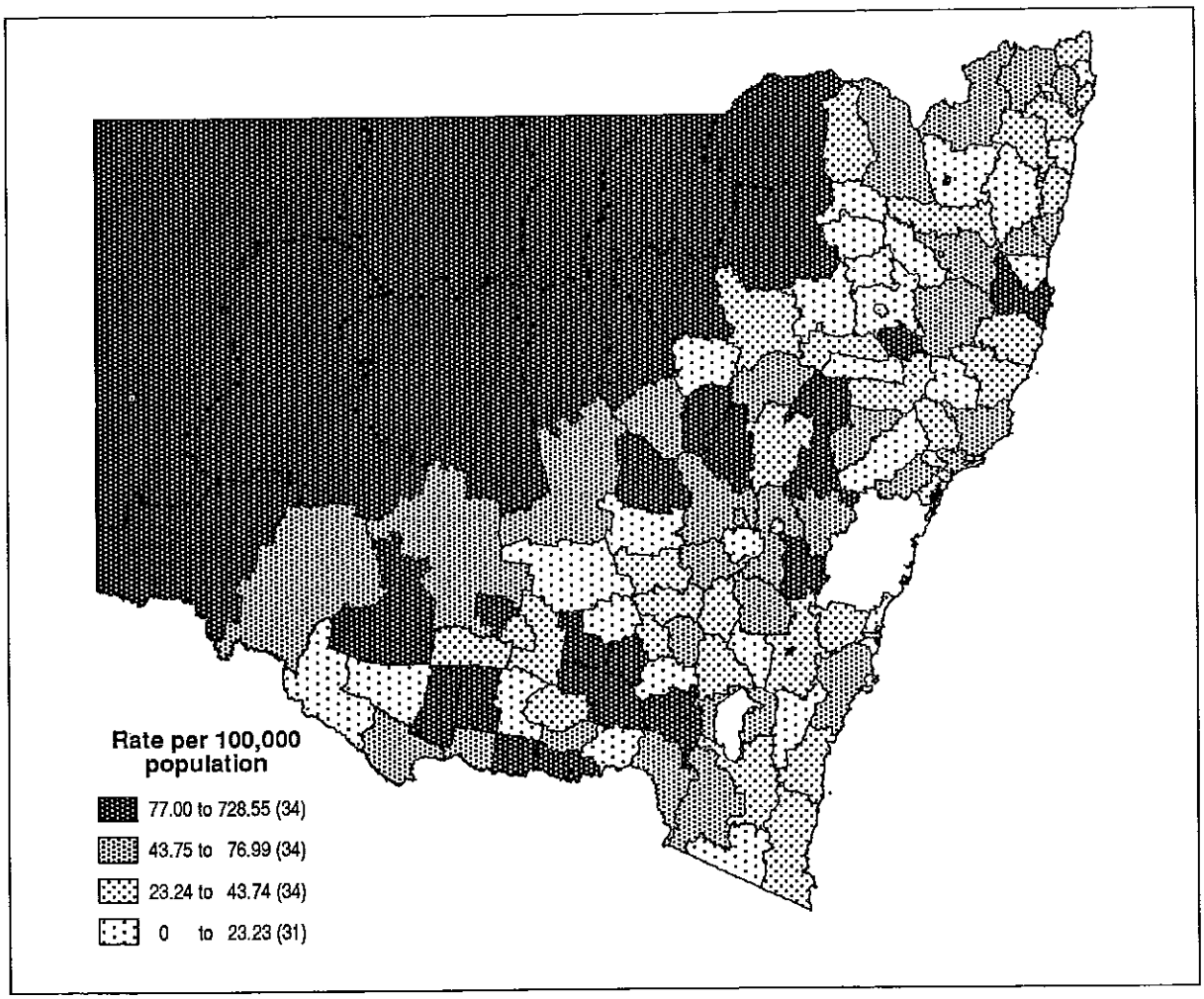
Map 2: **Common assault, Local Courts, 1987 and 1988**
NSW Country LGAs

Convicted offenders, Rate per 100,000 population



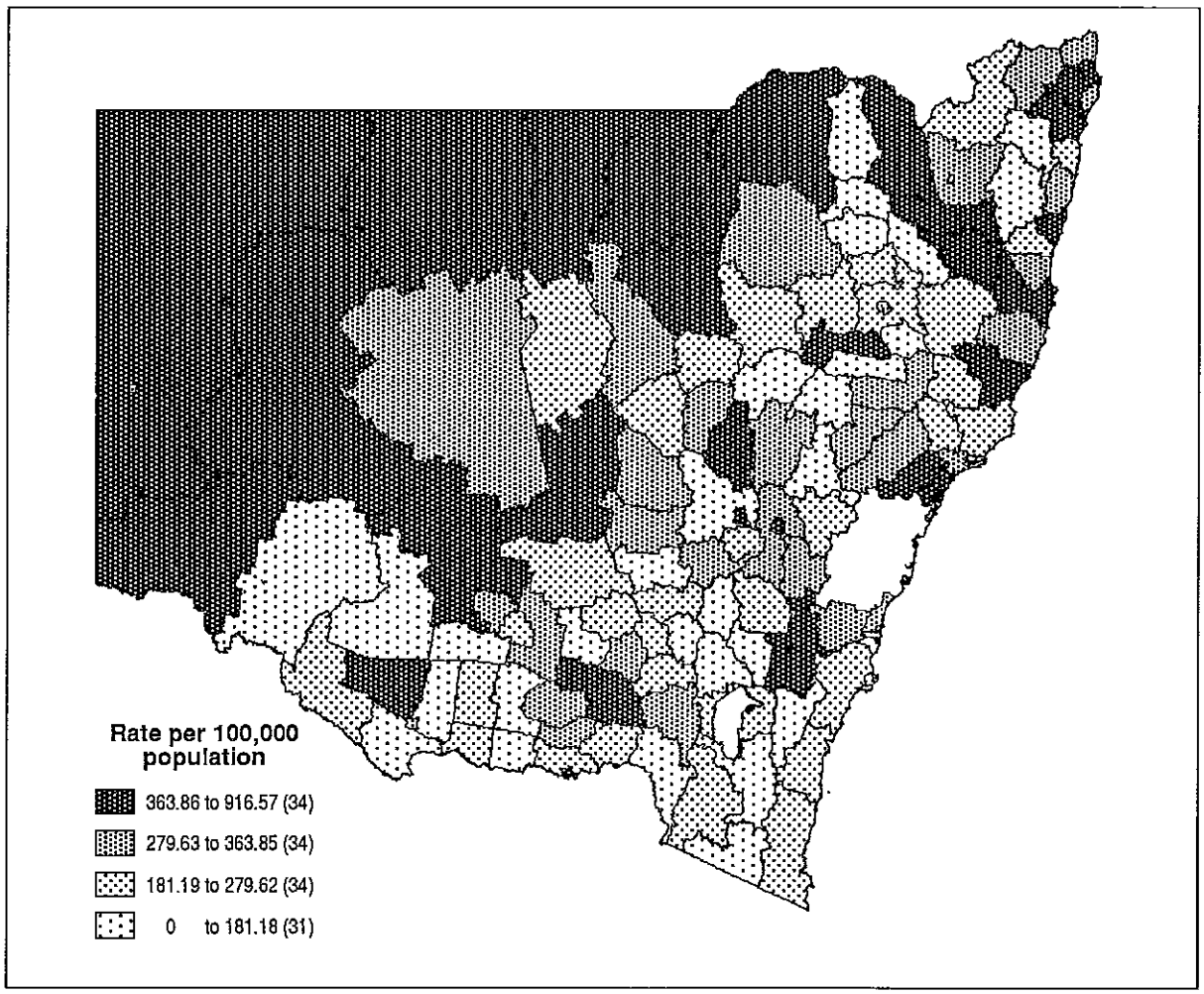
Map 3: Assault, actual bodily harm, Local Courts, 1987 and 1988
NSW Country LGAs

Convicted offenders, Rate per 100,000 population



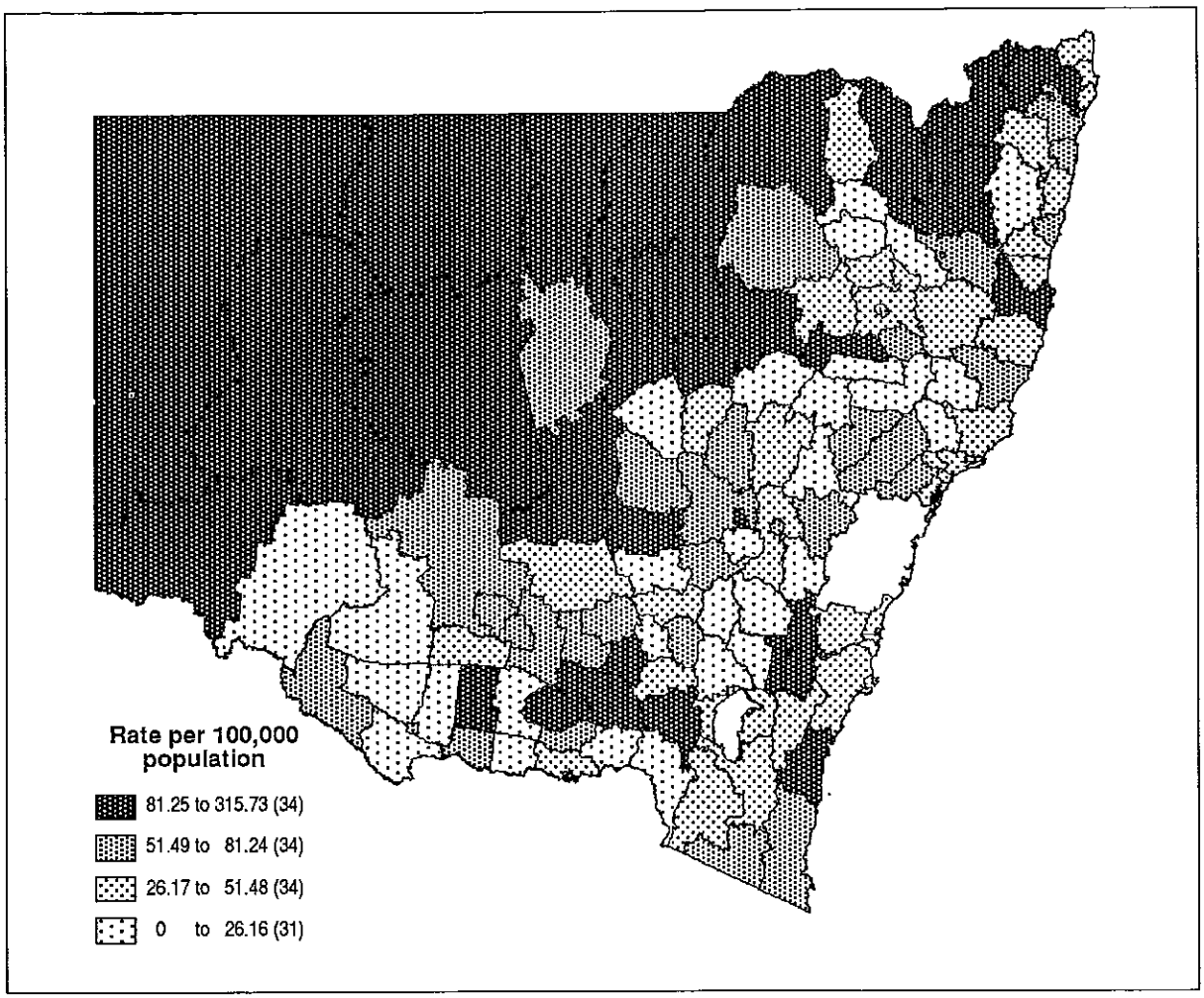
Map 4: All property offences, Local Courts, 1987 and 1988
NSW Country LGAs

Convicted offenders, Rate per 100,000 population



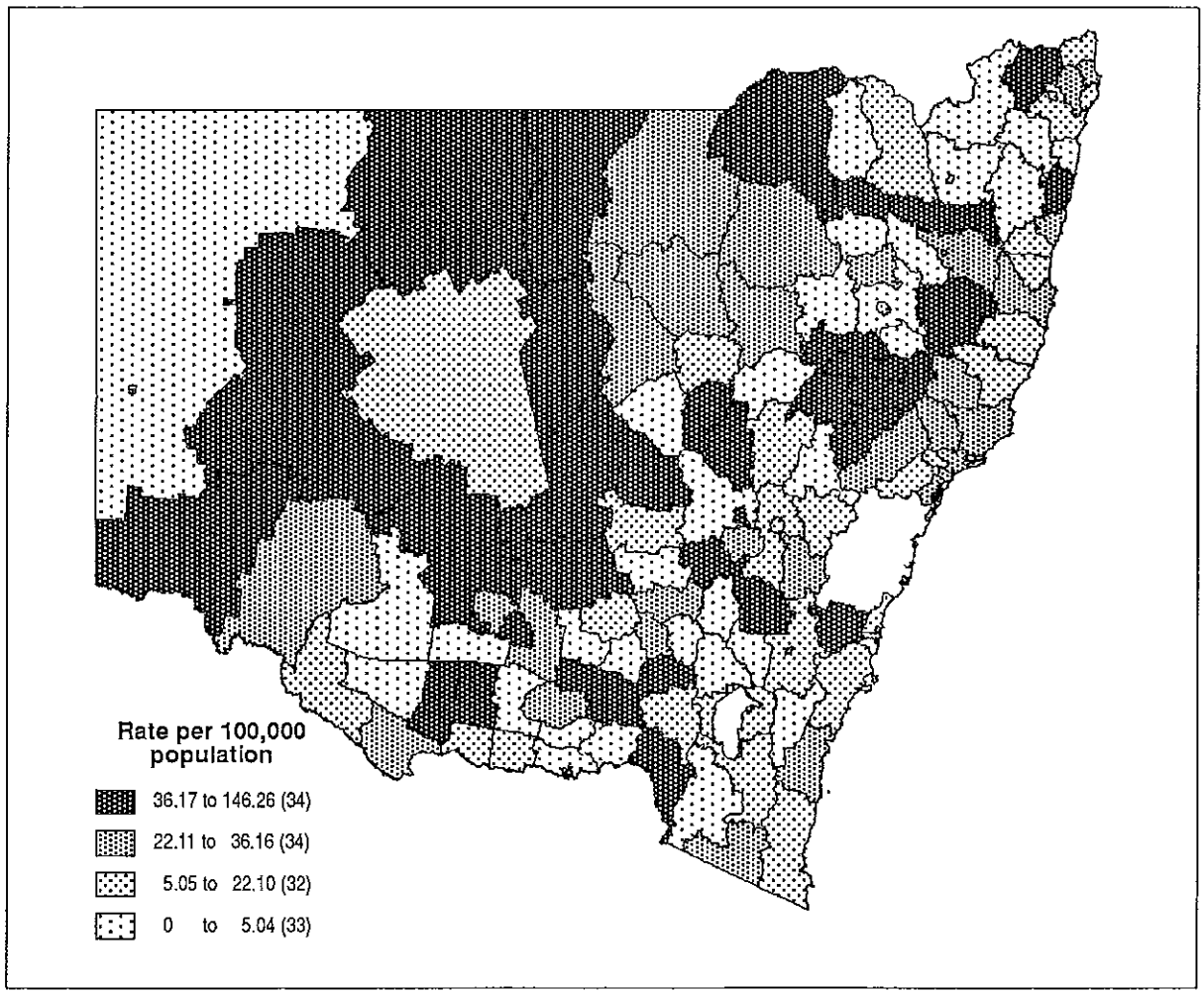
Map 5: Break, enter and steal, Local Courts, 1987 and 1988
NSW Country LGAs

Convicted offenders, Rate per 100,000 population



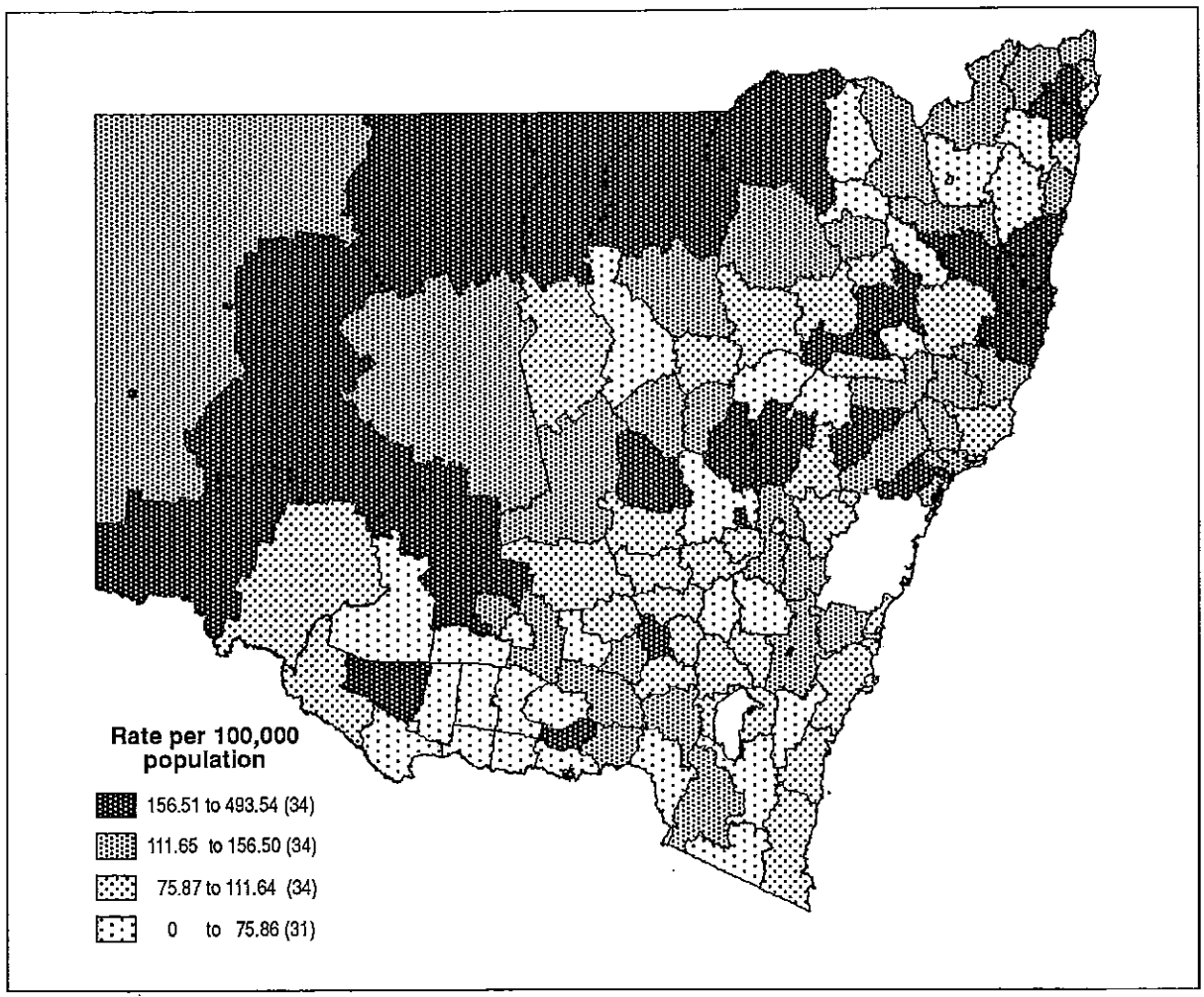
Map 6: **Motor vehicle theft, Local Courts, 1987 and 1988**
NSW Country LGAs

Convicted offenders, Rate per 100,000 population



Map 7: Larceny, Local Courts, 1987 and 1988
NSW Country LGAs

Convicted offenders, Rate per 100,000 population



2.3 POLICING AND CONVICTION RATES IN THE COUNTRY LGAs

Many of the country LGAs with very high conviction rates discussed in the previous section have relatively large Aboriginal populations. Some commentators have pointed to the role of policing in producing the high rates of recorded crime in Aboriginal communities. Previous research carried out by the Bureau has shown that Aboriginals are highly over represented in police crime statistics and in appearances before the Local Courts in the North-West (Cunneen and Robb 1987). Cunneen (1990) has argued that in country areas the concept of a 'crime problem' has become synonymous with the 'Aboriginal problem'. Cunneen (1990, p. 36) points out that in 1989 there was 1 police officer for every 463 persons in NSW, whereas in Bourke, Brewarrina, Walgett and Wilcannia there were as many as 1 officer for every 100 persons.

It is true that there are more police per head of population in those North Western towns mentioned by Cunneen. However, if the ratio of police to the numbers of offences were calculated it is likely that the ratio would be smaller. This is because the amount of recorded crime is large in proportion to the populations in those towns. Rather than indicating over-policing, such police personnel levels may reflect a response to demand on policing services.

It is also possible that high conviction rates for offences against the person in the LGAs in the North West of NSW could be associated with higher risk of being charged with less serious assaults. This might be the case, for example, if people who live in these areas were more closely policed than people who live in other LGAs. They may be, in consequence, more likely to be arrested for trivial offences. This would mean that some of the difference in conviction rates for all offences against the person would be due to a greater propensity for people who commit relatively trivial offences to end up before the courts. Because trivial offences are much more common than serious ones, the level of policing of such trivial offences could be a source of variation in court statistics. However, examination of rankings for the less serious assaults (common assaults) and more serious assaults (assault occasioning actual bodily harm) reveals very similar patterns across LGAs.[18] In both cases LGAs such as Bourke, Brewarrina, Central Darling, Unincorporated Far West, Moree Plains and Walgett are prominent at the top of the rankings, although Broken Hill falls from rank 16 for common assaults to rank 55 for assaults occasioning actual bodily harm.

It might also be suggested that differences in the tendency of police to clear crimes could lead to the prominence of these North Western LGAs in the rankings. This would be the case if police in these areas were more successful in arresting offenders and bringing them before the courts. However, clear-up rates for offences against the person in the country police districts do not vary much, being in the order of 80–90%. Since the North Western LGAs rank prominently compared with other country LGAs in police districts with similar clear-up rates, this aspect of policing cannot be regarded as a sufficient explanation of the high rates of findings of guilt for offences against the person in the North West.

If over-policing were a factor in determining these high rates of guilty findings for offences against the person then one might expect that the proportion of assault police offences would be high in these areas. This would indicate that a significant proportion of assaults recorded in these areas resulted from interactions between citizens and the police.[19] Overall, however, the correlation between the rate of all offences against the person and the proportion of these offences that are assaults on police is not significant

(Spearman's rank correlation coefficient, Rs=0.11). That is, there is no overall tendency for LGAs with higher rates of guilty findings for violent offences to exhibit a higher proportion of assault police offences in this category. On average assault police comprised 8% of all offences against the person in the 1987 and 1988 court statistics. There was, however, considerable variation between LGAs in the North West. While findings of guilt for assault police in Brewarrina, Walgett, Unincorporated Far West and Moree Plains represented around 14 – 15% of proven offences against the person, for Bourke and Central Darling the proportions were only 6.7% and 7.1% respectively.

Perhaps the best argument against policing as a sufficient explanation of variation in crime rates is suggested by the magnitude of the variation in conviction rates. These are so large that it is difficult to believe that they could be due to variation in policing activity. If variation in policing were sufficient to explain away the variations in conviction rates for violent offences then the police in Bourke would have to be 100 times more likely to arrest a person for an alleged offence than the police in Nymboida.

These arguments suggest that variations in policing are not sufficient to account for the observed differences in court conviction rates across LGAs. This is not to say that policing is an insignificant factor, particularly when it comes to Aboriginal communities. However, it is possible to give too much weight to the role of policing in the production of high crime rates in some areas. If we dismiss the link between Aboriginality and court conviction rates, arguing instead that the link can be explained by over-policing, then we make the assumption that the social and economic marginalization of Aborigines has no influence on their risk of committing crime. Such a proposition is in conflict with the evidence presented in the next section of this report and elsewhere (Queensland Aboriginal Co-ordination Council 1990). This evidence suggests that the social and economic marginalization associated with the often interrelated problems of discrimination, alienation, unemployment, family breakdown and inequality does contribute to the propensity to offend. As the Queensland Aboriginal Co-ordination Council (1990) report to the Royal Commission into Aboriginal Deaths in Custody makes clear, law and order problems in Aboriginal communities are only part of a more general set of fundamental social, health and political issues.

2.4 COURT CONVICTION RATES IN URBAN LGAs

Rankings for the urban LGAs for all offences against the person and all property offences are presented in Table 4 and Maps 8 and 11. Maps 9 – 10 and 12 – 14 show conviction rates for the individual offence categories. The urban LGAs with the highest rankings for violent offenders are Blacktown, Sydney, Liverpool, Marrickville and Campbelltown. On the other hand, the urban LGAs of Woollahra, Hornsby, Lane Cove, Willoughby, Mosman, Baulkham Hills and Ku-ring-gai are prominent at the bottom of the list. The highest rates for property offences also occur in the inner city suburbs and the Western suburbs. Conviction rates are very low in the North Shore LGAs. In the urban LGAs there is considerable concordance between the distributions of the various offence categories. As can be seen from Table 5, for the urban LGAs most offence categories have high positive correlations with each other. This means that rates for both the major offence groups and for the individual offence categories have very similar spatial distributions, with LGAs with high rankings on one offence having high rankings on the others. The

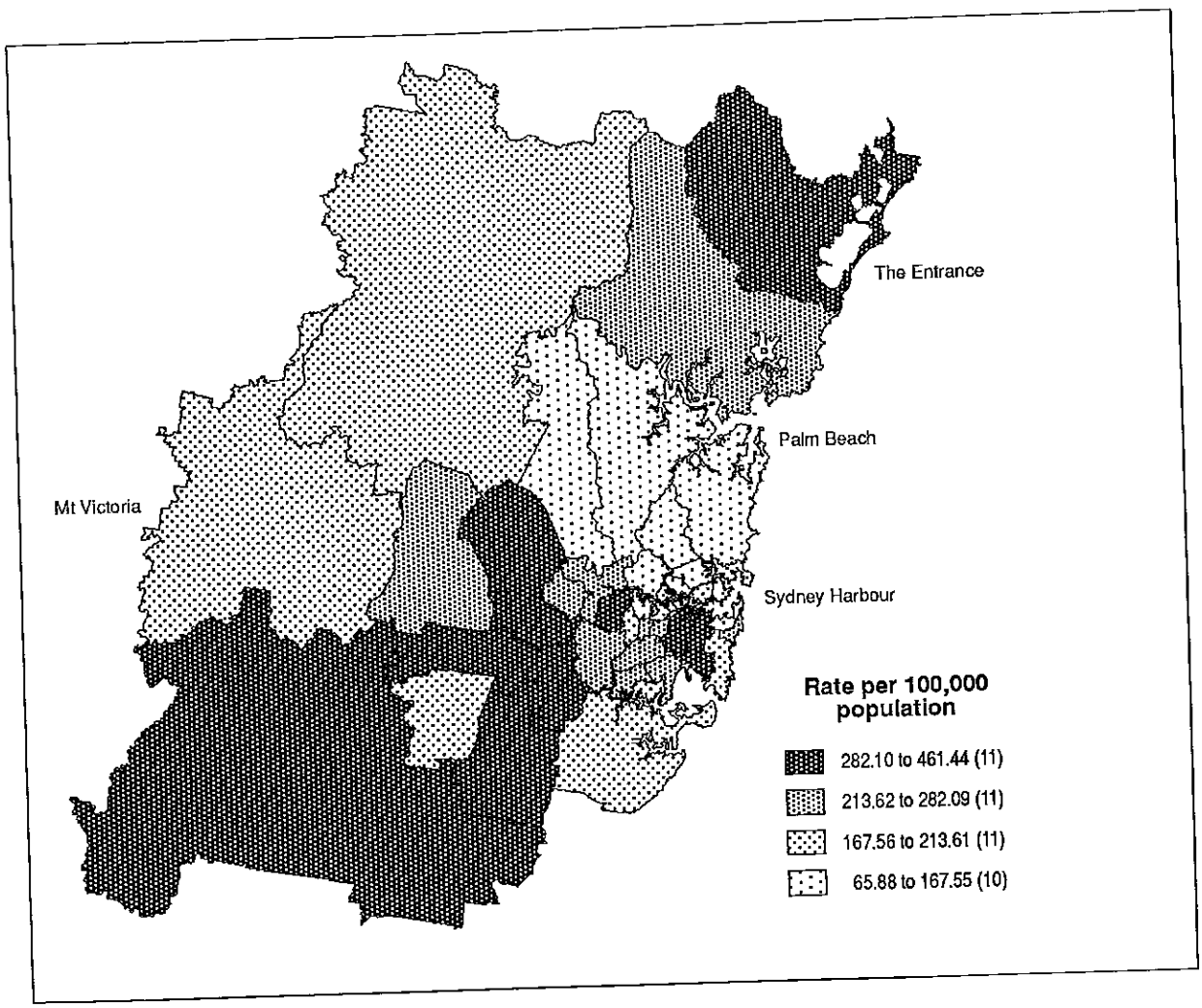
overall indicators of all offences against the person and all property offences are highly correlated with, and therefore acceptable indicators of, the individual violent and property offences analysed here.

Table 4: Sydney Statistical Division LGAs ranked in order of conviction rate for all offences against the person and all property offences
Local Court convictions in 1987 and 1988, Rate per 100,000 population

Rank	*LGA of residence of offender*	*Conviction rate for all offences against the person*	*Rank*	*LGA of residence of offender*	*Conviction rate for all property offences*
1	Blacktown	461.44	1	Sydney	897.92
2	Sydney	454.17	2	Blacktown	660.98
3	Liverpool	431.26	3	Marrickville	580.55
4	Marrickville	382.13	4	Liverpool	556.78
5	Campbelltown	374.29	5	Leichhardt	515.07
6	Botany	338.46	6	Fairfield	471.59
7	Wyong	327.80	7	Campbelltown	446.84
8	Leichhardt	319.70	8	Burwood	420.23
9	Fairfield	298.98	9	Waverley	416.06
10	Wollondilly	296.85	10	Auburn	415.72
11	Auburn	282.10	11	Ashfield	400.98
12	Holroyd	269.69	12	Canterbury	396.10
13	Ashfield	262.37	13	Wyong	378.79
14	Canterbury	262.25	14	Botany	367.64
15	Bankstown	261.27	15	Holroyd	356.61
16	Parramatta	256.15	16	Randwick	355.47
17	Rockdale	255.55	17	Rockdale	355.13
18	Hurstville	249.92	18	Penrith	350.96
19	Penrith	239.39	19	Bankstown	340.44
20	Gosford	233.35	20	Hurstville	340.09
21	Waverley	230.59	21	Camden	333.86
22	Burwood	213.62	22	Parramatta	328.79
23	Randwick	211.90	23	Wollondilly	316.91
24	Blue Mountains	209.81	24	Gosford	309.30
25	Manly	204.31	25	Manly	254.69
26	North Sydney	200.29	26	Kogarah	252.45
27	Sutherland	196.93	27	Hawkesbury	249.83
28	Camden	196.08	28	Strathfield	249.40
29	Hawkesbury	194.82	29	Drummoyne	245.06
30	Kogarah	189.34	30	Concord	239.33
31	Hunter's Hill	179.28	31	North Sydney	238.35
32	Drummoyne	173.17	32	Sutherland	199.78
33	Strathfield	167.56	33	Blue Mountains	192.59
34	Ryde	159.10	34	Woollahra	191.94
35	Warringah	151.20	35	Ryde	190.47
36	Concord	149.58	36	Baulkham Hills	163.42
37	Woollahra	131.23	37	Warringah	155.79
38	Hornsby	128.44	38	Hunter's Hill	146.69
39	Lane Cove	120.22	39	Mosman	143.52
40	Willoughby	107.91	40	Willoughby	136.82
41	Mosman	100.85	41	Hornsby	125.04
42	Baulkham Hills	96.30	42	Lane Cove	113.35
43	Ku-ring-gai	65.88	43	Ku-ring-gai	98.81

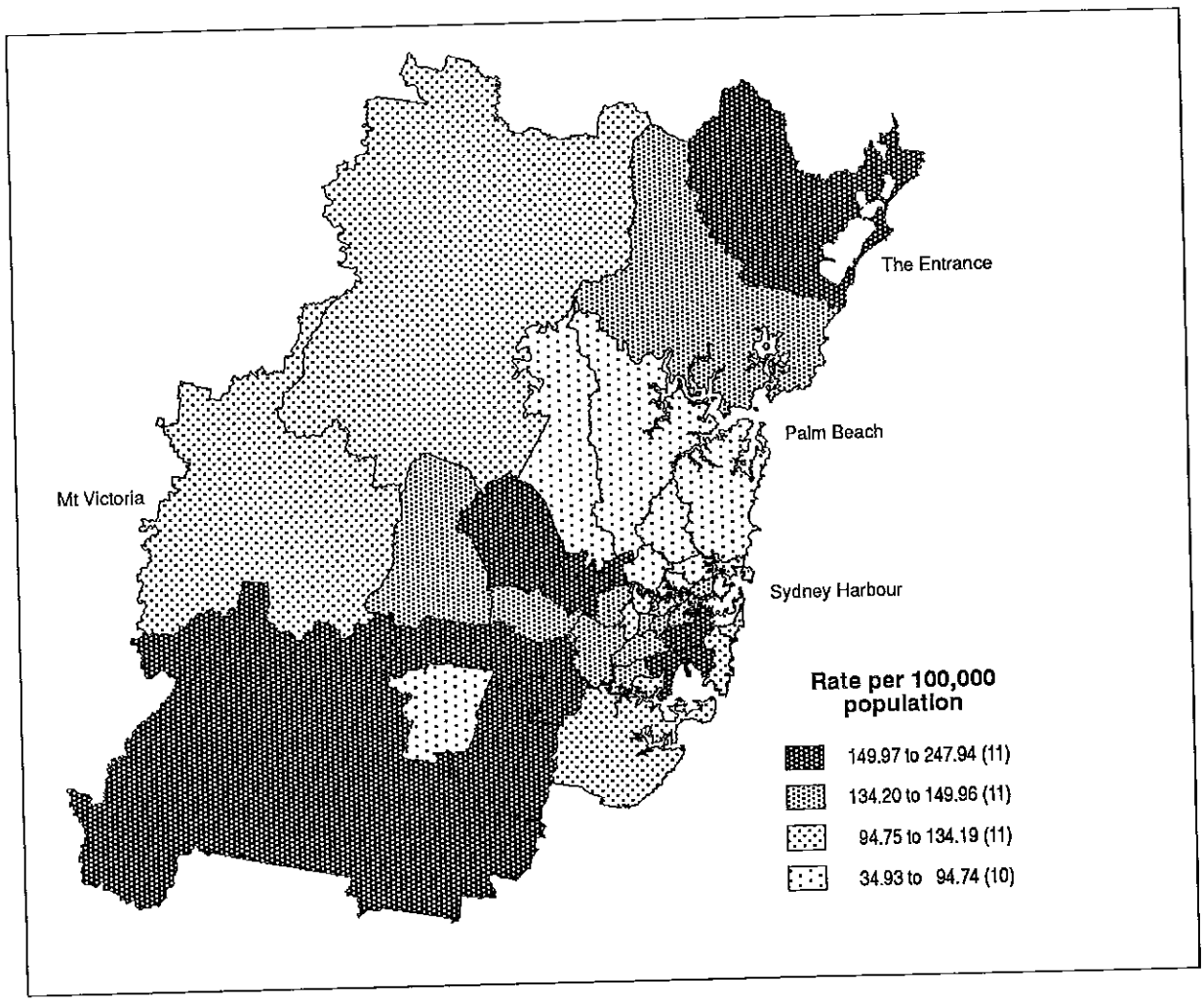
Map 8: All offences against the person, Local Courts, 1987 and 1988 Sydney LGAs

Convicted offenders, Rate per 100,000 population



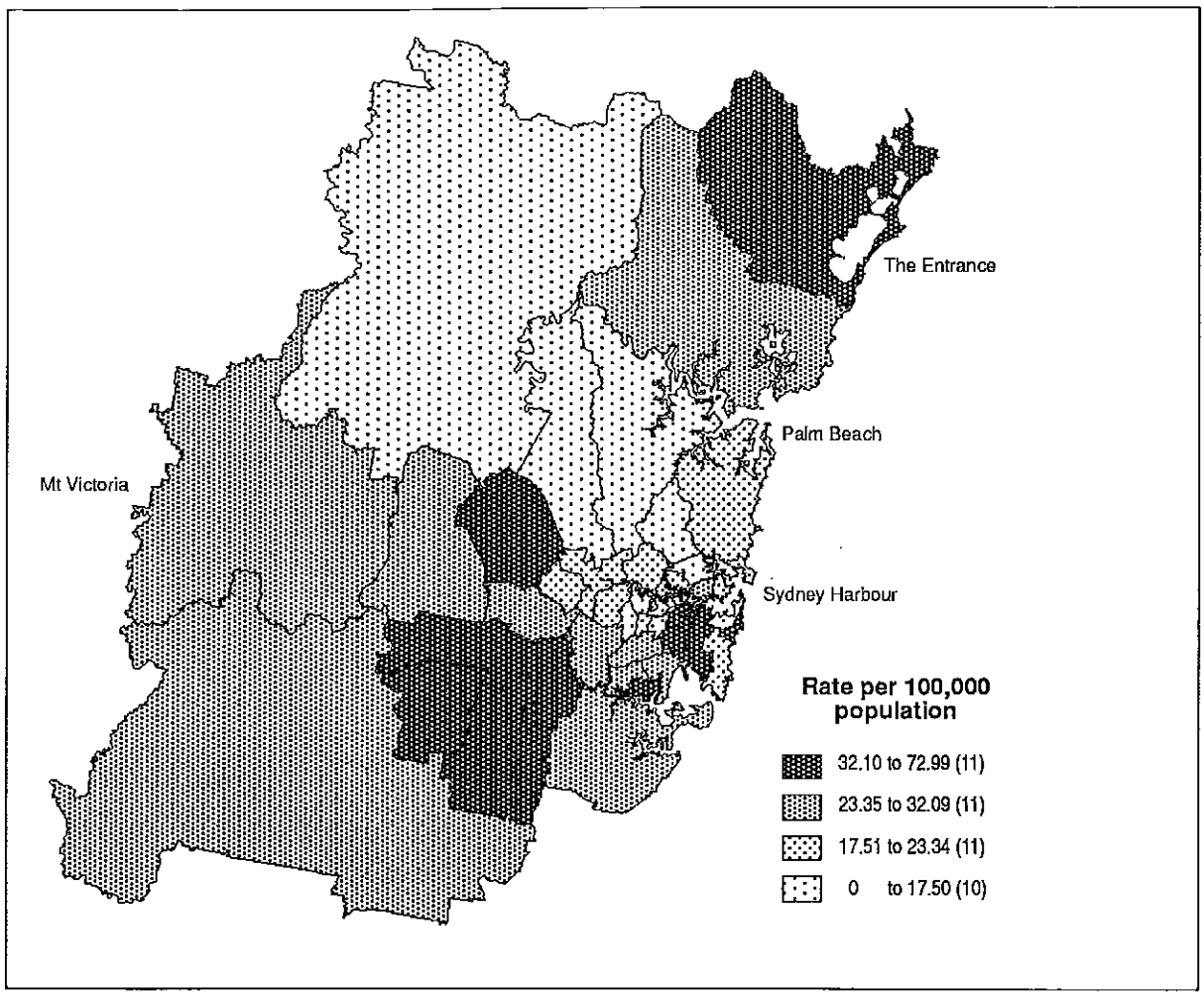
Map 9: Common assault, Local Courts, 1987 and 1988
Sydney LGAs

Convicted offenders, Rate per 100,000 population



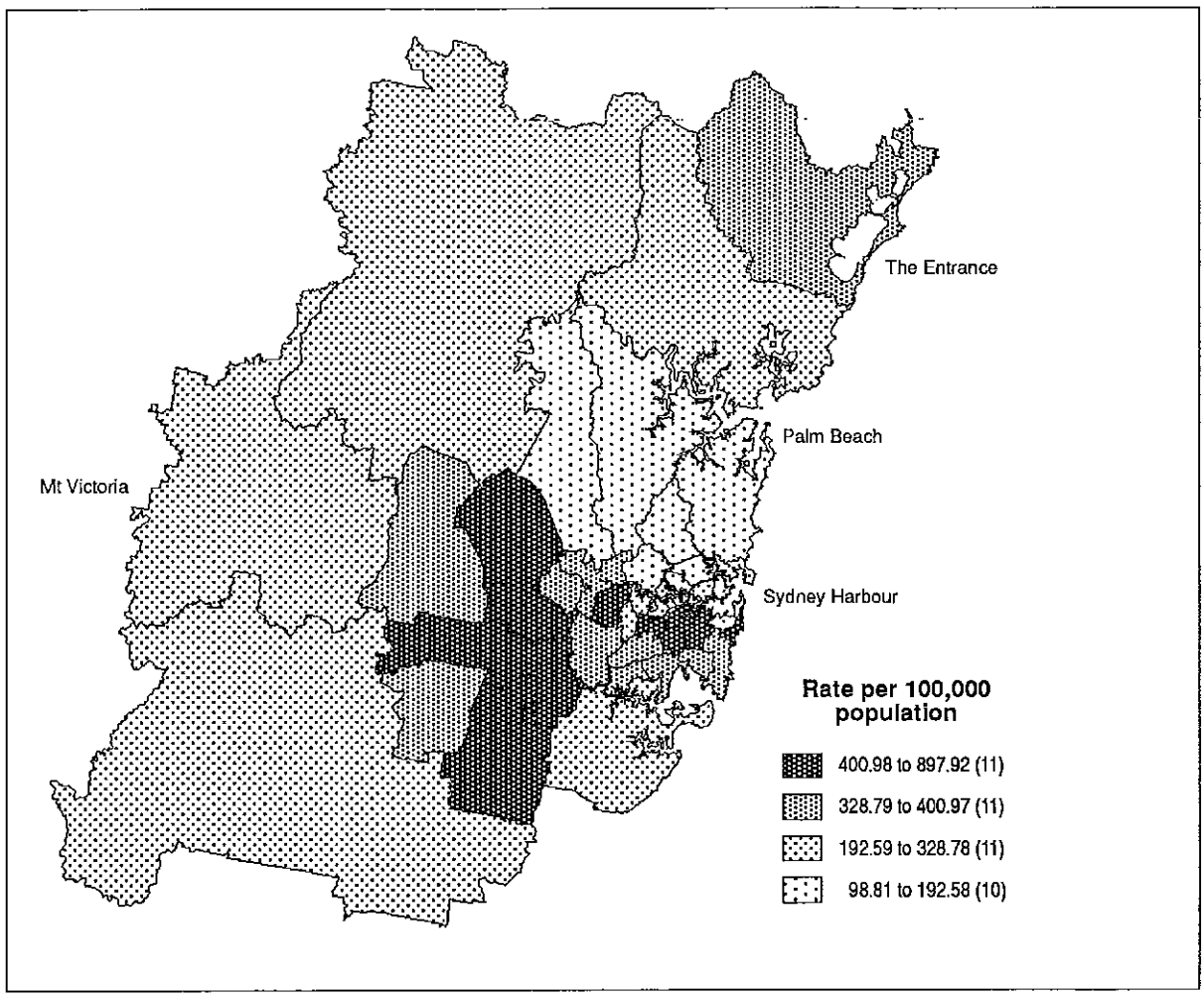
Map 10: Assault, actual bodily harm, Local Courts, 1987 and 1988 Sydney LGAs

Convicted offenders, Rate per 100,000 population



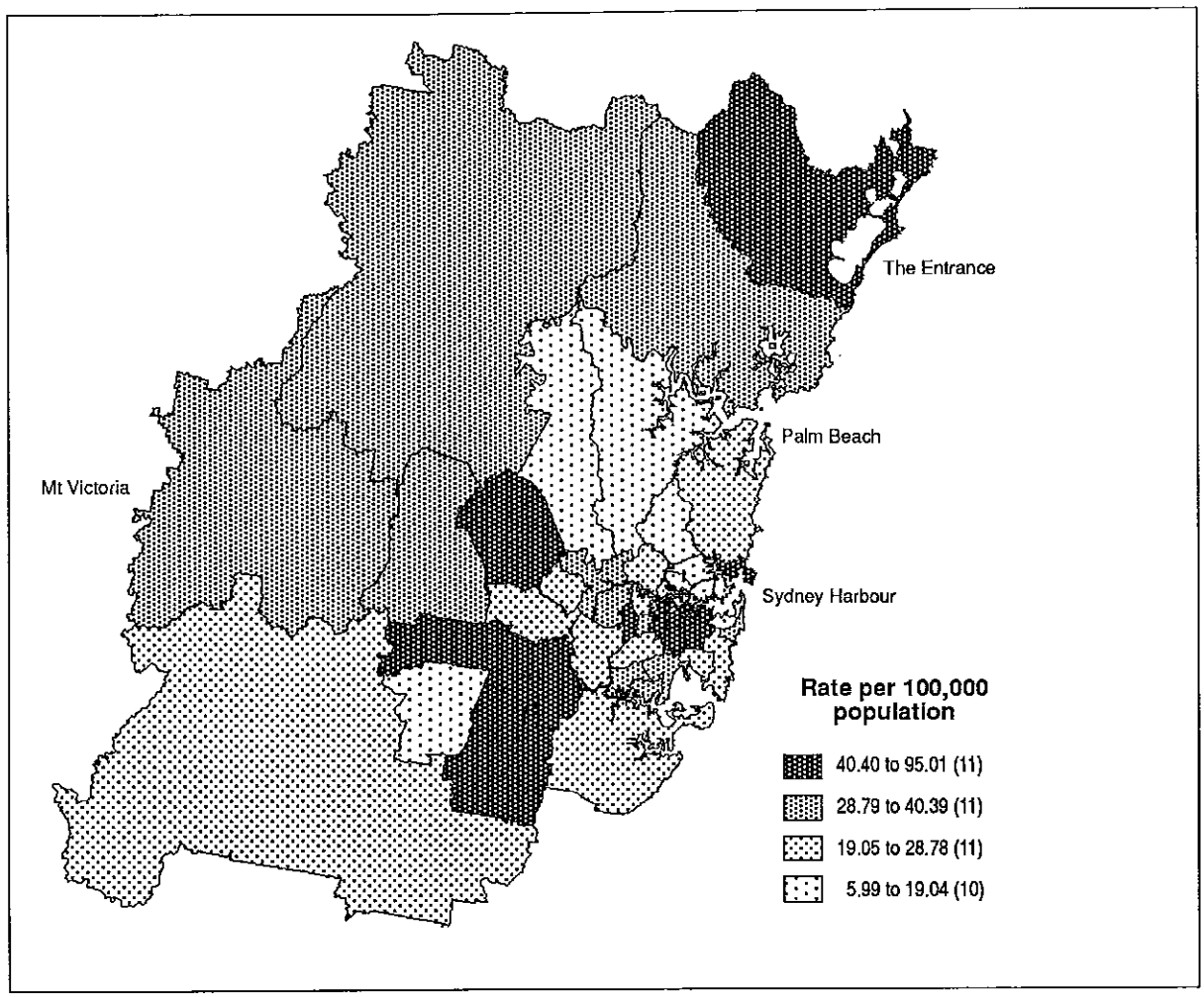
Map 11: All property offences, Local Courts, 1987 and 1988 Sydney LGAs

Convicted offenders, Rate per 100,000 population



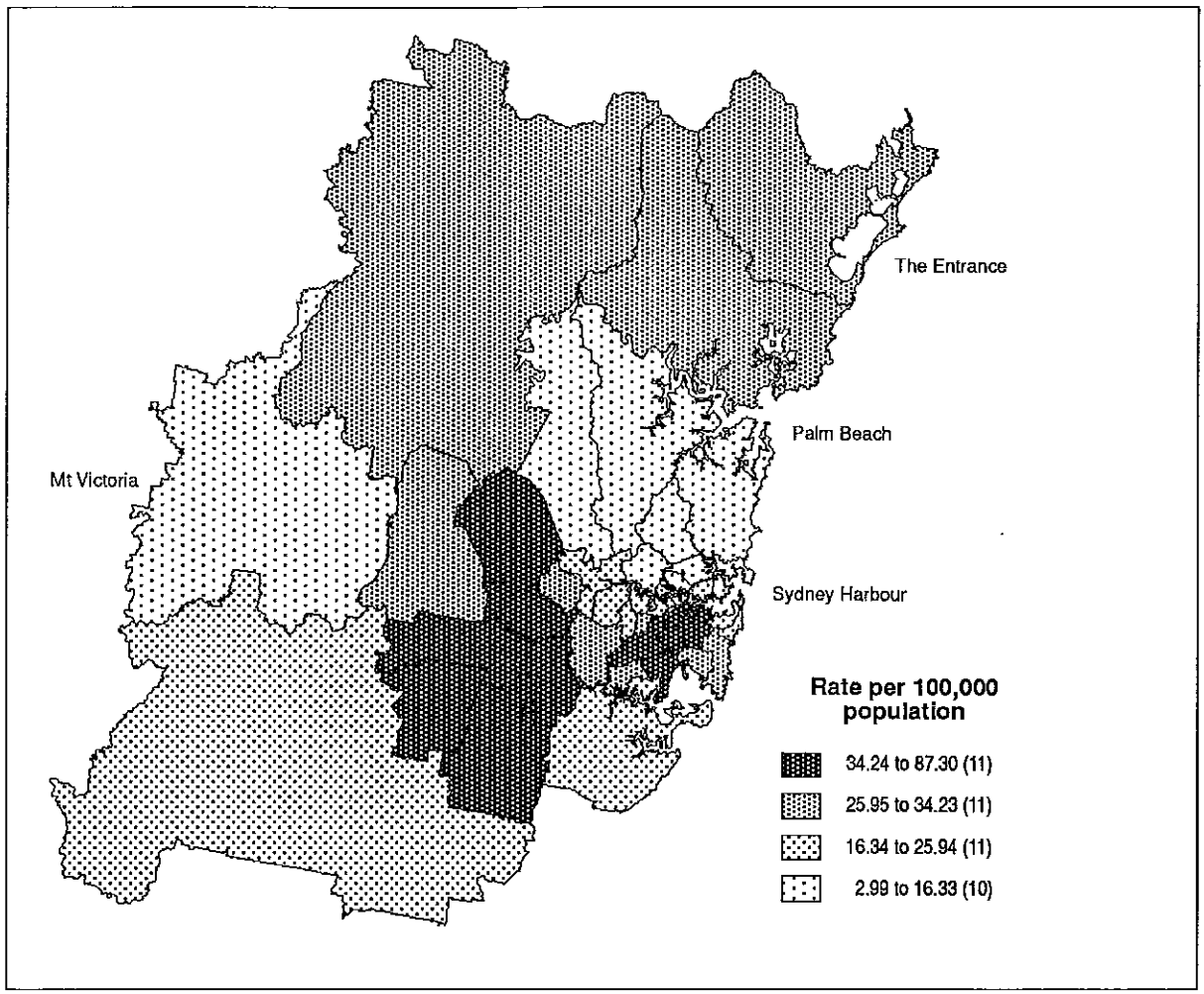
Map 12: Break, enter and steal, Local Courts, 1987 and 1988 Sydney LGAs

Convicted offenders, Rate per 100,000 population



Map 13: Motor vehicle theft, Local Courts, 1987 and 1988 Sydney LGAs

Convicted offenders, Rate per 100,000 population



Map 14: Larceny, Local Courts, 1987 and 1988
Sydney LGAs

Convicted offenders, Rate per 100,000 population

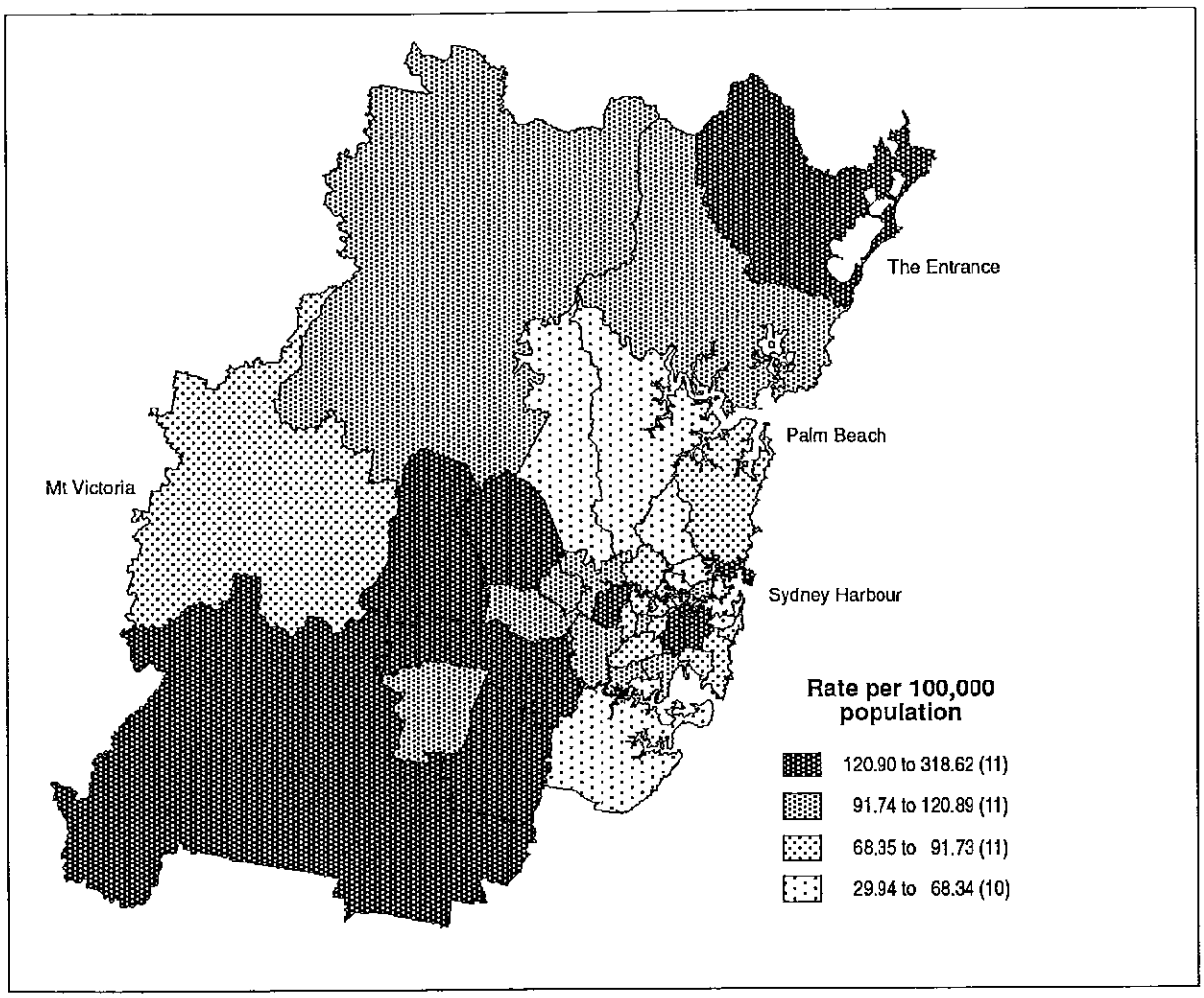


Table 5: Rank correlation matrix of conviction rates per 100,000 population for various offence categories across Sydney LGAs, 1987 and 1988

	All offences against the person	Common assault	Assault, actual bodily harm	All property offences	Break, enter and steal	Motor vehicle theft	Larceny
All offences against the person	1.00	0.95	0.71	0.91	0.70	0.80	0.84
Common assault		1.00	0.60	0.83	0.68	0.75	0.84
Assault, actual bodily harm			1.00	0.65	0.49	0.56	0.64
All property offences				1.00	0.73	0.81	0.82
Break, enter and steal					1.00	0.56	0.70
Motor vehicle theft						1.00	0.68
Larceny							1.00

One feature of Table 5 is the fact that the lowest correlation within the property offences is between break, enter and steal and motor vehicle theft. This is interesting because it might be supposed that the same sorts of offenders are responsible for both of these offence categories. Examination of the ranks of the urban LGAs for these offence categories (Appendix 1) reveals some interesting differences. Whereas the same LGAs appear at the top (Sydney, Blacktown, Marrickville and Liverpool) and bottom (Lane Cove, Hornsby and Ku-ring-gai), Drummoyne and Strathfield rank 6 and 7 of the Sydney LGAs for break, enter and steal offenders, but only 33 and 25 of the urban LGAs for motor vehicle theft. Manly ranks 10 for break, enter and steal, but 42 out of 43 LGAs for motor vehicle theft.

3. LOCAL COURT CONVICTION RATES AND THEIR SOCIAL AND ECONOMIC CORRELATES IN NSW LGAs

Having described some of the variations apparent in conviction rates in NSW LGAs and argued that the patterns cannot be accounted for solely by variations in policing, the next question is the extent to which these variations can be accounted for by social and economic factors. In this section we compare the rankings of LGAs in terms of conviction rates with their rankings on a set of indicators measuring a range of socio-economic characteristics. The calculation of Spearman's rank correlation coefficient (Rs) provides a convenient measure of the similarity of rankings on two such scales.[20] The coefficient ranges from -1, indicating that cases rank high on one scale and low on the other, through 0, indicating no relationship, to +1, indicating that cases rank high on both scales. For example, if we compare the rankings of LGAs on conviction rates and unemployment, the rank correlation coefficient can tell us whether LGAs with high unemployment also have high conviction rates (as indicated by a positive coefficient). Similarly, comparing conviction rates and income, we should find that, if the class-crime hypothesis is true, LGAs with large numbers of high income earners will tend to have low conviction rates, indicated by a negative coefficient. At this stage we are not too concerned with separating out the independent contributions of the socio-economic factors. Rather we want to draw some general conclusions about the social characteristics of LGAs that have high conviction rates.

Variables in five categories were examined. Definitions of the variables are provided in Appendix 2. The categories were (i) socio-economic status, (ii) family status, (iii) housing and neighbourhood stability, (iv) immigration and (v) age. These categories are not necessarily independent, so we would expect them to be correlated with each other. For example, housing is associated with socio-economic status, since income is a powerful control of housing choice.

The socio-economic status variables examined were indicators of income (the percentage of families with income less than $12,000), unemployment (the percentage of the labour force unemployed), youth unemployment (the percentage of the labour force aged 20 – 24 who were unemployed), and occupational status (the proportion of the labour force who were professionals and the proportion of labourers and plant and machine operators). The proportion of the population who are Aboriginal was also included because, in general, Aborigines represent a minority who suffer particularly poor economic conditions (Ross and Whiteford 1990), and because the high conviction rates in LGAs in the North West of the State suggested that this factor might be important.

A number of indicators of family status are available from the census. Variables included in this analysis are the proportion of single parent families, the proportion of couples who lived in de facto relationships and the proportion aged greater than 15 who were divorced or separated.

Studies of the ecological structure of large cities (Timms 1971) have found that patterns of family status variables are often similar to patterns of housing tenure and neighbourhood stability. A measure of housing tenure (the proportion of public renters) and a measure of neighbourhood stability (the proportion of individuals counted at the same address in

the 1981 Census) were included because traditional ecological studies of crime have identified public housing and neighbourhood instability as correlates of crime (Bursik 1988). These variables are associated with the life-cycle changes that accompany family formation and dissolution.

Overseas studies (Bursik 1988) have identified areas with high proportions of overseas born as being associated with high crime rates. This is because urban areas with high migrant populations are often the low socio-economic status areas of the city. The proportion of overseas born was therefore included as a variable in this study.

Because variations in the proportion of the population in the high crime age groups has been argued to be an important factor in the production of crime rates, an indicator of the proportion of the population aged 18 – 24 was included in the analysis.

3.1 CORRELATIONS BETWEEN CENSUS VARIABLES AND CONVICTION RATES ACROSS LGAs IN THE SYDNEY STATISTICAL DIVISION

In all, 12 variables from the census were examined. The rank order correlation coefficients for each of these census variables and conviction rates for the 7 offence categories across the 43 LGAs in the Sydney Statistical Division are shown in Table 6.

Table 6: Rank correlations for selected conviction rates and socio-economic indicators for Sydney LGAs[1]

	Conviction rates						
Socio-economic indicator	*All offences against the person*	*Common assault*	*Assault, actual bodily harm*	*All property offences*	*Break, enter and steal*	*Motor vehicle theft*	*Larceny*
Poor families	0.90	0.84	0.63	0.90	0.73	0.77	0.78
Unemployment	0.87	0.83	0.60	0.89	0.66	0.70	0.77
Professionals	-0.68	-0.67	-0.38	-0.61	-0.36	-0.58	-0.58
Labourers	0.83	0.84	0.43	0.80	0.53	0.70	0.71
Aborigines	0.88	0.82	0.62	0.81	0.68	0.76	0.80
Single parent families	0.66	0.57	0.58	0.65	0.52	0.50	0.62
Divorced or separated	0.35	0.30	0.49	0.35	0.45	0.20	0.36
De facto couples	0.13	0.07	0.23	0.16	0.28	0.08	0.24
Stability	-0.23	-0.17	-0.31	-0.25	-0.20	-0.16	-0.36
Public renters	0.68	0.67	0.33	0.60	0.48	0.70	0.48
Overseas born	0.20	0.17	0.03	0.38	0.13	0.14	0.05
Aged 18 – 24	0.36	0.30	0.12	0.50	0.29	0.29	0.27

[1] The 0.05 level of significance is indicated by a rank correlation greater than ± 0.30.

On the face of it, Table 6 provides evidence that socio-economic status variables such as income, labour force status and unemployment and some family status variables are associated with conviction rates in the urban LGAs. LGAs with high conviction rates tend to have high proportions of poor families, high unemployment rates, a low proportion of the labour force employed as professionals, a high proportion of labourers and plant and machine operators, a high proportion of Aborigines, and a high proportion of single parent families. There was a small correlation between conviction rates and the proportion of individuals who were divorced or separated, and no relationship between the proportion of de facto couples and conviction rates. Neighbourhood stability (as measured by the proportion of persons counted at the same address at the 1981 Census) was associated with low conviction rates for assault occasioning actual bodily harm and larceny, although the relationship is weak. The effect of this variable is confounded by the fact that some LGAs with high conviction rates have low neighbourhood stability, such as Sydney, Campbelltown and Wyong, while some high status LGAs with low conviction rates also have low neighbourhood stability, such as Woollahra and Mosman. The relationships between conviction rates and the proportion born overseas were not statistically significant for any individual offence category, indicating no consistent relationship between high proportions of overseas born and high court conviction rates. For age, the correlation with conviction rates ranged from not significant for assaults occasioning actual bodily harm, break, enter and steal and motor vehicle theft to moderate for all property crime.[21]

It must be stressed that, on its own, the observed high correlations do not establish that it is the members of single parent families, or Aborigines, or young people in the areas with high conviction rates who are the offenders responsible for the high rates. Aborigines, for example, constituted only 0.55% of the population of the Sydney LGAs at the 1986 Census, with Blacktown having the highest proportion of Aborigines at 1.61%.[22] That is, even if Aborigines are substantially over represented before the Local Courts, then this over representation by itself will not be sufficient to explain the correlation between per cent Aboriginal and rate of convictions. We have no way of knowing the extent of over representation of Aborigines before the Local Courts in the urban LGAs, although Cunneen and Robb (1987) demonstrated such over representation in the North Western Statistical Division. In the Sydney LGAs Aboriginality is functioning as an indicator of the factor which is associated with Local Court convictions. Since low-social status variables are also correlated with convictions, and since studies have continually identified Aborigines as one of the most disadvantaged groups in the community, it is probable that the relationship between Aboriginality and conviction rates is, at least in part, due to the fact that Aborigines live in areas that have many low socio-economic status individuals. Put simply, rates of offending among the Aborigines may be high, but this stems from their low position in the socio-economic scale.[23] In the Sydney LGAs, it is probable that offending among non-Aboriginals is high in those areas with high proportions of Aboriginals. Thus, the proportion of Aborigines in the population of specific LGAs will function as an indicator of offending by non-Aborigines as well as by Aborigines. Because Aborigines in the Sydney LGAs represent only a small proportion of the population, in all probability they constitute only a small proportion of the offenders.

The lack of a relationship between the proportion born overseas and conviction rates is due to the fact that while some LGAs like Sydney and Marrickville have high proportions of overseas born and higher conviction rates, other LGAs with high conviction rates, like Blacktown, Liverpool, Campbelltown, Botany and Wyong, are characterized by low to

moderate proportions of overseas born. In addition, at the LGA level there is no clear relationship between the proportion of overseas born and socio-economic status, with the highest status LGAs like Ku-ring-gai, Mosman and Woollahra having moderate proportions of overseas born and the lower status LGAs tending to have either high or low proportions of overseas born. Woollahra, for example, has a higher proportion of overseas born (37.0%) than either Blacktown (25.6%) or Liverpool (27.6%). At a lower level of analysis (448 suburbs) Horvath et al. (1989, p. 86) found that the poorest urban suburbs (for example Waterloo, Airds, St Marys and Penrith) tended to be those with the lowest proportions of overseas born.

Similarly, the proportion of the population aged 18 – 24 was not consistently associated with conviction rates in the urban LGAs. Many of the inner urban LGAs with high conviction rates had relatively high proportions of this age group, as did some of the outer LGAs with high conviction rates like Liverpool and Fairfield. On the other hand, other outer LGAs like Campbelltown, Camden, Blue Mountains and Wyong which had high conviction rates, had low values for this variable. That is, variation across LGAs in the number of people in the age group most likely to appear before the court is not in itself a sufficient explanation of variation in conviction rates in the urban LGAs.

3.2 CORRELATIONS BETWEEN CENSUS VARIABLES AND CONVICTION RATES ACROSS LGAs IN NSW COUNTRY STATISTICAL DIVISIONS

When it comes to the country areas the close relationship between socio-economic status and conviction rates found in the urban LGAs is not apparent (Table 7). For example, the relationship between the proportion of poor families and conviction rates in country LGAs was not significant, except for all property offences and larceny where correlations were small and negative. That is, these crimes were weakly associated with lower proportions of poor families, the opposite relationship to that hypothesized. There is a stronger relationship with unemployment, which has a significant positive association with conviction rates for all property offences, break, enter and steal, and larceny.

On the other hand, conviction rates for all categories had positive relationships with the proportion of the population who are Aboriginal and single parent families and the proportion of households who are public renters, all of which we have identified as indicators of the presence of groups that are disadvantaged. In the country LGAs the pattern of relationships between the other indicators of family disruption and conviction rates was different from that observed in the urban LGAs. In the country the proportion of de facto couples was more strongly related with conviction rates than was divorce and separation. It is possible that de facto relationships have different meanings in the metropolitan and country areas. In metropolitan areas de facto relationships may be more accepted as an alternative to the traditional marriage relationship. If this is so, in urban areas the proportion of de facto relationships would not be as useful an indicator of family status as in country areas. However, it is likely that aggregation problems affect both family variables and socio-economic status variables in country areas. Interestingly, the proportion of the population aged 18 – 24 was a somewhat better indicator of conviction rates in the country LGAs than in the urban LGAs, with the relationship being stronger for offences against the person than for property offences.

Table 7: Rank correlations for selected conviction rates and socio-economic indicators for NSW LGAs outside the Sydney Statistical Division[1]

	Conviction rate						
Socio-economic indicator	*All offences against the person*	*Common assault*	*Assault, actual bodily harm*	*All property offences*	*Break, enter and steal*	*Motor vehicle theft*	*Larceny*
Poor families	0.01	0.01	0.05	-0.19	0.05	0.01	-0.21
Unemployment	0.17	0.17	0.05	0.33	0.29	0.05	0.30
Professionals	-0.13	-0.15	-0.14	0.17	0.05	-0.05	0.18
Labourers	0.16	0.17	0.09	0.03	0.01	0.05	0.08
Aborigines	0.45	0.41	0.30	0.37	0.52	0.26	0.31
Single parent families	0.41	0.36	0.20	0.48	0.36	0.27	0.42
Divorced or separated	0.18	0.17	0.10	0.35	0.15	0.07	0.30
De facto couples	0.33	0.25	0.34	0.35	0.33	0.19	0.31
Stability	0.00	-0.04	-0.14	-0.22	-0.07	-0.01	-0.24
Public renters	0.49	0.41	0.33	0.36	0.37	0.27	0.28
Overseas born	-0.05	-0.04	0.01	0.17	-0.02	-0.09	0.18
Aged 18 – 24	0.53	0.49	0.36	0.41	0.29	0.27	0.34

[1] The 0.05 level of significance is indicated by a rank correlation greater than ± 0.18.

The failure of indicators of socio-economic status to be significantly correlated with conviction rates in the country LGAs demands some explanation, especially given the strength of such relationships in the Sydney LGAs. This finding parallels a body of overseas research which has failed to find associations between socio-economic status and crime rates in rural areas, even though such associations have been commonly found by studies of urban areas. Having noted the failure of socio-economic status variables to correlate with indicators of crime in rural areas, Box and Ford (1971, p. 39) suggested that 'in non-urban areas class differentiation may not have developed sufficiently for it to result in distinctive ways of acting, thinking and feeling'. In contrast to this explanation, country LGAs in NSW do vary significantly in terms of the variables used to define socio-economic status or class. This is indicated by correlations between the variables for the country LGAs in Appendix 3. For example, the proportion of professionals correlated (-0.58) with the proportion of poor families and with the proportion of the labour force who are labourers (-0.34), the directions of the correlations being consistent with those expected for the socio-economic status dimension. The magnitudes of these correlations across the country LGAs are, however, smaller than the corresponding correlations in the urban LGAs. This indicates some consistent variation in the proportions of these groups across the country LGAs, and suggests that class differentiation is apparent at LGA level in country NSW.

There is, however, a substantial difference in the amount of residential segregation[24] captured at the LGA level of measurement in the Sydney Statistical Division compared with the rest of the State. Most LGAs in the city capture residential segregation in a quite significant way. For example, the LGA of Woollahra, which includes some of the wealthiest inner city suburbs and which has low conviction rates, and the adjoining Sydney LGA, which contains some of the poorest suburbs and has very high conviction rates, rank quite differently in terms of their socio-economic characteristics. This difference is quite effectively captured when census data are aggregated to LGA level. By comparison, in the towns in a country LGA the characteristic residential differentiation may be found at the level of a number of town blocks, and is lost in the aggregation of census data to LGA level. It is also possible that from time to time primary producers report very low incomes in the census. That is, certain areas in the country may record large numbers of income poor families who are asset rich. The consequences for the crime rates in a country area with a large number of people living on farms with low incomes are likely to be very different from, say, the consequences of the presence of economically marginalized and chronically unemployed Aborigines. Similarly, the criminogenic consequences of unemployment, are likely to be different for Aborigines in the Western LGAs than for alternative lifestylers who live in LGAs like Byron or Lismore. This is particularly relevant in this case because LGAs on the North Coast of NSW like Byron have the highest unemployment rates recorded in NSW at the census. Byron is an interesting case: although it ranked 1 in terms of unemployment, it also ranked 11 in terms of the proportion of professionals in the labour force. In urban LGAs, residential differentiation is much more distinct and areas with high unemployment rates will tend to have low proportions of professionals. It is probable that the same sorts of factors operate when crime statistics are counted at LGA level. In some country LGAs there may be small areas which have very high rates of offending. When the number of guilty findings for these communities are added to the number of guilty findings for the rest of the LGA, and a rate calculated for the whole LGA, the result might be the same as the rate for an LGA with a moderate, but uniformly distributed conviction rate.

When we consider the rankings for the North Western LGAs on various socio-economic indicators it is clear that the inability to distinguish the socio-economic variation that exists within LGA boundaries is a major problem. For example, the Unincorporated Far West ranked 4 in terms of the proportion of individuals earning more than $50,000 but 12 in terms of unemployment. Walgett ranks 37 on the unemployment scale, but 11 in terms of the proportion of families with income of $12,000 or less. It is possible that wealthy graziers make up a significant proportion of the persons with high incomes in these areas. Unless data on residential differentiation is available at a very low level of aggregation[25] it would appear that socio-economic status, as measured by occupation, education or income variables, is not as useful an empirical construct in rural areas as it is in urban ones.

That socio-economic status is an important factor in explaining Local Court conviction rates in country areas is suggested by the census variables that do correlate moderately to strongly with conviction rates in the country LGAs. These include the proportion of single parent families, the proportion of households who are public renters, and the proportion of the population who are Aboriginal. All of the these variables are reasonable indicators of poverty, and it is possible that in rural areas they isolate more effectively economically marginalized groups who are at risk of appearing before the courts than do standard measures of income or occupational differentiation. It has been suggested that socio-economic status variables which measure the extreme tail of the income distribution

are better indicators of the tendency to offend because they better describe the range of socio-economic status in which crime is supposed to be concentrated (Gordon 1967). As in the urban LGAs, indicators such as the proportion of Aboriginals, the proportion of single parent families and the proportion of public housing renters point to the most disadvantaged groups in the country LGAs.

In support of this, a recent study by Ross and Whiteford (1990) found that nearly half of all Australian Aboriginal children are in families with incomes below the poverty line and two-thirds are in poverty or near poverty. Ross and Whiteford (1990, p. 24) suggest that the proportion of Aboriginal children who are in single parent families or in large families is much higher than in the non-Aboriginal population, and that poverty rates for Aboriginal single parent families were between 10% and 20% higher than among non-Aboriginal single parent families. Furthermore, unemployment particularly affects Aboriginal families: almost 50% of Aboriginal families with children were found to have no employed adults, compared with less than 20% of non-Aboriginal families. It should be noted that poverty is almost as pervasive among non-Aboriginal sole parents with three or more children (Ross and Whiteford 1990 p. 15).

Aborigines, then, are subject to multiple deprivation. That is, they are more likely to be unemployed, more likely to be in poverty and more likely to live in single parent families. When the effects of social marginalization and discrimination are considered along with the manifest economic marginalization of Aboriginal communities, it is not surprising that the highest rates of Local Court convictions occur in LGAs where a high proportion of the population are Aboriginal. Certainly, earlier research published by the Bureau indicates that, at the individual level, Aborigines are over represented before the courts. Cunneen and Robb (1987, ch. 4 – 5) found that Aborigines were substantially over represented in terms of arrest and court appearances in LGAs in the North Western Statistical Division. In Brewarrina, Aborigines constituted up to 87.7% of the persons appearing before the Local Courts in 1986, while in Wellington 43.5% of persons who appeared were Aboriginal. In the case of Brewarrina, Aborigines were over represented by a factor of 1.8 and in Wellington by a factor of 6.0 compared with the proportion of Aborigines in the population of these LGAs (Cunneen and Robb 1987, p. 113). That is, in these North Western LGAs with very high appearance rates, Aborigines were disproportionately represented and constituted a significant proportion of appearances.

4. MULTIVARIATE ANALYSIS OF SOCIAL STRUCTURE AND CONVICTION RATES

The analysis in the previous section found that a number of socio-economic factors are associated with Local Court conviction rates. For example, in the urban LGAs, variables measuring various aspects of socio-economic status and family status were found to be associated with conviction rates. In the country LGAs variables such as single parent families, de facto relationships and age were more closely associated with Local Court convictions than were the standard measures of socio-economic status. We have suggested that these variables may be functioning as more sensitive indicators of socio-economic status in country areas, due to the fact that urban LGAs capture socio-economic covariation more closely than country LGAs. It has been suggested that family status is often associated with poverty. As a result it is possible that the effects of family status on conviction rates are due to the tendency of family breakdown to result in lowering of socio-economic status. Underlying this problem is the fact that many social indicators are correlated with each other, and so it can be difficult to untangle the effects of individual socio-economic variables on conviction rates from their effects on each other.

This is understandable: it would be naive to expect that a range of aspects of social life will not be interrelated in complex ways. Indeed, it may even be artificial to inquire into the effects of other aspects of social reality on crime without also considering the role of crime as a causal agent in itself. Without tackling this thorny problem, in this section an attempt is made to see if we can summarize the variation in 22 variables measuring various aspects of social structure in urban and rural areas. That is, we attempt to reduce these variables into a smaller set of factors or components that describe fundamental aspects of social structure as measured at LGA level. Examining the way in which the independent variables covary allows us to get a feeling for the way in which variation on a range of indicators is associated with conviction rates.

The variables examined in this section are: per cent with no qualifications, per cent labourers, per cent aborigines, per cent unemployment, per cent poor families, per cent youth unemployment, per cent public renters, per cent aged 65+, per cent professionals, per cent high income earners, per cent university degrees, per cent divorced or separated, per cent de facto couples, per cent single parent families, per cent employed in retail/ wholesale, persons per dwelling, proportion of persons counted at the same address at the 1981 Census, per cent overseas born, per cent no or poor English, per cent aged 18 – 24, per cent aged 0 – 15 and per cent Australian born. Full definitions of these variables can be found in Appendix 2.

The technique employed is principal components analysis with varimax rotation.[26] In simple terms this technique creates new variables that can summarize much of the variation in the original data set. The advantage of these new variables, or components, is that they are orthogonal, or uncorrelated with each other. This means that the components can be correlated against the conviction rates without intercorrelation of the independent variables clouding interpretation. The utility of the new variables, or components, depends on their interpretability. Interpretation is a two stage process that depends on the examination of the component loadings between the original variables and the components, and component scores, or scaled values of the new variables for each case.

4.1 SYDNEY LGAs

For the urban LGAs three components were extracted from a Spearman's rank correlation matrix and rotated.[27] The component loading matrix is shown in Table 8. Each component is a linear combination of the original variables. The coefficients in Table 8 are standardized to have values between -1 and 1 and indicate the relative importance of each variable in the calculation of the components. The three components extracted can be readily interpreted as socio-economic status, family status and ethnic status. That is, component 1 tends to load strongly with variables measuring various aspects of socio-economic status such as education, income and employment. **Because the loadings are positive for variables that indicate low status, a high positive score on component 1 will indicate areas that have low socio-economic status.**[28] Component 2 can be interpreted as family status because it loads strongly with variables such as the proportion of divorced and separated, the proportion of de facto couples, the proportion of single parent families and neighbourhood stability. Areas with high scores on this component will tend to have higher numbers of divorced and separated, de facto couples and single parent families, lower numbers of persons per dwelling and low neighbourhood stability. Interestingly, single parent families also load moderately on component 1 (socio-economic status), while unemployment and poor families have low loadings on component 2. These results indicate that there is a relationship between family status and economic status, and that it may be difficult to separate their effects. In other words, single parent families are important indicators of both family status and socio-economic status. The third component has strong positive loadings on the proportion of overseas born, the proportion of overseas born who are poor or non English speakers, and a strong negative loading on the proportion with both parents born in Australia (at least second generation Australians). The proportion of the population aged 18 – 24 loads moderately on this component. Thus we have three factors or dimensions along which social and economic variation among urban LGAs may be characterized. Of these most of the total variance of the original data set is explained by component 1 (socio-economic status) which accounts for 42.6% of the total variance. Component 2 (family status) accounts for 25.7% of the total variance of the data set and Component 3 (ethnic status) accounts for 13.8% of the total variance. The question we must now address is whether any or all of these factors are useful as predictors of the spatial distribution of crime rates.

It is worth pointing out that many researchers have employed principal components and factor analytic techniques in the study of urban differentiation in different cities across the world. The extraction of three factors corresponding to those presented here is a feature of many of these studies. As Timms (1971, p. 55) has commented: 'A factor interpreted as socio-economic status seems to be effectively universal. A set of differences in the family types characteristic of the population is also generally apparent. Factors relating to the ethnic composition of the population and to its mobility characteristics occur rather less frequently but sufficiently often to warrant their inclusion as general differentiating characteristics'. Horvath et al. (1989) found that three similar dimensions could encompass social differentiation in Sydney using 448 suburbs and a different set of indicators derived from the 1986 Census as the basis of their analysis.

Map 15 shows the urban differentiation of Sydney on the socio-economic status dimension. Dark areas on this map indicate low socio-economic status. This dimension effectively picks out the working class suburbs of the inner West and inner South, and marks the band of working class LGAs through Canterbury and Bankstown, to the Western Suburbs

Table 8: Rotated component coefficient matrix for Sydney LGAs

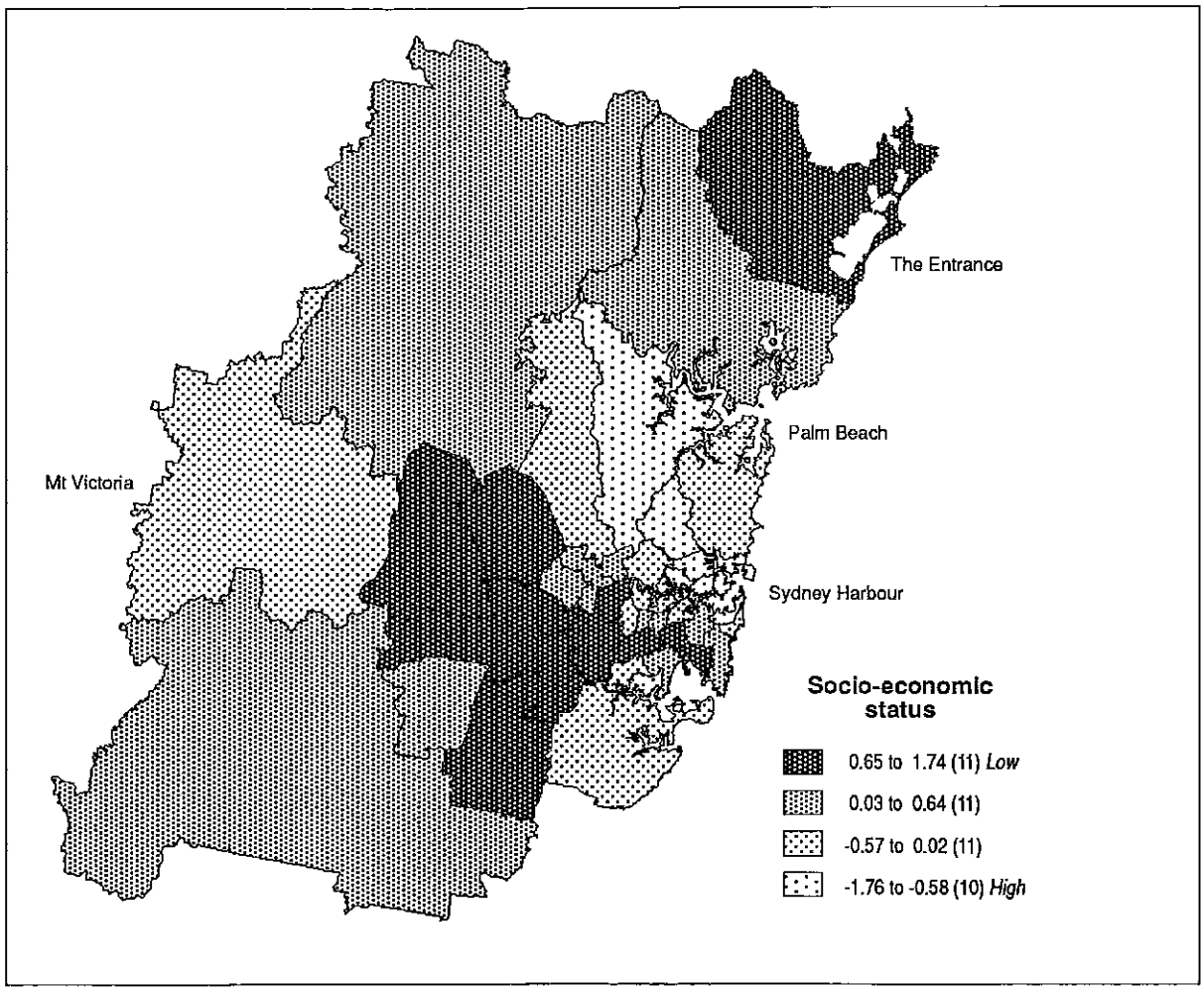
Variable	*Component 1* *Low socio-economic status*	*Component 2* *Family status*	*Component 3* *Ethnic status*
No qualifications	0.94	-0.17	0.22
Labourers	0.92	-0.04	0.29
Aborigines	0.88	0.33	-0.10
Unemployment	0.84	0.40	0.24
Poor families	0.83	0.47	0.16
Youth unemployment	0.77	0.42	0.27
Public renters	0.72	0.14	0.07
Aged 65+	-0.61	0.21	0.31
Professionals	-0.92	0.27	-0.01
High income	-0.93	0.14	-0.20
University degrees	-0.93	0.21	-0.02
Divorced or separated	0.01	0.91	0.14
De facto couples	-0.17	0.88	0.12
Single parent families	0.52	0.79	-0.03
Retail/wholesale	0.05	-0.55	-0.23
Persons per dwelling	0.59	-0.60	-0.40
Stability	-0.06	-0.89	0.14
Overseas born	0.01	0.26	0.90
No or poor English	0.42	-0.13	0.83
Aged 18-24	0.20	0.31	0.68
Aged 0-15	0.59	-0.45	-0.61
Australian	-0.11	0.08	-0.94
% Total variance explained by component	42.6	25.7	13.8

of Blacktown, Penrith, Fairfield, Liverpool, and Campbelltown. Wyong is also prominent on this factor. The higher socio-economic status LGAs of the North are depicted by light shading, as is Kogarah in the South.

Map 16 indicates the scores on the second dimension, family status. The dark areas on the map indicate the areas characterized by low family status, that is larger proportions of single parent families, divorced or separated persons or de facto couples, lower numbers of persons per dwelling, and relatively low neighbourhood stability. Again, Wyong figures prominently on this map, as do the inner city and Eastern suburbs. Of the Western suburbs only Campbelltown and the Blue Mountains are prominent low family status areas, although other Western suburbs LGAs have scores in the second quartile of this dimension.

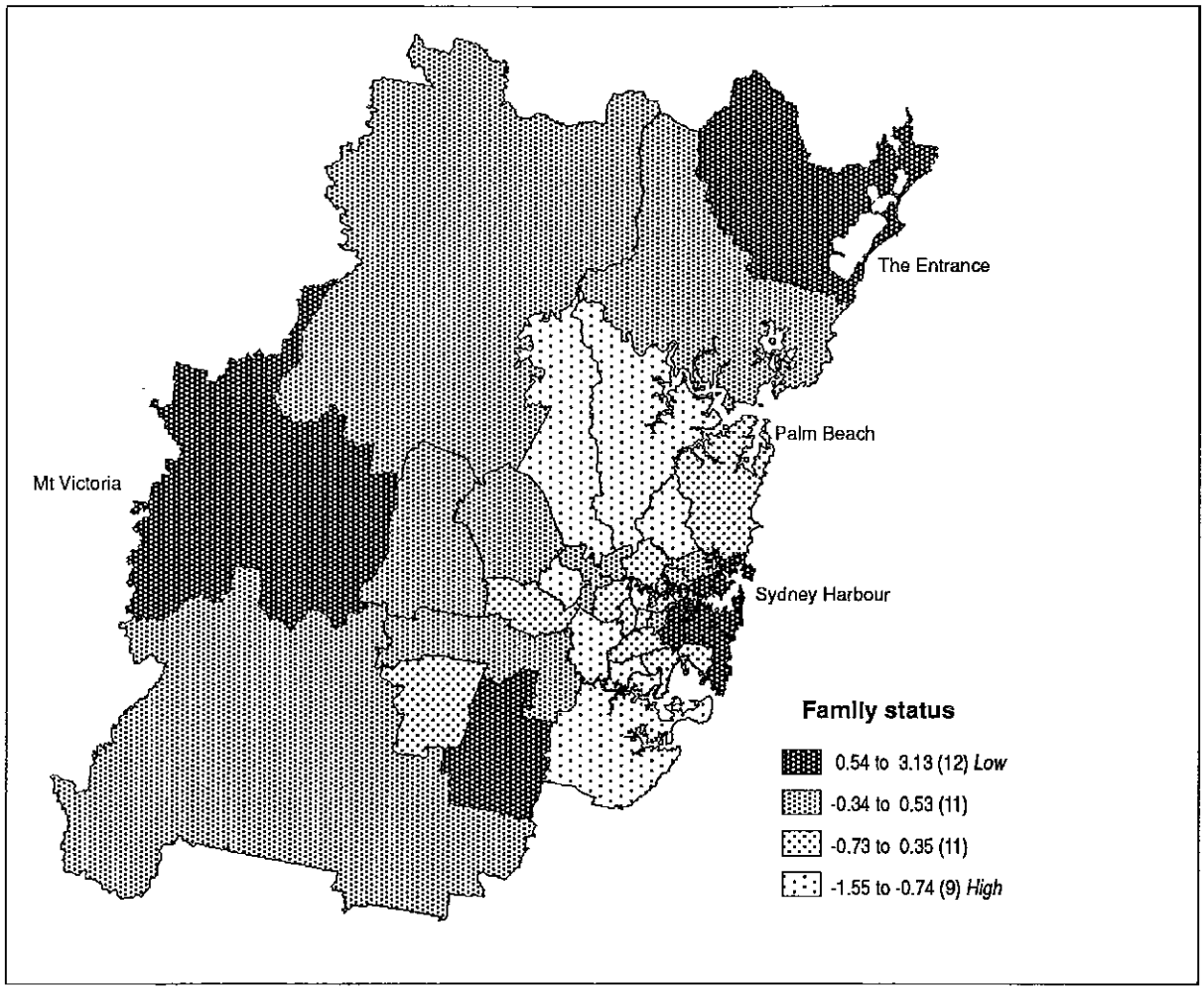
Map 15: Socio-economic status
Sydney LGAs

1986 Census



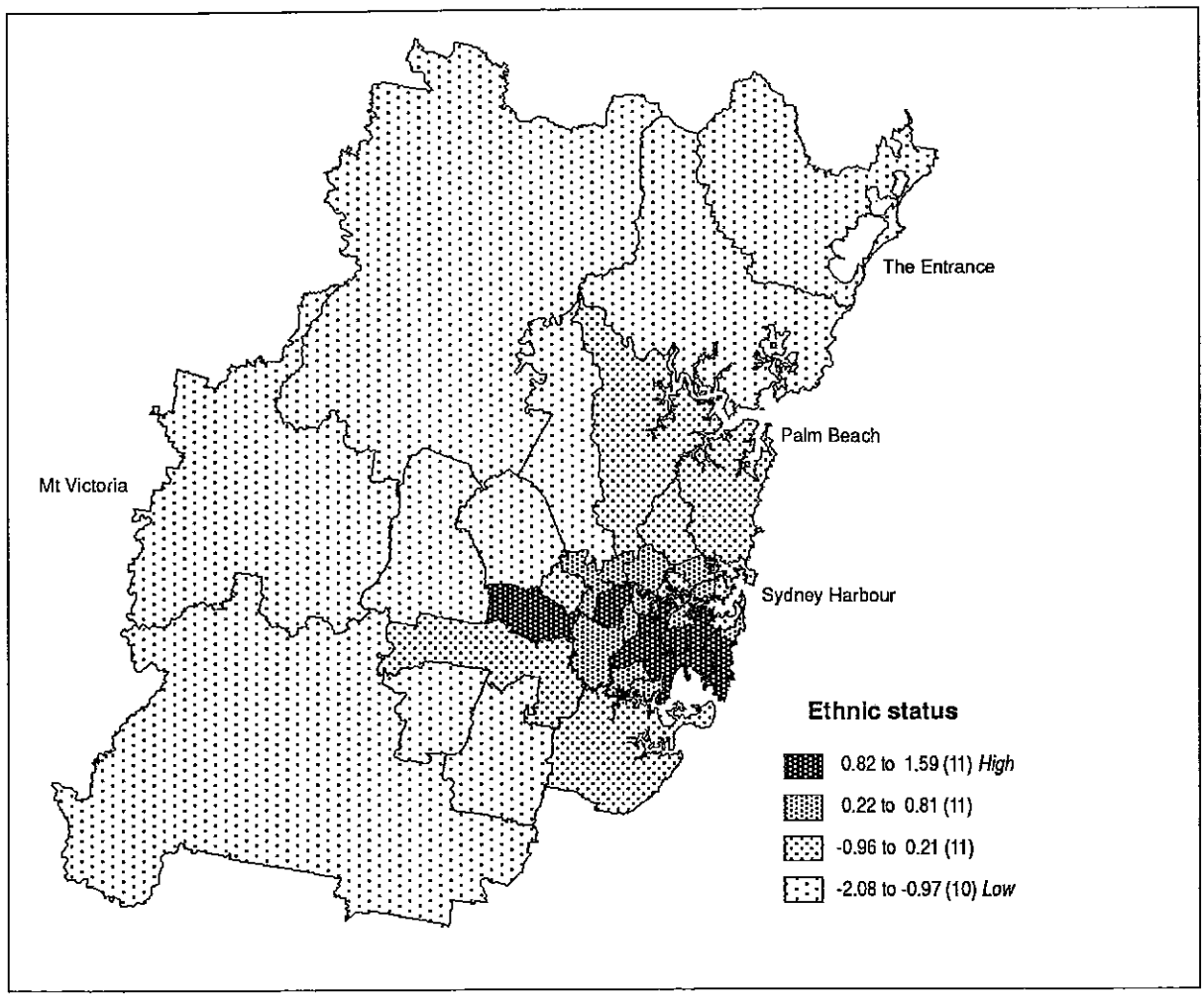
Map 16: Family status
Sydney LGAs

1986 Census



Map 17: Ethnic status
Sydney LGAs

1986 Census



Map 17 shows ethnic Sydney. Areas with high migrant status (the dark areas) are concentrated very much in the inner LGAs and Eastern Suburbs, with Liverpool the only Western LGA with a high score on this dimension.

The rank correlation coefficients between the scores on these factors and conviction rates are shown in Table 9. This table confirms the results of the simple analysis presented in the last section: the majority of the variation in conviction rates is accounted for by socio-economic status. Family status is weakly related to conviction rates for all offences against the person, assaults occasioning actual bodily harm, break, enter and steal and larceny. Ethnicity is associated weakly only with the rate for all property offences, but not for the individual offence groups counted here.[29] Consideration of the spatial patterns of the scores on these components and the spatial patterns of conviction rates shown on Maps 8 to 14 shows that the distribution of the socio-economic status dimension is most similar to the distribution of court conviction rates. Family status is low in the inner suburbs, but a number of inner city LGAs with low family status such as Woollarah and Mosman are relatively affluent suburbs and have low conviction rates. Of the outer suburbs with high conviction rates, only Campbelltown and Wyong are in the bottom quartile for family status. Ethnicity shows a definite clustering in the inner and inner West LGAs, some of

Table 9: Rank correlations between Local Court conviction rates and scores on principal components representing socio-economic status, family status and ethnic status in Sydney LGAs[1]

Conviction rates	*Component 1 Low socio-economic status*	*Component 2 Low family status*	*Component 3 Ethnic status*
All offences against the person	0.85	0.31	0.18
Common assault	0.82	0.25	0.17
Assault, actual bodily harm	0.51	0.39	-0.07
All property offences	0.80	0.28	0.36
Break, enter and steal	0.55	0.35	0.16
Motor vehicle theft	0.74	0.19	0.17
Larceny	0.75	0.35	-0.01

[1] The 0.05 level of significance is indicated by a rank correlation greater than ± 0.30.

which have high conviction rates. On the other hand, many of the outer LGAs that have quite high conviction rates rank very low on the ethnicity dimension.

The conclusion must be that in themselves family status and ethnicity are not the causes of high conviction rates. Only the socio-economic status dimension is consistently associated with high conviction rates. Of course, ethnicity and family disruption can be primary causes of poverty, and in these cases we might expect negative consequences as far as crime is concerned. On this evidence, however, we should conclude that for

ethnicity and family status to be associated with crime rates, they will need to be combined with low socio-economic status. It is possible, of course, that family breakdown can exacerbate the criminogenic effects of low socio-economic status through the mechanisms discussed in section 2 of this report.

4.2 NSW COUNTRY LGAs

When it comes to the examination of the social differentiation of the country LGAs we are not on such solid ground as with the urban LGAs. The use of principal components analysis as a technique for the investigation of dimensions of social differentiation has been almost entirely confined to the analysis of urban areas. However, as the following analysis demonstrates, the technique provides useful results in the analysis of the social and economic conditions associated with high conviction rates in country areas.

As in the analysis of the urban LGAs three components were extracted for analysis. As would be expected from the previous discussion of the problem of using country LGAs in the analysis of social structure, these three components accounted for less of the overall variance than the three components extracted for the urban analysis. This is because the correlations between the descriptive variables across the country LGAs are generally lower than for the urban areas.[30] However, three components could still account for 62% of the variance of the original country data set. Furthermore, other solutions with more components did not explain a greater proportion of the variance in conviction rates.

The standardized coefficients for the country LGAs are shown in Table 10. The fact that the variables selected for analysis are less intercorrelated in the country LGAs relative to the urban LGAs is reflected in the observation that in general the loadings of variables on the components are lower. Many of the socio-economic status variables load on component 1, suggesting that it can be interpreted as representing the socio-economic status dimension. **The signs of the loadings indicate that high positive scores on this component are associated with higher socio-economic status.** This is the opposite of the socio-economic status dimension derived from the urban data set where high positive scores indicate low socio-economic status. Some of the other variables load on this factor in an interesting way. For example, the higher status areas (areas with high scores on this dimension) tend to have higher proportions of divorced and separated people and de facto couples, higher proportions of overseas born and lower proportions of second generation Australians. Also, the proportion of the labour force employed in retailing and wholesaling tends to be high in areas that score higher on this dimension. That is, in part this dimension is pointing to relatively affluent country LGAs which have a significant retailing and wholesaling sector: areas which have relatively major urban centres. The fact that single parent families and de facto couples have moderate loadings on this factor may suggest that these areas have significant populations that live in towns. Interestingly, neighbourhood stability in areas with high scores on this dimension will tend to be low, possibly indicating population change since the 1981 Census. The scores for the country LGAs on this dimension are shown on Map 18.

The dark areas on Map 18 indicate the LGAs with higher socio-economic status. The major cluster of LGAs with high scores on this dimension is in the South East of the State

Table 10: Rotated component coefficient matrix for NSW country LGAs

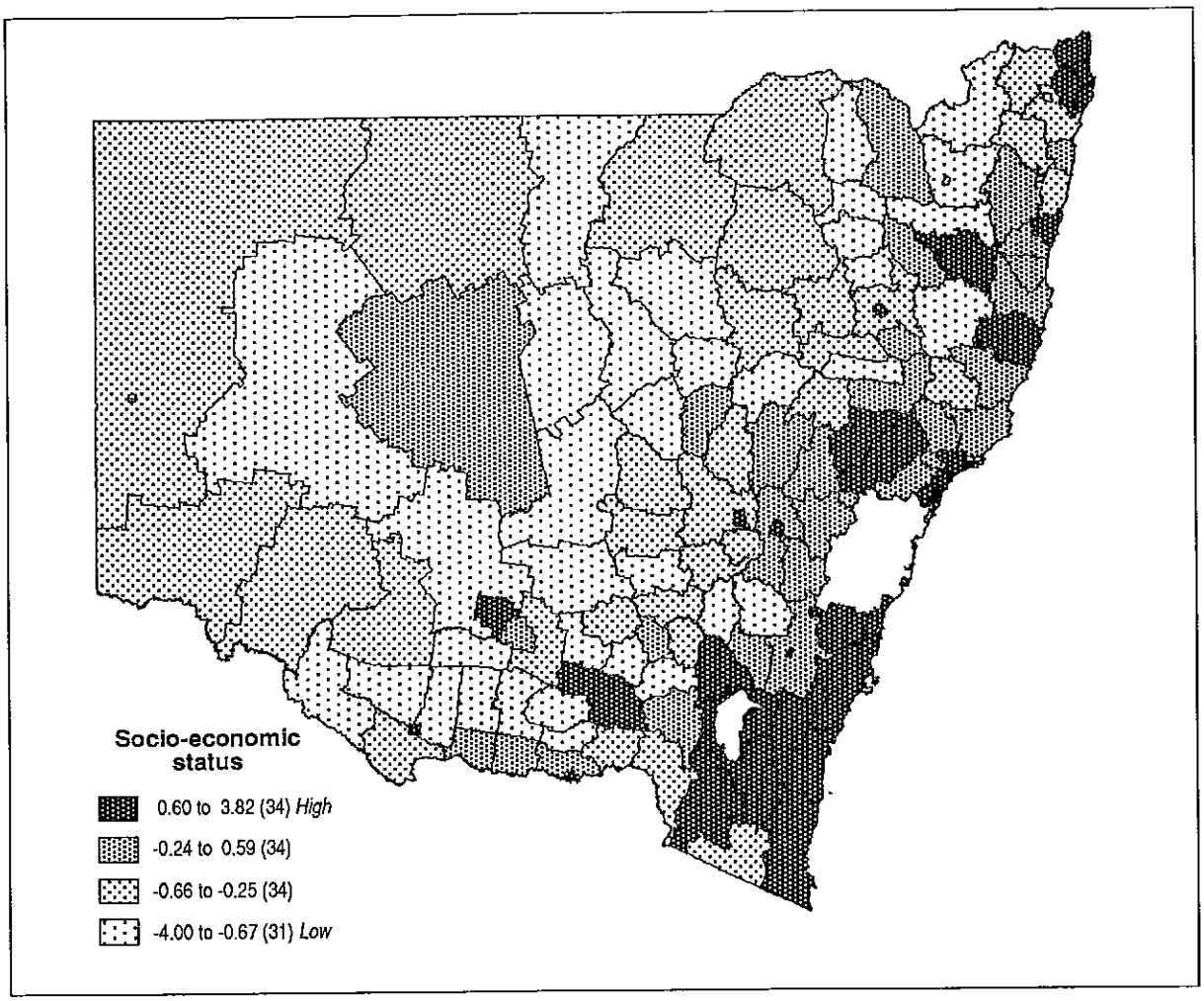
Variable	*Component 1* *High Socio-economic status*	*Component 2* *Disadvantage*	*Component 3* *Life cycle*
Overseas born	0.85	0.13	-0.05
University degrees	0.80	-0.19	-0.05
Professionals	0.79	0.11	0.21
Retail/wholesale	0.58	0.33	0.40
Stability	-0.54	-0.39	-0.05
Poor families	-0.78	-0.09	0.13
Australian	-0.84	-0.05	-0.06
No qualifications	-0.90	0.07	-0.02
Single parent families	0.26	0.78	0.25
Aborigines	-0.24	0.76	0.11
De facto couples	0.30	0.72	0.01
Public renters	0.08	0.67	-0.33
Divorced or separated	0.57	0.58	0.30
No or poor English	0.03	0.49	-0.21
Labourers	-0.32	0.34	-0.01
Aged 65 +	0.01	-0.19	0.86
Youth unemployment	-0.07	0.49	0.68
Unemployment	-0.04	0.59	0.66
Aged 0-15	-0.22	0.00	-0.50
Persons per dwelling	-0.30	0.11	-0.63
Aged 18-24	0.03	0.54	-0.65
High income	0.27	-0.07	-0.75
% Total variance explained by component	28.5	17.7	15.7

and LGAs with high socio-economic status tend to be coastal. In general, the LGAs in the North West have low scores on this factor, except for Cobar which is in the second quartile of this scale.

Variables indicating Aboriginality, single parent families, de facto couples, divorced or separated, unemployment, proportion of the population aged 18 – 24, proportion who speak no or poor English and public renters have high to moderate loadings on component 2. There are few negative loadings on this component, with neighbourhood stability having only a small negative loading. If what we have argued about these individual indicators is true, then this component can be interpreted as indicating those LGAs which have significant populations of disadvantaged groups. The scores on this component are depicted in Map 19. Dark areas on Map 19 depict those LGAs defined as disadvantaged on this scale. The North Western LGAs are prominent on this map, with smaller concentrations of LGAs with populations of disadvantaged people on the North Coast.

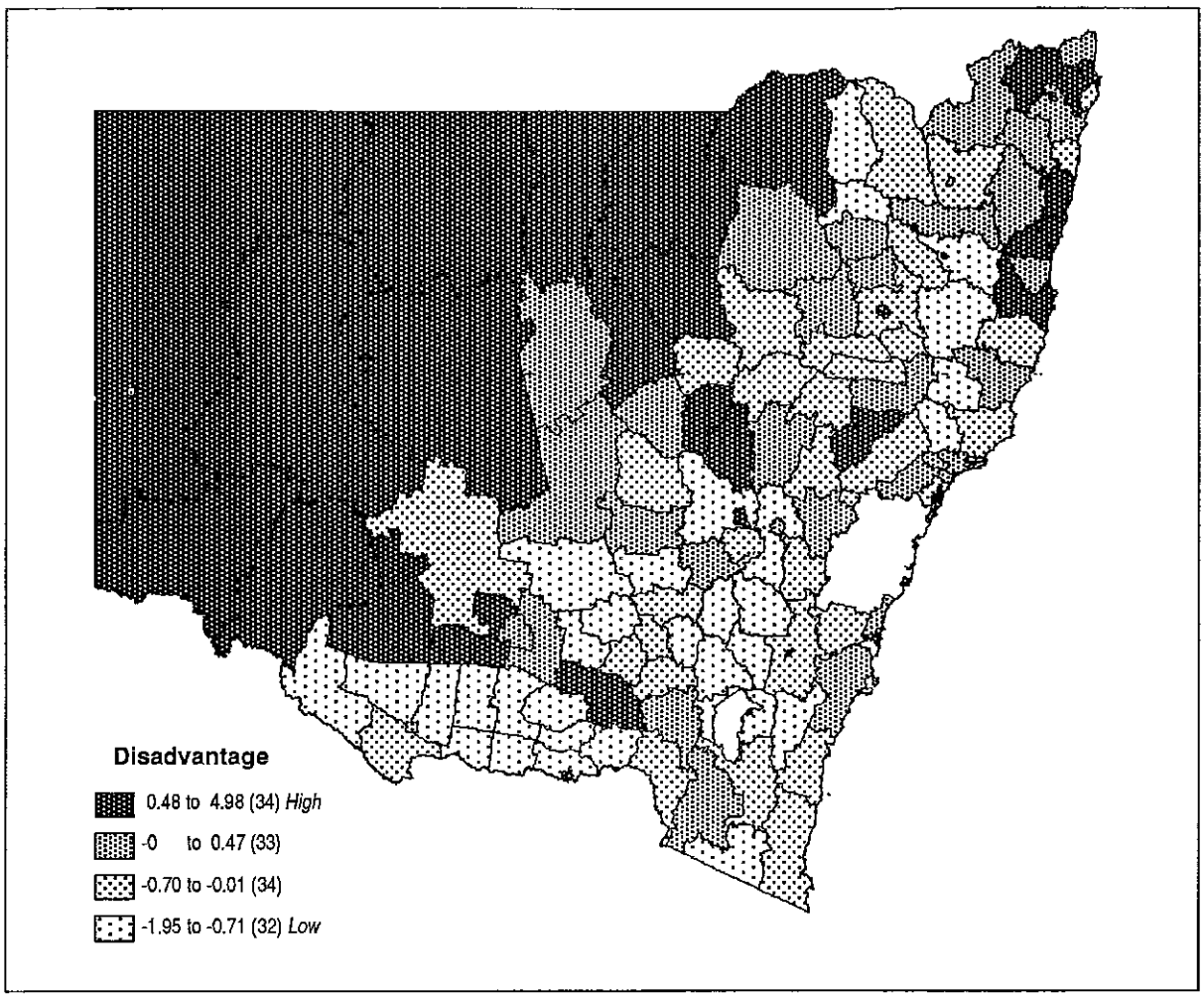
Map 18: Socio-economic status
NSW Country LGAs

1986 Census



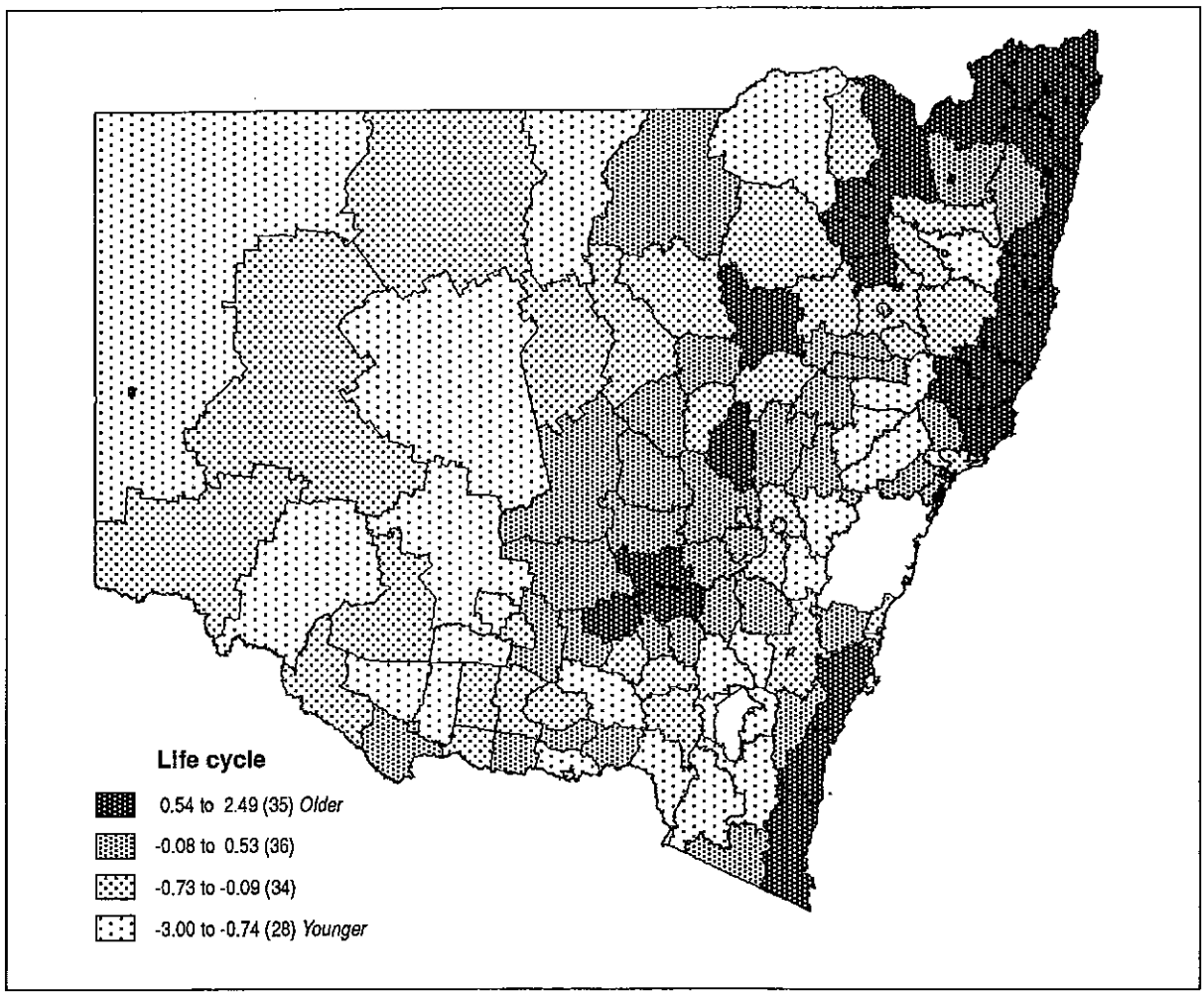
Map 19: Disadvantage
NSW Country LGAs

1986 Census



Map 20: Life cycle
NSW Country LGAs

1986 Census



Component 3 is particularly associated with age structure and unemployment. Examination of the variables that load on component 3 indicates that areas with high scores on this component tend to have older populations with few high income individuals, low numbers of persons per dwelling, low numbers of public renters and relatively high numbers of unemployed. These features are consistent with higher proportions of retired people, a possibility that is supported by the examination of Map 20 which shows the scores on this component. Two prominent areas with high scores on this factor are depicted on this map, one encompassing the coastal LGAs in the South, and another encompassing the mid-North Coast and North Coast LGAs.

Table 11: Rank correlations between Local Court conviction rates and scores on principal components representing socio-economic status, disadvantage and life cycle in NSW country LGAs[1]

Conviction rates	*Component 1 High socio-economic status*	*Component 2 Disadvantage*	*Component 3 Life cycle*
All offences against the person	-0.13	0.54	-0.24
Common assault	-0.13	0.49	-0.21
Assault, actual bodily harm	-0.10	0.36	-0.25
All property offences	0.16	0.54	-0.05
Break, enter and steal	-0.06	0.44	-0.02
Motor vehicle theft	-0.11	0.25	-0.08
Larceny	0.18	0.48	-0.04

[1] The 0.05 level of significance is indicated by a rank correlation greater than ± 0.18.

The rank correlations between these three components of social differentiation in the country LGAs and conviction rates are presented in Table 11. Table 11 shows that most of the variation in conviction rates is associated with variation in component 2, or disadvantage. There is no significant association between socio-economic status, as measured by component 1, and conviction rates, although the violent offence categories have small significant negative associations with component 3. The fact that unemployment loads on both component 2 (disadvantage) and component 3 (life cycle) suggests that although unemployment is high in coastal areas, the age structure is older in these areas than in the West and in consequence conviction rates are lower. Also, while some of these coastal areas have high unemployment rates, and low numbers of wealthy individuals, some of them also rank reasonably high on socio-economic status. In the North Western areas LGAs tend to rank low on socio-economic status and high on disadvantage, so it is possible that in these areas it is cumulative disadvantage that is implicated in high conviction rates. The socio-economic status dimension does distinguish those LGAs in the South East of the State that have low conviction rates and high socio-economic status and the North Western LGAs with high conviction rates and low socio-economic status.

However, a number of LGAs in a band stretching from Yallaroi in the North to Tumbarumba in the South, and approximating the Western slopes of the Great Dividing Range, have low scores on the socio-economic status dimension (see Map 18) and low conviction rates (Maps 1 – 4). Because of this the overall correlation between the socio-economic status dimension and conviction rates is low. Many of these LGAs are in the third or fourth quartile for the proportion of the population aged 18 – 24, and it is possible that this factor, combined with a relatively high proportion of landed rural poor, explains the failure of the socio-economic status dimension to be consistently associated with conviction rates. Certainly, however, the evidence is against overall association between socio-economic status and offending at this level of analysis. Those LGAs in the North West which have low socio-economic status and high conviction rates are also characterized by high scores on the disadvantage scale, whereas the LGAs on the Western Slopes which tend to have low socio-economic status and low conviction rates tend to have low scores on the disadvantage scale (Map 19). This suggests that there is a complex relationship between socio-economic status and poverty in the country LGAs. It is possible that analysis at a lower level of resolution (postcodes or smaller) could help to clarify the relationship between socio-economic status, disadvantage and conviction rates in country areas. It is necessary to keep this in mind when analyzing data aggregated to LGA level in country areas.

5. DISCUSSION AND CONCLUSIONS

This report has found that low socio-economic status was positively associated with conviction rates for people living in LGAs in the Sydney Statistical Division. For LGAs outside the Sydney Statistical Division we have identified disadvantage as the most important correlate of conviction rates. Examination of the variables that load strongly on these two components reveals that low socio-economic status and disadvantage are associated with a number of similar variables. In particular, both components are associated with the proportions of single parents, Aborigines, unemployment and public renters. It is thus possible to interpret the low socio-economic status component and the disadvantage component as measuring substantially similar aspects of social differentiation. That is, LGAs with high scores on a number of single indicators of social and economic disadvantage, as well as on composite variables measuring disadvantage, consistently tend to have higher rates of convictions for offences against the person and property offending. Arguments have been presented that the activities of the police cannot account for these relationships. The question we must now address is how these relationships should be interpreted and what implications they hold for crime prevention and law-enforcement policy.

Prima facie the results provide evidence to suppose that the presence of socio-economic disadvantage in a community significantly increases the risk of criminal offending in that community. Of course the observation of a strong statistical relationship between crime and socio-economic variables does not vouchsafe the conclusion that there is a causal connection between the two, although it should be remembered that this sort of relationship is a finding common to studies in a variety of other countries. The absence of a credible alternative explanation for the statistical relationship, however, lends considerable plausibility to the proposition that there is a causal link between crime rates and socio-economic variables. If the link is accepted, the question which immediately arises is whether the traditional tools of law-enforcement, namely policing and penal policy, should be complemented with policies directed at eliminating or reducing social and economic disadvantage.

The answer to the question depends on the way in which one supposes socio-economic disadvantage works its effects in increasing the crime rate of a community. There are two broad but not mutually exclusive possibilities. It could be argued that the effect of such disadvantage is to increase the propensity of people, particularly the young, to turn to crime. This would be consistent with several theories of crime, including those of Merton (1957) or, more recently Hirschi (1969). Borrowing from Hirschi (1969), for example, it could be said that socio-economic disadvantage works its effects by breaking young people's bonds to the dominant social values of the wider community. An alternative possibility, however, is to suppose that the effect of socio-economic disadvantage is to increase the crime rate (or productivity) of those already disposed to committing crime in the first place. This account would be consistent with several theories of crime within the learning theory tradition which contend that stress and/or frustration serve only to exacerbate whatever behaviour patterns are dominant in an individual (Bandura 1979, pp. 208 – 210).

Let us consider the first of these ideas in a little more detail. It may be that those who are

prompted to turn to crime by socio-economic disadvantage, simply turn away from it immediately that disadvantage is removed. This would happen, if, for example, the effect of unemployment or poverty were to make people more likely to attempt to replace legitimate with illegitimate sources of income. It is likely, however, that many of the criminogenic effects of social disadvantage are more indirect than this. Unemployment and poverty exert pressures on families which may disrupt patterns of child rearing and increase the likelihood of family breakdown. Since the family is the primary agent of socialization, increased rates of family breakdown are likely to produce increased rates of crime. In this circumstance there is little reason to expect an immediate reduction in crime rates in communities where socio-economic disadvantage is reduced. Although a reduction in crime rates would eventually show up, the effect of reducing socio-economic disadvantage may be delayed until the effects of past disadvantage have dissipated in a local community. As a result, strategies aimed at reducing social and economic disadvantage are probably best viewed as tools for preventing the evolution of crime prone communities rather than eliminating crime from such communities once it becomes an inherent feature.

We cannot dismiss the possibility, however, that reducing socio-economic disadvantage alters both the rate at which people become involved in criminal activity and the amount of crime they commit. Macro-economic time series studies looking for a link between crime rates and economic indicators may have produced mixed results but there is reason to believe that frustration with such things as poor housing and transport and inadequate recreational facilities affects rates of vandalism and levels of conflict with the police. Economic pressures (e.g. unemployment) may also affect levels of illicit drug abuse, alcohol-related offending and domestic violence, effects which are simply masked in macro-economic studies by our inability to obtain reliable measures of the incidence of these offences.

Whichever account of the relationship between crime and socio-economic disadvantage is accepted the existence of such a relationship calls into question the traditional concentration of effort on policing and penal policy as the dominant law-enforcement and crime prevention tools. The value of increased investment in policing as a means of controlling crime rates has recently been questioned by S. Smith (1986) who, reviewing a range of overseas research, concluded that increased public investment in policing in Britain, as in most other Western democracies, has had little demonstrable impact on crime rate trends. This is not to say, of course, that any expenditure on policing is inappropriate as a means of regulating crime rates. The existence of an effective police service obviously acts as a deterrent in many instances and limits the opportunities for crime in others. The implication of S. Smith's review, however, is that increased expenditure on policing cannot be expected always to bring about reductions in crime.

As is well known since the classic review by Lipton, Martinson and Wilks (1975), penal policy fares no better than policing policy as an instrument for crime control. While the threat of a gaol term, like the existence of a police service, doubtless puts a ceiling on the amount of crime which would otherwise be committed, there is little evidence to suggest that lengthening gaol terms increases their deterrent value, especially for offences where the risk of apprehension is small. It has sometimes been suggested that gaol penalties could exert an effect on the crime rates if their incapacitative rather than their deterrent effects[31] were more fully exploited. This would involve identifying repetitive offenders and incarcerating them for much longer than is presently the case. Apart from the

numerous jurisprudential objections to incapacitative penal policies[32], however, it has been suggested that gaol terms may have to be increased very substantially indeed before any significant reduction in the crime rate would be observed (Clarke, 1974). For some serious offenders (such as murderers), moreover, repetition of the offence rarely occurs and incapacitation would not therefore be expected to affect the rate of such offences.

This existence of a relationship between socio-economic variables and crime calls into question another traditional assumption about crime prevention. This is that, apart from its role in matters of federal law, the Federal Government has little role to play in matters of crime prevention. To the extent that crime prevention is conceived of solely in terms of limiting opportunities for crime this is probably true. The fact is, however, that economic trends are better able to be regulated by the Federal than by State governments. In a broader sense, then, the Federal Government is able to exert influence on crime prevention through its capacity to limit the growth of social and economic disadvantage. This does not mean that responsibility for crime prevention ought to be the province solely of the Federal Government. It may mean that a recognition of the long term criminogenic effects of certain socio-economic conditions ought to be a stronger consideration than it has been in shaping Federal Government economic policy.

For their part, State governments have considerable scope to influence socio-economic disadvantage through local government, housing, employment and community welfare policies. The difficulty is that, historically, the importance of these areas of government activity to crime prevention has not generally received much attention. To the extent that the importance of community crime prevention strategies has been recognized in NSW it has mainly been in terms of programs directed at building better police-community relations. This is doubtless vital to the supply of criminal intelligence data to police and may in some instances be expected to reduce that crime which is directly attributable to poor police-community relations. In the long term, however, remedies to the social and economic factors which underpin high crime rates can only be found through a co-ordinated strategy designed to limit the growth of social and economic inequality in the NSW community generally and the Aboriginal community in particular.

NOTES

[1] In particular, we have excluded certain offences whose recorded rate may be unduly affected by police discretion.

[2] At best many criminologists believe that community level research is conceptually inferior to individual level research because 'a test of the significance of area research requires study of individuals' (Nettler, 1984, p. 117). See Baldwin (1979) for a critical review of community level analysis of crime. Bursik (1988) presents a spirited defence of one branch of community level analysis.

[3] See Reiss (1986) and Bursik (1988) for recent reviews of community studies of crime.

[4] An early study of this type was undertaken by Vinson and Homel (1976).

[5] These include studies by Cunneen and Robb (1987) and Grey and O'Connor (1990).

[6] It is almost certainly the case that the amount of white collar crime (fraud, insider trading, illegal conduct by corporations, commercial misrepresentation) is grossly understated in official statistics (Braithwaite 1981a, ch. 10). Unfortunately, because there are almost no data available on the extent of white collar offending, we are forced to limit our consideration in this report to the so-called traditional offences of violence and theft.

[7] Not all clearances involve a court appearance. An information may be laid with the intention of issuing a warrant or summons for the purpose of bringing an alleged offender before the court. In the case of juvenile offenders, an offence may be cleared through the issue of a caution. An offence may also be cleared where the offender or the complainant or essential witnesses are dead, where the offender possesses diplomatic immunity or the offender is already serving a sentence. See NSW Police Statistics Unit (1988, pp. 7 – 8).

[8] In NSW police statistics, the Sydney metropolitan area is equivalent to the Sydney Statistical Division.

[9] See, for example, Crowe, Richardson, Riddington and Simon (1989) and Thompson, Sviridoff and McElroy(1981) for reviews of some of the research.

[10] Anomie is the social and cultural dislocation often associated with rapid social and economic change where values fail to change along with their objective foundations.

[11] These physical characteristics of some inner city urban areas are of course mostly found in the areas where poorer people live.

[12] That is, including the Unincorporated Far West (the area surrounding but not including Broken Hill to the Queensland border) which has no council, but excluding Lord Howe Island.

[13] It is obvious that in spite of the loss or physical injury sustained in predatory violations, some victims will not report such incidents to the police. Sexual offences are the classic example, but victim surveys reveal that there are a wide range of reasons for non-reporting of offences of all types. Offences which require a police report as a prerequisite to the lodgement of insurance claims, such as motor vehicle theft and break and enter, tend to be very well reported.

[14] Assault police is included in the category of all offences against the person but is not included in the common assault variable. Sections 493 and 494 of the Crimes Act dealing with assaults punishable summarily were repealed by the Crimes (Amendment) Act 1989. One effect of these amendments will be that Lower Court data dating from the commencement of this legislation will not distinguish the different categories of assault charged as common assault.

[15] Data were obtained in electronic form from Census Applications Pty. Ltd., a licensed secondary provider of census data.

[16] See Appendix 2 for full descriptions of these variables.

[17] This is discussed in more detail in the following section of this report.

[18] See Appendix 1 for these tables.

[19] Note that another offence category that commonly involves a police-citizen interaction, offensive

behaviour, is not included in any offence categories in this report.

[20] The use of this indicator has the advantage of not requiring that the data fulfil the assumptions of parametric statistics. A number of individual indices have skewed distributions and use of product moment correlation produces coefficients which are misleading.

[21] For other property crimes the correlation with the proportion aged 18–24 was small, much of the loading for all property crime being due to shop-lifting (Rs=.66) which is not discussed separately here.

[22] Followed by Campbelltown with 1.45%, Sydney with 1.40% and Liverpool with 1.08%. The reason for this pattern is suggested by the fact that these four LGAs also top the rankings for the proportion of households who are public renters. It is worth mentioning that even though only 0.55% of Sydney's population was Aboriginal in 1986, 31.0% of the Aboriginal population of NSW live in the Sydney Statistical Division.

[23] Parker (1987) also takes this position.

[24] The term residential segregation refers to the tendency of small areas to be relatively homogeneous in their social characteristics.

[25] Such as Census Collector Districts: typically between a few hundred to a thousand people. Even this level of disaggregation might not be sufficient to capture residential differentiation in small towns.

[26] See Davies (1984) and Timms (1971) for a description of the use of principal components analysis in social ecology.

[27] On the criterion of a minimum eigenvalue of 1, four components could have been extracted. However, the eigenvalue of the fourth component was only marginally greater than 1 and since this value represents the amount of variance contributed by one variable, it was thought that interpretation of this component would not add much to the analysis. The three component solution accounts for a total of 82.1% of the original variance. Testing of the fourth component revealed that it did not add to the explanation of variation in conviction rates. A rank correlation matrix was used to avoid problems associated with skewed distributions.

[28] This point is emphasized because the principal components analysis of data for the country LGAs resulted in the opposite situation: a high score on the socio-economic status component in the country indicated high socio-economic status.

[29] This association was due to a moderate correlation between ethnicity and shop-lifting, although shop-lifting has not been dealt with separately here.

[30] Correlation matrices can be examined in Appendix 3.

[31] Deterrence refers to the effect of the risk of heavy penalties on the tendency to offend. Incapacitation refers to the effect of imprisonment preventing prisoners from reoffending.

[32] See, for example, von Hirsch (1981).

APPENDIX 1: NSW LGAs RANKED BY CONVICTION RATES FOR VIOLENT AND PROPERTY OFFENCE CATEGORIES, LOCAL COURT CONVICTIONS IN 1987 AND 1988

Appendix 1.1: Common assault

Rank	LGA	Conviction rate	Rank	LGA	Conviction rate
1	Bourke	2068.16	61	Yallaroi	209.37
2	Central Darling	1876.51	62	Oberon	208.06
3	Brewarrina	1565.72	63	Cowra	207.45
4	Walgett	1194.07	64	Singleton	202.58
5	Unincorporated Far West	1001.43	65	Wollondilly	200.58
6	Moree Plains	722.76	66	Wyong	199.11
7	Coonamble	508.68	67	Marrickville	195.97
8	Narrandera	487.41	68	Forbes	195.60
9	Warren	439.80	69	Cessnock	194.09
10	Greater Lithgow	424.56	70	Tumut	191.19
11	Guyra	417.89	71	Liverpool	186.67
12	Conargo	413.96	72	Lismore	186.22
13	Queanbeyan	396.51	73	Barraba	186.08
14	Murrurundi	391.47	74	Ballina	184.31
15	Albury	387.56	75	Botany	183.82
16	Broken Hill	376.12	76	Campbelltown	179.72
17	Crookwell	375.41	77	Nambucca	178.23
18	Cootamundra	340.57	78	Walcha	177.10
19	Dubbo	339.61	79	Harden	177.04
20	Wellington	337.80	80	Junee	172.41
21	Narromine	324.98	81	Scone	172.08
22	Armidale	317.54	82	Wollongong	171.57
23	Inverell	307.97	83	Blayney	170.36
24	Gilgandra	302.48	84	Urana	170.26
25	Wentworth	298.10	85	Bathurst	167.62
26	Severn	290.98	86	Eurobodalla	167.29
27	Quirindi	287.63	87	Hume	163.07
28	Coffs Harbour	285.98	88	Holroyd	161.05
29	Lachlan	285.75	89	Parramatta	159.04
30	Cobar	283.94	90	Port Stephens	158.28
31	Casino	282.54	91	Holbrook	155.04
32	Kempsey	279.48	92	Coolamon	154.48
33	Parkes	277.44	93	Tumbarumba	154.12
34	Mudgee	269.45	94	Hay	154.00
35	Goulburn	269.12	95	Tweed	153.21
36	Griffith	268.10	96	Tamworth	153.06
37	Mulwaree	264.07	97	Gundagai	152.28
38	Leeton	263.90	98	Glen Innes	150.73
39	Newcastle	256.39	99	Young	150.21
40	Ulmarra	253.22	100	Rockdale	149.97
41	Shellharbour	250.73	101	Bankstown	149.77
42	Sydney	247.94	102	Coonabarabran	149.42
43	Bellingen	247.08	103	Cabonne	149.35
44	Blacktown	243.71	104	Auburn	148.47
45	Orange	239.67	105	Leichhardt	145.64
46	Balranald	236.81	106	Wingecarribee	145.46
47	Uralla	235.21	107	Canterbury	144.74
48	Lake Macquarie	235.12	108	Fairfield	143.95
49	Muswellbrook	235.03	109	Berrigan	143.90
50	Richmond River	234.37	110	Coolah	141.84
51	Culcairn	232.13	111	Yarrowlumla	141.22
52	Maitland	225.66	112	Burwood	140.08
53	Weddin	219.94	113	Gosford	139.09
54	Bogan	219.36	114	Tenterfield	137.05
55	Narrabri	218.90	115	Great Lakes	136.99
56	Dumaresq	218.76	116	Ashfield	136.14
57	Manilla	214.26	117	Penrith	135.21
58	Wagga Wagga	212.55	118	Hurstville	134.45
59	Yass	211.60	119	North Sydney	134.20
60	Windouran	210.53	120	Gloucester	132.95

Appendix 1.1: Common assault *continued*

Rank	LGA	Conviction rate	Rank	LGA	Conviction rate
121	Parry	132.93	149	Jerilderie	93.20
122	Deniliquin	132.17	150	Bingara	87.34
123	Evans	131.26	151	Merriwa	85.00
124	Greater Taree	130.84	152	Wakool	84.67
125	Rylstone	130.48	153	Maclean	83.17
126	Kyogle	130.29	154	Gunnedah	81.93
127	Murrumbidgee	129.37	155	Camden	79.49
128	Manly	128.74	156	Hornsby	79.11
129	Cooma-Monaro	125.14	157	Warringah	77.03
130	Corowa	124.31	158	Lane Cove	75.57
131	Blue Mountains	122.13	159	Woollahra	72.47
132	Byron	119.94	160	Grafton	72.09
133	Hastings	114.82	161	Snowy River	67.60
134	Shoalhaven	114.33	162	Kiama	66.95
135	Strathfield	113.01	163	Murray	66.34
136	Waverley	111.95	164	Bombala	66.09
137	Hawkesbury	107.73	165	Willoughby	65.52
138	Concord	106.84	166	Mosman	62.06
139	Hunter"s Hill	105.94	167	Carrathool	60.44
140	Dungog	105.84	168	Baulkham Hills	54.47
141	Bega Valley	105.23	169	Tallaganda	41.93
142	Bland	104.74	170	Ku-ring-gai	34.93
143	Gunning	100.55	171	Temora	32.05
144	Randwick	98.60	172	Copmanhurst	28.18
145	Kogarah	95.76	173	Lockhart	27.69
146	Drummoyne	94.76	174	Nundle	0.00
147	Sutherland	94.75	175	Nymboida	0.00
148	Ryde	94.12	176	Boorowa	0.00

Note: 1. *LGA* is the Local Government Area of the residence of the offender.

2. *Conviction rate* is defined as the number of convicted offenders per 100,000 population.

Appendix 1.2: Assault occasioning actual bodily harm

Rank	LGA	Conviction rate	Rank	LGA	Conviction rate
1	Bourke	728.55	61	Queanbeyan	48.46
2	Brewarrina	412.03	62	Blacktown	47.81
3	Central Darling	302.66	63	Coolah	47.28
4	Unincorporated Far West	286.12	64	Liverpool	47.20
5	Moree Plains	240.92	65	Yarrowlumla	47.07
6	Walgett	236.19	66	Muswellbrook	47.01
7	Nundle	222.55	67	Crookwell	46.93
8	Warren	192.41	68	Coffs Harbour	46.50
9	Wellington	146.38	69	Culcairn	46.43
10	Hume	144.95	70	Tenterfield	45.68
11	Cobar	141.97	71	Murray	44.23
12	Jerilderie	139.79	72	Evans	43.75
13	Bogan	137.10	73	Murrumbidgee	43.12
14	Junee	134.10	74	Scone	43.02
15	Wentworth	121.95	75	Wyong	42.49
16	Tumut	121.67	76	Ulmarra	42.20
17	Parkes	120.94	77	Tamworth	42.02
18	Conargo	118.27	78	Guyra	41.79
19	Albury	105.93	79	Coonabarabran	40.75
20	Coonamble	105.24	80	Mulwaree	40.63
21	Coolamon	102.99	81	Boorowa	39.68
22	Glen Innes	100.49	82	Campbelltown	39.57
23	Deniliquin	92.52	83	Richmond River	39.06
24	Narrabri	90.14	84	Waverley	38.43
25	Goulburn	88.16	85	Quirindi	38.35
26	Wagga Wagga	85.02	86	Young	37.55
27	Merriwa	85.00	87	Leichhardt	37.30
28	Corowa	82.87	88	Camden	37.10
29	Griffith	81.39	89	Leeton	36.40
30	Dubbo	80.86	90	Tweed	35.02
31	Kempsey	78.60	91	Mudgee	33.68
32	Rylstone	78.29	92	Bega Valley	33.67
33	Oberon	78.02	93	Kogarah	32.64
34	Hay	77.00	94	Botany	32.10
35	Sydney	72.99	95	Gosford	32.03
36	Cabonne	70.28	96	Wingecarribee	31.93
37	Balranald	67.66	97	Hurstville	31.64
38	Snowy River	67.60	98	Cooma-Monaro	31.29
39	Casino	65.93	99	Hastings	31.10
40	Greater Lithgow	65.71	100	Dungog	30.24
41	Cessnock	62.30	101	Grafton	30.04
42	Lachlan	62.12	102	North Sydney	30.04
43	Narromine	61.90	103	Copmanhurst	28.18
44	Port Stephens	61.09	104	Wollondilly	28.08
45	Cowra	60.51	105	Fairfield	28.01
46	Carrathool	60.44	106	Greater Taree	27.84
47	Bellingen	59.30	107	Lockhart	27.69
48	Walcha	59.03	108	Narrandera	27.08
49	Inverell	57.74	109	Newcastle	26.26
50	Marrickville	57.56	110	Sutherland	26.26
51	Orange	56.76	111	Yallaroi	26.17
52	Dumaresq	54.69	112	Cootamundra	25.23
53	Kyogle	54.29	113	Rockdale	25.19
54	Great Lakes	53.82	114	Shellharbour	25.07
55	Broken Hill	53.15	115	Blue Mountains	25.05
56	Berrigan	52.33	116	Yass	24.89
57	Tumbarumba	51.37	117	Ballina	24.57
58	Harden	50.58	118	Bathurst	24.53
59	Shoalhaven	50.02	119	Weddin	24.44
60	Lismore	48.58	120	Bankstown	24.41

Appendix 1.2: Assault occasioning actual bodily harm *continued*

Rank	*LGA*	*Conviction rate*	*Rank*	*LGA*	*Conviction rate*
121	Lake Macquarie	24.10	149	Blayney	17.04
122	Penrith	23.64	150	Hornsby	17.01
123	Canterbury	23.35	151	Willoughby	15.42
124	Mosman	23.27	152	Gunnedah	14.90
125	Eurobodalla	23.24	153	Woollahra	13.71
126	Randwick	22.49	154	Bland	13.09
127	Manly	22.39	155	Ku-ring-gai	11.98
128	Kiama	22.32	156	Hawkesbury	11.46
129	Gloucester	22.16	157	Strathfield	7.79
130	Warringah	21.85	158	Baulkham Hills	6.81
131	Byron	21.81	159	Armidale	5.12
132	Auburn	21.21	160	Barraba	0.00
133	Wakool	21.17	161	Bingara	0.00
134	Wollongong	20.85	162	Bombala	0.00
135	Lane Cove	20.61	163	Gundagai	0.00
136	Nambucca	20.56	164	Gunning	0.00
137	Maitland	20.31	165	Holbrook	0.00
138	Gilgandra	20.17	166	Hunter's Hill	0.00
139	Ryde	20.17	167	Maclean	0.00
140	Drummoyne	19.60	168	Manilla	0.00
141	Holroyd	19.17	169	Murrurundi	0.00
142	Parramatta	19.12	170	Nymboida	0.00
143	Forbes	18.63	171	Severn	0.00
144	Parry	17.72	172	Tallaganda	0.00
145	Burwood	17.51	173	Temora	0.00
146	Singleton	17.36	174	Uralla	0.00
147	Ashfield	17.33	175	Urana	0.00
148	Concord	17.09	176	Windouran	0.00

Note: 1. *LGA* is the Local Government Area of the residence of the offender.

2. *Conviction rate* is defined as the number of convicted offenders per 100,000 population.

Appendix 1.3: Break, enter and steal

Rank	LGA	Conviction rate
1	Coonamble	315.73
2	Central Darling	272.40
3	Brewarrina	247.22
4	Walgett	236.19
5	Moree Plains	193.91
6	Warren	192.41
7	Bourke	188.01
8	Forbes	167.66
9	Guyra	167.15
10	Severn	161.66
11	Kempsey	148.47
12	Unincorporated Far West	143.06
13	Gilgandra	141.16
14	Lockhart	138.43
15	Glen Innes	133.98
16	Orange	113.53
17	Tumut	112.97
18	Wagga Wagga	109.31
19	Coonabarabran	108.67
20	Goulburn	106.72
21	Tenterfield	106.59
22	Cobar	106.48
23	Casino	103.60
24	Inverell	96.24
25	Quirindi	95.88
26	Junee	95.79
27	Sydney	95.01
28	Jerilderie	93.20
29	Lismore	91.76
30	Lachlan	86.97
31	Kyogle	86.86
32	Albury	85.26
33	Eurobodalla	83.65
34	Wentworth	81.30
35	Mulwaree	81.25
36	Temora	80.12
37	Blacktown	79.50
38	Cowra	77.79
39	Broken Hill	77.68
40	Harden	75.87
41	Nundle	74.18
42	Griffith	71.81
43	Marrickville	71.04
44	Narrabri	70.82
45	Liverpool	70.80
46	Greater Lithgow	70.76
47	Cabonne	70.28
48	Culcairn	69.64
49	Wellington	67.56
50	Coffs Harbour	67.43
51	Bega Valley	67.35
52	Greater Taree	66.81
53	Bombala	66.09
54	Tamworth	66.02
55	Parkes	64.03
56	Leeton	63.70
57	Wakool	63.51
58	Queanbeyan	61.68
59	Bathurst	61.32
60	Carrathool	60.44
61	Maclean	58.22
62	Armidale	56.34
63	Cessnock	55.11
64	Leichhardt	55.06
65	Bogan	54.84
66	Dumaresq	54.69
67	Narrandera	54.16
68	Muswellbrook	53.72
69	Deniliquin	52.87
70	Berrigan	52.33
71	Singleton	52.09
72	Richmond River	52.08
73	Coolamon	51.49
74	Gundagai	50.76
75	Newcastle	50.20
76	Wingecarribee	49.67
77	Drummoyne	49.01
78	Lake Macquarie	47.54
79	Strathfield	46.76
80	Wyong	46.13
81	Dubbo	45.28
82	Snowy River	45.07
83	Ballina	45.05
84	Parry	44.31
85	Evans	43.75
86	Byron	43.62
87	Murrumbidgee	43.12
88	Maitland	42.87
89	Ulmarra	42.20
90	Ashfield	42.08
91	Grafton	42.05
92	Manly	41.98
93	Tallaganda	41.93
94	Nambucca	41.13
95	Campbelltown	40.40
96	Hurstville	39.55
97	Gosford	39.35
98	Penrith	39.16
99	Port Stephens	38.88
100	Hastings	38.27
101	Parramatta	38.23
102	Young	37.55
103	Gunnedah	37.24
104	Hume	36.24
105	Shoalhaven	35.73
106	Kogarah	34.82
107	Auburn	33.94
108	Waverley	33.42
109	Tweed	32.83
110	Wollongong	32.76
111	Burwood	31.52
112	Yarrowlumla	31.38
113	Blue Mountains	31.32
114	Cooma-Monaro	31.29
115	Manilla	30.61
116	Hawkesbury	29.80
117	Bellingen	29.65
118	Walcha	29.52
119	Great Lakes	29.35
120	Rockdale	28.79

Appendix 1.3: Break, enter and steal *continued*

Rank	LGA	Conviction rate	Rank	LGA	Conviction rate
121	Randwick	28.54	149	Kiama	14.88
122	Copmanhurst	28.18	150	Baulkham Hills	14.59
123	Holroyd	28.12	151	Corowa	13.81
124	Wollondilly	28.08	152	Cootamundra	12.61
125	Fairfield	28.01	153	North Sydney	12.02
126	Bankstown	27.05	154	Mosman	11.64
127	Mudgee	26.95	155	Willoughby	11.56
128	Canterbury	26.46	156	Camden	10.60
129	Botany	26.26	157	Hornsby	10.21
130	Bland	26.18	158	Lane Cove	6.87
131	Yallaroi	26.17	159	Ku-ring-gai	5.99
132	Oberon	26.01	160	Coolah	0.00
133	Tumbarumba	25.69	161	Rylstone	0.00
134	Hay	25.67	162	Bingara	0.00
135	Yass	24.89	163	Crookwell	0.00
136	Shellharbour	22.79	164	Urana	0.00
137	Gloucester	22.16	165	Gunning	0.00
138	Murray	22.11	166	Conargo	0.00
139	Warringah	21.85	167	Holbrook	0.00
140	Sutherland	21.69	168	Barraba	0.00
141	Concord	21.37	169	Nymboida	0.00
142	Ryde	19.05	170	Weddin	0.00
143	Uralla	18.09	171	Murrurundi	0.00
144	Blayney	17.04	172	Windouran	0.00
145	Hunter's Hill	16.30	173	Boorowa	0.00
146	Woollahra	15.67	174	Scone	0.00
147	Narromine	15.48	175	Balranald	0.00
148	Dungog	15.12	176	Merriwa	0.00

Note: 1. *LGA* is the Local Government Area of the residence of the offender.

2. *Conviction rate* is defined as the number of convicted offenders per 100,000 population.

Appendix 1.4: Motor vehicle theft

Rank	LGA	Conviction rate	Rank	LGA	Conviction rate
1	Guyra	146.26	61	Manilla	30.61
2	Brewarrina	123.61	62	Wyong	30.35
3	Central Darling	90.80	63	Bankstown	30.35
4	Walcha	88.55	64	Dungog	30.24
5	Bingara	87.34	65	Holroyd	29.40
6	Blacktown	87.30	66	Gosford	29.28
7	Bogan	82.26	67	Botany	29.18
8	Deniliquin	79.30	68	Singleton	28.94
9	Wellington	78.82	69	Young	28.16
10	Crookwell	70.39	70	Burwood	28.02
11	Carrathool	60.44	71	Coffs Harbour	27.90
12	Conargo	59.14	72	Port Stephens	27.77
13	Sydney	57.93	73	Lockhart	27.69
14	Quirindi	57.53	74	Warren	27.49
15	Marrickville	56.34	75	Dumaresq	27.34
16	Liverpool	55.79	76	Penrith	27.34
17	Campbelltown	54.41	77	Coonabarabran	27.17
18	Scone	53.78	78	Narrandera	27.08
19	Wingecarribee	53.22	79	Walgett	26.24
20	Tumbarumba	51.37	80	Oberon	26.01
21	Fairfield	50.81	81	Randwick	25.95
22	Gundagai	50.76	82	Armidale	25.61
23	Lachlan	49.70	83	Lake Macquarie	25.40
24	Dubbo	48.52	84	Cootamundra	25.23
25	Camden	47.69	85	Parramatta	24.47
26	Bourke	47.00	86	Great Lakes	24.46
27	Jerilderie	46.60	87	Wollondilly	24.07
28	Leichhardt	44.40	88	Tamworth	24.01
29	Murrurundi	43.50	89	Griffith	23.94
30	Kyogle	43.43	90	Strathfield	23.38
31	Cowra	43.22	91	Eurobodalla	23.24
32	Parkes	42.68	92	Gloucester	22.16
33	Merriwa	42.50	93	Murray	22.11
34	Ulmarra	42.20	94	Evans	21.88
35	Moree Plains	41.13	95	Cessnock	21.57
36	Orange	41.00	96	Auburn	21.21
37	Wentworth	40.65	97	Wakool	21.17
38	Wagga Wagga	40.49	98	Cooma-Monaro	20.86
39	Muswellbrook	40.29	99	Nambucca	20.56
40	Bland	39.28	100	Sutherland	20.55
41	Rockdale	37.19	101	Bathurst	20.44
42	Leeton	36.40	102	Maitland	20.31
43	Albury	36.17	103	Mulwaree	20.31
44	Queanbeyan	35.25	104	Gilgandra	20.17
45	Coonamble	35.08	105	Waverley	20.05
46	Kempsey	34.93	106	Kogarah	19.59
47	Ashfield	34.65	107	Casino	18.84
48	Canterbury	34.24	108	Forbes	18.63
49	Blayney	34.07	109	Goulburn	18.56
50	Balranald	33.83	110	Wollongong	18.47
51	Glen Innes	33.50	111	North Sydney	18.03
52	Hurstville	33.22	112	Shoalhaven	17.86
53	Bombala	33.05	113	Cobar	17.75
54	Broken Hill	32.71	114	Woollahra	17.63
55	Byron	32.71	115	Tumut	17.38
56	Hunter"s Hill	32.60	116	Concord	17.09
57	Lismore	32.39	117	Hastings	16.74
58	Narrabri	32.19	118	Drummoyne	16.34
59	Hawkesbury	32.09	119	Temora	16.02
60	Newcastle	31.66	120	Shellharbour	15.96

Appendix 1.4: Motor vehicle theft *continued*

Rank	LGA	Conviction rate	Rank	LGA	Conviction rate
121	Yarrowlumla	15.69	149	Gunnedah	0.00
122	Mosman	15.52	150	Coolamon	0.00
123	Tweed	15.32	151	Gunning	0.00
124	Corowa	13.81	152	Kiama	0.00
125	Warringah	13.80	153	Harden	0.00
126	Mudgee	13.47	154	Uralla	0.00
127	Berrigan	13.08	155	Windouran	0.00
128	Richmond River	13.02	156	Junee	0.00
129	Inverell	12.83	157	Parry	0.00
130	Baulkham Hills	12.65	158	Maclean	0.00
131	Bega Valley	12.63	159	Narromine	0.00
132	Ballina	12.29	160	Boorowa	0.00
133	Grafton	12.01	161	Hay	0.00
134	Willoughby	11.56	162	Copmanhurst	0.00
135	Blue Mountains	10.96	163	Holbrook	0.00
136	Ryde	10.08	164	Snowy River	0.00
137	Bellingen	9.88	165	Barraba	0.00
138	Greater Taree	8.35	166	Urana	0.00
139	Lane Cove	6.87	167	Yallaroi	0.00
140	Hornsby	5.95	168	Cabonne	0.00
141	Manly	5.60	169	Nymboida	0.00
142	Greater Lithgow	5.05	170	Hume	0.00
143	Ku-ring-gai	2.99	171	Yass	0.00
144	Tenterfield	0.00	172	Murrumbidgee	0.00
145	Rylstone	0.00	173	Coolah	0.00
146	Tallaganda	0.00	174	Severn	0.00
147	Weddin	0.00	175	Nundle	0.00
148	Culcairn	0.00	176	Unincorporated Far West	0.00

Note: 1. *LGA* is the Local Government Area of the residence of the offender.

2. *Conviction rate* is defined as the number of convicted offenders per 100,000 population.

Appendix 1.5: Larceny

Rank	LGA	Conviction rate	Rank	LGA	Conviction rate
1	Bourke	493.54	61	Wyong	139.62
2	Sydney	318.62	62	Narromine	139.28
3	Walgett	314.92	63	Griffith	138.84
4	Brewarrina	288.42	64	Wingecarribee	138.36
5	Dumaresq	273.45	65	Lachlan	136.66
6	Central Darling	242.13	66	Gloucester	132.95
7	Carrathool	241.76	67	Campbelltown	132.73
8	Coffs Harbour	234.83	68	Oberon	130.04
9	Lismore	229.40	69	Wagga Wagga	125.50
10	Blacktown	216.17	70	Tweed	122.57
11	Quirindi	210.93	71	Greater Taree	122.49
12	Windouran	210.53	72	Mulwaree	121.88
13	Newcastle	209.28	73	Tenterfield	121.82
14	Armidale	194.62	74	Dungog	120.96
15	Moree Plains	193.91	75	Auburn	120.90
16	Orange	192.37	76	Port Stephens	119.41
17	Wentworth	189.70	77	Holroyd	116.31
18	Queanbeyan	189.44	78	Holbrook	116.28
19	Muswellbrook	188.02	79	Gosford	116.22
20	Culcairn	185.70	80	Burwood	115.56
21	Goulburn	185.60	81	Snowy River	112.66
22	Richmond River	182.29	82	Barraba	111.65
23	Albury	180.86	83	Camden	111.29
24	Wellington	180.16	84	Yarrowlumla	109.84
25	Marrickville	178.82	85	Fairfield	109.43
26	Kempsey	170.31	86	Great Lakes	107.63
27	Casino	169.52	87	Eurobodalla	106.88
28	Leichhardt	168.73	88	Bathurst	106.30
29	Bellingen	168.02	89	Greater Lithgow	106.14
30	Tamworth	165.06	90	Hawkesbury	105.43
31	Cootamundra	163.98	91	Shellharbour	104.85
32	Cessnock	162.94	92	Bland	104.74
33	Mudgee	161.67	93	Rockdale	104.38
34	Wollondilly	160.46	94	Cowra	103.73
35	Hastings	160.27	95	Shoalhaven	101.82
36	Parry	159.52	96	Bankstown	101.60
37	Broken Hill	159.44	97	Gundagai	101.52
38	Penrith	158.12	98	Balranald	101.49
39	Nambucca	157.66	99	Bega Valley	101.02
40	Parkes	156.51	100	Gilgandra	100.83
41	Tumut	156.43	101	Gunning	100.55
42	Junee	153.26	102	Weddin	97.75
43	Evans	153.14	103	Temora	96.14
44	Liverpool	152.34	104	North Sydney	94.14
45	Kyogle	152.01	105	Parramatta	93.28
46	Scone	150.57	106	Manilla	91.83
47	Singleton	150.49	107	Hurstville	91.74
48	Narrandera	148.93	108	Botany	90.45
49	Narrabri	148.08	109	Canterbury	89.49
50	Ulmarra	147.71	110	Kiama	89.27
51	Inverell	147.57	111	Ashfield	89.11
52	Byron	147.20	112	Walcha	88.55
53	Maitland	146.68	113	Yass	87.13
54	Lake Macquarie	146.54	114	Murrurundi	86.99
55	Guyra	146.26	115	Wollongong	85.78
56	Unincorporated Far West	143.06	116	Randwick	85.63
57	Dubbo	142.31	117	Waverley	85.22
58	Cobar	141.97	118	Blayney	85.18
59	Coonamble	140.33	119	Wakool	84.67
60	Manly	139.94	120	Young	84.49

Appendix 1.5: Larceny *continued*

Rank	LGA	Conviction rate	Rank	LGA	Conviction rate
121	Forbes	83.83	149	Berrigan	52.33
122	Glen Innes	83.74	150	Cooma-Monaro	52.14
123	Maclean	83.17	151	Hay	51.33
124	Bogan	82.26	152	Hornsby	49.33
125	Gunnedah	81.93	153	Crookwell	46.93
126	Coonabarabran	81.50	154	Jerilderie	46.60
127	Warringah	79.91	155	Woollahra	45.05
128	Drummoyne	78.42	156	Willoughby	44.32
129	Rylstone	78.29	157	Bingara	43.67
130	Ballina	77.82	158	Murrumbidgee	43.12
131	Harden	75.87	159	Hunter"s Hill	40.75
132	Nundle	74.18	160	Boorowa	39.68
133	Blue Mountains	73.59	161	Deniliquin	39.65
134	Cabonne	70.28	162	Nymboida	32.95
135	Strathfield	70.14	163	Severn	32.33
136	Concord	68.38	164	Lane Cove	30.91
137	Ryde	68.35	165	Ku-ring-gai	29.94
138	Grafton	66.08	166	Corowa	27.62
139	Mosman	65.94	167	Coolamon	25.75
140	Leeton	63.70	168	Tumbarumba	25.69
141	Kogarah	60.94	169	Coolah	23.64
142	Conargo	59.14	170	Murray	22.11
143	Sutherland	57.08	171	Yallaroi	0.00
144	Baulkham Hills	55.45	172	Copmanhurst	0.00
145	Lockhart	55.37	173	Bombala	0.00
146	Warren	54.98	174	Urana	0.00
147	Hume	54.36	175	Merriwa	0.00
148	Uralla	54.28	176	Tallaganda	0.00

Note: 1. *LGA* is the Local Government Area of the residence of the offender.

2. *Conviction rate* is defined as the number of convicted offenders per 100,000 population.

APPENDIX 2: VARIABLE DEFINITIONS

Aborigines	Aboriginal persons as a percentage of the population.
Aged 0-15	Persons aged 0-15 as a percentage of the population.
Aged 18-24	Persons aged 18-24 as a percentage of the population.
Aged 65+	Persons aged 65 or more as a percentage of the population.
Australian	Australian born persons of Australian born parents as a percentage of the population.
De facto couples	De facto couples as a percentage of all couples.
Divorced or separated	Separated or divorced persons as a percentage of the population aged over 15 years.
High income	Persons with an income greater than $40,000 as a percentage of the population.
Labourers	Persons employed as labourers or plant and machine operators as a percentage of the labour force.
No or poor English	Persons aged 5 years or over born in non-English speaking countries who speak English poorly or not at all as a percentage of persons aged 5 years or over born in non-English speaking countries.
No qualifications	Persons with no post secondary qualifications as a percentage of the population aged over 15 years.
Overseas born	Overseas born as a percentage of the population.
Persons per dwelling	Number of persons per occupied dwelling.
Poor families	Families with an income less than $12,000 as a percentage of families.
Professionals	Persons employed as professionals as a percentage of the labour force.
Public renters	Dwellings rented from the State housing authority or other government agency as a percentage of dwellings.
Retail/wholesale	Persons employed in the retail / wholesale sector as a percentage of the labour force.
Single parent families	Parent with one or more dependent children as a percentage of all families.
Stability	Persons counted at same address in 1981 Census as a percentage of the population.
Unemployment	Unemployed persons as a percentage of the labour force.
University degrees	Persons with a diploma, degree, or higher qualifications as a percentage of the population.
Youth unemployment	Unemployed persons aged 20-24 as a percentage of persons aged 20-24 in the labour force.

APPENDIX 3: RANK CORRELATION MATRIX OF INDEPENDENT VARIABLES

Appendix 3.1: LGAs in the the Sydney Statistical Division[1]

Variable name	Aged 18 – 24	Aborigines	High income	University degrees	No qualifications	Poor families	Single parent families	De facto couples	Divorced or separated	Unemployment	Youth unemployment	Professionals	Labourers	Retail/wholesale	Overseas born
Aged 18 – 24	1.00	0.24	-0.23	-0.09	0.25	0.36	0.38	0.41	0.34	0.38	0.39	-0.09	0.31	-0.19	0.73
Aborigines		1.00	-0.73	-0.71	0.72	0.89	0.71	0.11	0.26	0.83	0.77	-0.68	0.76	-0.17	-0.02
High income			1.00	0.95	-0.96	-0.72	-0.35	0.24	0.04	-0.78	-0.70	0.93	-0.94	-0.11	-0.13
University degrees				1.00	-0.96	-0.66	-0.29	0.31	0.13	-0.70	-0.62	0.99	-0.89	-0.18	0.07
No qualifications					1.00	0.71	0.34	-0.23	-0.07	0.77	0.69	-0.95	0.95	0.13	0.15
Poor families						1.00	0.77	0.24	0.44	0.96	0.93	-0.60	0.79	-0.27	0.26
Single parent families							1.00	0.60	0.73	0.73	0.71	-0.25	0.39	-0.29	0.24
De facto couples								1.00	0.89	0.17	0.19	0.34	-0.16	-0.39	0.32
Divorced or separated									1.00	0.39	0.40	0.18	0.01	-0.40	0.34
Unemployment										1.00	0.97	-0.65	0.84	-0.21	0.34
Youth unemployment											1.00	-0.57	0.76	-0.20	0.37
Professionals												1.00	-0.87	-0.23	0.07
Labourers													1.00	-0.04	0.24
Retail/wholesale														1.00	-0.35
Overseas born															1.00

[1] The 0.05 level of significance is indicated by a rank correlation greater than ± 0.30.

Appendix 3.2: NSW Country LGAs[1]

Variable name	Aged 18 – 24	Aborigines	High income	University degrees	No qualifications	Poor families	Single parent families	De facto couples	Divorced or separated	Unemployment	Youth unemployment	Professionals	Labourers	Retail/wholesale	Overseas born
Aged 18 – 24	1.00	0.26	0.48	-0.11	0.06	-0.20	0.28	0.29	0.15	-0.17	-0.25	-0.07	0.15	0.00	0.08
Aborigines		1.00	-0.21	-0.23	0.26	0.20	0.51	0.47	0.24	0.50	0.46	-0.04	0.16	0.20	-0.12
High income			1.00	0.24	-0.18	-0.24	-0.20	0.09	-0.05	-0.48	-0.48	0.01	-0.04	-0.29	0.31
University degrees				1.00	-0.74	-0.50	0.10	0.12	0.24	-0.15	-0.11	0.74	-0.31	0.33	0.58
No qualifications					1.00	0.67	-0.21	-0.19	-0.47	0.00	0.03	-0.74	0.35	-0.53	-0.70
Poor families						1.00	-0.23	-0.18	-0.46	0.11	0.19	-0.58	0.01	-0.54	-0.64
Single parent families							1.00	0.59	0.69	0.56	0.49	0.42	0.11	0.55	0.22
De facto couples								1.00	0.62	0.40	0.35	0.26	0.18	0.28	0.40
Divorced or separated									1.00	0.50	0.42	0.46	0.15	0.53	0.60
Unemployment										1.00	0.95	0.23	0.18	0.39	0.07
Youth unemployment											1.00	0.22	0.16	0.31	0.03
Professionals												1.00	-0.34	0.63	0.54
Labourers													1.00	-0.30	-0.11
Retail/wholesale														1.00	0.38
Overseas born															1.00

[1] The 0.05 level of significance is indicated by a rank correlation greater than ± 0.18.

APPENDIX 4: LOCAL GOVERNMENT AREAS BY STATISTICAL DIVISION

Code	Local Government Area
SYDNEY STATISTICAL DIVISION	
150	Ashfield (M)
200	Auburn (M)
350	Bankstown (C)
500	Baulkham Hills (S)
750	Blacktown (C)
900	Blue Mountains (C)
1100	Botany (M)
1300	Burwood (M)
1450	Camden (M)
1500	Campbelltown (C)
1550	Canterbury (M)
1900	Concord (M)
2550	Drummoyne (M)
2850	Fairfield (C)
3100	Gosford (C)
3800	Hawkesbury (S)
3950	Holroyd (M)
4000	Hornsby (S)
4100	Hunter's Hill (M)
4150	Hurstville (M)
4450	Kogarah (M)
4500	Ku-ring-gai (M)
4700	Lane Cove (M)
4800	Leichhardt (M)
4900	Liverpool (C)
5150	Manly (M)
5200	Marrickville (M)
5350	Mosman (M)
5950	North Sydney (M)
6250	Parramatta (C)
6350	Penrith (C)
6550	Randwick (M)
6650	Rockdale (M)
6700	Ryde (M)
7100	Strathfield (M)
7150	Sutherland (S)
7200	Sydney (C)
8000	Warringah (S)
8050	Waverley (M)
8250	Willoughby (M)
8400	Wollondilly (S)
8500	Woollahra (M)
8550	Wyong (S)
HUNTER STATISTICAL DIVISION	
1720	Cessnock (C)
2700	Dungog (S)
3050	Gloucester (S)
3400	Great Lakes (S)
4650	Lake Macquarie (C)
5050	Maitland (C)
5250	Merriwa (S)
5600	Murrurundi (S)
5650	Muswellbrook (S)
5900	Newcastle (C)
6400	Port Stephens (S)
6800	Scone (S)
7000	Singleton (S)
ILLAWARRA STATISTICAL DIVSION	
4400	Kiama (M)
6900	Shellharbour (M)

Code	Local Government Area
ILLAWARRA STATISTICAL DIVISION (continued)	
6950	Shoalhaven (C)
8350	Wingecarribee (S)
8450	Wollongong (C)
RICHMOND-TWEED STATISTICAL DIVISION	
250	Ballina (S)
1350	Byron (S)
1650	Casino (M)
4550	Kyogle (S)
4850	Lismore (C)
6600	Richmond River (S)
7550	Tweed (S)
MID-NORTH COAST STATISTICAL DIVISION	
600	Bellingen (S)
1800	Coff's Harbour (S)
2250	Copmanhurst (S)
3200	Grafton (C)
3350	Greater Taree (C)
3750	Hastings (M)
4350	Kempsey (S)
5000	Maclean (S)
5700	Nambucca (S)
6050	Nymboida (S)
7600	Ulmarra (S)
NORTHERN STATISTICAL DIVISION	
100	Armidale (C)
400	Barraba (S)
700	Bingara (S)
2650	Dumaresq (S)
3000	Glen Innes (M)
3550	Gunnedah (S)
3650	Guyra (S)
4200	Inverell (S)
5100	Manilla (S)
5300	Moree Plains (S)
5750	Narrabri (S)
6000	Nundle (S)
6300	Parry (S)
6500	Quirindi (S)
6850	Severn (S)
7300	Tamworth (C)
7400	Tenterfield (S)
7650	Uralla (S)
7850	Walcha (S)
8600	Yallaroi (S)
NORTH-WESTERN STATISTICAL DIVISION	
950	Bogan (S)
1150	Bourke (S)
1200	Brewarrina (S)
1750	Cobar (S)
1950	Coolah (S)
2100	Coonabarabran (S)
2150	Coonamble (S)

APPENDIX 4: LOCAL GOVERNMENT AREAS BY STATISTICAL DIVISION (continued)

Code	Local Government Area
NORTH-WESTERN STATISTICAL DIVISION (continued)	
2600	Dubbo (C)
2950	Gilgandra (S)
5400	Mudgee (S)
5850	Narromine (S)
7900	Walgett (S)
7950	Warren (S)
8150	Wellington (S)
CENTRAL WEST STATISTICAL DIVISION	
450	Bathurst (C)
800	Bland (S)
850	Blayney (S)
1400	Cabonne (S)
2350	Cowra (S)
2800	Evans (S)
2900	Forbes (S)
3300	Greater Lithgow (C)
4600	Lachlan (S)
6100	Oberon (S)
6150	Orange (C)
6200	Parkes (S)
6750	Rylstone (S)
8100	Weddin (S)
SOUTH-EASTERN STATISTICAL DIVISION	
550	Bega Valley (S)
1000	Bombala (S)
1050	Boorowa (S)
2050	Cooma-Monaro (S)
2400	Crookwell (S)
2750	Eurobodalla (S)
3150	Goulburn (C)
3600	Gunning (S)
3700	Harden (S)
5450	Mulwaree (S)
6450	Queanbeyan (C)
7050	Snowy River (S)
7250	Tallaganda (S)
8650	Yarrowlumla (S)
8700	Yass (S)
8750	Young (S)
MURRUMBIDGEE STATISTICAL DIVISION	
1600	Carrathool (S)
2000	Coolamon (S)
2200	Cootamundra (S)
3450	Griffith (S)
3500	Gundagai (S)
3850	Hay (S)
4300	Junee (S)
4750	Leeton (S)
4950	Lockhart (S)
5550	Murrumbidgee (S)
5800	Narrandera (S)
7350	Temora (S)
7500	Tumut (S)
7750	Wagga Wagga (C)
MURRAY STATISTICAL DIVISION	
50	Albury (C)
300	Balranald (S)
650	Berrigan (S)
1850	Conargo (S)
2300	Corowa (S)
2450	Culcairn (S)
2500	Deniliquin (M)
3900	Holbrook (S)
4050	Hume (S)
4250	Jerilderie (S)
5500	Murray (S)
7450	Tumbarumba (S)
7700	Urana (S)
7800	Wakool (S)
8200	Wentworth (S)
8300	Windouran (S)
FAR WEST STATISTICAL DIVISION	
1250	Broken Hill (C)
1700	Central Darling (S)
9399	Unincorporated Far West

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