



Crimes occurring and prevented in New Deal for Communities areas

An approach to estimating the economic costs and benefits



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benefits**

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The findings and recommendations in this report are those of the authors and do not necessarily represent the views of the Department for Communities and Local Government.

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Executive summary

Chapter 1: Introduction

- This report, by the Social Disadvantage Research Centre (SDRC) at the University of Oxford, contributes to our understanding of the impact of crime on individuals, businesses and services within NDC Partnership areas. The report represents a contribution to the national evaluation of the NDC Programme. The NDC National Evaluation Team is headed by the Centre for Regional, Economic and Social Research (CRESR) at Sheffield Hallam University and is funded by Communities and Local Government (CLG).
- The two primary objectives of this report are to: (i) quantify the economic costs of crime in the NDC Partnership areas; and (ii) explore whether there is any evidence that the actions of the NDC Programme may have resulted in reduced levels of crime and therefore reduced costs of crime.
- The cost of crime in each NDC Partnership is calculated using recorded crime data from the regional police forces in England and estimates of costs per crime provided by the Home Office.
- To explore whether cost savings may have been experienced in NDC Partnerships, the crime costs *observed* in NDC Partnerships were compared against estimates of the crime costs that might be *expected* to have occurred in the absence of the Programme. If the observed crime cost in an NDC Partnership was lower than the expected cost then there is some evidence that cost savings may have been achieved.
- The analysis of observed versus expected crime costs was performed first for the 39 NDC Partnerships and then for the 39 comparator areas. Assessing the findings for the NDC Partnerships in the context of the findings for the comparator areas helps to validate and qualify the results and inform the conclusions.

Chapter 2: Volume of crime and associated costs

- The total cost of crime across the 39 NDC Partnership areas between 2000/01 and 2004/05 is estimated to be over £2.4bn.
- Hackney NDC experienced the largest total cost of crime between 2000/01 and 2004/05, at £138m. In contrast, Southwark NDC (£18m) saw the lowest total costs of crime over the period.
- Violent crimes account for the largest share of the cost of crime (59.2 per cent of the total cost of crime), with the 'other wounding' crime type contributing 27.2 per cent of the total cost of crime over the period.

- The proportion of overall costs of crime accounted for by violent offences ranges from a high of over 70 per cent in Lewisham NDC to a low of approximately 45 per cent in Oldham NDC.
- The average per capita cost of crime across the 39 NDC Partnerships between 2000/01 and 2004/05 is £3,400, with around £2,000 per capita due to violent crimes. Brent NDC (£6,600 per capita), is the NDC with the largest per capita costs of crime, while Islington NDC (£1,150 per capita), has the lowest per capita crime costs over the period.
- Physical and emotional impact on victims is by far the largest component of the total cost of crime in NDC areas, followed by costs to the criminal justice system. This is a function of the high physical and emotional costs associated with violent crimes.
- Quite considerable reductions in burglary and theft costs are apparent over the period of analysis relative to the respective starting positions, with somewhat smaller reductions for criminal damage. However, the trends in these three crime types are overshadowed by the huge changes in costs associated with violent crimes.

Chapter 3: Crimes 'prevented' and associated cost savings

- Across the NDC Programme as a whole the net financial value of crime potentially prevented is estimated to be £124.9m. This value represents the median of a range of possible savings. A more conservative lower bound estimate is £38m, while a more speculative upper bound estimate is £219.4m.
- In 14 of the 15 crime types (the exception being 'attempted vehicle theft'), the number of crimes observed across the NDC Programme between 2001/02 and 2004/05 was lower than the median number of crimes that would be expected in the absence of the intervention.
- An estimated 44,422 crimes may have been prevented across the 39 NDC Partnership areas. This value represents the median of a range of possible values. A more conservative lower bound estimate is 10,361 crimes prevented while a more speculative upper bound estimates is 80,353 crimes prevented.
- The cost savings associated with violence amount to approximately twice the combined cost savings associated with burglary, theft and criminal damage. Other wounding and robbery together account for over half of the overall median financial savings.
- Twenty-nine of the 39 Partnerships saw some degree of financial savings. Six of these 29 NDC Partnerships each saw savings of over £10m. Ten NDC Partnerships experienced more crime than would be expected.
- The lack of any overall regional pattern in NDC findings and the apparent contrasts between spatially proximate Partnerships suggests that important neighbourhood factors are acting to shape the crime rates within NDC Partnerships.

- The major driver of the overall financial savings estimated across the NDC Partnerships is through reduced physical and emotional impact on victims (£52.4m). Over half of the estimated savings relating to physical and emotional impact on victims is accounted for by other wounding and robbery.
- The per capita financial value of crimes potentially prevented is greater across the NDC Partnerships than across the comparator areas in all four years presented, although the difference is negligible in 2003–04. However, the results suggest that financial savings are also being achieved within the comparator areas as well as within the NDC areas.
- For the three crime types of domestic burglary, vehicle theft and theft from person, fewer crimes were observed across the 39 NDC Partnerships than expected (indicating that savings may be being achieved) while more crimes were observed across the 39 comparator areas than expected (indicating that additional losses may have been experienced).
- Each of the 39 NDC Partnership areas had the potential to register a saving or a loss on each of the 15 crime types in each of the four years after the 2000/01 baseline year. This means that there were 2,340 possible observations where a saving or a loss could be recorded. On all 15 crime categories, a larger number of NDC Partnerships experienced possible savings than possible losses. For the violence, burglary and criminal damage categories, over half of the NDC observations are classified as possible savings whilst for theft the figure is just under half. In contrast, there is evidence of possible losses in between 11 per cent to 15 per cent of observations across the NDC Partnerships.
- For each of the four broad crime categories, the proportion of NDC Partnerships experiencing savings was greater than the proportion of comparator areas experiencing savings. The proportion of NDC Partnerships and comparator areas experiencing possible losses is very close for each of the four broad categories.

Chapter 4: Conclusion

- It is recognised throughout this report that attribution of impact to a particular factor is fraught with difficulty. As such, caution must be exercised when interpreting the results. However, on balance, there appears to be some evidence to suggest that the cost savings observed across the NDC Partnerships are greater than one might expect in the absence of the Programme.

1 Introduction

1.1 Background

The New Deal for Communities (NDC) Programme is a key element of the Government's National Strategy for Neighbourhood Renewal. The NDC Programme targets 39 neighbourhoods across England with some of the highest levels of multiple deprivation. The Programme aims to: reduce worklessness; reduce crime; improve health; improve skills; improve housing and the physical environment; and strengthen communities.

This report, by the Social Disadvantage Research Centre (SDRC) at the University of Oxford, informs our understanding of the impact of crime on individuals, businesses and services within NDC Partnership areas. The report represents a contribution to the national evaluation of the NDC Programme. The NDC National Evaluation Team is headed by the Centre for Regional, Economic and Social Research (CRESR) at Sheffield Hallam University and is funded by Communities and Local Government (CLG).

Crime is often stated as one of, if not *the* most, important concerns of people living within deprived areas (Burrows and Rhodes, 1998). The social and economic costs of crime can act as major barriers to neighbourhood regeneration through a multitude of negative effects on individuals, businesses and services.

The two primary objectives of this report are to: (i) quantify the economic costs of crime in the NDC Partnership areas; and (ii) explore whether there is any evidence that the actions of the NDC Programme may have resulted in reduced levels of crime and therefore reduced costs of crime.

1.2 Crime reduction and the NDC Programme

NDC Partnerships have invested considerable resources in a vast array of interventions which may impact either directly or indirectly on crime levels. Between April 1998 and March 2007 over £100m was invested in specific crime reduction interventions across the 39 Partnerships. However, expenditure on the other key priority themes of education, employment, health and housing and the physical environment may also have an indirect effect on crime levels as such investment may impact upon the many complex causes of crime. The partnership approach to the NDC Programme has generated additional funds contributed from public, private and voluntary sources. In terms of spend on specific crime reduction interventions between April 1998 and March 2007, over £41m was invested in NDC areas from other public bodies, £2.5m from private organisations and a further £400,000 from voluntary agencies. In total, therefore, over £145m was

invested in crime-specific initiatives by the NDC Partnerships and the various partner organisations. This figure compares with £155m for the Health Theme, £228m for the Employment Theme, £248m for the Community Theme, £251m for the Education Theme, and over £500m for Housing and the Physical Environment Theme. Though direct spend on crime reduction was smaller than for the other target themes, it nevertheless amounts to an average of £3.9m per NDC area.

The NDC Programme is operationalised through a local partnership in each of the 39 target neighbourhoods with local people identifying local problems and implementing locally constructed interventions. The emphasis on partnership working at the local level is also reflected in broader government strategy to tackle crime. The introduction of the Crime and Disorder Act 1998 placed a statutory responsibility on the police and local authorities to work together in partnership at the local level to identify local problems and implement local interventions in a coordinated way. These Crime and Disorder Reduction Partnerships (CDRPs), one per local authority in England, engage with and centrally involve a wide variety of other agencies in order to tackle crime and its causes in a holistic manner.

The NDC Programme is one of a number of area- and person-based interventions aimed at reducing the incidence of crime both by removing the opportunities for offences to take place and by tackling the underlying factors that are associated with criminal behaviour. A variety of policy-specific interventions have been implemented by the Home Office and other agencies. These interventions tend to be focused on reducing the numbers of high-priority crime types such as burglary, robbery and car crime and on increasing the public's perception of personal safety. Examples include the Reducing Burglary Initiative (Home Office), the Street Crime Initiative (Home Office) and the Neighbourhood Wardens Initiative (CLG). Each of these interventions is focused on geographical areas with high concentrations of a particular crime problem. Given that NDC Partnership areas are often located in or comprise relatively high crime neighbourhoods, it is important to recognise that a certain degree of overlap is likely in some, if not all, NDC areas. This potential overlap represents a major difficulty when evaluating the impact of the NDC Programme as results may be 'contaminated' by the alternative intervention. This problem is discussed in more detail in Chapter 3 of this report.

1.3 Key research questions

Policy makers are concerned not only about the volume of crimes committed but also about the financial costs of those crimes to individuals, businesses and services (for example the police, criminal justice system, National Health Service). A greater awareness of the size and distribution of the costs of crime between geographical areas, different crime types and to different social and economic actors provides helpful information to better allocate and target policy activity and resources. Despite the potential benefits of researching the costs of crime, much more research has been undertaken

on issues related to the quantity of crime than on the financial cost of those crimes. Indeed there has been very little research undertaken assessing the impact of crime reduction interventions in terms of the financial benefits of crime prevention.

This report is based within the current policy context and addresses the following two overarching research questions:

- What is the cost of crimes committed within the 39 NDC Partnerships?
- Is there any evidence that NDC Partnerships may have successfully reduced crime levels and, if so, what cost savings may be attributed to these reductions in crime?

To answer these key questions, crime data for five consecutive years (2000/01 through to 2004/05) and covering 15 broad crime types are used. The crime types and cost categories used are discussed in detail in **Appendix 1**.

1.4 Costs of crime: a summary of previous research

In recent years there has been a growing awareness of the value of research into the costs of crime and, as a result, there is a small but expanding research literature around these issues, much of it international. The focus of this research activity can be broadly separated into two distinct elements: (i) estimating the costs of crime committed, and (ii) conducting cost-benefit analyses. A brief summary of previous research on each of these elements is provided below.

The first strand of the literature centres on creating estimates of the cost of crime and then using these cost estimates in combination with data about the volume of different types of crimes committed in order to calculate the financial value of crimes committed. To some degree this area of crime research remains in its infancy: methods continue to be refined, estimates of costs are being improved and broadened in scope¹. Many countries have only relatively recently constructed estimates of the cost of crime, as is the case in Australia and New Zealand (Roper and Thompson, 2006; Mayhew, 2003; Walker, 1996), or have not yet constructed such estimates. Research from the USA dominates the literature on the cost of crime, and Anderson (1999) reports that early attempts to calculate the costs of particular crimes occurred as early as the 1960s, albeit in a relatively general and simplistic manner, and that by the late 1990s there had been a further seven research studies estimating crime costs, typically for particular crime types and in particular geographical regions. Despite this relatively long history of research on the cost of crime in the USA, Anderson (1999) claims that his own work in the late 1990s represents the first nationally comprehensive estimates of crime

¹ See for example recent work in the UK into the feasibility of producing estimates of the costs associated with fear of crime (Dolan and Peasgood, 2007)

costs over a broader range of crime categories and incorporating a wider range of cost categories than previous work.

In the UK context, the Home Office has been active in this area of research for at least a decade and has produced two key publications setting out estimates of the costs of crime across different crime types over this period. The first of these Home Office publications (Brand and Price, 2000) provided the UK's first systematic estimates of the financial cost of a range of domestic and commercial crime types, covering different types of violent crimes, burglary, criminal damage and theft. For each crime type, the authors report average cost as well as separate estimates for several different costs components, divided into costs in anticipation, consequence and response to crime. Costs in anticipation of crime include security expenditure and insurance administration; costs as a consequence of crime include property stolen and damaged, emotional and physical impact on victims, lost output, victim services, and health services; and costs in response to crime relate to the criminal justice system (including police). Based on these estimates the authors found that the total cost of crime in England and Wales in 1999/00 was approximately £60bn, though it is noted that this figures excludes various cost components for which costs cannot be accurately estimated. Over the following five years a significant amount of work was undertaken to improve and update the methods and cost estimates presented in Brand and Price (2000) and these efforts resulted in the second publication by the Home Office (Dubourg et al, 2005). The Dubourg et al (2005) publication consolidates the methods and crime categories in Brand and Price (2000).

There is a growing recognition that evaluations incorporating financial inputs and outcomes alongside crime-event outcomes are a valuable tool for evaluators and policy makers in the field of crime research (Cohen, 1988, 2000; Welsh and Farrington, 1999, 2000a, 2000b). In a UK policy context, the Home Office has encouraged programme evaluators to include financial/cost-benefit analyses and has issued support and guidance to researchers on methodologies of cost-effectiveness and cost-benefit analysis (Legg and Powell, 2000; Dhiri and Brand, 1999; Stockdale et al, 1999). However, given the relative infancy of the estimation of the costs of crime and the lack of history in the application of such techniques to crime analyses, few evaluations of crime reduction programmes incorporate such financial analyses. Of those which do attempt such analyses, the methods used vary widely (Johnson et al, 2004; Chisholm, 2002; Cohen, 2000; McDougal et al, 2003:164).

This analyses presented in this NDC National Evaluation report therefore contribute not only to the evaluation of the crime strand of the NDC Programme but also to the small but growing literature around the financial implications of crime to victims, society and the economy.

1.5 Data and Methods

This report contains two substantive empirical chapters. **Chapter 2** presents data on the volume of crime occurring within the 39 NDC Partnership areas and the economic costs associated with these crimes. This chapter offers an important insight into the economic implications of crime within NDC areas, and thus represents valuable contextual information hitherto unknown.

Chapter 3 presents the results of a methodology which compares the crime rates that were *observed* in NDC Partnership areas against the crime rates that might be *expected* in these neighbourhoods in absence of the NDC Programme (i.e. a counterfactual). The chapter is therefore focused on presenting an evaluation of outcomes related to NDC Partnerships.

A full and detailed explanation of the methodology is provided in **Appendix 1**. The main points can be summarised for each of the two empirical sections as follows:

Methodology in Chapter 2: Volume of crime and associated costs

The approach adopted in **Chapter 2** is relatively straightforward.

First, the numbers of crimes occurring in each NDC Partnership were calculated using recorded crime data provided by the regional police forces across England. A total of 15 different crime types were considered separately.

Second, each of these 15 crime counts was adjusted by weighting the counts for under-reporting and under-recording using the appropriate multiplier provided by the Home Office.

Third, each of the 15 adjusted crime counts was then multiplied by an estimate of the cost per crime (of the relevant crime type) provided by the Home Office (taken from the publications by Brand and Price (2000) and Dubourg et al (2005)). As noted above, the Home Office publishes a series of cost categories per crime type; some categories in anticipation of crime, some as a consequence of crime, and some in response to crime. The analyses presented here provide the overall cost of crime, plus some consideration of costs by cost category.

Methodology in Chapter 3: Crimes 'prevented' and associated cost savings

The methodology employed in **Chapter 3** is more complex due to the need to estimate *expected* crime rates. The methodology adopted in this chapter is an adaptation and development of an approach originally employed by Johnson et al (2004). The key principles of the method can be summarised as follows.

First, the financial year 2000/01 was adopted as the 'baseline' time point. This is the first year for which crime data are available in the required format.

It is assumed that the data for this year represent the situation before any NDC-specific intervention has occurred in the neighbourhoods.

Second, for each subsequent year from 2001/02 through to 2004/05, an expected crime rate is calculated that represents the rate that we estimate is most likely to have been observed had the NDC Programme not been in existence. The expected crime rate is calculated separately for each of the 15 crime types in each of the 39 NDC Partnerships. The expected crime rates are based upon rates observed in a group of similarly sized and similarly deprived neighbourhoods from across England that were *not subject to the NDC Programme*. As such, this group of control areas represents an indication of what might have occurred in the absence of the NDC Programme. It therefore acts as a valuable counterfactual. The median value is taken from this group of control areas and it is this median value that is assumed to represent the best estimate of what might be expected to have occurred in the NDC Area in the absence of the Programme.

Third, the observed crime rates in NDC Partnerships were compared against the expected crime rates and the difference calculated. If the observed crime rate is lower than the expected crime rate then we suggest that the NDC Partnership may have experienced cost savings due to lower-than-expected crime levels. Upper and lower bounds are shown around the median value to give an indication of the level of confidence in the median value.

Finally, the net difference between observed and expected crime counts is calculated and multiplied by the appropriate Home Office cost estimates to produce estimated cost additions or savings that may be experienced in NDC Partnerships.

2 Volume of crime and associated costs

2.1 Costs of crime across the NDC Programme

In **Table 2.1**, the key steps in the process by which costs of crime in NDC areas are calculated are summarised and the main messages in terms of those costs of crime at a programme-wide level are presented. In **column 2** the 15 key crime types used throughout the report are listed. **Column 1** shows the four broad crime categories within which each of the 15 crime types falls. The number of crimes recorded across all NDC Partnerships is shown for each of the 15 individual crime types in **column 3**, whilst in **column 4** the adjusted number of crimes after having applied the Home Office multipliers² is shown. In **column 5** the average cost of a single incident of each crime type as taken from the Home Office crime costings is presented. The resulting total cost of each crime type is shown in **column 6**, which is the product of the adjusted crime count in **column 4** and the average cost of each incident as shown in **column 5**. With the exception of the small number of homicide counts and the Home Office costings, all crime counts are rounded to the nearest ten and all costs of crime to the nearest £10. The overall costs of crime shown in **column 6** (in £ thousands). Finally, in **column 7** the percentage of the total cost of crime in NDC areas attributable to each of the 15 crime types is shown.

It can be seen that there were 276,540 crimes recorded in NDC areas between 2000/01 and 2004/05, which equated to 989,060 crimes once adjusted using the Home Office multipliers. The total cost of crime across the NDC Programme between 2000/01 and 2004/05 is estimated to be over £2.4bn. Violent crimes account for the largest share of the cost of crime (59.2 per cent of the total cost of crime), with the 'other wounding' crime type contributing 27.2 per cent of the total cost of crime over the period.

In **Figure 2.1** the volume of the four broad crime types and the costs of these crime types are presented. The rationale for this comparison is that volume and cost of crime represent two alternative ways by which the problem of crime may be measured and targeted. The two, however, may not highlight the same patterns, yet in general targeting crime interventions based on the cost of crime is rare compared with targeting based on the volume of crime. In **Figure 2.1** the criminal damage category is shown to have the largest volume of crime, with the category of violent crimes having the second largest volume of crime. In terms of total costs of crime, however, violent crimes account for by far the largest share while criminal damage accounts for a much smaller share.

² Please see the **Appendix 1** for more details

Table 2.1: Total volume and cost of crime, all NDC Partnerships 2000/01 to 2004/05

1	2	3	4	5	6	7
Broad crime type	Individual crime type	Police recorded crime count 2000/01– 2004/05	Multiplied crime count 2000/01– 2004/05	Home Office average cost	Cost of crime across NDC areas 2000/01– 2004/05 (£ thousands)	Cost of crime 2000/01– 2004/05 Col %
Violence	Homicide	76	76	1,458,975	110,882	4.6
	Serious wounding	1,990	4,570	21,422	97,899	4.1
	Other wounding	36,550	81,440	8,055	656,007	27.2
	Common assault	17,420	144,010	1,441	207,520	8.6
	Robbery	12,050	48,620	7,282	354,080	14.7
Burglary	Domestic burglary	33,270	76,690	3,267	250,546	10.4
	Commercial burglary	22,900	47,470	2,920	138,612	5.8
Theft	Vehicle theft	22,820	29,560	4,137	122,298	5.1
	Theft from person	9,940	55,300	635	35,118	1.5
	Theft from vehicle	38,200	114,470	858	98,218	4.1
	Attempted vehicle theft	4,440	11,330	511	5,789	0.2
Criminal damage	Arson	4,300	20,640	867	17,892	0.7
	Criminal damage to a dwelling	27,670	130,750	867	113,359	4.7
	Criminal damage to a business	10,310	60,440	979	59,173	2.5
	Other criminal damage	34,600	163,690	867	141,922	5.9
	Total	276,540	989,060	N/A	2,409,315	100.0

In **Figure 2.2** the focus returns to a programme-wide view of the cost of crime and this is presented for each single year. In NDC areas, costs of crime increased between 2000/01 and 2001/02 and then gradually decreased each year until 2004/05, with the total cost of crime in 2004/05 (£432m) being slightly lower than the costs seen in 2000/01 (£448m).

In **Figure 2.3**, total per capita costs of crime in NDC areas are presented. Per capita costs take into account the varying size of the 'at-risk' resident and workplace population in each areas. The chart highlights that, when taking into account the size of the 'at-risk' population, the same general trend over time exists for per capita costs as is seen for total costs: per capita costs of crime increase initially between 2000/01 and 2001/02 but then decrease year on year between 2001/02 and 2004/05, with per capita costs slightly lower in 2004/05 (£618) than in 2000/01 (£640).

Figure 2.1: Volume and cost of crime, all NDC Partnerships 2000/01 to 2004/05

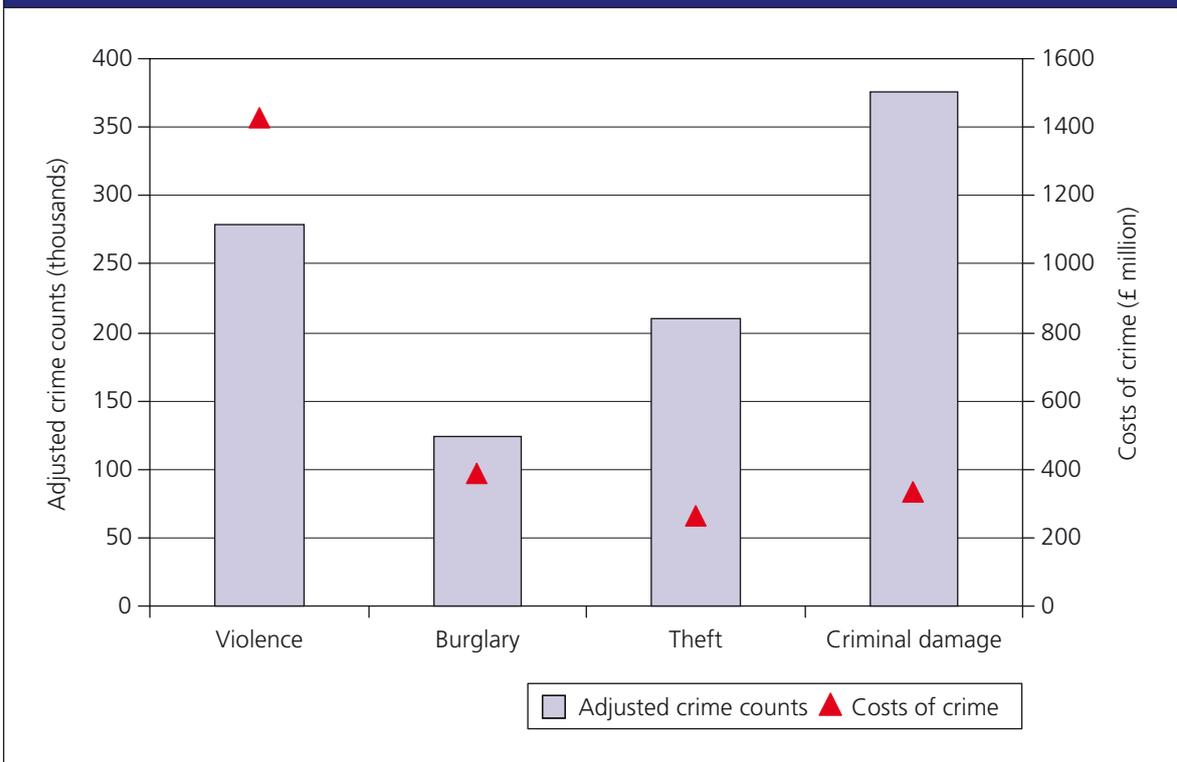


Figure 2.2: Total cost of crime in NDC areas in each year 2000/01 to 2004/05

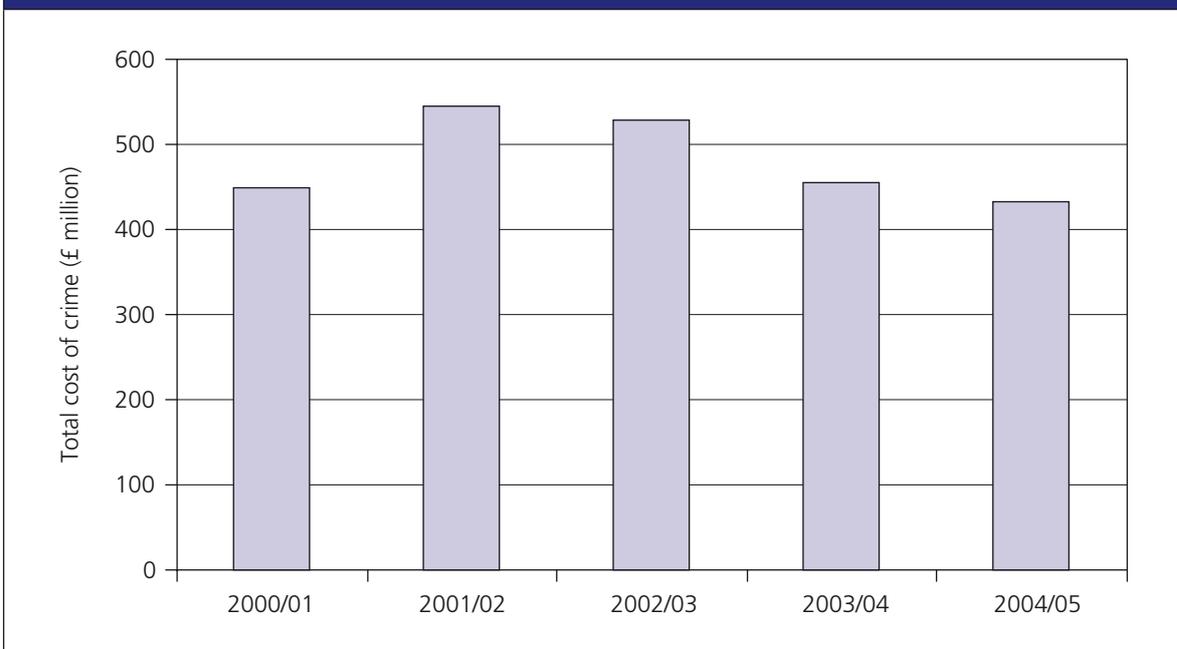
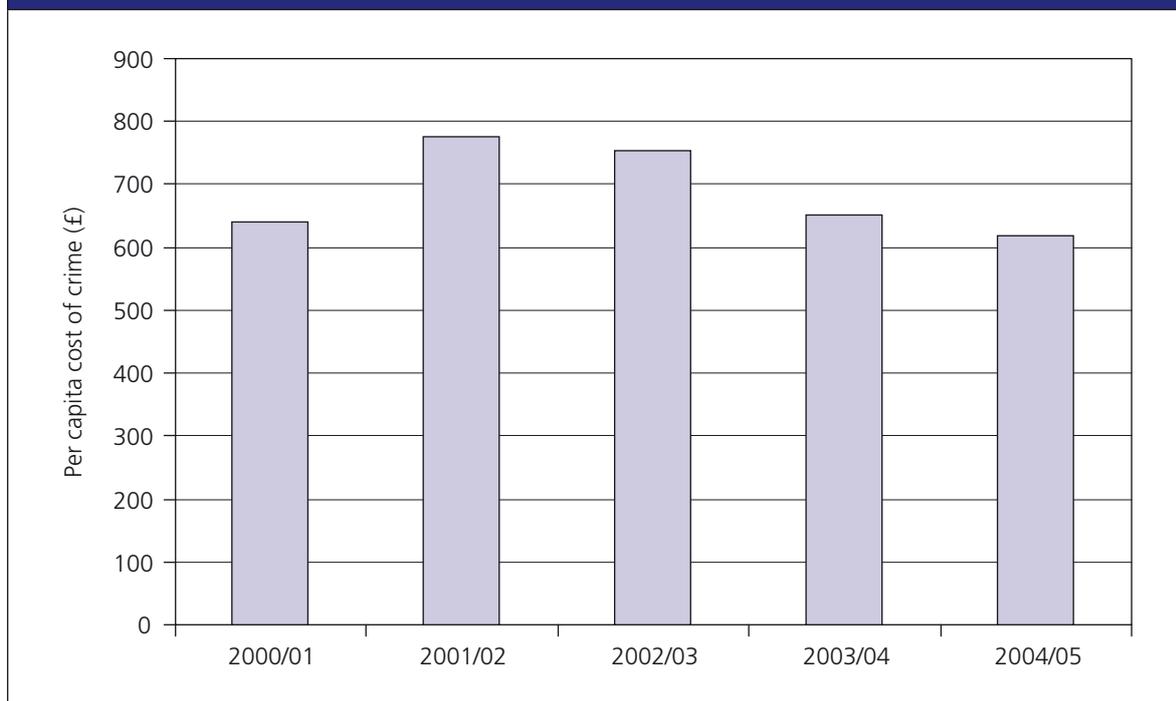


Figure 2.3: Total per capita cost of crime in NDC Partnerships in each year

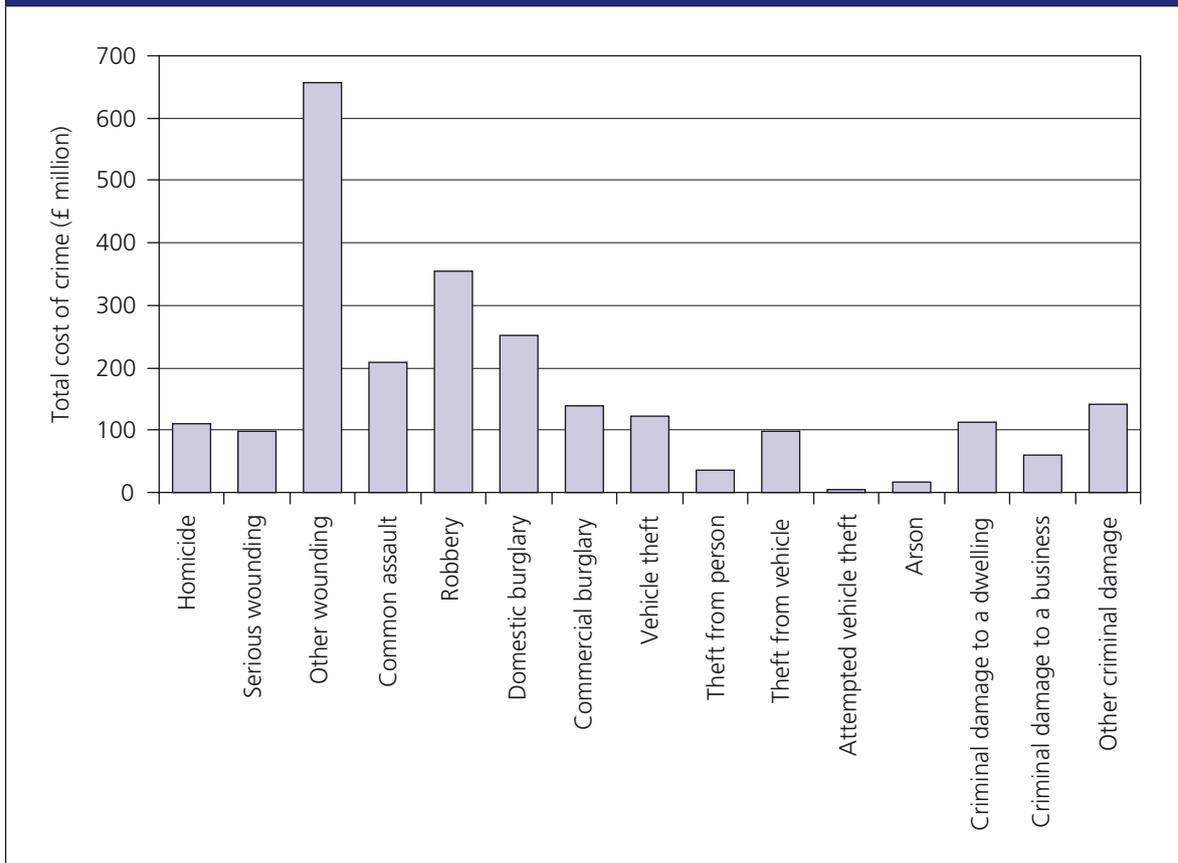
2.2 Costs by crime type

In **Figure 2.4** the total cost of crime for each individual crime type over the period 2000–01 to 2004–05 is presented for all 39 NDC Partnerships combined. Two key messages emerge. First, in terms of the key drivers of the total cost of crime, ‘other wounding’ and ‘robbery’ stand out; a consequence of the large average costings per offence and the relatively large number of offences recorded. Second, although criminal damage contributes significantly to the total volume of crime (see **Table 1.1**) it contributes less to total cost of crime due to lower cost estimates per offence of criminal damage.

Figure 2.5 presents the total cost of the four broad crime groupings of violence, burglary, theft and criminal damage in each of the 39 NDC Partnerships. The chart is sorted according to the total cost of crime over the whole period. The NDC average figures are also shown to the far right of **Figure 2.5**, with NDCs on average experiencing £62m of crime over the period and with violent crimes accounting for 60 per cent of that figure.

Hackney NDC experienced the largest total cost of crime between 2000/01 and 2004/05, at £138m. This was followed by Doncaster NDC (£125m), Birmingham Aston NDC (£103m) and Sunderland NDC (£100m). In contrast, Southwark NDC (£18m), Norwich NDC (£27m) and Plymouth NDC (£32m) saw the lowest total costs of crime over the period.

Figure 2.4: Total cost of individual crime categories in NDC areas, 2000/01 to 2004/05



In **Figure 2.6** the composition of the costs of crime for each NDC in terms of the four broad crime types is shown. The stacked bar shows the percentage of that NDC Partnership's total crime costs for each of the four broad crime types. A marker on each bar shows the total cost of crime in the NDC Partnership and this can be read from the secondary y-axis to the far right of the chart. The chart is sorted according to this total cost of crime marker. An all NDC average bar is shown to the right of **Figure 2.6** and confirms the programme-wide messages identified earlier: violent crimes account for 60 per cent of the total costs of crime, burglary accounts for 16 per cent, theft accounts for 11 per cent, and criminal damage accounts for 14 per cent.

Figure 2.6 highlights that, as one would expect, there is some variation in the relative contributions of the four broad crime types to total costs of crime across the 39 Partnership areas. For example, Lewisham NDC, Birmingham Aston NDC, and Southwark NDC Partnerships have the largest percentage contributions made by the violent crime category at just over 70 per cent of the total cost of crime in the NDC area. In contrast, in Oldham NDC Partnership only 45 per cent of the total cost of crime is due to violent crimes, with a relatively larger contribution to the total cost made by burglary compared with other NDC areas. The relative contribution of criminal damage to the total cost of crime is at its lowest in Lewisham NDC Partnership at just under 7 per cent and at its greatest in Southampton NDC at just under 26 per cent.

Figure 2.5: Total cost of broad crime types in individual NDC Partnerships, 2000/01 to 2004/05

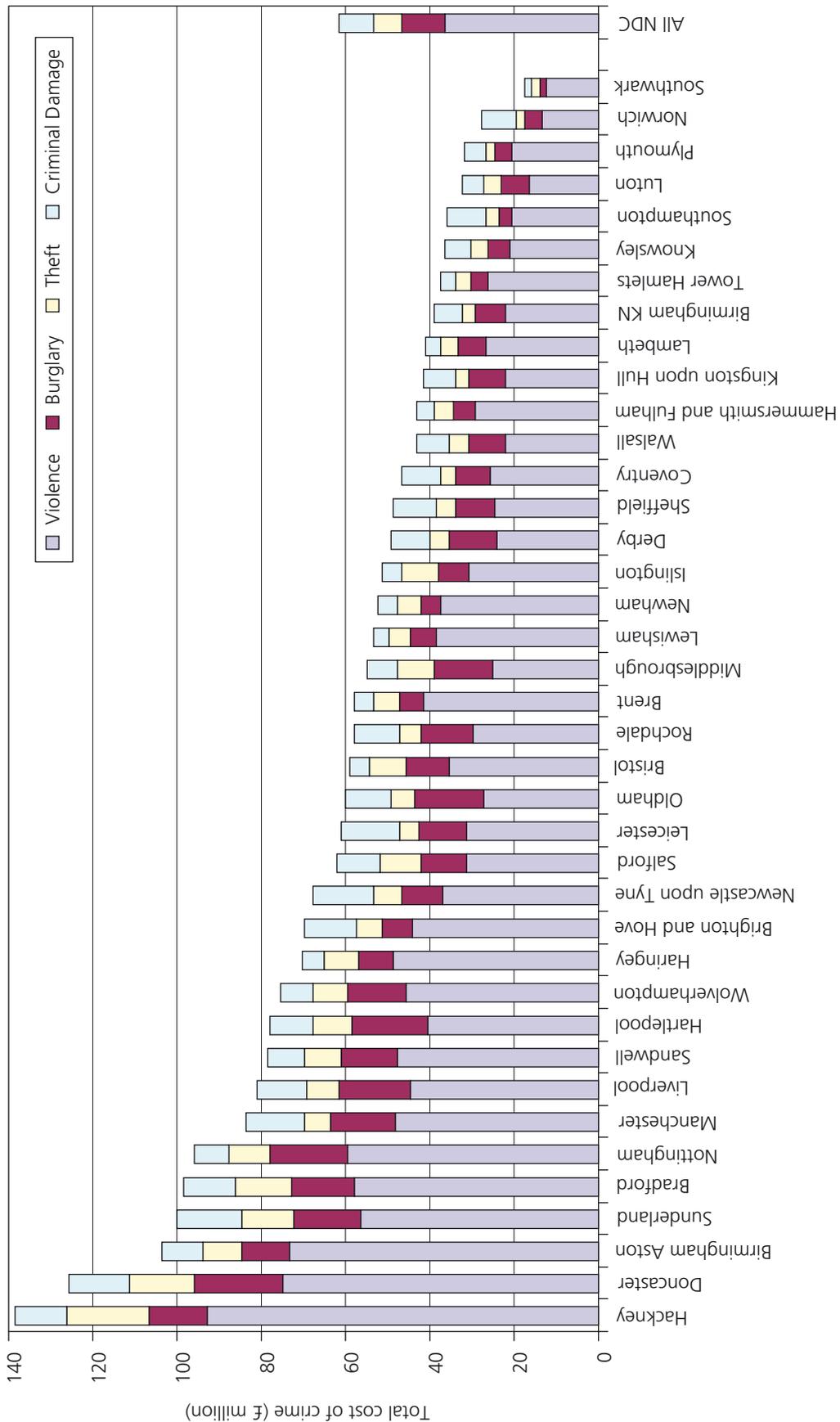
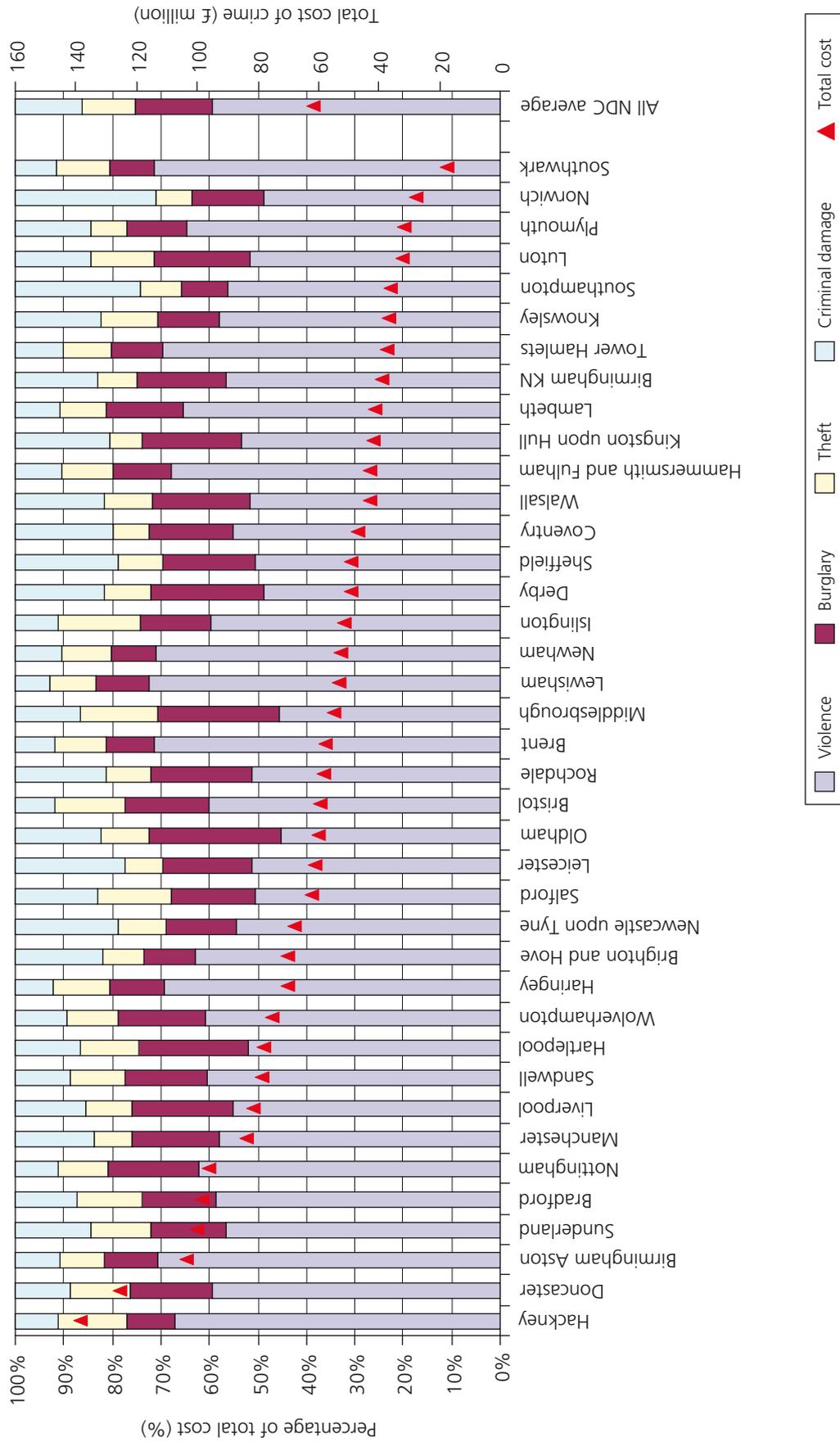


Figure 2.6: Percentage of total costs across broad crime types, 2000/01 to 2004/05



As has been noted, violent crimes dominate the total costs of crime over the period in all NDC Partnerships, accounting for almost half or more of total costs in every NDC Partnership. In **Figure 2.7** the total costs of the individual crime types within the broad violence category are presented. The total costs for each individual crime type can be read from the y-axis to the left of **Figure 2.7**. For each NDC a marker is also used to show the percentage of total costs due to these five violent crime types combined and this percentage is displayed on the y-axis to the far right of **Figure 2.7**. The chart is sorted according to this marker, with Lewisham NDC at the far left and Oldham NDC at the far right.

In **Table 2.1** it was shown that 76 homicides took place in NDC Partnerships over this five year period, yet due to the large Home Office costings associated with each homicide incident a relatively small absolute number of homicides in any single NDC Partnership would lead to a marked increase in the relative significance of this crime type. In **Figure 2.7** it can be seen that the cost of homicide is smaller than £3m in the majority of NDC Partnerships. A cost of £3m equates to approximately two homicide events spread over the five year period. Brighton and Hove NDC, Sunderland NDC, Kingston upon Hull NDC, Doncaster NDC and particularly Birmingham Aston NDC have slightly larger costs associated with homicide. Birmingham Aston NDC is the only NDC Partnership to have greater than £10m of crime costs attributed to homicides.

In **Figure 2.8** the per capita cost of crime across the four broad crime types is presented for each NDC Partnership over the period 2000–01 to 2004–05. The bars show the per capita costs of each of the four broad crime types. **Figure 2.8** is sorted according to total per capita costs over the period. The average per capita cost of crime across the 39 NDC Partnerships is £3,400, with around £2,000 per capita due to violent crimes. Brent NDC (£6,600 per capita), Kingston upon Hull NDC (£5,900 per capita) and Nottingham NDC (£5,700 per capita) are the three NDCs with the largest per capita costs of crime. In contrast, Islington NDC (£1,150 per capita), Sheffield NDC (£1,700 per capita) and Southwark NDC (£1,800 per capita) have the lowest per capita crime costs over the period.

In **Table 2.2** each NDC Partnership is ranked according to its per capita costs relative to other NDC Partnerships on each of the four broad crime types. A rank of 1 indicates that the NDC has the largest per capita costs for that crime type of all of the NDC Partnerships, whilst a rank of 39 indicates that the NDC has the smallest per capita costs. For example, Middlesbrough NDC is shown in **Table 2.2** as having the largest per capita costs of all NDC areas in relation to theft. The final column of **Table 2.2** shows the average of the ranks on the four broad crime categories and it is this final column that is the basis of the rank ordering within the table. This average rank is an unweighted mean of the ranks for the four broad crime types.

Figure 2.7: Total cost of violent crimes in individual NDC Partnerships, 2000/01 to 2004/05

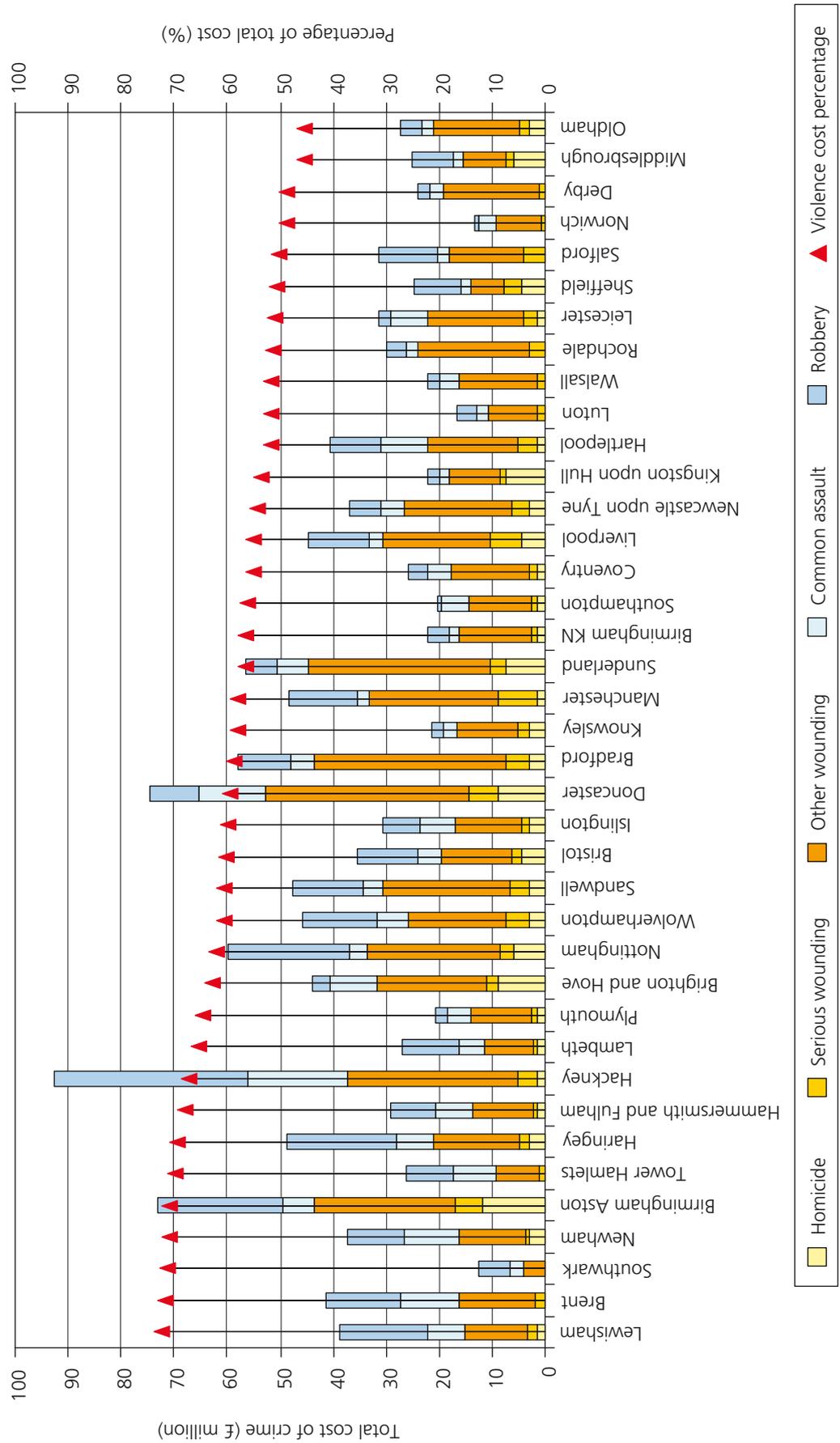


Table 2.2: NDC Ranks of per capita costs of crime across four broad crime types, 2000/01 to 2004/05

	Rank of violence per capita crime costs	Rank of burglary per capita crime costs	Rank of theft per capita crime costs	Rank of criminal damage per capita crime costs	Average rank
Kingston upon Hull	6	2	18	1	6.75
Coventry	8	6	17	2	8.25
Nottingham	4	4	5	20	8.25
Rochdale	11	5	13	4	8.25
Brent	1	15	2	18	9.00
Oldham	19	1	11	6	9.25
Middlesbrough	21	3	1	14	9.75
Salford	16	12	3	8	9.75
Manchester	9	8	21	9	11.75
Lambeth	5	11	12	23	12.75
Haringey	3	20	4	26	13.25
Sunderland	15	18	8	12	13.25
Leicester	18	10	25	3	14.00
Lewisham	2	22	9	29	15.50
Luton	26	13	10	15	16.00
Hartlepool	25	7	14	21	16.75
Birmingham KN	20	14	29	10	18.25
Bristol	17	17	6	37	19.25
Derby	32	9	26	11	19.50
Newham	7	28	16	27	19.50
Hackney	10	30	7	33	20.00
Knowsley	23	25	19	13	20.00
Doncaster	22	21	15	25	20.75
Hammersmith and Fulham	13	27	20	31	22.75
Liverpool	30	16	31	22	24.75
Walsall	33	19	30	17	24.75
Norwich	35	26	35	5	25.25
Tower Hamlets	14	33	23	32	25.50
Sandwell	27	24	22	30	25.75
Birmingham Aston	12	31	28	34	26.25
Southampton	29	37	32	7	26.25
Brighton and Hove	24	34	33	16	26.75
Wolverhampton	28	23	27	35	28.25
Newcastle upon Tyne	36	32	34	19	30.25
Bradford	34	29	24	36	30.75
Plymouth	31	36	38	24	32.25
Sheffield	38	35	39	28	35.00
Southwark	37	38	36	38	37.25
Islington	39	39	37	39	38.50

Kingston upon Hull NDC area can be seen at the top of the table due to ranking very highly in terms of per capita costs of burglary and criminal damage, fairly highly in terms of violence, and approximately mid-table in terms of theft. Islington NDC, on the other hand, is placed at the bottom of the table due to having the lowest per capita costs of crime in terms of violence, burglary and criminal damage and the third-lowest costs in terms of theft. The table is useful in that, as well as identifying which Partnerships experienced either relatively high or relatively low per capita costs on a number of categories, it also shows that some Partnerships experienced a mixture of high and low per capita costs. In Southampton NDC Partnership, for instance, the per capita costs of criminal damage were relatively high while the per capita costs of violence, burglary and theft were relatively low compared to the other NDC Partnerships.

2.3 Costs by component cost category

As noted in **Chapter 1** of this report, the cost of crime estimates produced by the Home Office include the overall financial cost per criminal event plus a breakdown of this overall cost figure into a series of different component cost categories. The analyses above present estimated costs according to the overall cost estimate per crime. In this next sub-section the report the overall costs are unpicked to show the distribution of costs between the respective cost categories.

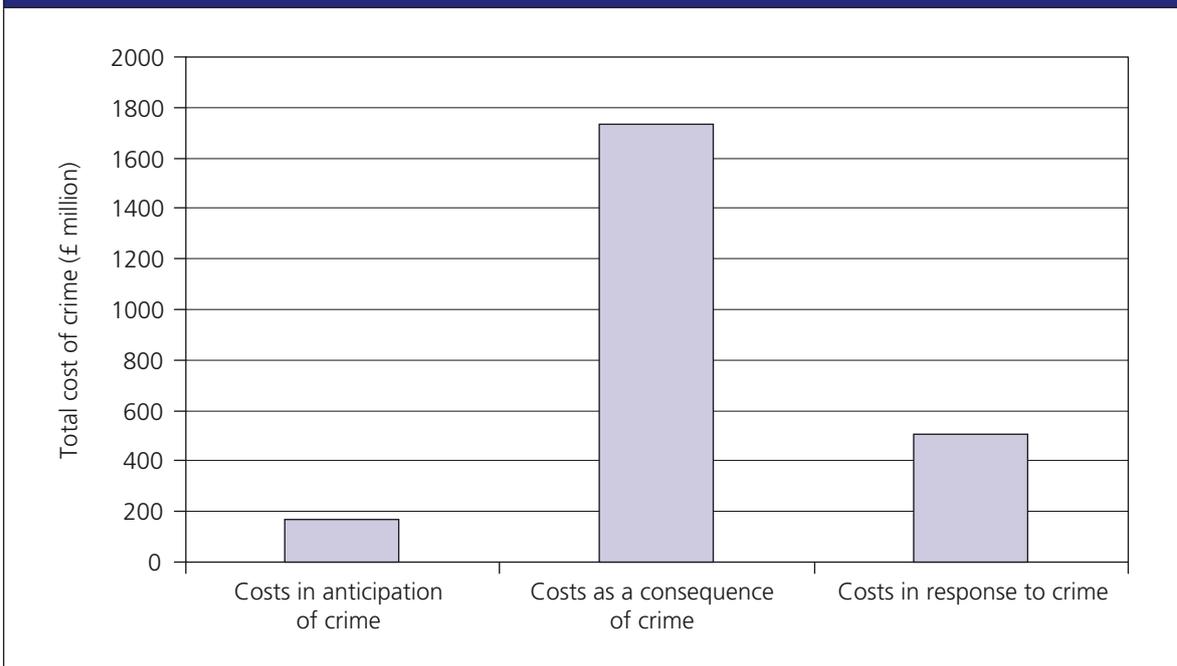
The Home Office disaggregated the overall crime costings into three broad elements of component categories:

- Costs in anticipation of crime
- Costs as a consequence of crime
- Costs in response to crime.

Each of these elements consists of one or more discrete cost components (as shown in **Table 2.3**). The size of these individual cost components varies across the 15 crime types as shown within the table of Home Office cost estimates (**Table A1.3**). In order to identify where the economic burden of crime falls, both at a programme-wide and at an individual NDC level, the distribution of crime costs between these various cost components is analysed.

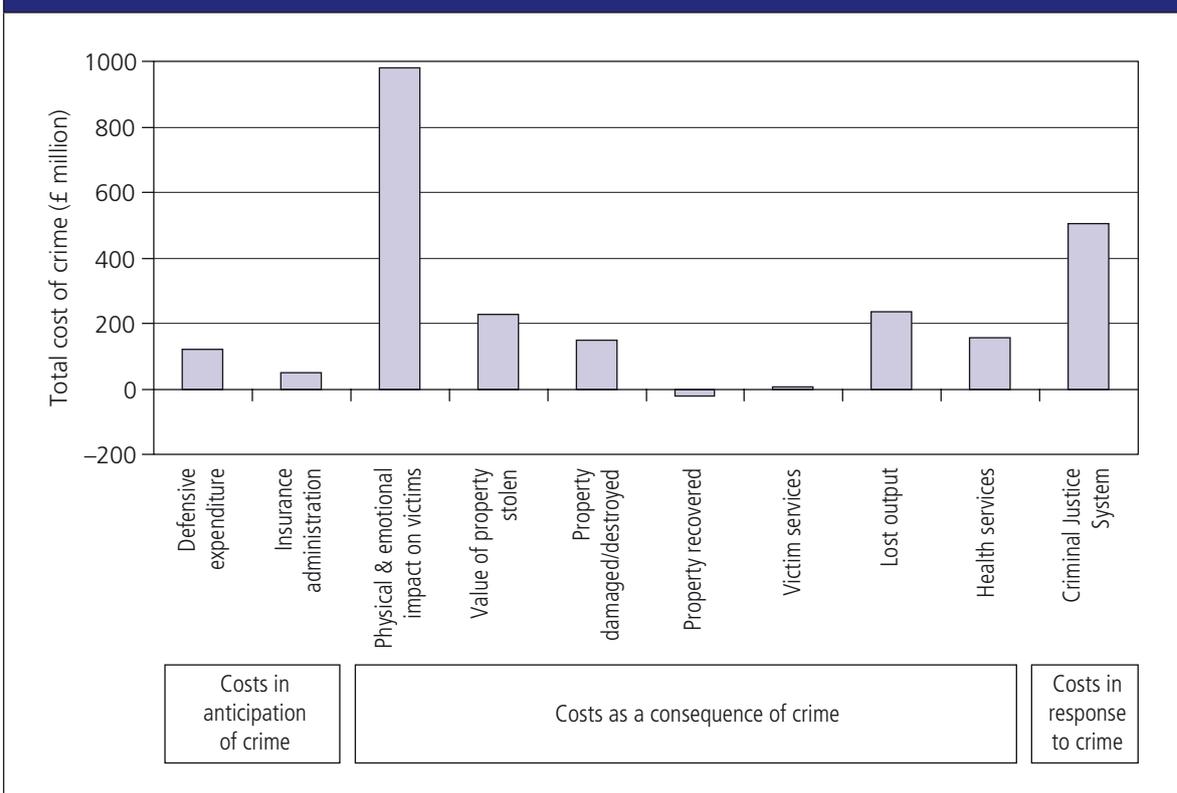
In **Figure 2.9** the programme-wide total costs of crime in each of these three broad cost components is presented. It can be seen that costs as a consequence of crime account for the majority of the total costs of crime. Costs in response to crime are the next largest cost grouping and costs in anticipation of crime are the smallest contributor to the total costs of crime.

Figure 2.9: Cost of crime in NDC Partnerships across broad cost components, 2000/01 to 2004/05



In **Figure 2.10** the total costs in each of the individual cost components within the three broad cost elements are summarised at programme-wide level. Physical and emotional impact on victims and criminal justice costs are by far the largest components of the total cost of crime in NDC areas.

Figure 2.10: Cost of crime in NDC Partnerships across individual cost components, 2000/01 to 2004/05



In **Table 2.3** the costs of crime by individual crime type and individual cost component for the period 2000/01 to 2004/05 are set out at programme-wide level. Each of the 15 crime types are listed in the first column while the individual cost components are listed along the top of the table. In the final column of **Table 2.3** the total costs of crime for each crime type are shown. For example, the costs associated with the physical and emotional impact on victims total £975.8m across all of the 15 crime types and this represents 40.7 per cent of the total cost of £2.4bn. Along the bottom of **Table 2.3** the column totals and column percentages are shown.

Several points of interest can be identified in **Table 2.3**. The predominance of costs associated with physical and emotional impact on victims suggests that individuals in NDC areas (rather than the police, health services or other agencies) bear the single largest burden in terms of the costs of crime. Violent crimes, particularly the other wounding category, account for the vast majority of these costs. Due to sheer volume, domestic burglary and criminal damage also involve notable costs relating to physical and emotional impact on victims.

The next largest set of costs relate to the criminal justice system response to crimes and these account for 21 per cent of the total cost of crime in NDC Partnerships over the period. Within the costs borne by the criminal justice system it is again violent crimes and also, to a lesser extent, burglaries which contribute most heavily. It is interesting to note that costs to the health services account for 6.5 per cent of the total cost of crime (just under £160m) with all of these costs resulting from violent crimes.

In **Figure 2.11**, the contribution of each broad crime type to the total cost of crime in each cost component is shown. This clearly shows the magnitude of the physical and emotional impact of victims caused by violent offences. Also apparent is the sizeable cost of violence in terms of lost output, health services and response of the criminal justice system.

The extent to which there is consistency between NDC Partnerships in terms of where the financial burden of crime falls is explored in **Figure 2.12**. It may be, for example, that in one NDC area the crime mix is such that it is the criminal justice system which bears a large burden, whilst in another NDC area a different crime mix might lead to health services accounting for a relatively large proportion of the overall cost of crime in that area. Each bar on the chart can be interpreted as the percentage of that NDC Partnership's total cost of crime that can be attributed to each of the individual cost components, and this can be read using the axis to the left of **Figure 2.12**. Note that these bars represent percentages of the NDC Partnership's total cost figure and therefore always total 100 per cent. A marker for each NDC Partnership shows the total cost of crime in that NDC Partnership and this value can be read from the axis to the right of the chart. The chart is sorted according to these 'total cost' markers, with Hackney NDC being the Partnership with the highest costs of crime over the period and Southwark NDC Partnership with the smallest costs of crime over the period. The NDC average is also displayed. Note that the categories of property stolen and

property recovered have been combined to form a category equivalent to net property stolen/recovered.

The most striking message from **Figure 2.12** is the stability and consistency in the relative contributions of the different cost components despite the variation in the total cost of crime across the NDC areas. In each case, the programme-wide trend holds: physical and emotional impact on victims is by far the largest single factor driving the total cost of crime and this is in every case followed by costs borne by the criminal justice system and then, in the majority of cases, by costs relating to lost output and to the net value of property stolen.

Figure 2.11: Cost of crime by cost component and broad crime type in NDC Partnerships, 2000/01 to 2004/05

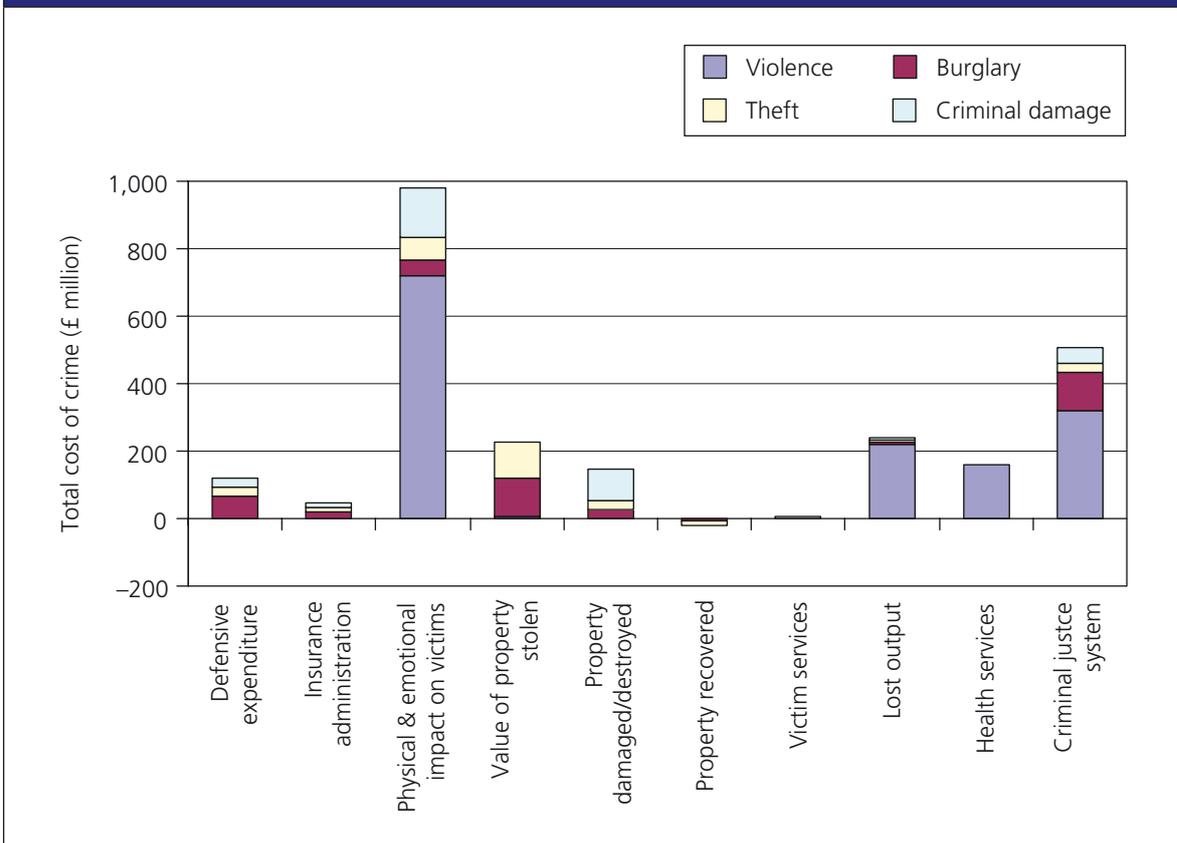
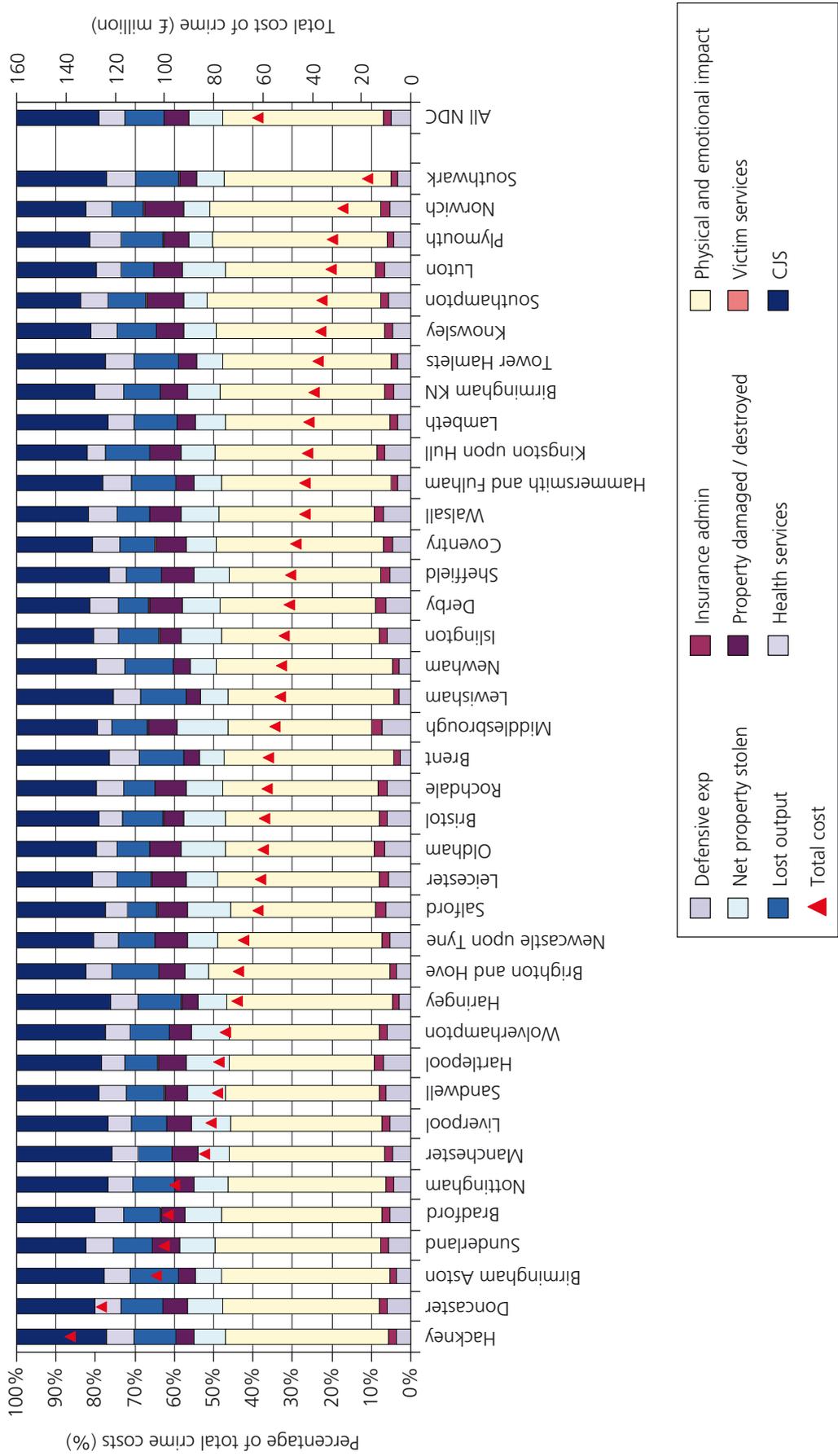


Table 2.3: Costs of crime in all NDC areas for each crime type and cost component, 2000/01 to 2004/05 (£ thousands)

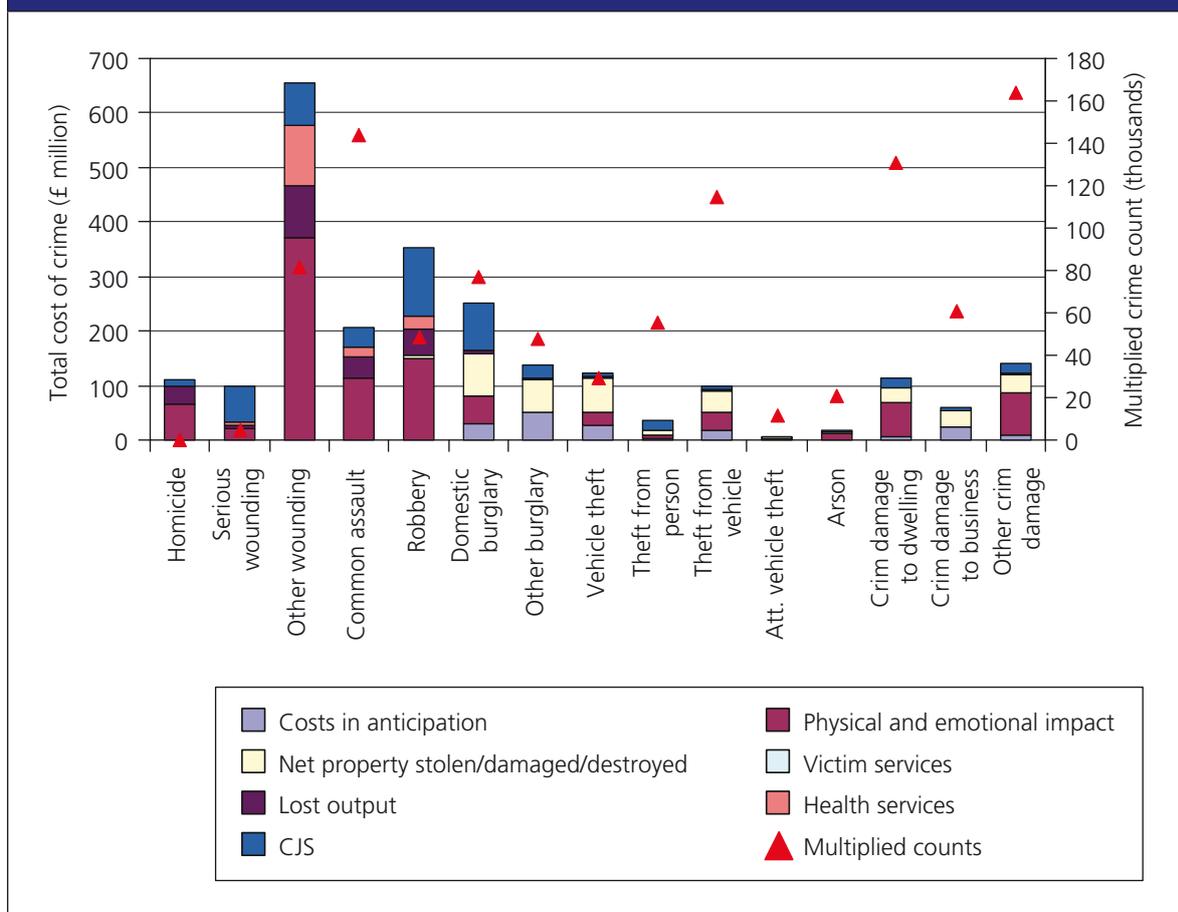
	Defensive expenditure	Insurance admin	Physical & emotional impact on victims	Property stolen	Property damaged/destroyed	Property recovered	Victim services	Lost output	Health services	CJS	Total cost
Homicide	11	17	65,389	0	0	0	160	34,284	59	10,962	110,882
Serious wounding	5	5	20,812	0	0	0	32	5,329	6,160	65,557	97,899
Other wounding	81	81	370,882	0	0	0	570	94,960	109,782	79,649	656,007
Common assault	0	0	113,481	0	0	0	864	38,739	17,713	36,723	207,520
Robbery	0	1,021	148,206	5,300	583	-924	778	49,159	23,485	126,471	354,080
Domestic burglary	16,948	13,574	49,542	64,880	14,341	-1,687	844	4,908	0	87,197	250,546
Other burglary	46,995	2,611	0	51,315	11,345	-1,329	0	2,089	0	25,586	138,612
Vehicle theft	16,141	10,938	23,650	69,973	10,317	-16,023	30	1,389	0	5,883	122,298
Theft from person	0	1,825	6,526	9,678	940	-719	55	166	0	16,647	35,118
Theft from vehicle	13,279	5,724	30,450	27,474	14,424	-1,259	114	2,289	0	5,724	98,218
Attempted vehicle theft	736	238	2,198	0	1,745	0	11	125	0	736	5,789
Arson	268	743	9,741	0	4,375	0	41	124	0	2,600	17,892
Criminal damage to a dwelling	1,700	4,707	61,713	0	27,719	0	262	784	0	16,474	113,359
Criminal damage to a business	22,605	1,330	0	0	29,254	0	0	1,995	0	3,989	59,173
Other criminal damage	2,128	5,893	77,263	0	34,703	0	327	982	0	20,625	141,922
Total	120,898	48,707	979,851	228,620	149,746	-21,941	4,088	237,322	157,200	504,823	2,409,315
Row percent	5.0	2.0	40.7	9.5	6.2	-0.9	0.2	9.9	6.5	21.0	100.0

Figure 2.12: Distribution of costs between cost components for each NDC Partnership, 2000/01 to 2004/05



Some of the key material presented above is summarised in **Figure 2.13**, which presents the total cost of crime at a programme-wide level by individual crime type and by individual cost component. These costs can be read from the axis to the left of **Figure 2.13**. The main messages identified thus far are again evident: violent crimes, and to a lesser extent domestic burglary, dominate the costs of crime, and it is the physical and emotional impact of crime on victims and the costs borne by the criminal justice system which are the cost components with by far the largest total costs. However, more detailed patterns can be identified in **Figure 2.13** than has been possible thus far. It is striking, if perhaps not surprising, just how high the costs relating to health services are for other wounding. A marker is also shown indicating the adjusted crime count for each crime type and should be read using the right-hand y-axis. Comparison of the bars and the markers helps to show the differentials between the volume of different crimes and the costs associated with those crimes.

Figure 2.13: Programme-wide cost of crime by individual crime type and individual cost component, 2000/01 to 2004/05



The findings so far have been based on the total cost of crime over the whole period of 2000/01 to 2004/05. In the sub-section below the focus of the analyses is on the extent to which there has been change over time.

2.4 Costs over time

In **Figure 2.14** the total cost of each of the four broad crime types at a programme-wide level is shown for each of the years between 2000/01 and 2004/05. It is evident from **Figure 2.14** that the trends over time in terms of burglary, theft and criminal damage tend to follow gradual downwards trajectories. Quite considerable reductions in burglary and theft costs are apparent over the period of analysis relative to the respective starting positions, with somewhat smaller reductions for criminal damage. However, the trends in these three crime types are overshadowed by the huge changes in costs associated with violent crimes. This chart helps to demonstrate that the relatively large reductions in burglary, theft and criminal damage costs over time can be masked by changes to violence-related costs. Given the very high cost attached to certain violent crimes, such as homicide, it is clear that small changes over time in such violent crimes can obscure more moderate changes occurring across a much broader number of crime types.

In **Figure 2.15**, the change over time in the costs associated with the individual crime types which comprise the broad violence category are shown. Considerable variation is evident between the changes seen for these five individual crime types. In particular, the marked increase in the costs of violent crimes shown between 2000/01 and 2001/02 can be seen in **Figure 2.15** to be driven by increases in other wounding and robbery. In the case of robbery, these costs subsequently fall again the following year so that the cost of robbery across the NDC Partnerships in 2002/03 is roughly the same as in 2000/01. By contrast, the costs associated with the other wounding category exhibit a marked upward trend, with relatively large increases in cost each year apart from between 2002/03 and 2003/04.

Figure 2.14: Change in total cost of broad crime types, 2000/01 to 2004/05

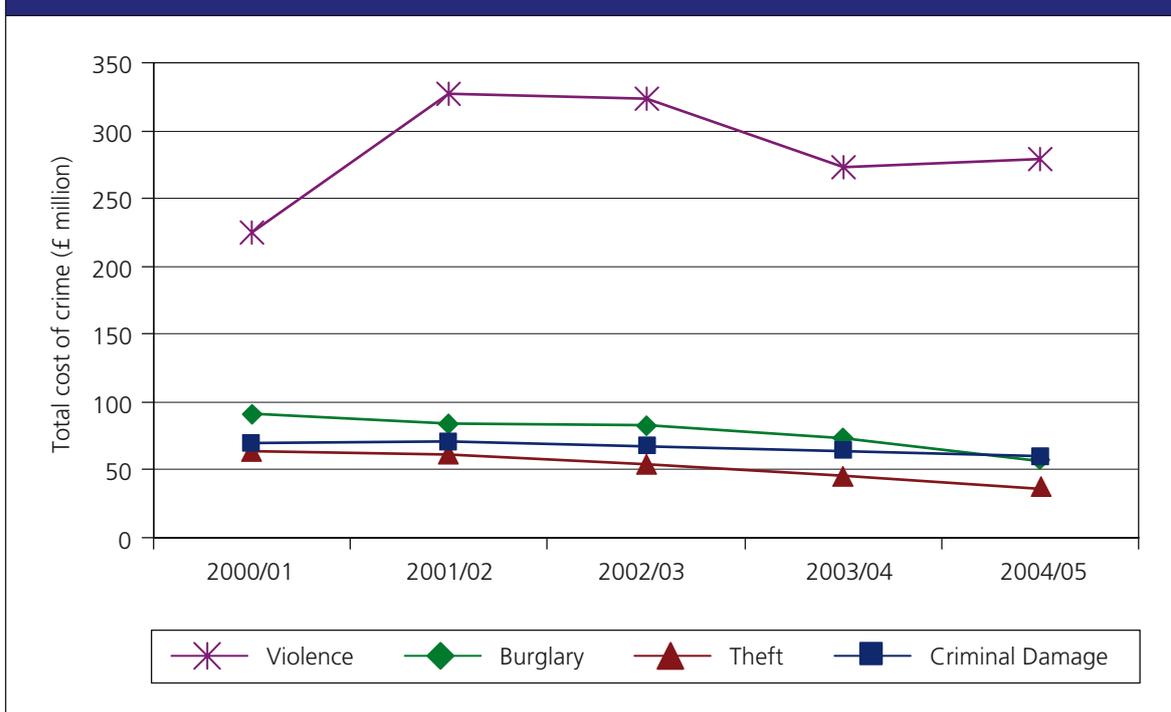
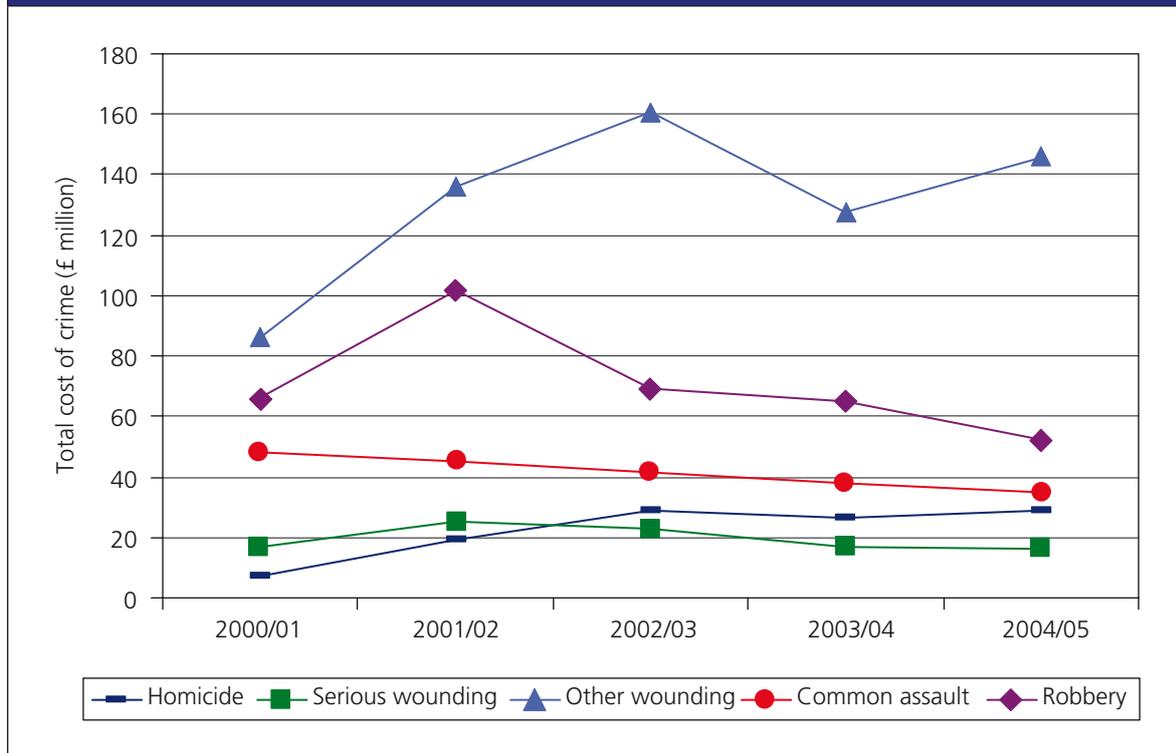


Figure 2.15: Change in the cost of individual violent crime types, 2000/01 to 2004/05



2.5 Section summary

- The total cost of crime across the 39 NDC Partnership areas between 2000/01 and 2004/05 is estimated to be over £2.4bn.
- Hackney NDC experienced the largest total cost of crime between 2000/01 and 2004/05, at £138m. In contrast, Southwark NDC (£18m) saw the lowest total costs of crime over the period.
- Violent crimes account for the largest share of the cost of crime (59.2 per cent of the total cost of crime), with the 'other wounding' crime type contributing 27.2 per cent of the total cost of crime over the period.
- The proportion of overall costs of crime accounted for by violent offences ranges from a high of over 70 per cent in Lewisham NDC to a low of approximately 45 per cent in Oldham NDC.
- The average per capita cost of crime across the 39 NDC Partnerships between 2000/01 and 2004/05 is £3,400, with around £2,000 per capita due to violent crimes. Brent NDC (£6,600 per capita), is the NDC with the largest per capita costs of crime, while Islington NDC (£1,150 per capita), has the lowest per capita crime costs over the period.
- Physical and emotional impact on victims is by far the largest component of the total cost of crime in NDC areas, followed by costs to the criminal justice system. This is a function of the high physical and emotional costs associated with violent crimes.

- Quite considerable reductions in burglary and theft costs are apparent over the period of analysis relative to the respective starting positions, with somewhat smaller reductions for criminal damage. However, the trends in these three crime types are overshadowed by the huge changes in costs associated with violent crimes.

3 Crimes 'prevented' and associated cost savings

3.1 Section overview

3.1.1 Methodological summary

The focus of this section of the report centres on the need to assess whether the costs of crime observed in NDC Partnerships are greater or less than one might expect in the absence of the NDC Programme. The methodology used to address this research question is an adaptation and refinement of an approach used by Johnson et al (2004). The methodology was carefully constructed so as to control for as many factors as possible that may act to influence crime rates at the local level. The objective was to isolate, as far as possible, any potential NDC Programme effect on crime rates which could then be translated into cost savings.

A detailed account of the methodology is provided in **Appendix 1**, however the main principles are as follows:

- First, estimates were constructed of the crime rates that might be expected in the NDC Partnership neighbourhoods had the NDC Programme not existed. This step is discussed in more detail below, but a key point is that 2000/01 is taken to be the 'baseline' year and then change calculated between this baseline year and each subsequent year up to and including 2004/05.
- Second, the observed crime rates were compared with the expected crime rates and the net difference calculated. If the observed crime rate was lower than the expected crime rate then there is the potential that crimes may have been prevented in that area. However, as is discussed in more detail below, any attribution of impact/effect is fraught with difficulties and so we are not able to say conclusively that crimes have been prevented by the actions of the NDC Programme.
- Third, the net differences between observed and expected crime levels were multiplied by the cost of crime estimates provided by the Home Office. This generated estimates of potential 'cost savings' where the observed crime level was lower than one might expect. On the other hand, it is possible that the observed crime level may be greater than expected and, in this case, the costs of crime incurred would also be greater than expected, representing additional losses.
- The above calculations were performed separately for each of the 15 crime categories, for each year between 2001/02 and 2004/05, and for each NDC Partnership. (Note, however, that a slight variation on the method was necessary for the Homicide crime category due to the zero or

very small number of cases observed in any given area.) The results from these analyses were then aggregated across crime types and/or years and/or NDC Partnerships to give a selection of different summary measures.

- Finally, the whole process was repeated in exactly the same way for the 39 comparator areas. The justification for using comparator areas in this way is discussed in more detail below.

3.1.2 Estimating expected crime rates: median, lower and upper bounds

Appendix 1 contains a full account of how the expected crime rates were calculated. The key challenge here was to identify a means of predicting how one might expect to see the NDC crime rates change over time had the NDC Programme not existed. In other words, there was a clear need for a counterfactual.

As detailed in **Appendix 1**, a 'group' of similarly sized and similarly deprived 'control' areas was selected for each NDC Partnership. The changes in crime rates over time observed in this group of control areas were used to predict what might have been expected to occur in each NDC Partnership had the NDC Programme not existed.

The primary measure of expected change in crime rates derived from each group of control areas is the 'median' value of the distribution across the group. For instance, if the group of control areas contained 301 neighbourhoods and these neighbourhoods were ranked in terms of the change in crime rate observed over a particular time period, then the median value would relate to the neighbourhood at rank position 150. This median value is taken to represent the best possible estimate of change that one might expect to have occurred within the NDC Partnership had the Programme not existed.

Each NDC Partnership was matched to a group of between 167 and 328 control areas. Given the relatively large size of these groups, we can be reasonably confident that the median value identified is a reliable representation of the mid-point of the distribution (Agresti and Finlay, 1997). However, in order to qualify this choice of median value we all also present the upper and lower bounds around that median value. These bounds represent the limits within which we can be 95 per cent confident that the median value lies.

It is important to note, therefore, that the upper and lower bounds do not represent the limits within which we can be 95 per cent confident that the NDC observation will fall. The upper and lower bounds relate solely to the identification of the median value within the group of control areas.

3.1.3 The difficulty of attributing NDC Programme impact

An assumption of the methodology applied here is that there is the possibility that an intervention may be having an impact in cases where the crime rate observed in an area is less than might be expected based upon the rates in the group of control areas. A group of control areas is used here instead

of just a single control area in recognition of the fact that many of the deprived neighbourhoods across England will be the subject of one or more interventions that directly and/or indirectly attempts to reduce crime. There is the distinct possibility that any single control area may be the subject of one or more interventions, but through the use of a group of areas it is hoped that the effect of any particularly successful interventions affecting certain control areas may be minimised.

However, just as a non-NDC intervention may act to reduce crime rates in control areas, so too might these interventions reduce crime in NDC Partnerships, either wholly or partially independent of the actions of the NDC Programme. As such, even where the crime rates observed in an NDC Partnership are lower than expected based upon its group of control areas, it is not possible to definitively attribute these reductions in crime to the NDC Programme; the reductions may in fact be due to the actions of a different intervention operating in the NDC Partnership.

A further potential complication in the interpretation of the results presented here is the possibility that improvements in crime rates observed within an NDC Partnership may actually be due to a general improvement across all deprived neighbourhoods in the local authority (i.e. a 'narrowing of the gap') rather than the actions of the NDC Programme specifically. If it is the case, for example, that an NDC local authority channelled significant additional funds into targeting the most deprived neighbourhoods within its boundary (i.e. including the NDC Partnership but also a number of other deprived neighbourhoods) then this may be picked up within our methodology as being an apparent cost saving within the NDC Partnership. In this example, the cost saving would be real but it would be inappropriate to attribute it directly to the NDC Programme.

In order to explore this last point, the methodology is applied to the 39 NDC National Evaluation comparator areas. These comparator areas were created specifically for the evaluation, with each NDC Partnership assigned a matched comparator from the same local authority based upon a selection of key variables (including population size and level of deprivation). The purpose of analysing data for the comparator areas is to assess whether cost savings are just as likely to be experienced by other deprived neighbourhoods within the NDC local authority as by the NDC Partnership areas. The discussion of issues relating to attribution of effect and the use of comparator areas is developed further in the relevant sub-section below.

3.2 Crime counts, costs and savings

3.2.1 Savings across the Programme

Table 3.1 contains data that show the sequential steps involved in estimating the financial value of crimes that may potentially have been prevented in NDC areas. Data are shown for each of the 15 crime categories analysed and for the total. **Column 1** relates to the counts of crimes observed in the

NDC Partnership areas between 2001/02 and 2004/05 and shows that a total of 778,421 crimes occurred across the 39 Partnerships over the period. **Columns 2–4** present the lower, median and upper bound estimates of the numbers of crimes which would be expected to have occurred in the 39 Partnership areas in the absence of the NDC Programme. **Columns 5–7** show the difference between the observed crime count and the lower, median and upper expected counts respectively. As such, these columns show the numbers of crimes that might be regarded as having potentially been prevented the NDC Programme. Finally, in **columns 8–10**, the relevant Home Office crime cost is multiplied by each of the estimates of crimes prevented in order to produce the lower, median and upper bound estimates of the financial value of crimes prevented.

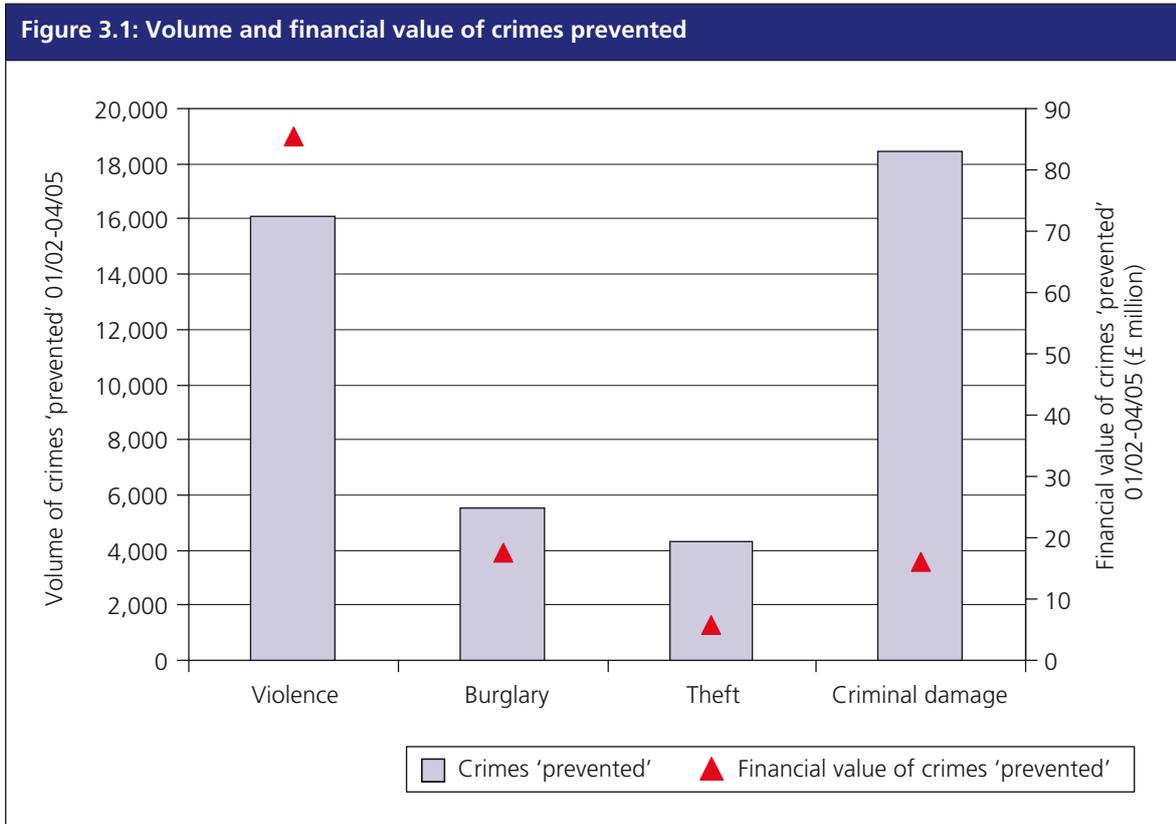
A great deal of information is presented in **Table 3.1** and particular elements of these findings are analysed in greater detail in the remainder of this section of the report. The key points from **Table 3.1** are:

- In 14 of the 15 crime types (the exception being 'attempted vehicle theft'), the number of crimes observed across the NDC Programme between 2001/02 and 2004/05 was lower than the median number of crimes that would be expected in the absence of the intervention.
- The net difference between the total observed crime count and the total median expected crime count amounts to 44,422 crimes. This figure can be understood as the best estimate of the number of crimes which may potentially have been prevented by the NDC Programme between 2001/02 and 2004/05.
- The lower bound estimate of the expected crime count is greater than the observed crime count for eleven of the 15 crime types. In these cases this is further evidence that crimes may have been prevented in the NDC areas.
- The overall number of crimes potentially prevented by the Programme ranges from a low of 10,361 to a high of 80,353, with a median value of 44,422.
- Across the NDC Programme as a whole the median estimate of the net financial value of crime potentially prevented is £124.9m. The lower bound estimate is £38m and the upper bound estimate is £219.4m.
- Two crime types account for over half of the total median financial savings through crimes potentially prevented: 'other wounding' accounts for savings of £31.2m, while 'robbery' accounts for savings of £34.3m.

The results presented in **Table 3.1** therefore clearly indicate that the levels of crime observed across the NDC Programme between 2001/02 and 2004/05 tend to be lower than one might expect given the rates of change seen in the matched control areas.

In **Figure 3.1**, the data from **Table 3.1** are summarised according to broad crime type. The columns represent the volume of crimes potentially prevented while the triangles represent the median estimate of the resulting cost savings. Two points are clearly evident from the chart: first, far greater

numbers of violence and criminal damage offences may have been prevented than burglary or theft; second, the cost savings associated with violence amount to approximately twice the combined cost savings associated with burglary, theft and criminal damage.

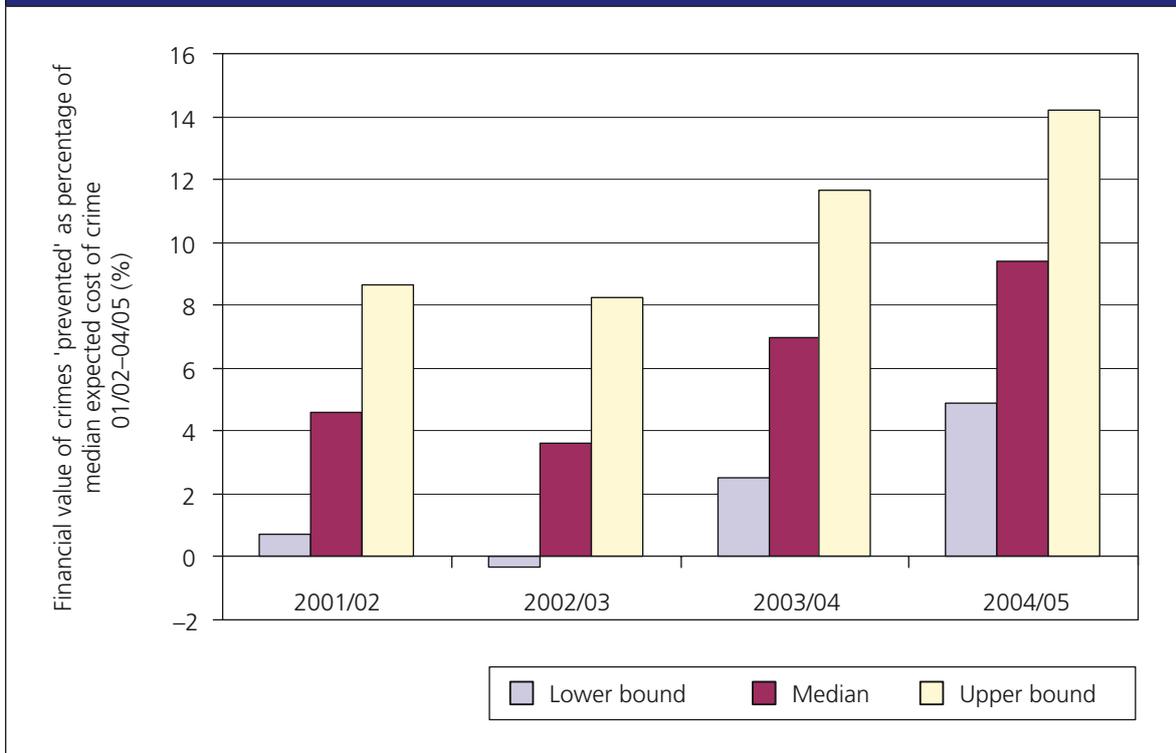


In **Figure 3.2**, the potential cost savings across the NDC Programme are expressed as a percentage of the total expected cost of crime. For each individual year between 2001/02 and 2004/05, the chart shows the lower bound, median and upper bound estimates of cost savings as a percentage of the total expected cost of crime in the relevant year. For example, in 2001/02 the median costs of crime observed across the 39 Partnerships was 4.6 per cent lower than would be expected based on the median expected value. This can be said to represent potential savings of 4.6 per cent on the costs that would be expected in the absence of the Programme.

Table 3.1: Programme-wide estimates of the financial value of crimes prevented by the NDC Programme

1	2	Expected count 01/02–04/05			Crimes prevented 01/02–04/05			Financial value of crimes prevented 01/02–04/05		
		3	4	5	6	7	8	9	10	
Actual count 01/02–04/05	Lower bound	Median	Upper bound	Lower bound	Median	Upper bound	Lower bound	Median	Upper bound	
Homicide	71	72.1	73	73.9	1.1	2	2.9	1,581,110	2,946,860	4,199,580
Serious wounding	3,780	3,710	4,080	4,570	-70	300	790	-1,567,620	6,429,620	16,947,340
Other wounding	70,770	72,150	74,650	77,200	1,380	3,880	6,430	11,108,140	31,272,110	51,831,530
Common assault	110,500	112,490	117,700	122,570	1,990	7,200	12,070	2,861,560	10,376,460	17,389,620
Robbery	39,570	41,930	44,280	47,170	2,360	4,710	7,600	17,179,740	34,326,570	55,345,920
Domestic burglary	58,090	59,360	62,120	64,690	1,260	4,020	6,600	4,132,590	13,147,270	21,547,830
Other burglary	37,180	36,880	38,690	40,530	-300	1,510	3,360	-864,320	4,422,940	9,802,550
Vehicle theft	21,950	21,940	22,780	23,820	-10	840	1,870	-27,360	3,454,790	7,740,570
Theft from person	43,540	44,490	47,300	50,650	950	3,750	7,110	604,760	2,383,290	4,511,830
Theft from vehicle	87,040	83,690	87,220	91,030	-3,360	170	3,990	-2,881,530	147,210	3,420,600
Attempted. vehicle theft	9,280	7,910	8,860	9,790	-1,370	-420	510	-698,490	-214,190	262,010
Arson	15,530	16,690	17,940	19,210	1,160	2,420	3,680	1,009,730	2,095,250	3,193,940
Criminal damage to dwelling	103,980	107,810	111,470	115,300	3,830	7,480	11,320	3,323,120	6,488,780	9,812,140
Criminal damage to business	47,730	47,750	49,460	51,320	30	1,740	3,590	27,990	1,698,600	3,514,450
Other criminal damage	129,410	131,910	136,230	140,840	2,510	6,820	11,430	2,174,870	5,913,830	9,912,960
Total	778,421	788,782.1	822,853	858,763.9	10,361.1	44,422	80,352.9	37,964,290	124,889,390	219,432,870

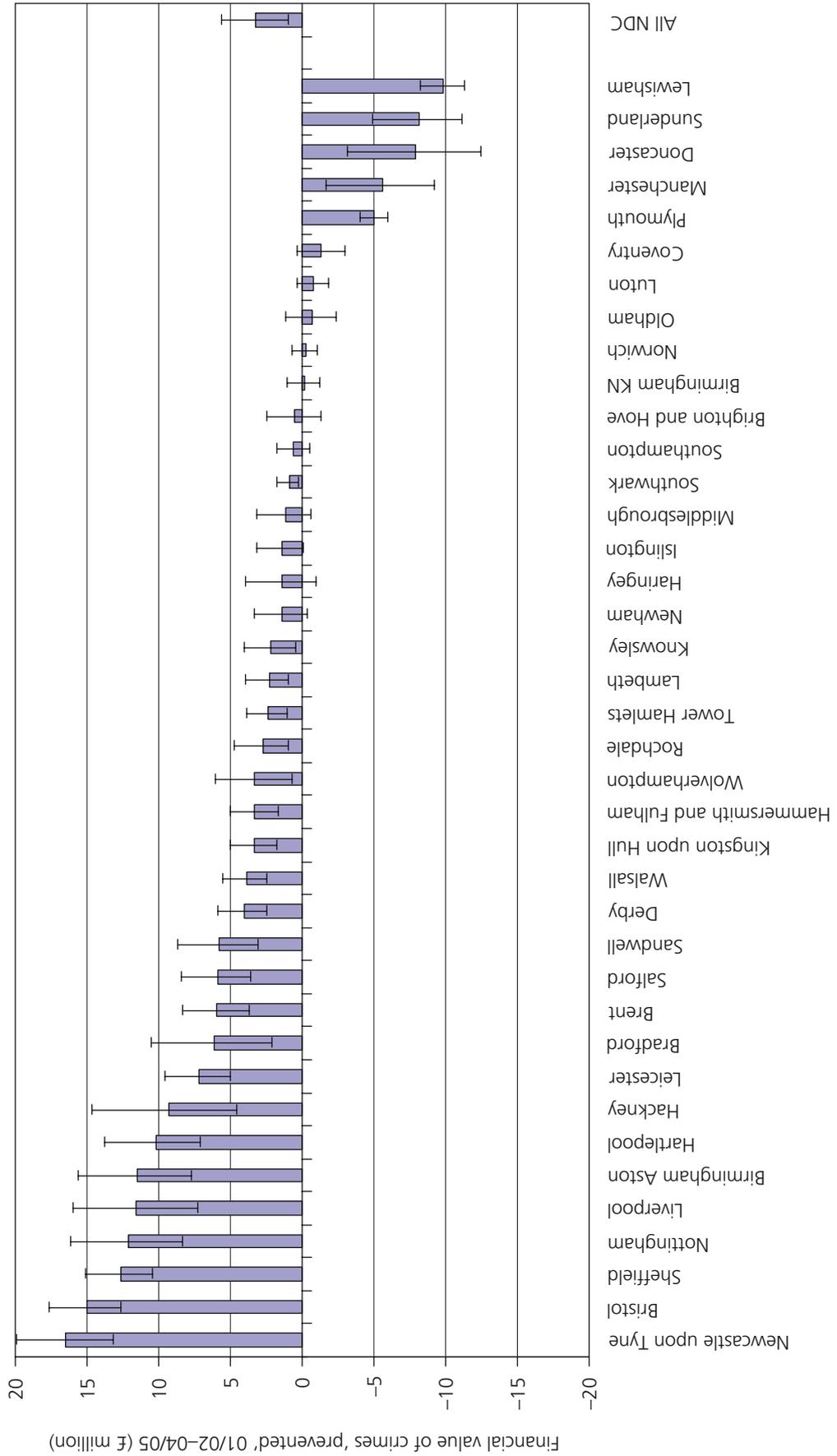
Figure 3.2: Financial value of crimes prevented across the NDC Programme as a percentage of expected cost of crime 2001/02 to 2004/05



3.2.2 Savings within each NDC Partnership

In **Figure 3.3**, estimates of the financial value of crimes potentially prevented across the whole period 2001/02 to 2004/05 are shown for each NDC Partnership. The data show the contribution made by each Partnership to the Programme-wide total savings. The y-axis represents the value of crimes prevented, so a value greater than zero means the overall costs of crime observed in the area were lower than expected, while a value less than zero means the costs of crime observed in an area were greater than expected. The bars in **Figure 3.3** represent the median estimates, with the lower and upper bounds shown around these median estimates. **Figure 3.3** is sorted according to the total amount of crimes potentially prevented: Newcastle NDC Partnership is on the far left of the chart due to having the largest savings (median estimate of £16.5m); Lewisham NDC Partnership is farthest to the right due to experiencing higher costs of crime than would be expected (£10m more crime than expected).

Figure 3.3: Financial value of crimes prevented by NDC Partnership, 2001/02 to 2004/05



The results indicate that 29 of the 39 Partnerships have seen some degree of financial savings through reductions in levels of crime based on their median estimates. Six of these 29 NDC Partnerships each saw savings of over £10m based on their median estimates. Ten NDC Partnerships experienced more crime than would be expected according to their median estimates, with these ten Partnerships being located on the right of the chart (i.e. with bars below zero on the y-axis). In eleven of the 39 Partnerships the upper and lower bounds straddle zero and in these cases it is less certain whether the Partnerships experienced higher or lower costs of crime that would be expected. The NDC average figure is presented to the right of the chart and shows that, on average, NDC Partnerships experienced £3.2m less crime over the period than would have been expected based upon the median estimate.

In **Figure 3.4** the cost savings in each NDC Partnership are expressed as a percentage of the expected cost in each year. The columns represent the median estimate, and the associated upper and lower bounds are also shown. The NDC Partnerships are ranked from highest to lowest on this measure. Newcastle upon Tyne, Bristol and Sheffield Partnerships can be seen to have experienced savings of over 20 per cent of their expected costs while Lewisham and Plymouth Partnerships experienced costs that were over 20 per cent greater than expected. It is evident that in many cases the rank ordering in **Figure 3.4** is roughly similar to that observed in **Figure 3.3**. This suggests that the cost savings experienced in, for example, Newcastle upon Tyne, Bristol and Sheffield Partnerships, were major drivers of the overall Programme-wide savings, and also substantial savings within each Partnership.

In **Figure 3.5**, the differing size of the 'at-risk' population between NDC Partnerships is accounted for, and per capita estimates of savings are presented. As in previous charts, the bars denote the median estimate for each NDC area whilst the lower and upper bound estimates are shown around each bar. For instance, the median per capita saving in Bristol NDC Partnership over the period 2001/02 to 2004/05 was approximately £900, while in Nottingham it was approximately £700. It can be seen that that the rank ordering of the NDC Partnerships changes slightly when taking account of the size of the 'at-risk' population but that, in general, NDC Partnerships occupy a similar rank position amongst the 39 NDC Partnerships in terms of both total (see **Figure 3.4**) and per capita (see **Figure 3.5**) savings.

Figure 3.4: Financial value of crimes prevented as percentage of total expected cost of crime in individual NDC Partnerships 2001/02 to 2004/05

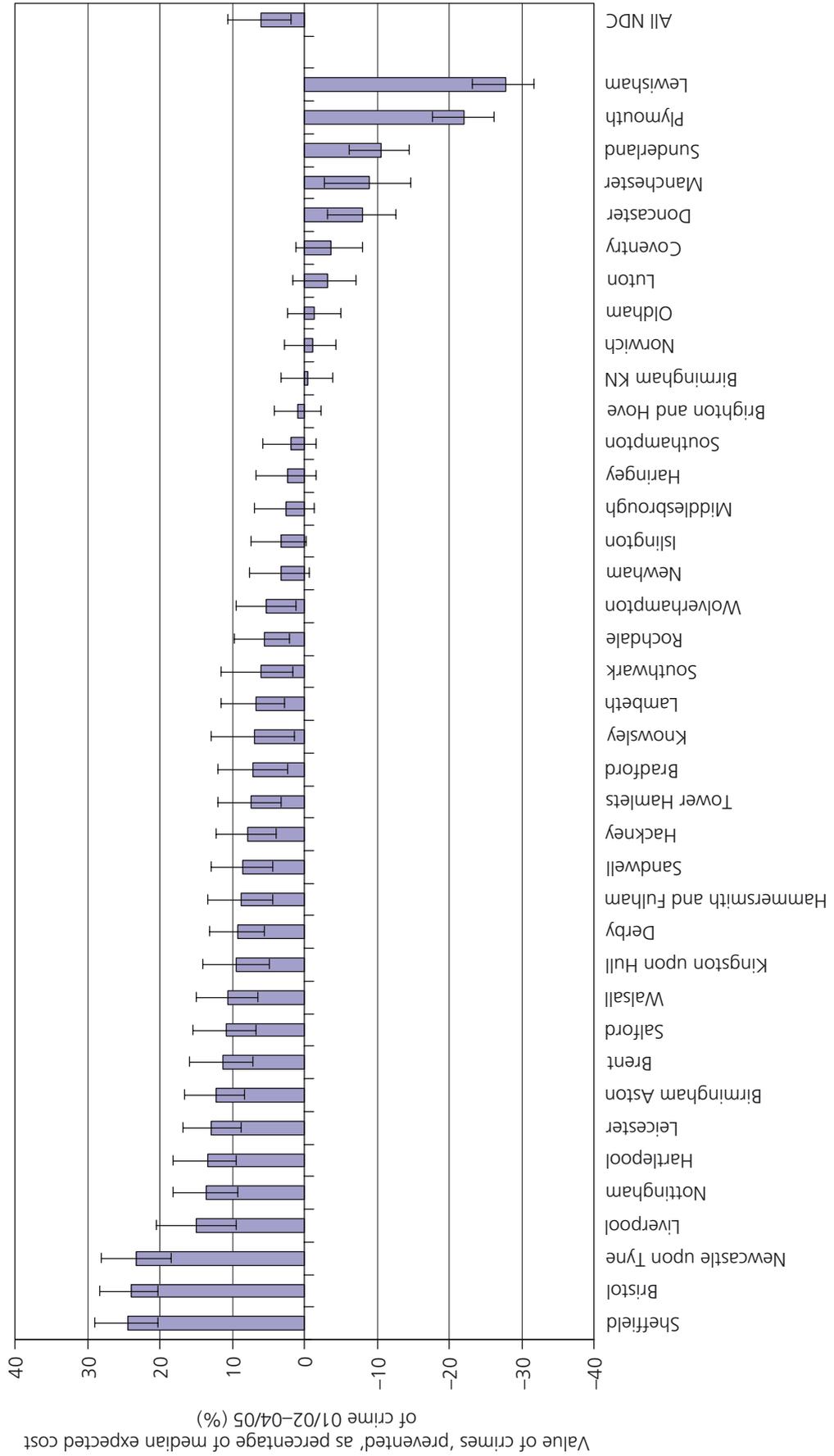
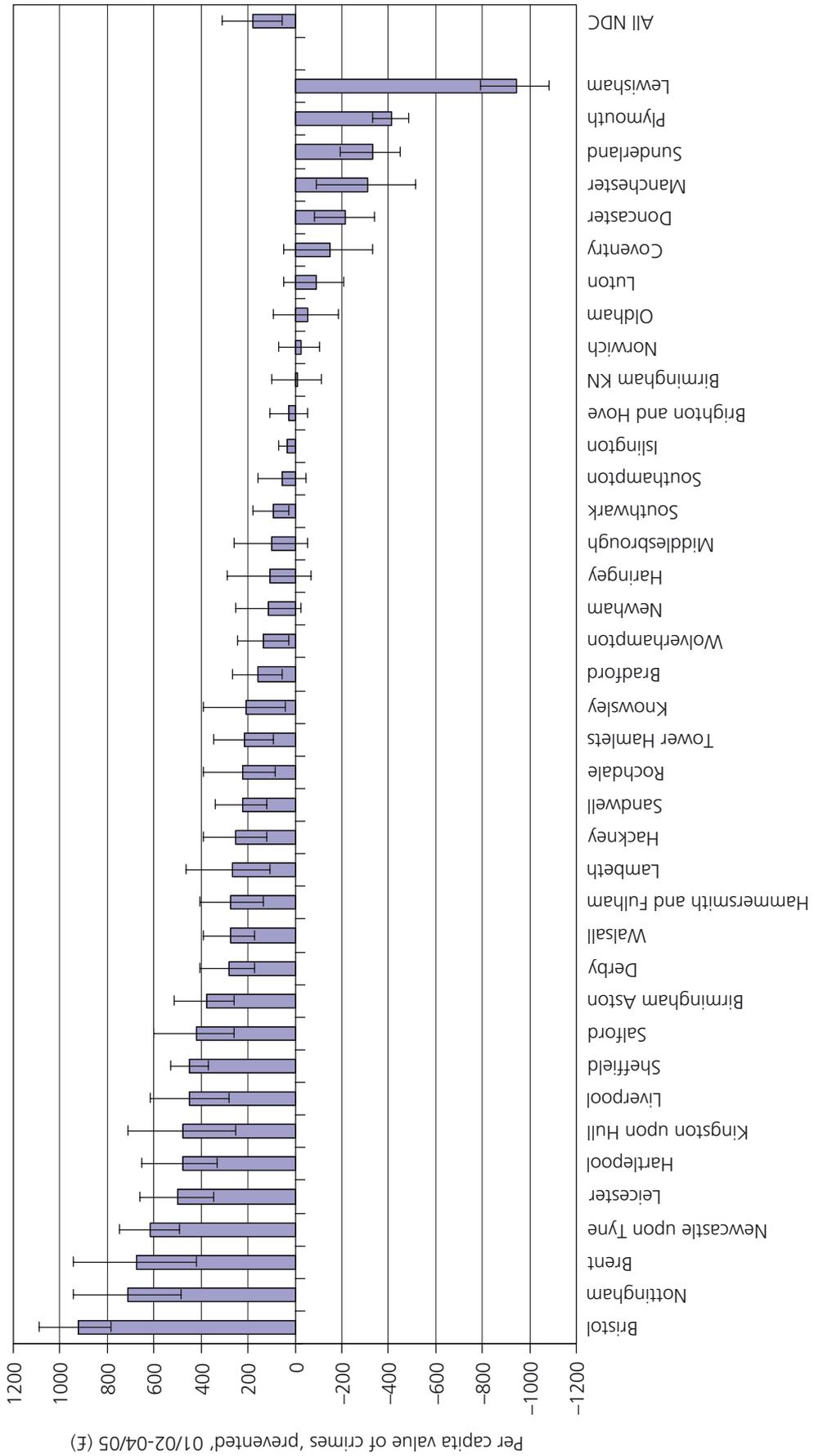


Figure 3.5: Per-capita financial value of crimes prevented by NDC Partnership, 2001/02 to 2004/05



In **Table 3.2** the per capita data presented in **Figure 3.5** are broken into the four broad crime types of violence, burglary, theft and criminal damage. The rank position on each broad crime type is shown for each NDC Partnership. A rank of 1 indicates the NDC Partnership with the largest per capita savings on that crime type over the period 2001/02 to 2004/05. The final column in **Table 3.2** shows the mean of rank values across the four crime types and is included as a way of ordering the Partnerships within the table (note that this is a simple unweighted average). For instance, Bristol exhibited the largest per capita savings in violence of all the NDC Partnerships, the third largest per capita saving for burglary, the fifth largest for theft and the tenth highest for criminal damage. The simple mean value of these four rank values equates to 4.75, which places Bristol NDC Partnership at the top of this table. At the other extreme, Lewisham can be seen to rank in 39th position in terms of violence, 37th position in terms of burglary and theft, and 33rd position in terms of criminal damage, resulting in a mean rank of 36.50, placing this NDC Partnership at the bottom of the table.

It is apparent from **Table 3.2** that some NDCs experience relatively high per capita savings on multiple crime types, whereas some others experience either low savings or a degree of additional loss on multiple crime types. Bristol and Lewisham, as noted above, are examples of these two extremes. In certain other cases, however, Partnerships experience a mixture of high savings on some crime types and low savings or additional losses on other crime types. For instance, Doncaster NDC Partnership can be seen to register the highest per capita savings in terms of theft whilst being ranked 38th out of 39 on violence.

Some interesting contrasts can be observed from **Table 3.2**. For example, Newcastle upon Tyne NDC Partnership ranks fairly highly overall in this table, whereas the geographically proximate Sunderland NDC Partnership ranks fairly lowly. Similar situations can be seen with regards to Salford (ranked fairly highly) and Manchester (ranked fairly lowly) Partnerships. The lack of any overall regional pattern and the apparent contrasts between spatially proximate Partnerships suggests that important neighbourhood factors are indeed acting to shape the crime rates within NDC Partnerships.

Table 3.2: NDC ranks of per capita value of crimes prevented 2001/02 to 2004/05

	Violence per capita rank	Burglary per capita rank	Theft per capita rank	Criminal damage per capita rank	Average per capita rank
Bristol	1	3	5	10	4.75
Nottingham	4	6	3	19	8.00
Liverpool	14	9	6	5	8.50
Newcastle upon Tyne	5	21	13	4	10.75
Kingston upon Hull	28	7	11	1	11.75
Sheffield	8	10	25	6	12.25
Salford	9	8	26	9	13.00
Brent	2	14	17	21	13.50
Rochdale	31	17	4	3	13.75
Leicester	7	2	12	35	14.00
Tower Hamlets	20	16	10	18	16.00
Bradford	30	11	18	7	16.50
Knowsley	19	12	16	20	16.75
Birmingham Aston	6	23	29	12	17.50
Hammersmith and Fulham	16	13	14	27	17.50
Derby	26	1	31	14	18.00
Hackney	13	29	20	15	19.25
Doncaster	38	27	1	13	19.75
Sandwell	10	34	8	29	20.25
Hartlepool	3	28	21	30	20.50
Southampton	34	19	27	2	20.50
Lambeth	12	15	30	26	20.75
Walsall	17	4	28	34	20.75
Birmingham KN	32	33	2	17	21.00
Coventry	36	5	9	38	22.00
Haringey	23	36	7	22	22.00
Southwark	25	18	15	32	22.50
Middlesbrough	11	26	38	16	22.75
Wolverhampton	21	24	23	23	22.75
Islington	29	20	19	25	23.25
Newham	22	22	24	28	24.00
Norwich	27	31	35	11	26.00
Luton	33	32	36	8	27.25
Brighton and Hove	24	30	34	24	28.00
Oldham	18	38	22	36	28.50
Manchester	35	25	33	37	32.50
Sunderland	15	39	39	39	33.00
Plymouth	37	35	32	31	33.75
Lewisham	39	37	37	33	36.50

3.2.3 Savings by component cost category

In **Table 3.3** below the programme-wide median estimates of savings are presented broken down by crime type and by individual cost component. **Tables A2.2** and **A2.3** in **Appendix 2** present equivalent tables for the lower bound and upper bound estimates respectively. Crime types are listed down the left side of **Table 3.3** and cost components are listed along the top of the table. The final column of **Table 3.3** shows the percentage of estimated median savings accounted for by each of the 15 crime types, whilst the penultimate row shows the percentage of estimated median savings accounted for by each cost category. The final row shows the median estimate of the financial value of the savings associated with each of the individual cost components. Row totals were shown in **Table 3.1** and are therefore not repeated in **Table 3.3**.

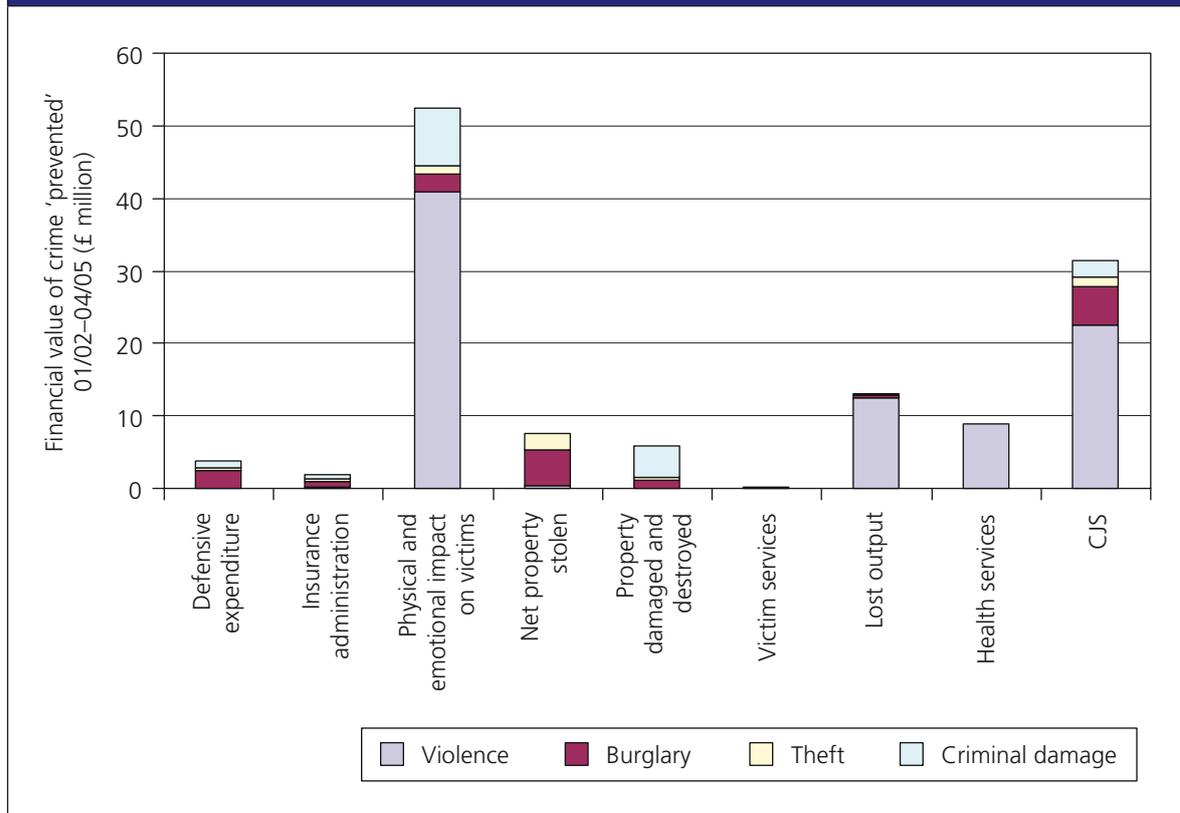
It can be seen from **Table 3.3** that the major driver of the overall financial savings estimated across the NDC Partnerships is through reduced physical and emotional impact on victims (£52.4m). This is followed by savings to the criminal justice system (£31.4m) and lost output (£13m). Over half of the estimated savings relating to physical and emotional impact on victims is accounted for by other wounding and robbery. These two crime types also account for over half of the savings relating to the criminal justice system.

The key information from **Table 3.3** is presented in graphical form in **Figure 3.6** by grouping the 15 crime types into the four broad crime types. The cost components are also simplified slightly by combining property stolen and property recovered to form the net property stolen cost category. The main messages from **Table 3.3** are evident visually in **Figure 3.6**, principally that the cost savings associated with lower than expected levels of violence clearly far outweigh the other cost elements, and that costs relating to physical and emotional impact on victims and the criminal justice system are the largest items.

Crime type	Consequential savings										Response savings		Row %
	Anticipatory savings					Consequential savings					Response savings		
	Defensive Exp.	Insurance Admin.	Physical & emotional impact on victims	Value of property stolen	Property damaged/destroyed	Property recovered	Victim services	Lost output	Health services	Criminal Justice System			
Homicide	290	460	1,737,810	0	0	0	4,250	911,160	1,560	291,340	2		
Serious wounding	300	300	1,366,840	0	0	0	2,100	349,960	404,590	4,305,520	5		
Other wounding	3,880	3,880	17,680,100	0	0	0	27,180	4,526,790	5,233,370	3,796,910	25		
Common assault	0	0	5,674,290	0	0	0	43,210	1,937,040	885,710	1,836,220	8		
Robbery	0	98,990	14,367,940	513,810	56,570	-89,560	75,420	4,765,750	2,276,810	12,260,830	27		
Domestic burglary	889,360	712,290	2,599,670	3,404,530	752,540	-88,530	44,270	257,550	0	4,575,590	11		
Commercial burglary	1,499,560	83,310	0	1,637,400	362,010	-42,410	0	66,650	0	816,430	4		
Vehicle theft	455,960	308,990	668,080	1,976,670	291,450	-452,620	840	39,250	0	166,180	3		
Theft from person	0	123,860	442,880	656,810	63,800	-48,790	3,750	11,260	0	1,129,720	2		
Theft from vehicle	19,900	8,580	45,640	41,180	21,620	-1,890	170	3,430	0	8,580	0		
Attempted vehicle theft	-27,240	-8,800	-81,320	0	-64,550	0	-420	-4,610	0	-27,240	0		
Arson	31,420	87,000	1,140,670	0	512,330	0	4,830	14,500	0	304,500	2		
Criminal damage to a dwelling	97,290	269,430	3,532,530	0	1,586,640	0	14,970	44,910	0	943,010	5		
Criminal damage to a business	648,910	38,170	0	0	839,760	0	0	57,260	0	114,510	1		
Other criminal damage	88,670	245,560	3,219,530	0	1,446,060	0	13,640	40,930	0	859,450	5		
Col %	3	2	42	7	5	-1	0	10	7	25	100		
Col total	3,708,300	1,972,020	52,394,660	8,230,400	5,868,230	-723,800	234,210	13,021,830	8,802,040	31,381,550	124,889,440		

Table 3.3: Median financial value of crimes prevented 2001/02 to 2004/05 across NDC Partnerships by crime type and cost component

Figure 3.6: Financial value of broad crime types prevented 2001/02 to 2004/05 by cost component



The findings presented above suggest that there is evidence that NDC areas experienced fewer crimes between 2001/02 and 2004/05 than would be expected given the levels of crimes seen in their matched control areas. The net difference between the total observed crime count and the total median expected crime count amounts to 44,422 crimes, with the lower and upper bounds around this median estimate ranging from a low of 10,361 to a high of 80,353. Across the NDC Programme as a whole, the median estimate of the net financial value of crime potentially prevented is £124.9m. The lower bound estimate is £38m and the upper bound estimate is £219.4m. The robbery and other wounding crime types account for over half of these median potential savings. The cost components relating to the physical and emotional impact on victims (42%) and to the criminal justice system (25%) together account for around two-thirds of the total median estimate of crime savings.

3.3 Exploring attribution

3.3.1 Using comparator areas to qualify NDC findings

The analyses presented above suggest that the costs of crime incurred across the NDC Programme were lower than would be expected in the absence of the Programme. However, caution must be exercised in the interpretation of these results.

The methodology employed throughout **Chapter 3** of this report reflects the need to control for as many explanatory factors as possible in order to attempt to isolate any NDC effect. While the method goes some way to achieving this, there remains the distinct possibility that other localised factors may be operating within the NDC areas which are not controlled for through the methodology and which may partly or wholly account for the results presented in **Chapter 3**.

In order to consider whether the findings in relation to cost savings to NDC Partnerships can be interpreted as being indicative of potential NDC Programme impact, the same methodology was applied to the 39 National Evaluation Team comparator areas. The utility of comparator areas in this sense is that they offer a means of controlling for particular local crime reduction initiatives or trends that may be acting on deprived areas within an NDC Partnership's local authority but which are not directly driven by the NDC Programme. If such initiatives or trends are indeed operating, then one might suppose that the comparator area would be affected in much the same way as the NDC Partnership. If this is the case, then the comparator areas would also exhibit financial savings through reduced crime levels. This would mean that the results observed for NDC Partnerships should not necessarily be attributed to NDC Programme operation but may instead be driven by the other crime reduction factors.

The 39 National Evaluation Team comparator areas were selected in a way that ensured they were well matched to their NDC Partnership in terms of population size and level of deprivation and they are all located in the same local authority as their matched NDC Partnership. While the comparator areas should not be affected directly by the NDC Programme, there is a high likelihood that at least some of the comparator areas will themselves be the subject of one or more alternative crime reduction initiatives independent of the NDC Programme (see **Chapter 1** for a brief discussion of some of the other initiatives). Of course, these local initiatives may equally overlap with the boundaries of the NDC Partnership. These non-NDC initiatives may affect:

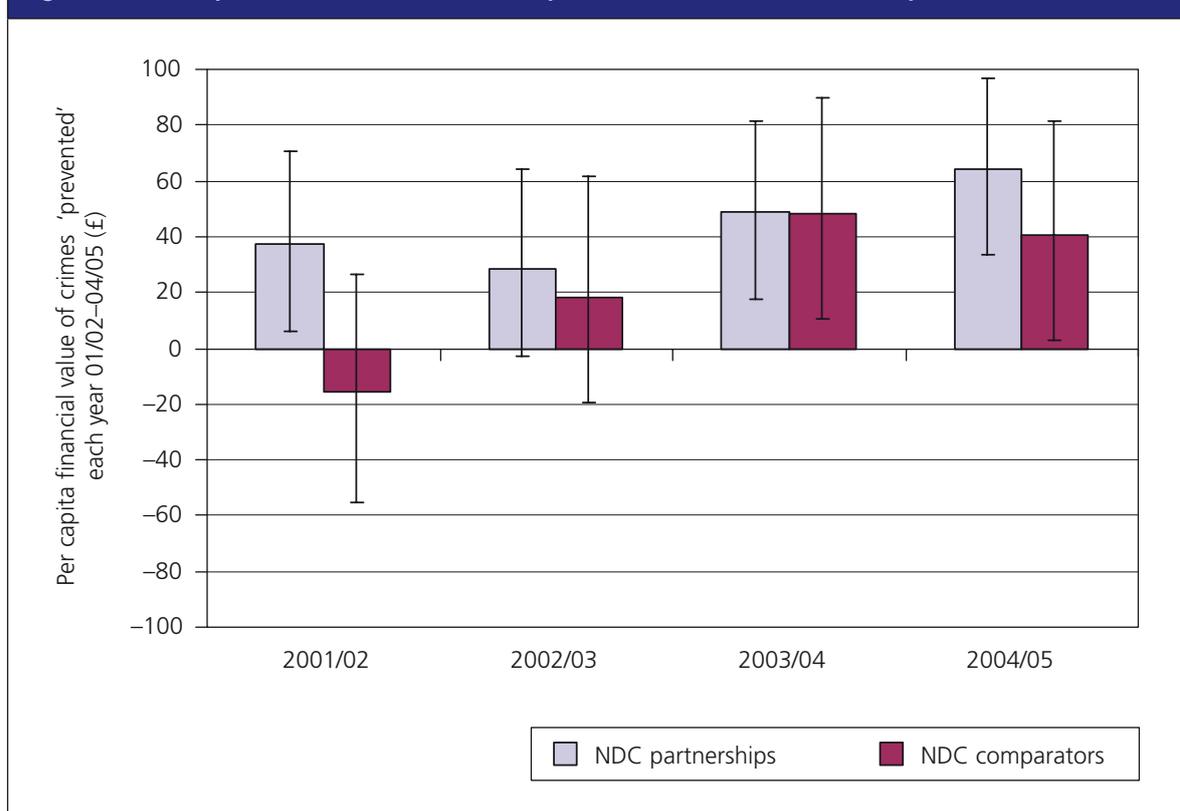
- the NDC Partnership but not the comparator area
- the comparator area but not the NDC Partnership
- both the NDC Partnership and the comparator area
- neither the NDC Partnership nor the comparator area.

It has not been possible to identify and map the raft of other local initiatives that may be operating within NDC local authorities and therefore it is not possible to conclude that results observed within NDC Partnerships and/or comparator areas are due to any one factor. The results presented below are intended to help develop our understanding of patterns and trends within NDC areas and comparator areas with the goal that some tentative suggestions relating to the NDC Programme may be possible.

3.3.2 Comparing NDC Partnerships against comparator areas

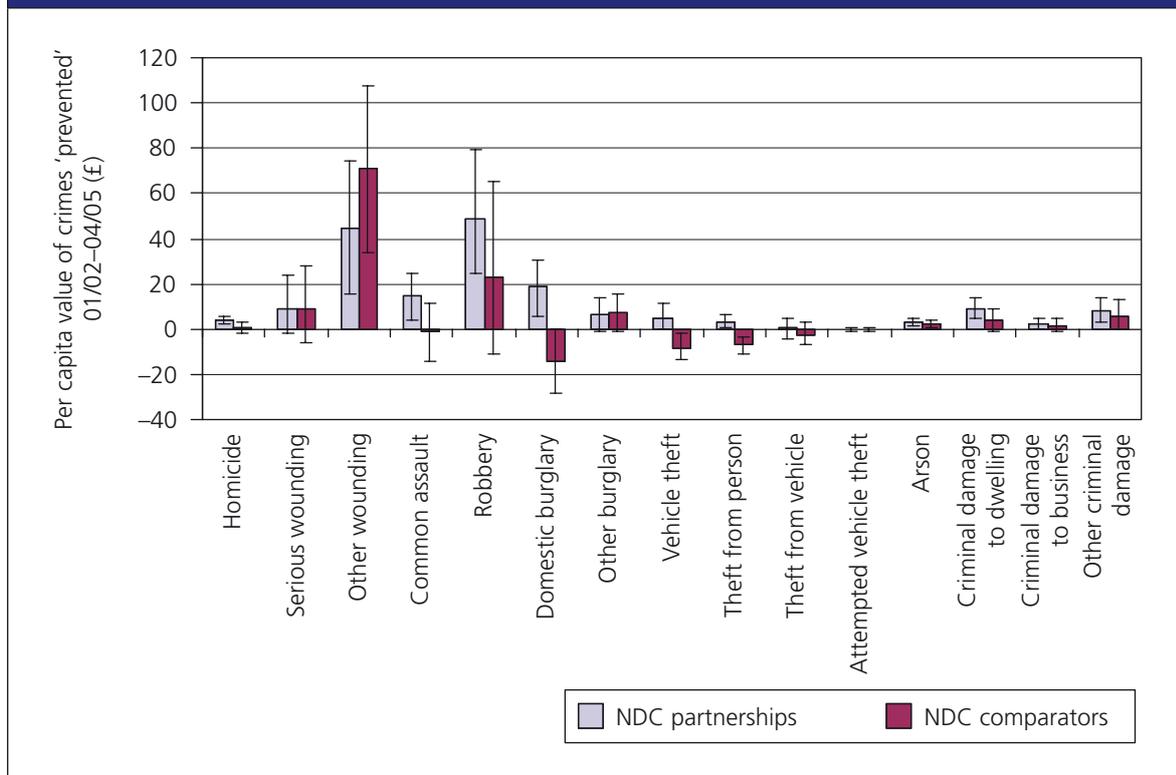
The per capita financial values of crimes that may have been prevented in both NDC Partnerships and comparator areas according to the results of this study are shown in **Figure 3.7**. Two points are immediately apparent: (a) the per capita financial value of crimes potentially prevented is greater across the NDC Partnerships than across the comparator areas in all four years presented, although the difference is negligible in 2003/04, but (b) the results suggest that financial savings are also being achieved within the comparator areas as well as within the NDC areas, despite no NDC-specific activity occurring in the comparator areas. Indeed, in 2003/04 and 2004/05, both the NDC and comparator areas register lower bound estimates of cost savings greater than zero. These findings suggest that other, non-NDC, factors may be operating at the local level which may explain some, if not all, of the apparent cost savings achieved in NDC Partnerships.

Figure 3.7: Per capita financial value of crimes prevented in NDC and NDC comparator areas



However, there is a distinct danger when analysing highly aggregated results, such as the above, that substantial changes in a small number of crime categories and/or a small number of areas may obscure more moderate changes occurring across a broader range of categories and/or areas. In order to explore this in more detail it is necessary to move away from the highly aggregated form of analysis presented in **Figure 3.7** and explore results separately by crime type and by individual NDC Partnership.

Figure 3.8: Per capita financial value of crimes prevented 2001/02 to 2004/05 by crime type



The data in **Figure 3.8** show the per capita financial value of cost savings separately by each of the 15 crime types. It is clearly evident from this chart that the main drivers of the overall savings in NDC areas are other wounding and robbery. For the comparator areas, the main driver of overall savings is other wounding. A further observation is that, for domestic burglary, vehicle theft and theft from person, the upper and lower bound confidence intervals around the NDC savings are all above zero (indicating that savings may be being achieved) while the upper and lower bounds around the comparator estimates are all below zero (indicating that additional losses may have been experienced). This suggests that the 39 NDC Partnerships as a whole appear to have experienced larger savings on these three crime types than the 39 comparator areas as a whole. However, caution must still be exercised in making such conclusions as, again, these aggregate Programme-wide figures may mask important patterns at individual area level.

In **Figure 3.9** data are presented showing the per capita savings experienced within each NDC Partnership and comparator area for the other wounding crime type. The chart is ranked from highest to lowest according to the savings achieved within the comparator area. Three important points can be noted from **Figure 3.9**: first, the majority of both NDC Partnerships and comparator areas experienced savings on this crime type between 2001/02 and 2004/05; second, there is no clear relationship between NDC Partnership savings and comparator area savings at individual area level; and, third, the range of savings across the 39 comparator areas (from a high of £442 per capita to a low of -£360 per capita) is substantially wider than the range observed across the 39 NDC Partnerships (from a high of £261 per capita to a low of -£231 per capita).

Figure 3.9: Per capita financial value of other wounding prevented in NDC and NDC comparators, 2001/02 to 2004/05

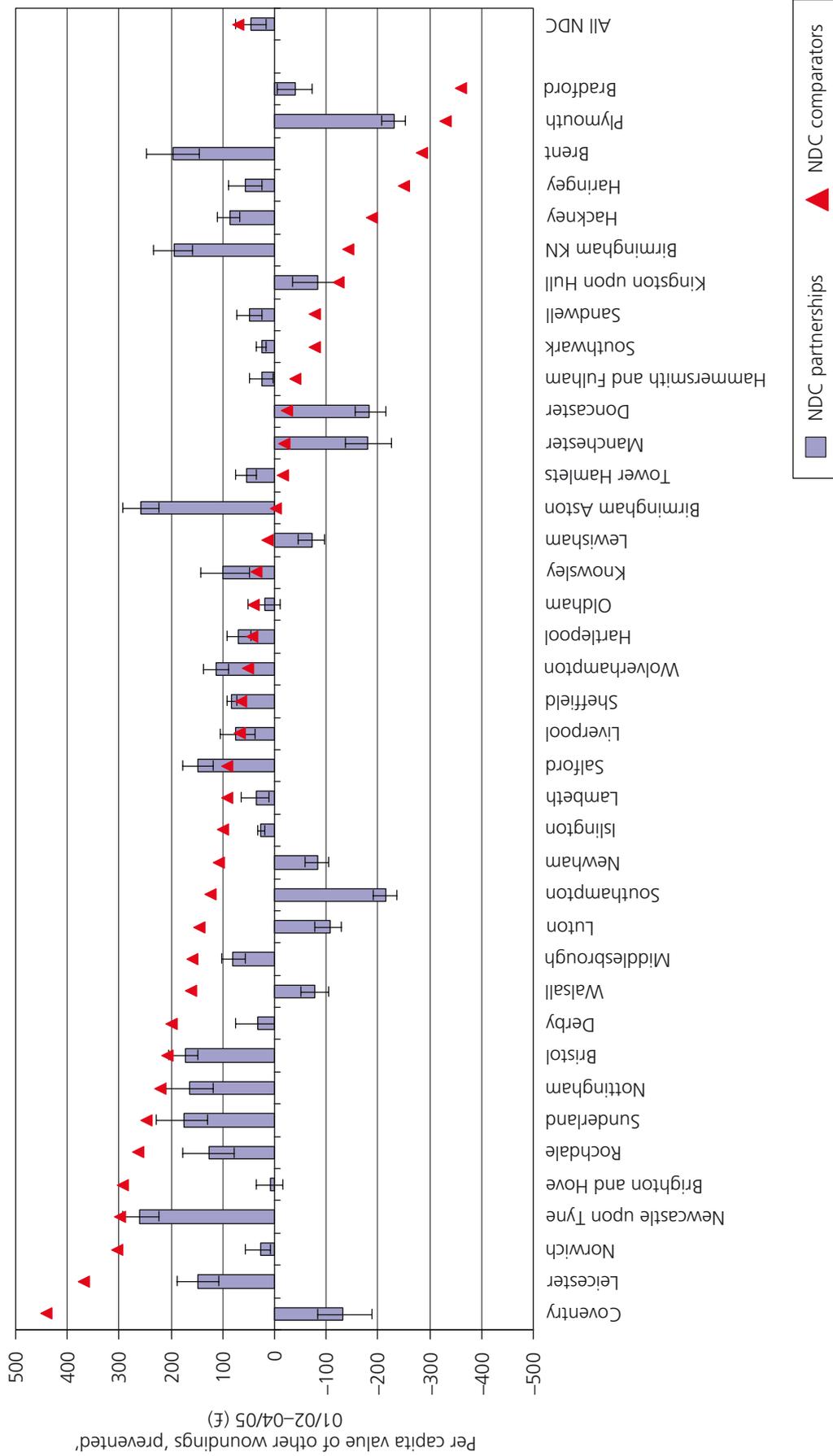
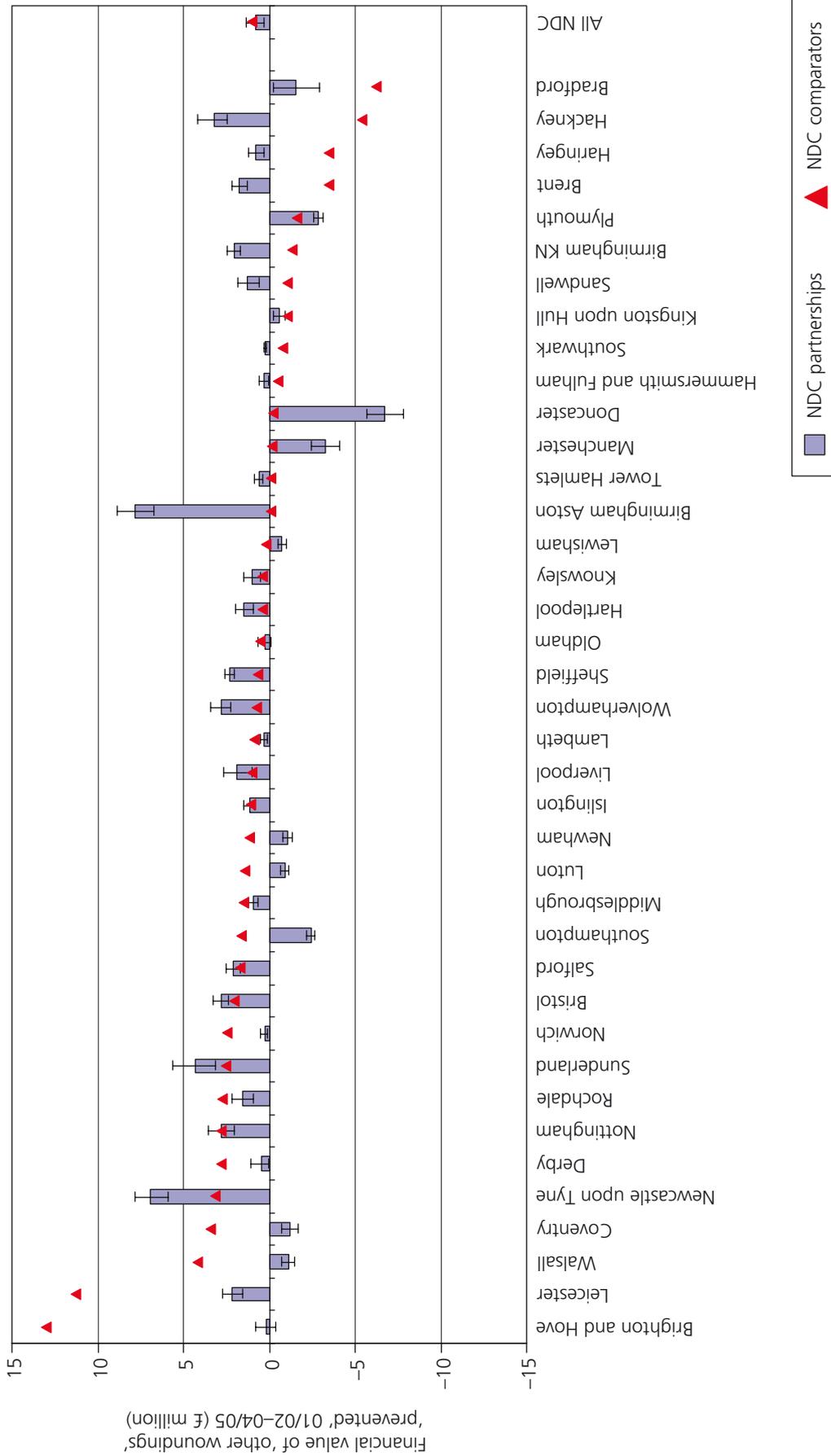


Figure 3.10: Financial value of Other Wounding prevented in NDC and NDC comparators, 2001/02 to 2004/05



While the per capita data shown in **Figure 3.9** are valuable for comparing each NDC area against its own comparator area, it is not possible to deduce from that chart which individual areas are making the greatest contribution to the overall results for the NDC Partnerships or comparator areas combined. In **Figure 3.10** the overall (i.e. not per capita) cost savings for the other wounding crime category for each NDC area and its matched comparator area are presented. It is evident from these data that the two comparator areas in Brighton & Hove and Leicester exhibit substantially greater cost savings on this measure than any of the other comparator areas and, indeed, any of the NDC Partnerships. The cost saving on other wounding observed within these two comparator areas therefore acts as the main driver of the overall cost savings across all crime types across the entire comparator area group. This degree of concentration of savings is not seen to the same extent within the NDC Partnership areas; rather, the savings are spread more evenly across NDC Partnerships and across crime types.

It is not possible, without a detailed local evaluation of processes and outcomes, to offer conclusions relating to the possible reasons for large changes in crime levels in any given area. Such investigation is outside the scope of this report. In order to address the potential concern that the overall trends may be being driven by a small minority of cases (i.e. a few crime types in a few geographical areas), the analyses now turn to examine the changes occurring in each crime type, year of analysis and NDC/comparator area separately, thus avoiding the inherent problem of aggregate level results.

The data in **Table 3.4** represent a summary of observed versus expected costs of crime for each crime type, in each year, in each NDC or comparator area. Across the table as a whole, the 39 NDC Partnerships are therefore represented by 2,340 data points (i.e. 15 crime types x 4 time points x 39 NDC Partnership areas). The 39 comparator areas are similarly represented by a different set of 2,340 data points. Each of these data points is assigned to one of three possible categories:

- savings: where the lower bound of the savings estimate is above zero
- losses: where the upper bound of the savings estimate is below zero
- neither savings nor losses: where the upper and lower bounds of the savings estimates straddle zero.

Each of the 2,340 data points relating to NDC Partnerships and 2,340 data points relating to comparator areas is classified as described above and the sum of these data points per category is shown in **Table 3.4** at a programme-wide level. For example, each of the 39 NDC Partnerships has four opportunities to register a saving in terms of Homicide, with these four opportunities relating to the four years of post-baseline analysis i.e. 2001/02 through to 2004/05. In sum, therefore, across the 39 Partnerships and the four years of analysis combined there are 156 opportunities (i.e. 39 Partnerships x 4 years) to register a saving in terms of Homicide. It can be seen from the table that there were 92 cases where a saving on Homicide was experienced, plus a further 46 cases where neither a saving nor a

loss was experienced, plus a further 18 cases where an apparent loss was experienced.

As each of the 15 crime types is considered separately, there are 156 opportunities per crime type to register a saving. For ease of comparison between the four broad crime categories of violence, burglary, theft and criminal damage, the counts per individual crime type are summarised for each of these four broad groupings. As such, it can be seen that there are 417 instances where an NDC Partnership registered a saving on one of the violent crime types in one of the years. These 417 instances represent 53 per cent of the total NDC data points relating to the violent crime types. The data are not summarised across all 15 categories combined together into a single figure as this would introduce implicit weighting (according to the number of crime categories per broad grouping) which is not appropriate here.

Table 3.4: Instances of possible savings in NDC Partnerships and comparator areas, 2001/02 to 2004/05

Crime type 1	NDC Partnerships			Comparator areas		
	Possible saving 2	Neither saving nor loss 3	Possible loss 4	Possible saving 5	Neither saving nor loss 6	Possible loss 7
Homicide	92	46	18	76	60	20
Serious wounding	78	54	24	64	70	22
Other wounding	85	47	24	86	48	22
Common assault	84	53	19	68	68	20
Robbery	78	45	33	86	53	17
Violence (n)	417	245	118	380	299	101
Violence (%)	53%	31%	15%	49%	38%	13%
Domestic burglary	86	52	18	67	77	12
Other burglary	78	61	17	81	56	19
Burglary (n)	164	113	35	148	133	31
Burglary (%)	53%	36%	11%	47%	43%	10%
Vehicle theft	80	57	19	55	78	23
Theft from person	76	59	21	65	67	24
Theft from vehicle	80	62	14	70	60	26
Attempted vehicle theft	71	66	19	66	73	17
Theft (n)	307	244	73	256	278	90
Theft (%)	49%	39%	12%	41%	45%	14%
Arson	91	49	16	73	62	21
Criminal damage to dwelling	74	66	16	68	75	13
Criminal damage to building	74	64	18	61	79	16
Other criminal damage	78	56	22	75	58	23
Criminal damage (n)	317	235	72	277	274	73
Criminal damage (%)	51%	38%	12%	44%	44%	12%

For each of the 15 crime categories, a larger number of NDC Partnerships experienced possible savings than possible losses and this is reflected in the summary statistics for the four broad groupings of crime categories. For the violence, burglary and criminal damage categories, over half of the NDC data points are classified as possible savings whilst for theft the figure is just under half. In contrast, there is evidence of possible losses in between 11 per cent to 15 per cent of cases across the NDC Partnerships. These findings offer further support to the suggestion that across the 39 Partnerships as a whole there is more evidence of cost savings than of additional costs. However, it is also clear from **Table 3.4** that substantial numbers of comparator areas also experienced possible savings across the crime types and across the years. Indeed, there were more instances of comparator areas experiencing savings than experiencing losses for each of the four broad crime types.

The data contained within Table 3.4 demonstrate that, overall, there is evidence that both NDC Partnerships and comparator areas experienced greater-than-expected savings. However, it is important to recognise that, for each of the four broad crime categories, the proportion of NDC Partnerships experiencing savings was greater than the proportion of comparator areas experiencing savings.

3.4 Section summary

- Across the NDC Programme as a whole the net financial value of crime potentially prevented is estimated to be £124.9m. This value represents the median of a range of possible savings. A more conservative lower bound estimate is £38m, while a more speculative upper bound estimate is £219.4m.
- In 14 of the 15 crime types (the exception being 'attempted vehicle theft'), the number of crimes observed across the NDC Programme between 2001/02 and 2004/05 was lower than the median number of crimes that would be expected in the absence of the intervention.
- An estimated 44,422 crimes may have been prevented across the 39 NDC Partnership areas. This value represents the median of a range of possible values. A more conservative lower bound estimate is 10,361 crimes prevented while a more speculative upper bound estimate is 80,353 crimes prevented.
- The cost savings associated with violence amount to approximately twice the combined cost savings associated with burglary, theft and criminal damage. Other wounding and robbery together account for over half of the overall median financial savings.
- Twenty-nine of the 39 Partnerships saw some degree of financial savings. Six of these 29 NDC Partnerships each saw savings of over £10m. Ten NDC Partnerships experienced more crime than would be expected.
- The lack of any overall regional pattern in NDC findings and the apparent contrasts between spatially proximate Partnerships suggests that

important local factors are acting to shape the crime rates within NDC Partnerships.

- The major driver of the overall financial savings estimated across the NDC Partnerships is through reduced physical and emotional impact on victims (£52.4m). Over half of the estimated savings relating to physical and emotional impact on victims is accounted for by other wounding and robbery.
- The per capita financial value of crimes potentially prevented is greater across the NDC Partnerships than across the comparator areas in all four years presented, although the difference is negligible in 2003/04. However, the results suggest that financial savings are also being achieved within the comparator areas as well as within the NDC areas, despite no NDC-specific activity occurring in the comparator areas.
- For domestic burglary, vehicle theft and theft from person, the upper and lower bound confidence intervals around the NDC savings are all above zero (indicating that savings may be being achieved) while the upper and lower bounds around the comparator estimates are all below zero (indicating that additional losses may have been experienced).
- For each of the 15 crime categories, a larger number of NDC Partnerships experienced possible savings rather than possible losses. For the violence, burglary and criminal damage categories, over half of the NDC cases are classified as possible savings whilst for theft the figure is just under half. In contrast, there is evidence of possible losses in between 11 per cent to 15 per cent of cases across the NDC Partnerships.
- For each of the four broad crime categories, the proportion of NDC Partnerships experiencing savings was greater than the proportion of comparator areas experiencing savings. The proportion of NDC Partnerships and comparator areas experiencing possible losses is very close for each of the four broad categories.

4 Conclusion

The aims of this report were to quantify the costs of crime occurring in NDC Partnerships and, if so, to what extent crime may have been reduced within the Partnerships resulting in cost savings. This work was motivated by the need to develop a better understanding of the impacts of crime on deprived neighbourhoods.

The data presented in **Chapter 2** demonstrate that the costs of crime borne by individuals, businesses and services in NDC Partnerships are substantial. Violent crimes represent the biggest driver of overall costs, with other wounding and robbery being particularly costly. Physical and emotional impact on victims is by far the largest component of the total cost of crime in NDC areas, followed by costs to the criminal justice system. This is a function of the high physical and emotional costs associated with violent crimes.

The analyses presented in **Chapter 3** show that there is evidence of cost savings of approximately £124.9m at the NDC Programme wide level. Cost savings were observed in the majority of the 39 Partnerships when each was examined separately. However, cost savings were also observed across the 39 comparator areas, although to a lesser degree than observed across NDC Partnership areas. This suggests that part of the cost savings observed across NDC Partnerships may be accounted for by non-NDC factors but part may be due to NDC Programme operation.

It is recognised throughout this report that attribution of impact to a particular factor is fraught with difficulty. As such, caution must be exercised when interpreting the results. However, on balance, there appears to be a certain amount of evidence to suggest that the cost savings observed across the NDC Partnerships are greater than one might expect in the absence of the Programme.

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Appendix 1: Technical report on the data and methodology

In this technical report the data and methods used in the report are discussed in detail. The data used in the report are outlined first and the methods used in **Chapter 2** and **Chapter 3** and then described.

Data sets

The analyses in this report are based on individual level recorded crime data sourced from each of the 39 regional police forces in England. Data have been sourced for five full financial years – from 2000/01 through to 2004/05 – and this five-year period is the time period used for the analyses in this report. Each record in the crime database contains information on the crime type, date and time of occurrence, date recorded onto the police system, and location of occurrence including a full postcode and/or full grid reference (accurate to the nearest metre).

Thirty-three categories of notifiable offence are included in the collated crime database, which for the purposes of these analyses have been grouped together to form 15 crime types. These 15 crime types are formed by combining notifiable offence categories which relate to the same type of crime, which share the same 'at risk' denominator, and which share the same Home Office cost estimates. In **Table A1.1** the relationship between the four composite crime categories (violence, burglary, theft and criminal damage), the 33 underlying crime categories, and the 15 broad crime types used in the report is shown. For each crime type the 'at-risk' denominators used in this report's analyses are outlined in the final column.

Table A1.1: Crime numerators and denominators used in the analyses			
Composite crime category	33 underlying crime types (with Home Office code)	15 crime types used in this report	'At risk' denominators for the 15 crime types used in this report
Violence	Murder (1)	Homicide	Resident plus workplace population
	Manslaughter (4.1)		
	Infanticide (4.2)		
	Causing death by aggravated vehicle taking (37.1)		
	Attempted murder (2)	Serious wounding	Resident plus workplace population
	Wounding or other act endangering life (5)		
	Other wounding (8A)		
	Harassment (8C)		
	Racially-aggravated other wounding (8D)		
Racially-aggravated harassment (8E)	Other wounding	Resident plus workplace population	

Table A1.1: Crime numerators and denominators used in the analyses			
Composite crime category	33 underlying crime types (with Home Office code)	15 crime types used in this report	'At risk' denominators for the 15 crime types used in this report
	Common assault (105A) Racially-aggravated common assault (105B)	Common assault	Resident plus workplace population
	Robbery of business property (34A) Robbery of personal property (34B)	Robbery	Resident plus workplace population
Burglary	Burglary in a dwelling (28) Aggravated burglary in a dwelling (29)	Domestic burglary	Residential properties
	Burglary in building other than a dwelling (30) Aggravated burglary in building other than a dwelling (31)	Commercial burglary	Business properties
Theft	Aggravated vehicle theft (37.2) Theft or unauthorised taking of vehicle (48)	Vehicle theft	Resident plus workplace population
	Theft from the person of another (39)	Theft from person	Resident plus workplace population
	Theft from a vehicle (45)	Theft from vehicle	Resident plus workplace population
	Vehicle interference and tampering (126)	Attempted vehicle theft	Resident plus workplace population
Criminal damage	Arson (56)	Arson	Resident plus workplace population
	Criminal damage to a dwelling (58A) Racially-aggravated criminal damage to a dwelling (58E)	Criminal damage to a dwelling	Residential properties
	Criminal damage to building other than a dwelling (58B) Racially-aggravated criminal damage to building other than dwelling (58F)	Commercial criminal damage	Business properties
	Criminal damage to a vehicle (58C) Other criminal damage (58D) Racially-aggravated criminal damage to a vehicle (58G) Racially-aggravated other criminal damage (58H) Threat to commit criminal damage (59)	Other criminal damage	Resident plus workplace population

Methodology

The methods used in the analysis are discussed in detail in the following section of this appendix. As the methods differ between **Chapter 2** and **Chapter 3** the discussion below is divided into two sub-sections relating to the methods used in each of these two chapters.

Chapter 2: Methodology used to estimate the cost of crime in NDC Partnerships

The methodology to estimate the cost of crime in NDC Partnerships involves three steps:

1. Police recorded crimes are mapped to NDC Partnership areas.
2. Crime counts are adjusted using Home Office multipliers.
3. Adjusted crime counts are multiplied by relevant Home Office estimates of the cost of crime to produce estimates of the financial value of crime in NDC Partnerships.

Step 1: Mapping police recorded crimes to NDC Partnerships

The presence of postcode and/or grid reference in the police recorded crime data enables individual crimes to be aggregated to any given geography. The first step in the method used in **Chapter 2** is therefore to map recorded crimes to NDC Partnership areas. Each of the 15 crime types listed in column 3 of **Table A1.1** are mapped to NDC Partnerships for each year from 2000/01 to 2004/05. The aggregation method involves an element of geographical ‘smoothing’ of crimes to account for variations in police geo-coding practice. To ensure all data are controlled to a common base the small area crime counts are constrained to Home Office totals for Crime and Disorder Reduction Partnership (CDRP) areas.

Step 2: Adjusting recorded crime counts using Home Office multipliers

The second step in the method to calculate the data presented in *Chapter 2* is to adjust the recorded crime counts in the NDC Partnerships using Home Office multipliers. This is necessary because the estimates of the costs of crime produced by the Home Office are based on British Crime Survey (BCS) and as a result of differences between crimes said to have been committed (as seen in the BCS) compared with crimes recorded (as seen in the police recorded crime data) it is necessary to adjust the recorded crime counts to a total volume estimate using multipliers derived from the BCS. These multipliers (essentially weights) are produced and published by the Home Office for this purpose for a number of different crime types for the period covered in this report (Dubourg et al, 2005). The authors are grateful to contacts at the Home Office for supplying precise values of multipliers and advice regarding their application. The multipliers applied to the 15 crime categories used in the report are listed in **Table A1.2**.

Crime category	2000/01	2001/02	2002/03	2003/04	2004/05
Homicide	1	1	1	1	1
Wounding	2.14	3.28	2.67	1.79	1.79
Common assault	9.79	8.34	7.87	7.66	7.66
Personal robbery	3.54	4.69	3.55	3.67	3.67
Commercial robbery	5.85	5.85	5.85	5.85	5.85
Domestic burglary	2.60	2.33	2.17	2.19	2.19
Commercial burglary	2.07	2.07	2.07	2.07	2.07
Vehicle theft	1.43	1.42	1.22	1.16	1.16
Theft from the person	7.15	6.52	5.26	4.61	4.61
Theft from vehicle	3.40	3.14	2.83	2.77	2.77
Attempted vehicle theft	2.93	2.98	2.59	2.19	2.19
Criminal damage	5.41	5.12	4.63	4.29	4.29
Commercial criminal damage	5.86	5.86	5.86	5.86	5.86

Step 3: Estimating the cost of crime in NDC Partnerships

Once crime counts have been adjusted using Home Office multipliers the cost of crime in NDC Partnerships can be estimated by applying Home Office estimates of the cost of crime to each of the 15 crime types. The Home Office has produced two key documents providing estimates of the cost of different crime types (Brand and Price, 2000; Dubourg et al, 2005). The estimates of the cost of crime used in this NDC National Evaluation report are presented in **Table A1.3** and are in 2003 prices. The final column of **Table A1.3** provides an estimate of the average cost of each of the 15 crime types. This estimate of the average cost of each crime type is also broken into 10 separate cost components (e.g. defensive expenditure, healthcare costs) for each crime type.

In almost all cases these costings are taken directly from the most recent Home Office estimates (Dubourg et al, 2005). However, the Dubourg et al (2005) costings do not contain estimates for commercial burglary and commercial criminal damage, two crime types for which estimates are provided in Brand and Price (2000). After consultation with contacts at the Home Office, the estimates in **Table A1.3** for these two crime types were calculated by up-rating the estimates in Brand and Price (2000) to 2003 prices using the Treasury's GDP deflator. After having up-rated these two estimates, a secondary issue is that the cost estimates in Brand and Price (2000) do not provide estimates for the cost components relating to property damaged/destroyed, property stolen and property recovered, cost estimates which are provided in Dubourg et al (2005). In order to retain consistency in the cost estimates used in the report, these three cost components were estimated separately for commercial burglary and commercial criminal damage as a final step using a combination of data from the Brand and Price (2000) and Dubourg (2005) publications.

Table A1.3: Estimates of cost of crime types and cost components (2003 prices, £)

Offence category	Costs in anticipation of crime			Costs as a consequence of crime							Costs in response to crime	
	Defensive expenditure	Insurance admin	Physical and emotional impact on victims	Value of property stolen	Property damaged /destroyed	Property recovered	Victim services	Lost output	Health services	Criminal Justice System	Average cost	
Homicide	145	229	860380	0	0	0	2102	451110	770	144239	1458975	
Serious wounding	1	1	4554	0	0	0	7	1166	1348	14345	21422	
Other wounding	1	1	4554	0	0	0	7	1166	1348	978	8055	
Common assault	0	0	788	0	0	0	6	269	123	255	1441	
Robbery	0	21	3048	109	12	-19	16	1011	483	2601	7282	
Domestic burglary	221	177	646	846	187	-22	11	64	0	1137	3267	
Commercial burglary	990	55	0	1081	239	-28	0	44	0	539	2920	
Vehicle theft	546	370	800	2367	349	-542	1	47	0	199	4137	
Theft from person	0	33	118	175	17	-13	1	3	0	301	635	
Theft from vehicle	116	50	266	240	126	-11	1	20	0	50	858	
Attempted vehicle theft	65	21	194	0	154	0	1	11	0	65	511	
Arson	13	36	472	0	212	0	2	6	0	126	867	
Criminal damage to a dwelling	13	36	472	0	212	0	2	6	0	126	867	
Criminal damage to a commercial property	374	22	0	0	484	0	0	33	0	66	979	
Other criminal damage	13	36	472	0	212	0	2	6	0	126	867	

Chapter 3: Methodology used to estimate the financial value of crimes prevented in NDC Partnerships

In this sub-section the methodology to calculate the data in **Chapter 3** is described in detail. The method employed is a refinement of a technique used by Johnson et al (2004).

Summary of key methodological steps

Estimates were constructed of crime rates that might be expected in the NDC Partnership neighbourhoods had the NDC Programme not existed. The year 2000/01 was taken to be the 'baseline' and then change calculated between this baseline year and each subsequent year up to, and including, 2004/05.

A group of similarly sized and similarly deprived control areas was selected for each NDC Partnership. The changes in crime rates over time observed in each member of this group of control areas were used to predict what might have been expected to occur in each NDC Partnership had the NDC Programme not existed.

The observed crime rates in NDC Partnerships were compared with the expected crime rates drawn from the group of control areas. Where observed crime rates were lower than expected there is some evidence that crimes may have been prevented.

Home Office cost estimates were applied to the differentials between observed and expected crime rates to calculate the estimated savings or additional losses in each NDC Partnership.

To quality assure the NDC findings, the method was also applied to each of the 39 comparator areas. Each comparator area was assigned its own group of control areas in exactly the same way as performed for NDC Partnerships.

The sequential steps involved in the method are as follows:

Step 1: Selecting a group of control areas per NDC Partnership

Middle Layer Super Output Areas (MSOAs) were used as control areas. MSOAs are a statistical geography created out of the 2001 Census with mean resident population of approximately 7,300 in mid 2001. There are 6,781 MSOAs across England. These geographical units therefore represent the most suitable standard unit in terms of population size to act as a control area. Each NDC Partnership was assigned a group of control areas which matched the NDC area on levels of multiple deprivation as defined by the Index of Multiple Deprivation 2004 (IMD 2004) (Noble et al, 2004). The IMD 2004 is expressed at Lower Layer Super Output Area (LSOA) level so the LSOA level IMD 2004 scores were approximated to NDC areas and MSOAs using a simple population-weighting approach.

All MSOAs in the country were ranked from least deprived to most deprived according to their population weighted IMD 2004 score. Each NDC area was then in turn placed within the MSOA distribution at the appropriate location based upon its approximated IMD 2004 score. A number of MSOAs located above and below the NDC area in the ranked distribution were then selected to form the group of control areas for that NDC Partnership. Wherever possible, 328 MSOAs were selected per

NDC Partnership, consisting of 164 MSOAs immediately below the NDC Partnerships in the table (i.e. slightly less deprived) and 164 MSOAs immediately above the NDC Partnership in the table (i.e. slightly more deprived). The figure of 328 MSOAs was chosen as this number captures 5 per cent of the overall national distribution of MSOAs. As such, each group of MSOAs should be both sufficiently large to avoid problems inherent in small samples, yet sufficiently small to capture just those MSOAs that are most similar to the NDC thus increasing the likelihood that these control areas are suitable reflections on what might be expected to occur in deprived NDC neighbourhoods.

In some cases, it was not possible to select 328 MSOAs that were more deprived than the NDC Partnership due to the extremely high levels of deprivation in the NDC area. In these instances, all possible MSOAs that were located above the NDC Partnership in the ranking (i.e. slightly more deprived) were selected while 164 MSOAs located below the NDC Partnership were also selected. The smallest group of control areas related to Knowsley NDC Partnership, where a total of 167 MSOAs were selected for inclusion due to the issues discussed here.

Step 2: Constructing an appropriate outcome measure

The outcome measure used to measure change over time in this study relates to the ratio of neighbourhood level crime rate to the 'wider local area' crime rate. Neighbourhood level crime rates refer to NDC Partnerships, comparator areas and control areas. The 'wider local area' is the remainder of the local authority after having removed any NDC areas. As such, each NDC, comparator or control area is always compared against its own wider local area in each year using this ratio. In the case where a control MSOA is located in a non-NDC local authority, the wider local area means that MSOA's local authority.

The purpose of comparing each neighbourhood to its wider local area is to account for crime trends occurring at a wider geographical level (such as local authority, police force or region) that may be unrelated to the actions of the NDC Programme. The crime rate for each of the 15 crime types in each of the five years (2000/01 through to 2004/05) was expressed as a separate relative ratio. An example of the construction of this outcome measure is as follows:

Liverpool NDC rate of Other Wounding in 2000/01 = a
 Liverpool wider local area rate of Other Wounding in 2000/01 = b
 Liverpool NDC relative ratio of Other Wounding in 2000/01 = a / b = c

Step 3: Measuring change over time in the outcome measure

Change over time in a relative ratio is measured by comparing the relative ratio for the 2000/01 baseline year with the relative ratio for a subsequent year. For instance:

Liverpool NDC relative ratio of Other Wounding in 2001/02 = d
 Change over time in Liverpool NDC Other Wounding relative ratio = d / c = e

These estimates of change over time in the relative ratios were created for each NDC area, comparator area and control area separately. Ratios were created for each of

the 15 crime types and each of the four years separately in each of the geographical areas.

Step 4: Selecting the 'expected' change over time from the control areas

The primary measure of expected change over time derived from each group of control areas is the 'median' value of the distribution across the group. For instance, if the group of control areas contained 301 MSOAs and these MSOAs were ranked in terms of the change in relative ratio observed over a particular time period, then the median value would relate to the MSOA at rank position 150. This median value is taken to represent the best possible estimate of change that one might expect to have occurred within the NDC Partnership had the Programme not existed.

Given the relatively large size of these groups of MSOAs, we can be reasonably confident that the median value identified is a reliable representation of the mid-point of the distribution (Agresti and Finlay, 1997). However, in order to qualify this choice of median value we all also present the upper and lower bounds around that median value. These bounds represent the limits within which we can be 95 per cent confident that the median value lies.

It is important to note, therefore, that the upper and lower bounds do not represent the limits within which we can be 95 per cent confident that the NDC observation will fall. The upper and lower bounds relate solely to the identification of the median value within the group of control areas.

Step 5: Comparing the observed crime rates with the expected crime rates

The expected change estimate (calculated in the above step) was applied to the observed relative ratio between the NDC and wider local area in the 2000/01 baseline year. This provides an estimate of what the relative ratio might have been in the later year had the NDC Programme not been in operation. This expected relative ratio in the later year was then applied to the observed crime rate in the wider local area in that later year to produce an estimate of the expected crime rate in the NDC area in that year. For example:

Liverpool NDC relative ratio of Other Wounding in baseline 2000/01 = f
 Expected change in Liverpool NDC relative ratio Other Wounding 2000/01 to 2001/02 = g
 Liverpool NDC expected relative ratio Other Wounding in 2001/02 = f * g = h

 Liverpool wider local area rate of Other Wounding in 2000/01 = i
 Liverpool NDC expected rate of Other Wounding in 2001/02 = h * i = j

The observed crime rates were compared with the expected crime rates and the net difference calculated. If the observed crime rate was lower than the expected crime rate then there is the potential that crimes may have been prevented in that area. However, as is discussed in the main body of this report, any attribution of impact/ effect is fraught with difficulties and so we are not able to say conclusively that crimes have been prevented by the actions of the NDC Programme.

Step 6: Calculating estimates of cost savings or additional losses

The net differences between observed and expected crime levels were multiplied by the cost of crime estimates provided by the Home Office. This generated estimates of potential 'cost savings' where the observed crime level was lower than one might expect. On the other hand, it is possible that the observed crime level may be greater than expected and, in this case, the costs of crime incurred would also be greater than expected, representing additional losses. For example:

$$\begin{aligned} \text{Liverpool NDC rate of Other Wounding in 2001/02} &= k \\ \text{Liverpool NDC expected rate of Other Wounding in 2001/02} &= j \\ \text{Expected rate minus observed rate of Other Wounding 2001/02} &= j - k = l \\ \\ \text{Liverpool NDC population denominator for 2001/02} &= m \\ \text{Difference in crime counts between observed and expected} &= \\ (l * m) / 1000 &= n \\ \\ \text{Home Office estimate of cost per Other Wounding} &= o \\ \text{Estimated cost savings on Other Wounding in 2001/02} &= n * o = p \end{aligned}$$

The above calculations were performed separately for each of the 15 crime categories, for each year between 2001/02 and 2004/05, and for each NDC Partnership. (Note, however, that a slight variation on the method was necessary for the Homicide crime category due to the zero or very small number of cases observed in any given area.) The results from these analyses were then aggregated across crime types and/or years and/or NDC Partnerships to give a selection of different summary measures.

Step 7: Repeating the process for comparator areas

Finally, the whole process was repeated in exactly the same way for the 39 comparator areas. The justification for using comparator areas in this way is discussed in **Chapter 3** of this report.

Appendix 2: Supplementary data tables and figures

Table A2.1: Distribution of total costs of crime in each NDC Partnership between individual crime types

	Homicide	Serious wounding	Other wounding	Common assault	Robbery	Domestic burglary	Commercial burglary	Vehicle theft	Theft from person	Theft from vehicle	Attempted vehicle theft	Arson	Criminal damage to dwelling	Criminal damage to business	Other criminal damage	Row %
Hackney	1	3	23	14	27	6	4	5	3	6	0	0	3	1	4	100
Doncaster	7	5	31	10	7	9	7	3	3	6	0	1	3	4	4	100
Birmingham A	11	5	26	6	23	7	4	5	1	3	0	1	3	1	4	100
Sunderland	7	3	35	6	6	8	7	5	1	6	1	1	6	3	6	100
Bradford	3	4	37	4	10	10	6	6	2	5	0	1	5	2	5	100
Nottingham	6	3	26	4	23	15	4	3	2	4	1	0	4	1	3	100
Manchester	2	9	29	3	15	13	5	5	1	2	0	1	6	2	7	100
Liverpool	5	7	25	3	14	14	6	6	1	2	0	1	7	2	5	100
Sandwell	4	5	30	5	17	7	10	6	1	4	0	1	3	3	5	100
Hartlepool	2	5	22	11	12	13	9	5	1	5	0	1	4	3	5	100
Wolverhampton	4	6	24	8	19	9	9	6	1	4	0	1	3	3	4	100
Haringey	4	3	23	10	30	9	2	6	3	3	0	0	2	1	4	100
Brighton & Hove	13	3	30	13	5	8	3	4	1	3	0	1	8	2	7	100
Newcastle. Tyne	4	5	30	7	9	9	5	4	1	5	1	1	7	4	9	100
Salford	0	7	22	3	18	10	7	9	1	5	0	1	5	3	8	100
Leicester	2	4	29	12	3	13	5	5	0	3	0	1	9	4	8	100
Oldham	5	3	27	4	7	19	8	6	0	4	0	1	6	3	8	100
Bristol	7	3	23	7	20	9	8	8	1	6	0	1	2	1	4	100
Rochdale	0	5	36	4	6	14	7	5	1	3	0	1	6	4	8	100
Brent	0	3	25	19	24	7	2	3	4	3	0	0	2	1	4	100

continued

Table A2.1: Distribution of total costs of crime in each NDC Partnership between individual crime types

	Homicide	Serious wounding	Other wounding	Common assault	Robbery	Domestic burglary	Commercial burglary	Vehicle theft	Theft from person	Theft from vehicle	Attempted vehicle theft	Arson	Criminal damage to dwelling	Criminal damage to business	Other criminal damage	Row %
Middlesbrough	11	3	15	3	14	15	11	7	1	7	1	1	5	1	5	100
Lewisham	3	4	22	13	31	9	2	5	2	3	0	0	2	1	4	100
Newham	6	1	24	20	20	7	3	6	1	3	0	1	3	1	5	100
Islington	6	3	24	14	14	5	9	6	3	7	0	0	2	2	5	100
Derby	0	2	37	5	4	17	7	3	1	5	0	1	6	4	8	100
Sheffield	9	7	13	4	19	14	5	5	1	3	0	1	9	3	9	100
Coventry	3	3	32	9	8	13	4	5	0	2	0	2	5	3	10	100
Walsall	0	3	34	9	5	11	10	6	1	3	0	1	5	4	8	100
H'smith & Fulham	3	2	26	16	20	10	2	3	3	4	0	0	2	2	5	100
Kingston. Hull	17	3	23	4	6	11	9	4	0	2	0	1	7	4	8	100
Lambeth	4	2	22	12	26	15	2	4	1	4	0	0	3	1	5	100
Birmingham KN	4	3	34	5	10	15	3	5	0	2	0	1	6	3	8	100
Tower Hamlets	0	3	22	22	23	8	3	4	2	4	0	1	3	2	5	100
Knowsley	8	6	32	6	6	8	5	8	0	3	0	1	8	2	7	100
Southampton	4	3	33	14	2	4	5	5	0	3	0	1	6	6	13	100
Luton	0	4	28	7	11	11	9	7	1	5	0	1	5	3	7	100
Plymouth	5	4	35	14	7	8	5	3	0	4	0	1	4	3	7	100
Norwich	0	3	31	13	3	10	5	3	0	4	0	1	13	4	10	100
Southwark	0	1	21	16	33	6	3	6	1	3	0	1	2	1	4	100

Figure A2.1: Cost of burglary by NDC Partnership, 2000/01 to 2004/05

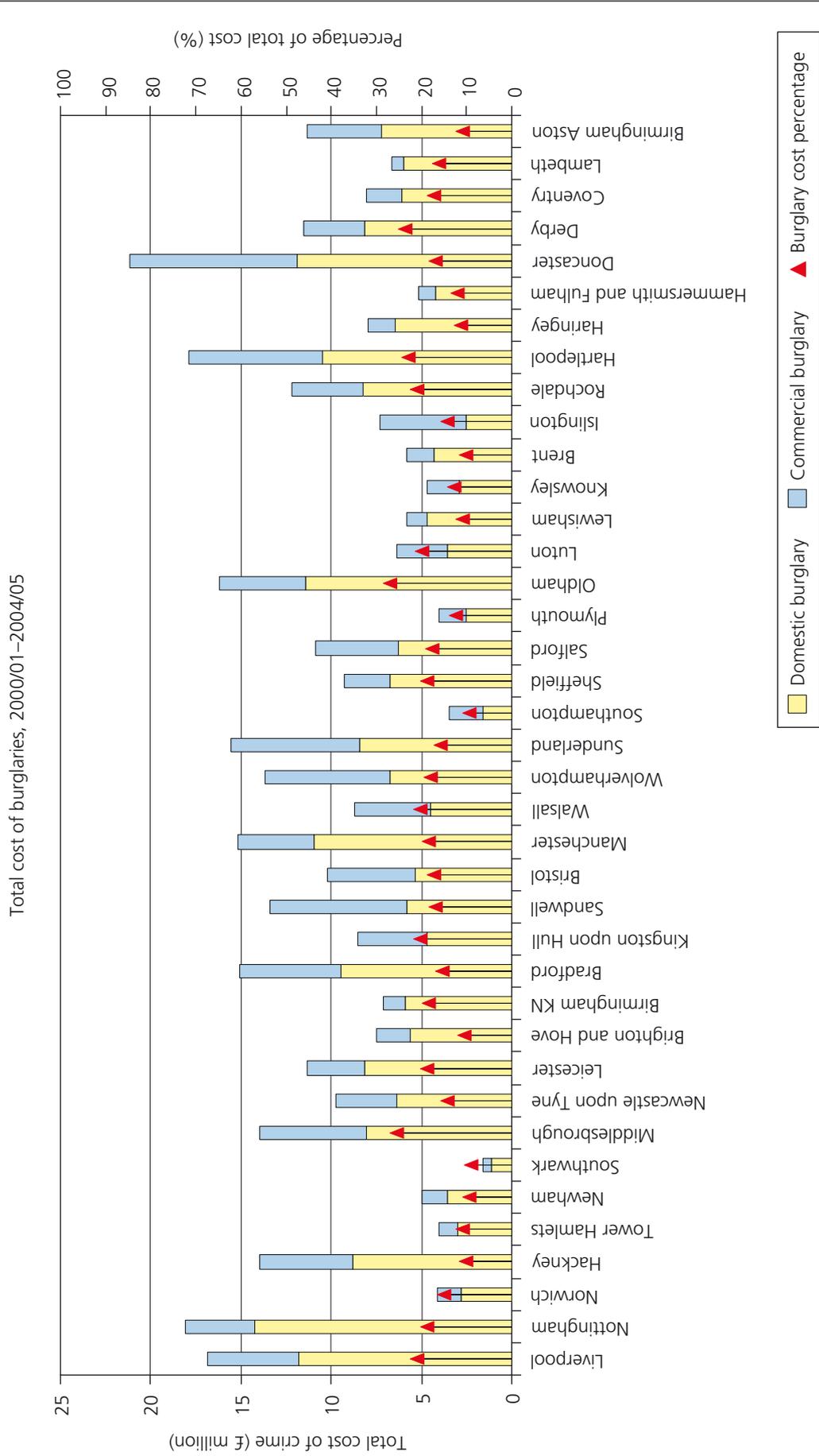


Figure A2.2: Cost of theft by NDC Partnership, 2000/01 to 2004/05

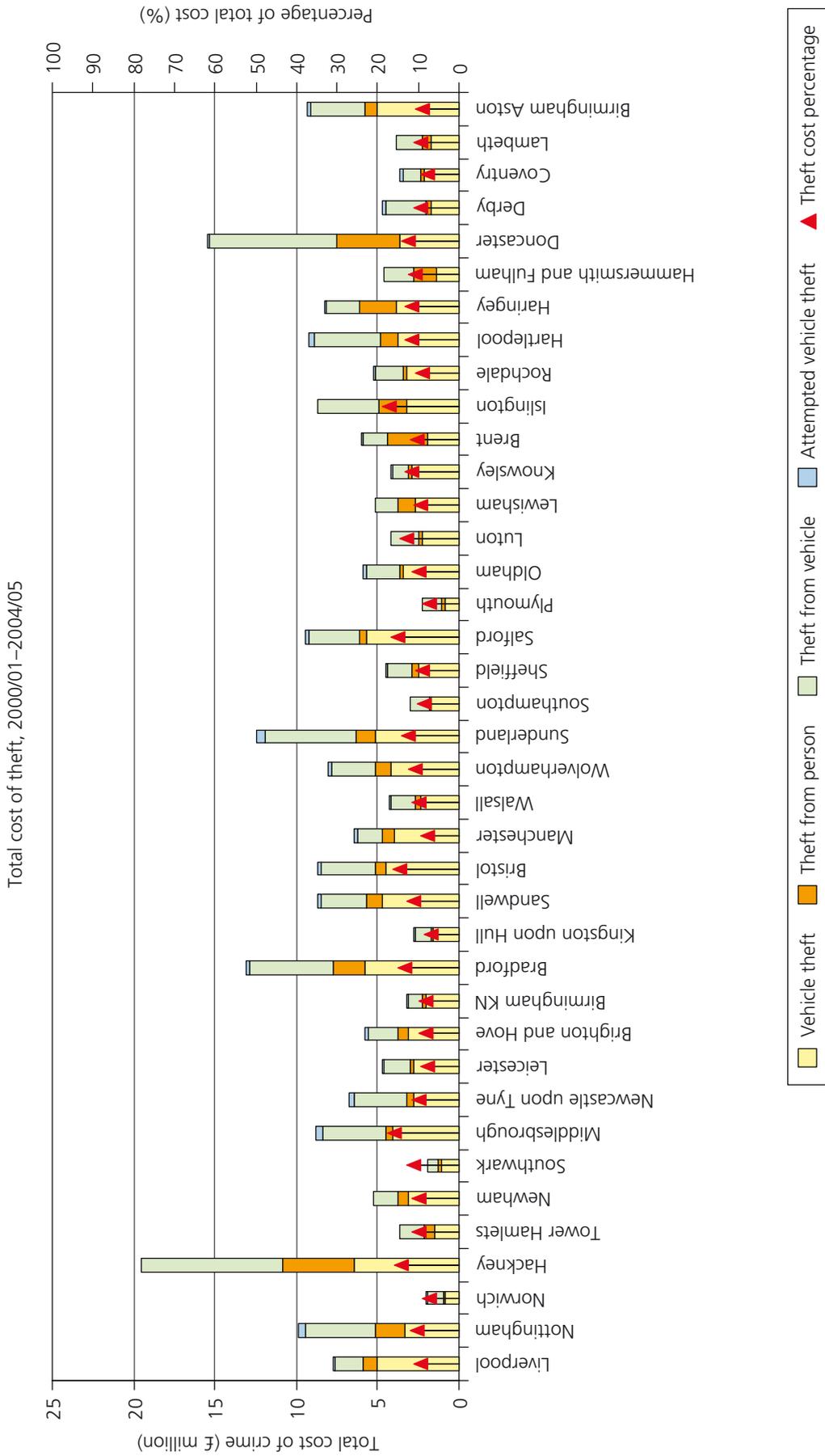


Figure A2.3: Cost of criminal damage by NDC Partnership, 2000/01 to 2004/05

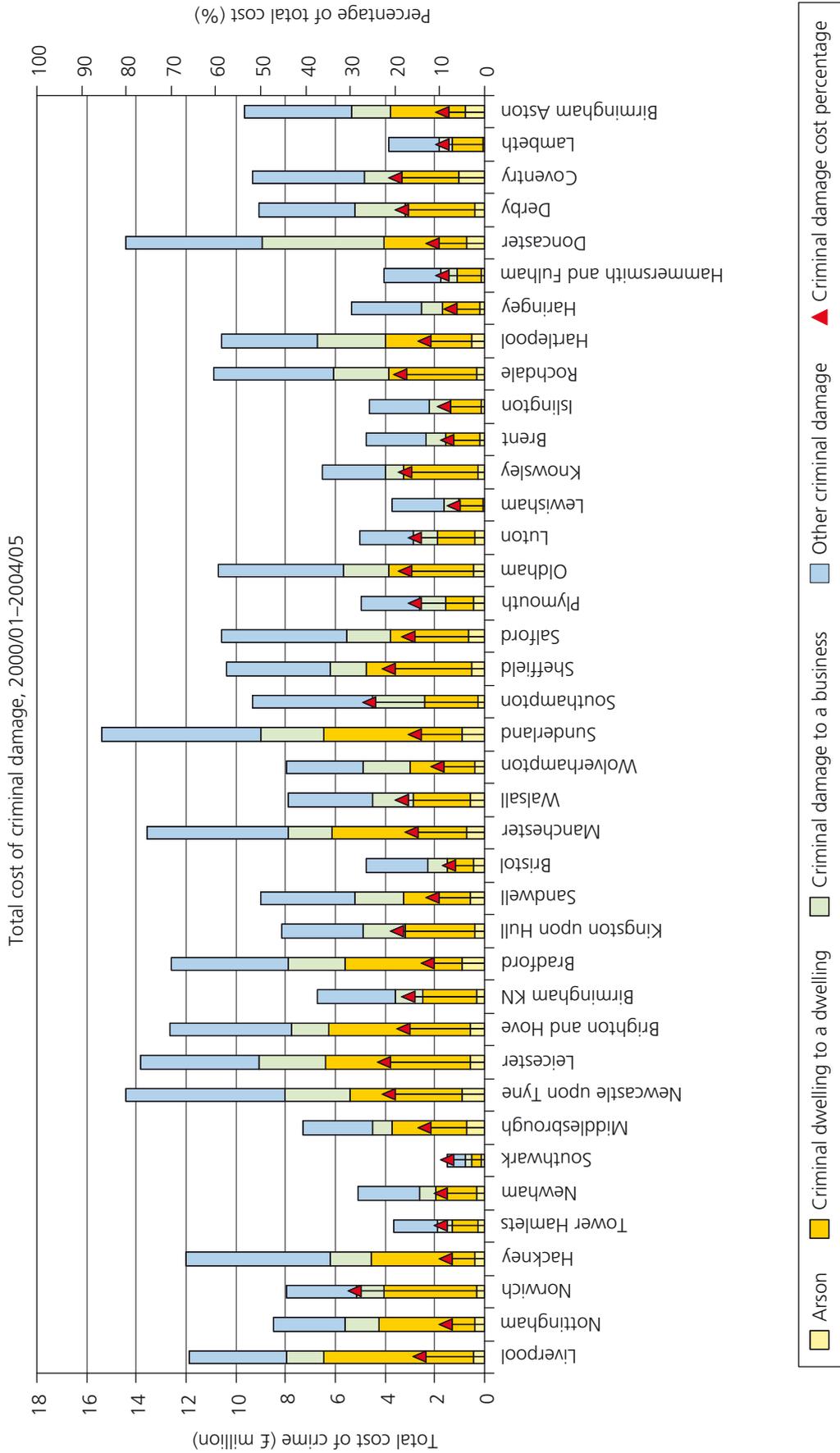


Table A2.2: Lower bound financial value of crimes 'prevented' 2001/02 to 2004/05 across NDC Partnerships by crime type and cost component

Crime type	Anticipatory savings				Consequential savings							Response savings		Row %
	Defensive Exp.	Insurance Admin.	Physical & emotional impact on victims	Value of property stolen	Property damaged/ destroyed	Property recovered	Victim services	Lost output	Health services	Criminal Justice System	Response savings			
Homicide	160	250	932,410	0	0	0	2,280	488,880	830	156,310	4			
Serious wounding	-70	-70	-333,250	0	0	0	-510	-85,330	-98,640	-1,049,740	-4			
Other wounding	1,380	1,380	6,280,130	0	0	0	9,650	1,607,960	1,858,940	1,348,700	29			
Common assault	0	0	1,564,820	0	0	0	11,910	534,180	244,260	506,380	8			
Robbery	0	49,540	7,190,860	257,150	28,310	-44,820	37,750	2,385,160	1,139,500	6,136,300	45			
Domestic burglary	279,550	223,900	817,160	1,070,150	236,550	-27,830	13,910	80,960	0	1,438,250	11			
Commercial burglary	-293,040	-16,280	0	-319,970	-70,740	8,290	0	-13,020	0	-159,540	-2			
Vehicle theft	-3,610	-2,450	-5,290	-15,660	-2,310	3,580	-10	-310	0	-1,320	0			
Theft from person	0	31,430	112,380	166,670	16,190	-12,380	950	2,860	0	286,670	2			
Theft from vehicle	-389,580	-167,920	-893,340	-806,020	-423,160	36,940	-3,360	-67,170	0	-167,920	-8			
Attempted vehicle theft	-88,850	-28,710	-265,180	0	-210,500	0	-1,370	-15,040	0	-88,850	-2			
Arson	15,140	41,930	549,700	0	246,900	0	2,330	6,990	0	146,740	3			
Criminal damage to a dwelling	49,830	137,980	1,809,120	0	812,570	0	7,670	23,000	0	482,940	9			
Criminal damage to a business	10,690	630	0	0	13,840	0	0	940	0	1,890	0			
Other criminal damage	32,610	90,310	1,184,010	0	531,800	0	5,020	15,050	0	316,070	6			
Col total	-385,790	361,920	18,943,530	352,320	1,179,450	-36,220	86,220	4,965,110	3,144,890	9,352,880	37,964,310			
Col %	-1	1	50	1	3	0	0	13	8	25	100			

Table A2.3: Upper bound financial value of crimes 'prevented' 2001/02 to 2004/05 across NDC Partnerships by crime type and cost component

Crime type	Anticipatory savings				Consequential savings							Response savings	
	Defensive Exp.	Insurance Admin.	Physical & emotional impact on victims	Value of property stolen	Property damaged/destroyed	Property recovered	Victim services	Lost output	Health services	Criminal Justice System	Row %	Response savings	
												Criminal Justice System	Row %
Homicide	420	660	2,476,560	0	0	0	6,050	1,298,500	2,220	415,180	2		
Serious wounding	790	790	3,602,750	0	0	0	5,540	922,440	1,066,430	11,348,590	8		
Other wounding	6,430	6,430	29,303,640	0	0	0	45,040	7,502,860	8,673,980	6,293,140	24		
Common assault	0	0	9,509,380	0	0	0	72,410	3,246,220	1,484,330	3,077,270	8		
Robbery	0	159,610	23,165,940	828,440	91,200	-144,410	121,610	7,683,980	3,670,980	19,768,570	25		
Domestic burglary	1,457,630	1,167,420	4,260,760	5,579,880	1,233,380	-145,100	72,550	422,120	0	7,499,200	10		
Commercial burglary	3,323,470	184,640	0	3,628,960	802,330	-94,000	0	147,710	0	1,809,440	4		
Vehicle theft	1,021,600	692,290	1,496,850	4,428,800	653,000	-1,014,110	1,870	87,940	0	372,340	4		
Theft from person	0	234,470	838,420	1,243,420	120,790	-92,370	7,110	21,320	0	2,138,680	2		
Theft from vehicle	462,460	199,340	1,060,470	956,810	502,330	-43,850	3,990	79,730	0	199,340	2		
Attempted vehicle theft	33,330	10,770	99,470	0	78,960	0	510	5,640	0	33,330	0		
Arson	47,890	132,620	1,738,800	0	780,990	0	7,370	22,100	0	464,170	1		
Criminal damage to a dwelling	147,130	407,420	5,341,790	0	2,399,280	0	22,630	67,900	0	1,425,990	4		
Criminal damage to a business	1,342,600	78,980	0	0	1,737,480	0	0	118,460	0	236,930	2		
Other criminal damage	148,640	411,610	5,396,680	0	2,423,930	0	22,870	68,600	0	1,440,640	5		
Col total	7,992,390	3,687,050	88,291,510	16,666,310	10,823,670	-1,533,840	389,550	21,695,520	14,897,940	56,522,810	219,432,910		
Col %	4	2	40	8	5	-1	0	10	7	26	100		

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