USES AND ABUSES OF CRIME STATISTICS

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Introduction

It is tempting, in the circumstances, to ignore the statistics and rely instead on one's own impressions. Impressions, however, can be misleading too. The experiences of one person may be different from those of another. Statistical information is gathered in part to get away from dependence on the subjective impressions of particular individuals. The problem is how to go about using crime statistics in a way which is not misleading and which helps rather than hinders our understanding of crime. This bulletin seeks to explain some of the uses and abuses of crime statistics. Its object is not to make the reader altogether distrustful of those statistics. It is intended instead to provide a basis for critically assessing claims made using them.

What is Crime?

Within the criminal justice system (that is, the police, courts and prisons) the word ‘crime’ is usually used to mean those activities which are prohibited by law. This usage, however, may not always coincide with the community’s concept of crime. This is because the formal definition, while covering the sorts of offences which fit most people’s idea of crime, also covers a range of things which many people may not consider criminal or may think of as trivial, for example, smoking marijuana, failing to declare income on a tax return or driving above a speed limit. These are all crimes.

The first thing to remember, then, when dealing with crime statistics, is the huge range of activities which may be labelled ‘crimes’. Reported overall crime rates, the sort that often appear in newspaper headlines, include a large number of petty incidents as well as the murders, assaults and robberies which the term ‘crime’ conjures up in people’s minds.

Community Beliefs and the Role of the Media

Community beliefs about crime may be shaped by the media - newspapers, radio, television and advertising - which in turn reflect trends in community beliefs. It is impossible to say which influences the other most, but it is certain that if the information the media uses is wrong, or is misinterpreted, then this can lead to misconceptions about crime and justice issues. This is why it is so important to understand where the information used in the media comes from and what it means.

Community and media attitudes to crime and justice play a part in shaping the laws which define criminal activities. One example of this is the change in attitudes to homosexuality. As a result of these changes, the Crimes Act 1900 was modified in 1981 to make homosexual intercourse between consenting adults (i.e. 18 years and over) no longer a criminal offence. More recently, the Summary Offences Act 1988 was introduced to replace the Offences in Public Places Act 1979, the Public Assemblies Act 1979 and the Prostitution Act 1979. This was due in part to widespread publicity about the limited powers of the police to control street offences such as soliciting and offensive behaviour.

Crime Figures and Real Crime

The statistics on ‘crime’ we hear and see quoted in the media do not accurately...
depict real crime figures. The reason for this is simply that they are statistics of recorded crime. Recorded crimes are those offences which are either detected by police or reported to police and accepted by them as being genuine.

Apart from those offences which are detected by police themselves a number of things have to happen before an incident is recorded as a crime. As illustrated in Figure 1, when an incident occurs the first thing is that someone, for example, a victim or witness, must decide that it constitutes a crime. Secondly, it must be reported to the police, and thirdly the police must make a decision on whether the report is genuine. If the police accept the report, the incident can then be counted in the official statistics of recorded criminal offences.

FIGURE 1: Steps involved in recording crime

- Incident
- Victim/witness judges incident to be a crime
- Crime reported to police
- Crime recorded by police
- Crime counted

REPORTING CRIME

Statistics of recorded crime often considerably underestimate the level of crime in the community simply because, for a variety of different reasons, many offences are not reported to police. Examples of such offences are domestic violence, assault, shoplifting, tax evasion and drug offences.

Some of the reasons why crimes go unreported can be inferred from sample surveys of the community. Such surveys ask questions such as whether the respondent has been a victim of a criminal offence in the previous year, what kind of offence was involved and whether or not it was reported. The Australian Bureau of Statistics (ABS) conducts such victim surveys periodically across Australia, usually referred to as the ‘Crime and Safety’ surveys. The most recent national Crime and Safety survey was conducted in 1993, while in NSW, the ABS has conducted Crime and Safety surveys annually since 1990. These surveys are concerned with selected household and individual crimes. The household crimes included are break and enter (i.e. burglary), attempted break and enter, and motor vehicle theft, while the personal crimes included are robbery, assault and sexual assault.

Both the 1993 national survey and the 1994 NSW survey found that motor vehicle theft and break and enter were the offences most likely to be reported to the police. Offences which were least likely to be reported to the police were sexual assault, assault and attempted break and enter. Figure 2 shows the proportion of victims who report the offence to the police for different offences, according to the most recent national Crime and Safety survey.

Figure 3 presents the reasons why people chose not to report crime, according to the national Crime and Safety survey. As can be seen, one reason why a great deal of crime is unreported is that, as noted earlier (see WHAT IS CRIME?), much of it is considered very minor and not considered worthy of being reported to the police. For example, 38 per cent of robbery incidents and 35 per cent of assault incidents were considered ‘too trivial/unimportant’ to report.

Certain other types of offence are not reported because the victim fears that doing so will not help or may even make the situation worse. Examples of these kinds of offence are sexual assault (especially where the victim knows the attacker), domestic violence and blackmail. Figure 3 shows that 20 per cent of victims of sexual assault did not report because they feared reprisal or revenge.

Finally, certain offences are rarely reported to the police because they do not involve a victim in the generally accepted sense of the term. One such group of offences is drug offences.

FIGURE 2: Percentage of victims reporting offence to police, by offence type

- Break and enter
- Attempted break and enter
- Motor vehicle theft
- Robbery
- Assault
- Sexual assault

Those who use, deal in or manufacture illegal drugs are hardly likely to report upon themselves or their fellows. Another such offence is tax fraud. While the State does attempt to catch those who defraud it, people in the community are unlikely to report someone to the police for tax fraud because the activity is often not seen as criminal in the same sense as robbery or theft.

Offences which are commonly reported by the victim are often those involving the loss or damage of property - for example, motor vehicle theft and break and enter. Apart from the desire to find the property (if it has been stolen rather than destroyed) one of the main reasons for this is that, when the property is insured, it is necessary to report the offence in order to make a claim. Thus, stolen cars are often reported to the police because of insurance requirements. The 1993 national Crime and Safety survey showed a 94 per cent reporting rate for motor vehicle theft.

Changes in the general attitude to a particular type of offence can be an important influence upon reporting trends. An example of this is the rapid increase of reported cases of the sexual assault of children which occurred after 1985. While the increase may have represented a real change in how often this offence was happening, it seems more likely that the increase stemmed from people’s greater willingness to report. In 1985, a NSW Government task force was set up to investigate the problem of child sexual abuse, and from this came a number of initiatives including legal reform and community education. These initiatives played a role in increasing public awareness, changing community attitudes and in encouraging the reporting of the sexual abuse of children.

Another example of the influence of legislative reform on reporting of crime is the case of domestic violence. In 1983 legislative reforms came into effect enabling people fearing for their safety in domestic conflicts to apply for an ‘Apprehended Domestic Violence Order’ (AVO), an order which prohibited the alleged aggressor from further threatening behaviour. In 1990 the legislation was broadened to cover non-domestic disputes (for example, those between neighbours) and the order became an ‘Apprehended Violence Order’ (AVO). A breach of an AVO is a criminal offence. Since the AVO legislation came into effect NSW Local Courts have dealt with increasing numbers of AVO breach matters each year: in 1990 there were 578 AVO breach matters dealt with but by 1995 the number of such matters had grown to 2950. Although there are no reliable data on the numbers of AVOs granted each year since AVOs became available, the increasing numbers of prosecutions of AVO breaches indicate an increase in use of the orders. This suggests an increasing willingness on the part of the victims of violence to treat it as a criminal matter and seek legal protection.

THE POLICING OF CRIME

Apart from people’s willingness to tell the police about crimes, another factor influencing recorded crime rates is the activity of the police themselves. Certain offences are usually only discovered when the police go out looking for them.

Two groups of offences which fall into this category are drink-driving and drug offences. In relation to drink-driving, as long as a driver does not cause an accident it is unlikely that the offence will be reported, and so, typically, it is only if the police catch the offender in the act that the offence is known to have occurred. Similarly, drug offences are typically discovered by police when they catch people in the act of committing these offences. For both of these offences, then, the recorded crime rate is likely to be directly related to what the police are doing. In the case of drink-driving, the rate will fluctuate if the police are involved in an intensive random breath-testing campaign. For drug offences, the rate will fluctuate if the police ‘crack down’ on drug offences. In both cases the rate may fluctuate if more police are recruited to the task of combating these offences.

To a greater or lesser degree recorded crime rates are always going to be influenced by the activity and number of operational police (i.e. those involved in police-work, not administration). If the resources of the police were so limited that they could only deal with the most major offences, it is likely that people would simply stop reporting minor incidents as they learned that nothing was achieved by doing so. At the other extreme, if the police service was increased dramatically it would have more time and resources to deal with behaviours which in other circumstances might not attract so much attention. Again, this would not mean that the actual crime rate had changed, even though the number of recorded crimes had increased.

Sometimes a police initiative to focus on one type of offence may also influence the rate of recorded criminal incidents of other offences. For example, when police ‘crack down’ on offensive behaviour; the number of arrests for this offence as well as for resisting arrest and assault police is likely to go up. This is because persons are often charged with resisting arrest and assault police as a consequence of their reaction to being arrested for offensive behaviour.
Figure 4: Soliciting offences (in a public street/within view)
Recorded offences, 1985/86 to 1988/89

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<td>300 -</td>
<td>200 -</td>
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Taking a slightly different example, one event of a criminal activity can result in a number of different offence types being recorded. Someone involved in a break and enter may be charged with possessing house-breaking instruments and stolen goods as well as the break and enter itself. For such an event, three criminal incidents are recorded by the police as there were three distinct offence types involved in the one event.

Another type of offence which only comes to light when investigated by the authorities is fraud. If, for example, people falsely claim social security payments or cheat on tax returns, it is up to the relevant government departments to check up on them. If the Tax Office or the Department of Social Security has a campaign of auditing doubtful claims, it may result in an increase in recorded fraud offences although, again, the rate of offending in the community may not have changed.

It can be seen, then, that changes in the way the police deal with crime can change the recorded level of crime without there being any real change in the number of criminal incidents.

INTERPRETING CHANGING CRIME FIGURES

As we have seen, recorded crime figures are affected by a number of factors. They can reflect real changes in crime levels, but they are also shaped by people’s willingness to report offences and by the behaviour of the police.

Other factors also affect recorded crime rates. One of the most important of these is the definition of what constitutes a crime.

Figure 4 presents the number of incidents involving soliciting (for prostitution) in public places recorded by police annually between 1985/86 and 1988/89. It shows a massive increase in the number of recorded soliciting offences between 1987/88 and 1988/89. Without knowing more, we might conclude that there had been an increase in this type of offence. To interpret the increase correctly, however, we need to know that the law relating to soliciting in a public place was changed in mid-1988. In 1988 the Summary Offences Act came into effect. Amongst other things, this Act broadened the definition of the offence of soliciting near a dwelling, school, church or hospital, to ‘near or within view from a dwelling, school, church or hospital’. This change in definition meant that the area of proximity to such places in which soliciting had been prohibited had been widened. Thus, something which was not an offence before the revision subsequently became one, and it is probable that this and other similar definitional changes caused the increase in recorded offences shown in the figure.

When the media report on crime, it is often in terms of groups of related offences - for example homicide (including murder, attempted murder and manslaughter) - because this is how they are grouped in published statistics. An increase in the rate of the offence group overall may be due to a rise in just one type of offence. For example, Figure 5 shows the number of recorded robbery offences in 1992 and 1993. While the overall number of recorded robberies increased from 1992 to 1993, not all types of robbery offences increased over this period. Indeed, one type of robbery offence, robbery with a firearm, actually decreased. This example demonstrates that if only the overall group total is reported, as is often the case in the media, it is quite possible to create a misleading impression of a crime trend.

Figure 5: Recorded robbery offences, 1992 and 1993

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<thead>
<tr>
<th>Year</th>
<th>1992</th>
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UNDERSTANDING CRIME RATES

Another important factor affecting the number of crimes recorded by the police is the size of the population. Not surprisingly, as the population grows so does the amount of crime. It would be quite meaningless to compare, say, the number of homicides in NSW in 1910 with the number in 1990 without taking into account the huge difference in the number of people living in the State. The risk of victimisation does not change as long as the population change keeps pace with the changing crime level. For example, the rate of homicide per head of population in NSW has remained roughly constant throughout the century. Now, as it was fifty years ago, a person has between one and two chances in a hundred thousand of being the victim of homicide in any one year. This is why it is much more meaningful to discuss crime figures in a standard way which relates them to the size of the resident population - for example, as a rate per 100,000 people.

Using crime rates instead of raw numbers also becomes important when trying to compare the crime level in two areas with different sized populations - for example, a city suburb with a country town. Figure 6 presents the number of recorded assault incidents for a number of Statistical Divisions (SDs) and Statistical Subdivisions (SSDs) in 1995. The districts are presented in order of the highest to lowest number of recorded offences.

From Figure 6 it appears that areas such as the Murrumbidgee SD, Murray SD, the Far West SD are the least risk-prone places as they have the lowest number of assault incidents, while the Inner Sydney SSD and the Hunter SD are much more dangerous, with up to twelve times as many recorded incidents over the same time period.

When we look at the rate of assault for these areas, however, the picture changes dramatically. Figure 7 presents the number of recorded assault incidents per 100,000 residents. We can see that, while it is true that the risk per person is highest in the Inner Sydney SSD, the Far West SD, far from being a low risk area, is in second place. In contrast, the Hunter SD has a relatively low rate of recorded assault incidents.

As can be seen, the raw numbers from Figure 6 bear little resemblance to the rates in Figure 7 once they are adjusted to take account of differences in population.

Incidentally, another way in which the population may affect crime levels is if there is a change in the number of people who are most likely to commit crime. It has been shown that arrested and convicted offenders are most likely to be adult males under the age of 30 years. An increase in the proportion of such people in a community could, therefore, be expected to produce a rise in recorded crime for that community.
ANALYSING CRIME TRENDS

Even where recorded crime rates provide a reliable picture of the incidence of crime, we must be careful in assessing crime trends over short periods. Crime rates fluctuate over time. No one would expect that robberies or assaults or motor vehicle thefts would occur at exactly the same rate in every month of every year, but how much variation can be considered ‘normal’ and when does a change become a significant one?

The answers to these questions are often difficult to determine particularly if there are a number of different factors influencing the data. The recorded figures for some offences may vary considerably throughout the year but show no obvious trend when examined over a number of years. Changes over a short time period need to be considered in the context of the long term behaviour of a data series.

For example, Figure 8 presents the monthly number of recorded robberies over a ten-month period from July 1991 to April 1992.

During that time the number of recorded offences per month decreased from 600 to 418, a decrease of 30 per cent. Can we conclude from this that recorded robberies are on the decline? Let us see. Figure 9 presents the monthly number of recorded robberies over the three-year period January 1991 to December 1993. The section of the graph shown in Figure 8 is marked in Figure 9. As can be seen, when the 10-month period is put in context, the drop is not part of a continuing trend. Over the whole three-year period there was no significant increase or decrease in the number of recorded robberies.

This brings us to the important issue of what, in general, is an appropriate period over which to examine a trend in recorded crime.

The first thing to note is that the recorded rate of some offences is so poorly related to the actual number that we should not even attempt to infer trends in the amount of crime occurring from the trends in recorded rates. Drug offences provide a good example of this. Relative to their actual incidence, drug offences are rarely reported to police. As discussed earlier, the recorded rate depends almost totally on police drug law enforcement strategies, on the one hand, and police resources, on the other.

The second point is that some offences appear to be seasonal. Recorded assault rates, for example, over the last three years have been high in December and January and much lower in the winter months. Such variation in the occurrence of particular types of crime over the year may be due to any number of factors. For example, household break and enters may be more prevalent during the seasons of the year when people are most likely to be away on holidays. Since the seasons, by definition, only come around once a year this means that to detect crime trends underlying any seasonal variation we need to look at trends for these offences over at least a three-year period.

Whether or not the variation is strictly seasonal, it is to be expected that the incidence of different offences will vary to a degree from month to month and year to year. Given such variability, how should trends over time be assessed?

In general, the period over which a trend should be measured is mostly dependent on the variability in the recorded rate. The larger its variability, the longer the period we need in order to assess whether there is any underlying crime trend. Without going into all the technical issues involved, as a rough rule of thumb we can say that we need at least three years of monthly data or five years of yearly data in order to assess trends in recorded crime for most offences.

Whatever the period chosen, however, it is important to remember one thing. The choice of a suitable period over which to examine a trend in recorded offences is no substitute for having close regard to
the factors, other than crime trends, which might account for the changes in question. With the probable exception of homicide and motor vehicle theft, there are very few offences whose recorded rate is identical with or close to their actual rate of occurrence.

REPORTING CRIME FIGURES

In the robbery example in the previous section, we made use of the percentage change in the number of recorded offences to suggest that the change was an important one. As we saw, the reporting of crime statistics in such terms, if taken out of context, can easily produce a misleading picture of the situation.

To give a real example of how this can happen, on the 8th of April, 1990, the Sydney Morning Herald published figures on the number of murders recorded by police in the last half of 1989. The number of recorded murders was 40, a drop of 12 over the same period in the previous year. The article commented:

...the figures contain heartening news for the State Government - such as... a 23% fall in murders...

The figure of 23 per cent sounds impressive, but we must consider what it represents. Two issues are relevant here, the actual numbers of cases involved and the normal variability in the murder rate.

Firstly, while any number of murders at all is undesirable, it must be remembered that, in absolute terms, the change in the numbers was small - only 12 cases.

When dealing with relatively infrequent events, any change can sound significant if put in a certain way. The presence of a single multiple murder - for example an event like the so-called ‘Port Arthur Massacre’ in Tasmania in 1996 - would be enough to inflate the total in any particular year by an apparently significant amount. This increase, however, would be random variation. Without further evidence, we cannot really say that the abhorrent actions of a single person with a gun are a symptom of changing attitudes to violent crime.

As argued above, in order to see whether the murder rate is really changing significantly, we need to look at how it varies over a much longer time period. Figure 10 presents the murder rate per 100,000 population in NSW for the 10-year period 1983 to 1992.

As can be seen, the murder rate has fluctuated around an average of 1.3 per 100,000 for all that time, and there is no obvious overall trend either upward or downward. While the rate for 1992 is lower than average, it is not possible to conclude at this stage that this is anything more than random variation.

Another way in which crime statistics may be misused is when raw numbers are presented out of context. For example, the rise in recorded stealing offences (not break and enters or motor vehicle thefts) in NSW between 1992 and 1993 was 9,320. While this sounds dramatic, it represents a rise of only 7 per cent in the number of recorded stealing offences.

In both the murder and stealing examples, the picture is made much clearer when we know both the numbers and the proportions involved. In some situations percentage changes may be large, but they may represent small numbers, while in others large sounding numbers may really only be a small percentage - a ‘drop in the ocean’.

Wherever percentage changes are being quoted, therefore, it is appropriate to state the number on which they are based.

USING CRIME STATISTICS

So far we have discussed a number of ways in which crime statistics can be misused and misinterpreted. Given the number of qualifications and cautions which must be used with such statistics, the reader may be forgiven for asking whether they are of any use at all. The answer to this question depends, as always, on a number of things.

Taking all crime together, we cannot tell from the changes in rates of recorded crime whether the actual level of crime is changing, simply because, for many offences, very little of the crime which occurs is reported and recorded. Indeed, the relating of recorded crime rates to actual crime levels depends a great deal upon the type of offences involved. However, there are good reasons for believing that the recorded levels of some offences do match the level of offending quite closely. For example, murder is a sufficiently serious offence that it will almost always come to the attention of the police sooner or later. Similarly, motor vehicle theft is reported in a very high proportion of cases, although for different reasons (e.g. the relationship with insurance claims mentioned earlier). Bank robberies and the like, too, will also be reported to police as a matter of course. In these cases, then, we can be confident that statistics of recorded offences do tell us something genuine about the level of offending.

Crime statistics do not have to be complete to provide useful information about crime trends and patterns. Even if only a proportion of all offences are recorded, this may still be a useful indication of trends in crime so long as a
roughly constant proportion of offences is being recorded. If the definition of the offence remains the same and there is no reason to suppose that there have been changes in reporting rates or policing practices, then the recorded offence rate can be a useful barometer of real changes in offending rates. For example, if there has been a consistent increase in the number of stealing offences over a period of time, and we know that no changes to police policy or practice are involved, we don’t need to know about all such offences to conclude that the observed change shows a real trend. We can conclude that, all other things being equal, a constant proportion of all stealing offences will be recorded by police, and that if the offending rate changes the recorded rate will too.

In addition, information on recorded offences will provide useful facts about the nature of the crime. The characteristics of household break and enters, for example, may say a lot about the type and location of vulnerable houses even though not all break and enters are reported. This information may be useful to householders and insurers; and may be used in coordinating strategies for such organisations as Neighbourhood Watch. Similarly, given that we have statistics on most motor vehicle thefts, we will be able to learn about the features of the crime - the types of motor vehicles most often stolen, methods of access, target locations, and so on. Again, this information may be useful to owners and insurers, as well as to law enforcement agencies.

With many other types of offences, however, it is not easy to be certain whether the main influence on the recorded rate is the rate of offending or some other factor. Such offences include the examples we have noted before, like drink-driving and drug offences. Given the limitations of recorded crime statistics, one way of getting more information about the nature of crime is to carry out ‘victim surveys’ (as described earlier) on a regular basis.

Victim surveys, if properly conducted, can provide an indication of the level of victimisation in the community and any changes in this. By asking questions about whether incidents were reported to the police it is then possible to establish the relationship between statistics of recorded crime and the real crime level, and changes in attitudes and reporting trends can be monitored. This information can then enable police and law reformers to target crimes which may seldom be reported, for example, sexual assault.

Of course, victim surveys do have their limitations. For example, they are very dependent on what people are able to remember and are willing to report, but they do provide information which cannot be obtained from other sources. A further limitation is that the amount of information about crime and victimisation from victim surveys is limited by the questions included in the survey. Presently the regular victim surveys only cover selected offences (as mentioned previously).

Trying to establish the real crime level is only one aspect of the use of crime statistics. If we want to use statistics to predict, say, the workload of the police, courts and prisons, then reliable data on recorded crime will be very useful. For example, if recorded crime levels for particular types of offences are changing in significant ways, then this information may be used to help in planning policing strategies and the allocation of police resources. Similarly, changing arrest rates may produce changes in the case-load of the criminal courts and the number of people in prison. With accurate statistics on the types and numbers of cases going through the courts we can develop models of how the system works which can help in planning ways of minimising court delay and prison overcrowding.

**CONCLUSIONS**

Reports of crime figures should be regarded critically. The relationship between the level of recorded crime and the real level of crime in the community is influenced by community attitudes, levels of policing and legislative change. As we have shown, the relationships between these factors are complicated and changeable. There is no simple recipe for inferring changes in crime rates from changes in rates of recorded crime. Police crime statistics simply do not provide as clear a picture of trends in crime as (say) changes in the unemployment statistics provide of the number of people unemployed. Victim surveys help to clarify the picture; however they also have limitations. If crime statistics are analysed with all the considerations discussed here kept in mind, they can yield valuable insights into crime trends and the demands on police resources. If, on the other hand, they are analysed carelessly they simply foster uninformed public debate and unenlightened law enforcement policies.

**NOTES**

1. The original author of the saying was British Prime Minister Benjamin Disraeli (b. 1804; d. 1881).
4. NSW Department of Family and Community Services 1988, Child Protection Notifications 1987 - Preliminary Analysis, NSW Department of Family and Community Services, Sydney.
8. Statistical Divisions (SDs) and Statistical Subdivisions (SSDs) are regions defined by the ABS. See, for example, the ABS annual publication Regional Statistics, New South Wales, Cat. no. 1304.1, ABS, Sydney.