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## **The economic and social costs of crime**

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Home Office, London

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## **Home Office Research Study 217**

# The economic and social costs of crime

Sam Brand and Richard Price

Economics and Resource Analysis  
Research, Development and Statistics Directorate  
Home Office

# Home Office Research Studies

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# Foreword

The costs of crime have become an increasingly important tool for decision-makers concerned with crime and its impact on society. They help make explicit judgements about the relative merits of alternative policies and programmes which are already implicit in decision-making about how to allocate resources to tackling crime – both overall and between different types of crime. However, the supply of good quality information on costs has not kept pace with the demand for it. This study takes the first steps to addressing this problem.

Crime reduction and criminal policy is making progress but still a fair way behind some areas of government in using evidence of effectiveness and cost effectiveness as the basis for setting priorities and allocating resources. Many other departments routinely carry out detailed cost-benefit appraisals and evaluations of new social policies. The Government's Crime Reduction Programme, and challenging new Public Service Agreements for the Home Office, Criminal Justice System and other government bodies, are contributing to an increased awareness of the role that cost of crime estimates can play in comparing the costs of initiatives with the likely benefits that they can achieve.

Although they break new ground in this country, the cost estimates in this study are far from perfect. Further work is necessary, and will be carried out, to ensure that the estimates are robust, based on the best available evidence and capable of bringing a real change to the way in which decision-makers at all levels view the problem of crime and how to tackle it.

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The CJS project team and consultative group on the development of the cost of crime performance measure for the CJS have both generated a lot of debate and constructive criticism, and have helped to ensure the real-world relevance of a potentially arcane study. Particular thanks go to Simon Fish and Geoff Lewis (HM Treasury), Rob Culligan (Association of Chief Police Officers), Paul Rayner (Serious Fraud Office) and Cecilia French (Home Office), who all provided substantial contributions. Andrew Healey, Susanna Mourato, Giles Atkinson and Ann Netten, of the Personal and Social Services Research Units at the London School of Economics, University College London and the University of Kent at Canterbury also kindly agreed to allow us to use some of their material in this study.

Finally, this work builds on the efforts of other cost of crime researchers around the world. In particular, the pioneering work of Ted Miller, Mark Cohen and Brian Wiersema at the National Institute of Justice in the US has helped accentuate the importance of this type of work and to further its acceptance into the policy debate.

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October 2000

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## Executive summary

Every day decisions are made by policy makers and managers in the Criminal Justice System which reflect implicit judgements about the relative seriousness of different crimes, or about the benefits of pursuing one approach to reducing crime rather than another. This study represents a first step towards making such judgements more explicit and in making sure they better reflect the available evidence on the impacts on society of different types of crime.

Cost of crime estimates can play an important role in helping the government to achieve the greatest impact on crime for the money spent. They can be used in both appraisal and evaluation of crime reduction policies, such as those in the Government's evidence-based Crime Reduction Programme. They can help us to prioritise, focusing scarce resources on policies that have the biggest impact on harm caused by crime, rather than simply the number of crimes. Moreover, one of the two aims of the Criminal Justice System (CJS) is "to reduce crime and the fear of crime and their social and economic costs". This study reports on progress towards a cost of crime measure that can be used to assess performance against this aim. Figures used here represent the best available evidence, but nevertheless needs to be much improved. The aim of this report is to stimulate debate and improvements in the evidence.

The study concentrates largely on offences falling under notifiable offence categories.<sup>1</sup> Not all crimes are included in the study. The costs of drug trafficking and possession, handling stolen goods, public order offences, other low-level disorder, fare evasion, summary and non-summary motoring offences and other summary offences are not estimated.<sup>2</sup> The study does not, therefore, attempt to estimate the costs of all crime, but rather a subset of crime where reliable information is available on the cost and the number of offences committed.

In order to get a true picture of the total impacts of crimes in notifiable offence categories, we need to estimate the actual number of crimes in these categories, rather than the number of crimes recorded. An approach has been devised which, as far as possible, links the total estimated number of offences in a given year to changes in the number of offences recorded by the police in that year. The British Crime Survey has been used to estimate actual numbers of offences where possible. Table 1 gives details of the offence types for which average cost estimates are presented.

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1 Offences that police forces record and are required to report to the Home Office.

2 The cost of the criminal justice response is included in total for drug offences, motoring offences and other summary offences, as is the cost of accidents involving illegal speed. These are, however, acknowledged to be only partial estimates of the full cost of these offences.



**Table 1: Notifiable offence categories in this study**

Crime category	Sub-categories included in this study	Notifiable offence codes <sup>3</sup>
Violence against the person	Homicide More serious offences (excluding Homicide) Less serious offences	1-9; 11-15; 37.1
Common assault		104; 105
Sexual offences		16-27; 74
Robbery	Robbery of personal property Robbery of business property	34A; 34B
Burglary	Burglary and aggravated burglary in a dwelling Burglary and aggravated burglary not in a dwelling	28-31
Theft and handling stolen goods	Theft of a vehicle Theft from a vehicle Attempted theft of/ from a vehicle Theft from a shop (including theft by an employee/ other) Theft of commercial vehicle Theft from commercial vehicle Other theft (including theft of pedal cycle, theft from person, other theft, but not handling stolen goods)	37.2; 39-49; 126
Fraud and forgery <sup>4</sup>		51-53; 55; 60; 61; 814
Criminal damage	Criminal damage against individuals/ households Criminal damage against commercial/ public sector	56-59

3 As given in Appendix 3 of Criminal Statistics 1998 (Home Office, 1998a).

4 Only total costs are estimated for fraud and forgery.

‘Costs of crime’ in this paper refer to the full range of impacts of crime, approved where possible in monetary terms – though this does not suggest that it is either straightforward or always right to reduce the consequences of any crime into purely financial terms. Costs are incurred in anticipation of crimes occurring (such as security expenditure and insurance administration costs), as a consequence of criminal events (such as property stolen and damaged, emotional and physical impacts and health services), and responding to crime and tackling criminals (costs to the criminal justice system).

Costs have been measured using surveys of victims, such as the British Crime Survey and Commercial Victimization Survey, and estimates of industry turnover and costs, such as the security and insurance industries. Resource cost estimates for the criminal justice system have been derived from a model developed by the Home Office to track flows and costs through the criminal justice process. Emotional and physical impacts of crime are, for the time being, estimated using figures for people’s willingness to pay to avoid road traffic accidents, but work is underway to derive better estimates reflecting more accurately of the impacts of crime on victims.

Average costs of crime vary widely between offence categories. The most costly property crimes are theft of vehicles, costing around £4,700 per incident.<sup>5</sup> Burglaries cost an average of £2,300, and criminal damage around £500. Personal crimes are far more costly on average than property crimes. Homicides have been estimated to cost at least £1 million, with other violence against the person costing on average £19,000 per incident. Robberies incur costs of almost £5,000 on average. Common assault is the least costly personal crime, with an average cost of around £500 per offence.

The total cost of crime to England and Wales in 1999/2000 is estimated at around £60 billion, although this figure is still far from comprehensive, as it does not include important costs such as fear of crime or quality of life impacts. Table 2 shows how this £60 billion is split, by type of cost (such as property stolen, security expenditure and criminal justice system resources) and by offence category (such as violence, robbery or burglary). Around £19 billion of the total cost of crime is the cost of property stolen or damaged. Nearly £18 billion of the total is the direct emotional and physical impact on victims of crime, with a little over £14 billion of this incurred as a result of violent crime. The response to crime by the CJS constitutes around 20 per cent of the total cost of crime, at around £12 billion. Identifiable costs in anticipation of crime – security expenditure and insurance administration costs – came to over £5 billion, the bulk of this being security expenditure.

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5 All figures are given in 1999 prices.

**Table 2: Summary of average and total cost estimates, by crime type and cost category**

Offence category	In anticipation of crime (£)		As a consequence of crime (£)					In response to crime (£)		Number of incidents (000s)	TOTAL COST (£ billion)
	Security expenditure	Insurance administration	Property stolen and damaged	Emotional and physical impact on victims	Lost output	Victim services	Health services	Criminal Justice System (incl. Police)	Average cost (£)		
<b>Crime against individuals and households</b>											
Violence against the person	2	-	-	13,000	2,500	10	1,200	2700	19,000	880	16.8
Homicide	-	-	-	700,000	370,000	4,700	630	22,000	1,100,000	1.1	1.2
Wounding (serious and slight)	2	-	-	12,000	2,000	6	1,200	2,700	18,000	880	15.6
Serious wounding	10	-	-	97,000	14,000	6	8,500	13,000	130,000	110	14.1
Other wounding	0	-	-	120	400	6	200	1,300	2,000	780	1.5
Common assault	0	-	-	240	20	6	-	270	540	3,200	1.7
Sexual offences	2	-	-	12,000	2,000	20	1,200	3,900	19,000	130	2.5
Robbery/ Mugging	0	40	310	2,400	420	6	190	1,400	4,700	420	2.0
Burglary in a dwelling	330	100	830	550	40	4	-	490	2,300	1,400	2.7
Theft	40	30	310	160	10	0	-	60	600	7300	4.4
Theft (not vehicle)	-	20	130	100	4	0	-	90	340	3,800	1.3
Vehicle theft	70	50	500	220	20	0	-	30	890	3,500	3.1
Criminal Damage	10	20	190	200	30	0	-	60	510	3,000	1.5
All crime against individuals and households (£ billion)	0.7	0.5	4.1	17.0	2.9	0.0	1.3	5.7	2,000	16,400	32.2
<b>Commercial and public sector victimisation</b>											
Burglary not in a dwelling	900	50	1,200	-	40	-	-	490	2,700	960	2.6
Theft from a shop	30	-	50	-	-	-	-	20	100	31,000	3.1
Theft of commercial vehicle	3,400	1,500	4,600	-	60	-	-	70	9,700	40	0.3

Theft from commercial vehicle	240	110	320	-	10	-	-	30	700	60	0.0
Robbery or till snatch	1,200	100	1,500	590	120	-	50	1,400	5,000	70	0.4
Criminal damage	340	20	440	-	30	-	-	60	890	3,000	2.6
All commercial and public sector victimisation (£ billion)	3.2	0.2	4.2	0.0	0.1	0.0	0.0	1.4	260		9.1
<b>Fraud and forgery</b>											
All fraud and forgery (£ billion)	1.1	-	10.3	-	-	-	-	0.6	-	9200	13.8
<b>Traffic and motoring/ other non-notifiable offences</b>											
Illegal speed	-	-	-	-	-	-	-	-	-	-	0.9
Drug offences	-	-	-	-	-	-	-	-	-	-	1.2
<b>Other indictable non-motoring offences</b>											
Indictable motoring offences	-	-	-	-	-	-	-	-	-	-	0.5
Summary non-motoring offences	-	-	-	-	-	-	-	-	-	-	0.4
Summary motoring offences	-	-	-	-	-	-	-	-	-	-	0.8
All traffic and motoring/ other non-notifiable offences (£ billion)	-	-	-	0.7	0.2	-	0.0	3.9	-	-	4.8
<b>TOTAL COST OF CRIME (£ billion)</b>	<b>4.9</b>	<b>0.6</b>	<b>18.6</b>	<b>17.7</b>	<b>3.3</b>	<b>0.0</b>	<b>1.3</b>	<b>11.6</b>	<b>-</b>	<b>-</b>	<b>59.9</b>

Notes:

1. Figures may not sum to total due to rounding errors
2. - indicates that no figure has been estimated

The average cost estimates given in this study are best estimates of costs given the information available, but are inevitably imprecise. The quality of the available evidence on the costs of crime is good in some cases, patchy in many, and poor in several. Some costs, such as the fear of crime, or the impacts of crime on victims' families, have not been estimated, due to lack of data or lack of appropriate techniques through which to gather data. Some costs are based on estimates from other fields of research. The cost estimates are therefore sensitive to changes in assumptions made or to improvements in the quality of the supporting data.

Throughout the study we attempt to highlight the problems with, and gaps in, the evidence, and to identify the priorities for further work to ensure that these estimates can be used with greater confidence. New methods need to be developed to estimate the costs of the fear of crime and precautionary behaviour undertaken to reduce the risk of becoming a victim of crime. Better estimates are needed for the emotional and physical impact on victims of crime, health service costs, central and local government resources devoted to crime prevention, and police resources. The Home Office has commissioned new research on the emotional and physical impact of violent crime on victims in order to fill what is possibly the most uncertain and important gap in our knowledge.

### Why measure the costs of crime?

Crime imposes a huge cost on society. Estimates from a number of recent studies range widely from £35 billion to £60 billion per year.<sup>6</sup> The potential savings to individuals and households, businesses and the public sector from effective crime reduction measures are therefore extremely large. Cost of crime estimates in this study show, for example, that achieving the Government's target of a 30% reduction in thefts of and from vehicles by 2004 could lead to savings to society of around £1 billion. A cost of crime measure therefore provides a justification for resources spent on reducing crime, and provides an indication of how successful the Government is at reducing the impacts of crime.

Estimates of the social and economic costs of crime<sup>7</sup> can have an important role in achieving the greatest impact on crime for the money spent. They can increase the awareness of both policy-makers and the public in general of the full impact of crime on society and the potential gains that could result from reductions in crime. Estimates of the costs of individual crimes enable us to make better-informed decisions about which policy measures are the most effective, by allowing meaningful comparisons to be made of the costs and benefits offered by alternative crime reduction measures. They can also help us to prioritise, focusing scarce resources on policies that have the biggest impact on harm caused by crime, in addition to the number of crimes.

The estimates can be used both for policy *appraisal* – to value the likely benefits from implementing alternative policy proposals, and so weigh these up against the likely costs of implementation – and policy *evaluation* – identifying the size and value of the benefits that have accrued from a policy. As in other policy areas, cost-benefit analysis cannot fully encompass political or equity dimensions of appraisal and evaluation, and it is only one of a number of complementary techniques. It does, however, provide a good basis for answering many key questions about crime and crime prevention, such as:

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6 For England and Wales

7 Throughout this paper we use the concept of “social cost” in its economic sense – that is, the full impact on society. The terms ‘social cost’, ‘economic cost’ and ‘social and economic cost’ are therefore used interchangeably in this study. This includes costs imposed on individuals, households, businesses or institutions by crimes they suffer directly (private costs) and wider impacts on society as a whole through, for example, responses to the perceived risk of crime (external costs). The social cost of crime therefore includes both financial costs reflected in expenditure, and ‘notional’ costs reflecting best assessments of the less tangible impacts of crime, such as the emotional and physical impact on victims.

- how can we use our existing resources in the most effective way?
- how can we reduce the total cost of crime to society?
- what is the correct level of resourcing for crime reduction activity?
- should we concentrate only on preventing crime or should we do more to mitigate its consequences?

### **Reasons for publishing this paper**

This research paper serves a number of purposes:

- To make public and open to debate research that the Economics and Resource Analysis Unit of the Home Office has been engaged in over the last two years, to share information and highlight major findings. The report will ensure that the figures are open to scrutiny, so that they can be improved and gaps in the data can be filled.
- To provide information for the Crime Reduction Programme (CRP), a comprehensive range of initiatives building on an evidence base of ‘what works’ in reducing crime, and aimed at achieving the greatest impact on crime for the money spent. An analysis of the costs and benefits of all CRP projects will be a key part of the evaluation and future development of the programme. Estimates of the cost of crime will allow us to estimate the savings generated through CRP initiatives. These savings can then be compared with the costs to show how cost-effective the initiatives have been.
- To enable Crime and Disorder partnerships, local government officials, criminologists, police, prison and probation service managers and those in other operational agencies to carry out cost-benefit analyses that are comprehensive and consistent. The paper aims to be accessible to anyone working in the field of crime reduction.
- To provide a basis for the development of a performance measure for the Criminal Justice System (CJS). In the CJS Strategic Plan 1999-2002 the Government has set the CJS the objective of reducing the economic cost of

crime by 31 March 2002. The CJS Business Plan 2000-2001 notes that “the costs to be tracked have been determined. A programme will be published in Summer 2000 on the data available for those costs and detailing the work continuing during 2000-2001 to improve data which is currently sketchy.” A target for the reduction in the cost of crime is to be set by 31 March 2001. This publication identifies the coverage of the costs that will be tracked, the data that is currently available, and further work that is or will be happening in 2000-2001 to improve the accuracy of the estimates.

There are strong links between these different aims. A high-level understanding of the main impacts of crime and the relative seriousness of different types of crime is vital in highlighting areas where criminal policy needs to focus. Cost-benefit analysis of alternative measures can help to inform the Criminal Justice System and other agencies about the most effective mix of policies to bring down the cost of crime.

The estimates given in this study are far from comprehensive – rather, they represent a first step towards a comprehensive set of estimates. Both the methodology and the estimates will be revised on the basis of new information and research. The study does not cover the many issues involved in cost-effectiveness and cost-benefit analysis for appraisal or evaluation. More details on appraisal and evaluation of crime reduction initiatives can be found in Dhiri and Brand (1999).

### **Why “the economic cost of crime” as a performance measure?**

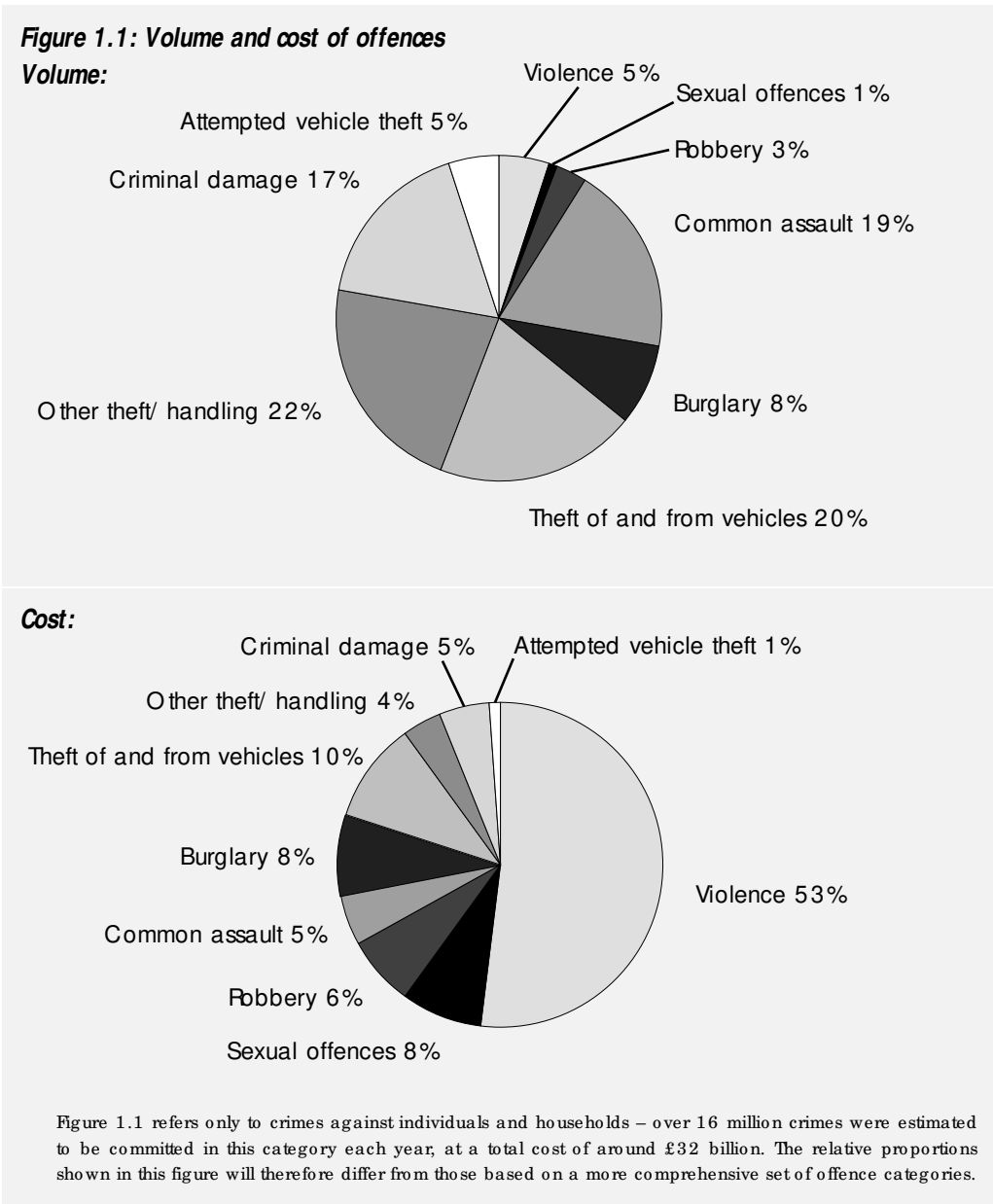
One of the two key aims of the Criminal Justice System (CJS) is “*to reduce crime and the fear of crime and their social and economic costs*”<sup>8</sup>. In support of this aim, objective three commits the criminal justice system to “*a reduction in the economic cost of crime by 31 March 2002*”.

The economic, or social, cost of crime is essentially a measure of the *impact* of crime on society. It gives us a way of measuring the impact of policies aimed at reducing crime and its consequences. Some crimes clearly have greater consequences than others. For example, a murder has a greater impact on society than a shoplifting offence. A cost of crime performance measure is designed to focus criminal justice system policy-makers and practitioners on the most cost-effective solutions to crime, by ensuring due account is taken of both the effectiveness of crime prevention measures *and* the relative seriousness of different offences, rather than

8 CJS Strategic Plan 1999-2002 (Criminal Justice System, 1999). The distinction made in the Strategic Plan between ‘social’ and ‘economic’ costs is not made in this document – the definition of economic costs encompasses all possible social impacts.



simply focusing on the aggregate volume of crime. Figure 1.1 shows the striking difference in the relative importance of different crimes against individuals and households<sup>9</sup> when a) the volume of offences is considered, and b) the cost to society is considered.



9 Figure 1.1 does not include crimes against the commercial and public sector, fraud and forgery, drug offences or other non-notifiable offences.

The relative importance of violent crime in comparison with other, property crimes is marked. When we focus on the volume of offences violent crimes come to around a quarter of the total. When we focus on the cost of those offences rather than the volume, violent crimes constitute nearly three-quarters of the total cost. This finding is one example of the way in which cost of crime estimates can help illuminate potential areas where gains may be made by new policies or the switching of resources from one area to another.

Comparisons of the relative CJS resources devoted to preventing or mitigating different offences can also be made. Estimates of the average social cost of different offence types can help decision-makers to assess whether the allocation of resources between programmes in the CJS is suitably related to the overall impact of the crimes each programme seeks to address.<sup>10</sup> For example, CJS costs are estimated to represent over half the total cost of common assault, but only around one-tenth of the total cost of theft and handling offences.

Appendix 2 gives information on how a cost of crime performance measure could be constructed from the estimates in this study.

## Previous research and estimates for other countries

The total cost of crime has received attention in the past. Reports have been published by various organisations on the total cost of crime, using varying degrees of sophistication in their calculations. In 1998, the Association of British Insurers (Association of British Insurers, 1998b) calculated that the total cost of crime exceeded £35 billion. In 1999 an Audit Commission Report, *Safety in Numbers* (Audit Commission, 1999), estimated the cost at £50 billion a year. In 2000 a report in the *Observer* newspaper (*Observer*, 2000) adapted figures from a paper published in the US (Anderson, 1999) to calculate that the annual cost of crime in Britain was £60 billion. These estimates are based on different assumptions, cover different crimes, costs and years. They do not imply that the cost of crime has increased from £35 billion to £60 billion between 1998 and 2000. Neither is it clear that the similarity between some of these estimates and the total cost estimate in this study is more than coincidental, since the methodologies used differ, at least at the margin.

A number of international papers have attempted to cost crime in other industrialised countries. Miller, Cohen and Wiersema (1996) investigated the cost to victims in the US of

<sup>10</sup> It should be noted that other considerations such as deterrence or confidence in the CJS may also affect levels of resourcing.

violent and property crime, including “pain and suffering”, and found the total cost to be around \$450 billion per year. Cohen (1998) attempted to estimate the monetary value of saving a high-risk youth from a lifetime of delinquency and criminal activity. Aos, Phipps, Barnoski and Lieb (1999) have created a cost-benefit model to evaluate crime prevention activities in Washington State, USA, which compares the costs of crime prevention activity with savings to the criminal justice system and to victims. Palle and Godefroy (1998) have described plausible estimates for the monetary value of offending in 1996 to France, though this study does not provide estimates of the pain and suffering of victims. The total cost of crime to Australia in 1996, incorporating most of the cost categories in this paper, was estimated by Walker (1997).

## **Total costs and average costs**

The total cost of crime (which has received the most attention in recent years) and average (or unit) costs of crime are both useful. The total costs of crime is important in assessing the scale of the impact of crime. The total cost can also be broken down to get a good idea of the magnitude of different types of cost, or of the contribution of particular types of crime to the total impact on society. Average costs are vital in conducting cost-benefit analyses to assess the value for money of individual policy initiatives. Average cost of crime estimates focus on individual incidents, and allow us to get an idea of the relative impacts on average of, for example, one theft of a vehicle in comparison with one robbery. Both are important in bringing down the cost of crime in the most effective ways. This paper presents information on both total costs and average costs.

## **Structure of the paper**

**Section I** deals with the rationale for estimating the cost of crime, and for a cost of crime performance measure.

**Section II** considers how to define and count criminal activity for the purposes of this exercise. A method of measuring the incidence of actual victimisation and of tracking this through time is developed, and its advantages and disadvantages discussed.

**Section III** explains some key economic concepts, and identifies and defines the different cost categories and the components of each cost category that will be used in the exercise. A methodology for the measurement of each cost component is considered. Alternative

measurement techniques including stated preference or contingent valuation, surveys and valuation using market prices are highlighted.

**Section IV** provides estimates of the average costs of crime for a range of different offence types, and total cost estimates by crime type and cost category. It gives comparisons with other estimates, and considers the implications of the estimates for crime reduction and crime mitigation, for policy development and for CJIS practitioners.

**Section V** discusses how the cost estimates should and should not be used. It attempts to identify areas where our estimates need improvement and highlights areas where no estimates are currently available. In the light of this discussion, some recommendations for further work are made.

**Section VI** contains appendices outlining the data sources used and how estimates were derived, and **Section VII** contains a bibliography and references.



### Categorising types of crime

Defining what constitutes a crime often involves applying a rigid set of rules to complex social interactions. Criminal activity ranges widely in scope, including, for example, murder, damage to people or property, intimidation, appropriation of property, taking proscribed substances and forging banknotes. Various methods have been devised to try to categorise these activities, but for consistency, the categories used in this study are *notifiable offence categories* (the types of offences that police forces record and are required to report to the Home Office). This captures the majority of crimes that are likely to have the most severe impacts, and makes the process of updating the figures and comparing them with the volume of offences much simpler.

In addition to the notifiable offence categories, some non-notifiable offences which tend to be relatively less serious in nature but sometimes have grave consequences are also included. Driving above the speed limit, for example, would usually not cause direct harm either to people or property, and if detected, would probably involve only a fixed penalty. However, sometimes, driving over the speed limit causes or contributes to accidents involving serious injury or loss of life.

The crimes covered by this study, and the sub-categories that have been used to divide these categories into meaningful blocks for analysis, are listed below in Table 2.1.

**Table 2.1: Notifiable offence categories in this study**

Crime category	Sub-categories included in this study	Notifiable offence codes <sup>11</sup>
Violence against the person	Homicide	1-9; 11-15; 37.1
	More serious offences (excluding Homicide)	
	Less serious offences	
Common assault		104; 105
Sexual offences		16-27; 74
Robbery	Robbery of personal property	34A; 34B
	Robbery of business property	
Burglary	Burglary and aggravated burglary in a dwelling	28-31
	Burglary and aggravated burglary not in a dwelling	
Theft and handling stolen goods	Theft of a vehicle	37.2; 39-49; 126
	Theft from a vehicle	
	Attempted theft of/ from a vehicle	
	Theft from a shop (including theft by an employee/ other)	
	Theft of commercial vehicle	
	Theft from commercial vehicle	
	Other theft (including theft of pedal cycle, theft from person, other theft, but not handling stolen goods)	
Fraud and forgery <sup>12</sup>		51-53; 55; 60, 61; 814
Criminal damage	Criminal damage against individuals/ households	56-59
	Criminal damage against commercial/ public sector	

11 As defined in Appendix 3 of Criminal Statistics 1998 (Home Office, 1998a).

12 Only total costs are estimated for fraud and forgery.

There are many crimes which are not included in this list. Offences relating to the possession or trafficking of drugs are not included, other than property crimes committed to fund drug use, which are included under burglary, robbery and theft.<sup>13</sup> The number of notifiable offences falling under an “other notifiable offences” category, and the huge number of other, non-notifiable, criminal activities, such as low-level disorder, fare evasion and “breaches of the peace”, which could potentially have an impact on society, have not been estimated. For some of these crimes, limited cost information is available. For others, neither the number of offences nor cost information has been included. Table 3.1 in Section III gives more details of the costs which are and are not estimated in this study.

## Measuring the incidence of crimes

Whilst the notifiable offence categories have been used to determine the *types* of crime on which this study will focus, the number of notifiable offences recorded by the police have not been used as a measure of the *incidence* of crime. The number of recorded offences does not reflect the actual number of offences committed. The police can record only those crimes that come to their attention. Some incidents reported to the police are not recorded as a notifiable offence, either because they may not fall into a notifiable offence category, or because there may be insufficient evidence that a crime has actually taken place.

The British Crime Survey measures crimes against adults living in private households in England and Wales. The 1998 survey estimated that, of the crimes that can be compared with notifiable offence categories, “less than half were reported to the police, and only about half of those that were reported were recorded” (Mirrlees-Black, Budd, Partridge and Mayhew, 1998). In other words, the true number of offences against adults and households was perhaps four times that recorded by the police. This conclusion is now well known and widely recognised in the CJS. Offences that are not covered by the British Crime Survey, such as shoplifting or fraud and forgery, are likely to have much lower reporting rates than those that are covered. The total number of incidents in all notifiable offence categories is therefore likely to be significantly more than four times the amount recorded by the police.

We need to know for each crime category the actual number of incidents occurring in England and Wales each year so that we can estimate the actual impact of crime on society, not just the

13 Bennett (2000) notes that, of a sample of arrestees in the second developmental stage of the NEW ADAM (New English and Welsh Arrestee Drug Abuse Monitoring) programme, “over two-thirds of the highest-rate offenders (20 offences a month or more) reported using heroin or crack/ cocaine” (p. ix). Nine per cent of all arrestees were high-rate offenders, using heroin or crack/ cocaine. This group was estimated to be responsible for over half of all reported offences. Forty-two per cent of arrestees in the study thought that their drug use and crime were connected.



**Table 2.2: Estimated numbers of incidents, 1999-2000**

Type of crime	Recorded Crime April 1999 to March 2000 (000s)	Multiplier on recorded offences	Source of multiplier estimate	Estimated number of actual incidents 1999/ 2000 (000s)
<b>Crimes against individuals and households</b>				
<b>Violence against the person</b>	387	2.3		880
Homicide	1.1	1.0	no ne	1.1
Other violence against the person	386	2.3	BCS (1998)	880
of which: More serious offences	29	3.6	BCS (1998)	110
Less serious offences	357	2.2	BCS (1998)	780
<b>Common assault</b>	194	16.7	BCS (1998)	3,200
<b>Sexual offences</b>	38	3.5	BCS (1998)	130
<b>Robbery</b>				
Robbery from individuals	72	5.8	BCS (1998)	420
<b>Burglary</b>				
Burglary in a dwelling	443	3.2	BCS (1998)	1,400
<b>Theft and handling</b>				
Theft from the person	76	9.9	BCS (1998)	760
Theft of a pedal cycle	131	3.5	BCS (1998)	460
Theft of vehicle	321	1.2	BCS (1998)	380
Theft from vehicle	566	3.9	BCS (1998)	2,200
Attempted vehicle theft	157	6.1	BCS (1998)	950
Other theft and handling	639	4.0	estimate	2,600

**Table 2.2 continued****Criminal Damage**

Against individuals or households	473	6.3	BCS (1998)	3,000
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**Crimes against commercial and public sector****Robbery**

Robbery of business property	12	5.8	CVS (1994)	70
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**Burglary**

Burglary not in a dwelling	464	2.1	estimate	960
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**Theft and handling**

Theft from a shop	292	100.0	estimate	29,000
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Theft of commercial vehicle	0	N/ A	CVS (1994)	40
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Theft from commercial vehicle	0	N/ A	CVS (1994)	60
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Theft by employees (comm/ public sector)	17	15.3	CVS (1994)	270
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Theft by others (comm/ public sector)	0	N/ A	CVS (1994)	1,400
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**Criminal Damage**

Against commercial/ public sector	473	6.3	estimate	3,000
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**Fraud and forgery**

Fraud and forgery	335	42.6	NERA (2000)	9,200
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**Notes:**

1. Source for recorded crime statistics: Table 6, Home Office Statistical Bulletin 12/ 00 (2000).
2. BCS = British Crime Survey. The number of crimes upon which the BCS multiplier estimates in Table 2.2 are based are adapted from Table 4.1 and Appendix C of the 1998 British Crime Survey (Mirrlees-Black et al., 1998). The estimated number of actual incidents are different from those quoted in the British Crime Survey because they have been adjusted to include crimes against under-16s and crimes recorded by the British Transport Police.
3. CVS = Commercial Victimization Survey (Mirrlees-Black and Ross, 1995).
4. NERA = National Economic Research Associates. NERA (2000) estimated the total actual number of fraud and forgery offences, rather than a multiplier on recorded offences. The multiplier estimate is therefore the total estimated number of offences divided by the number of recorded offences.
5. Figures may not sum to totals due to rounding.
6. Sources of unpublished multiplier estimates: Homicide – assumed that all offences are recorded. Other theft and handling – roughly equal to the multiplier for all BCS crime, and for all comparable BCS property theft. Burglary not in a dwelling<sup>14</sup> – half the BCS estimate for burglary in a dwelling. Theft from a shop – based on survey of literature on nature and extent of shoplifting by Farrington (1999). Criminal damage against commercial and public sector – multiplier assumed equal to multiplier for criminal damage against individuals and households.

impact of those crimes that are reported or recorded. The British Crime Survey goes some way to achieving this. However, crimes committed against commercial or public sector targets (e.g. theft from a shop), or where there is no direct victim (e.g. handling stolen goods, some fraud and forgery), are not covered by the survey, though it is believed that under-recording might be much higher for some of these offences. For these crimes alternative data sources have been explored.

### **A multiplier approach to counting crimes?**

The approach taken to counting crimes has been determined largely by the need to track changes in the cost of crime over time, for the cost of crime performance measure. This requires a system of counting crimes that can be readily updated and is not subject to wide variations in data quality over time.

For this reason an approach has been devised that, as far as possible, ties the estimated total number of incidents to changes in the number of recorded offences. For each crime, a multiplier has been calculated equal to the ratio of the actual estimated number of crimes to the number of crimes recorded. Multipliers have generally been calculated for the calendar year 1997 in order to allow consistent comparison between the British Crime Survey and recorded offences. Where no clear basis for calculating a multiplier exists, a figure has been estimated. Where it is highly unlikely that the number of actual offences is related to the number of recorded offences, and an estimate for the actual level of victimisation exists, this estimate has been used for each year rather than a fixed multiplier.

Once multipliers have been calculated for all the offences of interest, they are applied to the most recent recorded crime figures – April 1999 to March 2000 at the time of publication – to construct a total number of incidents figure for each category. Table 2.2 gives details of recorded crimes, multiplier estimates and their sources, and the estimated total number of incidents for April 1999 to March 2000. (See pages 12 and 13).

### **Confidence in the estimates**

Some of the estimates given in Table 2.2 are clearly more robust than others. Those estimates derived from a comparison of British Crime Survey data and comparable recorded crime figures are more robust than those estimates based on expert opinion but little hard data. Even for these estimates, the relationship between the amount of crime recorded by the police and the amount of crime estimated by the British Crime Survey may

change over time. Mirrlees-Black et al. (1998) show that trends in recorded crime, reported crime and BCS crime have differed somewhat between 1981 and 1997. This problem is particularly acute where reporting rates have historically been low but may now be rising, such as for domestic violence or racially-motivated offences. In April 1998 the police crime recording rules changed in a number of ways. Although the estimated one-off effect of these counting rule changes has been accounted for, differences in the types of offence now recorded relative to the previous crime counting rules may affect the future relationship between recorded and actual levels of crime.<sup>15</sup>

Even where the British Crime Survey offers an estimate, this may not be accurate. For domestic violence and sexual offences in particular, there are factors at work that may distort the true picture – for example, victims may be unwilling to report incidents to interviewers where they have a close relationship with the offender, or where the offender may be present when completing the survey. The British Crime Survey does not publish its estimate of the level of sexual victimisation due to concerns over the accuracy of the results. A self-completion module was introduced in the 1994 sweep of the survey (Percy and Mayhew, 1997). This resulted in a much higher count of sexual victimisation than estimated either by police recorded crime or British Crime Survey estimates of victimisation. However, the estimate raised as many questions as it answered. In particular, the self-completion responses magnified an issue already present in the main survey – that many victims did not consider what happened to them to be a crime, but rather “just something that happens”, even though what happened was legally a crime. This issue serves to highlight the tentative nature of the multiplier estimate, and whilst the standard BCS estimate of the number of sexual offences used in this study is likely to underestimate the true level of victimisation, no reliable conclusions can be drawn about the extent of underestimation.

Fraud, theft from a shop and handling stolen goods are other areas where multiplier estimates are particularly tentative. The estimate of just over 9 million fraud offences is drawn from a report on the economic cost of fraud (NERA, 2000) commissioned by the Home Office and the Serious Fraud Office as part of the development of a cost of crime performance measure for the criminal justice system. The report acknowledges the partial nature of this estimate and the fact that it is not suitable for tracking the total number of offences each year.<sup>16</sup>

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15 From 2000, the British Crime Survey will be run annually, on an increased sample size. This should allow more regular monitoring and, if necessary, updating of the multiplier estimates.

16 The NERA estimate of the number of incidents of fraud each year is based on a summation of published information from many different sources, including HM Customs and Excise, the Department of Health, the Department of Social Security, the British Bankers Association and many others.

Theft from a shop is another hugely under-reported offence. Estimates of the number of customer thefts are provided by the Commercial Victimization Survey (CVS) (Mirrlees-Black and Ross, 1995) and the Retail Crime Survey 1998 (British Retail Consortium, 1999). The CVS counted nearly 6 million customer thefts in 1993, and the Retail Crime Survey nearly 4 million in 1997. These estimates, however, require the retail outlet or head office to be aware that the theft has taken place. Farrington (1999) brought together a number of studies on shoplifting. He noted that police recorded crimes reflected only between 1 in 100 and 1 in 1000 shoplifting incidents in two department stores studied in 1984. Self-report data from various studies also suggested that between 1 in 40 and 1 in 250 shoplifting offences led to a conviction or caution.<sup>17</sup> Given the uncertainties involved in these calculations, this study has taken a fairly conservative approach and assumed 100 offences per recorded offence.

No estimates were made of the number of handling stolen goods offences, drugs offences, other notifiable offences, traffic and motoring offences or other non-notifiable offences.

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<sup>17</sup> There were nearly 120,000 offenders cautioned or convicted of theft from a shop in 1998 (Criminal Statistics, 1998). If each offender has been convicted or cautioned for 2 acts of shoplifting on average, and if we use Farrington's central assumption of 1 caution or conviction for every 150 offences, we find that there were around  $120,000 \times 2 \times 150 = 36$  million offences. There were 281,000 recorded offences of theft from a shop in 1998-99. Dividing the 36 million by 281,000 gives us a multiplier of around 128.

### Key principles

#### *Economic cost*

This study uses the terms “economic cost” and “social cost” to mean the full impact of crime on society, to individuals, households, businesses and institutions, and encompassing both “financial” impacts of crime and allowing a “notional” value for impacts which are not fully or directly reflected in the financial consequences of crime - such as trauma and physical injury. A distinction is sometimes made between the “economic” and “social” costs of crime. Economic costs in this distinction are taken to mean financial costs – costs that can be readily expressed in cash terms, such as stolen property or the cost of a prison place. Social costs are taken to mean the impacts on society that cannot be readily expressed in cash terms.

This distinction, however, is a false one, reflecting practical difficulties with estimation rather than any real differences. It would be misleading and incomplete to measure the economic cost of crime in terms only of those costs that are already expressed in cash terms as this would omit important impacts of crime and so would tell only part of the story. Crimes such as robbery or violence against the person, which have significant ‘intangible’ costs, would appear much less serious than they actually are, whilst other crimes would appear relatively more serious. It is therefore important to try and quantify all the impacts of crime in common terms as far as possible. Money can be used in this situation simply as a means of comparing one thing (e.g. the physical impact of a broken leg) with another (e.g. the cost of a hospital bed).

This study treats the economic and the social costs of crime as one and the same, and holds that, where at all possible, estimates should be made for all the impacts of crime. Simply including costs which are easiest to measure often means excluding costs which have the most severe impacts – such as the physical and emotional suffering of victims, to the detriment of informed decision-making.

#### *Opportunity cost*

Opportunity cost is a central concept in economics. Measuring the opportunity costs of crime is a key method of valuing the economic cost of crime to society. According to “The Green Book” (HM Treasury, 1997), the opportunity cost of a resource is “the value of the resource in its most valuable alternative use”. The concept of opportunity cost allows us to value the human, physical and financial resources that will be ‘freed up’ for potential alternative uses when a crime is prevented.

Generally, the best measure of the opportunity cost of a resource is its market value, or price. For example, the opportunity cost of a burglar alarm costing £100 is equal to the £100 that cannot then be used to buy groceries. However, not all resources have a market value. The emotional suffering of a person staying indoors at night because of the fear of crime is not traded on the market, but still represents an opportunity cost to the extent that that person values going out. Non-traded opportunity costs require different measurement approaches.

### ***Transfer payments***

The legal transfer of resources from one party to another occurs in many contexts within the legal economy, for example through social security payments, subsidies or gambling. Such transfers are not generally regarded in themselves as a loss to society. Crime too involves some similar transfers; for example, property crimes involve a transfer of property from the victim to the offender. The fundamental distinction between a transfer and a loss to society is the distinction between a wanted and an unwanted transfer. A burglary, theft or robbery involves an illegal transfer of property that is *unwanted by one party*, the victim, and the transfer of the property out of the legal economy. This study treats transfers out of the legal economy and into the illegal economy as costs of crime.

Insurance claims also involve a transfer of resources. Potential victims who take out insurance policies in anticipation of crime pay premiums to an insurance company. Actual victims of property crime who have taken out an insurance policy receive money from the insurance company. Hence resources have been transferred as a result of a crime, from potential victims with insurance to victims with insurance. Unlike property that is transferred from victims to offenders, insurance has been entered into voluntarily by both parties, and insurance claims are thus treated in this study as a transfer payment, not as a loss to society.

The only resources involved in insurance that represent a cost of crime to society rather than a transfer are the resources used in insurance *administration*. Insurance companies require staff, premises and equipment in order to provide, check and pay out on policies. The resources used in insurance administration represent an *opportunity cost* to society, because in the absence of crime these resources could be employed in a productive way elsewhere in the economy.

## Categories of cost

### *Who bears the costs of crime?*

There are a number of ways in which the costs of crime can be categorised. One way is by who bears them – victims, those at risk of becoming victims (potential victims), the criminal justice system and other services.

Victims<sup>18</sup> face costs as a consequence of crime, through having property stolen, damaged or destroyed, from the opportunity costs of time spent dealing with the crime and through the emotional and physical impacts of crime.

Potential victims bear costs in anticipation of crime, through measures to reduce the risk of victimisation (defensive expenditure, precautionary behaviour, and community initiatives), measures to reduce the consequences of victimisation (i.e. insurance), and through reduced quality of life and fear of crime.

Society bears the costs of resources devoted to bringing offenders to justice through the criminal justice process, involving the Police Service, the Crown Prosecution Service, Magistrates and Crown Courts, Legal Aid, and the Prison and Probation Services.

Crime involves wider economic distortions, such as the reduction in shops, services, facilities and job opportunities in high-crime areas. These are considered in more detail under “wider economic distortions” in Section IV. Other costs are also incurred as a consequence of crime by employers of victims, victim support services, health and education services, and by the offender and his or her family.

An alternative approach is to break down the costs of crime in relation to individual incidents. This approach draws on the typology used by Davidson (1999) in *Costing Burglary Reduction*, a paper presented at the British Criminology Conference. Costs are incurred in anticipation of crimes occurring (mostly falling on potential victims). They are incurred as a consequence of criminal events (falling mainly on victims, but also on services dealing with the consequences, such as health services). There are also costs consequential on the response to crime (falling mainly on the criminal justice system). This study uses the anticipation – consequence – response categorisation. Table 3.1 summarises the types of cost that are included, excluded (on theoretical grounds) and the main costs that could not be estimated (generally through lack of adequate data).

18 Victims include individuals, households, businesses, organisations and institutions. This study defines victims as the direct victim of a crime, and not, for example, family and friends. Victims of all crimes, whether recorded or unrecorded, are included in this study.



**Table 3.1: Costs estimated and not estimated in this study**

<b>Estimated</b>	<b>Not estimated</b>
<b>In anticipation of crime</b>	
Security expenditure	Precautionary behaviour
Insurance resources	Fear of crime/ Quality of life of potential victims
	Collective/ community defensive expenditure
	Government crime prevention activity
	Insurance premiums
<b>As a consequence of crime</b>	
Property stolen and damaged	Insurance claims
Lost output	Quality of life of victims
Emotional and physical impact	
Health services	
Victim support services	
<b>In response to crime</b>	
Police	Criminal Injuries Compensation payouts
Prosecution	Witness costs
Legal aid and non legally-aided defence costs	Miscarriages of justice
Magistrates and Crown Courts	Offender and his/ her family
Probation Service	
Prison Service	
Jury Service	
Criminal Injuries Compensation resources	

**Costs in anticipation of crime**

*Measures to reduce the risk of victimisation:*

There are a number of adverse consequences of becoming a victim of crime, which will be dealt with in more detail in the consequences of crime section below.<sup>19</sup> Such consequences are perceived by potential victims, if only imperfectly. Potential victims will therefore be

<sup>19</sup> These comprise property stolen and damaged, costs of time spent dealing with or recovering from an incident, and emotional or physical impacts of crime.

generally willing to take action to reduce the chance or risk of becoming a victim, where the perceived benefits of doing so (in terms of reduced risk) outweigh the costs involved in the action (in financial and opportunity cost terms).

These measures comprise *defensive expenditure* – expenditure on security measures such as burglar alarms, fencing, lighting, security guards etc., and *precautionary behaviour*, such as taking taxis instead of public transport, avoiding particular people or places, or staying at home after dark. These measures are a cost of crime – they are based on the perception of potential victims of the risk of crime, which (at least in the long run) is linked to the actual rate of crime.

There is in fact little theoretical difference between defensive and precautionary measures, since both are an attempt to reduce the risk of victimisation. In practice, there is a difference in that most defensive expenditure centres on reducing the risk of *property* crimes such as burglary, whereas most precautionary behaviour is centred on reducing the risk of *personal* crimes such as robbery or sexual offences.

It is important to note that for some precautionary and defensive expenditures, a reduction in the probability of victimisation is not the only consideration involved. For example, reasons for driving children to school are likely to include convenience, speed, warmth and road safety, as well as to reduce the risk of violent crimes against children. Care must be taken to allow for this in any costing of crime, since attributing the entire cost of any action or expenditure that indirectly reduces the risk of crime will overstate the cost of crime.

Defensive expenditure is affected by many things other than the perceived risk of victimisation. It is affected by the *ability of the potential victim to pay* for security equipment. Many wealthy individuals may have a low risk of victimisation but spend a great deal on security, whilst many individuals of more limited means may have a high risk of victimisation but are unable to afford security equipment. *Technology* is an important driver of changes in defensive expenditure – if vehicle immobilisers become much more effective at reducing crime (or much cheaper to install), for example, then (independently of changes in the risk of crime) more people will buy them, because their expected value has increased.

The security choices of fellow potential victims will also affect expenditure – increased action by others may displace crimes onto softer targets, or may have a wider benefit for adjacent targets. Other determinants of defensive expenditure include the price of equipment and the ability of criminals to circumvent such measures.

Another issue in expenditure on security is choice – many security features now come as standard in cars (e.g. steering locks, alarms) and houses (e.g. window locks). To the extent that any such features reduce crime (and the reduced quality of life through fear of crime etc.) rather than yielding other, non-crime benefits, the extra cost of incorporating these built-in features at the manufacturing stage should be counted as a cost of crime. Since measurement of the cost of built-in security measures is difficult, the balance between add-on, after-sale security and built-in features will inevitably affect our cost estimates artificially.

The circumstances of individuals may also affect their ability or willingness to undertake *precautionary behaviour*. Some may be unable to afford precautionary expenditure such as taxis home at night, or a car to transport children to school, or may decide that the costs of taking action outweigh the potential costs of crime they may face through not taking action. Some potential victims may be unable to take precautionary action as a result of social circumstance. In cases of domestic violence, for example, potential victims may be, or feel, unable to remove themselves as a target of crime.

*Groups* of potential victims also undertake measures to reduce the *collective* risk of victimisation. Whilst these measures may differ in appearance from individuals' defensive measures, they are essentially performing the same function. Examples include better street lighting or neighbourhood watch schemes. The same issues of whether the actions can be fully attributed to crime prevention, ability to pay, whether risk of victimisation is reflected in expenditure on group defensive measures, and technological factors, apply here as to individual measures. Employers also face costs of adequately protecting employees from crime, which may involve restricted hours of work or business area covered, or provision of special transport facilities.

*Measures to reduce the expected consequences of victimisation:*

Individuals tend to be risk-averse.<sup>20</sup> This has led to the creation of institutions willing to pool and spread certain risks for them. Insurance companies are able to charge premiums (e.g. £150 p.a.) above the average expected loss in a given area (e.g. £100 p.a.), and individuals are willing to pay this to avoid the financial uncertainty arising from the risk of victimisation. Insurance therefore exists to mitigate the consequences of victimisation – it is taken out by potential victims in anticipation of crime, and used by victims to reduce the financial consequences of victimisation.

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20 For example, someone faced with the choice of a gamble with a 1-in-10 chance of losing £1,000, or a certain loss of £100 would tend to prefer the certain loss, even though the expected loss is the same ( $0.1 \times £1,000 = 1 \times £100 = £100$ ). This has been consistently shown by both revealed preference (i.e. inferred from the spending decisions of individuals) and through simulations of such situations.

Insurance is largely a transfer of resources from potential victim policy-holders to victim policy-holders. However, this transfer of resources is really a reflection of the desire of individuals to insure themselves against the additional risk and uncertainty about future wealth associated with potential victimisation. This additional risk and uncertainty, because it leads individuals to insure themselves against property crime, has an opportunity cost to society – the resources used in insurance administration. These resources could be productively engaged elsewhere in the economy in the absence of crime, since individuals would no longer find it necessary to take out this type of insurance.

*Fear of crime / quality of life:*

The reduced quality of life of potential victims is perhaps the most nebulous cost of crime. What is quality of life? How can it be measured? How can we measure how much the quality of life is reduced from what it would be without crime? And how can we measure the effects of a reduction in the level of crime on quality of life?

After all the measures taken to reduce the risk and costs of a victimisation have been taken into account, many potential victims are still fearful and their quality of life is still adversely affected by crime. This quality of life impact includes a reduced feeling of safety in communities, curtailment of the freedom to socialise or travel, and a loss of enjoyment in work or leisure activities.

***Costs as a consequence of crime***

The replacement value of property stolen and damaged is a cost to victims. Stolen property not subsequently recovered by the victim is a benefit to the criminal – either for personal use or for resale – strictly speaking value has been *transferred* from the victim to the criminal. However, since society has outlawed this sort of transfer, in practice such a valuation would make little sense. If property stolen is uninsured, the victim bears the replacement costs of the property in full, but if the victim has insurance, the only victim cost is the excess payable on the insurance claim and the insurers bear the remainder. Property *damaged* involves the destruction, rather than the transfer, of value, and must be counted as a cost of crime.

The victim incurs *time costs* through dealing with the consequences of a crime. This includes time spent reporting the crime, making an insurance claim, buying replacement items, organising repairs, and unpaid time off work whilst recovering from an injury or the psychological impact of the crime. The time spent dealing with the crime would otherwise have been spent as work or leisure time – and therefore has an opportunity cost. Employers face costs when their employees are victims of crime. The most obvious is paid time off work – the employer pays the wage of the victim, but receives no productive input as a result. In addition, it is possible that the employer will face further costs through disruption to the work

of other employees, because of the unexpected nature of the absence. All of these impacts can be defined as “lost output” – the value of the output lost by employees taking time off work, and by the extra disruption caused to the workplace.

The emotional and physical impact and reduced quality of life for victims of crime can be substantial, particularly for personal crimes. For example, the victim of a robbery may have received physical injuries (bruises, cuts), they may feel shocked, insecure, distrustful and vulnerable for many weeks or months afterwards, and may be unable to sleep properly. Victims of property or personal crimes may suffer a feeling of violation.<sup>21</sup> This physical or emotional impact, especially for violent and sexual offences, generally far outweighs any financial costs.

The consequences of crime may also include reduced effectiveness at work, loss of enjoyment from leisure or social activities, and a legacy of increased fear or interpersonal problems. Property stolen or destroyed may have sentimental value over and above its replacement value. Victims may also require care or counselling, the cost of which is included under victim services.

In cases where crime involves assault or violence to the victim, health costs fall on the NHS and other health service providers, as the opportunity cost of resources used to treat crime victims. Emotional costs of crime to the victim may manifest themselves in the need for support services such as counselling (e.g. through Victim Support). In all cases the resources used in such services have an opportunity cost in terms of accommodation, staffing and other running costs.

### ***Costs in response to crime***

There is a huge range of costs incurred as a response to crime. There are costs to the police, who record, investigate and build evidence on those crimes that come to their attention, the Crown Prosecution Service, Magistrates and Crown Courts, Legal Aid and non legally-aided defence costs, and costs to the prison and probation services.

Other costs of crime incurred as a result of the work of the Criminal Justice System include the emotional, financial and opportunity cost to witnesses and jurors of attending court. Violent crimes often involve administering Criminal Injuries Compensation. Another cost is the cost of ‘type I’ (a suspect found guilty when innocent) and ‘type II’ (an offender found

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21 For example, victims of burglary often feel their privacy has been invaded. A third of burglary victims in the 1988 sweep of the BCS mentioned ‘invasion of privacy’ as the worst aspect of the incident (cited in Mirrlees-Black et al., 1996). Around a quarter cited a feeling of fear and insecurity after a burglary incident.

innocent when guilty) errors in the CJS, in terms of civil liberty, justice, reoffending and the impact on the defendant.

The resources devoted to most of these elements of the criminal justice system (CJS) come from the public purse.<sup>22</sup> If the crime rate falls, there is effectively a trade-off between making cost savings in the CJS (using existing CJS resources elsewhere) or increasing the 'effectiveness' of the system (e.g. using the same level of resources to increase the proportion of offences cleared up). Resources are *potentially* freed up, and the choice made between reinvesting these resources within the CJS or employing them elsewhere in the economy has no bearing on the fact that there is a real reduction in the costs of crime to society.

Many CJS costs are 'overhead' or 'fixed' costs, such as the cost of premises for the courts, police, Crown Prosecution Service, prisons and probation service, which in the short run are independent of the number of crimes committed or the number of criminals processed. In the long run, though, a fall in the number of crimes should feed through to either a real reduction in CJS resources, or to an increased clear-up rate for a constant level of resources. The choice between the two does not affect the fact that real savings are made.

There are several steps between an offence being committed and costs being incurred by the CJS. Only a fraction of crimes is reported, only some of these crimes are recorded, only some of these result in an arrest, only a proportion of those arrested will stand trial, and if convicted, only a proportion will receive a community or custodial sentence. Moreover, some CJS costs, such as crime prevention activity, are related to the existence of crime, rather than the direct result of a specific crime being committed. These features of the system mean that the link between crime and CJS agencies incurring costs is not straightforward.

If an offender is incarcerated, the offender and his or her family will bear psychological (emotional distress) and financial (lost income, travel expenses) costs of separation. There are potentially additional costs to the offender and his or her family in terms of reduced employment or housing prospects on conviction or release, and many other possible impacts (on the social standing of the family in their community, for example).

Considering the cost to the offender as a cost of crime may appear strange. In a sense, the decision on whether to include costs to offenders and their families rests on our assumptions about the causes of criminality – is the offender at fault, or is society to blame? In either

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<sup>22</sup> Many criminal activities cost the government money in other ways - examples include smuggling, tax evasion, benefit fraud - but for these crimes, the government is the victim and these costs are counted as victim costs under the relevant crime (e.g. fraud).

case, the cost of lost earnings for the offender is borne by society, since these earnings are a payment for productive input – this productive input is lost to society when a working offender is incarcerated.

The costs that are mentioned above are not the only other costs involved. There may be secondary and tertiary effects of crimes on subsequent victim behaviour, and on future generations – crimes such as child abuse and domestic violence may leave a lasting legacy of abuse that could create many more costs. Imprisonment may have wider costs than those of running the prison or institution – the family of the offender may also suffer, for example.

## Measurement techniques

### *Costs in anticipation of crime*

Estimating the costs of some measures to reduce the risk of victimisation is fairly straightforward. Total defensive expenditure is estimated by taking annual expenditure on security measures that target the crime(s) in question. This is then averaged over the estimated number of crimes committed to find average expenditure per crime. The British Security Industry Association<sup>23</sup> and Mintel Market Intelligence (Mintel, 1999) both have details of market turnover in the security industry.

For most types of precautionary behaviour this approach is more problematic. It is not easy to separate out that part of expenditure related to precautionary action - for example, what proportion of expenditure on a private car is related to the ability to drive children to school (and what proportion of this is related to fear of crime)? Other times the action may involve an *opportunity cost*, rather than an obvious financial cost to the potential victim, such as a reduced use of leisure facilities like parks or playgrounds. No estimates have been made of the costs of precautionary behaviour in this study.

The cost of insurance administration, in a competitive market, equals premiums paid in (a cost to potential victims) less claims paid out (a benefit for insured victims). Measurement of the cost of insurance is complicated by the fact that insurers receive income from premiums at the start of or during a year, and pay out claims later on in the year. At any time therefore, insurance companies have a significant amount of capital with which to earn additional investment income, which is not picked up by deducting premiums from claims. The Association of British Insurers (ABI, 1999) abstract from this complication by calculating costs of commissions to sellers of insurance and administration costs for various insurance markets in 1998.

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23 Personal correspondence, 1999.

The only measurement technique that appears to be suitable for estimating the reduced quality of life of potential victims is revealed preference. Relative property prices in high- and low-crime areas (i.e. the revealed preference of potential victims for living in a low crime area) might provide an indication of perceptions of the quality of life in areas with different crime rates and hence to a valuation of quality of life. It might be possible to 'factor out' other possible determinants of relative property prices, and to find how prices vary with crime rates. In practice it would prove very difficult to adequately model all the other factors affecting demand and supply of property. No estimates have been made for quality of life in this study.

### **Costs as a consequence of crime**

The value of property stolen or damaged can be measured using the replacement value or repair costs of the property involved. The British Crime Survey (Mirrlees-Black et al. 1998) asks victims of crime about the value of property stolen or damaged. The BCS also asks about any property subsequently returned, and about any insurance payments received for the loss of the property. These are deducted from the value of stolen and damaged property.

Lost output resulting from victims' taking time off work due to crime is measured by the *opportunity cost* of the person-hours lost as a result of the crime. It is difficult to place a value on the amount of leisure time spent dealing with a crime, but the opportunity cost of *work time* spent can be measured by the wage rate of the victim. The BCS asks victims about the amount of time taken off work as a consequence of crime. This can be multiplied by the average wage rate to estimate the lost output from crime. For violent crimes, this study uses values of lost output taken from the Department of the Environment, Transport and the Regions (DETR) for use in road traffic accidents (DETR, 1999b). This is arguably a more comprehensive and accurate measure of lost output than the BCS for crimes involving injury and/ or severe psychological impacts. The DETR also estimates the cost of health services in road traffic accidents. These estimates are also used to approximate the costs involved in violent crime incidents.

It is often argued that it is impossible to measure accurately the emotional, physical and psychological costs of crime. It seems an impossible and artificial task to place a value on the pain caused by a cut or bruise, let alone a serious wounding or sexual offence. In practice implicit valuations of such costs are already made, though generally in a subjective way. For example, a decision may be taken to invest £1 million in a programme to deter car crime, instead of a prison rehabilitative programme for offenders. In selecting one project over the other we are implicitly placing a value on the crimes involved, and the associated emotional, physical and psychological impacts.



In recent years various techniques have been developed to estimate the value to place on pain and suffering. These techniques have gained wide acceptance in many fields, and are now used regularly in a number of different contexts. This study attempts to use the available evidence from these fields to attach a sensible value to these impacts, in order to make the judgements made more explicit, transparent and relevant.

It is important to note that we do not suggest that a value could or should be placed on the suffering of any individual victim of crime. Only the victim can know how they have been affected by a crime, or what that means to them personally. To reduce that suffering to a single statistic or value is to trivialise it in a way that most would find unacceptable. We expressly do not do attempt such individual, ex-post valuations of suffering. Rather, we try to use values that reflect, ex-ante, the value *society* places on preventing the suffering that occurs as a result of incidents.

A possible method of valuing the impacts of violent crime is to use the amounts given to victims of violent crime by the Criminal Injuries Compensation Scheme, which reflect the type of injuries sustained in the crime.<sup>24</sup> Unfortunately, Criminal Injuries Compensation Scheme awards to crime victims are unsuitable to estimate the emotional and physical impacts of crime. This is mainly because they are capped by funding limits for the Criminal Injuries Compensation Authority (CICA). Since awards are given for specific injuries (e.g. broken finger, loss of eye), rather than crimes, it is also extremely complicated to assign injuries to particular crimes. The awards cover only the physical injury, and are based on the type of injury sustained rather than the impact on the victim.

One technique that is commonly used is '*stated preference*'. Using stated preferences involves the direct questioning of sample populations to discover their willingness to pay (WTP) for reductions in the risk of an outcome occurring, or their willingness to accept (WTA) compensation for increased risk. For example, people could be questioned about the fare increases they would accept for a 10% reduction in the risk of suffering a fatal injury on the rail network. An alternative form of stated preference involves discovering the amount people would want to *receive* to compensate them for an outcome actually occurring.

Stated preference techniques have been used extensively by other government departments. The Department of Health uses a valuation technique known as Quality Adjusted Life Years

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<sup>24</sup> Compensation to 'blameless victims' of violent crime is made under the criminal injuries compensation scheme, administered by the Criminal Injuries Compensation Authority (CICA) (Home Office, 1998b, Chapter 10). Compensation is assessed on the basis of a tariff (or scale) of awards for injuries of comparable severity. Additional compensation is paid for loss of earnings and the costs of special care in more serious cases, and for loss of dependency and support in fatal cases.

(QAIYs) as a method of assessing benefits arising from improvements in health.<sup>25</sup> The DEIR has been using figures developed for the value of a prevented fatality in road traffic accidents in cost-benefit analyses of new road schemes (DEIR, 1999a) for a number of years. Research in these areas provides the best currently available evidence on the value of emotional and physical suffering. We therefore use DEIR figures in this study as a first approximation of the emotional and physical impacts of injuries sustained in violent crimes, although we recognised that these are far from ideal in the context of crime because both the circumstances and consequences of incidents differ. New research (see Section V) has been commissioned to improve our estimates in this area.

Responses to contingent valuation questions such as the those used by the DEIR are likely to vary depending on the incentives for the respondent, the phrasing of the question and the understanding of the respondent, and also on differences in perceptions of an incident by victims and non-victims. Respondents in a contingent valuation study may overestimate risks, or be insensitive to small changes in already small risks. This means that respondents' willingness to pay for increased safety may be higher than it should be based on actual risks. Another potential difficulty is that respondents may have a 'strategic bias' in their responses (Dalvi, 1988). Depending on whether respondents would have to pay for any increased safety (through increased taxation), their answers may be upgraded or downgraded in an attempt to ensure that their responses elicit the most favourable policy results.

The second technique available is '*revealed preference*'. This involves analysing *actual expenditure patterns* of a population to estimate the amount people have actually spent to reduce the risk of an undesirable outcome. This allows an indirect estimation of the value placed on avoiding the outcome, and hence the cost of that outcome. In cost of crime terms, this could be used to analyse expenditure on security and the real or perceived reduction in risk associated with extra spending, to infer a value for the willingness to pay to avoid certain property crimes.

Obtaining estimates from revealed preference techniques is difficult, because of the problems involved in separating out the different reasons for expenditure, and finding an adequate risk-reducing item on which to carry out revealed preference analysis. Since violent crime covers so wide a range of incidents, it might be difficult adequately to capture them all in a study focused on only one type of incident.

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25 QAIYs are used to aid decisions about alternative treatment options by analysing the number of additional years patients may be expected to live, and their expected quality of life in each of these years.

Data are available on the financial assistance given to Victim Support Schemes from the Victim Support Annual Reports (National Association of Victim Support Schemes, 1998). However, this is not the full story. Since victim services employ volunteer staff, occupy buildings and employ many other services, the full *opportunity cost* must also be calculated. This would involve finding the next best alternative use of these resources. For volunteer staff this is difficult. Would volunteers be working, volunteering or using the extra time as leisure time in the absence of crime? The lost output of victim support workers is an opportunity cost of crime, and has been accounted for using various assumptions (given in Appendix 3).

### **Costs of the response to crime**

The only reliable information on police costs that is readily available at present is the cost of the total police budget. This budget must be split into resources that are crime-related and those that are not in order to estimate the police resources devoted to crime. No national estimates of the allocation of police resources are currently available. However, Humberside Police use a detailed activity sampling exercise to analyse the amount of time spent by officers on different tasks and crimes. The results have been adapted in order to estimate the proportion of police activity that is crime-related.

Estimates of average CJ resource costs for different types of crime are available in a computer model of flows and costs through the criminal justice process developed in the Home Office, in collaboration with the Lord Chancellor's Department and the Crown Prosecution Service (Harries, 1999). This model has drawn on data from activity sampling of CJ staff and court time and on flows of defendants through the system, and on resource costs from CJ agencies, to provide resource cost estimates for all agencies in the criminal justice process.

It is important to note that the cost estimates presented throughout this section are averages. They do not represent the cost of specific incidents, and it would be extremely misleading to use them in this way. Notifiable offence categories hide a range of incidents with varying degrees of associated trauma and severity. For example robbery could involve anything from the threat of violence through to acts of violence, and associated injury. These are likely to result in significant costs variations within crime categories.

In addition the categories do not distinguish between victims of crime from different groups in society. For example we might expect the elderly to be more fearful and traumatised by criminal acts than younger age groups. If policies to prevent victimisation target specific groups, we need to consider how crime and trauma affect the relevant social group.

However the estimates give a useful indication of the sort of cost savings, on average, that could be made through initiatives targeting particular types of crime. Point estimates (a specific, single value) are used rather than a range of values only because the information available to us is not generally good enough to give us an idea of the likely range of values,<sup>26</sup> or the uncertainty inherent in particular estimates. The estimates should therefore be used with caution.

All estimates are in 1999 prices. Where estimates are only available for years other than 1999, costs have been up-rated in line with the Retail Price Index. The costs of crime have been split into six groups for ease of analysis. These are:

- crimes against individuals and households;
- crimes against the commercial and public sector;
- fraud and forgery;
- drugs offences;
- traffic and motoring and other non-notifiable offences;
- wider economic distortions.

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<sup>26</sup> Appendix 1 provides information on higher and lower estimates where alternative sources of information exist for the same type of cost, but this does not quantify the uncertainty of current estimates, or give a likely range for the actual value.

**Table 4.1: Average cost estimates for all crimes against individuals and households**

Offence category	In anticipation of crime (£)		As a consequence of crime (£)					In response to crime (£)		Number of incidents (000s)	TOTAL COST (£ billion)
	Security expenditure	Insurance administration	Property stolen and damaged	Emotional and physical impact on victims	Lost output	Victim services	Health services	Criminal Justice System (incl. Police)	Average cost (£)		
<b>Crime against individuals and households</b>											
Violence against the person	2	-	-	13,000	2,500	10	1,200	2,700	19,000	880	16.8
Homicide	-	-	-	700,000	370,000	4,700	630	22,000	1,100,000	1.1	1.2
Wounding (serious and slight)	2	-	-	12,000	2,000	6	1,200	2,700	18,000	880	15.6
Serious wounding	10	-	-	97,000	14,000	6	8,500	13,000	130,000	110	14.1
Other wounding	0	-	-	120	400	6	200	1,300	2,000	780	1.5
Common assault	0	-	-	240	20	6	-	270	540	3,200	1.7
Sexual offences	2	-	-	12,000	2,000	20	1,200	3,900	19,000	130	2.5
Robbery/ Mugging	0	40	310	2,400	420	6	190	1,400	4,700	420	2.0
Burglary in a dwelling	330	100	830	550	40	4	-	490	2,300	1,400	2.7
Theft	40	30	310	160	10	0	-	60	600	7300	4.4
Theft (not vehicle)	-	20	130	100	4	0	-	90	340	3,800	1.3
Vehicle theft	70	50	500	220	20	0	-	30	890	3,500	3.1
Criminal Damage	10	20	190	200	30	0	-	60	510	3,000	1.5
<b>All crime against individuals and households (£ billion)</b>	<b>0.7</b>	<b>0.5</b>	<b>4.1</b>	<b>17.1</b>	<b>3.0</b>	<b>0.0</b>	<b>1.3</b>	<b>5.8</b>	<b>2,000</b>	<b>16,400</b>	<b>32.2</b>
<b>Commercial and public sector victimisation</b>											
Burglary not in a dwelling	900	50	1,200	-	40	-	-	490	2,700	960	2.6
Theft from a shop	30	-	50	-	-	-	-	20	100	31,000	3.1
Theft of commercial vehicle	3,400	1,500	4,600	-	60	-	-	70	9,700	40	0.3

Theft from commercial vehicle	240	110	320	-	10	-	-	30	700	60	0.0
Robbery or till snatch	1,200	100	1,500	590	120	-	50	1,400	5,000	70	0.4
Criminal damage	340	20	440	-	30	-	-	60	890	3,000	2.6
All commercial and public sector victimisation (£ billion)	3.2	0.2	4.2	0.0	0.1	0.0	0.0	1.4	260		9.1
<b>Fraud and forgery</b>											
All fraud and forgery (£ billion)	1.1	-	10.3	-	-	-	-	0.6	-	9200	13.8
<b>Traffic and motoring/ other non-notifiable offences</b>											
Illegal speed	-	-	-	-	-	-	-	-	-	-	0.9
Drug offences	-	-	-	-	-	-	-	-	-	-	1.2
<b>Other indictable non-motoring offences</b>											
Indictable motoring offences	-	-	-	-	-	-	-	-	-	-	0.5
Summary non-motoring offences	-	-	-	-	-	-	-	-	-	-	0.4
Summary motoring offences	-	-	-	-	-	-	-	-	-	-	0.8
All traffic and motoring/ other non-notifiable offences (£ billion)	-	-	-	0.7	0.2	-	0.0	3.9	-	-	4.8
<b>TOTAL COST OF CRIME (£ billion)</b>	<b>4.9</b>	<b>0.6</b>	<b>18.6</b>	<b>17.8</b>	<b>3.3</b>	<b>0.0</b>	<b>1.4</b>	<b>11.6</b>	<b>-</b>	<b>-</b>	<b>59.9</b>

Notes:

1. Figures may not sum to total due to rounding errors
2. - indicates that no figure has been estimated

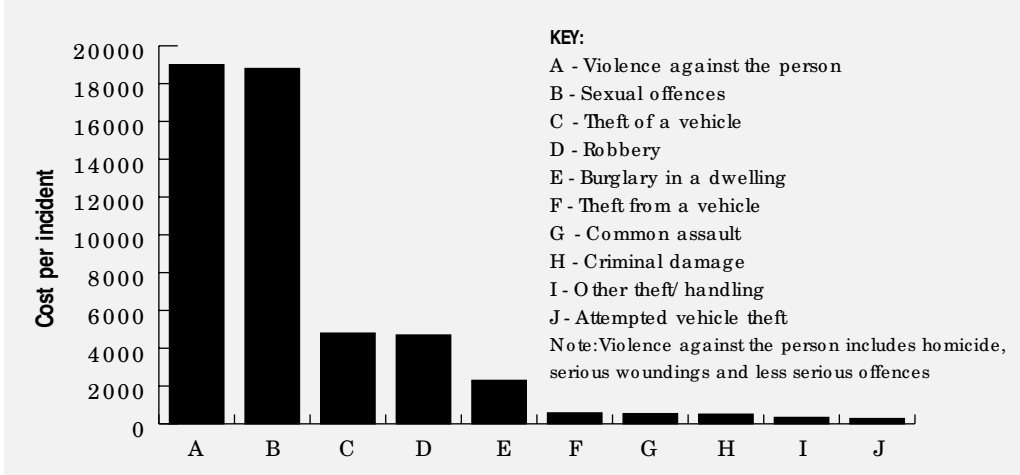
Average cost estimates are only calculated for the first two groups, since these were the only groups where reliable information was found on costs and the number of offences. A total cost estimate was calculated for fraud and forgery, including costs in anticipation and as a consequence of crime, as well as the *CJS* response to crime. Only the total *CJS* response to crime (including police costs) was estimated for drug offences and traffic and motoring and other non-notifiable offences. No estimates have been found for wider economic distortions. Table 4.1 summarises all these average cost estimates, the estimated number of incidents and the total cost estimates for each category, where available.

### The costs of crime against individuals and households

This section presents cost of crime estimates for those types of cost discussed in Section III. Some potentially important costs of crime could not be estimated in this study, because of lack of time, inadequate data or conceptual difficulties. Table 3.1 outlined the costs that have and have not been included in the study. Section V outlines the research priorities for tackling some of these gaps.

Personal crimes were found to be more serious, per incident, than property crimes. Figure 4.1 shows average cost estimates for all offences against individuals and households. Violence against the person and sexual offences were found to be the most serious offences (having the highest average costs), followed by theft of vehicles, robberies, and burglary in a dwelling. All other crimes against individuals and households were less than one-third of the average cost per burglary in a dwelling.

**Figure 4.1: Average cost estimates for all crimes against individuals and households**



## Property crimes

### Overview

Property crime refers here to all crimes against the property of individuals or households where threats or violence were not used on the victim. It therefore covers burglary, various theft and handling offences, vehicle crime and criminal damage, but not robbery, and not offences against businesses, institutions, the public sector or other organisations. Table 4.2 gives a summary of findings.

**Table 4.2: Average cost estimates for property crimes against individuals and households**

Category of cost	Best estimate (£ per incident)			
	Burglary in a dwelling	Theft – not vehicle	All vehicle Crime	Criminal damage
<b>In anticipation of crime</b>	<b>430</b>	<b>20</b>	<b>120</b>	<b>30</b>
Defensive expenditure	330	-	70	10
Insurance administration	100	20	50	20
<b>As a consequence of crime</b>	<b>1,400</b>	<b>230</b>	<b>730</b>	<b>420</b>
Value of property stolen	580	150	460	-
Property damaged/ destroyed	270	7	150	190
Property recovered	-20	-30	-110	-
Lost output	40	4	20	30
Emotional impact	550	100	220	200
Victim services	4	0	0	0
<b>In response to crime</b>	<b>490</b>	<b>90</b>	<b>30</b>	<b>60</b>
Police activity	240	10	20	30
Prosecution	8	4	1	1
Magistrates courts	5	3	1	1
Crown court	10	4	1	1
Jury service	2	1	6	0
Legal aid	20	9	2	2
Non legal-aid defence	7	2	0	1
Probation Service	20	10	2	2
Prison Service	160	40	6	9
Other CJS costs	10	3	1	20
<b>TOTAL cost per incident</b>	<b>2,300</b>	<b>340</b>	<b>890</b>	<b>510</b>

Notes:

1. Figures may not sum to totals due to rounding
2. CJS costs are per offence, not per person proceeded against/ found guilty/ cautioned and convicted.<sup>27</sup>

<sup>27</sup> The average costs shown are therefore much lower than those normally publicised. For example, the CJS cost per person proceeded against for criminal damage in 1997 was estimated at around £10,000 (excluding police costs), whereas the average cost per offence committed was around £30 (again excluding police costs). This reflects the difference between the number of persons proceeded against (17,000) and the number of offences (nearly 6 million).



### *Burglary in a dwelling*

Burglary in a dwelling covers burglary and aggravated burglary. The figures in Table 4.2 are average cost figures for actual burglaries, rather than recorded burglaries (which are likely to have a higher unit cost). Expenditure on security amounts to around £300 per burglary. The average expenditure per household will be much lower than this, since only a small proportion of households are burgled in a given year. Over £800 of property is stolen or damaged, and costs to the criminal justice system amount to nearly £500 per incident, whether or not the offender is caught or found guilty. Those burglaries for which an offender is brought to justice and given a custodial sentence will obviously attract much higher average costs. In total, burglaries cost on average around £2,300 per incident, with victims bearing most of this cost.<sup>28</sup> This average masks wide variations between types of burglary, with attempts, for example, likely to cost significantly less than burglaries with loss.

### *Vehicle crime*

Vehicle crime against individuals encompasses thefts of vehicles and aggravated vehicle taking, thefts from vehicles, and incidents where an attempt was made to steal a vehicle or property within it. It has been possible to separate these into individual estimates. This can prove useful, especially in cases where initiatives or interventions focus on particular types of vehicle crime.

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<sup>28</sup> The estimates do not include insurance claimed, which will reduce the cost to the victim. Neither do they include insurance premiums, which will increase costs in anticipation of crime.

**Table 4.3: Average cost estimates for theft of, theft from and attempted theft of/ from vehicles**

Category of cost	Best estimate (£ per incident)			
	Theft of vehicle	Theft from vehicle	Attempted vehicle theft	All vehicle crime
<b>In anticipation of crime</b>	<b>690</b>	<b>70</b>	<b>30</b>	<b>120</b>
Defensive (security) expenditure	370	40	20	70
Insurance administration	320	20	9	50
<b>As a consequence of crime</b>	<b>4,000</b>	<b>480</b>	<b>240</b>	<b>730</b>
Value of property stolen	3,800	200	0	460
Property damaged/ destroyed	460	110	120	150
Property recovered	-1,200	-10	0	-110
Lost output	60	10	7	20
Emotional impact	890	180	120	220
Victim services	0	0	0	0
<b>In response to crime</b>	<b>70</b>	<b>30</b>	<b>10</b>	<b>30</b>
Police activity	40	10	7	20
Prosecution	2	1	0	1
Magistrates courts	1	1	0	1
Crown court	2	1	0	1
Jury service	0	0	0	6
Legal aid	4	2	1	2
Non legal-aid defence	1	0	0	0
Probation Service	6	2	1	2
Prison Service	20	6	3	6
Other CJS costs	1	0	0	1
<b>TOTAL cost per vehicle crime</b>	<b>4,800</b>	<b>580</b>	<b>280</b>	<b>890</b>

## Notes:

1 Figures may not sum to totals due to rounding

2 Attempted vehicle theft estimates have been used in preference to estimates for vehicle interference and tampering, a new notifiable offence from April 1998 that attempts to bring together criminal damage to a motor vehicle with attempted vehicle thefts. This is because the estimates are based largely on British Crime Survey data on the victim cost of attempted vehicle theft rather than interference or tampering.

By far the most costly crimes in this category, as would be expected, are thefts of vehicles, costing between £3,700 and £5,600 per incident on average, more than 8 times greater than the cost of thefts from a vehicle, and more than 16 times greater than attempted vehicle thefts. Around £400 is spent per year on add-on security measures per vehicle theft (although per vehicle the figure is much less), and insurance administration costs another £300. The most costly element of a vehicle crime is the value of the property stolen and damaged, at over £4,000 per incident, although over £1,000 of this is subsequently recovered.<sup>29</sup> Theft of vehicles also involve £60 of lost output per incident, probably due to the inconvenience of losing one's principal mode of transport, as well as the need to report the offence to police and insurers. The criminal justice response to thefts of vehicles is proportionately less than that for burglary, at £70 per incident compared to £490 per burglary. This largely reflects the lower likelihood of offenders being brought to justice per vehicle crime than per burglary.<sup>30</sup>

Each incident of theft from a vehicle costs, on average, around £600. £200 of this is property stolen from vehicles, with damaged property costing £110, and the emotional impact of the crime valued, on average, at around £180. Attempted vehicle thefts cost £280 per incident, mostly arising from damage to property and the emotional impact.

#### *Other theft*

This category encompasses theft from the person, theft of pedal cycles, vehicle interference and tampering, theft in a dwelling, and all other sub-groups in the notifiable offence category of theft and handling stolen goods other than vehicle crime and theft from a shop. It is therefore a very wide-ranging category, and as such, the estimates given here will be subject to wide margins of error when analysing costs for any particular sub-group.

The majority of the average cost per theft of £340 falls on victims. Half the total costs are property stolen and damaged. The emotional impact of the crime could account for another third of the cost per incident. Costs of the criminal justice process account for a further £90 per incident. There are few alternative estimates available that would give us a better idea of the sensitivity of these figures.

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29 The estimated amount recovered varies from £784 to £1,765 depending on assumptions used about the value of recovered vehicles found with "no damage", "moderate/ slight damage", "extensive damage but repairable" and "write off/ beyond repair" (Hales and Stratford, 1999). These were the only questions on the value of recovered vehicles asked in the 1998 British Crime Survey.

30 There were an estimated 3.65 million vehicle crimes in total in 1998/99, and 16,400 offenders found guilty in the courts in 1998 for vehicle crimes. For burglary the figures are 1.49 million and 39,100 respectively. No figures are available on the cost per person proceeded against for vehicle crime, so direct comparisons are difficult.

### *Criminal damage*

The cost estimates for criminal damage in Table 4.2 relate only to criminal damage against individuals and households. Criminal damage against commercial and public sector targets is dealt with later. Criminal damage includes arson, racially motivated criminal damage and varying degrees of damage and destruction of property. Unfortunately, due to a small number of cases in the British Crime Survey it has not been possible to separate out arson from other criminal damage. Arson can be a serious offence involving loss of life and property, and the few cases of arson included will inflate the cost estimates for other criminal damage. The small number of cases of racially motivated criminal damage in the BCS also means that it is not possible to give a separate estimate for this category.

Again, few alternative estimates for criminal damage were available to subject the best estimates to sensitivity analysis. Property stolen and damaged amounted to around £200, as did the emotional impact per offence. The cost of criminal justice was £60 per incident, and security and insurance measures against criminal damage cost on average £30.

### ***Personal crimes***

#### *Overview*

Personal crime refers to crimes presenting a direct personal threat of harm to individuals. They involve different types of cost in comparison with property crimes. Whereas much of the cost of a property crime will involve loss of or damage to property, the majority of costs arising from personal crimes involve physical and emotional pain and suffering, lost output and health service costs. The response of the criminal justice system is likely to be more severe per incident than for property crimes, which at least partly reflects the greater impact of most personal crimes on victims. Table 4.4 gives a summary of average cost estimates for different personal crimes. Estimates for serious woundings have been used for all offences in the “more serious violence against the person” category. Estimates for other woundings have been used for all offences in the “less serious violence against the person” category.

**Table 4.4: Average cost estimates for all personal crimes**

Category of cost	Best estimate (£ per incident)						
	Homicide	All VAP excluding homicide	More serious VAP	Less serious VAP	Sexual offences	Common assault	Robbery/ Mugging
<b>In anticipation of crime</b>	<b>0</b>	<b>2</b>	<b>10</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>40</b>
Defensive expenditure	-	2	10	0	2	0	0
Insurance administration	-	-	-	-	-	-	40
<b>As a consequence of crime</b>	<b>1,100,000</b>	<b>15,000</b>	<b>120,000</b>	<b>730</b>	<b>15,000</b>	<b>270</b>	<b>3,300</b>
Physical and emotional impact	700,000	12,000	97,000	120	12,000	240	2,400
Value of property stolen	-	-	-	-	-	-	330
Property damaged/ destroyed	-	-	-	-	-	-	30
Property recovered	-	-	-	-	-	-	-50
Victim services	4,700	6	6	6	20	6	6
Lost output	370,000	2,000	14,000	400	2,000	20	420
Health services	630	1,200	8,500	200	1,200	-	190
<b>In response to crime</b>	<b>22,000</b>	<b>2,700</b>	<b>13,000</b>	<b>1,300</b>	<b>3,900</b>	<b>270</b>	<b>1,400</b>
Police activity	11,000	1,400	6,700	620	1,900	130	680
Prosecution	410	50	250	20	60	5	20
Magistrates courts	100	10	60	6	7	1	4
Crown court	720	90	440	40	180	9	40
Jury service	90	10	60	5	20	1	7
Legal aid	1,100	130	650	60	200	10	60
Non legal-aid defence	250	30	150	10	50	4	20
Probation Service	430	50	260	20	60	5	20
Prison Service	4,200	520	2,600	240	1,200	50	450
Other CJS costs	1,700	220	1,100	100	160	20	70
Criminal injuries compensation admin	2,000	250	1,200	110	-	20	-
<b>TOTAL cost per incident</b>	<b>1,100,000</b>	<b>18,000</b>	<b>130,000</b>	<b>2,000</b>	<b>19,000</b>	<b>540</b>	<b>4,700</b>

Notes: 1. Figures may not sum to total due to rounding; 2. VAP = Violence against the person.

### *Homicide*

Homicide includes offences of murder, manslaughter and infanticide. Attempted murder and threat or conspiracy to murder fall under violence against the person in this study.

The vast majority of costs for homicide are the physical and emotional costs. These costs could be more accurately described as the amount society is willing-to-pay to avoid a fatality. The average costs of lost output are also high, reflecting the productive potential lost to society through murder. Police costs are estimated at almost £11,000 per incident on average, and prison costs at over £4,000, although for some cases these figures will be significantly higher.

The emotional and physical impact estimate is based on responses to questions about reductions in the risk of road traffic accidents rather than homicide. There are also inherent difficulties in reaching estimates in this area. The uncertainty around the estimate means that any conclusions drawn must necessarily be tentative.

### *Violence against the person*

Seventy-two per cent of violence against the person in 1998/99 involved serious wounding, other wounding and common assault. Based on the crime counting rules in place prior to April 1998, 94% of all violence against the person was serious and other wounding. The figures given in Table 4.4 relate to serious and other wounding only. Other offences classified as “more serious offences” in Criminal Statistics 1998 are assumed to have the same cost as serious woundings, and other offences classified as “less serious offences” are assumed to have the same cost as other woundings. Common assault has been categorised separately.

Very little evidence could be found of measures to reduce the risk or consequences of victimisation. This is probably because measures taken often involve changes in behaviour rather than expenditure on physical security or on insurance against the risk of violent crime. These changes in behaviour are difficult to value. The market for personal alarms was estimated at £2 million per year by Mintel (1999). This compares with around £250 million for vehicle security.

### *Sexual offences*

It is extremely difficult to describe all the impacts of sexual offences, let alone to put a cost on the impact on the victim. Nevertheless, it is important to at least attempt to do so, in order to ensure that sufficient priority is given to sexual offences compared with other kinds of crime. The cost estimates given in Table 4.4 are currently based on the estimate for

wounding. We do not think it is acceptable in the long term, because sexual offences are entirely different in nature and impact on victims.<sup>31</sup> However we have included the estimate based on wounding to ensure the analysis considers the severity of sexual offences – even though this is likely to be an under-estimate. The alternative is to exclude the impact of sexual offences altogether, which we think would be an irresponsible omission. New research to improve our understanding of the victim trauma should be a priority, although it is not clear that current research techniques are capable of adequately dealing with this area.

The estimates of criminal justice costs for sexual offences are likely to be more robust than estimates of the emotional and physical impacts for sexual offences. Even here, since our estimate is based on total CJS costs divided by the estimated number of offences, our number of offences estimate – which is itself unlikely to be an accurate reflection of true levels and rates of victimisation – will affect the CJS cost.

### *Robbery*

Robbery is defined in Criminal Statistics 1998 as “the use or threat of force to a person immediately before or at the time of a theft” (p275). Only robberies against individuals have been counted here – robberies where the theft was from commercial or public sector targets are included in the section on commercial and public sector victimisation .

Robbery is a unique offence category as it combines elements of both property and personal crimes. It is generally grouped with personal crimes due to the perceived seriousness of the personal violence aspect of the offence. This study, showing the average cost of a robbery to be around £4,700 per incident, largely bears that decision.

An estimated 16.4%<sup>32</sup> of robberies involve cuts and/ or broken bones – violence that in the British Crime Survey is broadly equivalent to that of a wounding. The estimate of the physical and emotional impact of robbery is based on an average using the combined wounding estimate for this 16.4%, and the British Crime Survey question on victims’ desired compensation<sup>33</sup> (Hales and Stratford, 1999) for the remainder. If we assume that the injuries in these 16.4% of robberies correspond to serious woundings, the estimate of the physical and emotional impact jumps from £2,400 to £30,000. This highlights the possibility that the best estimate for the average cost of a robbery may be too low.

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31 There may be significant impacts involved in sexual offences that are not included in the wounding estimates, or a given incident with a sexual motive could be more distressing than a similar incident with no sexual motive. Sexual offences could, on average, involve more serious emotional and physical impacts than woundings.

32 Based on unpublished analysis of the 1998 of the BCS, undertaken by the British Crime Survey team.

33 See Appendix 3, emotional and physical impact, for details.

At around £1,400 per incident on average, robberies also impose a significant cost on the criminal justice system. Around £300 on average is stolen and not recovered or damaged, and lost output (through time off work) adds up to around £400 per incident, although this rises to over £4,000 if the high estimate is used.

### *Common assault*

Common assault became a notifiable offence in the counting rule changes of April 1998. This category also includes assault on a constable.

Over half the £540 per common assault is incurred as a response to the offence by the criminal justice system. The emotional and physical impact is estimated at around £240 per offence, with lost output costing a further £20 and victim support costing around £6 per incident on average.

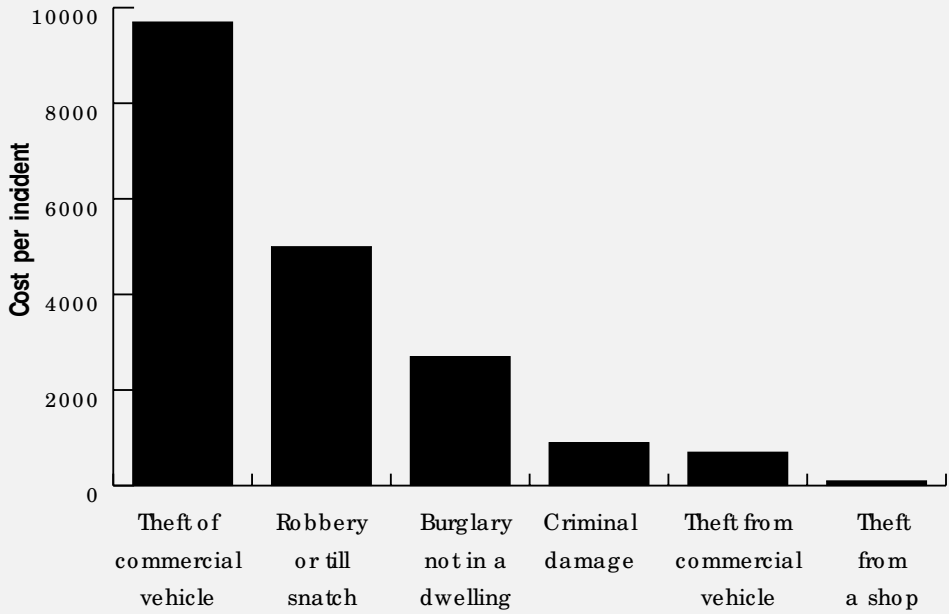
## **Commercial and public sector victimisation**

### ***Overview***

Commercial and public sector victimisation is generally more difficult to count than crimes against individuals or households. It is also more difficult to find reliable and regularly updated sources of information regarding the cost of such incidents. Incidents have been grouped into six categories: burglary not in a dwelling, theft from a shop, theft of commercial vehicles, theft from commercial vehicles, criminal damage to commercial or public sector property, and robbery or till snatches. Violent crimes against staff in the workplace, other than robberies, are included under the relevant personal crime against individuals. Fraud against commercial or public sector targets is included in the overall estimate for fraud below. Wider economic costs, such as high crime discouraging businesses from operating in some parts of the country, are dealt with under “wider economic distortions” below.



**Figure 4.2: Average costs of crimes against commercial and public sector targets**



**Table 4.5: Average cost estimates for crimes against the commercial and public sector**

Category of cost	Best estimate (£ per incident)					
	Burglary not in a dwelling	Theft from a shop	Theft of commercial vehicle	Theft from commercial vehicle	Criminal damage	Robbery or till snatch
<b>In anticipation of crime</b>	<b>950</b>	<b>30</b>	<b>5,000</b>	<b>350</b>	<b>360</b>	<b>1,300</b>
Defensive (security) expenditure	900	30	3,400	240	340	1,200
Insurance administration	50	-	1,500	110	20	100
<b>As a consequence of crime</b>	<b>1,200</b>	<b>50</b>	<b>4,700</b>	<b>330</b>	<b>470</b>	<b>2,300</b>
Emotional and physical impact	-	-	-	-	-	590
Value of property stolen						
Property damaged/ destroyed	1,200	50	4,600	320	440	1,500
Property recovered	-	-	-	-	-	-
Lost output	40	-	60	10	30	120
Health services	-	-	-	-	-	50
<b>In response to crime</b>	<b>490</b>	<b>20</b>	<b>70</b>	<b>30</b>	<b>60</b>	<b>1400</b>
Police activity	240	7	40	10	30	680
Prosecution	8	1	2	1	1	20
Magistrates courts	5	0	1	1	1	4
Crown court	10	0	2	1	1	40
Jury service	2	0	0	0	0	7
Legal aid	20	1	4	2	2	60
Non legal-aid defence	7	0	1	0	1	20
Probation Service	20	2	6	2	2	20
Prison Service	160	4	20	6	9	450
Other CJS costs	10	0	1	0	20	70
<b>TOTAL cost per incident</b>	<b>2,700</b>	<b>100</b>	<b>9,700</b>	<b>700</b>	<b>890</b>	<b>5,000</b>

### ***Burglary not in a dwelling***

Burglary not in a dwelling was more expensive per incident than burglary in a dwelling (£2,700 in comparison with £2,300). This largely reflects the greater amount spent on security measures for burglaries not in a dwelling, at around £1,000 per incident, despite the amounts lost on average being less than those for burglary in a dwelling.

### ***Theft from a shop***

Each incident of theft from a shop (including theft by employees and theft by others as well as customer theft) cost around £100. £50 of this was the average value of property stolen. This figure may be quite high, since it relates to incidents of “witnessed” theft as defined by the British Retail Consortium’s Retail Crime Survey 1998. It may be that retail premises with items of low value (e.g. sweet shops) are less concerned about witnessing thefts than stores with higher-value items (e.g. jewellers). Around £30 per incident was spent on security measures such as CCTV and security guards. The response of the criminal justice system, including the police, was around £20 per incident.

### ***Theft of and from commercial vehicles***

An average theft of a commercial vehicle, at £9,700, cost almost twice as much as an average theft of a vehicle from individuals/ households. This was due both to the higher cost of property stolen and damaged (£4,600 per incident), and the much higher cost of security and insurance administration (around £5,000 per incident). Thefts from commercial vehicles, at £700 per incident, cost slightly more than thefts from vehicles owned by individuals/ households. These estimates relate to the average cost of all incidents of commercial and public sector vehicle theft, whether the incidents were reported, recorded or otherwise. Specific types of offence, such as plant theft or theft of heavy goods vehicles, are likely to have significantly higher costs.

### ***Criminal damage***

Nearly half of the costs per incident of commercial and public sector criminal damage were due to property damaged or destroyed, and nearly half were due to security measures against criminal damage. The average cost per incident was again much greater than the cost of criminal damage against individuals and households, at £890 per incident compared with £510.

### ***Robbery or till snatch***

In common with other crimes against commercial or public sector targets, robberies and till snatches had a higher average cost than their equivalent against individuals. This again is due to the difference in security expenditure, with commercial and public sector robberies costing around £1,200 in security costs per offence.

## Fraud and forgery

Fraud and forgery is a notoriously difficult area of criminal activity on which to find reliable information. Early on in the development of cost of crime estimates, the working group on the development of a cost of crime performance measure for the criminal justice system realised that there were no adequate estimates of the cost of fraud and forgery to the economy.

In order to fill this gap, the Home Office and the Serious Fraud Office jointly commissioned a study from National Economic Research Associates (NERA). A report entitled *The Economic Cost of Fraud: A Report for the Home Office and the Serious Fraud Office* was published by NERA in July 2000. This provides estimates of expenditure on investigations, court proceedings and preventative measures and of the amounts of money defrauded across the economy. Based on available data, the total of estimated costs was in the range £7 billion to £14 billion, a large part of which was amounts defrauded. The difficulty of detecting some frauds and the limited data collected in some sectors led NERA to believe that even the higher figure is likely to be an underestimate. For this reason, the higher estimate of £14 billion is used in this study as the best available estimate of the cost of fraud. Table 6.1.1 of the NERA report is reproduced as Table 4.6 below for reference. Estimates in this table are, in general, for the UK as a whole, although CJS costs are for England and Wales only.

**Table 4.6: The Economic Cost of Fraud: A Report for the Home Office and the Serious Fraud Office – Summary of Estimates of the Economic Costs of Fraud**

	Low Estimate		High Estimate	
	Volume 000s	Cost £ million	Volume 000s	Cost £ million
<b>RESOURCE COSTS</b>				
<b>CJS</b>				
Flows & costs model		269.3		269.3
Police costs pre-charge – “prevention”		86.6		86.6
Police costs pre-charge – “investigation”		191.8		191.8
Defence costs		14.6		14.6
SFO		16.8		16.8
<i>CJS sub-total</i>		579.2		579.2
<b>Other public sector</b>				
NHS		4.7		6.0
Customs & Excise & VAT		3.2		20.5
Benefits fraud		465.0		493.0
Inland Revenue		48.7		385.8
<i>Public sector sub-total</i>		521.6		905.3
<b>Private sector</b>				
ABI Fraud-Check Campaign		0.45		0.45
CIFFAS		0.5		0.5
FSA		-		42.0
Smart cards		113.3		113.3
<i>Private sector sub-total</i>		114.2		156.2
<b>Total resource costs</b>		1,215		1,641
<b>TRANSFER COSTS</b>				
<b>Public sector</b>				
Benefits fraud	556.00	2,118	1,509.00	5,123
Civil service employee fraud	0.58	2.2	0.58	2.2
Customs & Excise & VAT		885		2,500
Local Authorities	0.64	10.8	0.64	10.8
NHS	0.25	2.7	3,000.00	150
Inland Revenue		1.8		19.4
<i>Public sector sub-total</i>	557.47	3,020.5	4,510.22	7,805.4

Table 4.6 – continued

	Low Estimate		High Estimate	
	Volume 000s	Cost £ million	Volume 000s	Cost £ million
<b>Private sector</b>				
ABI	432.90	650.0	432.90	650.0
APACS plastic card fraud	3,845.61	189.3	3,845.61	189.3
BBA	29.73	32.4	29.73	32.4
Ernst & Young Survey		100.0		100.0
KPMG fraud barometer (excl SFO)	0.06	257.8	0.06	257.8
Commercial Victimization Survey	393.00	147.2	393.00	147.2
<i>Private sector sub-total</i>	4,701.30	1,376.7	4,701.30	1,376.7
<b>Serious fraud</b>				
SFO	0.02	107.2	0.03	1,137.5
<b>Total transfer costs</b>		4,504		10,320
Other misallocation of resources (tax distortion)	1,030.3			1,858
<b>Total economic cost of fraud (resource + transfer + other misallocation)</b>		6,750		13,818
<b>Total volume of fraud offences</b>		5,259	9,212	
<i>of which:</i>				
Recorded offences - England and Wales	279.51		279.51	
Recorded offences - Scotland	24.00		24.00	
Recorded offences - Northern Ireland	5.00		5.00	
Offences not reported to police	4,950		8,903	

Note: totals in bold have been rounded to the nearest thousand.

Source: NERA (2000), p54.

It is possible in principle to divide the estimated total cost of fraud by the total estimated volume of fraud to arrive at an average cost figure per incident. Due to the huge diversity in types and costs of fraud, and wide variations in the quality of the data used, this is likely to be more misleading than informative. For this reason, average cost figures for fraud have not been estimated.

## Drug crime

This study does *not* attempt to estimate the cost of drug offences to society, except for the criminal justice system response to drugs, which is estimated to cost the CJS, including the police, a total of £1.2 billion a year (Table 4.7).

**Table 4.7: Estimated Criminal Justice System costs for trafficking and possession of drugs**

Drug offences	(£ million)
CJS costs (excluding police)	616
Police costs	516
Total	1,200

Drug offences fall into three categories in *Criminal Statistics 1998* – trafficking in controlled drugs, possession of controlled drugs and other drug offences. Offences that are committed in order to fund a drug habit are included in the relevant property crime sections, but no attempt has been made to separate out the percentage of property crimes that are estimated to be drug-related.

The drug offences included here do not involve a direct “victim”, except in the sense that drug users are victims of drug traffickers and suppliers, and in the sense that drug users are victims of their own criminal activities. The costs of drug crime include costs to health services, rehabilitation services and criminal justice agencies’ activities against traffickers, suppliers and users of controlled drugs. They also include any loss of productivity or output as a result of drug users not contributing to GDP, or contributing less than they would have done in the absence of drug use.

## Traffic and motoring offences and other non-notifiable offences

During initial discussions about the offence coverage of a cost of crime performance measure for the CJS, it was noted that there were a few offences in the vast number of summary offences committed where economic and social costs were significant. In particular, accidents caused by illegal speed<sup>34</sup> have high costs, and, although little time is spent by the CJS per case, the high number of offences involved leads to significant criminal justice costs.

<sup>34</sup> Illegal speed (i.e. driving above the speed limit) is differentiated from “inappropriate” speed (i.e. driving too fast for the conditions, but not above the speed limit) here.

A report by the DETR (1998), *Vehicle Speeds in Great Britain 1997*, shows that illegal speed is endemic on Britain's roads. Over 50% of cars on motorways and dual carriageways exceed the speed limit of 70 miles per hour (mph). Nineteen per cent of cars on motorways and 13% on dual carriageways travel at over 80 mph. In urban areas, 70% of cars exceed 30 mph speed limits, with 35% of cars exceeding this limit by over 5 mph. Twenty-seven per cent of cars exceed 40 mph speed limits, with 9% exceeding 40 mph by over 5 mph.

It is estimated in the DETR Annual Report 1999 that "inappropriate and excessive speed helps to kill around 1,200 people every year and injures a further 100,000" (DETR, 1999a, paragraph 7.44). Assuming that half of these accidents would not occur if speed had not been inappropriate or excessive, and that half of the remaining accidents were due to illegal speed, we estimate that 300 people are killed and 25,000 are injured each year due to illegal speed. Using figures from the Highways Economics Note 1998 (DETR, 1999b) on the human cost (emotional and physical impact), lost output and health service costs per road traffic accident casualty, we can derive estimates for the total cost of accidents involving illegal speed. Table 4.8 gives details.

**Table 4.8: Total casualty costs for road traffic accidents involving illegal speed, 1998**

(£ million)	Lost output	Medical and ambulance	Human costs	Total
Fatal	108	0	206	314
Serious	44	27	303	373
Slight	32	14	152	198
Total	184	40	661	885

This study has not attempted to estimate the costs of other traffic, motoring or non-notifiable offences other than the costs incurred by the CJS in response to these crimes. These offences do have real costs to society other than the CJS – this study does not estimate them due to time and data constraints. Police costs have been estimated by assuming the same proportion of the police crime-related budget is used for these crimes as the proportion of total CJS costs expended on them. Table 4.9 shows the total estimated costs to the CJS (including the police) for five groups of offences.



**Table 4.9: Total CJS costs of traffic and motoring/ other non-notifiable offences**

Offence	(£ million)	
	CJS costs excluding police	Police costs
Other indictable non-motoring offences	420	390
Indictable motoring offences	60	60
Summary non-motoring offences	380	360
Summary motoring offences	480	450
All offences not in main analysis	1340	1260

### Wider economic distortions

Crime has impacts over and above those captured in the cost of specific offences. The existence of crime, or of chronic rates of victimisation, in particular areas or groups can have big effects on that group or area that are not captured in the costs of particular offences. We have attempted to pull together these various impacts under the heading “wider economic distortions”. Although these wider economic distortions have been identified, and possible methods proposed to value their impacts, no actual figures have been produced. This is partly due to the complex and nebulous nature of these impacts, and partly due to time constraints. A brief overview of the types of cost falling under “wider economic distortions” is provided below:

We have attempted to identify the costs that are borne by individuals, rather than those borne by other economic agents (e.g. businesses), because these other agents can often transfer the costs onto other individuals (e.g. by charging higher prices). A “comparative static” analysis has been used – comparing a high-crime neighbourhood with the expected situation in the same neighbourhood with low crime.

- Individuals bear wider costs of crime through reduced provision of local amenities in high-crime areas. The council and others are less likely to provide these amenities due to the increased cost of maintenance and repair of vandalism, and the victimisation of users. Examples include parks, libraries, playgrounds and community centres.
- In a similar way, fewer shops and services are likely to be provided in high crime areas. Those that are supplied will be supplied at a higher cost to cover insurance and security, although these costs are already included in the ‘costs of crime’

estimates. Individuals in high-crime areas therefore face less choice, higher prices or the extra cost of transport to neighbouring shops and services.

- Fewer businesses and services in an area mean fewer local employment opportunities for local residents. Individuals will have no job, a worse job than she/ he would otherwise have had, or will have to travel further for a job. All three imply lower disposable incomes for individuals.
- If public sector goods and services are still provided in a high-crime area, it may be that public sector workers require wage premiums to encourage them to work there.
- The extra taxation required to fund the criminal justice system, other government crime prevention work, health services and victim support services distorts the investment and savings decisions of individuals, the price mechanism and the efficient allocation of goods and services. Less crime, and lower criminal justice costs, means lower taxation and consequently a smaller tax distortion.

There are two broad measurement techniques that could conceivably be brought to bear on valuing wider economic distortions. The first is a system of “matched pairs” – matching neighbourhoods with different crime rates but similar in other ways. Prices, wages, employment and transport data would be required to carry out such an analysis. This is unlikely to be a realistic method of valuation.

The second method involves trying to find the impact of crime rates on the price of some expensive good that ties an individual to a neighbourhood. House prices are the most obvious example of this. If we were able to accurately “net out” all other effects on differences in house prices between neighbourhoods such as size, age, transport links, weather, income, and other aspects of private and social amenity, we could then isolate the impact of crime rates. In practice it is likely to be too difficult to net out these effects.

## **Total cost of crime**

### ***Overview***

The total cost of crime is important in assessing the scale of the impact of criminal activity on England and Wales. Table 4.10 summarises the total costs of crime. It can be used to find out total costs by offence type (e.g. for burglary), or by type of cost (e.g. for property stolen). It can also be used to find out the cost of one cost category for one offence type (e.g. the total value of property stolen in burglaries). Where possible, costs have been exhaustively allocated to crimes. For example, security costs were estimated at £4.9 billion for the commercial and public sector. This £4.9 billion has been exhaustively allocated – there is no residual security expenditure for “general deterrence”.

For all estimates derived from a total figure, such as security costs, the total costs of crime simply reflect these estimates. For estimates derived from a unit cost, such as the cost of property stolen per witnessed theft from a shop, total costs have been estimated by multiplying the average cost by the estimated total number of crimes. In our theft example, the £50 per incident of witnessed theft from a shop is multiplied by 31 million (the total estimated number of thefts from a shop, including thefts by customers, employees and others). The cost figure is therefore sensitive to the estimates of the number of offences committed.

### ***Costs of crime by cost category***

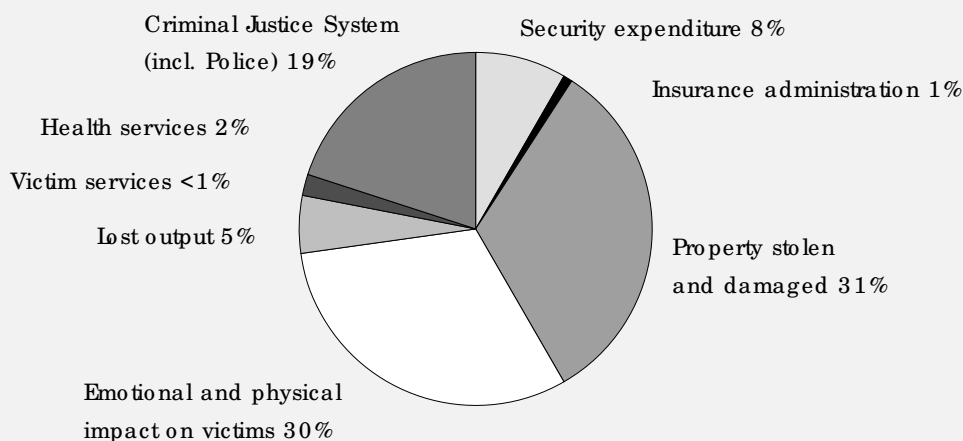
The total cost of crime to England and Wales in 1999/00 is estimated at £60 billion. This figure is by no means comprehensive – costs of precautionary behaviour, quality of life, drug crime, low-level disorder, undiscovered fraud, costs in terms of attitudes and social structures and other costs are not included in this figure.

Around £19 billion of the total cost of crime is the cost of property stolen or damaged. Over £10 billion of this relates to money illegally transferred through fraud, with the remainder split roughly evenly between crimes against households and individuals, and crime against the commercial and public sector. £18 billion of the total is the direct emotional and physical impact on victims of crime. Over £14 billion of this is incurred as a result of violent crime.

The response to crime by the criminal justice system constitutes nearly 20% of the total cost of crime, at £11.6 billion. Identifiable costs in anticipation of crime – security expenditure and insurance administration costs – came to over £5 billion, with the bulk of this as security expenditure. Note that some proportion of police costs will be “preventative” in nature, and should fall under the “in anticipation of crime” category too. It has not proved possible to estimate this proportion.

Over £3 billion worth of productive output was foregone as a result of crime in 1999/00, with over £2.5 billion of this due to time off work recovering from the effects of violent crime. A further £1 billion or more was borne by health services dealing with the effects of violent crime. Figure 4.3 shows the contribution of each cost category to the total cost of crime.

**Figure 4.3: Cost of crime by cost category, as a proportion of total costs**



Note: percentages may not exactly match those in Table 4.1 due to rounding, and because the percentages in the table do not include a small proportion of fraud and forgery costs, which cannot be allocated to cost categories.

### **Costs of crime by offence type**

Around £32 billion of the total estimated cost of crime arose from crimes against individuals and households. Of this, £23 billion was for violent crime and £9 billion for property crime. The most costly individual crime category was serious wounding. Even though these made up only 100,000 of the 16 million crimes against individuals and households, they cost a total of over £14 billion. Vehicle theft (thefts of and from vehicles and attempts) was the next most costly offence, costing a total of around £3 billion. Nearly £1.8 billion of this was due to thefts of vehicles, and £1.2 billion due to thefts from vehicles.

Commercial and public sector victimisation cost a total of over £9 billion. Over £3 billion of this was estimated to be due to thefts from shops. Even at an average of only £100 per incident, the huge number of incidents make this the most costly crime against the commercial and public sector. Both criminal damage and burglary not in a dwelling cost businesses and other organisations approximately £2.6 billion.

Table 4.10: Summary of total cost estimates, by crime type and cost category

Offence type	In anticipation of crime (£)		As a consequence of crime (£m)					In response to crime (£m)	Total cost	Percentage of total cost
	Security expenditure	Insurance administration	Property stolen and damaged	Emotional and physical impact on victims	Lost output	Victim services	Health services	Criminal Justice System (incl. Police)	(£ billion)	
<b>Crime against individuals and households</b>										
Violence against the person	2	-	-	11,000	2,200	10	1,100	2,400	16.8	28%
Homicide	-	-	-	780	410	5	1	30	1.2	2%
Wounding (serious and slight)	2	-	-	10,000	1,800	5	1,100	2,400	15.6	26%
Serious wounding	2	-	-	10,000	1,500	1	900	1,400	14.1	23%
Other wounding	0	-	-	100	310	5	160	970	1.5	3%
Common assault	0	-	-	780	70	20	-	870	1.7	3%
Sexual offences	0	-	-	1,600	270	2	160	510	2.5	4%
Robbery/ Mugging	0	20	130	990	180	2	80	580	2.0	3%
Burglary in a dwelling	460	140	1,200	770	60	5	-	680	2.7	4%
Theft	260	250	2,200	1,200	70	0	-	450	4.4	7%
Theft (not vehicle)	-	70	480	380	20	0	-	340	1.3	2%
Vehicle theft	260	180	1,800	780	60	0	-	110	3.1	5%
Criminal Damage	-	70	560	600	90	0	-	180	1.5	2%
<b>TOTAL INDIVIDUAL AND HOUSEHOLD (£ billion)</b>										
	0.7	0.5	4.1	17.0	2.9	0.0	1.3	5.7	32.2	54%
<b>Commercial and public sector victimisation</b>										
Burglary not in a dwelling	870	50	1,100	-	40	-	-	470	2.6	4%
Theft from a shop	1,100	-	1,500	-	-	-	-	620	3.1	5%
Theft of commercial vehicle	120	50	160	-	2	-	-	2	0.3	1%

Theft from commercial vehicle	10	6	20	-	1	-	-	2	0.0	<1%
Robbery or till snatch	90	7	110	40	8	-	3	100	0.4	1%
Criminal damage (public/ commercial)	1,000	60	1,300	-	90	-	-	180	2.6	4%
<b>TOTAL COMMERCIAL/ PUBLIC SECTOR (£ billion)</b>	3.2	0.2	4.2	0.0	0.1	0.0	0.0	1.4	9.1	15%
<b>TOTAL FRAUD (£ billion)</b>	1.1	-	10.3	-	-	-	-	0.6	13.8	23%
<b>Traffic and motoring/ other non-notifiable offences</b>										
Drug offences	-	-	-	-	-	-	-	1,200	1.2	2%
<b>Other indictable</b>										
no n-mo to ring offences	-	-	-	-	-	-	-	810	1.0	2%
Indictable motoring offences	-	-	-	-	-	-	-	120	0.5	<1%
Summary no n-mo to ring offences	-	-	-	-	-	-	-	740	0.4	1%
Summary motoring offences	-	-	-	660	180	-	40	930	1.7	3%
<b>TOTAL TRAFFIC/ MOTORING/ OTHER (£ billion)-</b>	-	-	-	0.7	0.2	-	0.0	3.9	4.8	8%
<b>TOTAL COST OF CRIME (£ billion)</b>	4.9	0.6	18.6	17.7	3.3	0.0	1.3	11.6	59.9	100%
Percentage of total cost	8%	1%	31%	30%	5%	<1%	2%	19%	100%	

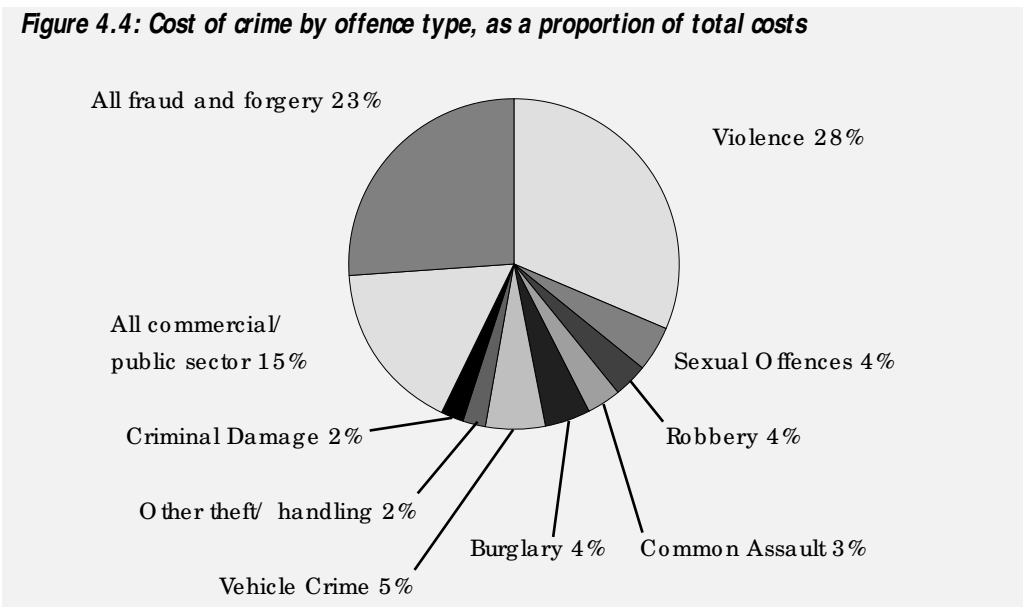
Note:

Figures may not sum to totals due to rounding.

Organised crime has two principal effects on the total cost of crime. Firstly, it has a 'multiplier' effect on volume crime, by sustaining and creating criminal markets. Secondly, it has distinct indirect effects through, for example, infiltration of business and the threat to the City of London's reputation, posed by fraud and money laundering. Thirdly, it imposes social costs, including treatment, victim trauma and social conflict.

The National Criminal Intelligence Service (NCIS) have studied the impact of crime in which Organised Crime is involved. The degree to which Organised Crime is responsible for the aggregate impact in each category varies. Thus, NCIS's overall figure of £22 billion includes some volume crime. We estimate that £5-10 billion is additional to our estimate of £60 billion. Much of the additional cost is attributable to intellectual property theft, which includes counterfeiting. Further work is required to verify the differential.

Traffic, motoring and other non-notifiable offences cost around £3.5 billion in 1999/00. The majority of this was costs to the criminal justice system, including the police, at a total of around £2.5 billion. Nearly £1 billion was due to road accidents caused by illegal speed. Figure 4.4 shows the total cost of crime broken down by offence type.



The total cost of crime figure of around £60 billion is likely, on balance, to be an underestimate of the true costs of crime to England and Wales. Although it is possible that some costs such as the emotional and physical impacts of crime could be overestimates, the cost categories where no estimates are available, such as fear of crime and precautionary behaviour, are likely to outweigh any possible overestimation of costs.

The total is slightly more than has been estimated for England and Wales, the UK or Britain in recent years. This is unsurprising, since this study has attempted to estimate the costs of crime in a more comprehensive manner than most other studies.

### Why the estimates are useful

The average cost of crime estimates in Section IV represent an important first step towards better-informed appraisal and evaluation of new and existing policies to reduce the level of crime and to mitigate its impact. These estimates, for the first time in the UK, bring together the best available evidence on a number of important impacts of crime across a wide range of offence categories. They allow us to compare directly the impacts of crimes on society with the costs of preventing them and of dealing with their consequences.

The Government launched its Crime Reduction Programme (CRP) in 1998, with the objective of cutting crime by investing in techniques known to be effective, and cost effective; and by testing new techniques on which there is less evidence. Each of the initiatives in the Crime Reduction Programme will be rigorously evaluated to improve the evidence base on what works and what is cost-effective in cutting crime and its impacts. It is important that as far as possible the costs and benefits of initiatives can be measured on a common basis. The cost of crime framework set out here can potentially be employed for all initiatives. The benefit to society from a reduced risk of burglary in an area where CCTV has been installed can be compared on a common metric with the benefits of a behavioural programme, where the impact is measured in terms of reduced offending of a group of individuals likely otherwise to commit a particular 'mix' of crimes.

One example of the wide applicability of the approach is in valuing the benefits of behavioural programmes with offenders or children. Many CRP initiatives focus on trying to change offending behaviour, either by concentrating on early risk factors or through new prison or probation behavioural programmes. Where an offender programme has a measurable impact (through fewer reconvictions) on reoffending, the cost of crime framework can be employed. If we can estimate the distribution of different types of crime committed by offenders on the programme, a reduction in the percentage of programme participants who re-offend in a given time period compared with a control group can be translated into the numbers of each type of crime prevented. These crimes can then be costed using our estimated average costs, and compared with the costs of implementing the programmes to see whether the benefits outweigh the costs.



Cost of crime estimates will be, and are already being, used in many different contexts in the field of crime reduction, and the demand for analysis using the estimates is likely to grow further. An analysis of the costs and benefits of all Crime Reduction Programme projects will be a key part of the evaluation and future development of the programme. Crime and Disorder Partnerships, local government officials, criminologists, police officers, community safety officers, and those in various operational agencies are already carrying out cost-benefit analyses on the basis of the estimates. This study will bring the estimates to the attention of a wider audience, and should therefore help to encourage more consistent and comprehensive appraisal and evaluation work in the future.

Estimates of the total cost of crime also throw up useful insights into the relative impacts of different types of cost, and for different offence categories. These insights can help to shift the debate over priorities for the Criminal Justice System and crime reduction, and focus attention on previously neglected areas where significant gains may be possible.

Publishing these findings is also an important step in identifying key gaps in our knowledge of the impacts of crime, and in engaging the academic community in the research problems posed in developing more robust cost estimates.

### **Pitfalls to avoid in using the estimates**

Whilst information on the total and average costs of crime is extremely useful, average cost of crime estimates in this study need to be treated with some caution, for a number of reasons.

- *Different crimes within the same offence category are likely to have vastly different costs.* Average cost estimates, by their very nature, are aggregations of the costs of sub-categories of crime, and of individual crimes, which have very different impacts. For example, the notifiable offence category of ‘theft and handling stolen goods’ includes ‘theft of vehicles’ and ‘shoplifting’, and the ‘violence against the person’ category includes both ‘murder’ and ‘other wounding’. Even within the sub-category of shoplifting, for example, there are huge variations in cost for different offences – some will involve valuable goods, and a custodial sentence, and others will involve stock of little value and may not be reported, or even detected.
- *Particular crime reduction initiatives may impact on different types of crime within the same offence category.* If an initiative thwarts offenders, it could be

that the number of unsuccessful attempts rises and the number of successful attempts falls. Without disaggregation of attempted and successful crimes, the real saving to society due to the lower cost of attempts may not be picked up in the analysis, since the total number of crimes may not have fallen. Researchers should therefore be extremely careful when using cost of crime estimates for cost-benefit calculations on specific initiatives. Questions that would need to be answered in any evaluation include the types of crime that are being prevented, the diffusion of benefits or displacement of crime, both geographically and in terms of types of offence committed. A crucial question is how any fall in crime would be measured. If, as is often the case, the best source of information is local recorded crime statistics, assumptions would need to be made about how many unrecorded crimes of what type have been prevented. More details of appropriate techniques and assumptions when undertaking cost-benefit analyses of crime reduction measures can be found in Dhiri and Brand (1999).

- *Average cost estimates given in this study are best estimates of costs given the information available. However, due to lack of good information in a number of areas, the estimates are inevitably imprecise.* This lack of information also makes it difficult to provide any evidence on the level of uncertainty around the estimates. Lower and higher estimates have been given in the average cost tables in Appendix 1. These are based on alternative figures that are already available, rather than on judgments about the quality of data sources. As such, the lower and higher estimates should *not* be taken to imply statistical confidence. Neither should they be taken as *lowest* and *highest* conceivable estimates. They are designed to show the level of uncertainty over particular estimates, and to show where alternative data sources may give a different answer. Inevitably there are a number of estimates in the tables that are not robust, and where there are no alternative estimates available to give a feel for the degree of uncertainty. These estimates have been included where we believe the estimates are based in evidence, reflect some information, and are not misleading, on the basis that “some knowledge is better than no knowledge”. Nevertheless their inclusion should not be regarded as implying any degree of confidence about their accuracy.
- *The costs of an identical crime may fall differentially on different social, economic or geographic groups – repeat victims, or elderly people, for example, may suffer greater psychological costs than other members of society.*

- *Some crimes are inevitably costed less accurately than others, and unquantified costs exist which may differ between crimes. A comparison of average costs between different crimes could therefore be misleading. A higher average cost for one crime than for another could reflect the size of quantified, rather than unquantified costs, rather than a real difference in the costs of the crimes to society, although to some extent this is unavoidable in an exercise of this nature.*

## **Development of cost of crime work programme**

Further work needs to be done if average cost of crime estimates are to be used with any confidence in the cost-benefit analysis of crime reduction initiatives, or in CJS and Home Office policy analysis more generally. In particular, better estimates are needed for the emotional and physical impact on victims of crime, the quality of life impact on potential victims (including the fear of crime), the cost of precautionary behaviour undertaken by potential victims, police costs, health service costs and costs to offenders and their families.

### ***Emotional and physical impact on victims***

There is particular scope for more work on the emotional and health impact on victims. For violent incidents, current cost estimates are taken from contingent valuation estimates derived from studies of road traffic accidents (which have different characteristics from those of violent crime incidents). For property crimes, our estimates are taken from a survey question in the BCS (Appendix 3 gives details). This study acknowledges that both these sets of estimates are only a first step in finding more meaningful estimates. They are intended to give an idea of the broad order of magnitude of costs.

It is clear, that estimates of the value of avoiding fatalities, serious injuries and slight injuries based on road traffic accidents are not ideal in the context of violent crime. Apart from questions over how people are likely to value the same injury sustained in a violent crime rather than a road traffic accident, the types of physical and emotional impact suffered may be substantially different. Violent assault can lead to physical injuries of varying degrees of disfigurement, pain and disablement. Many assaults involve only superficial injury (e.g. bruising). However, a significant proportion of violent assaults result in more severe injury and trauma that may require hospital treatment. For example, Shepherd et al. (1990) studied the severity and aetiology of various injuries sustained by assault victims in a survey of male and female victims attending the accident and emergency department at an English hospital. Bruises and lacerations were the most frequent form of injury, with one third of victims sustaining a bone fracture and two thirds receiving facial injuries. These injuries are unlikely to be representative of those sustained in road traffic accidents.

Violent crimes can also lead to psychological distress of varying degrees of severity. Whilst there are likely to be psychological impacts associated with the actual process of a crime (e.g. exposure to threatening behaviour or a physical assault), there is growing evidence that a major source of mental distress for victims arises from the development of acute or chronic psychiatric symptoms. The most comprehensive study of such symptoms to date is by Norris and Kaniasty (1994), who found that in the US exposure to violence was a significant predictor of the persistence of acute psychological distress over time, including symptoms of depression and anxiety. Indeed, 25% of victims of violent crime reported extreme distress as measured on clinical scales of depression and anxiety with a further 22-27% reporting moderate distress.

The Home Office has therefore, commissioned research into the physical and emotional impact of violent crime, which will report in July 2001. It will provide the Home Office with average values for the emotional and physical impacts of common assault, wounding and robbery, and will examine some potentially important contextual effects such as the location of the incident and whether a weapon was used. It will also examine the consistency and sensitivity of responses to explore how much faith can be put in results obtained in this way.

### ***Sexual offences***

Estimates of the average cost of sexual offences in this study are, at best, subject to wide margins of error. In particular, estimates of the emotional and physical impact of sexual offences have been based on the figures estimated for the average wounding.<sup>35</sup> In the same way that violent crime incidents are likely to differ in nature from road traffic accidents, sexual offences by nature are quite different from other types of violent crimes. It is worth reiterating that it is nevertheless important at least to attempt to estimate the impact of sexual offences, in order to ensure that sufficient priority is given to preventing sexual offences compared with other kinds of crime. In the long term, however, new research to improve our understanding of the victim trauma resulting from sexual offences should be a priority.

### ***Quality of life and fear of crime***

The estimation of the impact of crime on the quality of life (or more specifically the fear of crime) of communities and potential victims has long been a stumbling block for research into the cost of crime. Definitions of fear of crime, precautionary behaviour and quality of life, and the interactions between them, are unclear. Any future work would need to address these problems, perhaps drawing on a wider range of expertise across government and other institutions.

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<sup>35</sup> Specifically, the average of the costs of serious and other woundings detailed in Table 4.4.

### ***Police costs***

Estimates of police costs in this study are very much top-down as little information on the allocation of costs and expenditure within forces is available (though some forces do produce information). In this study, the total police budget is split into crime- and non-crime-related components, and the crime component is then split between offence types based on the proportion of other CJS resources spent on each offence.<sup>36</sup> This is a far from accurate method of estimating costs. There are likely to be good reasons why police resource allocation differs from the way in which other CJS resources are used. A great deal of work is underway, both centrally and in individual police forces, to obtain better information about police activity, through analysis of activity sampling systems. When this work has bedded down and become more widely accepted, data from it could be used to cost police activities by offence type more accurately and realistically than at present.

### ***Health services***

The medical costs of violent crime need further research, since, like the emotional and physical impacts of victimisation, they are currently based on estimates of the cost of road traffic accidents from DETR. A separate study to assess the costs of violence to A&E departments and other services would be useful.

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<sup>36</sup> For example, if 20% of CJS resources (excluding police) were spent on burglary, then we assume that 20% of the police budget would also relate to burglary.

## Appendix 1: Best, low and high average cost estimates for selected offence types

**Table A1.1: Average cost estimates for burglary in a dwelling**

Category of cost	Data Source	£ per incident		
		Estimate: Low	Best	High
<b>In anticipation of crime</b>		<b>330</b>	<b>430</b>	<b>520</b>
Defensive expenditure	Various	240	330	420
Insurance administration	ABI Insurance Statistics Yearbook	-	100	-
<b>As a consequence of crime</b>		<b>-</b>	<b>1,400</b>	<b>-</b>
Value of property stolen	BCS 1998	-	580	-
Property damaged/ destroyed	BCS 1998	-	270	-
Property recovered	BCS 1998	-	-20	-
Lost output	BCS 1998	-	40	-
Emotional impact	BCS 1998	-	550	-
Victim services	NAVSS Annual Report 1998	-	4	-
<b>In response to crime</b>		<b>440</b>	<b>490</b>	<b>510</b>
Police activity	Various	190	240	250
Prosecution	Flows and Costs	-	8	-
Magistrates courts	Flows and Costs	-	5	-
Crown court	Flows and Costs	-	10	-
Jury service	Various	1	2	5
Legal aid	Flows and Costs	-	20	-
Non legal-aid defence	Flows and Costs adapted	3	7	10
Probation Service	Flows and Costs	-	20	-
Prison Service	Flows and Costs	-	160	-
Other CJ costs	Flows and Costs	-	10	-
<b>TOTAL cost per burglary</b>		<b>2,200</b>	<b>2,300</b>	<b>2,500</b>

**Table A1.2: Average cost estimates for theft of and from vehicles and attempts**

Category of cost	Data Source	(£ per incident)											
		All vehicle crime			Theft of vehicle			Theft from vehicle			Attempted theft		
		Estimate: low	best	high	low	best	high	low	best	high	low	best	high
<b>In anticipation of crime</b>		<b>120</b>	<b>120</b>	<b>200</b>	-	<b>690</b>	<b>1,100</b>	-	<b>70</b>	<b>110</b>	-	<b>30</b>	<b>50</b>
Defensive (security) expenditure	Mintel "UK Security Market '99"	-	70	140	-	370	730	-	40	90	-	20	40
Insurance admin.	ABI Ins. Stats Y'book	-	50	-	-	320	-	-	20	-	-	9	-
<b>As a consequence of crime</b>		-	<b>730</b>	-	<b>3,000</b>	<b>4,000</b>	<b>4,400</b>	-	<b>480</b>	-	-	<b>240</b>	-
Value of property stolen	BCS 1998	-	460	-	-	3,800	-	-	200	-	-	0	-
Property dam./ dest'd.	BCS 1998	-	150	-	0	460	-	-	110	-	-	120	-
Property recovered	BCS 1998	-	-110	-	-1,800	-1,200	-780	-	-10	-	-	0	-
Lost output	BCS 1998	-	20	-	-	60	-	-	10	-	-	7	-
Emotional impact	BCS 1998	-	220	-	-	890	-	-	180	-	-	120	-
Victim services	NAVSS Ann'l Rep't '98	-	0	-	-	0	-	-	0	-	-	0	-
<b>In response to crime</b>		<b>20</b>	<b>30</b>	<b>40</b>	<b>60</b>	<b>70</b>	<b>80</b>	<b>20</b>	<b>30</b>	<b>30</b>	<b>10</b>	<b>10</b>	-
Police activity	Various	10	20	-	30	40	40	10	10	20	5	7	-
Prosecution	Flows and Costs	-	1	-	-	2	-	-	1	-	-	0	-
Magistrates courts	Flows and Costs	-	1	-	-	1	-	-	1	-	-	0	-
Crown court	Flows and Costs	-	1	-	-	2	-	-	1	-	-	0	-
Jury service	Various	3	6	10	-	0	1	-	0	-	-	0	-
Legal aid	Flows and Costs	-	2	-	-	4	-	-	2	-	-	1	-
Non legal-aid defence	Flows and Costs adapted	-	0	1	0	1	2	-	0	1	-	0	-
Probation Service	Flows and Costs	-	2	-	-	6	-	-	2	-	-	1	-
Prison Service	Flows and Costs	-	6	-	-	20	-	-	6	-	-	3	-
Other CJ costs	Flows and Costs	-	1	-	-	1	-	-	0	-	-	0	-
<b>TOTAL cost per vehicle crime</b>		<b>890</b>	<b>890</b>	<b>970</b>	<b>3,700</b>	<b>4,800</b>	<b>5,500</b>	<b>570</b>	<b>580</b>	<b>620</b>	<b>280</b>	<b>280</b>	<b>300</b>

**Table A1.3: Average cost estimates for other theft and handling**

Category of cost	Data Source	£ per incident		
		Estimate:	Low	Best
<b>In anticipation of crime</b>		-	<b>20</b>	-
Defensive (security) expenditure	Unknown	-	-	-
Insurance administration	ABI Insurance Statistics Yearbook	-	20	-
<b>As a consequence of crime</b>		-	<b>230</b>	-
Value of property stolen	BCS 1998	-	150	-
Property damaged/ destroyed	BCS 1998	-	7	-
Property recovered	BCS 1998	-	-30	-
Lost output	BCS 1998	-	4	-
Emotional impact	BCS 1998	-	100	-
Victim services	NAVSS Annual Report 1998	-	0	-
<b>In response to crime</b>		<b>80</b>	<b>90</b>	<b>90</b>
Police activity	Various	8	10	10
Prosecution	Flows and Costs	-	4	-
Magistrates courts	Flows and Costs	-	3	-
Crown court	Flows and Costs	-	4	-
Jury service	Various	-	1	2
Legal aid	Flows and Costs	-	9	-
Non legal-aid defence	Flows and Costs adapted	-	2	5
Probation Service	Flows and Costs	-	10	-
Prison Service	Flows and Costs	-	40	-
Other CJS costs	Flows and Costs	-	3	-
<b>TOTAL cost per non-vehicle theft</b>		<b>330</b>	<b>340</b>	<b>340</b>



**Table A1.4: Average cost estimates for criminal damage against individuals and households**

Category of cost	Data Source	£ per incident		
		Estimate:	Low	Best
<b>In anticipation of crime</b>		-	<b>30</b>	<b>40</b>
Defensive (security) expenditure	Estimate based on arson prevention	-	10	20
Insurance administration	ABI Insurance Statistics Yearbook	-	20	-
<b>As a consequence of crime</b>		-	<b>420</b>	-
Property damaged/ destroyed	BCS 1998	-	190	-
Lost output	BCS 1998 adapted	-	30	-
Emotional impact	BCS 1998	-	200	-
Victim services	NAVSS Annual Report 1998	-	0	-
<b>In response to crime</b>		<b>50</b>	<b>60</b>	<b>60</b>
Police activity	Various	20	30	30
Prosecution	Flows and Costs	-	1	-
Magistrates courts	Flows and Costs	-	1	-
Crown court	Flows and Costs	-	1	-
Jury service	Various	-	0	1
Legal aid	Flows and Costs	-	2	-
Non legal-aid defence	Flows and Costs	0	1	2
Probation Service	Flows and Costs	-	2	-
Prison Service	Flows and Costs	-	9	-
Other CJS costs	Flows and Costs	-	20	-
<b>TOTAL cost per incident</b>		<b>500</b>	<b>510</b>	<b>520</b>

**Table A1.5: Average cost estimates for homicide**

Category of cost	Data Source	£ per incident		
		Low estimate	Best estimate	High estimate
<b>In anticipation of crime</b>		<b>0</b>	<b>0</b>	<b>0</b>
Defensive expenditure	Unknown	-	-	-
As a consequence of crime		800,000	1,100,000	1,300,000
Physical and emotional impact	Highways Economics Note 1 (1998)	520,000	700,000	870,000
Victim services	NAVSS Annual Report 1998	-	4,700	-
Lost output	Highways Economics Note 1 (1998)	270,000	370,000	460,000
Health services	Highways Economics Note 1 (1998)	470	630	790
<b>In response to crime</b>		<b>19,400</b>	<b>22,000</b>	<b>23,000</b>
Police activity	Various	8,600	11,000	11000
Prosecution	Flows and Costs	-	410	-
Magistrates courts	Flows and Costs	-	100	-
Crown court	Flows and Costs	-	720	-
Jury service	Various	50	90	180
Legal aid	Flows and Costs	-	1,100	-
Non legal-aid defence	Flows and Costs adapted	130	250	510
Probation Service	Flows and Costs	-	430	-
Prison Service	Flows and Costs	-	4,200	-
Other CJS costs	Flows and Costs	-	1,700	-
Criminal injuries compensation admin	CICB	-	2,000	-
<b>TOTAL cost per homicide</b>		<b>820,000</b>	<b>1,100,000</b>	<b>1,400,000</b>

**Table A1.6: Average cost estimates for all violence against the person**

Category of cost	Data Source	£ per incident								
		Serious wounding			Other wounding			All wounding		
		Estimate: Low	Best	High	Low	Best	High	Low	Best	High
<b>In anticipation of crime</b>		-	10	350	-	0	0	-	2	40
Defensive expenditure	Mintel "U.K.S.M 1999"	-	10	350	-	0	2	-	2	40
<b>As a consequence of crime</b>		<b>90,000</b>	<b>120,000</b>	<b>150,000</b>	<b>550</b>	<b>730</b>	<b>910</b>	<b>11,000</b>	<b>15,000</b>	<b>19,000</b>
Physical and emotional impact	Highways Economics Note 1 (1998)	73,000	97,000	120,000	90	120	150	8,800	12,000	15,000
Victim services	NAVSS Annual Report 1998	-	6	-	-	6	-	-	6	-
Lost output	Highways Econ. N.1 (1998)	11,000	14,000	18,000	300	400	500	1,500	2,000	2,500
Health services	Highways Economics Note 1 (1998)	6,400	8,500	11,000	150	200	250	900	1,200	1,500
<b>In response to crime</b>		<b>12,000</b>	<b>13,000</b>	<b>14,000</b>	<b>1,100</b>	<b>1,300</b>	<b>1,300</b>	<b>2,400</b>	<b>2,700</b>	<b>2,800</b>
Police activity	Various	5,300	6,700	7,000	490	620	650	1,100	1,400	1,400
Prosecution	Flows and Costs	-	250	-	-	20	-	-	50	-
Magistrates courts	Flows and Costs	-	60	-	-	6	-	-	10	-
Crown court	Flows and Costs	-	440	-	-	40	-	-	90	-
Jury service	Various	30	60	110	3	5	10	6	10	20
Legal aid	Flows and Costs	-	650	-	-	60	-	-	130	-
Non legal-aid defence	Flows and Costs adapted	80	150	310	7	10	30	20	30	60
Probation Service	Flows and Costs	-	260	-	-	20	-	-	50	-
Prison Service	Flows and Costs	-	2,600	-	-	240	-	-	520	-
Other CJS costs	Flows and Costs	-	1,100	-	-	100	-	-	220	-
Criminal injuries compensation admin	CICB	-	1,200	-	-	110	-	-	250	-
<b>TOTAL cost per incident</b>		<b>100,000</b>	<b>130,000</b>	<b>160,000</b>	<b>1,700</b>	<b>2,000</b>	<b>2,200</b>	<b>14,000</b>	<b>18,000</b>	<b>22,000</b>

**Table A1.7: Average cost estimates for sexual offences**

Category of cost	Data Source	£ per incident		
		Estimate: Low	Best	High
<b>In anticipation of crime</b>		-	2	40
Defensive expenditure	Mintel “UK Security Market 1999”	-	2	40
<b>As a consequence of crime</b>		600	15,000	150,000
Physical and emotional impact	Highways Economics Note 1 (1998)	90	12,000	120,000
Victim services	NAVSS Annual Report 1998	-	20	-
Lost output	Highways Economics Note 1 (1998)	300	2,000	18,000
Health services	Highways Economics Note 1 (1998)	150	1,200	11,000
<b>In response to crime</b>		3,400	3,900	4,000
Police activity	Various	1,500	1,900	2,000
Prosecution	Flows and Costs	-	60	-
Magistrates courts	Flows and Costs	-	7	-
Crown court	Flows and Costs	-	180	-
Jury service	Various	10	20	40
Legal aid	Flows and Costs	-	200	-
Non legal-aid defence	Flows and Costs adapted	30	50	110
Probation Service	Flows and Costs	-	60	-
Prison Service	Flows and Costs	-	1,200	-
Other CJS costs	Flows and Costs	-	160	-
<b>TOTAL cost per sexual offence</b>		<b>4,300</b>	<b>19,000</b>	<b>150,000</b>

**Table A1.8: Average cost estimates for robbery of individuals**

Category of cost	Data Source	£ per incident		
		Estimate: Low	Best	High
<b>In anticipation of crime</b>		-	40	50
Defensive expenditure	Mintel “UK Security Market 1999”	-	0	10
Insurance administration	ABI Insurance Statistics Yearbook	-	40	-
<b>As a consequence of crime</b>		<b>1,200</b>	<b>3,300</b>	<b>35,000</b>
Physical and emotional impact	BCS 1998/ Highways Ec. Note 1 (1998)	540	2,400	30,000
Value of property stolen	BCS 1998	-	330	-
Property damaged/ destroyed	BCS 1998	-	30	-
Property recovered	BCS 1998	-	-50	-
Lost output	BCS 1998/ Highways Ec. Note 1 (1998)	100	420	4,300
Health services	BCS 1998/ Highways Ec. Note 1 (1998)	-	190	420
Victim services	NAVSS Annual Report 1998	-	6	-
<b>In response to crime</b>		<b>1,200</b>	<b>1,400</b>	<b>1,400</b>
Police activity	Various	530	680	710
Prosecution	Flows and Costs	-	20	-
Magistrates courts	Flows and Costs	-	4	-
Crown court	Flows and Costs	-	40	-
Jury service	Various	3	7	10
Legal aid	Flows and Costs	-	60	-
Non legal-aid defence	Flows and Costs adapted	9	20	40
Probation Service	Flows and Costs	-	20	-
Prison Service	Flows and Costs	-	450	-
Other CJS costs	Flows and Costs	-	70	-
<b>TOTAL cost per robbery</b>		<b>2,400</b>	<b>4,700</b>	<b>36,000</b>

**Table A1.9: Average cost estimates for common assault**

Category of cost	Data Source	£ per incident	Estimate: Low Best High		
			Estimate: Low	Best	High
<b>In anticipation of crime</b>			-	0	1
Defensive expenditure	Mintel “UK Security Market 1999”		-	0	1
<b>As a consequence of crime</b>			-	270	-
Physical and emotional impact	BCS 1998		-	240	-
Victim services	NAVSS Annual Report 1998		-	6	-
Lost output	BCS 1998		-	20	-
<b>In response to crime</b>			240	270	280
Police activity	Various		100	130	140
Prosecution	Flows and Costs		-	5	-
Magistrates courts	Flows and Costs		-	1	-
Crown court	Flows and Costs		-	9	-
Jury service	Various		-	1	3
Legal aid	Flows and Costs		-	10	-
Non legal-aid defence	Flows and Costs adapted		2	4	8
Probation Service	Flows and Costs		-	5	-
Prison Service	Flows and Costs		-	50	-
Other CJ costs	Flows and Costs		-	20	-
Criminal injuries compensation adminCICB			-	20	-
<b>TOTAL cost per common assault</b>			<b>510</b>	<b>540</b>	<b>550</b>

**Table A1.10: Average cost estimates for burglary not in a dwelling**

Category of cost	Data Source	£ per incident		
		Estimate: Low	Best	High
<b>In anticipation of crime</b>		-	<b>950</b>	-
Defensive (security) expenditure	BSIA estimate adapted	-	900	-
Insurance administration	ABI Insurance Statistics Yearbook	-	50	-
<b>As a consequence of crime</b>		-	<b>1,200</b>	<b>1,200</b>
Value of property stolen	CVS 1994 adapted	-	1,200	-
Value of property damaged/ destroyed				
Lost output	BCS 1998 adapted	-	40	60
<b>In response to crime</b>		<b>440</b>	<b>490</b>	<b>510</b>
Police activity	Various	190	240	250
Prosecution	Flows and Costs	-	8	-
Magistrates courts	Flows and Costs	-	5	-
Crown court	Flows and Costs	-	10	-
Jury service	Various	1	2	5
Legal aid	Flows and Costs	-	20	-
Non legal-aid defence	Flows and Costs adapted	3	7	10
Probation Service	Flows and Costs	-	20	-
Prison Service	Flows and Costs	-	160	-
Other CJS costs	Flows and Costs	-	10	-
<b>TOTAL cost per burglary not in a dwelling</b>		<b>2,600</b>	<b>2,700</b>	<b>2,700</b>

**Table A1.11: Average cost estimates for theft from a shop**

Category of cost	Data Source	£ per incident		
		Estimate: Low	Best	High
<b>In anticipation of crime</b>		<b>20</b>	<b>30</b>	<b>40</b>
Defensive (security) expenditure	BSIA estimate adapted	20	30	40
<b>As a consequence of crime</b>		<b>20</b>	<b>50</b>	<b>50</b>
Value of property stolen	Retail Crime Survey 1998	20	50	50
Lost output	Unknown			
<b>In response to crime</b>		<b>10</b>	<b>20</b>	<b>20</b>
Police activity	Various	6	7	8
CPS	Flows and Costs	-	1	-
Magistrates courts	Flows and Costs	-	0	-
Crown court	Flows and Costs	-	0	-
Jury service	Various	-	0	-
Legal aid	Flows and Costs	-	1	-
Non legal-aid defence	Flows and Costs adapted	-	0	1
Probation Service	Flows and Costs	-	2	-
Prison Service	Flows and Costs	-	4	-
Other CJS costs	Flows and Costs	-	0	-
<b>TOTAL cost per theft from a shop</b>		<b>50</b>	<b>100</b>	<b>110</b>



**Table A1.13: Average cost estimates for criminal damage against commercial or public sector property**

Category of cost	Data Source	£ per incident		
		Estimate: Low	Best	High
<b>In anticipation of crime</b>		<b>30</b>	<b>360</b>	<b>-</b>
Defensive (security) expenditure	BSIA estimate adapted	10	340	-
Insurance administration	ABI Insurance Statistics Yearbook	-	20	-
<b>As a consequence of crime</b>		<b>220</b>	<b>470</b>	<b>-</b>
Property damaged/ destroyed	CVS 1994 adapted	190	440	-
Lost output	BCS 1998 adapted	-	30	-
<b>In response to crime</b>		<b>50</b>	<b>60</b>	<b>60</b>
Police activity	Various	20	30	30
Prosecution	Flows and Costs	-	1	-
Magistrates courts	Flows and Costs	-	1	-
Crown court	Flows and Costs	-	1	-
Jury service	Various	-	0	1
Legal aid	Flows and Costs	-	2	-
Non legal-aid defence	Flows and Costs adapted	0	1	2
Probation Service	Flows and Costs	-	2	-
Prison Service	Flows and Costs	-	9	-
Other CJS costs	Flows and Costs	-	20	-
<b>TOTAL cost per incident</b>		<b>300</b>	<b>890</b>	<b>890</b>

**Table A1.14: Average cost estimates for robbery of commercial or public sector premises**

Category of cost	Data Source	£ per incident			
		Estimate:	Low	Best	High
<b>In anticipation of crime</b>			-	1,300	-
Defensive (security) expenditure	BSIA estimate adapted		-	1,200	-
Insurance administration	ABI Insurance Statistics Yearbook		-	100	-
Precautionary behaviour	Unknown				
Reduced quality of life	Unknown				
<b>As a consequence of crime</b>		1,800	2,300	9,200	
Value of property stolen	CVS 1994 adapted		-	1,500	-
Value of property damaged/ destroyed	CVS 1994 adapted		-		-
Lost output	BCS 1998 adapted		-	120	-
Health services	BCS 1998/ Highways Ec. Note 1 (1998)		-	50	-
Emotional/ other impact	BCS 1998 adapted	140	590	7,400	
<b>In response to crime</b>		1,200	1,400	1,400	
Police activity	Various	530	680	710	
CPS	Flows and Costs		-	20	-
Magistrates courts	Flows and Costs		-	4	-
Crown court	Flows and Costs		-	40	-
Jury service	Various	3	7	10	
Legal aid	Flows and Costs		-	60	-
Non legal-aid defence	Flows and Costs adapted	9	20	40	
Probation Service	Flows and Costs		-	20	-
Prison Service	Flows and Costs		-	450	-
Other CJS costs	Flows and Costs		-	70	-
<b>TOTAL cost per robbery</b>		<b>4,300</b>	<b>5,000</b>	<b>12,000</b>	

## Appendix 2: Construction of a CJS performance measure

A cost of crime performance measure must be capable of accurately capturing changes in the cost of crime over time. It must therefore be robust – subject to relatively small margins of error – so that we can be confident that any change we see is real and not attributable to measurement error. It must also be as comprehensive as possible. If the measure omits large components of cost, then changes in the missing components may outweigh any changes in those components we are measuring. Moreover, attention may be perversely focused on those components that are included, to the detriment of those that are not.

Some impacts of crime are outside the direct influence of the criminal justice system and crime prevention activities. If we want to influence the costs of crime in a positive way, to drive down the impacts of crime on society, we need to know which costs we can affect, how we can affect them, and whether these costs are going up or down. We also need, for the sake of clarity and simplicity, to judge the performance of the CJS in a given year on the basis of costs that are incurred as a result of crimes committed in *that year*.

One way to construct a measure that meets these requirements is to attach (average) **fixed cost weights** to different types of crime, and then to multiply these cost weights by the number of crimes of each type in each year. These cost weights are equivalent to the average cost of crime estimates in this paper. To maintain a consistent cost of crime series that can track CJS performance over time, revisions made to reflect improved information, or regular updates in the fixed cost weights (reflecting changes in the average impacts of crimes), will be applied back over the entire series. This allows us to break down any change in the total cost of crime into its component parts – changes in the average costs of crime or changes in the number and mix of different crimes.

Updating the cost weights at regular intervals will also allow us to assess the performance of the CJS in *mitigating* the impacts of a given number of crimes (as well as performance in cutting the number of crimes). For example, a CJS that dealt with victims quickly and sympathetically and supported them immediately after a crime could reduce the emotional trauma felt by the victims, and thereby reduce the impacts of crime. The cost of crime to society would then fall even without a fall in the number of crimes.

## Appendix 3: Data sources and workings

### ***Crimes against individuals and households***

#### *Security expenditure*

Information is available from the British Security Industries Association on the market size of various security products and services, and from various sources including a 1999 Mintel Market Intelligence Special Report, 'The UK Security Market'. For burglary in a dwelling, information on ownership of security products and their unit costs, taken from the British Crime Survey and informal discussions with manufacturers, have been used to estimate a cost per offence.

#### *Insurance administration*

The Association of British Insurers 'Insurance Statistics Yearbook 1988-1998' (1999) has basic information on the total amount of commission and expenses incurred by insurers for different types of insurance cover. Estimates of the administrative costs of insurance can be derived from this.

#### *Property stolen/damaged*

Estimates for the bulk of offences can be derived from the British Crime Survey 1998. Some estimates are also available from the Commercial Victimization Survey (Home Office Research Study 146) and the annual Retail Crime Survey carried out by the British Retail Consortium.

#### *Emotional and physical impact on victims*

Estimates of the cost to victims, employers and health services of fatalities and serious and slight injuries in road traffic accidents can be taken from Highways Economics Note No. 1 1998, published by the Department of Environment, Transport and the Regions. These can be used to map onto violent crime types as a first approximation of costs. A Home Office-sponsored research project on the feasibility of applying a similar methodology used by DETR to derive estimates specific to violent crime will report in July 2001. The emotional upset to victims is also captured by the British Crime Survey for property offences against individuals and households. The BCS asks all victims of crime, "Apart from your financial losses what would be a reasonable financial sum to compensate you for the upset and inconvenience you and/ or your household suffered?"

#### *Lost output*

DETR estimates cover lost output from violent crimes. For property crimes, the British Crime Survey yields data on the average time off work per incident. This can be multiplied by the average wage rate from the New Earnings Survey 1999 (and a factor for employment "on-costs" included) to derive estimates.

### *Victim services*

Total financial support for victim support (a Home Office grant) is combined with assumptions about the cost of volunteer time to derive an estimate of the total resource cost of victim support services. This total is split by offence type according to the relative total seriousness of each offence to victims. For example, if total victim costs for robbery are twice the victim costs for burglary, then victim support costs are assumed to be twice as great, in total, for robbery. The total for each category is then divided by the number of offences in that category to derive average cost estimates.

### *Health services*

DEIR estimates from Highways Economics Note No. 1 1998 are used.

### *Police costs*

Police costs have been split into crime-related and non-crime-related costs, using an adapted activity sampling exercise for Humberside Police. The crime-related costs have then been split according to relative CJS costs per offence. For example, if CJS costs for burglary are three times those for theft, then police costs will also be three times as great.

### *CJS costs (excluding police)*

The Home Office Flows and Costs Model (Harries, 1999) contains information on costs by offence type for CJS activities postcharge. Where costs are required below these broad offence types, information from the Home Office Crime and Criminal Justice Unit on types of disposal and average sentence lengths for sub-categories (e.g. theft of and theft from a vehicle) have been used to estimate the proportion of costs going to each.

### ***Commercial and public sector crime***

Security costs were taken from British Security Industry Association figures for total security industry turnover. It was not possible to allocate the different types of security to specific offence types. Total costs were instead allocated to offence types by relative victim costs (stolen property etc). Insurance costs were estimated from the ABI Insurance Statistics Yearbook 1988-1998, where figures for commercial property were available.

Average property losses were largely drawn from the Commercial Victimization Survey 1994. An alternative estimate of average value of property stolen in thefts from shops was taken from the Retail Crime Survey 1998. Lost output was adapted from the estimates for crimes against individuals and households. Health services and emotional and physical impact for robberies and till snatches were also adapted from robbery against individuals and households estimates.

CS costs and police costs were estimated in the same way as for crimes against individuals and households.

### ***Fraud and forgery***

All estimates were taken from a report by National Economic Research Associates, jointly commissioned by the Home Office and the Serious Fraud Office, estimating the economic cost of fraud.

### ***Drug crime***

No estimates were made in this study. Though other categories of crime influenced or motivated by drug misuse (e.g. property crime) are included in the relevant category.

### ***Traffic and other non-notifiable offences***

CS costs were taken from the Home Office Flows and Costs Model (Harries, 1999). Police costs were adapted in the same way as for crimes against individuals and households. Costs of accidents caused by illegal speed were taken from Highways Economics Note No. 1 1998 (DETR, 1999).

### ***Wider economic distortions***

No cost estimates were made in this study.



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## Section VII

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