



No. 247

Counting the Costs of Crime in Australia

Pat Mayhew

(with assistance from Glenda Adkins)

This paper assesses some of the major costs for a range of offences. Some of the figures are inevitably tenuous, as there is insufficiently good data to improve the estimates. Nonetheless, this paper represents a major update of previous work by the Australian Institute of Criminology on the costs of crime, and gives the most sophisticated and credible estimates in Australia to date.

The cost of the crimes covered here amounts to \$19 billion. Other costs (such as policing, prisons and the security industry) add nearly another \$13 billion. The total estimated bill is nearly \$32 billion per year. Fraud is the most costly crime, followed by violent crime (homicide, assault and sexual assault) and burglary. The human cost of drug abuse is also high, even discounting crimes committed to support a drug habit.

The figures in this paper are based on many "behind the scenes" calculations. These are set out in a technical report (Mayhew 2003) which can be accessed at www.aic.gov.au/publications/tbp/tbp004.html. This makes the basis of the estimates transparent, which will be useful for updating estimates of costs when new information becomes available. While some categories are tenuous, the AIC would be willing to develop a project to conduct further analysis in certain categories (for example fraud, arson).

Adam Graycar
Director

No study, in Australia or elsewhere, has ever fully assessed the myriad costs of crime. Rather, the main focus has been on what countries spend on their criminal justice systems (usually a matter of public record), and on some of the more direct costs of crime. The Australian Institute of Criminology has previously generated estimates of the costs of crime in Australia (Walker 1992; 1997). This paper uses more up-to-date figures and includes some additional costs. Chief among these is an assessment of the monetary value of pain, suffering and lost quality of life—so-called "intangible" costs. Estimates of lost productivity are also included.

The empirical basis for assessing costs is weak in many cases. One difficulty is simply knowing the actual number of crimes to cost: the extent of shoplifting and fraud, for instance, is hard to pin down. Nor is the data for many cost components complete or necessarily sound. Some components are not amenable to costing. It is impossible to put a price on lost quality of life from fear of crime, for example, or on wider economic distortions such as lack of investment in high-crime areas.

Nonetheless, getting a bearing on the costs of crime is important. They set in better context the substantial resources spent trying to prevent crime and deal with offenders. Knowing what different crimes cost, rather than simply knowing their numbers, gives a better base for assessing where crime prevention efforts are best targeted. It is also essential to cost-benefit analysis, in which the costs of crime reduction initiatives are set against savings made from crimes prevented.

Average "unit" costs can show the impact of an average motor vehicle theft, for instance, relative to an average robbery. Average unit costs are given here, with the obvious caveat that costs for particular incidents will vary widely. It is also important to compare the overall costs of different types of crime, in order to see which have the biggest financial impact taking account of the number of crimes involved. For this reason, as many crime types as possible have been included. However, some get a lighter touch than others, because of paucity of information. There are also some offences that are not costed (see "Omissions" below).

AUSTRALIAN INSTITUTE
OF CRIMINOLOGY

trends

&

issues

in crime and criminal justice

April 2003

ISSN 0817-8542

ISBN 0 642 24294 1



Australian Institute
of Criminology
GPO Box 2944
Canberra ACT 2601
Australia

Tel: 02 6260 9221

Fax: 02 6260 9201

For a complete list and the full text of the papers in the Trends and Issues in Crime and Criminal Justice series, visit the AIC web site at:

<http://www.aic.gov.au>

Disclaimer: This research paper does not necessarily reflect the policy position of the Commonwealth Government.

The main principles of the approach taken to costing are outlined below. The accompanying **technical report** gives further information on the estimates made (available at www.aic.gov.au/publications/tbp/tbp004.html).

Estimating the Number of Crimes

To assess the full impact of crime, one needs to estimate the actual number of crimes that occur rather than the number recorded by police. The approach here (following UK and US work) is to use victimisation survey figures to estimate the “real” level of crime. The survey data come mainly from the most recent Crime and Safety Survey (ABS 1999).

For each crime a “multiplier” is constructed which is the ratio between the survey-estimated number of crimes in 1997–98 and the number recorded by the police over the same period (with adjustments made to improve comparability). For instance, the police recorded 290,000 residential burglaries and attempts in 1997–98, whereas the Crime and Safety Survey (CSS) estimated about 800,000—giving a ratio of 2.8, which is the appropriate “multiplier”. This is then used to inflate (or multiply up) the number of recorded offences in Australia in 2001 (ABS 2002). The technical report discusses an alternative approach to estimating the number of crimes, used by Walker.

Some Costing Principles

The methodology here follows in broad outline current work in the US and the UK insofar as estimates are made of medical costs, lost output and intangible costs. The use of multipliers based on comparisons between survey and police figures is also common. There are cost estimates for the US (Miller et al. 1996; Anderson 1999), but more direct use is made of a UK study by Brand and Price (2000) of the costs of crime in England and Wales in 1999 (referred to here as the “UK estimates”). These are used in many instances to provide guideline figures in the absence of Australian data. This is considered reasonable given the similarity of the crime profile in the two countries (see technical report).

When applying estimates of costs in the UK to Australia, account is taken of differences in price levels. Costs are given in 2001–02 Australian dollars wherever possible.

Medical Costs

Medical costs for victims are based on a study by the Monash University Accident Research Centre (MUARC) of the costs of deaths and injuries in Victoria, one category of which was interpersonal violence (Watson & Ozanne-Smith 1997). The costs relate to those treated in and outside hospital. They are applied here to homicides and other crimes for which there is data on whether injury occurred. No mental health costs are assessed, although US estimates find a sizeable 10 to 20 per cent of mental health costs may be attributable to crime (Miller et al. 1996).

Lost Output

Lost output estimates have been made for most of the crimes considered, another largely new element. For violent crimes, MUARC’s figures are again adapted. They cover the loss of paid and unpaid work that victims cannot do.¹ For property crime, survey-based estimates of lost output are mainly used.

Intangible Costs

Intangible costs set a monetary value on pain, suffering and lost quality of life. Intangible costs are subject to great uncertainty, and vary considerably under competing costing methodologies. Estimates are made for both violent and property crime, since it would be unbalanced not to do so (few burglary victims, for instance, escape emotional effects). For violent crime, a guide is taken from the intangible costs of road accidents produced by the Bureau of Transport Economics (BTE 2000).² BTE took a conservative approach to costing intangible losses. For property crime, UK estimates are mainly drawn on as with lost output.

Transfer of Resources

Theft and fraud involve the transfer of resources from victim to offender. This raises the issue of whether the transfer is a loss to society (the thief ends up with a DVD player after all). The important distinction between transfer and loss turns on whether the transfer is wanted or unwanted. Since theft involves an unwanted (on the victim’s part) transfer of property, it is treated here as a cost of crime.

Insurance claims also involve a transfer of resources but, unlike the transfer from victim to offender, it can be seen as wanted. Potential victims pay insurance premiums so their losses can be reclaimed in the event of crime. Actual victims with insurance receive recompense. Thus,

insurance can be treated as a transfer of resources, not a loss to society. Some assessment is made, though, of the costs to insurers of administering insurance claims.

The Crime Coverage

The offences covered fall into three groups as regards the way they are costed:

- The most careful costings are for homicide, assault, sexual assault, robbery, burglary, theft of vehicles and shoplifting.
- A lighter touch is taken for theft from vehicles, criminal damage, and other theft and handling stolen goods. Since Australian estimates of unrecorded crime are unavailable, the costings draw mainly on UK work as regards the estimated “dark figure” and the extent of losses.
- For drug offences, fraud and arson, some indicative overall costs are given. No attempt is made to estimate the “real” number of offences involved since there is little guide to this. Nor is there a breakdown of the different types of cost per individual offence.

Omissions

Some crimes have not been included because of lack of data on the number of incidents and their cost. These include kidnapping, extortion, blackmail, abduction, defamation, pollution, flora/fauna/other environmental offences, good order offences, regulatory offences, and illegal immigration. Traffic offences (illegal speeding and drinking “over the limit”) are also not included, although costs will be considerable.

Homicide

In ABS terms, homicide includes murder, attempted murder, manslaughter and driving causing death. Excluding attempted murder (more appropriately treated as assault), there were 589 victims of homicide in Australia in 2001. This is assumed to be the “real” number—that is, there is no multiplier.

MUARC’s figures for fatal cases of interpersonal violence were taken as the guide for medical costs and lost productivity. Intangibles costs draw on BTE’s fatal road accident costs.

The medical costs of homicide are \$7,600 per incident. The cost for lost output is substantial, at about \$1.2 million per homicide, while the intangible cost is nearly \$400,000.

The overall cost of homicide at the 2001 level is \$4.5 million (medical), \$700 million (lost output), and about \$225 million (intangible costs). This gives a total cost of \$930 million, or about \$1.6 million per homicide.

Total for homicide:
\$930 million (overall)
\$1.6 million per homicide

Excluded are costs associated with the investigation, prosecution, trial and imprisonment of homicide offenders, which are included in criminal justice system costs. Also excluded are any costs of supporting surviving dependants of victims and offenders, and any intangible costs for family and friends of homicide victims.

Assaults

The number of assaults in 2001 is estimated to have been 810,000. A distinction is made between non-injury and injury assaults (about one-fifth according to the CSS), and higher costs are allocated to attempted homicides. Not all assaults with injury require medical treatment and allowance is made for this, extrapolating from UK results.

The medical cost of an average assault with injury is \$1,000, with the total amounting to \$170 million. Lost output costs are higher at about \$3,400 for an injury assault, and nearly \$600 million overall. The average intangible cost is similar to lost output, and amounts to about \$670 million. The total cost of assault in 2001–02 prices is estimated at just over \$1.4 billion, or \$1,800 per assault.

Total for assault:
\$1.4 billion (overall)
\$1,800 per assault

There is not enough information to differentiate child abuse, though it would be valuable to do so. Costs per incident could be higher than for other assaults, even discounting the possibility of “second generation” crimes by those abused as children, or possible lower educational and occupational achievement. It would also be useful to be able to say whether average costs for domestic violence are higher. There is every indication they are.

Sexual Assault

The number of sexual assaults in 2001 is estimated to have been 93,000. About a quarter involved injury according to the CSS, though not all needed medical treatment.

Essentially similar costing procedures were adopted for sexual assault as for assault. However, to allow for a possible heavier emotional toll, some adjustment was made using an empirical guide from the International Crime Victimization Survey as to the relative seriousness with which victims judged sexual and non-sexual assaults (van Kesteren et al. 2001). In effect, lost output and intangible costs for sexual assaults were inflated by one-third relative to other assaults.

The average medical cost of a sexual assault with injury is \$1,000, with the total medical bill amounting to just over \$20 million. Lost output costs are about \$4,500 for an injury sexual assault, and about \$100 million overall. The intangible cost is estimated at \$1,200 averaged across all incidents, and \$110 million overall. The total cost of sexual assault is estimated to be \$230 million, or \$2,500 per incident.

Total for sexual assault:
\$230 million (overall)
\$2,500 per sexual assault

Robbery

Neither the police nor CSS figures give an indication of the value of property stolen in robbery, but use is made of estimates from a number of surveys, and NSW and Victorian police data. Organisational robberies are treated as a different count from the personal robberies encompassed by the CSS, although some allowance has been made for the likelihood of incomplete police figures.

The estimated number of personal robberies in 2001 was nearly 163,000. This results from a large multiplier, but one in line with that from the UK. There were an estimated 5,700 organisational robberies.

The best estimate of the theft element of robbery is about \$800 per incident, or \$130 million overall. About a quarter of robberies involve some injury to the victim. On UK figures, half require medical attention, rather higher than for assaults. On this basis, the total medical cost of robbery is estimated at nearly \$50 million. Lost output adds another \$1,000 per incident, or \$170 million overall. This is higher than the property loss amount. Intangible losses are higher still, amounting to \$1,500 per incident, or just over \$250 million overall.

All told, then, the best estimate of the cost of robbery is \$600 million overall, with an average robbery cost of \$3,600.

Total for robbery:
\$600 million (overall)
\$3,600 per robbery

Burglary

Although burglary is a key crime of public concern, Australian data for gauging costs is poor. A fair degree of estimation and extrapolation is therefore necessary. A distinction is drawn between residential and non-residential burglaries. There were an estimated 819,000 residential and 176,000 non-residential burglaries in 2001. Estimates of property loss and damage drew on a number of surveys as well as police figures from NSW and Victoria. The best estimate for residential burglaries was an average loss of \$1,100, and a higher \$2,400 for non-residential incidents. This gives an overall loss of about \$1.3 billion, of which \$0.9 billion was for residential burglary.

Extrapolating from UK estimates, lost output was assessed at \$100 per residential burglary and at \$1,200 for non-residential. The total lost output bill was \$300 million. Again extrapolating from UK figures, intangible losses were estimated at \$800 per incident, or \$780 million overall. No medical costs could be assessed.

The cost of burglary amounts to \$2,000 per incident for residential burglary, and \$4,500 per incident for non-residential burglary. The total burglary bill is \$2.43 billion. The burden on businesses is greater than on householders. Non-residential burglaries account for 18 per cent of all burglaries, but 32 per cent of the costs.

Total for burglary:
\$2,430 million (overall)
\$2,400 per burglary
\$2,000 per residential burglary
\$4,500 per non-residential burglary

Theft of Vehicles

The police recorded 140,000 vehicles stolen in 2001 (just under one per 100 vehicles registered). This is close to the “real” number of thefts since most victims will report to the police to get help in recovering their vehicle, or to facilitate an insurance claim.

The best estimates of property loss and damage are insurers’ figures to the National Motor Vehicle Theft Reduction Council (2002). They are based on the cost of finalised claims, less revenue from recovered vehicles. (About four in five stolen vehicles are recovered – albeit some damaged or with items stolen.) Not all thefts are

covered by insurance, and not all involve losses high enough to warrant a claim. The best estimate is that 45 per cent of thefts result in a claim.³ When a claim is not made, an arbitrary value of \$500 property loss has been set. When a claim is made, the average property loss is \$8,300 per theft.

The estimated cost of property loss amounts to \$590 million overall, or \$4,000 per theft, averaged across claim and no-claim thefts. Australian survey data is taken as a guide to lost output, and UK figures are adapted for intangible costs. The total cost due to lost output is over \$100 million about (\$700 per incident). The intangible cost is nearly \$190 million (\$1,300 per incident). All told, then, the best estimate of the cost of motor vehicle theft is \$6,000 per incident, or \$880 million overall.

Total for theft of vehicles:
\$880 million
\$6,000 per theft of vehicle

Theft from Vehicles

Thefts from vehicles are in a broad category of thefts in ABS figures but some estimation of costs can be made, albeit relying to a rather greater degree on UK estimates.

Police figures in five states on the number of recent thefts are extrapolated to give an Australian total of 266,000 recorded thefts. Applying an appropriate multiplier gives an estimated "real" total of 956,000. Survey estimates indicate that average property loss is about \$600 for thefts from commercial vehicles, and \$250 for others. The best estimate of lost output is \$180 per commercial vehicle incident, and \$15 for others. Intangible costs, on the basis of UK figures, are \$260 per incident on average.

The total cost of thefts from vehicles, therefore, amounts to \$530 million, made up of \$260 million in property loss, about \$20 million in lost output, and \$250 million in intangible costs.

Total for theft from vehicles:
\$530 million
\$550 per theft from vehicle

Shop Theft

Thefts from businesses are perpetrated mostly by customers and employees. Police figures in four states on the number of recent shop thefts are extrapolated to give an Australian total of 73,000. To this is

applied a fairly well aired multiplier which proposes that one in 100 thefts ends up recorded by the police (cf. Farrington 1999). This gives an estimated total of 7.3 million thefts (just over 40 per retailer). Survey estimates indicate the average unit loss is in the region of \$100 (this boosted by higher losses from employee theft). The best estimate of lost output is \$10 per incident.

The total cost of shop theft, then, amounts to \$810 million, with an average loss per theft of \$110. For retailers, this would amount to an average loss of \$4,800 a year.

Total for shop theft:
\$810 million
\$110 per shop theft

The Retail Traders' Association (RTA) rule of thumb is that 1.5 per cent of retail turnover goes on "leakage and shrinkage", giving a current total loss figure of \$2 billion. This is not comparable with the current estimate, however, since the RTA losses also cover delivery thefts, damage to goods, burglary, refund frauds and so on.

Other Theft and Handling

There is a miscellany of other thefts not elsewhere counted, including theft of personal items in office and leisure settings, thefts from gardens, and thefts from farms. Estimates of loss are rather tenuous here, but worth including for completeness.

Using a UK multiplier, there was an estimated 1.769 million other thefts not covered in earlier categories. UK estimates suggest an average property loss of \$200 per incident, lost output of \$10, and an intangible cost of \$150. The total cost, then, amounts to \$640 million, of which about \$350 million is property loss, and \$270 million intangible losses.

Total for other theft:
\$640 million
\$360 per theft

Criminal Damage

Criminal damage—usually called vandalism—is difficult to cost as incidents range widely in seriousness, even excluding arson which is dealt with separately next.

Again using a UK multiplier, there was an estimated 1.9 million incidents of criminal damage in 2001. Using a variety of survey sources, the average unit cost for property loss was \$350. The best estimate of lost output

is \$50 per incident, while intangible losses run at \$300 per incident.

The total cost of criminal damage amounts to \$1.34 billion, of which 50 per cent is property loss, and about 40 per cent intangible losses.

Total for criminal damage:
\$1,340 million
\$700 per incident of criminal damage

Arson

It is hard to know how many incidents of arson occur. Criminal intent is difficult to prove for many fires, and this will impinge on both police and insurance figures. Most previous estimates of the cost of arson have focused on property loss, although indirect losses and intangible losses could be considerable.

The cost estimate was based on the average of the following:

- the number of arsons recorded by the police multiplied by the average arson cost according to Victoria police;
- an estimated number of unrecorded incidents (assumed to be twice as many as recorded) multiplied by an average cost set at one-fifth of recorded incidents;
- the annual cost of deliberate fires attended in Victoria and Western Australia, grossed to a national figure;
- Insurance Council of Australia estimates of insurance payouts for arson in Victoria and New South Wales; and
- insurance payouts for fire damage in 2001–02, assuming a third are due to arson or probable arson.

There are a number of points to note:

- Insured losses are taken as comprising 35 per cent of total losses, using figures from Emergency Management Australia. Thus, medical, lost output and intangible losses are taken into account, but not as separate elements.
- Estimates based on insured fires adjust for the fact that a quarter of targets are uninsured.
- An adjustment is made to avoid over-counting vehicle fires. They are a sizeable proportion of arson incidents, but some occur after a vehicle is stolen, so costs will be subsumed under motor vehicle theft.

The best estimate of the cost of arson in 2001–02 is \$730 million in terms of direct, indirect and intangible costs. Added to this is about \$330 million for fire services (using a quarter of Productivity Commission figures for fire service costs), and a further \$50 million for ambulance services (five per cent of total budget). The value of volunteer time was estimated at \$240 million on the basis

of data from the Australasian Fire Authorities Council. The sum of these is \$1.35 billion.

Total for arson:
\$1,350 million

Fraud

The cost of fraud is particularly tenuous. There are many types, including credit card fraud, employee fraud, forgery, welfare benefit frauds, identity fraud, Custom and Excise fraud, tax fraud, insurance fraud, and computer and telecommunications fraud. Lack of good enough data precludes building up the overall cost of fraud from estimates of the sub-components.

Starting with police figures was the other option, although this entailed estimating what proportion of fraud goes unrecorded, and how unrecorded and recorded frauds might differ in value.

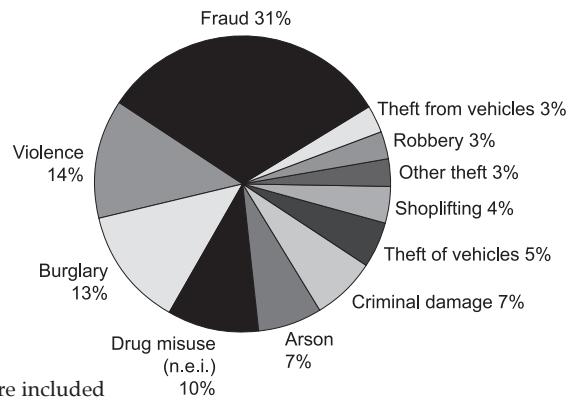
The approach taken was as follows.

- The number of fraud offences recorded by the police in 2001 (about 110,000) was multiplied by the average value of fraud in NSW and Victoria (\$9,900 per fraud). This gave a loss of \$1.09 billion.
- It was estimated that there were three undetected frauds for every one recorded. The average value of these was set at just under \$1,600 on the basis of five surveys that covered fraud. An allowance was made for a small number of very high value cases. The total cost here amounted to \$600 million.
- Added to (a) and (b) was the value of frauds against the Commonwealth that are investigated by the Australian Federal Police, together with an estimate for undetected frauds against the Commonwealth. This gave a total of \$1.83 billion.
- (a) to (c) were adjusted to take rough account of other costs. The guide to these was the proportion of lost output and intangible losses of all losses for property crime (40 per cent). This was used to inflate the fraud figure. Thus, the sum total from the elements above (\$3.5 billion) increased to \$5.88 billion as the overall fraud bill.

Total for fraud:
\$5,880 million

The previous AIC estimate of fraud (Walker 1997) was based principally on estimates by AFP research staff, although little detail is known. Were this to be updated, and allowing for inflation, this would give a current figure of just under \$3.7 billion. However our estimate of \$5.88 billion is more realistic.

Figure 1: Different crimes as a proportion of total costs



Note: n.e.i. = not elsewhere included

Drug Offences

Drug offences carry considerable law enforcement costs, which are subsumed in criminal justice system costs, discussed below. There is also substantial financial fallout from offences committed to fund a drug habit. These are included within relevant offence categories (burglary and shoplifting, for instance), though this is returned to below. In addition, there are other “human costs” of drug abuse that fall principally to health and treatment services. Lost productivity due to premature death and illness is a further cost.

A number of estimates were made to account for some of the human costs involved.

- Deaths due to drug dependence were estimated to cost about \$510 million in 2001. Costs fell principally to lost productivity (assessed, for simplicity, as for homicide victims).
- Hospitalisations and emergency department visits due to drug dependence might cost in the region of \$26 million.
- For the costs of other drug treatment, Australian Institute of Health and Welfare data for 2000–01 on people registered for treatment (AIHW 2002) were linked to the 2001 survey of Clients of Treatment Service Agencies (Shand & Mattick 2002) to

distinguish between residential and non-residential treatment. Costs for each were taken from Productivity Commission figures for mental health care (SCRCSSP 2003). This gave an estimated bill of about \$370 million.

- Methadone maintenance treatment at 2000–01 levels cost nearly \$100 million.
- Lost productivity may amount to nearly \$960 million. While this might overestimate losses if drug users have less productive lives, this is balanced by the omission of any lost productivity by drug users not in treatment.

Total for drug offences:
\$1,960 million

It is not possible to assess unit costs given that the number of offences is illusive. Nor are all costs counted. No intangible costs are estimated, for one because drug abuse might be considered a “willing choice”. Mental health costs are excluded, even though long-term use of drugs may exacerbate or cause mental disorder. Nor is any account taken of other services for drug users such as accommodation, needle and syringe exchange programs, treatment services in correctional institutions, and private treatment agencies not publicly funded. Also discounted is the raft of central and local government initiatives set up to deal with drug abuse (for example, drug awareness programs).

Figure 2: Volume and costs of crime (excluding arson, fraud and drugs)

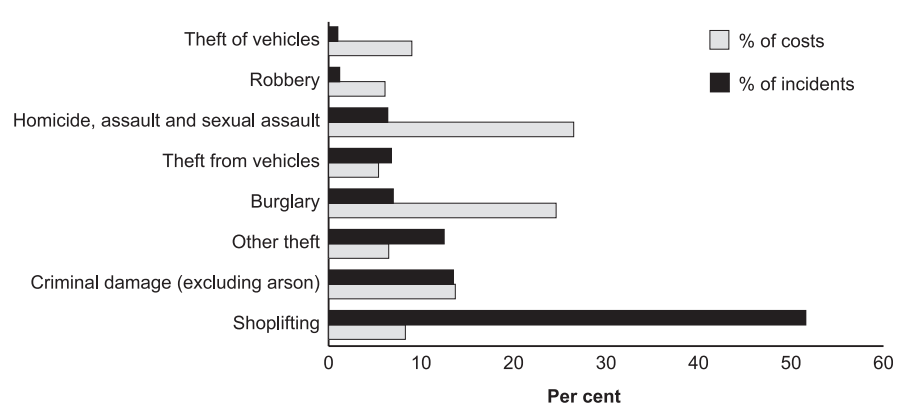
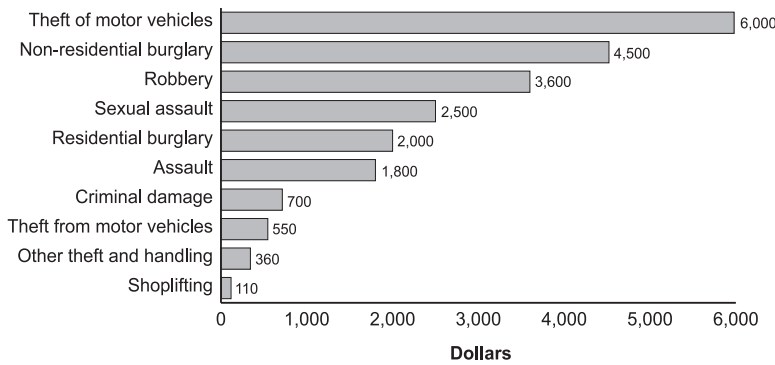


Figure 3: Average cost per incident (excluding homicide, arson, fraud and drugs)



Overall Crime Costs

It has not been possible to assess the different elements of costs for different offences in quite the same way. For instance, medical costs were not assessed for some offences, and the fire service cost of dealing with fires was included for arson, whereas reactive costs for other offences were not apportioned to particular offences.

This said, fraud carries the largest bill—at nearly a third of the total (Figure 1). Violent crime (homicide, assault and sexual assault) and burglary are the next most costly.

Misuse of illicit drugs here covers only the costs of death, treatment costs and lost productivity. The cost of violent and property crime committed to fund a drug habit also lays claim to be counted. A guide to this comes from the AIC’s Drug Use Monitoring in Australia (DUMA) project (Makkai & McGregor 2002). This suggests that \$3.7 billion of the cost of property and violent crime stems from drug-attributable crimes. When added to the \$1.9 billion cost of drug misuse counted in Figure 1, this gives a total of \$5.6 billion—or 29 per cent of the \$19 billion cost of crime that has been accounted for so far. Some proportion of other costs that are considered below—policing for instance—can of course also be set against drug misuse, although no attempt is made to do this.

Crime Volume and Crime Costs

Except for arson, fraud and drug misuse, a “real” number of offences can be estimated for other offences (the “main set”). For these, offences can be compared in terms of (a) their volume, and (b) the costs they carry. Figure 2 shows the striking difference. One clear message is that violent crime is a great deal more important in cost terms than would be indicated by the number of

offences. The cost of violence amounts to just over a quarter of the total, whereas the number of crimes is six per cent. Burglary is also more costly than its numbers would suggest.

Intangible Losses

Intangible losses are a very large component for many crimes, as other work has found (cf. Cohen 2000). For the main set of offences, they comprised one-third of total losses, even with the fairly conservative approach to costing taken. In terms of overall intangible costs, assault and residential burglary are most costly. Criminal damage also carries high intangible losses, mainly a function of the volume of offences.

Property Loss

Residential burglary was the most costly of the “main set” of crimes in terms of simple property loss, with a total overall cost of \$0.9 billion. Shoplifting was the next most costly (\$0.7 billion) which reflects the high volume of offences.

Table 1: Criminal justice system costs in Australia 2001–02¹

	\$ million
Police costs ²	3,230
Corrective services ³	1,590
Commonwealth portfolio ⁴	820
Court administration ⁵	410
Juveniles ⁶	350
Total ⁷	6,400

Notes:

- 1 The basic source of figures is SCRCSSP (2003).
- 2 70 per cent of total police costs.
- 3 Excludes juvenile corrective services.
- 4 Includes Attorney-General, Australian Federal Police, Office of the Director of Public Prosecutions, National Crime Authority, and other agencies. Also included is five per cent of the cost of the Australian Customs Service.
- 5 Includes criminal courts and coronial courts; civil court expenditure is excluded.
- 6 Extrapolated from NSW Department of Juvenile Justice figures.
- 7 Some main exclusions are legal aid, and help for prisoners in and outside prison.

The Most Costly Crime Incidents

Not surprisingly, the most costly crime per incident was homicide, with a unit cost of \$1.6 million. Among the other crimes (and bearing in mind arson, drug offences and fraud are omitted here), the most costly per incident, on average, was theft of motor vehicles, followed by non-residential burglary (Figure 3).

Other Costs

Criminal Justice System Costs

As well as the costs identified above, there are considerable costs borne by the criminal justice system. The main cost is the police, although they not only engage in crime prevention and law enforcement, but also assist emergency services, direct traffic, and deal with public order problems. To allow for this, the Productivity Commission’s police bill for 2001–02 of \$4,610 million is reduced by 30 per cent (SCRCSSP 2003). This gives a total of \$3,230 million. Other criminal justice system costs have been taken at face value.

The cost of dealing with juvenile offenders is not covered by the Productivity Commission. An estimate is made on the basis of spending on juvenile justice in New South Wales. Table 1 shows the final criminal justice system bill.

Total for criminal justice system costs: \$6,400 million

Costs of Victim Assistance

A number of elements of victim assistance were costed. They were criminal injury compensation (\$180 million), victim support units within government departments (\$14 million), the value of volunteer time (\$200 million, estimated at just over one per cent of all volunteer hours in Australia), a proportion of child protection and out-of-home care for children in need (nearly \$400 million), the cost of supported accommodation and assistance directed at “women escaping domestic violence” (nearly \$70 million), and family violence program support by the Office of the Status of Women (\$20 million). The sum of these is an estimated \$880 million.

Total for victim assistance costs: \$880 million

Security

There is substantial investment in physical barriers and deterrents to crime: not only security hardware,

CCTV, security patrols and such, but also environmental “refitting” by local governments, and people’s everyday precautionary behaviour. Not all elements are amenable to costing, but the Australian Security Industry Association gives a figure of turnover for security products and services in Australia amounting to \$3.92 billion in 2001–02. With industry advice, 80 per cent has been taken as a rough guide of the products and services associated with the crimes covered here.

Total for security costs:
\$3,140 million

Household Precautions

Some but not all household expenditure on security equipment will be picked up above. There is also the opportunity cost of people’s ordinary precautionary behaviour. Again, this defies accurate quantification, but may be substantial. Anderson (1999) showed that an average US adult spends four minutes a day locking and unlocking doors and looking for keys. Based on the opportunity cost of their time, in Australia this would be worth about \$125 per year per adult, or about \$1.83 billion annually. This is a “finger in the wind”, and will underestimate full opportunity costs. But it lays claim to be included.

Total for household precaution costs:
\$1,830 million

Insurance

Insurance Statistics Australia estimates \$500 million in Australia in 2001–02, as the administrative cost of providing insurance for theft and damage—about 15 per cent of the value of premiums.

Total for insurance costs:
\$500 million

Lost Productivity of Prisoners

Lost productivity from offenders being incarcerated is not included as a cost of crime here, since it is debatable what the real costs are. First, many offenders—about half according the National Prison Census data (AIC analysis)—are unemployed on arrest and may well be so after release. Second, the majority of prisoners work whilst in prison so that the value of this productivity needs to be set against lost productivity outside prison. Thirdly, the cost of “crimes saved” by incarceration needs to be accounted for. Estimates indicate that these three elements more or less cancel each other out (see technical report).

Table 2: Estimated number of crimes, 2001

	Recorded crime, 2001 (000s) ¹	Multiplier on recorded offences	Source of multiplier ²	Estimated number of actual incidents 2001 (000s)
Homicide	0.6	1.0	none	0.6
Assault	152	5.3	CSS (1998)	810
Sexual assault	17	5.6	CSS (1998)	93
Robbery	27	6.3	CSS (1998) ³	168
Residential burglary	275	3.0	CSS (1998)	819
Non-residential burglary	160	1.1	Estimate	176
Theft of motor vehicles	140	1.1	CSS (1998)	147
Shoplifting ⁴	73	100.0	UK estimates	7,304
Theft from motor vehicles	266	3.6	UK estimates	956
Other theft and handling	390	4.5	UK estimates	1,769
Criminal damage	319	6.0	UK estimates	1,914
Total	1,820			14,160

Notes:

- 1 Source for recorded crime statistics (ABS 2002).
- 2 CSS = Crime and Safety Australia (ABS 1999). UK estimates based on Brand & Price (2000).
- 3 Estimate made for non-personal robberies.
- 4 Based on shop theft figures for NSW, Victoria, Queensland and South Australia. Weighted up to Australia on the basis of these states’ share of “total theft”.

Table 3: Summary of average and total cost estimates

	Property stolen and damaged (\$)	Unit costs				Total cost (\$m) ¹
		Medical costs (\$)	Lost output (\$)	Intangible costs (\$)	Average cost (\$)	
Homicide	–	7,600	1,190,000	380,000	1,600,000	930
Assault	–	200	700	800	1,800	1,440
Sexual assault	–	200	1,100	1,200	2,500	230
Robbery	800	300	1,000	1,500	3,600	600
Residential burglary	1,100	n.e. ²	100	800	2,000	1,650
Non-res. burglary	2,400	n.e.	1,200	800	4,500	790
Theft of motor vehicles	4,000	n.e.	700	1,300	6,000	880
Shoplifting	100	n.e.	10	n.e.	110	810
Theft from motor vehicles	270	n.e.	20	260	550	530
Other theft and handling	200	n.e.	10	150	360	640
Criminal damage	350	n.e.	50	300	700	1,340
Arson						1,350
Drugs (n.e.i.) ³						1,960
Fraud						5,880
Total losses (\$m)						19,030

Notes:

- 1 The estimated number of actual incidents for each crime is shown in Table 2.
- 2 n.e. = not estimated
- 3 n.e.i. = not elsewhere included.
- 4 Figures may not sum to total due to rounding.

Table 4: Total costs

	\$ million
<i>Costs in dealing with crime</i>	
Criminal justice system	6,400
Private security industry	3,140
Household precautions	1,830
Provision for victims	880
Insurance administrative costs	500
Sub-total	12,750
<i>Crime costs</i>	
Property loss	4,070
Medical costs	250
Lost output	2,180
Intangible losses	3,320
Arson	1,350
Drugs (not elsewhere included)	1,960
Fraud	5,880
Sub-total	19,030
Total	31,780

Note: Figures may not sum to total due to rounding.

Central and Local Government Expenditure on Crime Prevention

Not costed here is the array of jurisdictional and local government crime prevention and community safety programs. The annual cost of these has never been pulled together, but will be significant. There are also social amenities—street lighting for instance—with high costs, a proportion of which could be legitimately put on the crime bill.

Total for crime prevention costs: not available

Full Costs in Summary

Table 4 shows the costs in full. The cost of dealing with crime is nearly \$13 billion, 40 per cent of the total. Of this, the criminal justice system accounts for half, and private security for a quarter. As stated, the figure for household precautionary behaviour is speculative. The cost of the crimes totals \$19 billion, while the total bill amounts to nearly \$32 billion. This is \$1,600 per person per year in Australia, and five per cent of GDP.

Conclusions

The estimates here break new ground. They give figures for the cost of different crimes generally in excess of those from the last AIC estimate, although this is because of more complete accounting of the costs involved.

The costs should be treated judiciously.

- A problematic element is the number of crimes to be costed; that is, what “multipliers” are taken to account for the “dark figure” of offences. Generous multipliers were used.
- Some of the costings are based on data from the UK, applied to Australia. The soundness of this depends on the profile of crime in the two countries being similar. A good case for this can be made, but some caution remains.
- Assumptions have been made throughout. Some may sail close to the wind. Cost estimates will be sensitive to the assumptions made, and they may change as the quality of supporting data improves.

The main implications for future work are that we need:

- To examine the multiplier issue more carefully. This requires work on the accuracy of survey counts, like whether all “crimes” that victims tell interviewers about merit the label, and how well victims can pinpoint in time what happened to them. We

also need more work on police decision processes after victims report what they think to be crime.

- Better Australian information on the costs of victimisation in terms of property loss and time off work. Australian survey information is under-developed on this front.
- More Australian information on the intangible costs of crime, and which costing methodology produces the most sensible estimates. Better estimates are especially needed for property crime.
- Better cost estimates for newer forms of crime such as people smuggling and illegal immigration.

Notes

- 1 Estimates of lost productivity need to use a so-called “social discount rate”. The rate MUARC used was changed to be more in line with current practice.
- 2 More precisely, the ratio of intangible costs to lost output costs for road accidents is applied to MUARC’s figures for lost output to give an estimate of intangible costs for homicide, assault, sexual assault and robbery. BTE’s intangible costs for road accidents are based on jury awards that are essentially funded by compulsory third-party insurance for motorists. Little use could be made of information from criminal injury compensation awards in Australia (or elsewhere) since these are severely capped by funding limits.
- 3 This is based on an estimated figure of 75 per cent of owners covered by theft, and 60 per cent of insured victims making a claim.

References

Anderson, D.A. 1999, “The aggregate burden of crime”, *Journal of Law and Economics*, vol. 42, no. 1, pp. 611–42.

Australian Bureau of Statistics (ABS) 2002, *Recorded Crime Australia*, cat. no. 4510.0 (and companion tables), ABS, Canberra.

— 1999, *Crime and Safety Australia*, cat. no. 4509.0, ABS, Canberra.

Australian Institute of Health and Welfare 2002, *Alcohol and Other Drug Treatment Services in Australia 2000–01: First Report on the National Minimum Data Set*, Australian Institute of Health and Welfare, Canberra.

Brand, S. & Price, R. 2000, *The Economic and Social Costs of Crime*, Home Office Research Study No. 217. Home Office, London.

Bureau of Transport Economics 2000, *Road Crash Costs in Australia*, report 102, Bureau of Transport Economics, Canberra.

Cohen, M. 2000, “Measuring the costs and benefits of crime and justice”, in *Measurement and Analysis of Crime and Justice, Criminal Justice 2000, Volume 4*, Office of Justice Programs, US Dept of Justice, Washington DC, pp. 263–315.

Collins, D.J. & Lapsley, H.M. 2002, *Counting the Cost: Estimate of the Social Costs of*

Drug Abuse in Australia in 1998–99, Monograph Series No. 49, Cwlth Dept of Health and Ageing, Canberra.

Farrington, D.P. 1999, “Measuring, explaining and preventing shoplifting”, *Security Journal*, vol. 12, no. 1, pp. 9–27.

Makkai, T. & McGregor, K. 2002, “Drugs and crime: Calculating attributable fractions from the DUMA project”, Appendix D in D.J. Collins & H.M. Lapsley, *Counting the Cost: Estimate of the Social Costs of Drug Abuse in Australia in 1998–99*, Monograph Series No. 49, Commonwealth Dept of Health and Ageing, Canberra.

Mayhew, P. 2003, *Counting the Costs of Crime in Australia: Technical Report*, Technical and Background Paper Series, no. 4, Australian Institute of Criminology, Canberra, www.aic.gov.au/publications/tbp/tbp004.html.

Miller, T.R., Cohen, M. & Wiersema, B. 1996, *Victim Costs and Consequences: A New Look*, National Institute of Justice Research Report, US Department of Justice, Washington DC.

National Motor Vehicle Theft Reduction Council 2002, *Comprehensive Auto-theft Research System (CARS) 2001–02*, National CARS Project, Adelaide.

Shand, F. & Mattick, R. 2002, *Census of Treatment Service Agencies (COTSA) 2001*, University of New South Wales, Sydney.

Steering Committee for the Review of Commonwealth/State Service Provision (SCRCSSP) 2003, *Report on Government Services 2002*, Productivity Commission, Melbourne.

Van Kesteren, J., Mayhew, P. & Nieuwbeerta, P. 2001, *Criminal Victimization in Seventeen Industrialised Countries: Key Findings from the 2000 International Crime Victims Survey*, Ministry of Justice, the Hague.

Walker, J. 1997, “Estimates of the costs of crime in Australia in 1996”, *Trends and Issues in Crime and Criminal Justice*, no. 72, Australian Institute of Criminology, Canberra.

Walker, J. 1992, “Estimates of the costs of crime in Australia”, *Trends and Issues in Crime and Criminal Justice*, no. 3, Australian Institute of Criminology, Canberra.

Watson, W.L. & Ozanne-Smith, J. 1997, *The Cost of Injury to Victoria*, Monash University Accident Research Centre, Report No. 124, Monash University Accident Research Centre, Melbourne.

At the time of writing, Pat Mayhew was Consultant Criminologist at the Australian Institute of Criminology.

Dr Glenda Adkins lectures at the University of Southern Queensland, Toowoomba.



General Editor, Trends and Issues in Crime and Criminal Justice series:
 Dr Adam Graycar, Director
 Australian Institute of Criminology
 GPO Box 2944
 Canberra ACT 2601 Australia

Note: Trends and Issues in Crime and Criminal Justice are refereed papers.