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Statistics and Research Branch

Cost of Crime in Northern Ireland

With Supplementary Annex

The Costs of Crime against Government Departments in Northern Ireland

DOJ Research and Statistical Series:

Report No. 1

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For additional copies contact:

Statistics and Research Branch
Justice Policy Directorate
Massey House
Stoney Road
Belfast BT4 3SX

Telephone: 028 9052 7157
Fax: 028 9052 7532
Email: statistics.research@dojni.x.gsi.gov.uk

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Foreword

Crime poses a significant cost to individuals, business, government and society in general. Some of the obvious costs come from dealing with offenders - maintaining the criminal justice system, the police service, the courts and prosecution service, prisons and probation agencies. These costs themselves are a significant expense from the public purse.

But there are many additional costs from crime that are less obvious. In physical terms, items stolen or damaged by crime need to be replaced or owners compensated. What is less easy to quantify, are the costs to individuals, physical and psychological, arising from being the victims of crime. These costs include the inherent consequences to individuals of being the victim of violent or sexual crime.

And then there are the further expenses arising, for households, businesses and public bodies, from measures taken to avoid crime. Every pound spent in the prevention of crime or redressing the consequences of a crime is a pound taken away from other uses.

The following papers were commissioned by the Northern Ireland Office in the period prior to devolution of policing and justice. The first paper, by Oxford Economics, looked at the overall costs of crime to the Northern Ireland economy. Following this, a supplementary paper was commissioned from Professor Roger Bowles of the University of York to examine possible ways of assessing how these costs of crime impact directly on Government departments.

In many respects these are exploratory papers, now published as a basis for further discussion. But in other respects their message is stark and uncompromising. Crime is a major cost to the Northern Ireland economy and imposes real costs on every household within Northern Ireland. Crime deprives each man, woman and child of public resources that could be spent much more productively on their behalf.

Crime is not simply an issue for the Criminal Justice system. In a time of straitened public finances, crime and the costs of crime impact across all Government departments.

Brian Grzymek

Deputy Director, Criminal Justice Services Division

July 2010

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Justice
www.dojni.gov.uk

Cost of Crime in Northern Ireland

DOJ Research and Statistical Series: Report No. 1

Report prepared by:
Oxford Economics
121, St Aldates, Oxford, OX1 1HB
Tel: 01865 268900
Fax: 01865 268906
www.oxfordeconomics.com

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Executive Summary

The Statistics and Research Branch of the Northern Ireland Office (NIO SRB) has requested that Oxford Economics prepare a report on the costs of crime in Northern Ireland (NI).

In accordance with the terms of the study brief (outlined in Appendix 2), this report has provided estimates of:

- the total costs of crime in Northern Ireland;
- unit costs of crime associated with the main categories of crime against individuals, households and businesses; and
- costs of crime to individual Departments, public and private bodies arising from different categories of crime.

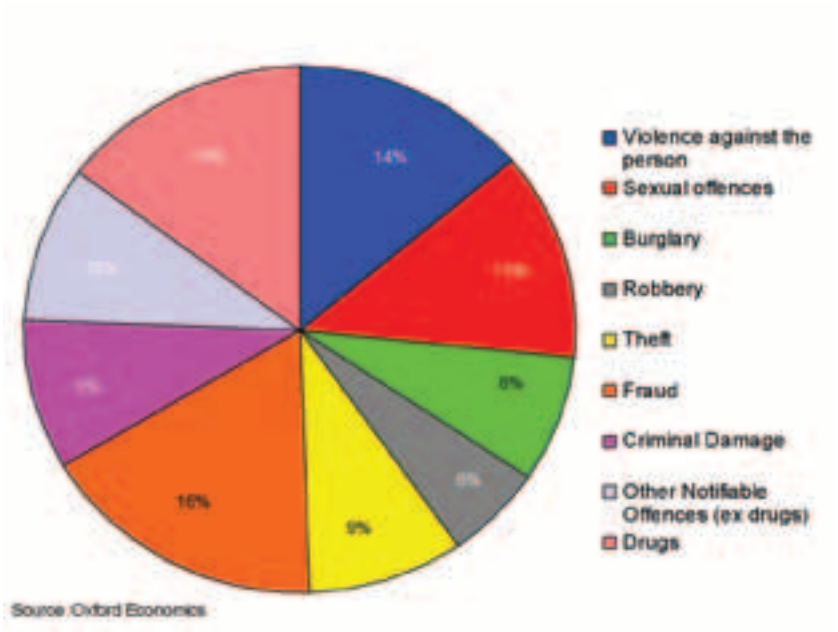
This report estimates that the total cost of crime in NI in 2006-07 was some £2.9 billion.

A detailed description of the methodology used to construct these results can be found in the following chapters. However, a summary of the results is offered in the tables and charts below.

As indicated in Chart ES-1, the total costs of crime in Northern Ireland are spread fairly evenly between major offence classes. Violence against the person, sexual offences, fraud, and drug offences all account for between 13%-16% of total costs. A second group of offences (burglary, theft, robbery, criminal damage and other notifiable offences - ex drugs) accounts for 6%-10% of total costs.

The high cost of fraud is notable (although as discussed in the main report definitive estimates of fraud costs are particularly problematic). Also note that not all studies of the costs of crime include the costs of drug-related activity. A large component of drugs costs in this study relate to the annual "self harm" inflicted by users themselves, rather than costs associated with specific offences.

Chart ES-1: Total cost of crime split by crime type

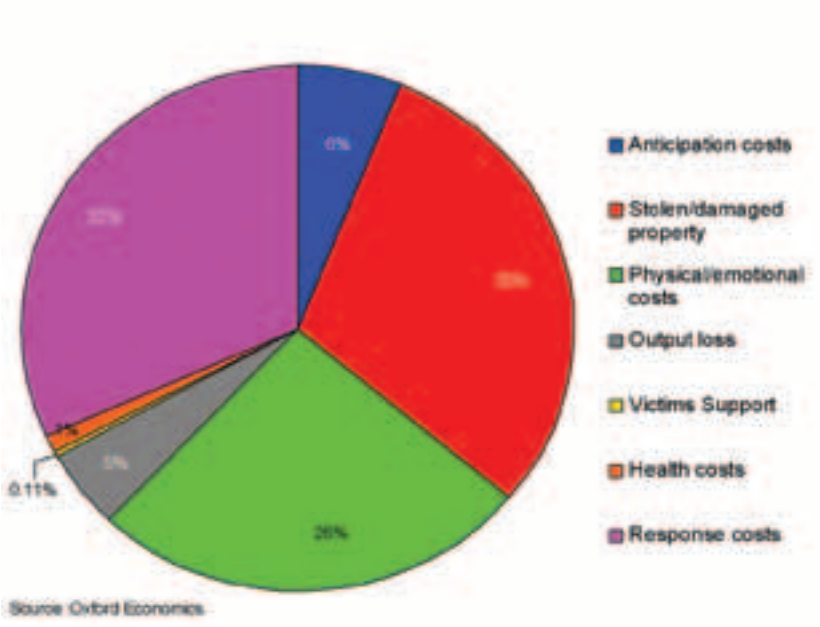


Total = £2,881 m

Costs of crime are listed by category below. By far the largest cost components are costs of stolen or damaged property, physical/emotional costs and response costs. Anticipation costs, costs of lost output, health costs and victims support costs form relatively small components of the estimated total costs of crime.

Viewed from another perspective, costs in anticipation of crime (6%) and in response to crime (32%) form a total of 38% of the total costs of crime. Costs as a consequence of crime (i.e. stolen or damaged property, physical/emotional costs, output loss, victims support and health costs) constitute 62% of the costs of crime.

Chart ES-2: Total cost of crime split by cost category

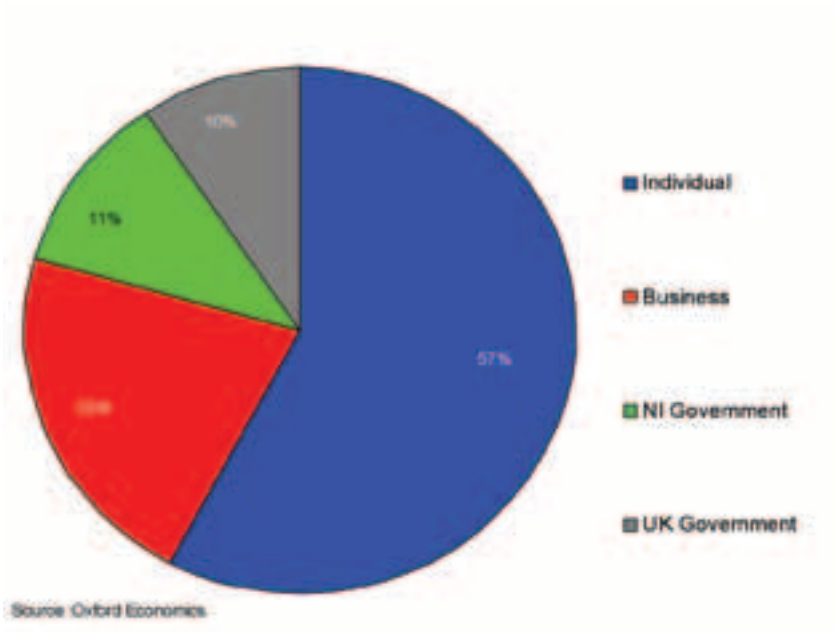


Total = £2,881 m

Costs expressed in terms of the victim category are indicated in Chart ES-3. The costs of crime associated with individuals form by far the largest category of costs. "Government" costs have been split into those associated with Northern Ireland government departments and those which have been attributed to the UK government, with an additional small allocation for council rate fraud.

The UK government costs effectively relate to the high cost of certain types of fraud such as VAT fraud, fuel smuggling, tobacco and alcohol fraud, which are the concern of HM Revenue and Customs. Note that fraud is the only category assessed for crimes against the UK government in the chart below (and in this report). Assessed criminal activity against the Northern Ireland government, however, includes fraud and a wide variety of other crimes.

Chart ES-3: Total cost of crime split by victim category



Total = £2,881 m

Although requests were made to Northern Ireland government departments for data on crime costs, primary information on Northern Ireland government costs of crime was available in only a few cases. Total Northern Ireland government costs were therefore generally derived by reference to business crime costs and government's share of Northern Ireland's gross value added, although some primary information was available on fraud costs, based on past reports. The allocation of anticipation and response costs to government-related crimes was largely estimated based on past crime studies by organisations such as the Home Office. However, use was also made of primary information from law enforcement budgets and supplementary response and prevention data from the Department of Agriculture and Rural Development and the Department of the Environment.

Costs attributable to the Northern Ireland government were further broken down to provide estimates of costs by department. Primary information on direct costs of crime by government department were generally allocated

by share of departmental budget, although direct information on crime costs were used in the case of the Department of the Environment and some past direct information was also available for fraud-related crimes.

The diagram below indicates the allocation of the costs of Northern Ireland government crime.

Figure ES-1 Allocation of cost of crime to NI Govt. Departments

Costs of crime for each government department are estimated in the following table.

Table ES-1 Cost of crime to NI Govt. Departments (ex. Anticipation and response costs)

Department	Costs - Excl. Fraud (£m)	Fraud Costs (£m)	Total Costs (£m)
Agric.& Rural Development	2.9	0.4	3.3
Culture, Arts & Leisure	1.3	0.0	1.3
Education	20.8	0.3	21.1
Employment & Training	8.1	0.1	8.2
Ent., Trade & Investment	2.5	0.0	2.5
Finance & Personnel	2.3	0.0	2.4
Health, Social Sec, Pub. Safety	46.9	0.8	47.7
Environment	0.1	0.0	0.1
Regional Development	4.8	0.1	4.9
Social Development	6.2	18.2	24.4
First Minister	0.7	0.0	0.7
N. Ireland Office	19.4	0.3	19.7
Other	0.3	0.0	0.3
Total	**116.4**	**20.4**	**136.8**

1. Introduction

1.1. Background

The Statistics and Research Branch of the Northern Ireland Office (NIO SRB) has requested that Oxford Economics prepare a report on the costs of crime in Northern Ireland (NI).

This project has a number of objectives ("the Project Objectives"):

- to assess the adequacy of data sources currently available for estimating the costs of crime within Northern Ireland;
- to identify any deficiencies in current data supply for compiling estimates;
- to agree proxy measures for costs where data supply is currently deficient; and
- to produce a report detailing the costs of Crime in Northern Ireland ("the Main Report").

This report is to include:

- an estimate of the total costs of crime in Northern Ireland;
- specification of the unit costs of crime associated with the main categories of crime against individuals, households and businesses (as specified in Annex A of the study brief – see Appendix 2 of this report); and
- estimates of the costs of crime to individual Departments, public and private bodies arising from different categories of crime (as specified in Annex B of the study brief – see Appendix 2 of this report).

Further, the costs in the report are to include:

- costs in anticipation of crime (e.g. alarms, security systems, insurance);
- costs as a consequence of crime (including property stolen or damaged, emotional and physical costs of injuries); and
- costs of the responses to crime (including costs to government of the Criminal Justice System (CJS)).

The results of our study have been detailed in the following chapters.

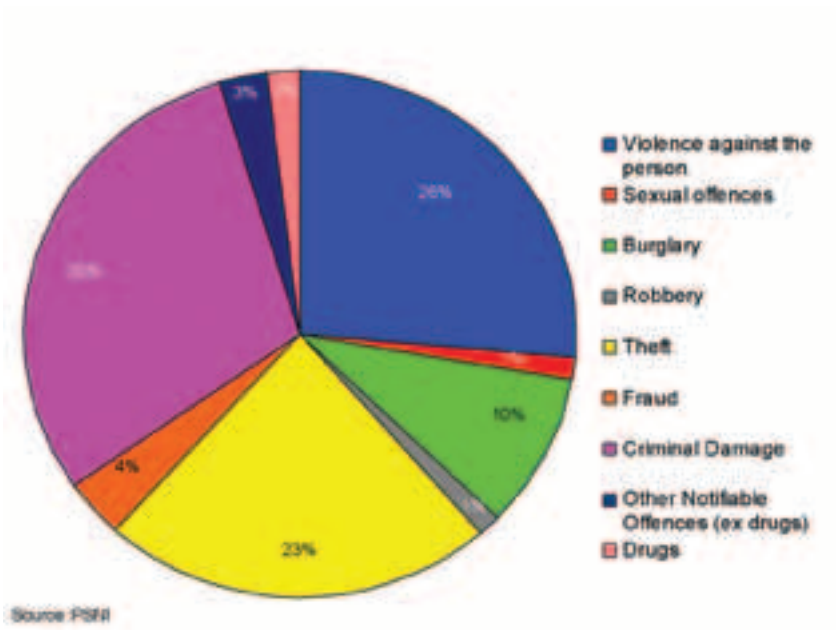
1.2. Scope of the study

1.2.1. Definition of focus

This study focuses on the current costs of crime in Northern Ireland. Practically speaking it seeks to assess the costs of crime in Northern Ireland *for a given year*[1]. The types of crime assessed are the crimes recorded as Class 1 to Class 9 (inclusive) by the Police Service of Northern Ireland (PSNI) as requested in the NIO's Tender Documents: *Contract for the Provision of a Research Project into the Cost of Crime in Northern Ireland* ("the brief"). These crimes include crimes against individuals, businesses and government.

Recorded crime statistics indicate that the three major types of crime in Northern Ireland are theft, criminal damage and offences against the person (Figure 1-1).

Figure 1-1: Crime in Northern Ireland (2006-07)



The focus of this report is on the 2006-07 financial year (i.e. 1 April 2006 to 31 March 2007), consistent with the latest available PSNI recorded crime statistics. Costs are expressed in £2007. This approach is consistent with

1. Note that in a few cases however some account is taken of the discounted present value of long term harm resulting from crimes through unit value estimates (e.g. long term effects of sexual assault).

that of comparable work such as Brand and Price (2000) – also referred to as HORS 217 - or the closely related work of Mayhew (2003a, 2003b) and seeks to capture the costs of crime experienced by society *at a given point in time* (i.e. a "snapshot").

The advantage of this approach is that it can be used to clearly inform future policy decisions. For example, quantifying the costs involved in policing crime and running the prison system provides a figure for the forgone resources which, in the absence of crime, could instead be deployed for education, housing and transport. Likewise, lost output arising from people dealing with the consequences of assaults and robberies, reduces society's wealth and living standards.

This approach should be distinguished from broader studies which seek to estimate the long term benefits of interventions aimed at crime prevention across time - or indeed the long term effects of failure to do so. An example of such a long term study might be a cost-benefit analysis of a social work program in disadvantaged areas which measured the costs of the program against the benefits in terms of reduced crime in the long run (e.g. 5-20 years). Likewise, recent work by the Princes Trust (2007) indicates that poor education may account for £140- £250 million of Northern Ireland's "cost of crime" *in Net Present Value terms over the entire working life of unqualified young people*.

While these long run effects of such "early intervention" social programs and related educational program spending are worthy of note this is not the focus of the current study. There may be scope for addressing such issues in the context of a broader study into the long term macro-economic effects of crime.

1.2.2. Government and business crime

As indicated in Oxford Economics' proposal, a variety of methods are used in this study to estimate the costs of crimes against individuals. The proposal also set out methods for estimating business and government crime. Crimes committed against businesses or government are generally treated in terms of directly attributable costs and consistent with the concept that these form legal entities. Thus the theft of a computer from a government department would constitute a crime against government, whereas an assault by one government staff member upon another would be classed as a personal crime[2].

Again, it is arguable that some costs of crime might be *indirectly* attributable to government departments. For example, some assaults would require medical attention. These certainly form part of the assessed

2. Arguably, an exception to this approach relates to the separate allocation of the physical and emotional costs of business and government robberies to those categories rather than as individual crime costs. This approach is consistent with that of HORS217. Likewise, the estimated physical/emotional costs of business/government-related kidnapping have been allocated within the businesses and government categories However, in such cases the main target of the perpetrators is an entity, as opposed to an individual. As indicated above, however there is no simple resolution of these issues, and the emphasis is on transparency.

costs of crime. Arguably, these costs could be also seen as attributable to the Department of Health, Social Services and Public Safety (DHSSPS). However, doing so is complicated by a number of issues, including the fact that some may take out private health insurance and at least partly cover costs themselves.

Likewise, it is arguable that the health costs of drug abuse and Victim Support Northern Ireland (VSNI), which is almost wholly funded by the NIO, should also be classed as "government costs of crime". However, in general, such costs are separately identified in the tables below. This allows the reader to separate out such costs from those directly incurred by government departments (e.g. vandalism, theft).

1.2.3. Other indirect costs of crime

HORS 217 referred to a number of other indirect costs of crime including a reduction in (and/or a higher cost for) local amenities, fewer employment opportunities and the distortions imposed by higher rates of taxation to deal with crime.

HORS 217 did not estimate such costs. Later studies have attempted to derive some estimates for the impact of crime on aspects of the housing market in the US (Lynch and Rasmussen 2001) and London (Gibbons 2004) while other studies have reviewed the link between crime and variables such as savings rates in Brazil (Mello, Zilberman 2006). More recently, criminologists have shown an interest, in assessing the costs of the fear of crime (Dolan and Peasgood (2007))[3].

It is anticipated that such data will not be available in the case of Northern Ireland (though see the note on fear of crime below) and this study does not attempt to asses such broader aspects of crime. In addition, other complications may arise when applying the methodologies used in other jurisdictions to Northern Ireland. For example, work conducted in 2002 indicates that some 19% of the local population would not be prepared to live in mixed-religion areas (NILTS 2002). Given these constraints on the free movement of the population, house prices may not fully reflect either the negative effects of crime-prone areas or the positive ones of lower crime rates.

It may be possible however to undertake some further detailed analysis of the distortions introduced by additional tax effects as part of another study, at a later date, utilising the regional economic modelling resources of Oxford Economics' Belfast office.

In addition, some broader factors specific to Northern Ireland have

3. The authors indicate that the cost of the fear of crime in England and Wales is £2.1 billion. This is based on a broad willingness to pay measure (£52.65 per person per year) applied to society as a whole. Using the same measure this suggests that the costs of the fear of crime in NI is some £71.7 million per year (if account is only taken of the adult population of NI). In theory this could be added to the other costs of crime estimated by this study. Needless to say, however, this does not take local NI factors into account. Another issue which has been raised of late is that public perceptions of the fear of crime may not necessarily correlate with crime levels. There appears to be a disconnect between falling crime levels in some parts of the UK and a constant or rising fear of crime.

been noted by a range of sources (e.g. House of Commons (2006a,b), HMRC(2007)). A number of these were documented by the security consultant to this study (Chris Albiston) and confirmed by sources such as the House of Commons, Northern Ireland Affairs Committee (2006) *Organised Crime in Northern Ireland*. In many cases, anecdotal evidence has linked these to activities of paramilitaries and/or ex-paramilitaries, though the background of the perpetrators is only of indirect relevance to the current study.

For example, the House of Commons (2006a,b) and a number of previous reports on similar matters noted that petroleum smuggling may have contributed to the closure of many legitimate petrol businesses as well as engine damage to vehicles (House of Commons 2006b, Ev13, Ev59, Ev147, Ev149, OCTF (2006)). Similarly it was noted that cigarette smuggling in NI not only undermines the revenues of legitimate traders but the higher tar content may be more harmful to smokers than that found in legal merchandise (House of Commons (2006b) Ev 57). The OCTF (2006) notes that illegal cigarettes have three times the level of arsenic, 5.8 times lead and 5 times cadmium of legal ones, along with 160% more tar, 80% more nicotine and 133% more carbon monoxide.

Further, oil spills due to careless and inefficient smuggling operations may have contributed to environmental damage. Evidence given to the House of Commons noted the need to clean up the residue of smuggled oil and the (unquantified) costs imposed on county councils in border areas (House of Commons (2006b) Ev12). Likewise, recent reports indicate that Newry, Mourne and Monaghan councils spent over £1.1 million cleaning up sludge residue dumped from smuggled oil in 2007. The Department of the Environment (DOE) was reported to have spent £40,000 on waterways clean ups in 2007 due to such sludge, while NI Water spent £16,000 on replacing damaged equipment. (*Belfast Telegraph*, Jan 29 2008). These costs exclude further costs of damage to wildlife[4].

Fraud may also have long term economic impacts. For example, flooding markets with cheap, fake goods may reduce producer profits and/or force some producers out of business and counterfeiting has the potential to debase national currencies. OCTF documents the seizure of over £2.7 million in counterfeit goods in NI in 2006-07 (excluding cigarettes) (OCTF 2007). An anti-counterfeiting conference in Belfast in February 2007 heard that counterfeiting costs the UK economy £10 billion per year (and is responsible for 4,100 job loses) per year (NIO Media Centre *OCTF and Anti Counterfeiting group warns of the real cost of counterfeit goods*, 28 February 2007). In 2006 counterfeit notes with a face value of over

4. Some allowance for DOE clean-up costs is made in Section 9 of this report dealing with response costs.

£417,000 were recovered in NI (OCTF 2007).

As noted by the OCTF (2006, 2007) illegal dumping is also a major problem in NI, with long term environmental effects, which have not been quantified. It also imposes enforcement costs. The Department of the Environment (DOE) investigated over 1,600 cases of illegal dumping in 2006-07 (OCTF 2007). Evidence given to the House of Commons indicated that in the two years prior to 2006 DOE uncovered 40 illegal landfill sites containing 250,000 tonnes of waste from the Republic, with potential criminal profits of £25 million. Other costs include waste removal back to the Republic and site cleanups which can cost up to £1 million per site (House of Commons (2006b) Ev 100).

Likewise, incidents of blackmail, kidnapping and hijacking were also noted by the House of Commons, again often said to be linked to the actions of ex-paramilitaries. Apart from the direct costs imposed on their victims, these were said to have contributed to the costs of doing business in NI. For example, some evidence indicated that the threat of hijacking of high value goods such as cigarettes had induced some companies to ship then between Ireland and Northern Ireland via Liverpool rather than transport them directly across the border. The evidence also pointed to the need for increased security and/or driver costs to deal with the shipment of goods which *do* travel across the border (House of Commons 2006b, Ev15-17).

With the exception of the direct effects of actual incidents of blackmail, kidnappings and hijackings, these constitute broader costs of crime and have not been included in the current study, though the tax loss effects of activities such as petrol and cigarette smuggling are allowed for[5].

However, once again, there may be scope for estimation of such effects as part of a broader macroeconomic study into the indirect costs of crime.

1.2.4. Security situation and crime

Although the enhanced military presence in Northern Ireland might be seen both as a cost of responding to crime (and also have some effects in terms of suppressing crime), the effect of this is intangible in many cases and likely to diminish over time given the improvement in the security situation. The military operation to support the PSNI, "Operation Banner" ended in August 2007 (though a residual military presence will continue to assist the PSNI).

From another perspective, Northern Ireland could be seen to be "converging" with other Western societies in recent years, given that many countries are now incurring costs which would previously have been

5. The direct costs of blackmail, kidnapping and hijacking have been allowed for through the use of proxy measures in the current study, though many studies of the costs of crime omit them. However, as noted below, it is likely that these underestimate even the direct costs of such crimes and further work is required to develop more accurate estimates. Note that some costs to business due to illegal dumping (fly tipping) have been quantified by the NI Federation of Small Businesses study, discussed below. These have not been included in this report's costing, as further clarification is being sought as to the context of these costs.

considered outside the "normal" policing budget (e.g. increased use of surveillance and counter-terrorism techniques by a wide variety of non-police bodies).

Accordingly, we do not include the costs of military spending in NI in response to crime (or crime suppression/prevention) in the main estimation of the costs of crime.

1.2.5. Treatment of economic costs of crime

Past studies of the costs of crime have adopted an economic approach to the assessment of crime estimates. This report does likewise. The following should be noted in respect of the approach taken in this study.

- *Cost categories* – As indicated below, costs of crime include the cost of anticipation (i.e. security and insurance administration), costs of crime incidence (lost/damaged property, physical and emotional effects, lost output, health and victim support costs) and the costs of crime response through the criminal justice system.

- *Insurance* – Typically, studies of the cost of crime such as HORS 217, include the costs of insurance *administration* as a cost of crime rather than the costs of insurance premiums. The reasoning behind this is that premiums represent a transfer of resources from potential victims to insurance companies in return for risk mitigation, while actual victims receive compensation for their losses. Therefore premiums are not a loss but a voluntary transfer. This is particularly important in jurisdictions such as Northern Ireland, where it is often argued that factors such as dangerous driving (and, arguably, the lingering uncertainties of "The Troubles") have driven some premiums up.

  The costs of insurance administration effectively represent the costs of administering the system of voluntary risk transfer. Unlike premiums, they are therefore included in the assessment of the cost of crime.

- *Transfer of resources* – Technically, crimes such as fraud and theft involve a transfer of resources from victim to offender. Arguably, in purist terms, this raises the issue of whether such transfers are really a "loss" to society. For example, a burglar ends up with the stolen goods, which can then be on-sold for a profit (Mayhew, 2003a). However, the approach taken in many past studies (and in this one) recognises that such transfers are not voluntary but forced. As such they are treated as a cost of crime.

- *Victims compensation* – Neither victims compensation payments nor the costs of running a compensation system are included in this report. This is because including victims compensation payments would double count many of the costs of crime noted in this report (e.g. physical and emotional costs). (Use of compensation payments is also not a good guide to the costs of crime as it often reflects budgetary limits rather then the true cost of a criminal act.) Consideration may, however, be given to including the *costs of running the victims compensation system* in the final report[6].

- *Prisoner productivity* – Though HORS 217 does not appear to address the issue, other cost of crime studies refer to the lost productivity of prisoners due to their incarceration. However this issue is complicated by the assumption that prisoners would be fully employed if they were not incarcerated, recognition of the fact that many prisoners work in prison and the issue of the cost of crimes saved due to prisoner incarceration (Mayhew 2003a,b). As such no allowance has been made for lost prisoner productivity in this study.

1.3. Report structure

The rest of this report is structured as follows:

- Chapter 2 provides an overview of the methodological approach to this report;
- Chapter 3 a summary of the findings of the report;
- Chapters 4-9 provide more details on the methodological approach to determining the costs of crime;
- Chapter 10 discusses data gaps and future work;
- Appendix 1 provides a discussion of the EU ICS data; and
- Appendix 2 reiterates the study brief and objectives.

6. Note that VSNI provides services aimed at assisting victims of crime seek compensation. However, this service does not include the provision of compensation *per se*.

2. Calculating the Total Economic Cost of Crime in Northern Ireland

2.1. Overview

As set out in the proposal, broadly speaking, any estimate of the total costs of crime in Northern Ireland essentially turns on four fundamental pieces of data:

- the incidence of criminal acts;
- the unit cost of such acts (including loss of property, physical/ psychological harm health/support costs);
- total costs of anticipation (such as security/insurance costs); and
- total costs of the response to crime through the Criminal Justice System (CJS) such as police, prisons and courts.

In theory, the costs of criminal acts *per se* can be estimated through multiplying the incidence of crime by the unit costs per criminal act. These can then be added to costs in anticipation and response to crime to develop a total cost of crime. This approach is set out in the figure below.

Figure 2-1: Theoretical Approach

In terms of estimating the costs of incidents themselves (ex. Security/CJS costs) this approach relies on the accurate measurement and matching of crime incidents and the unit costs of crime. In many cases, however, such an approach is not, strictly speaking, practical (e.g. drug offences, many

business and government crimes). In many cases only partial data exist of crime incidence. In others it might be possible to estimate the likely total cost of a class of crimes, though their actual incidence is uncertain.

Accounting for anticipation costs and those of the CJS also raise cost allocation and other data issues, particularly in the context of a jurisdiction such as NI.

Dealing with data gaps and methodological hurdles are therefore key issues. Our proposed approach is set out in detail below. Data gaps are noted throughout this study and in the context of Chapter 10.

2.2. Crimes against individuals

2.2.1. Incidence of crime

Official reported crime statistics are provided by the PSNI for 2006/07, (*Statistical Report No. 1:Recorded Crime & Clearances 1st April 2006 – 31st March 2007*). However, official recorded crime data underestimate the total number of crimes committed in most jurisdictions since, for a variety of reasons, people do not report all crimes to the police.

This necessitates using victimisation surveys in many instances to estimate the actual number of incidents, to which the unit costs of crime can then be applied. The Northern Ireland Crime Survey (NICS) is a key data source, in this respect, for individual crime. Crimes recorded in the NICS include, vandalism, burglary, vehicle-related theft, other theft, and various forms of assault.

The recent NIO SRB publication by Freel and French (2008) *Experience of Crime: Findings from the 2006/07 Northern Ireland Crime Survey* indicates some of the results of the 2006/07 survey. This publication provides crime victimisation and crime reporting rates for various individual and household offences in Northern Ireland. It also makes comparisons with British Crime Survey (BCS) data relating to England and Wales.

The European Union International Crime Survey (EU ICS) undertaken in 2004, also contained a Northern Ireland-specific survey component and forms an alternative source of data Professor Roger Bowles of the University of York has assisted in analysing this data, although its utility is limited. A discussion of the utility of this data in assessing the costs of crime, prepared by Professor Bowles, is offered in Appendix 1.

Comparing recorded crime definitions and survey questions can be an additional complication. However, Freel and French (2008) also provides

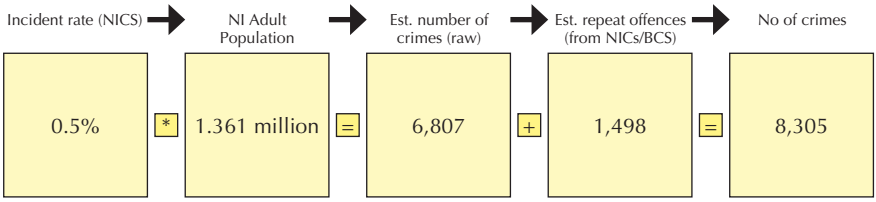
a table (Table B2) indicating the approximate correspondence between recorded crime categories and crime categories used in the NICS, which is of use in overcoming this issue.

The Scoping Study noted that a multiplier approach could be adopted to estimating various forms of crime, although presentations to the NIO also suggested that survey victimisation rates offered an alternative to this. While such multipliers can be developed by comparing reported crime rates with those in NICS, the fact that many of the crimes recorded by the NICS do not fall precisely into PSNI offence categories complicate this process.

Strictly speaking, what is of primary importance is the estimate of the incidence of crime based on a survey such as the NICS. This allows for an internally consistent set of figures, which can be applied to unit costs. (Multipliers can then be estimated from comparison of survey findings with recorded crime data if required.)

Figure 2-2 below indicates the broad approach taken to assessing the number of offences, in cases where data sources such as the NICS offer a good guide to incidence rates.

Figure 2-2: Estimate of annual number of crimes in NI: Robberies (muggings)



2.2.2. Data Gaps – Incidence of Crime

While a useful data source, the NICS is limited, in practice, by the fact that its relatively small sample size restricts the ability to provide reliable estimates of incidence figures. Thus, Freel and French (2008) provides some estimates of incident rates for broad categories of crime (Tables A6-A8) though a more extensive indication is given of the *proportion* of adults/households affected by various types of crime. In addition, a "1 to 1 correspondence" is not provided with every PSNI crime type.

Another limitation arises from the fact that, due to limited resources and confidentiality issues, the detailed (i.e. unpublished) results of 2005 and 2007 NICS are not yet fully available for release to researchers. While this

does not affect estimation of the major types of crime, it does restrict a more thorough interrogation of the NICS data.

These restrictions mean that it has been necessary to infer victimisation rates for various types of minor individual crimes committed against individuals. This has been done through the use of supplementary source material, such as HORS 217 and Dubourg et al (2005).

More specifically, the following points are noted.

- *Homicide* – No incidence of homicide is reported in NICS. However, official reported crime statistics offer a reasonable guide to actual incidence (HORS217; Mayhew 2003a).
- *Drug Crimes* – NICS does not record these and official statistics do not shed real light on the social "harm" caused by drugs. No explicit attempt is made to measure the incidence of these crimes. Instead the focus is on the direct health costs caused. Note that the cost of drug-related property crimes is already counted within the cost estimate of property crimes.
- *Personal fraud* – No data on the incidence of these exist in the NICS. Instead data on the incidence of consumer "scams" was gathered from the NI sample of UK-wide work undertaken by the OFT.

Further details on the approach to NICS statistics and the ways in which these issues were dealt with are offered in the relevant chapters below.

These and other data gaps are also further discussed in Chapter 10.

2.2.3. Costs as a consequence of crime

Our assessment of the consequential costs of individual crimes follows the Home Office approach of detailing:

- value of property stolen, damaged or destroyed;
- the physical and emotional impact on victims;
- cost of lost output;
- victim support costs; and
- Health Services Costs.

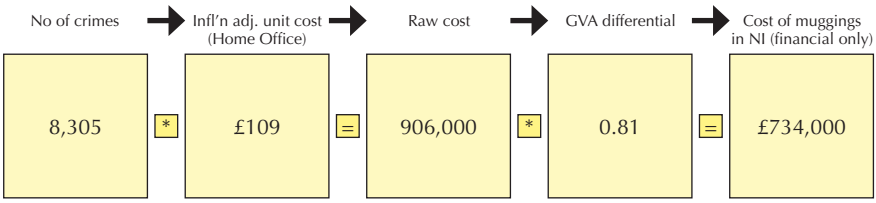
A key issue is that unlike the BCS, the NICS does not include assessments of the costs of crimes. It is understood that this is due to the resourcing limits

associated with conducting this survey in a jurisdiction such as NI.

As such, in many cases unit cost data has had to be sourced from Home Office data for England and Wales (E&W) - such as Dubourg (2005) and HORS 217 though, as noted in Appendix 1, some EU ICS data for NI does exist for home burglaries. Unit costs have generally been adjusted for NI inflation and Gross Value Added (GVA) per capita.

Given appropriate unit cost data, however, the approach to developing a cost of crime for a given offence can be developed as follows:

Figure 2-3: Estimate of financial cost of crime in NI: Robberies (muggings)



2.3. Crimes against businesses

As indicated in the brief there is also a need to separately consider crimes against business and government.

As is the case for individual crimes, our assessment of the consequential costs of business crimes allows for:

- value of property damaged or destroyed;
- the physical and emotional impact on victims;
- cost of lost output;
- victim support costs; and
- Health Services Costs.

In reality, most of the costs of business-related crimes relate to the value of property lost.

The NICS does not relate to business crimes and PSNI's official recorded statistics only record some offences as business-specific (though further inquires are being made as regards obtaining disaggregated PSNI data). No unit cost data is offered by either source.

One approach to this is to use adjusted total costs for England and Wales (E&W) previously developed by HORS 217 and/or combine these with more recent data developed for the Home Office's Commercial Victimisation survey (CVS) as documented in Shury et al. (2005a,b).

However, for this study the re-weighted results of a September 2005 survey of NI businesses, conducted on behalf of the Federation of Small Businesses (FSB) NI was used (see FSB NI (2006)). This survey was re-weighted to be representative of all NI businesses by one of its original authors Dr Stephen Tagg of the University of Strathclyde.

This allowed for the estimation of incidence and unit cost data for NI businesses. Once this was done the cost of crime was calculated in manner similar to Figure 2-3, above.

A special set of issues concerns the estimation of fraud-related crimes. Estimates of fraud (and its related costs) create their own unique set of problems, given the likely degree of under-reporting and definitional questions. Previous analysts have suggested that the incidence of fraud may be three times official estimates (Mayhew 2003a). Further, past estimates of the costs of crime have suggested that the costs of fraud are likely to make up nearly one quarter of the total costs of crime (HORS 217). Therefore a considerable amount of study time has been spent to date attempting to gather information about fraud-related crime.

HORS 217 drew on the specially commissioned work of NERA in establishing a cost of fraud. Ernst & Young conduct a regular survey of the incidence of fraud amongst large corporations:(Ernst & Young 2000) while PwC (2007a, 2007b) carry out UK and global surveys of fraud. KPMG also carries out regular surveys of major fraud cases (KPMG 2007).

These studies do not contain NI-specific breakdowns however. Further, given the wide range of studies in this area another issue surrounds the definition of "fraud" and related crimes and to what extent these are consistent with the offences described as "Class 6" crimes (fraud and forgery) by the PSNI.

A good guide to the estimation of fraud in the UK is the Association of Chief Police Officers (2007) *The Nature, Extent and Economic Impact of Fraud in the UK*, hereafter referred to as Levi et al. (2007). This source contains a valuable "road map" which assists in disaggregating fraud. Use was made of this publication in tracing though the NI equivalents of UK-wide fraud categories, wherever possible. Further, the modified FSB study, noted above, was also used to determine the costs of some fraud-related

crimes to NI businesses. These data assisted in the construction of a total costs of fraud measure (adjusted for inflation and NI GVA per capita, where appropriate).

Chapter 6 contains more details of the approach to fraud and other business-related crimes.

2.4. Crimes against government

2.4.1. Total costs

The study brief requested a disaggregation between the costs of crime to government and business[7]. In theory, crimes against government would contain the same cost elements as those for personal and business crimes, mentioned above. In practice, most government crimes – like business crimes – relate to various forms of property theft (including fraud) and damage.

Initial contacts with the PSNI (and advice from our security consultant, Chris Albiston) indicate that there is no simple electronic search method for disaggregating between private and public sector crime (or between public sector departments).

While the NI Department of Finance and Personnel (DFP) conducts annual surveys of NI government departments to monitor fraud and theft (only) they also advise that there are strong caveats surrounding this work (see below).

Requests were made for estimates of the costs of crimes to various NI government departments, however data returns proved fragmentary.

This report therefore employs a "top-down" approach to (non-fraud related) NI government crime. This estimates a total cost of crime to government using a NI GVA as an allocator. While somewhat rough, this approach draws of the NI-specific business costs developed above to develop a global cost of crime for government.

Nonetheless, some specific costs to government (e.g. Department of Social Development (DSD)) have been identified (particularly in the area of fraud) based on the approach taken in Levi et. al. (2007) and recent reports and departmental information. In addition, costs to national agencies (such as HMRC) have also been estimated, again using an approach similar to Levi et al. The latter is particularly relevant to the estimated costs of fuel and tobacco smuggling.

Note that no explicit estimate was made for the incidence of Class 8 crimes

7. Note that costs of crime to "government" were assumed to include costs to the NI government, the UK government (mainly HMRC fraud) and a small allowance for some Council Tax fraud.

(Crimes against the State) crimes (beyond CJS costs) as the great bulk of the effective costs of these crimes could be expected to be covered under the individual costs of crime (e.g. violence) and/or preparatory and response costs (e.g. CJS).

As indicated above, the costs of crime to the UK government within NI were also assessed in this study. While this assessment is limited to fraud-related crimes committed against HMRC, (e.g. VAT fraud, petrol, tobacco and alcohol related crimes) such crimes are likely to account for the great bulk of such costs.

2.4.2. Costs to government departments

As indicated above, a top down approach to the estimation of government crimes has generally been used and (with a few exceptions) no specific costs of crime to NI government departments can be identified.

Accordingly, costs have been estimated in proportion to 2006-07 budgetary allocations from the Northern Ireland Executive and the NIO budget.

Costs relating to some types of fraud (e.g. benefits fraud) have been combined into the estimated total for relevant departments. Costs relating to national bodies (e.g. HMRC) have been separately identified.

2.5. Security/insurance costs

As discussed below, global and disaggregated security and insurance administration costs do not exist for NI. These costs have been estimated based on HORS217 and Dubourg (2005), adjusting for inflation and GVA per capita.

2.6. Response costs (CJS)

Response costs consist of costs to the CJS (e.g. police, prisons, courts). While departmental budgets are well documented, as is the case with government departments, enquiries have indicated that there are no details on the split of costs by crime type. Likewise, while HORS 217 used a detailed Home Office "flows and costs" model to estimate CJS costs no such model appears to exist in the case of NI.

Accordingly, total costs have been sourced from NIO and other relevant departmental reports. These constitute a clear guide to the costs of crime incurred by the CJS. However the split of these between crime types has been based on HORS 217 and Dubourg et. al. (2005).

The PSNI has implemented Activity Based Costing (ABC). However, confidentiality concerns prevented the full release of this data for this study (although some data were released in aggregated form). If made available, full ABC data could be used to develop an NI-specific split of CJS costs (at least for police duties) in the future.

3. Summary of the Costs of Crime in NI

This chapter provides a summary of the report's findings into the costs of crime in Northern Ireland. The results of the calculations are detailed in the tables and charts below.

This report estimates that the total cost of crime in NI in 2006-07 was some £2.9 billion.

A detailed description of the methodology used to construct these results can be found in the following chapters. However, a summary of the results is offered in the tables and charts below.

Table 3-1 offers a detailed breakdown of crime costs by crime Class. Note that some sub-classes are selective and do not necessary sum to crime Class totals.

Table 3-1 Costs of crime to individuals, business and government in Northern Ireland (2006-07)

Incident	Anticipation costs(£m)	Costs as a consequence of Crime (£m)					Response costs (£m)	Total Costs (£m 2007)
		Stolen/damaged property costs (£m)	Physical/emotional cost (£m)	Output loss (£m)	Victim services (£m)	Health/ambulance costs (£m)		
Costs to individuals								
Class 1	**4.7**	**0.0**	**91.1**	**27.2**	**1.2**	**11.3**	**261.0**	**396.5**
Homicide	0.0	0.0	24.6	10.5	0.2	0.0	2.4	37.7
Wounding	4.7	0.0	25.2	5.2	0.1	6.1	189.8	231.0
ABOAH/Common Assault	0.0	0.0	35.5	9.9	0.6	4.5	68.8	119.3
Other	0.0	0.0	5.8	1.6	0.4	0.7	0.0	8.6
Class 2	**0.0**	**0.0**	**281.4**	**40.4**	**0.5**	**8.7**	**40.3**	**371.5**
Rape	0.0	0.0	147.8	19.5	0.3	4.1	20.9	192.6
Other sexual offenses	0.0	0.0	133.6	20.9	0.2	4.7	19.4	178.9
			0.0					
Class 3	**24.6**	**16.5**	**9.7**	**0.8**	**0.6**	**0.0**	**53.8**	**105.9**
Domestic Burglary	24.6	16.5	9.7	0.8	0.6	0.0	53.8	105.9
Class 4	**0.2**	**0.7**	**40.6**	**8.5**	**0.3**	**9.8**	**45.9**	**105.9**
Robbery	0.2	0.7	40.6	8.5	0.3	9.8	45.9	105.9
Class 5	**17.2**	**19.9**	**14.3**	**0.5**	**0.3**	**0.0**	**37.0**	**89.3**
Vehicle theft	6.5	7.6	3.4	0.2	0.0	0.0	7.0	24.7
Theft from vehicle	6.4	3.1	2.9	0.2	0.1	0.0	1.4	14.0
Attempted vehicle theft	0.9	0.7	1.0	0.0	0.0	0.0	1.8	4.5
Other theft + handling	3.4	8.6	7.0	0.1	0.2	0.0	26.9	46.2
Class 6	**0.0**	**18.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**18.1**
Personal fraud	0.0	18.1	0.0	0.0	0.0	0.0	0.0	18.1
Class 7	**3.2**	**7.4**	**20.3**	**0.2**	**0.3**	**0.0**	**14.2**	**45.6**
Criminal damage	3.2	7.4	20.3	0.2	0.3	0.0	14.2	45.6
Class 8 & 9	**5.8**	**0.0**	**282.2**	**62.1**	**0.0**	**2.4**	**177.9**	**530.5**
Drugs	5.8	0.0	163.9	56.9	0.0	2.4	94.9	424.0
Driving offenses	0.0	0.0	18.3	5.2	0.0	0.0	83.0	106.5
Total	**55.7**	**62.7**	**739.6**	**139.7**	**3.2**	**32.2**	**630.2**	**1663.3**

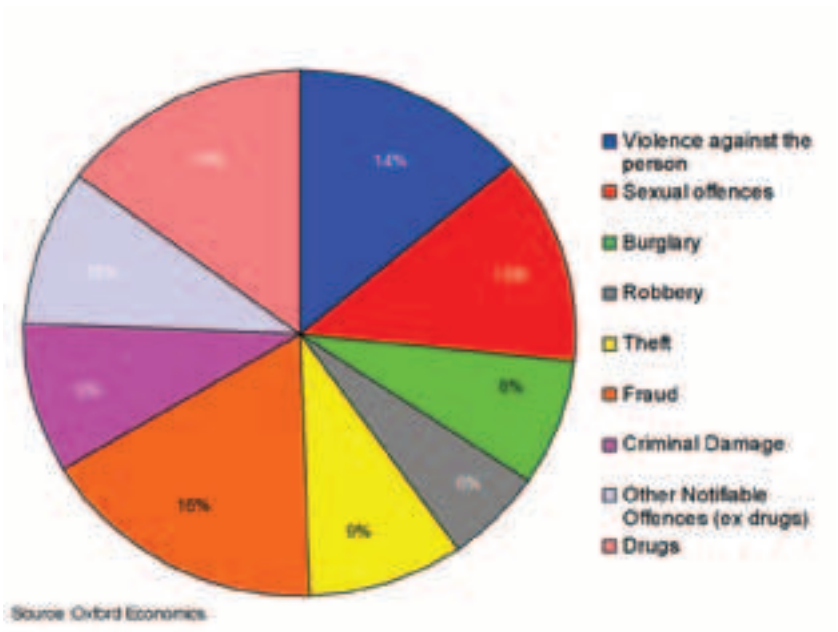
Incident	Anticipation costs(£m)	Costs as a consequence of Crime (£m)					Response costs (£m)	Total Costs (£m 2007)
		Stolen/damaged property costs (£m)	Physical/emotional cost (£m)	Output loss (£m)	Victim services (£m)	Health/ambulance costs (£m)		
Costs to business								
Class 3	**17.6**	**39.5**	**0.0**	**0.3**	**0.0**	**0.0**	**27.2**	**84.5**
Burglary	17.6	39.5	0.0	0.3	0.0	0.0	27.2	84.5
Class 4	**1.8**	**34.4**	**4.1**	**0.7**	**0.0**	**0.3**	**5.8**	**47.0**
Robbery	1.8	33.5	4.0	0.7	0.0	0.3	5.6	45.9
Hijacking	0.0	0.8	0.1	0.0	0.0	0.0	0.1	1.1
Class 5	**24.5**	**66.8**	**0.0**	**0.4**	**0.0**	**0.0**	**36.1**	**127.8**
Shoplifting	21.0	11.8	0.0	0.0	0.0	0.0	35.8	68.6
Vehicle theft	3.5	18.6	0.0	0.4	0.0	0.0	0.3	22.9
Other theft	0.0	36.4	0.0	0.0	0.0	0.0	0.0	36.4
Class 6	**21.0**	**109.8**	**0.0**	**0.0**	**0.0**	**0.0**	**34.7**	**165.4**
Fraud	21.0	109.8	0.0	0.0	0.0	0.0	34.7	165.4
Class 7	**20.2**	**127.9**	**0.0**	**1.4**	**0.0**	**0.0**	**10.4**	**160.0**
Vandalism	20.2	42.4	0.0	0.8	0.0	0.0	5.9	69.3
Graffiti	0.0	33.1	0.0	0.4	0.0	0.0	4.5	38.1
Vehicle damage	0.0	52.4	0.0	0.2	0.0	0.0	0.0	52.6
Class 8 & 9	**0.0**	**39.3**	**0.3**	**0.1**	**0.0**	**0.1**	**0.0**	**39.7**
Kidnapping	0.0	0.0	0.3	0.1	0.0	0.1	0.0	0.4
Blackmail	0.0	39.3	0.0	0.0	0.0	0.0	0.0	39.3
Total	**85.2**	**417.7**	**4.3**	**2.9**	**0.0**	**0.3**	**114.1**	**624.4**

Incident	Anticipation costs(£m)	Costs as a consequence of Crime (£m)					Response costs (£m)	Total Costs (£m 2007)
		Stolen/damaged property costs (£m)	Physical/emotional cost (£m)	Output loss (£m)	Victim services (£m)	Health/ambulance costs (£m)		
Costs to Government								
Class 3	**6.5**	**14.6**	**0.0**	**0.1**	**0.0**	**0.0**	**10.0**	**31.2**
Burglary	6.5	14.6	0.0	0.1	0.0	0.0	10.0	31.2
Class 4	**0.7**	**12.7**	**1.5**	**0.2**	**0.0**	**0.1**	**2.1**	**17.3**
Robbery	0.7	12.4	1.5	0.2	0.0	0.1	2.1	16.9
Hijacking	0.0	0.3	0.0	0.0	0.0	0.0	0.1	0.4
Class 5	**9.0**	**24.6**	**0.0**	**0.2**	**0.0**	**0.0**	**13.3**	**47.1**
Shoplifting	7.7	4.3	0.0	0.0	0.0	0.0	13.2	25.3
Vehicle theft	1.3	6.9	0.0	0.2	0.0	0.0	0.1	8.4
Other theft	0.0	13.4	0.0	0.0	0.0	0.0	0.0	13.4
Class 6	**7.7**	**275.1**	**0.0**	**0.0**	**0.0**	**0.0**	**18.8**	**301.7**
- NI Govt Fraud	0.6	20.4	0.0	0.0	0.0	0.0	7.0	27.9
- UK Govt Fraud	7.2	254.7	0.0	0.0	0.0	0.0	11.8	273.7
Class 7	**7.5**	**47.2**	**0.0**	**0.5**	**0.0**	**0.0**	**3.8**	**59.0**
Vandalism	4.2	15.6	0.0	0.3	0.0	0.0	2.2	22.3
Graffiti	3.3	12.2	0.0	0.2	0.0	0.0	1.7	17.3
Vehicle damage	0.0	19.3	0.0	0.1	0.0	0.0	0.0	19.4
Class 8 & 9	**0.0**	**14.5**	**0.1**	**0.0**	**0.0**	**0.0**	**122.6**	**137.2**
Public Order	0.0	0.0	0.0	0.0	0.0	0.1	67.6	67.6
Kidnapping	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Blackmail	0.0	14.5	0.0	0.0	0.0	0.0	0.0	14.5
Total Costs								
Total	**31.4**	**388.7**	**1.6**	**1.1**	**0.0**	**0.1**	**170.7**	**593.6**
Grand Total	**172.2**	**869.1**	**745.6**	**143.6**	**3.2**	**32.7**	**915.0**	**2881.3**
Percentage	**6%**	**30%**	**26%**	**5%**	**0%**	**1%**	**32%**	**100%**

As indicated in Chart 3-1, the total costs of crime in Northern Ireland are spread fairly evenly between major offence classes. Violence against the person, sexual offences, fraud, and drug offences all account for between 13%-16% of total costs. A second group of offences (burglary, theft, robbery, criminal damage, other notifiable offences - ex drugs) accounts for 6%-10% of total costs.

The high cost of fraud is notable (although, as discussed below, definitive estimates of fraud costs are particularly problematic). Also note that not all studies of the costs of crime include the costs of drug-related activity. A large component of drugs costs in this study relate to the annual "self harm" inflicted by users themselves, rather than costs associated with specific offences.

Chart 3-1: Total cost of crime split by crime type



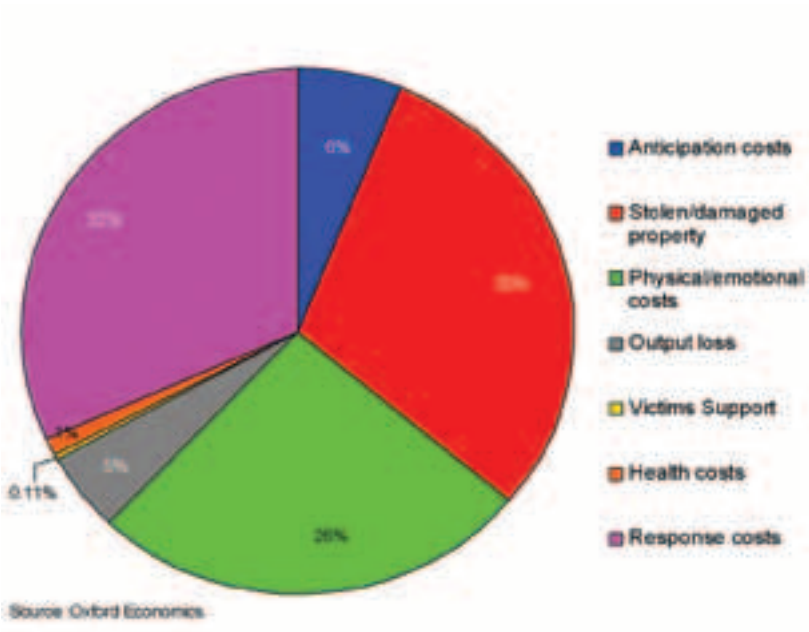
Total = £2,881 m

Costs of crime are listed by category in Chart 3-2. By far the largest cost components are costs of stolen or damaged property, physical/emotional costs and response costs. Anticipation costs, costs of lost output, health costs and victims support costs form relatively small components of the

estimated total costs of crime.

Viewed from another perspective, costs in anticipation of crime (6%) and in response to crime (32%) form a total of 38% of the total costs of crime. Costs as a consequence of crime (i.e. stolen, damaged property, physical/ emotional costs, output loss, victims support and health costs) constitute 62% of the costs of crime.

Chart 3-2: Total cost of crime split by cost category

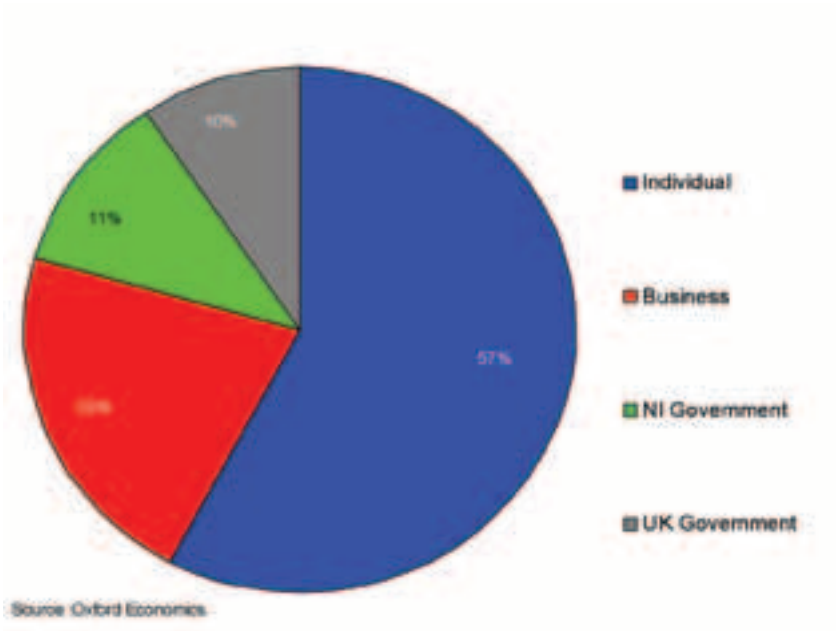


Total = £2,881 m

Costs expressed in terms of the victim category are indicated in Chart 3-3. The costs of crime associated with individuals form by far the largest category of costs. Government costs have been split into those associated with Northern Ireland government departments and those which have been attributed to the UK government as a whole. The UK government costs effectively relate to the high cost of certain types of fraud such as VAT fraud, fuel smuggling, tobacco and alcohol fraud, which are the concern of HM Revenue and Customs. Note that fraud is the only category assessed for crimes against the UK government in the chart below (and in this report). Assessed criminal activity against the Northern Ireland government,

however, includes fraud and a wide variety of other crimes.

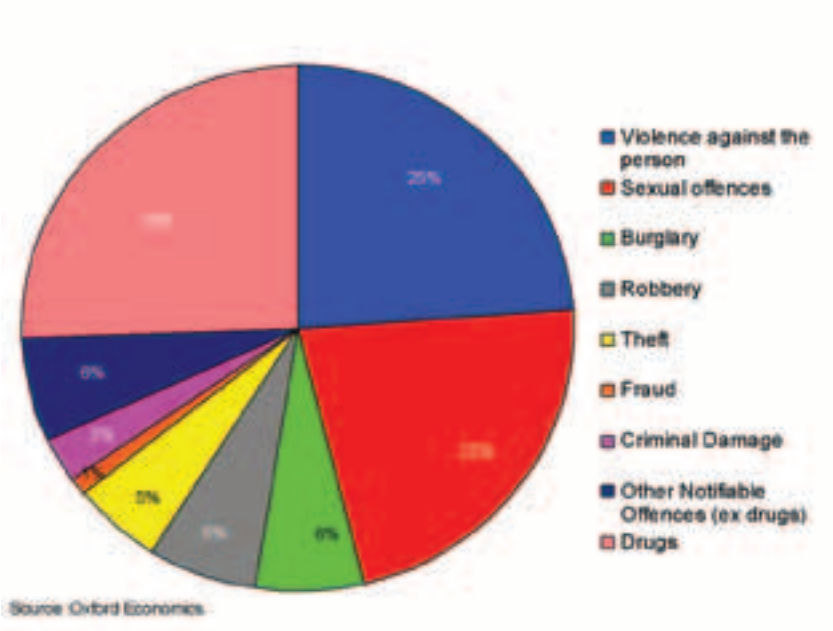
Chart 3-3: Total cost of crime split by victim category



Total = £2,881 m

Crimes against individuals form the single largest type of crime (Chart 3-4). These are heavily dominated by violence against the person, sexual and drug offences. As indicated in Table 3-1, the size of these categories (and the overall size of the individual crime figure) reflects the high physical, psychological and emotional costs imposed by such crimes.

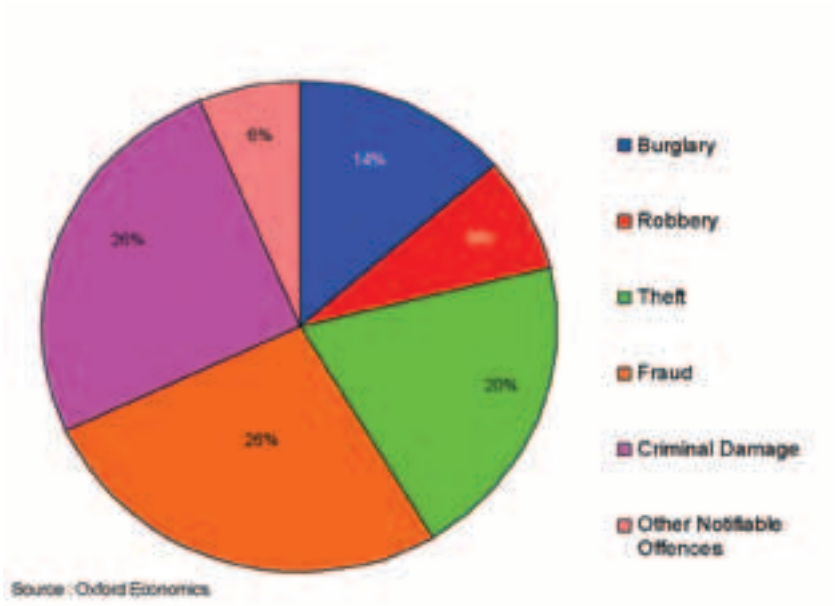
Chart 3-4: Split by Individuals



Total = £1,663 m

As can be seen from Chart 3-5, fraud and criminal damage constitute the largest cost of crime to business, followed by theft. Burglary also constitutes a significant crime against business.

Chart 3-5: Business crime split



Total = £624 m

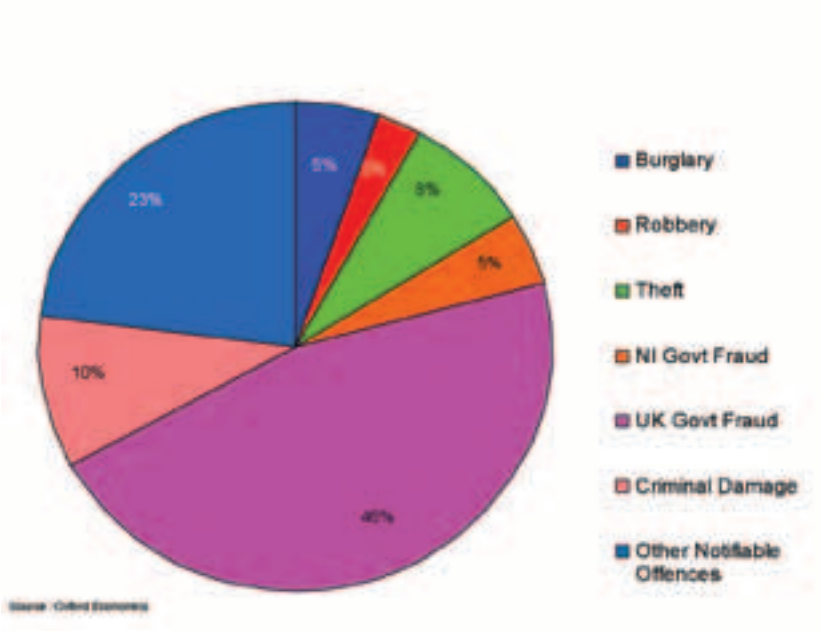
"Government crime" in this study includes the estimated costs of crime directed at the Northern Ireland government. UK government (fraud only) and a small component for council tax fraud[8].

Crime against the UK government (i.e. fraud) accounts for nearly half of total government crime (Chart 3-6). As indicated above, this reflects the significance of crimes such as VAT fraud, petrol smuggling and tobacco and alcohol smuggling. All other crimes in the below chart relate to criminal activity against the Northern Ireland government.

The large "other notifiable offences" component largely reflects estimates about the cost of responding to public order offences and other residual expenditure. Criminal Damage, fraud, theft and burglary also appear as significant costs.

8. Council tax fraud has been incorporated into the UK government and other combined figure.

Chart 3-6: Split by government (NI, UK and other combined)



Total = £593 m

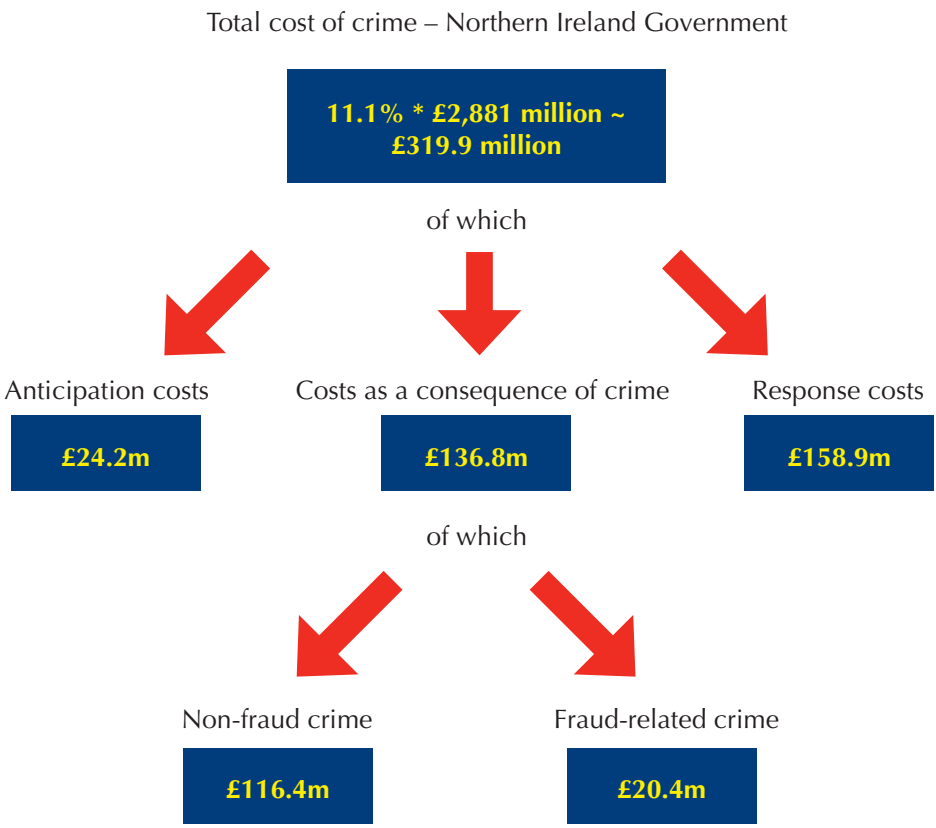
Although requests were made to Northern Ireland government departments for data on crime costs, primary information on Northern Ireland government costs of crime was available in only a few cases. Total Northern Ireland government costs were therefore generally derived by reference to business crime costs and government's share of Northern Ireland's gross value added, although some primary information was available on fraud costs, based on past reports. The allocation of anticipation and response costs to government-related crimes was largely estimated based on past crime studies by organisations such as the Home Office. However use was also made of primary information from law enforcement budgets and supplementary response and prevention data from the Department of Agriculture and Rural Development (DARD) and the Department of the Environment (DOE).

Costs attributable to the Northern Ireland government were further broken down to provide estimates of costs by department. Primary information on direct costs of crime by government department were generally allocated

by share of departmental budget, although direct information on crime costs were used in the case of the DOE and some past direct information was also available for fraud-related crimes.

The diagram below indicates the allocation of the costs of Northern Ireland government crime.

Figure 3-1 Allocation of cost of crime to NI Govt. Departments



Costs of crime for each government department are estimated in the following table.

Table 3-2 Cost of crime to NI Govt. Departments (ex. Anticipation and response costs)

Department	Costs - Excl. Fraud (£m)	Fraud Costs (£m)	Total Costs (£m)
Agric.& Rural Development	2.9	0.4	3.3
Culture, Arts & Leisure	1.3	0.0	1.3
Education	20.8	0.3	21.1
Employment & Training	8.1	0.1	8.2
Ent., Trade & Investment	2.5	0.0	2.5
Finance & Personnel	2.3	0.0	2.4
Health, Social Sec, Pub. Safety	46.9	0.8	47.7
Environment	0.1	0.0	0.1
Regional Development	4.8	0.1	4.9
Social Development	6.2	18.2	24.4
First Minister	0.7	0.0	0.7
N. Ireland Office	19.4	0.3	19.7
Other	0.3	0.0	0.3
Total	**116.4**	**20.4**	**136.8**

A detailed description of the methodology used to construct these results can be found in the following chapters.

4. Costs in Anticipation of Crime

4.1. Security and insurance administration costs

Home Office reports such as HORS 217 and Dubourg (2005) have previously used sources such as data from the British Securities Industries Association (BSIA) and Association of British Insurers to develop estimates for security and insurance administration costs. The latter organisation's data was also used to derive a split between personal, business and government insurance. Likewise, Mayhew (2003b) uses data from the Australian Security Industry and Insurance Statistics Australia.

As indicated, the costs of insurance administration (which are relevant to the current study) should be distinguished from the issues such as insurance premiums (which are not). Therefore, while it is often argued that insurance premiums for many activities (such as car insurance) are higher in NI, this issue is not directly relevant to the current study.

Security costs are likely to comprise, by far, the largest component of these two items. HORS 217 indicated that security costs accounted for 8% of the total costs of crime in England and Wales in 2000, while insurance costs comprised some 1.0%[9]. According to that study, business security costs comprise the vast majority of security costs.

The BSIA website lists the turnover of its membership (about 70% of the total security industry). However, inquiries with the BSIA indicated that no regional breakdown was available for NI or other areas. This is because the BSIA's members quote for the whole of their company's turnover, rather than breaking it down by region. So, for example, while a national company might provide a figure of £10 million and may operate in Northern Ireland, this information is not provided to the BSIA (and it would not be clear what proportion of the turnover covered Northern Ireland)[10].

Accordingly, estimates for crimes against individuals, businesses and government were derived by reference to the total cost estimates in HORS 217 and Dubourg (2005). Likewise, the costs of insurance were also derived using these sources. Figures were then adjusted for inflation population size and NI GVA per capita.

4.1.1. Personal crime

Costs for security and insurance were allocated by:

- reference to the total cost (2003) figures cited in Dubourg et. al. (2005); and
- adjustment for population size, inflation and the (lower) GVA per

9. Mayhew (2003a) estimates that insurance administration accounts for 15 per cent of the value of premiums in Australia. A similar exercise could be carried out for NI, although given uncertainties over the allocation to crime type, the current approach appears preferable. In addition, inquiries with the ABI indicate that their database tends to be structured on a national rather than a regional basis, which means that it would be difficult to obtain an NI-specific figure for premiums.
10. Email from BSIA, 10/1/08.

capita figure in Northern Ireland relative to the UK as a whole.

4.1.2. Government and business crime

Government agencies were unable to provide comprehensive data on the costs of security, while the costs of insurance administration for such entities would be relatively minor. Likewise, although partial data exist on the costs of crime prevention to business, no comprehensive measure exists for NI. Accordingly:

- total government and business security and insurance costs were estimated based on the quantums estimated in HORS 217, adjusted for population, inflation and GVA per capita; and
- these costs were then further split between government and business using a GVA allocator (i.e. the portion of government and defence GVA in NI relative to total NI GVA).

It is noted that the Northern Ireland Policing Board is currently undertaking a study into crimes against business in Northern Ireland through KPMG (*Independent research into Crimes against Business in Northern Ireland*). One of the questions in the ongoing survey work, requests that businesses provide a figure of the annual spend on crime prevention as a portion of their total turnover. While this work was not complete at the time of writing, it may be used to inform future analysis.

Further, recent work by the Federation of Small Businesses, Northern Ireland (FSB) on the costs of crime to businesses (and additional work commissioned by the current study) is noted below. This work included questions on whether businesses have installed various security features, although it does not question respondents about the expenditure on such security devices[11]. The most recent (2002) Commercial Victimisation Survey (CVS) – i.e. Shury et al (2005a,b) and the British Retail Consortium's (BRC) annual Retail Crime Survey (RCS) also contain data on crime prevention measures undertaken by business. However, the former reports only aggregate values for England and Wales undifferentiated by crime type, while the latter relates only to retailers and provides data only for the UK as a whole (in aggregate form)[12]. Inquiries with the BRC confirmed that no disaggregation of data for Northern Ireland was possible.

Nonetheless the latest available complete RCS (2005-06) notes that investment in crime prevention equated to 0.28% of retail turnover across the UK for the financial year ending in 2005 with the level generally ranging from 0.2%-0.4% since 2000. (Losses from crime equated to 0.58% of turnover with a range of 0.4% - 0.8% over the same period.)

11. Federation of Small Businesses Northern Ireland (2006) *Lifting the barriers to Growth in UK Small Businesses: The FSB Biennial Membership Survey 2006: Northern Ireland Report to the Federation of Small Businesses.* Note it might be possible to derive an estimate based on the average cost of the items specified in the survey, but this would be a relatively time consuming process, with a considerable degree of uncertainty attached.
12. See Shury et al. (2005a,b) *Crime against retail and manufacturing premises: Findings from the 2002 Commercial Victimisation Survey* and British Retail Consortium (2006) *Retail Crime Survey 2005-06* London, TSO (The Stationery Office). Note that the later publication covers the UK, despite its title. A more recent online edition has recently been published: British Retail Consortium (2007). *BRC Retail Crime Survey 2006/07: Key Messages,* although this is a summary publication and does not include details of crime prevention costs.

4.1.3. Crime prevention campaigns

Past reports (e.g. HORS 217) have not included estimates for the costs of crime prevention campaigns and duties, noting that the precise definition, size and split of such costs may be open to question.

These difficulties are also faced by the current report. However some idea of the approximate expenditure can be gained from various sources. UK parliamentary transcripts refer to PSNI work and the NIO Community Safety Unit's, (CSU) Community Safety Partnerships as the chief means of crime prevention in NI[13]. Basic ABC data supplied by the PSNI indicates that £23.5 million (or 2.8% of the PSNI's total budget) was spent on "reducing crime" in 2006-07. (Note that reducing crime was defined as both crime prevention activity *and* intelligence gathering/collation, so this sum may overstate prevention specific spending somewhat.)

In the case of the NIO, information received from the Department suggests that funding supplied through a range of initiatives (which are able to be specifically allocated by crime Class) amounted to some £2.4 million in 2006-07.

The break-up of this funding in 2006-07 is indicated in the table, below.

Table 4-1: Major NIO crime prevention initiatives: 2006-07

Offence Class	Cost	Initiative
Class 1 - Offences against the person	£357,837	Range of projects
Class 2 - Sexual offences	-	-
Class 3 - Burglary (domestic)	£1,302,645	Domestic burglary campaign, unknown callers campaign, LOCS, Alleygates, Handy Van Scheme
Class 4 - Robbery	-	-
Class 5 - Theft	£265,922	Theft from vehicles campaign, Operation Clean up
Class 6 - Fraud & Forgery	-	-
Class 7 - Criminal damage	-	-
Class 8 - Offence against State	-	-
Class 9 - Other notifiable offences	£478,331	Drug Projects
Misc	£1,239	Update CSU web
Total	**£2,405,974**	**-**

Source: NIO

13. See Hansard (House of Commons Daily Debates) (2007),, 12 July 2007, Column 1593W at http://www.publications.parliament.uk/pa/cm200607/cmhansrd/cm070712/text/70712w0003.htm

Further projects were also funded by the NIO (which could not be allocated specifically across the nine classes) included work to address business crime, anti-social behaviour, crimes against older people. These cost £355,933[14].

In addition, £2,739,355 was paid to councils for community safety projects (and Councils are also expected to raise a further 20% from other sources for community safety initiatives).

Taken together, this information suggests that a total of roughly £29.6 million was spent on crime prevention campaigns in NI during 2006-07, consisting of:

- £23.5 million funded by the PSNI;
- £2.8 million funded solely by the NIO (i.e. £2.4 million + £0.4 million); and
- £3.3 million in joint NIO/council funding (i.e. £2.7 million *1.2 = £3.3 million).

The variety of sources and lack of a detailed break-up for each source complicates efforts to allocate this expenditure. However the break-up of the major NIO funding initiatives has been used as a guide to the overall allocation of these costs. Therefore the following approach was adopted:

- £2.4 million in disaggregated NIO funding was allocated to the crime Classes specified;
- the additional £355,933 in NIO funding was allocated by assuming one third related to major forms of non-fraud business crime (burglary, shoplifting and criminal damage), and two thirds to Class 1 crimes (individual);
- the £23.5 million funded by the PSNI was allocated to the same categories as the £2.4 million in major NIO funding (though this probably understates allocations to business crime prevention); and
- the £3.3 million in joint NIO/council funding was likewise allocated to the same categories as the £2.4 million in major NIO funding.

The NIO also funds voluntary organisations who work with victims of crime, although most of these are effectively costs associated with the incidence of crime rather than with crime prevention. The treatment of these costs and their allocation is discussed in Section 5.

14. £667,127 was also provided to install CCTV in 14 locations across NI. However this is assumed to be a general crime anticipation measure rather than a prevention campaign per se. Accordingly it has been assumed that such costs are incorporated in the general allocations for crime anticipation, discussed above.

5. Costs as a Consequence of Crime - Individuals

5.1. Violence against the person (Class 1 offences)

The cost of violence against the person was estimated as approximately £131 million in 2006-07 (excluding anticipation and response costs)

As indicated above, our assessment of the consequential costs of such crimes follows the Home Office approach of detailing:

- the physical and emotional impact on victims;
- cost of lost output;
- victim support costs; and
- Health Services costs.

5.1.1. Homicide

Official recorded homicide data were used to determine the number of homicides in NI in 2006/07. 23 cases of murder (and one case of manslaughter) were recorded in that year. Average unit costs per offence were derived in the following way.

- *The physical and emotional impact on victims* – In this case, the cost is the value of lost life. A statistical value of life was estimated from the Department for Transport's values for the lost output associated with fatal accidents (*Highway Economic Note No.1*, 2007), updated to reflect 2007 values in accordance with the approach used in the Note. This reflects the loss of enjoyment of life over and above consumption of commodities as well as pain, suffering and grief to family and friends, based on "willingness to pay" values.
- *Cost of lost output* - The Department for Transport's values for the lost output associated with fatal accidents (*Highway Economic Note No.1*, 2007) was used to develop a raw estimate. This was then adjusted to reflect 2007 values (as per the Note) and to account for the fact that the average value of output in NI, as measured by average GVA per capita, was 81% of the UK average[15].
- *Victim Support costs* – Data on total costs and volunteer hours (for all crimes) was requested from VSNI, although this was not supplied. Instead, data from the NIO was used to estimate victim support costs for homicide (and other crimes in this study). NIO funding to the VSNI (£1,955,000), Northern Ireland Association for the Care and Resettlement of Offenders (NIACRO), (£465,000), for Extern (£357,000) and for NSPCC Young Witness Service. (£289,000) was

15. Note that Dubourg (2005) bases lost output values on UK averages rather than E&W. The relativity of 81% has been used as a general measure throughout this report. As noted in Dubourg (2005) the differential between E&W output per capita and UK output is not considered material.

added together, along with a small allowance for additional VSNI funding sources. This produced a figure of £3.2 million which was then allocated to homicide (and other relevant crimes) according to the proportions of victims support spending by crime type indicated in Dubourg et. al. (2005).

- *Health Services costs – Highway Economic Note No.1* provides details of health and ambulance costs associated with the sudden and violent loss of life. These have been adopted for the current study, with similar adjustments to those made for lost output.

5.1.2. Wounding

The study brief calls for the disaggregation of the costs of serious wounding, AOABH and Common Assault as sub-sets of the costs of Class 1 offences. In practice, definitional and sample size limits associated with the NICS limit the ability to divide between these categories. The NICS definition of "wounding" covers all types of wounding due to sample size limits. Similarly, the NICS definition of "common assault" includes both assaults involving and not involving minor injury and therefore includes AOABH[16].

In practice, these definitions would appear to be similar to those employed by the more recent (Dubourg et. al. 2005) estimates of the cost of crime. The Home Office work also allows for a single wounding definition, (exclusive of common assaults involving minor injuries) and a separate "common assault" category (which incorporates common assaults with minor injuries).

As a way forward, a single wounding definition has been adopted, consistent with the NICS/Home Office approach[17]. As minor injuries are excluded from this, this should allow for a rough consistency with the concept of a "serious wounding" offence.

A further set of complications arises when attempting to estimate wounding incidents from the NICS. A small sample size (less than 4,000) limits the ability to generate incidence figures from the data, in contrast to various property crimes, discussed below. However, published NICS data do estimate the *proportion* of adult individuals who were victims of wounding during 2006/07. Some of these individuals may have been victims of multiple attacks. The published NICS results do not disaggregate multiple attacks for woundings due to sample size concerns. However a comparison of BCS and NICS proportions for violent crime victims who have been subject to multiple attacks, suggests that the proportions are similar in both cases (i.e. roughly a quarter were victimised more than once). Disaggregated BCS data for woundings was therefore used as a proxy

16. Email communication with NIO, 11/2/08. Note that, since 2002/03, police recorded crime statistics in Northern Ireland and England & Wales have defined common assault with minor injury as "minor wounding", in contrast to the NICS/BCS definitions, which place minor wounding under common assault. The BCS further distinguishes between common assaults involving and not involving injury, though the NICS sample size limits prevent this.
17. Further advice from the NIO indicates that the "umbrella term" of wounding is consistent with the PSNI categories of wounding with intent/GBH with intent, firearms offences endangering life, explosives offences endangering life, administering poison and wounding/GBH.

measure to determine victims of multiple attacks.

In terms of unit costs, Dubourg et. al. (2005) made significant advances in the estimation of the intangible costs of violent crime, an issue that has been poorly covered by the global literature in the past. As a result this study offers some of the best available data on the likely unit costs of wounding and other violent crimes.

Average unit costs per offence were derived in the following way.

- *The physical and emotional impact on victims* – Estimates were derived from Dubourg et. al. (2005), adjusted for inflation to produce 2007 values. This aspect of the Home Office work is substantially based on international studies, the results of which apply equally to England and Wales and Northern Ireland. However, use is also made of BCS data for the incidence of physical and psychological impacts. It may be possible to use the NICS to produce NI specific values for some aspects of physical (though not psychological) impacts. However, this would require further access to the NICS results and it is unclear if these would be available due to the confidentiality constraints, noted earlier.

- *Cost of lost output* – Dubourg et. al. (2005) estimated lost output based on an estimate of the number of days of work lost due to wounding and average UK output per head. Assumptions made for time off work are likely to hold for NI. However these figures have been adjusted for inflation and the NI/UK GVA per capita differential[18].

- *Victim Support costs* –As per homicide, figures have been derived from total cost data provided by the NIO, allocated to categories using the proportions indicated in Dubourg (2005).

- *Health Services costs* – Dubourg et. al. (2005) developed a set of health costs for various crime types based on 2003 NHS Reference Costs and other literature. Inquiries with the DHSSPS indicated that very little information was held centrally about the cause of injuries and diseases, as such information would be very subjective and difficult to assign to crime types. DHSSPS indicated that this fact precluded a "top down" analysis[19].

  A review of DHSSPS Reference Costs, however, suggests that they might be used to develop a set of health costs for NI, similar to those used by the Home Office. However, as this is an exercise of

18. As indicated the GVA per capita relativity of 0.81 has been used throughout this report, including to adjust for wage costs, where relevant. Data from the Annual Survey of Hours and Earnings (ASHE) suggest NI annual gross hourly pay (all employees) is some 87% of that in the UK as a whole. However the GVA relativity is used for purposes of consistency and in view of the fact that ASHE figures (and the basis on which they are measured) are subject to considerable variation.
19. Email correspondence with DHSSPS, 9/1/08.

considerable complexity in its own right (and there is unlikely to be a materially significant difference to the overall outcome of this study) the Home Office unit cost estimates, adjusted for inflation, have been adopted.

5.1.3. Common assault/AOABH

As indicated above, NICS data relating to common assault incorporate AOABH. Freel and French (2008) also provides estimated incident numbers consistent with this definition. Unit costs for common assault/AOABH have been estimated using Dubourg et. al. (2005) figures in a similar way to that described for wounding.

5.1.4. Other Class 1 offences

The following approach was used in assessing the costs of other Class 1 offences.

- *Attempted murder, causing death/GBH by dangerous driving* – The cost of these offences have been assumed to be recorded under the wounding and homicide costs (to the extent that harm was caused). Note that as the costs of dangerous driving (illegal speed) are also accounted for under Class 9 offences, there may be some degree of double counting.
- *Threat or conspiracy to murder* – Treated as per common assault with incidents derived using a multiplier of 1.8[20].
- *Assault on police* – Treated as per common assault (reported statistics used).
- *Intimidation/harassment, other offences* – Treated as per threat/conspiracy to murder above[21].

It is acknowledged that this approach could be further refined, however (with the exception of threat/conspiracy to murder) the number of offences in these categories would appear to be relatively small. The use of common assault as a proxy for threat/conspiracy to murder is felt to be a reasonable approach, particularly as verbal and implied physical threats are considered as a form of assault in many jurisdictions.

5.2. Sexual offences (Class 2 offences)

The cost of sexual offences was estimated as approximately £331 million in 2006-07 (excluding anticipation and response costs)

20. This was derived simply by comparing NICS common assault with recorded common assault measures. Though this is inexact for the definitional reasons given above, the effects are not likely to be material given the relatively small number of offences.
21. These offences are not distinguished by individuals, businesses or government and intimidation often accompanies extortion attempts. There may therefore be some double counting with business/government extortion estimates below, though this is unlikely to be material.

5.2.1. Rape

Rape is reported as a separate offence within the PSNI's *"Recorded Crime and Clearances"*. Communication with NICS staff indicated that, because of NICS' relatively small sample size, and NI's less forthcoming nature on sexual offences, the NICS no longer includes a screener question on sexual offences[22].

The best methodological approach is again offered by Dubourg (2005). This used a sample of over 12,000 women above the age of 16 to develop an overall sexual offences multiplier for England and Wales (5.2). This is likely to be the best available measure for NI. This multiplier has been applied to derive both the rape and other sexual offences and has been applied to the recorded crime statistics.

Dubourg et al. (2005) also distinguished between the unit costs of rape and other sexual assaults in terms of physical and emotional damage, lost output, and health costs. These were converted to 2007 values, with the latter two items adjusted for NI GVA differentials, as described above.

5.2.2. Other sexual offences

As indicated above, a sexual offences multiplier was derived from recent Home office work. Unit costs for other sexual offences were derived from Dubourg et al. (2005) as per the costs for rape above.

5.3. Domestic Burglary (Class 3 offences)

The cost of domestic burglary was estimated as approximately £28 million in 2006-07 (excluding anticipation and response costs)

Freel and French (2008) estimates incidents of domestic burglary in NI based on 2006-07 NICS data. These incident estimates include attempted burglary, although a split between attempted burglary and burglary with entry is given for the number of households who were the victim of one or more burglaries. However NICS data provide no indication of the cost of domestic burglaries.

Appendix 1 reports EU ICS data on the unit cost of burglaries in NI in terms of property loss and damage (only). These EU ICS data indicate that in 2000, the average cost per burglary in NI was some £1,544 (in £2000), of which £1,382 was the average cost of property stolen and £162 the average cost of property damage[23].

However, as noted in Appendix 1, the EU ICS unit cost figure for property loss and damage appears to cover only those instances of burglary with

22. Email communication with NIO, op. cit.
23. As indicated in Appendix 1, comparisons to E&W data from ICVS data also support the use of a lower value of goods stolen/damaged figure for NI then is the case in E&W. The NI stolen/damaged figure is some 77% of the E&W figure (ie £1,544/£1,997). Likewise, this direct data comparison can be seen as being roughly consistent with the general use of an adjustment of 0.81 for E&W output and cost data, based on the relativity between UK and NI GVA.

loss/damage. Direct application of the EU ICS figure to the NICS estimates for *all* burglaries (including attempts) would therefore exaggerate costs, as many attempted burglaries result in little or no loss/damage. In contrast, Home Office unit cost estimates by Dubourg et. al. (2005) appear to have been spread over *all incidents* of burglary, including attempts. The Dubourg et. al. unit cost figures for burglary are therefore lower than the EU ICS estimates[24].

One approach to this problem is simply to apply the (suitably adjusted) Dubourg et. al. unit costs to NICS data as both of these sources include "successful" and attempted burglaries in their estimates.

However, in keeping with a preference to use NI specific data, the EU ICS data have been employed in this study. The approach adopted involves applying the NI-specific EU ICS unit cost figure to "burglary with entry" incidents (only) to determine the value of property stolen and damaged (without assigning property damage costs to attempted burglaries).

Additional, non-property damage costs of *all burglaries* (attempted and successful) were then added to this total. That is:

- the proportion of burglaries with entry (which affected 1.3% of households on one or more occasions) relative to total burglaries (1.9% of households) was derived from Freel and French (2008), Table 1 (i.e. 1.3/1.9 ~ 0.63);
- Freel and French (2008), Table 7 indicates that the estimated total number of burglary incidents in NI in 2006-07 was 14,000. This figure includes attempts and allowing for multiple instances of victimisation. This allows for an estimate of the number of burglaries with entry (i.e. 14,000 * 0.63 ~ 9,579);
- the raw EU ICS unit cost of burglaries in NI (i.e. £1,544) was then applied to the estimated number of burglaries with entry (9,579) and adjusted for inflation to derive the estimated property loss and damage costs (i.e. £16.5 million); and
- physical/emotional and output loss unit cost estimates were derived from Dubourg et. al. (2005) and applied to the total number of burglary incidents derived from NICS (i.e. 14,000), adjusting for inflation (and in the case of output losses GVA per capita). The cost of victim support services were estimated using the allocation method described above.

No allowance has been made for "going equipped" costs though these are

24. Dubourg et al. (2005) report a unit cost of £846 for the value of property stolen and £1,287 as the value of property damaged/destroyed. However, published supplementary data for the 2001-02 BCS, which appear to exclude both attempted burgalries and property damage report "burglary with loss" as £1,427 in 1997, £1,278 in 1999 and £1,883 in 2001-02. These BCS figures are comparable to the E&W burglary loss (ex damage) figure of £1,603 from the ICVS for 2001 –see Appendix 1.

small in number (101 recorded offences in 2006-07) and likely to mainly involve CJS costs.

5.4. Robbery (Class 4 offences)

The cost of robbery was estimated as approximately £60 million in 2006-07 (excluding anticipation and response costs)

Robbery in a personal context is treated as "mugging" (robbery and snatch theft) consistent with the approach used in the NICS. Data from Table A1 in Freel and French (2008) has again been used to estimate the number of individuals affected by robbery and snatch theft. While this publication does not report the number of repeat victimisations, an estimate has been derived by proxy from the 2006/07 BCS[25].

Access to the full NICS dataset may allow for more accurate estimates, although NIO staff have indicated that the small number of offences in NI and sample size limits make accurate estimation of the precise number of muggings problematic (the reason for their original exclusion from published data)[26].

Unit costs have been derived from Dubourg et. al. (2005) with all values (except for physical and emotional effects) adjusted for NI GVA per capita.

5.5. Theft (Class 5 offences)

The cost of theft was estimated as approximately £35 million in 2006-07 (excluding anticipation and response costs)

5.5.1. Vehicle crime

Incidence details for vehicle crime (including theft of and from vehicles) were sourced from Table A7, Freel and French (2008) while unit cost data were derived from Dubourg et al (2005).

Attempted vehicle theft incident rates are also reported in Freel and French (2008). Attempted vehicle theft unit cost data from Dubourg et al (2005) were applied to the Freel and French values.

5.5.2. Other theft

Incident details for bicycle theft, other household theft and other theft of personal property are recorded in Table A7, Freel and French (2008). As indicated in Table B2 of the same publication, these estimates effectively cover the non-vehicle theft Class 6 categories (excluding the handling of stolen goods and commercial/government thefts).

25. This indicated that 9% of victims were the victims of two robberies, while 5% experienced these three or more times.
26. Email communication with NIO, op. cit.

HORS 217 unit costs for "other theft" include theft from the person, theft of pedal cycles, theft in a dwelling and vehicle interference and tampering, while Dubourg et. al. (2005) appears to allow for vehicle interference and tampering under vehicle-related crimes. This allows for the matching of the "other theft" unit costs from that study to the data in Freel and French (2008).

As is the case for other offences above, all data (apart from physical and emotional impacts on victims) have been adjusted by allowing for NI GVA differentials vis a vis the UK.

Allowance for the handling of stolen goods has been included in the Dubourg et al (2005) figures for other theft. It has been assumed that NICS estimates of other theft allow for such incidents within the context of "other theft".

5.6. Fraud and forgery (Class 6 offences)

The cost of personal fraud was estimated as approximately £18 million in 2006-07 (excluding anticipation and response costs)

As noted by Mayhew (2003a) fraud and forgery offences are notoriously difficult to define. This is an issue which complicates both the definition of official offences, studies purporting to measure fraud and comparisons seeking to relate to official offences. In addition, there is some ambiguity about the definition of fraud offences (e.g. "other frauds") and Class 6 offences as a whole. For these reasons the treatment of fraud in this study is necessarily broad and no attempt is made to relate fraud costs to specific Class 6 sub-categories.

Evidence from past studies, however suggests that the great majority of fraud costs are incurred by business and government. NICS data do not deal with personal fraud. However, two sources for data on personal fraud are:

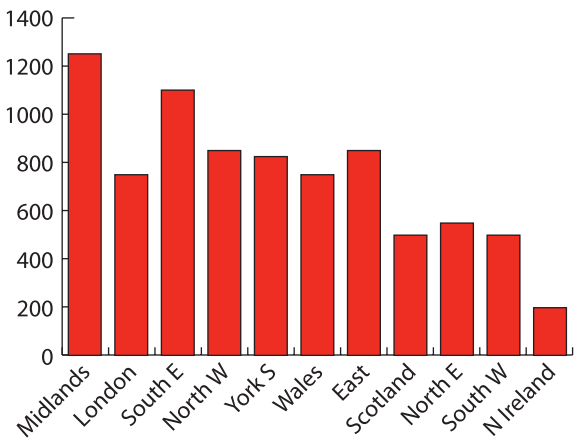
- *EU ICS data* – The EU ICS data referred to in Appendix 1 also includes questions on whether NI respondents' had suffered fraud and various types of frauds experienced. The dataset is small (58 households were victims), data are partial, and several years old. However, as indicated in Appendix 1, some 12 frauds were recorded as being related to construction work, while 21 related to shops. No cost data for fraud were provided in this study; and
- Office of Fair Trading (OFT) *Research on impact of mass marketed*

scams (2006) - As discussed in Levi et al (2007) this constitutes the only available study with comprehensive data on the economic cost of personal frauds in the UK[27]. This study conducted phone and face to face interviews during December 2005-April 2006 with a sample of 11,214 people, designed to be fully representative of UK consumers, followed by 1,900 interviews of scam targets, victims and their associates. The mean UK loss due to scams was £850, while the median was £47. As noted in the report, this indicates the highly skewed nature of the sample distribution (though it is also likely that the population distribution is itself skewed).

While, as noted by Levi et al., the definition of consumer scams may not be precisely consistent with police definitions of "fraud" the OFT survey offers best guide to the likely scale of consumer fraud. Data in the published version of the survey indicated that 2% of total victims and 1% of targets resided in Northern Ireland. (In contrast, a high proportion of the sub-sets of property investment (25%) and high risk investment (26%) scams targeted London.)

Published OFT data do not contain estimates of the average loss by region. Therefore a Freedom of Information request was made to the OFT in order to obtain this data. The OFT's response indicated that the average cost of scams in NI was some £220. However the OFT also cautioned that the small sample size (31 responses for NI) combined with the skewness of the distribution made it difficult to estimate reliable confidence intervals[28].

Chart 5-1: OFT – Telephone scams fraud in the UK – Average loss by region



Source: OFT

27. Levi et al. also point to other sources documenting various other types of fraud, such as solicitor/company pension fraud (thought to cost a minimum of £16.5 million across the UK) identity fraud and complaints to the FSA (£20,000 average loss). However none of these data allowed for the construction of a comprehensive and reliable estimate.
28. Email communication with Office of Fair Trading, 23/1/08.

Despite these caveats, an estimate of the total cost of personal fraud due to such scams in NI can be calculated using this data by:

- adjusting the total cost of consumer scams in the UK for the proportion of NI victims (i.e. 2%); and
- adjusting for the lower average cost of scams in NI (i.e. £220 rather than the UK-wide average figure of £850).

These data suggest that the cost of such frauds is likely to be considerably proportionally lower in NI than in the rest of the UK. This can be seen as consistent with the level of societal wealth in NI as opposed to financial and population centres such as London. However, as indicated, despite the broad definition, of "scam", this figure is likely to be a lower end estimate of the cost of consumer fraud in NI, as it does not include the financial impacts of crimes such as identify fraud or pensions fraud.

5.7. Criminal damage (Class 7 offences)

The cost of criminal damage was estimated as approximately £28 million in 2006-07 (excluding anticipation and response costs)

Class 7 crimes include a range of offences such as criminal and malicious damage, other criminal damage, explosives and petrol bomb offences and arson.

The number of criminal damage incidents was estimated based on vandalism estimates in Table A7, Freel and French (2008). As noted in this publication, vandalism is the nearest NICS equivalent to criminal damage[29].

Data from Dubourg et. al. (2005) was matched to these incident estimates to develop cost estimates, with adjustments for NI as described above. That is:

- the estimated number of vandalism incidents (40,000) was derived from Freel and French (2008), Table A7;
- raw unit costs in £2003 of £212 (property damage), £472 (physical/emotional costs) and £6 (output loss) per criminal damage incident were derived from Dubourg et al (2005). Allowance was also made for a small VSNI costs component, as described above. No allowance was made for health costs;
- the unit costs were adjusted for inflation (in the case of physical/emotional costs) and to take into account the relatively lower GVA

29. As indicated in Table B2 of Freel and French (2008), "vandalism" includes the offences of arson, criminal damage, other criminal damage and criminal damage to a vehicle. Note that a small number of petrol bomb and explosives offences are also recorded under the official recorded crime definition of Class 7 offences (77 and 15 recorded offences respectively in 2006-07) While it is unclear whether these are directed against individuals, businesses or government, it has been assumed that these are effectively included in the criminal damage estimates for each of these categories throughout this report.

per capita in Northern Ireland (in the case of property damage and output loss); and

- the adjusted unit costs were then multiplied by the number of vandalism incidents to produce the final figure for 2006-07 (£27.9 million).

5.8. Offences against the State and Other notifiable offences (Class 8 and 9 offences)

The cost of Class 8 and Class 9 offences was estimated as approximately £347 million in 2006-07 (excluding anticipation and response costs), of which £323 million was attributable to drug-related impacts

5.8.1. Drug offences

In terms of drug offences, past studies such as HORS 217 estimated only the criminal justice costs of drug offences, while Dubourg et al. (2005) work considered the costs of drug abuse only in an incidental way, in the calculation of the effects of violent crime. Much of the debate on the costs of drug offences often centres around issues such as:

- whether drug offences are "victimless crimes" (at least in a direct sense);
- the inclusion of property and other crimes committed by drug users in the costs of drug offences; and
- the extent to which the cost of drug offences should be considered as health care rather then crime costs.

Approaches to – and data on - drug offences are indeed, problematic. This study does not consider the value of drug trafficking and possession *per se* to be a cost of crime. However, to the extent that drug users commit property theft and related crimes, the effects will be included in the NICS and the other incidence and cost estimates, developed elsewhere within this study and are thus accounted for. (Therefore adding an estimate of drug related property and other crime in this section would constitute double counting[30].)

Arguably, the costs of drug crime also include health care costs, though drug-specific instances may be difficult to separate out[31].

30. While it cannot be added to the sum total, for reasons of double counting, it is, however, possible to develop a very crude estimate of the cost of crime which is drug related in NI using the figures cited for the cost of drug crime in Reuter and Stephens (2007) and Gordon (2006). Using Gordon's estimate that drug-related crime (and the CJS response to it) comprises 90% of the costs of Class A drugs, assuming that the health care cost figures for NI cited below are complete and given loss of life and health care costs (only) of £96.1m, by this measure the total cost of drug-related crime in NI in 2006-07 was some £1.1 billion (or just under £1 billion if CJS costs are excluded). This is subject to many caveats though and, as Reuter and Stephens (2007) note, Gordon has extrapolated from a small number of active criminal users in the National Treatment Outcome Research Study to the entire population of problematic drug users in developing his UK-wide estimates.
31. Against this is the argument that these are not truly "costs of crime" but costs of health care (akin to costs of alcohol abuse) which would persist if usage was decriminalised. Regardless of the merits of this argument, the approach taken in this study is based on the fact that drug offences are illegal and therefore fall within the study brief.

A way forward is offered by Mayhew (2003a, 2003b). Mayhew calculates the cost of drug offences in Australia based on lost productivity associated with recorded drug-related deaths, the costs of drug treatment programs and related hospitalisation.

Likewise this section calculates the costs of drug offences based on:

- the number of recorded drug-related deaths in NI;
- the psychological costs of drug abuse;
- the lost output associated with drug abuse; and
- the known costs of drug-related medical treatment in NI.

It is acknowledged that this estimate would be unlikely to relate to the number of Class 9 drug offences within a given year. For example, drug-related deaths may ultimately result from many years of sustained drug abuse, rather than a specific trafficking offence (recorded or not). Nonetheless, it provides a broad Indicator of the societal costs (in terms of loss of life, quality of life health outcomes) which arise from drug offences.

In addition the costs of responses to drug offences are calculated in the chapter dealing with responses to crime.

Data provided by the Department of Health, Social Services and Public Safety's (DHSSPS), Performance Review Unit indicates 91 drug-related deaths occurred in NI in 2006. This allows for an estimate of the value of life lost, using a similar approach to that employed for homicides[32].

The same unit also provided details on hospital and non-hospital drug treatment costs. These data indicate that the total cost of DHSSPS's Community Addiction Teams (which deal with drug addiction, alcohol and substance abuse) in 2005-06 was £3.3 million (no 2006-07 data are available). An additional £2.4 million was spent on hospital inpatient and daycare treatment for addictions.

These figures do not distinguish between illegal drug users and alcohol abuse and do not include persons who may seek treatment outside these statutory bodies. The SRB and DHSSP's *Census of Drug and Alcohol Treatment Services in Northern Ireland: 1 March 2007* (2007) provides further details on the numbers and proportions of people being treated for substance abuse derived from a variety of statutory and non-statutory bodies. This indicates the proportions of persons attending statutory and non-statutory bodies and being treated in prisons. Further, this document

32. Email communication with DHSSPS, 11/1/08.

indicates that of the 5,583 people seeking treatment from all bodies as at 1 March 2007, 20% were treated for drug-only addictions, while 18% were treated for combined drugs and alcohol addictions (the remainder being treated for alcohol-only addictions)[33].

Taken together with the known health care costs, cited above, these data allow for the rough estimate of the total health care costs associated with drug abuse in Northern Ireland on a unit cost basis. While the cost figures do not relate to 2006-07, values have been adjusted for inflation.

Care must be taken to avoid double counting when assessing the economic costs of psychological distress and lost output related to drugs, as drug addiction may last for several years and studies often report the net present value of the total addiction episode. As this study focuses on a single year (2006-07) it is important to try to assess annual costs.

The following approach was therefore taken in estimating psychological costs and lost output.

- *Psychological costs* - Dubourg et al (2005) indicates that the psychological health effects of "drug abuse" (generically defined) are equivalent to the loss of some 1.1559 Quality adjusted life years (QALYs) per case. However, this would appear to be the total discounted loss of an average drug episode, rather than the cost of a specific year.
    - The Dubourg et al. paper refers to Dolan, Loomes, Peasgood and Tsuchiya's (2003) *Estimating the intangible victim costs of crime, report to the Home Office* as a source for its estimates of the unit costs of intangible crime. These authors subsequently published this work in the *British Journal of Criminology* (see Dolan et. al. 2005).
    - Dolan et. al (2005) indicates an assumption of a 5 year duration for cases of drug abuse, with a QALY disability weight of 0.252 (and a discount rate of 3.5%, consistent with HM Treasury guidelines).
    - Taking the QALY disability weight of 0.252 as an annual average cost of drug abuse, and the unit cost of a QALY in Dubourg et al 2005 (£80,620 in 1997 terms), this suggests an annual psychological cost of £20,316 (in £1997) for "problem drug users".
    - Since the population of problem drug users is likely much

33. These data relate only to those undergoing registered treatment. Arguably this is a conservative measure, as undeclared drug use may compound other health problems, requiring hospitalisation.

larger than the population in care at any one time, a way must be found to estimate their number. Elrath (2002) suggested several approaches in her study of heroin addiction in NI, including use of mortality, treatment and treatment demographic approaches. The mortality and treatment data in the DHSSP and SRB sources cited above, along with DHSSP's and SRB's *Statistics from the Northern Ireland Drug Misuse Database: 1 April 2006 – 31 March 2007* (2007) were used to derive an average estimate of 7,272 problem drug users in NI[34].

- The problem drug user population (7,272) was multiplied by the annual psychological cost of drug use per user (£20,316) and adjusted for inflation to derive total annual psychological cost (approx. £170.5 million per year).

- *Output loss* - As per Dubourg et. al., (2005) an estimate of the average daily output per head in NI (£42.85) was derived from the NI population and GVA figures cited above. (Note that this figure is spread over a calendar year of 365.25 days rather than work days *per se*.) Dubourg et al (2005) estimates that time off work (in days) equates to 50% of the duration of a drug abuse episode (i.e. half of the value of potential worker output is lost due to drug abuse). Equivalently, the lost output per problem user per day is equivalent to 0.5*£42.85 ~ £21.4. Given the problem user population of 7,272 (calculated above) and a calendar year of 365.25 days, the approximate lost output equates to £56.9 million per year.

5.8.2. Other offences

This report assumes that Class 8 offences relate to government targets rather than individuals and essentially relate to CJS costs. As such they are not included in the estimates in this chapter.

Previous crime studies (HORS 217, Dubourg et al, Mayhew) have not attempted to develop estimates for blackmail and kidnapping offences. Some estimates have been allocated under business-related crime in the following chapter, based on evidence presented in House of Commons (2006b) that these crimes typically occur within a business-related context, (though needless to say there will be cases where this is not so).

The costs of breach of orders offences have been treated as law enforcement response costs. (It is assumed that any personal costs associated with these are covered under offences such as harassment, assault, etc.).

34. Specifically, Elrath notes that, in the past, mortality multipliers used to derive problem user populations assume mortality rates of 1%-2%, treatment multipliers have assumed the problem user population is four times users in-treatment and treatment-demographic models calculate users based on the number of first time presentations multiplied by duration (five years using the Dolan et al estimates).. Applying these data to the DHSSP and STB sources cited above (including the Drug Misuse Database which provides information on problem drug users presenting to services for the first time, or for the first time in six months) or more yields problem user populations of 6,067, 8,428 and 7,320 respectively. The average of these figures was then derived (i.e. 7,272).

The treatment of dangerous driving offences follows the approach developed in HORS 217 and relates it to the costs of illegal speed rather then the specific number of offences. Thus, the approach is similar to that taken to drug offences and seeks to broadly relate the harm resulting from the offence type to social costs. Data were derived from HORS 217 and adjusted for inflation and NI GVA, as for other offences. Some anecdotal and statistical evidence suggests that NI has a particularly high accident rate (reflected in relatively high motor insurance premiums). In future reports consideration might be given to a more specific measure, based on NI data, and a more precise offence definition from the PSNI.

6. Costs as a Consequence of Crime - Business

6.1. Non-domestic burglary (Class 3 offences)

The cost of non-domestic burglary was estimated as approximately £40 million in 2006-07 (excluding anticipation and response costs)

The principal sources of data about business victimisation for crimes such as burglary are national business surveys, such as the E&W Commercial Victimisation Survey (CVS) conduced by the Home Office (Shury et al.a,b 2005) and the annual survey conducted by the British Retail Consortium (2006, 2007).

A survey with NI-specific breakdowns for victimisation data has also been conducted by the Northern Ireland Federation of Small Businesses (2006). (In addition Independent Retail News (2007) recently collected NI-specific and national data on businesses experience with violent crime.)

The 2006 Northern Ireland Federation of Small Businesses, (FSB) survey, conducted in September 2005, consisted of 436 responses for businesses from 0-250 employees and covered a variety of business experiences with crime. Of these, 334 provided estimates of the cost of crime to their businesses over the preceding 12 months. However a drawback of this study is that it comprises of FSB members and does not necessarily constitute a representative sample of businesses across NI.

Accordingly, for this study, one of the authors of the 2006 FSB survey (Dr Stephen Tagg of the University of Strathclyde, Business School) was contacted in order to develop a representatively weighted version of the original work. This allowed for analysis of the costs of burglary and other crimes in NI.

ONS statistics for 2005 (*SME Statistics 2005 Regions Statistical Press Release*) indicate that businesses with 0-250 employees accounted for of 99.9% of establishments, 80% of turnover and 81% of employees in Northern Ireland. Thus, the weighted sample results account for the great majority of turnover and employees in NI. It also allows for some comparisons with the Home Office *Commercial Victimisation Survey* which covers retail and commercial businesses of 0-250 employees in E&W.

In the case of burglaries, the results indicate that NI burglaries cost affected businesses an average of £3,558 over the 12 months prior to the survey. The following methodology was employed to estimate burglary costs:

- the figure of £3,558 was taken as the average cost of burglaries

(covering *all* incidents of burglary, including multiple incidents, over a 12 month period);

- as some 8% of businesses in the weighted FSB survey reported at least one instance of burglary, and the number of SME's in NI is known from the ONS's *SME Statistics 2005*, this allows for the estimation of the total costs of commercial burglaries to SMEs; and

- this figure was then adjusted for inflation and "grossed up" to allow for the fact that the sample accounts for only 80% of NI business turnover. (Unit costs for large companies are likely to be higher than SME's so this might be viewed as a conservative estimate).

It should also be noted that the estimated number of offences derived from these estimates relate to 2004-05 rather than 2006-07.

Another obvious caveat in these and other cases employing the FSB survey data is the small sample size (along with a skewed sample distribution in some cases). The alternative approach is to use E&W data from Shury et. al. (2005b) and/or BRC (2006, 2007) UK-wide data, though the former relates to 2002 data while the latter relates only to retailers and neither provide NI victimisation rates[35]. Skewed distributions, however, are likely to affect both sample and populations in all survey work of this nature. Thus, the main CVS report only reports median values for the cost of business crime.

6.2. Robbery (Class 4 offences)

The cost of business robbery was estimated as approximately £39 million in 2006-07 (excluding anticipation and response costs)

Incidences and costs of robberies were estimated based on the weighted FSB study results described above. As per burglaries, these were weighted for inflation, and an adjustment was made for the fact the FSB survey covered only SMEs.

HORS 217 also indicated that robberies could impose similar impacts on victims to those experienced with violent crime. Accordingly, values for emotional and physical loss, output losses and health services costs from this study have been adjusted to produce figures for the current work. These unit cost estimates predate the revised methodology in Dubourg et al (2005); some further modifications of the results would be required for consistency with the Home Office's more recent approach.

35. These figures can be compared to those of Shury et al (2005b) for E&W, however several caveats are required. For example, Shury et al, report a mean value of £4,051 per burglary for retailers in E&W, comprising of £2,345 for the cost of goods stolen and £1,709 in associated damage. Shury et al. also report a similar total mean E&W value (£4,066) for manufacturers. These figures are based on 2002 data, are expressed in £2002, and relate to the cost of the last burglary incident. In contrast, the FSB values for NI are in £2005, relate to total costs over a 12 month period and include multiple instances of burglary in some cases. If total figures are compared, it therefore appears that burglary costs in NI are considerably lower than E&W. However, it is unclear if NI businesses would have included property damage done in the course of their responses (the questionnaire was somewhat open ended, asking for estimates of the "overall cost of crime to your business over the last 12 months").

In this context, Independent Retail News (IRN) also conducted a recent survey of violence against retailers (only) across the UK, which included regional breakdowns (though a variety of details were unpublished). A breakdown of the unpublished results for NI was provided to Oxford Economics by IRN[36].

24% of NI businesses reported being a victim of crimes of violence in the past 12 months compared to 31% nationally (although the NI results were based on a sample of only 45 NI businesses). 14% of the crimes of violence involved robberies and 27% of violent crimes resulted in staff taking time off work. While these latter two results were based on a sub-sample of only 11 responses, the proportion of violent crimes involving robberies is similar to UK-wide results.

Class 4 offences also include hijackings. The House of Commons (2006b) also noted various instances of hijacking connected with organised crime in NI, particularly in the road haulage industry and with goods such as cigarettes). Due to a lack of information about these crimes these have been treated as robberies for the purposes of this study and no estimates of incidence have been made beyond reported crime. Allowance has been made for the physical and psychological effects on staff and other costs by using robbery values developed above. Evidence to the House of Commons indicated that past victims of hijackings had taken long term stress leave in some instances (e.g. hijacking of loads of cigarettes). Arguably, then, this assessment of the physical and emotional costs of hijackings is a lower end value.

While as noted above, this study does not address the broader costs of crime, evidence to the House of Commons also indicated that the threat of hijacking of high value goods such as cigarettes had induced some companies to ship then between Ireland and Northern Ireland via Liverpool rather than transport them directly across the border. The evidence also pointed to the need for increased security and/or driver costs to deal with the shipment of goods which do travel across the border, including the need to track and monitor all vehicles and set up a control room to do so and have full time staff on the road to assist in vehicle tracking. In general additional assistants were often employed in driver cabs for high value deliveries and it was argued by freight transport industry representatives that driver costs were higher than elsewhere in the UK.

6.3. Theft (Class 5 offences)

The cost of commercial theft was estimated as approximately £67 million in 2006-07 (excluding anticipation and response costs)

36. Email communication with IRN, 14/1/08. See also IRN November 9, 2007.

6.3.1. Shoplifting

Cost estimates for shoplifting were developed using the weighted FSB survey results and the methodology described above. An average annual unit cost of £413 per business was derived.

6.3.2. Vehicle theft

Cost estimates for vehicle theft were developed using the weighted FSB survey results and the methodology described above. An average annual unit cost of £1,871 was estimated for vehicle theft.

6.3.3. Other theft

The only other thefts accounted for in this section are thefts by employees. Cost estimates for employee theft were developed using the weighted FSB survey results and the methodology described above. An average annual unit cost of £2,438 was estimated.

6.4. Fraud (Class 6 offences)

The cost of commercial fraud was estimated as approximately £110 million in 2006-07 (excluding anticipation and response costs)

As indicated above the definition and estimation of fraud offences constitutes one of the most difficult exercises in estimating the cost of crime to business and (government). At the same time, estimating the cost of fraud is important as it is likely to constitute a considerable proportion of the total costs of crime. HORS 217 indicates that fraud constituted some 23% of the total costs of crime in E&W.

Past studies dealing with fraud have included a very broad range of offences ranging from petty deception to major corruption. In addition many past sources relating to the cost of fraud offer partial and/or overlapping costs identified in other studies (raising the issue of double counting). Further, some studies cite identified fraud while others cite identified and "suspected", "unidentified" or "undetected fraud" (using a variety of differing definitions).

A related problem is whether any costing of fraud related offences would be consistent with the definition of "Class 6 offences" in a NI context. As indicated, there is some degree of ambiguity on this point.

In the interim, a way forward to the estimation of fraud in NI is offered by the work of Levi et al (2007). This study constitutes a very useful "road map" in terms of the identification of sources detailing fraud in the UK. Further, the Levi et al study offers a breakdown of fraud into personal,

business and government-related fraud, which assists in the identification of these costs and sources within the UK (and NI). It also recognises the problems of incomplete data and double-counting (though inevitably both of these have some effect on its results and on the results presented here). Therefore while the Levi et al. study notes many sources it is selective in their use, so as to minimise the extent of double counting.

It should be noted however, that a remaining issue is the lack of consistency in assessing the costs of identified and unidentified fraud. Levi et al's study (and by extension this one) remains conservative in that some sources only cite identified fraud without estimating losses due to unidentified fraud.

The key challenge for the current research is to reproduce these results within the context of NI. This required extensive research into whether the national sources referred to by Levi et al. (relating to personal, business and government fraud) produced breakdowns for NI and/or whether equivalent estimates are produced by NI sources.

Annex 7 of Levi et. al. details the sources used for the final estimation of fraud. The following approach was taken in reproducing these results within an NI context. In general, NI sources have been traced wherever possible for the major cost components of fraud, while minor components have used UK-wide assessments, adjusted for NI population share and GVA per capita.

- *Plastic card fraud* – APACS' *Fraud: The Facts* provides an annual summary of payment industry fraud, The APACS report also produces regional breakdowns. While a new version of *Fraud; The Facts* is currently in preparation, a recent release on the APACS website indicates that in NI in 2006-07 these frauds amounted to £0.7 million.

- *Insurance fraud* - Levi et al. reports UK-wide costs of commercial insurance fraud, as documented by the Association of British Insurers (ABI). However, since the release of this report, the ABI has produced a more comprehensive document (ABI (2007)) detailing the costs of both commercial and retail fraud. This was £1.6 billion on a UK-wide basis in 2006. Inquiries with the ABI indicate that no regional breakdown of this quantum for NI or elsewhere is possible due to the way in which members provide their data to the ABI. Accordingly, NI results are based on UK-wide results, adjusting for lower GVA per capita. (Unlike Levi et al. no separate estimate has been made for motor insurance, as this appears to be contained within ABI (2007).)

- *General business fraud (non-financial services)* – Levi et al. use estimates based on the BRC's RCS. The current study is based on the results of the weighted FSB study for NI described above, for employee, cheque and credit card fraud.

- *Co-op fraud* – *Co-op fraud* accounts for only a very minor quantum of total frauds. An updated copy of the Co-op movement's crime survey, *Retail Crime Survey* (2006), was obtained and the results extrapolated for NI.

- *Telecoms fraud* – Levi et al. identified this as a significant quantum, based on broad estimates supplied by the Telecommunications UK Fraud forum (TUFF). As this figure is based on a broad industry average, estimated by TUFF (losses equal to 2.4% of turnover), no NI specific figure is available. The UK-wide results have been adjusted for NI based on population share and NI GVA per capita.

- *Identified major fraud (business)* – As noted by Levi et al., *BDO Fraud Track* and the *KPMG Fraud Barometer* provide details of court cases involving frauds. In the case of the KPMG index this involves a twice-yearly report of fraud-related court cases exceeding £100,000, whether individual, business or government related. Regional disaggregations are not provided in this report.

  Inquiries with KPMG led to the production of disaggregated KPMG Fraud Barometer results for NI. KPMG noted that very little major fraud is recorded in NI, presumably because the majority of cases do not breech the £100,000 threshold (although it was uncertain if there were many small cases below this threshold). KPMG also provided a UK-wide estimate of the quantums of government and business fraud (which allowed for a split to be estimated in the case of NI)[37]. Calculations based on these numbers suggest that major business frauds involving court cases accounted for around £2.1 million in NI during 2006-07. It is noted by Levi et al. that there may be some modest double counting with other aspects of recorded fraud when using figures drawn from this source.

  KPMG also produced a time series of recorded frauds in NI over the life of the Fraud Barometer. This is reproduced below.

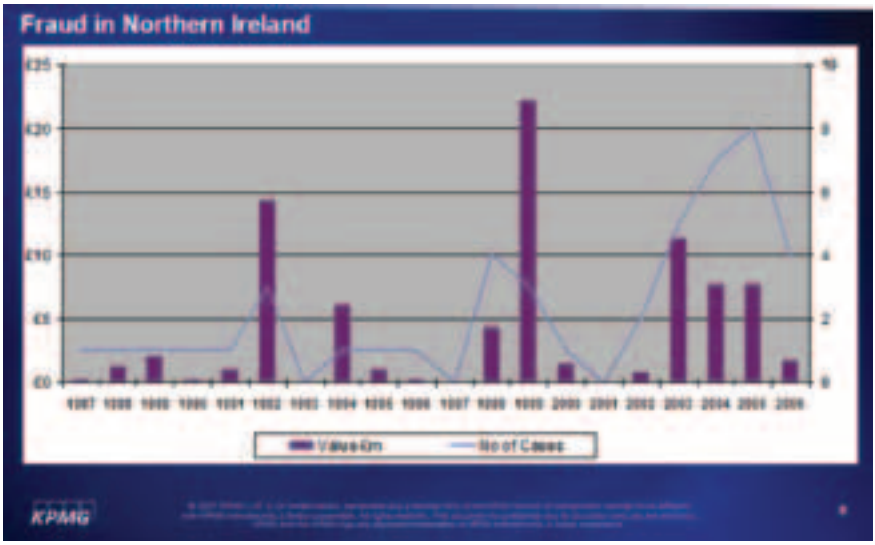
- *High tech fraud* – Levi et al cite the results of a survey of businesses' experience with computer crime, conducted by the Hi Tech Crime Unit, completed in 2005 (with data relating to 2004). Unfortunately, this study no longer appears to be generally available. The High Tech

37. Email communication with KPMG, 9/1/08.

Crime Unit has since merged with SOCA and inquiries with SOCA indicate that no similar survey work has been conducted since this report. Accordingly, the results have been adjusted for NI allowing for population, inflation and GVA per capita.

The Levi et al approach to government-related fraud has also been adopted below.

Chart 6-1: Recorded major fraud cases in Northern Ireland (Business and Government)



6.5. Criminal damage (Class 7 offences)

The cost of criminal damage was estimated as approximately £129 million in 2006-07 (excluding anticipation and response costs)

Cost estimates for criminal damage were developed using the weighted FSB survey results and the methodology described above. An average annual cost of £1,137 was estimated for vandalism while an annual average cost of £1,631 was derived for graffiti.

Cost estimates for vehicle damage were also developed using the weighted FSB survey results and the methodology described above. An average annual cost of £2,079 was estimated for vehicle damage[38].

38. Note that vehicle damage costs exceed vehicle theft costs of £1,871 (cited above). Apart from sampling issues, it is possible that respondents amalgamated offences of vehicle damage with thefts of valuables from vehicles. As vehicle damage is classified as a Class 7 crime, it has been quantified in this section.

6.6. Other notifiable offences (Class 9 offences)

The cost of other notifiable offences was estimated as approximately £40 million in 2006-07 (excluding anticipation and response costs)

The only offences relevant to business in this section are those of blackmail and kidnapping. As previously noted, past studies have not dealt with these offences and providing precise estimates of cost is especially difficult.

The House of Commons (2006a,b) – and previous studies - have, however, pointed to the significance of these crimes (and related issues of hijacking) within an NI context. These crimes have long been associated with the past and present actions of paramilitaries and ex-paramilitaries.

In terms of kidnapping, evidence given to the House of Commons by the Northern Ireland Bankers Association indicates that the incidence of kidnapping has increased markedly in recent years (and has also pointed to the disruption to business as a result). The evidence cited the direct cash and emotional and physical costs of kidnappings to victims and their families.

Accordingly, kidnappings have been assigned a psychological cost (only) equal to that of wounding (and equivalent lost output and health services costs have also been estimated). Values from Dubourg el al (2005) were used to develop this cost, consistent with the methodological approach described above. (It has been assumed that any direct robbery-related financial costs are separately covered under the robberies category.)

As no unreported figures exist for kidnappings, official recorded crime statistics have been used to develop a cost figure, though it is likely that the majority of these offences would be reported.

While this study does not deal with the indirect costs of crime, it is noted that another cited impact of kidnapping was disruption to cash in transit (CIT) deliveries due to a heightened risk of kidnapping. This can affect stocks of cash at branches, with attendant effects on bank and customer efficiency.

As a result, there is still a significant "risk premium" attached to Northern Ireland and banks have made substantial investments to enhance their physical security. Banks in NI operate a separate regional pricing structure for cash handling services (i.e. they pay more for their services). For example, a cash drop to a branch in Northern Ireland costs over three times more than a cash drop to a bank branch in Scotland. A Northern

Ireland "risk premium" is alleged to be a significant contributor to this cost differential (House of Commons 2006b,Ev 152-154).

This can be seen as similar to the effects of hijacking offences in raising the costs of business and evidence to the House of Commons indicated that the two are often related (e.g. an individual is forced to drive a hijacked truck and held against their will).

Blackmail and intimidation have long been recognised as problems facing various industries in NI, particularly the construction industry and this issue was again noted by the House of Commons (2006b, Ev27, Ev159).

Evidence from the original unweighted FSB survey, cited to the House of Commons, suggested that some 4,000 SMEs in NI may be affected by "illegal donations" (House of Commons (2006,Ev 1), although results from both the unweighted and weighted surveys suggest a much larger number are being threatened with extortion.

For this study, the results of the weighted FSB survey have again been used. These implied that threatening behaviour and intimidation cost businesses an average of some £1,421 per year and that only some 31% of such crimes were reported[39].

These figures have been used to adjust the recorded "blackmail" offences and produce a cost of crime for extortion, using the methodology for the weighted FSB survey results, described above. (This is likely to be a conservative estimate, as the PSNI submission to the House of Commons suggests that less than 10% of extortion is reported (House of Commons 2006, Ev 99)).

While consideration of the broader economic effects is outside the scope of this study, it is again noted that this factor obviously adds to the cost of doing business in NI and may therefore be a brake on overall economic activity. The FSB noted that such impacts may be present through restricting inward investment, distorting shopping patterns, adding to effective land rental costs and affecting property prices (House of Commons (2006) Ev7-8). The PSNI have also noted the negative effects of extortion, including reduced inward investment to NI, higher consumer prices and higher taxpayer costs (House of Commons (2006) Ev99-100). The OCTF (2006) has pointed to the role of extortion in the construction industry in pushing up house prices, producing lower standards of finish and reducing NI's economic competitiveness.

39. In evidence to the House of Commons on extortion, the FSB indicated that extortion "could be relatively small amounts" –e.g. £100 per year (House of Commons 2006b,Ev 8,91-92). In other cases the FSB refereed to costs ranging from £100-£200 for the "corner shop" to £10,000-£30,000 per year for major construction sites (Ev 4). The Federation of Retail Licensed Trade cited two instances of £2,000 per year and £100 per week respectively from a small sample of its membership (Ev 128).

7. Costs as a Consequence of Crime - Government

7.1. General approach

Estimation of the costs of crimes to government is especially problematic, as (with the exception of Levi et al (2007)) few reports specifically identify the costs of such crime[40].

Advice from the PSNI and the security advisor for this consultancy also indicates that government-related crimes (and related costs) are not identified in the PSNI's electronic database. In order to determine the number and extent of these crimes, a manual search of the PSNI's archives would be required[41]. This is beyond the time and resource limits of this consultancy.

The following approach has therefore been adopted for all crime categories, with the exception of fraud-related crimes.

- The proportion of NI government GVA relative to business GVA is calculated based on Oxford Economics' regional economic model.
- This calculation is used in combination with the estimate of the total cost of business-related crime (excluding fraud-related crime) to derive the cost of NI government related crime. For example, assuming that non-government activity accounts for 80% of NI GVA, and the incidence of business-related crime costs £100, then the total cost of crime incidence is 100/0.8 = 125. The cost of government-related crime incidents is therefore £25.

This allows for the estimation of an approximate global cost of crime to government for these (non-fraud) related crimes. The results obtained for (UK and NI) government-related fraud, calculated as indicated below are then added to these estimates.

For fraud-related crimes, the approach set out by Levi et al is followed, as per the case for business-related crimes.

Note that costs of crime relating to the UK government fraud are separately identified in this chapter.

7.2. Class 3, 4, 5 and 7 crimes

The cost of NI government-related Class 3, 4, 5 and 7 crime £102 million in 2006-07 (excluding anticipation and response costs)

The costs of these crimes (and their sub-components) have been estimated as a proportion of the total of business and government crimes, using the

40. Note that costs of crime to "government" were assumed to include costs to the NI government, the UK government (mainly HMRC fraud) and a small allowance for some Council Tax fraud.
41. Email communication with PSNI, 10/1/08.

GVA allocator specified above.

7.3. Class 6 crimes (Fraud)

The cost of government-related fraud was estimated as approximately £275 million in 2006-07 (excluding anticipation and response costs), of which £20 million related to Northern Ireland government fraud and £255 million related to UK government fraud

Annex 7 of Levi et al. details the sources used for their final estimation of fraud. The following approach was taken in reproducing these results for government related-fraud within an NI context. In general, NI sources have been traced wherever possible for the major cost components of fraud, while minor components have used UK-wide assessments, adjusted for NI population share and GVA per capita.

- *National insurance fund fraud* – This represents a relatively small component of identified government fraud. Accordingly, the results detailed in Levi et al have been adjusted for NI population and GVA per capita.

- *Benefit fraud* – The Northern Ireland Audit Office's (NIAO) Social Security Benefit Fraud and Error (2008) identified £18.1million in benefit fraud in colander 2006. Note that this quantum excludes Disability Living Allowance fraud which was separately identified in Levi et al. The NIAO report indicates that underpayments of this allowance exceeded overpayments in NI by some £22.6 million in 2006-07.

- *HRMC VAT/MTIC fraud* – This fraud relates to acquisition fraud (whereby goods are imported from the EU by a trader who then goes missing without completing a VAT return after selling the goods to an internal buyer) and carousel fraud (similar to acquisition fraud but the goods are sold through a series of companies and then re-exported or are mere paper transactions).

  Levi et al. estimated this fraud as some £2 billion, UK-wide based on a paper by Ruffles and Williams (2005).This figure has been adjusted for NI based on population and GVA per capita. However, given NI's unique position of having a land border this figure may well be an underestimate.

- *HRMC indirect tax fraud* – Levi et al. note the importance of fuel, tobacco and alcohol smuggling within the UK in terms of lost

revenues. Fuel smuggling is a particular problem in NI, given the presence of a land border and the House of Commons (2006a, 2006b) heard extensive evidence of its prevalence. The House of Commons heard evidence that half the filling stations in NI sold illicit fuel and a third sold only illicit fuel (House of Commons (2006b, Ev 12, Ev 54, Ev 59). HMRC gave evidence that the impact of fuel and other forms of smuggling was relatively greater in NI than in the rest of the UK and indeed that 50% of criminals involved in oils and tobacco smuggling operations elsewhere in the UK and Europe were of Northern Irish extraction (Ev 53). According to evidence given to the inquiry HMRC has 160 officers in NI exclusively dedicated to tackling oils fraud (Ev 54).

HMRC could not provide splits of fuel or cigarette smuggling for NI to the House of Commons, although a total revenue loss of £245 million (equal to 30% of the NI market) due to both legal and illicit fuel sales was cited. A UK-wide illicit cigarette market share of 16% was also cited [Ev 55-56]. The most recent HMRC documentation of these indirect tax losses (HMRC (2007)) details losses for 2005-06. This data indicates that £260 million was lost due to HMRC due to NI legal shopping and illegal importations of fuel across the border. Across the UK, mid point estimates suggests the loss of some £2.4 billion in tax revenues due to illicit cigarette sales in 2005-06.

While HMRC has previously declined to give a split for the proportions of legal and illegal fuel imports across the border, a simple approach is to use the proportions of legal and illicit cross-border diesel sales calculated by HMRC for Great Britain and apply this to all NI fuels. Diesel sales also account for the vast majority (81%) of lost HMRC oils revenues in NI. Given that the barriers to both legal and illegal importers are higher in Great Britain, and assuming an equivalent propensity to criminal activity, this suggests that the £121 million was lost to HMRC due to illegal fuel smuggling in NI in 2005-06. This figure has been adjusted for inflation for 2006-07[42].

Likewise, applying the UK-wide figure for illegal cigarette sales to NI's population share, yields an income loss total of £56 million in 2005-06. A similar approach has been used to derive figures for (much less costly) alcohol smuggling. These figures may be conservative, if the HMRC suggestion that the incidence of organised crime in NI is relatively greater than in the rest of the UK is accepted.

42. More specifically, HMRC (2007) indicates that lost revenue in NI due to (legal and illegal) non-payment of diesel and petrol duty was some £260 million in 2005-06. (sum of the central estimates in Tables 3.8 and 3.9, p.14). In the case of Great Britain, it is estimated that some £750 million in diesel duties was lost due to both illicit and cross border shopping in the same year. £350 million of this loss was estimated to be due to illicit sales (Table E3, p.49). Therefore, the estimated loss for NI is £260*(£350/£750) =£121 million. This adjusts to £124 million when converted to £2007. Note that no figure for legal vs. illicit petrol sales is provided for the Great Britain. Therefore the diesel (only) legal/illegal break-up has been applied to both diesel and petrol sales in NI. However given that over 80% of the revenue losses in NI relate to diesel duty this is unlikely to be a substantive issue.

- *HRMC tax credit* – This represents a relatively small component of identified government fraud. Accordingly, the results detailed in Levi et al have been adjusted for NI population and GVA per capita.

- *Fraud in government departments* – Levi et al. referred to HM Treasury reports on reported fraud in UK government departments. The latest version of these indicates that internal fraud or theft totalled some £3.9 million in 2006-07. In addition, an (incomplete) sample of large value frauds perpetrated by outsiders suggests these totalled at least £2 million (HM Treasury 2007).

  In NI the DFP has also previously carried out surveys of fraud, theft and external loss within NI government departments. Recent surveys do not identify specific losses, however, the most recent data indicated losses of £524,000 in 2003-04. The DFP has advised caution in using these NI data, as they are subject to differing departmental interpretations and may contain significant data gaps[43]. However, the most recent amount cited greatly exceeds what might be expected based on HM Treasury data. A figure of £0.5 million has therefore been used.

- *Agriculture fraud (EU fraud)* – Levi et al cite NI data collected by DARD's counter fraud unit. DARD Counter Fraud Unit's Latest report *(Counter Fraud and Enforcement Activities Annual Report 2005-06)* indicates that some £370,000 of external fraud and £104,000 worth of internal fraud was investigated in 2005-06. The internal fraud has been assumed to be incorporated in the estimates for NI government departments (see below). The external fraud figure has been adjusted for inflation. (No equivalent information for 2006-07 was available.)

- *NHS fraud* – This also represents a relatively small component of identified government fraud. Accordingly, the results detailed in Levi et al have been adjusted for NI population and GVA per capita.

- BBC – Licence fee fraud was estimated as £145 million for the UK by Levi et al. These figures have been adjusted for NI population and GVA. However, this may well be an underestimate, as recent press reports have identified Belfast as one of the worst cities in the UK for licence fee evasion, with more than 2,800 people caught breaking the law in the first half of 2006 and 10,000 across all of NI[44].

- *Council rates* – This represents a relatively small component of identified government fraud. Accordingly, the results detailed in Levi et. al. have been adjusted for NI population and GVA per capita to

43. Telephone conversation with DFP.
44. BBC Online News 15 August, 2006, http://news.bbc.co.uk/1/hi/northern_ireland/4792193.stm and 4ni.co.uk., 15 August 2006 http://www.4ni.co.uk/northern_ireland_news.asp?id=54083

derive a figure of around £1 million per annum.

- *Identified major fraud (government)* – As indicated above, disaggregated results for NI were obtained from the KPMG Fraud Barometer and a business/government split was developed. This suggests that major cases of government-related fraud accounted for some £1.4 million in 2006-07, though the degree of overlap (if any) with DFP estimates is unclear.

As noted above, some forms of fraud may have a variety of indirect negative effects such as damage to vehicle engines, and legitimate transport businesses, the adverse health effects of illegal cigarettes and the long term economic effects of pirated and counterfeit goods, These indirect costs have not been included in these estimates of fraud.

7.4. Class 8 and 9 crimes

The cost of government-related Class 8 and 9 crime was estimated as approximately £15 million in 2006-07 (excluding anticipation and response costs)

With the exception of kidnapping and blackmail, no separate costs as a consequence of crime have been allocated to these categories. Instead, this report assumes that any direct costs to government from such crimes (e.g. criminal damage, vehicle theft etc. originating from public order offences) are contained within the cost estimates elsewhere in this chapter.

Kidnapping and blackmail costs were developed using the GVA allocator specified above. The estimated losses associated with blackmail form the largest part of this, with a small allowance for the physical/emotional costs of kidnapping.

Costs of preventing and responding to Class 8 and 9 crimes are contained within the relevant chapters referring to the costs in anticipation of crime and costs in response to crime.

8. Costs of Crime Incidence to NI Government Departments

Costs of crime to NI government departments provided an additional source of complexity. Note that costs of crime to government departments should be distinguished from the costs of crime response by the CJS (and other government departments). Thus, the theft of equipment from the Department of Public Prosecutions would be viewed as a cost of crime incidence, while the department's budget is viewed as a cost of crime response.

While costs have been sought from the NI government departments referred to in the brief for this study, comprehensive data was not received from most departments. The reasons for this are essentially two-fold:

- problems in relation to the actual availability of data on crime within departments; and
- a reluctance by some departments to release what is seen as sensitive information.

A summary of data received from each department follows.

- *Department of Health, Social Services and Public Safety* – Although some information was received in relation to the treatment of patients as a result of some criminal activities, the Department was unable to provide more detailed information. However, it was indicated that criminal activities against the department are likely to come from assaults on staff and the ambulance service, though no official costs were released.
- *Department of Education* – Details of published accounts for the department were received but no information on crime was recorded in this documentation.
- *Department of Agriculture and Rural Development* – The department supplied data on crime costs. However, most of this related to anticipation or response costs with only a very small component identified as related to criminal acts per se - i.e. around £10,000 in theft costs. However the departmental response indicated substantial expenditure on anti-fraud measures and (as indicated above) costs of internal and external fraud have been allowed for in the assessment of fraud costs, based on past reports. It was assumed that the anticipation costs were already allowed for in general cost assumptions relating to DARD and other departments (see the discussion below concerning the Department of the Environment). However response costs cited by the department (approximately

£1.5 million) were assumed to relate to specialised functions over and above regular law enforcement activity and added to total response costs estimates.

- *Department of Culture, Arts and Leisure* – No data was received. It was suggested that contact be made with the Department of Finance for any data relating to this department. However the Department of Finance is currently unable to further assist in this matter.
- *Department of Employment and Learning* – The department was unable to provide any detailed information relevant to this study.
- *Department of Enterprise, Trade and Investment* - The department indicated that most crime was likely to be fraud related. However, no data was received, as the department was unclear as to whether it could be released, due to disclosure issues.
- *Department of the Environment* – The department provided data on the costs of crime to the department and costs of anticipation of crime.

Table 8-1: Cost of crime to DOE

Offence Class	Cost
Class 1 - Offences against person	£0
Class 2 - Sexual offences	£0
Class 3 - Burglary (domestic)	£1,887
Class 4 - Robbery	£0
Class 5 - Theft	£13,000
Class 6 - Fraud & Forgery	£1,200*
Class 7 - Criminal damage	£86,750**
Class 8 - Offence against State	£0
Class 9 - Other notifiable offences	£0
Total	**£102,837**

Source: DOE
Note: Figure of £0 indicates no cost provided or no cost recorded
** Cost recovered*
*** 2007-08*

The largest cost to the DOE was in Class 7 crimes which relate to criminal damage. While this figure is for 2007-08 it still provides some indication of the level of crime (and has been used in the estimates for departmental crime discussed below). It is important to note that the criminal damage figure included £50,000 worth of damage as a result of an arson attack and £15,000 worth of damage to seats, signage, fencing and from vandalism at Roe Valley CP.

While the cost of as a consequence of crime to the DOE was reported as £102,837, crime anticipation and response costs must also be considered. Some allowance for these response costs has been made in the assessment of response costs, discussed in Section 9[45]. The following sub-costs are noted:

- *Environment and Heritage Service (EHS)* – additional security on buildings and stores including locks, CCTV, alarms, security etc. are around £50,000 pa. A budget of £800,000 for staff costs is set aside to deal with Waste Crime and this includes 26 staff. The Water Management Unit (WMU) of the EHS purchase external services from separate agencies providing approximately 51 field staff – the annual budget is £2.3 million.

- *Driver and Vehicle Agency (DVA)* – informed that it would be very difficult to quantify the cost of security measures at DVA sites. The annual cost of taking action against evasion of vehicle excise duty is around £1.4 million – this action leads to the generation of around £2.4 million in penalties, fines and recovered costs. Road Transport Enforcement Officers contribute to reducing vehicle related crime at an overall cost of around £1.5 million (2007-08). To prevent fraud in the theory driving test there is a £15,000 pa running cost. Identity checks on all non-Northern Ireland applicants for driver licences cost around £100,000 pa.

- *Planning Service* – Planning Enforcement exists to regenerate and manage the development and use of land in the public interest. Failure to comply with an enforcement/stop results in the department pursuing court action. In 2006-07 the legal costs paid out by the department to outside solicitors totalled £66,646.

- *Department of Finance and Personnel* – The department provided relevant information in relation to fraud and was forthcoming with

45. In general, anticipation costs were assumed to already be incorporated into the general cost assumptions for departments made in Section 4. However, due to the specialised nature of the DOE's work, response costs are treated as *over and above* those incurred by the "traditional" law enforcement bodies such as the PSNI. Therefore the following approach was adopted. Crime anticipation costs of £50,000 by Environment and Heritage Services, and £115,000 by the Driver and Vehicle Agency were not added to total NI government crime anticipation costs. However, gross crime response costs of £800,000 and £2.3 million (Environment and Heritage Services, fraud/deception responses), £1.4 million and £1.5 million (Diver and Vehicle Agency, fraud/deception and vehicle theft responses respectively) and £66,646 (Planning Service, fraud/deception response) were added to the relevant response cost categories.

data requests. Potential may exist in the future for the Department of Finance to play an important role in the project if centralised records of "loss" from other departments are maintained. However, contacts at the Department suggested that current records make it very difficult to determine if "losses" are due to criminal or legal activity.

- *Department of Regional Development* – The Department reported some information on the costs of crime, however this is fragmentary. DRD headquarters is located at Clarence Court. A few cracked windows and some graffiti were reported at this location. The Department's Road Service also reported crime under Class 5, Theft, amounting to £3,300. The Road Service reported 11 incidents to the PSNI, however no details of these are readily available from the department. A further five incidents were reported to the PSNI by the Departmental Security Officer.

  The department noted that there may have been further reports made to the PSNI across the department which were dealt with locally.

  In terms of crime anticipation costs, DRD explained that most of this is dealt with by the Properties Division in DFP as they are responsible for the up-keep of a large number of government buildings. Within DRD, the road service spent £114,000 as part of an ongoing programme to install and upgrade CCTV in their larger depots[46].

- *Department of Social Development* – The department has been contacted but no information was received, largely due to departmental time constraints.

While useful in some instances, as indicated by this survey, reported data on the costs of crime within government departments are fragmentary and incomplete. Accordingly, splits of the costs of crime have largely been determined by a "top down" approach, as follows:

- the budget outturns for NI government departments in 2006-07 were derived from the Northern Ireland Executive's *Budget 2008-11*;

- the global costs of crime to government (excluding fraud) identified above were generally allocated by the proportion of budget outrun allocated to each department. In the case of the DOE (the only department with comprehensive figures for all types of crime) the allocation was made through direct reference to the departmental figures supplied;

46. As is the case with DOE anticipation costs above, these anticipation costs are assumed to have been included in into the general cost assumptions for departments made in Section 4.

- estimates of fraud relating to NI government departments were derived by adding the KPMG figures for identified major fraud (government) in NI to the last estimate of fraud in NI government departments by the DFP (both of which are referred to in Section 7.3)[47]. This total was then allocated by budget outturn, as per the approach taken for other forms of crime. Note that fraud relating to DOE was also estimated in this way (as the DOE figures reported above only relate to amounts *recovered*);

- identified costs of benefit fraud and agriculture fraud (discussed in Section 7.3 above) were then added to this total. Identified costs of benefit fraud were allocated to the DSD while costs of agriculture fraud were allocated to DARD. This addition reflects the fact that these departments face significant external fraud costs; and

- note that fraud relating to national agencies (HMRC, NHS, BBC) was excluded from these estimates.

It is acknowledged, that this split of crime costs is relatively crude. DFP have suggested that it may ultimately be possible to isolate out fraud and loss via a closer inspection of NI government accounts. Future analysis may wish to focus on such an approach and/or the development of long term recording procedures within government departments to develop a more accurate estimate of costs to specific government departments.

47. As noted above, there is some potential for overlap in this approach, though the quantums involved are relatively small – i.e. some £0.5 million in fraud according to DFP and £1.4 million in identified major government fraud in 2006-07 derived from the KPMG figures

9. Costs in Response to Crime

Costs in response to crime have been developed, based on the assumption that the majority of crime response costs relate to the following NI government agencies identified in the NIO's *2005-06 Annual Report CJSNI* (2006):

- PSNI;
- Northern Ireland Prison Service;
- Northern Ireland Court Service (criminal justice costs only);
- Public Prosecution Service;
- Probation Board for Northern Ireland;
- Northern Ireland Office – Criminal Justice Directorate;
- Youth Justice Agency; and
- Forensic Science Northern Ireland;

In addition, allowance has been made for some response costs by the DOE (as discussed above).

While the last CJSNI report relates to 2005-06, these relevant budgets have been sourced to the 2006-07 financial year for this report, using data from NIO's *Departmental Report 2007* (2007), the Northern Ireland Court Service's *Annual Report 2006/07* and the Probation Board for Northern Ireland's *Business Plan 2006/07*.

HORS 217 used a "flows and costs" model to determine police and other CJS costs in E&W. However, it is understood that no equivalent "flows and costs" model exists for NI. The Home Office subsequently supplemented their flows and costs model with Activity Based Costing (ABC) results (Dubourg et. al. (2005). ABC data assist in the allocation of police time and costs to crime categories.

While ABC is used in NI, the PSNI declined to provide full details for this report for reasons of confidentiality. Aggregated ABC information relating to the PSNI's 2006-07 expenditure was, however, provided and broken into the categories of "citizen focus", "reducing crime", "investigating crime" (i.e. crime prevention), "promoting public safety" and "PSNI specific". Recent documents released in the House of Commons, also provide some details of the proportion of the PSNI budget (by district), broken down into similar categories[48].

48. House of Commons, *Hansard Written Answers* 28 January 2008; HMIC (2006).

While the ABC data provided is of interest, more disaggregated ABC information would be necessary to allow for an allocation of costs to specific crime categories.

Likewise, inquiries with the Northern Ireland Prisons Service and Public Prosecution Service[49] indicated that no split of costs by crime type (and/or time spent on crime types) is available. This was also the case for the Northern Ireland Court Service, with the obvious additional proviso that not all court costs relate to criminal matters. The Court Service also indicated that the current commitments of its statistics make it difficult to develop such cost or time estimates[50].

The following approach has therefore been adopted:

- the 2006-07 budgets of the above CJS agencies have been added together to develop a global CJS cost for NI. Capital costs were included in these figures;
- adjustments were then made to this total budget to exclude the proportion of the total police costs which were not crime-related. This was done through a two step procedure.
    - First, only direct policing costs were reported, based on the "direct policing costs" line item used in the NIO's *Departmental Report 2007* (Table 2). Therefore costs associated with the Patten Report (severance and non-severance costs) and "other policing and security costs" were excluded. Capital costs (from Table 3) were added to this.
    - Second, these direct policing costs were further adjusted for non-crime related activity. Mayhew (2003a) points to similarities between Australian and UK crime costs and activities and estimates that some 30% of police costs in Australia are non-crime related. A review of the aggregated ABC data supplied by the PSNI also suggests that a figure of 30% might be a reasonable yardstick[51]. The PSNI budget was therefore discounted by this proportion.
- court services budget costs were reduced by 26%, based on the proportions of civil and criminal court business volumes recorded in the 2006/07 *NI Court Service Annual Report* (and the assumption these volumes incur similar unit costs); and
- the adjusted CJS budget was then split by crime type based on the proportions indicated in Dubourg et. al. (2005) and HORS 217 (for

49. Telephone conversation with Public Prosecution Service, 13/2/08.
50. Email communication with NI Courts Service 12/2/08.
51. The ABC data supplied by the PSNI indicated that 2.8% of total expenditure was spent on reducing crime (crime prevention), 18% on citizen focus and 14.5% on promoting public safety. These three categories mainly focus on non-crime incidents and sum to 35.3% of total expenditure. However they also include categories such as "public order" and traffic accidents and incidents which lie within the scope of the current study. A discount of 30% has therefore been applied.

non-individual crimes); and

- DOE response costs in the areas of fraud/deception and vehicle theft were allocated to the appropriate categories and added to the total response costs figure.

It is acknowledged that this approach could be further refined in the future. An alternative approach is to use the actual unit costs developed in HORS 217 and Dubourg et al. (2005). However the inclusion of NI budgetary data (rather than the possible alternative of simply using adjusted Home Office unit crime costs) is seen as important, particularly as recent reports have pointed to the *higher* unit costs of policing and (especially) prisons in NI. The direct use of NI budgetary data captures these costs. Further, the provision of a global NI CJS budget allows for a clear guide to crime response costs, regardless of the allocation of these costs to specific crimes[52].

There is considerable uncertainty about response costs for Class 8 and 9 crimes. More clarity about the nature of offences involved and more disaggregated ABC data would assist in developing more accurate costings for Class 8 and 9 crimes. The following approach has been adopted for this report.

- Drugs and traffic CJS costs were allocated based on the proportions of category costs relative to total CJS costs used in HORS217. These were allocated to individual crimes.

- The proportion of response costs for "other" indictable and summary offence costs relative to total CJS costs was derived from HORS 217. This formed a large residual item which was allocated as the response costs for combined Class 8 & 9 government crime.

    - This residual was then further divided by reference to a recent report by HMIC (2006) indicating that some 7.45% of full time PSNI officers are dedicated to responding to public order offences. This figure was used as a sub-allocator to derive the approximate cost of responding to public order offences.

    - The remainder of the residual was then allocated as a proxy for responding to "other" Class 9 government-related crimes in view of a lack of specific cost data (though could more realistically be allocated across Class 9 offences for individuals and businesses if better data permitted).

52. Past Home Office work (e.g. HORS217) has noted similar difficulties in determining CJS costs and the fact that police and other CJS unit costs are likely to differ considerably. Evidence to the House of Commons (2007b) has indicated that NI prisoners of all types may effectively incur similar (high) costs due to limited establishments and the fact that NI prison facilities (such as Maghaberry) were built with the need to provide for maximum security in mind. Therefore housing minor offenders may incur similar daily unit costs to housing those guilty of more serious crimes (Ev 166). If so, arguably the unit costs of incarceration by offence type in NI prisons converge. Against this, is the approach taken in Dubourg etl al. (2005) which notes the lengthy periods incurred by serious offenders and employs a discounted present value approach to unit prison costs.

Note that these costs currently exclude the costs incurred by a number of government departments (whether NI or Westminster based). Arguably the above "global total" should include the following:

- *HMRC* – As indicated HMRC is heavily involved tackling organised crime in NI with some 160 officers involved in addressing fuel smuggling alone;
- *Serious Organised Crime Agency (NI)*;
- *Assets Recovery Agency (NI)* – This was still a separate entity in 2006-07;
- *NI Audit Office*;
- *Police Ombudsman*;
- *Criminal Justice Inspectorate*;
- *Oversight Commissioner*;
- *Policing Board*;
- *Criminal Compensation Board* – As indicated, compensation payouts has not been included. In addition, no allowance has been made in this report for Board running costs;
- *NHS (NI)* – The costs of Anti fraud activities; and
- *BBC (NI)* – Anti fraud activites.

While some component of the budget of these bodies may be added to the total crime budget, it is currently unclear how much in some cases and/or whether a split by crime type would be meaningful in others.

10. Data Gaps and Future Work

As already indicated, there are a number of important unresolved issues and data gaps in the study. Some of these may be resolved within the context of the current study, while others are of a long-term "structural" nature.

Key issues and data gaps are listed below.

- *NICS data* –This study has generally proceeded on the basis of published reports relating to the NICS.

  As indicated, this is due to confidentiality concerns which restrict the release of data from the past two surveys. These confidentiality issues restrict the ability to conduct a closer interrogation of the NICS results. For example, a close examination of the unpublished data may allow for an estimate of the nature of injuries suffered by victims of wounding and the development of NI-specific costings, as per Dubourg et al (2005). Likewise, closer analysis of the data may allow for more accurate estimation of incident numbers for some crime types.

  A further structural constraint – well recognised in the published NICS data – is that any incident (or potentially cost) data are likely to be affected by small sample sizes (given the small total population of NI and time and resource constraints). This is likely to impact on the reliability of estimated results from this and future studies.

  Another structural constraint is the lack of unit cost data contained within the NICS (unlike the BCS). It is understood that this is due to quality control, resource and sampling issues – i.e. the limited number of questions which can be posed to a small sample of respondents for a given budget. However, this fact implies that studies which seek to estimate the individual costs of crime in NI are likely to continue to use unit costs developed by the Home Office for E&W, unless a decision is made to include cost data in future NICS (or an alternative sample of costs is developed).

- *PSNI recorded crime data and offence definitions* – A more detailed breakdown of crime incidents than is available in published statistics was requested from the PSNI, however this proved difficult to obtain.

  A more detailed breakdown of offences would assist in offence identification and clarify the nature of some offences (such as those recorded under "other" labels"). At the same time it is acknowledged that the PSNI has no electronic records of splits between some crime

types (e.g. business vs. government) - which is an effective structural constraint to incident measures for this (and other) studies.

Greater definitional clarity around certain offence types, would help to determine how to allocate costs. For example, a great many reports seek to determine the cost of fraud but use varying definitions of the term (e.g. sometimes including embezzlement, corruption, theft, VAT fraud, telecoms fraud, social security fraud etc). The approach adopted to date has sought to be consistent with that used by the best available "road map" (i.e. Levi et al.) However, it remains unclear how (or whether) these offences would fit into the definition of "Class 6" frauds (which include "other frauds"). As very large sums are involved, it is important to clarify this issue in future reports.

A related topic is to clarify the definition of Class 8 (and other) offences so as to quantify their costs and/or determine if any cost attribution double counts other offences. For example, greater definitional clarity is needed in order to allocate costs to items such as "other offences against the public order".

One result of a lack of such clarity is that a large residual item has been allocated to the response costs for Class 8 & 9 government crime. This is based on the proportion of response costs for "other" indictable and summary offence costs derived from HORS 217. This residual is intended as a proxy for responding to crimes such as offences against the state and other government-related crimes although, as indicated, past reports on PSNI activities did allow for the estimation of a public order response costs using a sub-allocator. More detailed data on PSNI costs could allow for a more realistic estimate of Class 9 costs, however, (as it is likely that some of these residual costs could more realistically be allocated across Class 9 offences for individuals and businesses). More clarity about the nature of offences would also assist in developing more accurate costings for Class 8 and 9 crimes.

- *PSNI offence costs* – The PSNI has adopted Activity Based Costing (ABC). However, only a limited breakdown of ABC cost data was provided for this study due to PSNI confidentiality concerns.

  Access to the fully disaggregated ABC dataset would assist in developing a set of CJS allocations per offence which is more relevant to NI then the current split based on HORS 217 allocations (and NI costs).

- *NI CJS breakdowns (ex police)* – While ABC data exist for the PSNI, there would not appear to be any equivalent within NI to the Home Office's past work on CJS flows and costs modelling. This work allowed the Home Office to allocate overall CJS costs to specific offence categories. This report has used NI cost data allocated by the splits outlined in HORS 217.

  There may be some potential for a detailed inquiry to derive more accurate splits for prisons and court data, although the limitations of current data have been noted above. Alternatively, if PSNI ABC data become available, unit costs could also be split in a manner similar to police costs, though as noted in HORS 217 the assumption that other CJS costs will reflect police cost allocations is arguable. This is a factor which will also restrict future reports.

- *Departmental crime data* – As noted, no PSNI breakdown of offences by victim class (individuals, businesses, government) exists electronically. While the distinction is self evident in some cases, in others it is not, particularly when a government/business split is required.

  As indicated above, contacts made with NI government departments yielded only limited amounts of information on departmental costs of crime. The DFP suggested that some split might ultimately be derived by assessing departmental records of "loss". Such an approach could not be undertaken for this study due to uncertainties over whether such records related to illegal activity and advice from the DFP on the fragmentary nature of the information. (The DFP recommended a split based on estimates sourced from Great Britain for the current study.)

  A large part of the government/business split has therefore been informed, by the relative shares of GVA contributed by business and government in NI (though a more refined disaggregation was available in the case of fraud). This is also an issue which will affect future reports, in the absence of a specific survey or approach to capture the costs of government-related crime.

  A further issue is the need to distinguish between government-related crime relating to NI government departments and those which are UK-wide in nature.

- *Lack of NI-specific breakdowns* – Issues surrounding a lack of NI-specific data have been mentioned above. While these have been

overcome in many instances, they are likely to persist in others in the absence of specifically commissioned work (e.g. unit costs of crime against individuals).

- *General confidentiality issues* – A number of organisations expressed initial concerns about releasing information on crime-related issues which could potentially enter the public domain. Others have indicated a preference for dealing directly with the NIO and/or called for separate pieces of work, specifically commissioned by the NIO. In other cases (e.g. private companies, operating on a national basis) there appears to be a lack of interest in assisting a study with no commercial return.

  While the NIO assisted in dealing with such confidentiality concerns, it is likely that future studies into this area will encounter similar issues due to its sensitive nature.

- *Potential for error and imprecision* – This study has used a wide variety of sources including data drawn from NICS, FSB, OFT and Levi et al, together with many other reports. Many of these relate to past survey work and in some cases sample sizes are relatively small. Further, in some cases, sampling distributions would appear to be skewed (though it is uncertain if this is due to sampling issues or because the populations are skewed).

  These facts raise obvious issues related to confidence intervals and statistical reliability. Studies of this nature are always likely to face such issues however. It is anticipated that future studies will offer further refinements to the methodology adopted in this report. It is also noted that, overall the results of this study are broadly consistent with past work such as HORS 217 and Mayhew (2003a,b).

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Appendix 1: Using EU ICS Data for Northern Ireland

Using EU ICS to Estimate Victim Losses from Crime in Northern Ireland

Revised version
Roger Bowles,
18 July 2008

1. Introduction

This note reviews the scope for using household-level data from the International Crime Victims Survey to generate data for cost of crime estimation purposes in Northern Ireland. There would be much greater scope for doing such detailed analysis using the Northern Ireland Crime Survey, in which more respondents are asked many more questions, but the requisite data are not in the public domain.

ICVS surveys

International Crime Victims Surveys, conducted under the auspices of the UNICRI organisation, are available for a wide range of countries[53]. The surveys are conducted occasionally rather than annually and the sample size (usually around 2,000 households) is on the low side. Despite these limitations they do ensure a minimum amount of information is being produced for the countries covered, and this does support international comparisons of various kinds. The EU version of ICVS, referred to as EU ICS, covers around 37,000 respondents spread over 16 countries, with an average of 2,000 respondents per country. The countries are listed, along with the size of sample surveyed, in Table 1.1 below. The UK data are split into three, one set each for England & Wales, Scotland and Northern Ireland. Other European countries/areas covered are: Netherlands, Switzerland, Belgium, France, Finland, Sweden, Portugal, Denmark, Catalonia and Poland. A number of non-European countries are included namely: USA, Canada and Australia.

53. The web page outlining the EU ICS makes the following assertion: "The European Crime and Safety Survey (EU ICS) is the most comprehensive analysis of crime, security and safety ever conducted in the European Union.": http://www.unicri.it/wwd/analysis/icvs/index.php

Table 1.1: Countries Covered by EU ICS 2000

Country	Total Household respondents
England & Wales	1947
Scotland	2055
Northern Ireland	1511
Netherlands	2000
Switzerland	4234
Belgium	2501
France	1000
Finland	1782
Sweden	2001
Portugal	2000
Denmark	3007
Catalonia	2909
USA	1000
Canada	2078
Australia	2005
Poland	5276
Total	**37306**

The offences covered are: theft of cars, theft from cars, theft of motorcycles, theft of bicycles, burglary/housebreaking, attempted burglary/housebreaking, robbery, theft of personal property, sexual victimisation, and assaults/threats.

There are 682 variables in the SPSS version of the data[54]. The data are quite limited from a cost of crime perspective. The sample size is quite low, so incidence rates cannot be estimated very reliably. The questionnaire is much less detailed than national surveys like the British Crime Survey. There is little to enable quantification of key cost components such as: victim loss from physical or emotional sources, lost output (e.g. days off work); and value of property lost or damaged in motor vehicle offences.

The things which it is possible to do are as follows:

- identify which respondents have been victims of each offence in the past 5 years: the best source is the variable [offence type] LAST YEAR since it distinguishes those who have been a victim in the past

54. A copy of the questionnaire is available from the EU ICS site: http://www.europeansafetyobservatory.eu/files/EUICS_qmasterEN.pdf

5 years; further it allows the victim group to be split into three: those who have been a victim in the current (incomplete) year, those who were a victim the previous year and those who had been victimised at some other time during the previous 5 years;

- calculate the mean value of property stolen (and the mean value of property damaged) in domestic burglaries during the past five years;
- identify which respondents reported incidents (and if not why not);
- whether a stolen car was recovered;
- how serious the incident was for the victim and their household;
- what weapons if any were used in robberies, sexual assaults and assaults or threats;
- whether injuries resulted from assaults (but not robberies or sexual assaults); and
- identify very crudely (by quartiles or halves) where households are located in the distribution of income.

2. Methodology

2.1 Estimating incidence and prevalence

For many offence types, including some quite serious crimes like sexual offences and violence against the person, reporting rates may be low and unpredictable. Surveys are often the best means of making reliable estimates of the proportion of the population experiencing offences[55]. This proportion, representing the 'prevalence' of an offence, is sometimes converted to an 'incidence' rate[56].

2.2 Estimating losses per incident

The costs victims incur from crime depend not only on the proportion of households experiencing a particular type of offence but also on the loss per incident. In section 4 we show how EU ICS may, in some instances, be used to collect data on the distribution of losses across a sample of victims.

2.3 Using the findings for cost estimation purposes

The remaining sections of the paper show how to take these pieces of information from EU ICS to construct some of the components of victim costs of crime. The methodology is illustrated by reference to Northern Ireland.

55. In Northern Ireland however there are no questions about sexual offences in crime victim surveys.
56. Crime prevalence refers to the proportion of people (or households) in an area who are victimised. Crime concentration refers to the number of victimisations per victim (or household). Crime incidence is a product of crime prevalence and crime concentration. It refers to the number of crimes that have occurred in a given area, and is usually expressed as a rate per head of population.

3. Prevalence rates for various offence types from EU ICS

We look first at the estimation of prevalence rates. The focus is on identifying the proportion of households who have been the victim of such an offence in the current year, the past year or the past 5 years. The preferred measure is taken by dividing the number of households who were victims in the 'last year' by the total number of households surveyed. In some cases this measure does not capture well a measure of the risk of becoming a victim. Non car-owning households are not at risk of having a car stolen. Such households would be excluded from a theft risk calculation. But for purposes of estimating incidence we are interested in the fraction of all households becoming victims.

4. Estimating Victim Losses per Offence

The estimates of loss per offence are based on responses for all instances where households report losses from offences in the past five years. The basic procedure is to use EU ICS data to compute for each country the mean value of property damaged and the mean value of property stolen. The results are summarised in Tables 4.1 and 4.2.

Table 4.1: Mean value of damage to property in domestic burglaries

Burglary:- Value of damaged property.

Country	Mean	N	Std. Deviation
England & Wales	559.09	110	832.471
Scotland	444.32	45	641.031
Northern Ireland	243.85	47	508.453
Netherlands	1605.06	101	5994.663
Belgium	28934.77	149	63443.108
France	4021.91	18	8592.393
Finland	5522.25	10	7249.07
Sweden	3693.35	42	5946.976
Portugal	5334.09	43	11775.582
Denmark	4009.19	117	6380.421
Catalonia	102071.49	47	487169.332
USA	553.61	29	1037.423
Canada	688.12	100	1410.713
Australia	346.51	131	554.227
Poland	165559.59	118	371256.631
Total	**27035.03**	**1107**	**166368.333**

Table 4.2: Mean value of property stolen in burglaries

Burglary:- Value of stolen property

Country	Mean	N	Std. Deviation
England & Wales	1603.21	156	2744.354
Scotland	1498.1	79	2140.285
Northern Ireland	1382.23	71	3104.791
Netherlands	724426.68	121	8047176.578
Belgium	287198.66	176	2038585.598
France	16317.14	41	31685.61
Finland	8862.68	23	14016.375
Sweden	16130.07	85	27203.37
Portugal	8078.67	98	17049.596
Denmark	22934.24	232	34755.74
Catalonia	284923.21	95	629844.105
USA	5742.05	50	18728.562
Canada	4219.42	153	10337.003
Australia	7697.32	225	68289.043
Poland	113018.46	196	311837.979
Total	**110507.11**	**1799**	**2190204.358**

Care is needed because the number of burglaries involving damage to property is smaller than the number involving items being stolen. The mean loss per incident for those surveyed is adjusted by taking a weighted average of the damage loss and the property loss: Table 4.3. This spreads the damage costs across all incidents where property loss occurred.

Table 4.3: Estimate of mean value of property damaged and stolen in domestic burglaries: UK

Country	Mean value of damage	Incidents involving damage	Mean value of property stolen	Incidents involving stolen items	Total mean loss	Mean loss per incident
	a	b	c	d	e=a+c	f=(ab+cd)/d
	£	No.	£	No.	£	£
England & Wales	559	110	1,603	156	2,162	1,997
Scotland	444	45	1,498	79	1,942	1,751
Northern Ireland	244	47	1,382	71	1,626	1,544

5. Estimating Aggregate Victim Costs of Crime

Assuming the EU ICS Survey is nationally representative then the findings about victimisation can be aggregated to make estimates for the whole country. The number of households covered in the 2000 wave of the EU ICS survey of Northern Ireland is 1,511. The number of households in the country at that time[57] (Northern Ireland, 2000) was 623,000. Everything is thus to be scaled up by the multiple:

623,000/1,511 = 412.31

Further scaling up is required to take account of subsequent growth in the number of households. The number was 672,600 by 2006, so the multiplier is adjusted to 445.14[58].

Inflation

Any value estimates need to take account of inflation. The UK All Items Retail Prices Index (CHAW) stood at 170.3 in 2000[59]. By 2007 it had risen to 206.6, so values are multiplied by 206.6/170.3 to convert from 2000 prices to 2007 prices. This assumes implicitly that when asked about property loss respondents have expressed losses in terms of prices prevailing at the time of the survey even though the loss may have been experienced up to five years previously[60].

Proportion of households victimised

We consider two ways of estimating the proportion of households falling victim to crime.

a. Using EU ICS survey data

An estimate of the proportion of households falling victim to crime is given by the proportion found in the 'victim in the last year' data from the EU ICS survey of Northern Ireland, 2000. The proportions for various offence types were as follows[61]:

Car Theft	1.19%
Theft from car	2.71%
Damage to car	4.50%
Burglary	1.65%
Personal Theft	2.25%

57. http://www.detini.gov.uk/cgi-bin/downdoc?id=25
58. http://www.dfpni.gov.uk/news-march-2008-households
59. The source of the data used is: http://www.statistics.gov.uk/StatBase/tsdataset.asp?vlnk=7172&More=N&All=Y. This is not the only index that might be used but it is a familiar one.
60. The reason is that it is convenient to base value estimates on all incidents over the previous years rather than the last year offences only since it gives a larger sample and thus a better idea of the shape of the distribution of losses.
61. Offence types involving fewer than 5 victims have been excluded.

Estimates of the number of offences currently being committed can be made by multiplying the number of households by these proportions and adjusting for households experiencing multiple victimisation. But it is important to keep in mind that crime trends might have changed considerably since the last wave of the EU ICS survey in 2000. It is useful therefore to compare the findings with those from the NICS in 2006/07.

b. Northern Ireland Crime Survey 2006/07

This alternative, more up-to-date, source can be found in the report on findings from the 2006/07 Northern Ireland Crime Survey[62]. Table A1 of the report, reproduced below, shows the proportions of households who were victims of crime in 2006/07.

62. Freel R & B French (2008) 'Experience of Crime: Findings from the 2006/07 Northern Ireland Crime Survey', Research and Statistical Bulletin 1/2008, Statistics and Research Branch, Northern Ireland Office

	Best Estimate[3]	Lower Estimate[3]	Higher Estimate[3]
Percentage of households, victims once or more of:			
Vandalism	**4.0**	**3.5**	**4.5**
Vehcile vandalism	2.1	1.7	2.5
Other vandalism	2.0	1.6	2.3
Burglary (including attempts)	**1.9**	**1.5**	**2.2**
Burglary with entry	1.3	1.0	1.6
Attempted burglary	0.6	0.4	0.8
Vehicle-related theft (including attempts)	**2.2**	**1.8**	**2.6**
Theft from a vehicle	1.2	0.9	1.4
Theft of a vehcile	0.5	0.3	0.7
Attempted theft of / from a vehicle	0.6	0.4	0.8
Bicycle theft	**0.8**	**0.6**	**1.0**
Other household theft	**3.0**	**2.5**	**3.4**
Stealth theft from the person	**0.1**	**<0.1**	**0.2**
Other theft of personal property	**1.7**	**1.3**	**2.0**
Percentage of vehicle owners, victims once or more of:			
Vandalism	**2.4**	**2.2**	**3.2**
Theft from a vehicle	1.4	1.1	1.8
Theft of a vehcile	0.7	0.4	0.9
Attempted theft of / from a vehicle	0.8	0.5	1.0
Vehicle vandalism	**2.7**	**2.2**	**3.1**
Percentage of bicycle owners, victims once or more of:			
Bicycle theft	**2.4**	**1.6**	**3.1**
Percentage of adults (16+), victims once or more of:			
Common assault[4]	**2.1**	**1.7**	**2.5**
Wounding	**0.3**	**0.1**	**0.4**
Mugging (robbery & snatch theft)	**0.5**	**0.4**	**0.7**
ANY NICS VIOLENT CRIME[2]	**0.5**	**0.5**	**0.5**
ANY HOUSEHOLD CRIME[1]	**10.5**	**9.7**	**11.3**
ANY PERSONAL CRIME[2]	**4.3**	**3.8**	**4.9**
ANY NICS CRIME[5]	**14.2**	**13.3**	**15.2**

Source: NICS 2006/07

1. Prevalence risks for household crime (vandalism, burglary, vehicle-related theft, bicycle theft and other household theft) are based on households.
2. Prevalence risks for violent crime (common assault, wounding and mugging) and personal crime (violent crime, stealth theft from the person, and other theft of personal property) are based on adults and are weighted for household size.
3. The best estimate is the mean figure drawn from the sample. The lower and higher estimates are for the 90% confidence interval. There is 90% certainty that the prevalence risk per household or adult lies between the lower and higher estimates.
4. The NICS common assault definition includes minor injuries. From April 2003, the recorded crime definition no longer includes minor injuries.
5. The any NICS crime rate is calculated trating all crimes as personal crimes. It is estimated percentage of adults who have been a victim of at least one personal crime or have been resident in household that was a victim of at least one household crime.

Comparison of NICS 06/07 and EU ICS 2000

The substantial separation in time between the two surveys may account for some of the quite sizeable differences between the two proportions. But differences in methodology and definitions may also play a role.

Table 5.1: Comparison of prevalence rates in EU ICS (2000) and NICS (06/07)

	NICS 06/07	EU ICS 2000
Car theft	0.70%	1.19%
Theft from car	1.20%	2.71%
Damage to car	2.70%	4.50%
Burglary	1.90%	1.65%
Personal theft	1.80%	2.25%

From Table 5.1 it can be seen that there are some quite large variations in prevalence rates between the two surveys. There are various methods that can be used to aggregate to get an estimate of the number of offences this is likely to represent across the whole country in a year. Once such an estimate has been made, it can be multiplied by the losses per offence to get an estimate of aggregate loss.

In the normal course of events this would entail using data from the same surveys about the scale of loss. In the case of NICS this is unfortunately impossible since the raw data from the survey are not in the public domain and the survey report makes no reference to the relevant financial values of loss. In the case of EU ICS some information on the size of loss is available but, because they are somewhat dated, the values have to be adjusted because inflation means they will otherwise under-estimate the true scale of loss.

Our approach has been to use the values and prevalence from the EU ICS survey simply because we know the two have been calculated using similar definitions. The inflation issue is tackled by inflating losses by the consumer price index to get losses valued in contemporary terms.

In the spreadsheet model below the EU ICS prevalence rates are used to estimate the number of households victimised across the whole country. As is evident from our analysis of the EU ICS data on the losses per incident, many of the data required to complete the estimation process are missing.

Table 5.2: Victim costs of crime, Northern Ireland

	Household victims last year'	Victims in country (Est.)	Loss per incident (Survey) £	Estimated Aggregate loss (Survey) £	Estimated Aggregate loss (inflation adjusted) £
Assault	46	18,966			
Sexual offenses	5	2,062			
Car theft	18	7,422			
Theft from car	41	16,905			
Damage to car	68	28,037			
Burglary	25	10,308	1,544	15,915,552	19,308,004
Robbery	1	412			
Personal theft	34	14,019			
Households	NI,200	623,000			
	EU ICS:	1,511			
Inflation	RPI 2000	170.3			
	RPI 2007	206.6			
Recorded crime: Northern Ireland (New counting rules)	(thousands)	**year 99/00**	**year 05/06**		
	VAP	21.4	31		
	Sexual offenses	1.3	1.7		
	Burglary	16.1	12.8		
	Robbery	1.4	1.7		
	Theft	37	29.5		
	Fraud and forgery	7.9	5.1		
	Criminal damage	31.2	34.8		
	Drug offenses	1.7	2.9		
	Other	1.1	3.7		
	Total	119.1	123.2		

Use of Parallel Findings

An alternative to using the EU ICS data on prevalence and victim loss per offence is to use NICS prevalence data in conjunction with victim loss estimates adapted from a neighbouring or similar country. Home Office data for the cost of offences in 2003-04 based on England and Wales (E&W), as documented in Dubourg et al (2005) would likely be a reasonable estimate for offences in Northern Ireland (NI).

Per capita income is lower in NI than in E&W and this might well be reflected in the value of lost output or the value of property stolen or damaged. One option, therefore, would be to reduce the victim cost estimates in proportion to this variation. The levels of total household income per capita in 1999 in England, Wales and Northern Ireland were 102, 87 and 84 respectively. Since England is much larger than Wales then a reasonable approximation would be to put income levels in NI at 85% of the level in E&W[63].

From Table 5.3 the average loss from damage and stolen property in NI (£1,544) is about 77% of the level suggested by the responses in EU ICS for England and Wales. The value of goods stolen in NI is about 86% of the level in E&W, which is very close to the relative income measure identified above. This provides some initial evidence that adjusting victim loss proportionately to per capita income levels gives a reasonable first approximation, although clearly the argument works better for the value of property stolen than it does for damage to property.

Table 5.3

Comparison of EU ICS and home office costs of burglary				
		(Weighted)		
		Stolen	**Damaged**	**Total**
NI	EU ICS, 2000	£1,382	£161.5	£1,543.5
E&W	EU ICS, 2001	£1,603	£394.2	£1,997.2
E&W	Dubourg, 2005	£846	£187.0	£1,033.0

But Table 5.3 also reveals a potentially serious inconsistency. The relativities between NI and E&W within the EU ICS data may be readily explicable. What is much less easy to reconcile is the scale of the differences in loss estimates for England and Wales. The mean value of property stolen in Dubourg (2005), at £846, is only a little over 50% of the

63. The source of information on income levels in N. Ireland relative to England and Wales is: http://www.statistics.gov.uk/articles/economic_trends/regional_sub-regional_local_area_household_income.pdf

corresponding figure in EU ICS (£1,603), even though it is based on more up to date data so should be higher to take account of inflation and rising real incomes.

The likelihood is that the difference is driven by variation in the definition of incidents included as burglaries. The EU ICS estimates are restricted to those cases where a positive value of loss was recorded. It may be that the Dubourg estimates include instances which were 'attempts' at burglary or where nothing was stolen. This disparity does not matter provided that it can be attributed to differences in the prevalence or incidence rates revealed in the two sources[64]. In practice however it may be difficult to establish whether incidence differences are sufficient to explain the disparity.

If we are to use the Dubourg et al (2005) findings then it is important to recall that survey findings may not cover all the relevant categories of costs to victims. For example, we exclude here the costs of anticipation and the costs of the Criminal Justice System response. These other components are dealt with elsewhere in the model. In Table 5.3 below we note that the Dubourg et al figure for victim losses from burglaries includes components for 'impact on victims', 'property recovered' and for 'lost output'. These items can be included because there is data from the British Crime Survey that can be used for the purpose. But they are not included in EU ICS questionnaires. There remains the alternative of using the Dubourg et al estimates as proxies, possibly adjusted for income levels and/or the exclusion of zero-loss events. But the latter is not easy to do without a clearer picture of the incidence of such events.

As Table 5.4 makes very clear it is not possible to do a great deal with the EU ICS data, beyond estimating incidence rates. It is only with the Dubourg et al estimates derived from the much more thorough British Crime Survey that the possibilities really open up. We have added homicides to the picture. These are excluded from crime surveys of all types largely because of their extremely low incidence and also the presumption that the great bulk of homicides are reported to the police, so that the number of recorded offences is a good guide to the number of victims.

64. For example suppose 10% of households are burgled but only 50% of these burglaries result in loss. If the average loss is £2,000 where loss occurs then we could either say there's a 5% risk of losing £2,000 or a 10% risk of losing an average of £1,000. The expected loss per household (and thus the average victim costs of burglaries) is the same either way (namely £100).

Table 5.4: Cost of Crime Estimates for Northern Ireland based on EU ICS 2000

Cost of crime estimates for Northern Ireland based on ICVS data 2000							
	household victims last year'	victims in country (Est.)	loss per incident* (Survey)	aggregate loss (Survey)	aggregate loss (inflation-adjusted)	loss per incident (Dubourg et al)	aggregate loss (Dubourg et al)
Assault	46	18,966				1,057	20,047,324
Sexual offenses	5	2,062				27,184	56,041,138
Car theft	18	7,422				847	6,286,074
Theft from car	41	16,905				286	4,834,744
Damage to car	68	28,037				478	13,401,715
Burglary	25	10,308	[1,544]			1,721	17,739,626
Robbery	1	412				4,161	1,715,621
Personal theft	34	14,019				300	4,205,559
							124,271,801
Homicides		48				1,311,490	62,951,520

*Loss per incident calculated as total loss from burglaries over past five years divided by number of burglaries over the period (including those where nothing stolen)

number of households				**inflation**		
in country:	NI, 2000	623,000			RPI 2000	170.30
in survey:					RPI 2007	206.60

recorded crime		year 99/00	year 05/06
	VAP	21.4	31.0
	Sexual offenses	1.3	1.7
	Burglary	16.1	12.8
	Robbery	1.4	1.7
	Theft	37.0	29.5
	Fraud and forgery	7.9	5.1
	Criminal damage	31.2	34.8
	Drug offenses	1.7	2.9
	Other	1.1	3.7
	Total	**119.1**	**123.2**

Sources of data
Recorded crime data for 05-06 from: http://www.psni.police.uk/1._recorded_crime.pdf
Homicides estimated from homicide rate of 28 per million inhabitants and population of 1.710300 million inhabitants in June 04
Loss per incident estimates derived from Dubourg et al (2005): (all in £)

	Impact on victims	property stolen	property damaged	property recovered	Lost output	Total loss
Assault	788				269	**1,057**
Sexual offenses	22,754				4,430	**27,184**
Car theft	800				47	**847**
Theft from car	266				20	**286**
Damage to car	472				6	**478**
Burglary	646	846	187	-22	64	**1,721**
Robbery	3,048	109	12	-19	1,011	**4,161**
Personal theft	118	175	17	-13	3	**300**
Homicide	860,380				451,110	**1,311,490**

An alternative is to estimate the value of losses by combining volume of crime estimates derived from NICS for 06/07 with (unadjusted) values from the Dubourg (2005) study.

This approach produces estimates which, although different in detail from the results in the previous table, are broadly in the same area.

65. The estimates of the volume of offences used in Table 5.5 are taken directly from Table A7 in the report on NICS: Freel & French (2008).

Table 5.5: Estimates of costs of crimes against households and individuals based on NICS

	Estimated Volume of Offenses: year 06/07	Dubourg Average Cost per offence	Estimated aggregate cost £m.
HOUSEHOLD			
Vandalism	40,026		
Motor vehicle vandalism	19,748	478	9.44
Other vandalism	20,277		
Burglary	14,106	1,721	24.28
Theft from a motor vehicle	9,698	286	2.77
Theft of motor vehicle	4,232	847	3.58
Attempted theft of & from vehicle	4,584		
Bicycle theft	5,819		
Other household thefts	23,275		
PERSONAL			
Common assault	42,058	269	11.31
Other thefts of personal property	26,053	300	7.82
Homicide	48	1,311,490	62.95
		Total	**£m. 122.16**

6. Conclusions

Previous sections have demonstrated how estimates of prevalence and incidence rates from EU ICS data may, at least in principle, be used to derive some components of the value of losses victims experience. It is clear, however, from the tables that this approach typically leaves many gaps in victim loss estimates. The coverage in EU ICS is limited effectively to loss estimates for domestic burglary, but even for that offence it cannot provide estimates for all the relevant components. The NICS potentially

offers more complete coverage of such issues but without access to the raw data it is not possible to exploit household-level data about the distribution of the value of losses.

The 'scaling' of Dubourg et al (2005) estimates of victim loss by reference to relative GVA per capita figures for Northern Ireland as compared with England & Wales represents an alternative procedure. But it remains a rather crude procedure because it makes many assumptions about the profile of victims.

Annex 1 Extracting and Accessing EU ICS data

1. Go to the data section of the ICVS web site (http://www.unicri.it/wwd/analysis/icvs/data.php)

2. Download the zipped SPSS data file for the 2000 National Surveys. Unzip the file to extract the data file which is in .por format.

3. At the time of writing (Feb. 2008) the latest data available in 'raw' form from the web site refer to the 2000 round of the survey, making them rather out of date. Variables measured in currency terms may need to be adjusted for changes in the currency in use (for states switching to the Euro since 2000) and/or for inflation. Inflation adjustments can be made using price index data for the relevant country.

4. This data file covers many countries. To explore the data for a particular country create a new datafile that contains only data from the country of interest. Select the Data item from the menu then Select Cases. Select your country by specifying the appropriate condition on variable i005. For Northern Ireland this would mean setting i005=10300. Towards the bottom of the Select Cases box indicate that you wish to save these data in a new file.

5. This newly created file is easier to use than the one you downloaded. Give it a name that indicates clearly which country the data cover.

6. The EU ICS questionnaire contains quite a lot of questions that are of interest from a cost of crime perspective, but responses are not recorded against all of them. You can establish this quickly by running Descriptive Statistics to review the contents of the variables of interest. See list of variables below.

7. In the case of variables such as the value of property stolen in burglaries where data have been collected, generate key properties of the variable, such as its mean, minimum, maximum, median and mode. You may also be interested in things like the skewness of the distribution of its values.

8. It is useful to record also the number of households reporting themselves to be victim of each offence type. You will typically have a choice between incidents 'this year', 'last year' or 'prior'. The simplest of these is 'last year'. Unlike 'this year' it covers a full twelve month interval so can be used to derive an annual incidence or prevalence rate. The 'prior' one refers to some other time in the previous five years. Recollection over this interval is probably less reliable, so does not form a solid basis for estimating an average annual incidence rate.

9. Suggested method is to run Frequencies for each variable in the first list below to get incidence estimates. Then run Frequencies (or Compare Means as appropriate) to examine the proportion of cases where items are recovered (or losses have been estimated).

Listing of key variables in EU ICS

Variables for estimating proportion of households victimised:

c01a100	cartheft:LAST YEAR
c02a100	th fr car:LAST YEAR
c03a100	cardam:LAST YEAR
c04a100	motortheft:LAST YEAR
c05a100	bicyctheft:LAST YEAR
c06a100	burglar:LAST YEAR
c09a100	robbery:LAST YEAR
c10a100	pers theft:LAST YEAR
c11a100	sexoff:LAST YEAR
c12a100	assault:LAST YEAR
c13a100	fraud:LAST YEAR
c14a100	corrupt:LAST YEAR
sa2a100	carjack:LAST YEAR

Variables for cost of crime estimates:

c01c101	cartheft:RECOVERED
c02c202	th fr car:-VALUE OF STOLEN PROPERTY
c02b900	th fr car:SERIOUS
c03c302	cardam:-VALUE OF DAMAGED PROPERTY
c04c101	motortheft:RECOVERED
c05c101	bicyctheft:RECOVERED
c06c202	burglar:-VALUE OF STOLEN PROPERTY
c06c302	burglar:-VALUE OF DAMAGED PROPERTY
c09c202	robbery:-VALUE OF STOLEN PROPERTY
c10c202	pers theft:-VALUE OF STOLEN PROPERTY
c11b900	sexoff:SERIOUS
c12b900	assault:SERIOUS
c12e032	assault:-INJURY
c12e033	assault:-SEE DOCTOR
sa1c202	stock: VALUE
sa2c201	carjack:ACTUALLY STOLEN
sa2e032	carjack: INJURY
sa2e033	carjack: -SEE DOCTOR

SPSS Syntax for generating data required

The following lines of syntax generate a listing of the raw data (as listed above) needed from EU ICS for the spreadsheet model. This assumes you have selected from EU ICS the cases relevant to the country and year you are analyzing.

```
FREQUENCIES
VARIABLES=c01a100 c02a100 c03a100 c04a100 c05a100 c06a100
c09a100 c10a100 c11a100 c12a100 c13a100 c14a100 sa2a100
/ORDER=  ANALYSIS .
DESCRIPTIVES
VARIABLES=c01c101 c02c202 c02b900 c03c302 c04c101 c05c101
c06c202 c06c302 c09c202 c10c202 c11b900 c12b900 c12e032 c12e033
sa1c202 sa2c201 sa2e032
sa2e033
/STATISTICS=MEAN STDDEV MIN MAX .
```

More specialist exploration

To explore the link between victimisation and household characteristics such as ethnic composition and household income look through the dataset to make a judgment about whether it is likely to be worthwhile spending time on further analysis. With low numbers of victims, and/or where the

classification of households allows of much variation, the scope may be very limited. But it's worth looking, particularly if there are distributional concerns to be explored.

Annex 2 Northern Ireland EU ICS results

Latest Survey findings from year: 2000
Country covered: Northern Ireland
Households interviewed: 1,511

1. Car theft

Households suffering loss:	
Non car owners:	255
Owners & victims:	
This year (incomplete)	10
Last year	18
Prior (other time in last 5 yrs)	79
Total owners & victims:	107
Owners not victimised in last 5 years:	1,147

Incidence rate ('last year') = 18/1511 = 1.19%
No value question. Recovery rate (from c02c202): 83/109 = 76%

2. Theft from car

Households suffering loss:	
Non car owners:	255
Owners & victims:	
This year (incomplete)	9
Last year	41
Prior (other time in last 5 yrs)	81
Total owners & victims:	131
Owners not victimised in last 5 years:	1,124

No responses recorded to value question (c02c202).
Incident rate ('last year'): = 41/1511 = 2.71%
Of the 131 victims 34 regarded the event as 'very serious', 34 as 'fairly Serious' and 63 as 'not very serious'.

3. Damage to car

Households suffering loss:	
Non car owners:	255
Owners & victims:	
This year (incomplete)	27
Last year	68

Prior (other time in last 5 yrs)	142
Total owners & victims:	237
Owners not victimised in last 5 years:	1,020

No responses recorded to value question (c03c302)
Incidence rate ('last year'): = 68/1511 = 4.50%
Of the 236 victims 51 regarded the event as 'very serious', 97 as 'fairly Serious' and 88 as 'not very serious'.

4. Theft of motorcycle (motortheft)

Households suffering loss:	
Non motorcycle owners:	1,422
Owners & victims:	
This year (incomplete)	0
Last year	0
Prior (other time in last 5 yrs)	3
Total owners & victims:	3
Owners not victimised in last 5 years:	1,020

No information on vehicle recovery. Ignore this category: numbers too small.

5. Bicycle theft

Households suffering loss:	
Non cycle owners:	622
Owners & victims:	
This year (incomplete)	4
Last year	22
Prior (other time in last 5 yrs)	52
Total owners & victims:	78
Owners not victimised in last 5 years:	809

No information on cycle recovery.
Incidence rate ('last year') = 22/1511 = 1.46%

6. Burglary

Households burgled:	
This year:	4
Last year:	25
Previously:	56
Not victims:	1,426

Households suffering property loss:	71
Households suffering property damage:	45

Value of property loss:

Mean value of property stolen:	**£1,591**
Median value of property stolen:	**£400**

Value of property damage:

Mean value of property damaged:	**£269**
Median value of property damaged:	**£100**

Incidence rate ('last year') = 25/1511 = 1.65

7. Attempts to break in and garage-related offences ignored

8. Robbery

Households suffering loss:	
This year (incomplete)	3
Last year	1
Prior (other time in last 5 yrs)	12
Not victims	1,495

Value of property stolen (c09c202) not recorded
Number of incidents too low to compute incidence rate

9. Personal theft

Households suffering loss:	
This year (incomplete)	15
Last year	34
Prior (other time in last 5 yrs)	48
Not victims	1,414

Value of property stolen (c10c202) not recorded
Incidence rate ('last year') = 34/1511 = 2.25%

10. Sexual offences

Households victimised:	
This year (incomplete)	2
Last year	5
Prior (other time in last 5 yrs)	10
Not victims	762
Information missing	733

Respondent's rating of seriousness: of the 17 offences 7 were rated as 'very serious', 4 as 'fairly serious' and 6 as 'not very serious'
Incidence rate ('last year') = 5/1511 = 0.33% (but only 779/1511 responses to this question)

11. Assault

Households victimised:	
This year (incomplete)	18
Last year	46
Prior (other time in last 5 yrs)	47
Not victims	1,398
Information missing	3

Respondent's rating of seriousness: of 134 offences rated, 80 were described as 'very serious', 47 as 'fairly serious' and 7 as 'not very serious'.
No data collected on length of time off work or in hospital
Incidence rate ('last year'): = 46/1511 = 3.04%

12. Fraud

Missing from dataset, although frequency counts are available for the missing variables. 58 households were victims of fraud last year. Of these, 12 related to 'construction or repair works', 21 to 'shops' and 20 to 'other'.

13. Corruption

This category is also missing from the dataset, but again frequency counts are available. Only 2 households reported being victims.

14. Stock (agricultural) theft

No data

15. Carjacking

No data

Department of
Justice
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Appendix 2: Study Brief and Objectives

Appendix 2: Study Brief and Objectives

The Statistics and Research Branch of the Northern Ireland Office (NIO SRB) has requested that Oxford Economics prepare a report on the costs of crime in Northern Ireland (NI).

This project has a number of objectives ("the Project Objectives"):

- to assess the adequacy of data sources currently available for estimating the costs of crime within Northern Ireland;
- to identify any deficiencies in current data supply for compiling estimates;
- to agree proxy measures for costs where data supply is currently deficient; and
- to produce a report detailing the costs of Crime in Northern Ireland ("the Main Report").

This report is to include:

- an estimate of the total costs of crime in Northern Ireland;
- specification of the unit costs of crime associated with the main categories of crime against individuals, households and businesses (as specified in Annex A of the tender brief); and
- estimates of the costs of crime to individual Departments, public and private bodies arising from different categories of crime (as specified in Annex B of the tender brief).

Further, the costs in the report are to include:

- costs in anticipation of crime (e.g. alarms, security systems, insurance);
- costs as a consequence of crime (including property stolen or damaged, emotional and physical costs of injuries); and
- costs of the responses to crime (including costs to government of the Criminal Justice System (CJS)).

Annex A and Annex B of the tender brief are provided below.

Annex A

Categories of Crime

The costs of crime for each offence class (together with the costs of those sub-categories specified).

Violence against the person (all Class 1)

- Homicide
- Serious Wounding
- AOABH
- Common Assault

Sexual offences (all Class 2)

- Rape

Burglary (all Class 3)

- Domestic Burglary

Robbery (all Class 4)

Theft (all Class 5)

- Shoplifting
- Theft of vehicle

Fraud and Forgery (all Class 6)

Criminal damage (all Class 7)

Other notifiable offences (all Class 8 & 9)

- Drug Offences

Annex B

Departments and Public Bodies

As a minimum, indicative costs of crime should be allocated against Departments (including their constituent Agencies) and other public bodies. A list of Departments is given below.

Department of Agriculture and Rural Development

Department of Culture, Arts and Leisure

Department of Education

Department for Employment and Learning

Department of Enterprise, Trade and Investment

Department of Finance and Personnel

Department of Health, Social Services and Public Safety

Department of the Environment

Department for Regional Development

Department for Social Development

Office of the First Minister and Deputy First Minister

Northern Ireland Office

Department of
Justice
www.dojni.gov.uk

Statistics and Research Branch

Supplementary Annex:

The Costs of Crime Against Government Departments in Northern Ireland

DoJ Research and Statistical Series: Report No. 1

Report prepared by:
Professor Roger Bowles
Richard Rowlands

Centre for Criminal Justice Economics and Psychology
Unversity of York

Contents

1. Introduction

1.1 Background

The preceding report by Oxford Economics on the Costs of Crime in Northern Ireland carries brief sections on 'Costs of Crime Incidence to NI Government Departments' (Section 8) and 'Data gaps and future work' (Section 10). It refers to the scope for further investigation at government department level of the incidence and cost of crimes against departments. The report, which uses the standard Home Office approach to measuring the costs of crime (Brand & Price, 2000; Dubourg et al, 2005), notes the difficulty of collecting information from departments about the costs of crime they incur.

The current supplement takes the contents of these sections as the point of departure. It differs in three respects from the earlier work.

First, it approaches cost of crime estimates explicitly from the perspective of a government department assessing its crime risk management policy. Its focus is on developing a strategy for identifying the kinds (and costs) of crime prevention work undertaken by departments and the levels (and costs) of the crime incurred (or expected) given these preventive measures.

Secondly, it focuses exclusively on the scope for collecting data from publicly-accessible sources, primarily the web and departmental information available in the public domain. It does not seek to establish cost information or estimates directly from departments themselves.

Thirdly, it explores the crime cost components to which a department is most likely to be vulnerable by reference to its activities. For example, departments providing personal services to the public will have staff potentially exposed to violence while departments with large fleets of vehicles will be vulnerable to motor vehicle offences.

Awareness of the scale and nature of crime cost vulnerabilities is a prerequisite for assessing the likely costs and benefits associated with changes to the existing pattern of crime prevention activity or to changes in enforcement levels. This Report sets out to provide a more solid foundation on which to develop a crime cost reduction strategy.

1.2 Aims and Objectives

The objective of the research is to establish a methodology for investigating the activities of a department that are motivated by crime prevention concerns and the consequences for the department of the crimes committed against it. Crime prevention and cost consequences of crime

likely account for a non-trivial component of the budget expenditure of many departments.

The research proposed involves developing a listing of the types of crime to which a government department might be vulnerable, the costs of the prevention measures it takes and a prioritisation of proposed future prevention measures[1]. The purpose of this kind of mapping is to support assessment of the match between the prevention work being done and the cost profile of the crime to which it represents a response.

Developing a generalised template capable of application to (all) departments is made more difficult by variation in the types of offence to which departments are likely to be subject and in the evidence available about the scale and costs being incurred. Nevertheless the underlying issues are to a large degree similar.

The template developed has been piloted using evidence from the public domain. The evidence has been collected from a variety of sources. Where data are not available, or can be anticipated to be hard to find, we indicate the kinds of data that would be needed and a strategy for collecting them.

1. In the terminology now being used by some departments, what we propose is somewhat similar to looking at the way in which cost of crime estimates can be used when developing Outline (or Full) Business Cases for projects with a crime prevention or reduction component.

2. Offence Types and Vulnerabilities

Government departments are victim of many of the same sorts of crime as individuals. Most often the 'department' will comprise physical, financial and virtual assets and also staff resources at risk of victimisation. In some circumstances departments may be held responsible for seeking to prevent crime between third parties, as for example in taking measures to prevent thefts from hospital patients or to prevent fights between clients in a job centre. Departments may be vulnerable to crimes by both insiders (their own employees) and outsiders (external agents) or to crimes involving collusion between insiders and outsiders. Their accounting and other systems thus need to be robust against attack from many possible quarters, both real and virtual.

To give an idea of the range of offences of interest and likely departmental vulnerabilities we review some of the principal offence types and comment on the kinds of departmental characteristics that influence vulnerability.

Violence against the person

For some departments violence against staff is likely to be a significant source of costs. This is especially so for departments responsible for service provision, particularly where there is a public interface and public contact or supervisory responsibilities in relation to children or patients or the elderly. Staff in these situations will be potentially at risk. The degree of risk will depend on the context, with higher risk in settings where, for example, participants may be under the influence of substances. This is likely to apply for example to staff working in sectors such as health care, education, social services, fire and rescue, job centres, police, probation and prison.

Fraud and forgery

Departments making payments to citizens, procuring goods and services from suppliers and handling revenues will be vulnerable to various kinds of fraud. This may range from embezzlement by employees to false claims by citizens. Risk is usually greater where there is a financial interface with the public, but internal systems are not immune from attack. This suggests that amongst the more vulnerable departments might be social security offices, tax departments, local authorities and courts.

Public order offences

Disorderly behaviour is likely to be more distressing in settings such as A&E departments in hospitals than elsewhere. Attendances at A&E involve a disproportionately high number of individuals who are alcohol-affected: the survey reported in Anderson et al (2001) puts the fraction at 1 in 7 of A&E attendances. Containing and defusing incidents can be stressful for staff and unsettling for those waiting for treatment and this has implications for staff comfort and safety: Charalambous (2002). Measures will normally

be taken by departments to reduce the costs of disorder over and above efforts in response to the risk of actual violence against staff. The prevention costs of disorder might thus be important even though the consequences of the offences are falling on those using a hospital rather than directly on the hospital or health service itself.

Theft of and from motor vehicles

Theft from motor vehicles affects government departments both through thefts of (or from) its own vehicles and through thefts from its employees when using non-departmental vehicles. Theft of computers is the most high profile kind of offence but theft of mobile phones and navigation devices may also be commonplace. The extent of the risk will depend on the extent of vehicle usage on government business.

Burglary and theft

Non-domestic burglary includes government department targets, particularly where expensive equipment is housed. Departments with vulnerable premises or resources include those operating in the health and education sectors. Premises at risk include universities, schools and colleges, with IT and media equipment, sports & musical equipment and hospitals. Increasing concern is also evident in relation to identity theft dangers in hospitals.

Criminal damage

Graffiti, broken windows, damage to cars and so on are everyday day hazards everywhere, but particularly so for Departments with extensive premises or large fleets of vehicles. Locations likely to be vulnerable to criminal damage include schools, hospitals, defence bases, fire and rescue service premises and local authority offices. Although incidents have a low average cost a high volume of them can contribute significant costs.

Information and identity theft

The theft of information and identities is a non-traditional area of vulnerability of Departments. This can occur as a by-product of theft of computing equipment from travelling government employees. But it can also be a more purposive activity involving both physical security risks (as with individuals looking to steal identity documents relating to hospital patients), staff leaking sensitive information for gain and hackers breaking into government computer systems. The costs of the consequences of these kinds of incident may be intangible or limited, but on occasion may be very great. The costs of prevention, by contrast, are very predictable and tangible. Upgrading physical security in premises such as hospitals, education establishments and government buildings is a major, costly task that would not be needed if such risks were absent. Likewise, maintaining

security of computing systems is very costly. It requires substantial spending and can also be very disruptive of working practice, particularly for staff who travel.

Terrorism

Terrorism is another area of non-traditional costs of crime. In fact in many respects it does not comprise a distinctive area of crime. The offences typically involve violence against the person, albeit on a larger scale and more indiscriminate in nature than everyday assaults. Incidents are typically rare but their random nature and high cost makes them a powerful weapon of intimidation. Terrorists in effect exploit the high costs of prevention measures to achieve greater notoriety. From a departmental perspective, however, the costs may not be too great since prevention responsibilities fall principally on the police and security services. But building and personnel security may prompt additional spending and more costly working practices at department level.

3. Measuring Costs of Crime against Departments

The approach used here relies very much on the standard 'bottom-up' approach to estimating the costs of crime. No further reference is made to top-down approaches based on answers to hypothetical questions of the type: 'How much would you be prepared to pay for a reduction of x% in offence type y?': for more on the distinction see Cohen (2004).

3.1 Typology of cost types

In the standard Home Office approach (Brand & Price, 2000; Dubourg et al, 2005) three principal cost categories are distinguished, namely: costs as a consequence of crime, costs in anticipation of crime and costs in response to crime. It sums aggregate costs from these sources, estimates the number of offences committed and infers an average cost per crime.

For strategic purposes, particularly making decisions about the future scale of spending on crime prevention by a government department, the different cost of crime components can more fruitfully be considered independently. The components are listed in turn.

Costs as a consequence of crime

The costs incurred by victims of crime are generally split into property loss, physical injury and pain and suffering. A department can experience a property loss but only its employees or users of its facilities or services can experience physical or other sorts of injury. Our working assumption is that the Department 'cares equally' about each of these forms of loss. In practice, its capacity to control crime in respect of its service or facility users may be more limited and so losses to these groups may be given less weight than the losses to its own workers.

Victimisation outcomes likely reflect the avoidance measures taken by victims themselves as well as the measures taken by government departments whose premises or services are being used. There is potentially a 'moral hazard' to the extent that making departments liable for the harm caused to their clients by third parties may weaken the incentives of their clients to take cost-justified crime prevention measures themselves: Shavell (1987).

The kinds of offence type, and some of their consequences, were reviewed in the previous section. The losses suffered by victims as a consequence of these offences are likely to be principally those resulting from violence against staff, burglary and theft, criminal damage, fraud & forgery.

Costs of crime prevention and reduction:

A department will typically spend on various measures to reduce the likelihood of being victimised or being host to victimisation. The spending

will usually comprise elements of capital spending or investment, e.g. spending on fences, CCTV installation, anti-fraud accounting systems and construction of secure storage for hospital pharmaceuticals. This will be supplemented by recurrent expenditure on security staffing, and procedures with a crime prevention motivation.

These costs are normally measured after they have been incurred. For policy purposes this historical account may be complemented by prospective exercises that compare future possible crime reduction investments (or new recurrent spending streams) with estimates of their likely pay-off in terms of expected crime reduction.

Costs in response to crime

Beyond the Criminal Justice System, departments responding to criminal incidents can tie up staff time in reporting cases and in preparing evidence and appearing in court. Decisions have to be made about prosecution policies in light of these costs. Although there may be social payoffs to higher rates of reporting and offender conviction, a hard-pressed department may be reluctant to report offences and get involved in court cases. It will rarely be able to recover the costs of staff time lost in attending court.

3.2 Departmental choices

The costs in anticipation of crime, and to some degree the costs in response to crime, become 'part of the story' (or "endogenous") when looked at from a policy perspective. This is because decisions made by governments will themselves influence the costs to society from crime. For example spending more on the police may deter crime. If sustained for some time this might have the effect of reducing private spending by the public on crime avoidance. This would not affect the losses to a victim but could affect the total cost to them of crime since the avoidance cost element has fallen. The anticipation and response costs are made on the basis of, and are conditioned by, the actual (or forecast) costs to direct and indirect victims as a consequence of crime.

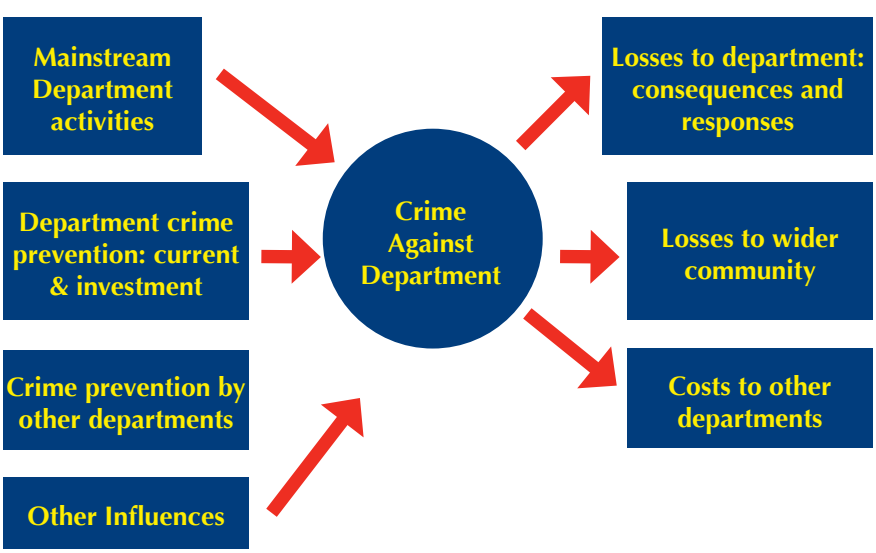
The environment in which decisions are being made also plays an important role. Vulnerability to crime may reflect other influences including the department's own activities. For example, keeping many A&E departments open round the clock, rather than limiting facilities to fewer hospitals, may have the effect of increasing attacks on staff for a given set of precautions within A&E units because the departments are more heavily used as a result of their greater accessibility.

In setting budgets for crime prevention or enforcement activity the government needs estimates of the costs and benefits associated with various policy options. For example, suppose the question is whether it is worth spending more to protect ambulance or other front-line medical staff, from assault. Standard estimates of the costs of these assaults to victims can be used for assessing benefits from any reduction in the number of assaults. But it will be the department's own expenditure choices that will drive the anticipation costs and, of course, the volume of assaults that results.

The normal approach is to use cost of crime estimates produced by the methodology embodied in Brand & Price (2000) or Dubourg et al (2005). In the case of crime against departments the costs of measures to prevent (or mitigate the effects of) crime contribute, at least to some degree, to the risk of victimisation and/or the costs associated with it. Higher spending by a department on crime prevention raises its prevention costs but reduces its losses from offences.

The cost-minimising department will be looking for the level of crime prevention that balances at the margin the costs of additional crime prevention and the returns by way of reduced offending. When selecting a prevention policy the simplest strategy for a department is to use the standard cost of crime estimates in conjunction with estimates of the likely crime reduction impact of prevention measures to value benefits. These benefits can then be compared with the cost of achieving them.

Fig. 1 Influences on, and implications of, crime against a department



This suggests that the best policy is to take as externally given the costs of the offences as normally estimated and to add the prevention costs to the department as something about which an explicit decision has to be made.

In effect it is being supposed that departments will explicitly weigh up investments in measures to reduce the costs of crime committed against them. If their information base is sufficient they may be able to make some assessment of the alternative crime-prevention measures they can take and the returns on it that they might anticipate.

3.3 Model of spending choice

The decision about the level of expenditure it is worth committing to crime prevention is readily characterised as follows:

Number of offences expected when:

Continuing with current policy x

Committing additional resources (z) to prevention y

The potential crime reduction impact depends on the choice of z and the resulting level of offences, y. It is thus:

[x-y(z)]

Cost of offences:

Average cost of an offence b

Additional cost of prevention to department is the

Cost associated with extra resource use: c(z)

The social rate of return, R, on investment in prevention is thus:

$$R = [[x-y(z)]*b - c(z)]/c(z)$$

The optimal prevention investment programme selects all investments for which this rate of return, R, exceeds some centrally-determined rate.

This is the standard formulation in documents such as the Treasury Greenbook, (Treasury, 2003) and the Home Office guidelines on the economic evaluation of crime reduction projects: Dhiri & Brand (1999). It is important to note here that the department is unlikely to experience these benefits in full itself. Each offence prevented contributes a reduction in costs to citizens and a reduction in the costs to the CJS. Although these

are endogenous to the public sector they may not be fully internalised to the department in question. Let us denote by a the proportion of costs of crime against a department that fall on the department itself. The fraction (1-a) falls elsewhere, including probably a considerable element on the CJS departments. From the department's perspective the rate of return is given by the reduced rate:

Department's rate of return

$$[a[x-y(z)]*b - c(z)]/c(z)$$

This kind of reasoning explains why departments may be invited to identify benefits to other departments as well as to themselves when seeking support for bids for investment funding. In terms of its recurrent spending budget the investment costs c(z) may also be disregarded, since they come from a different government budget. That reduces the question to the three issues:

(a) is the move effective in reducing crime? (can we be confident the spending will result in crime falling from x to y?)

(b) will any recurrent costs be exceeded by the fraction of benefits enjoyed by the department?

(c) Are decisions being taken in a way that allows for benefits to other government departments?

4. Management of Security and Safety

At managerial level government departments will generally have a commitment to maintaining security and taking steps actively to deter crime. In some cases this may be made explicit, as in the following example taken from an English Primary Care Trust's Security Strategy:

"[The PCT will] ensure security advice and training is provided with regard to:

- Security and safety within the working environment;
- Security of all property; private, PCT and patients;
- To deter criminal activity wherever possible;
- Detect crime when it is committed; and,
- Respond promptly and effectively to all criminal events.

  "All establishments within the PCT must incorporate good securityworking practices together with security design as part of an overall requirement. The PCT will have systems in place to ensure an appropriate response to incidents

- Recording on a dedicated security database, all incidents whereby trends can be identified and risks assessed.
- Audit Review Reports indicating trends and the needs for action to be taken in compliance with all relevant security policies[2]."

This kind of strategy, in principle, recognises the relevant scope for action and the various cost types incurred, albeit in a very general formulation. A security database of the kind envisaged would generate valuable data on the frequency (and possibly also the scale) of incidents. An Audit Review can, again in principle, identify areas in which it may be worthwhile developing further crime prevention or reduction activity.

Since good baseline data are essential for well-founded analysis of crime prevention (Bowles, 2010) there seems to be a good case for encouraging the development of explicit strategies. To be made operationally useful such a policy framework needs to incorporate protocols to ensure that the information collected is aligned with the data requirements of cost of crime estimation and can support effective appraisal of project proposals. It needs to avoid the danger of generating large data collection exercises just for the sake of it.

2. Wandsworth Teaching Primary Care Trust: Security Strategy version 2.0, August 2007: viewed at: http://www.wandsworth-pct.nhs.uk/policies/HealthSafety/Security%20Strategy%20v2.doc

Example

To take an example, most departments have buildings that have to be guarded or protected against damage and burglary. The department has to make various decisions in relation to security. The degree of security selected will reflect both the costs to the departments of providing security at various levels and the expected costs associated with the associated levels of vulnerability.

Many will have a security unit tasked with providing this kind of protection. This unit has to be given terms of reference, its budget set and choices made about how much of the security work is to be out-sourced.

In addition to documenting the prevention activities and their costs the department will want to make estimates of the damage costs or losses associated with the crime occurring despite the precautions being taken. This can be based on the standard 'costs as a consequence of crime' component estimated for other purposes. It will require a good incident recording system plus some follow-up work to ensure consistency between incident recording and cost estimation.

The 'costs in response to crime' (such as the costs of police investigation or of imprisoning offenders) can be taken from the regular set of estimates for purposes of assessing the potential benefits from reduction in the number of incidents. But we note that from a departmental perspective there may be additional costs to those appearing in the average cost estimates generated from a Brand & Price kind of approach. The department's willingness to commit resources to reporting offences to the police and supporting cases as they go through the court system will need to reflect the additional costs of such a policy and will need to be kept under review. Its security strategy may thus need to be fine-tuned, since there may no longer be a presumption that reporting all incidents is worthwhile.

The implication of this is that, while an explicit security strategy is in principle a thoroughly good thing, it may leave unanswered many of the key questions that departments confront. Documenting the measures taken and the crime rates to which they give rise is an essential starting point. But the key managerial lesson is that it is the trade-offs between the various types of cost that need to be understood.

The 'costs in anticipation of crime' will depend in large measure on the department's own decisions as to whether to accord high priority to security spending. The same applies to 'costs in response to crime'. The anticipation and response costs should represent active managerial decisions made

within the department: they cannot simply be based on averages implied by the programmes of departments as a whole.

The same kinds of argument apply in settings where departments are susceptible to other sorts of offences such as assaults on members of staff. Departments providing services such as health or education directly to the public take measures to reduce or minimise the scope for assault or threats. Identifying the scale of the measures taken and their costs facilitates a matching between risk and security provision. If the information is not available, or the will to match the costs and benefits of various policy configurations is absent, then there is a danger that poor decisions will be made.

5. Strategies to Document Costs

An organising framework for thinking about costs is very useful but is far from being the whole story. To build a picture of costs in practice requires substantial effort. We explore this evidence gathering phase in stages. The first step is to identify the principal likely data sources. The next step is to run some experimental searches. And the third is to compile a preliminary picture, by department, of victimisation experience.

5.1 Data sources and data collection

There are three principal sources of data likely to be of use in compiling Departmental cost of crime estimates.

5.1.1 Search of internal departmental sources

First, there are internal departmental sources documenting various facets of the costs of crime incurred by a Department.

Injuries to staff are usually well-documented at some level within the organisation (e.g. human resources) because provision has to be made for the costs of damages resulting from any legal actions. The result may be a requirement that Incident records are maintained. Any such records could be expected to refer, inter alia, to whether incidents involved a crime, since there will in any event be procedures to follow. There may also be mechanisms to keep staff and unions informed of developments and to support consultation about good practice.

At a more formal level there may be requirements that departments publish a security management strategy (or similar) and that as part of this they publish regular monitoring data. In England the NHS has a Security Management Service which operates on the basis of a policy requiring such a strategy and monitoring. The reports generated under this rubric can be a very useful source of material for making cost of crime estimates in relation to the costs of assaults on NHS staff.

5.1.2 Budget analysis

A second source of cost data is a department's own budgetary information. This requires access to budgets disaggregated sufficiently to support identification of the principal areas where crime costs are being incurred. This might be done in a Treasury department or at senior level within a department.

5.1.3 Search of documents in the public domain

A third source of data is information in the public domain that can help triangulate estimates, for example by comparing information from the web on the number or severity of injuries suffered by staff and internal department estimates.

For purposes of compiling an exploratory database for this project, a Web search protocol was used that took the following form.

> Search department or organisation's website for departmental budget and specific information such as the extent and cost of crime against the department. Make use of public sector staff union websites, for example Unite and Unison. Make a search of Hansard archives to see whether the issue of crime against the department has been raised in House of Commons debates or questions.
>
> Conduct a Google search to source information. For search terms specify 'Northern Ireland', the 'Department' being investigated and the 'type of data required'. For example 'Northern Ireland number attacks on ambulance service staff injuries cost.' Check the information and sources for validity, reliability and accountability.

5.2 Departmental cost of crime template

A format for recording and displaying the information collected needs to reflect both the type of data available and the cost of crime model being employed. Table 1 sets out such a template. It is based on the presumption that the vulnerability to crime varies across departments and is worthy of preliminary consideration. The first indicator deployed is the degree of interaction with the public. Since violence against the person is likely to be a major source of costs, the degree of public contact will be a primary concern. The second indicator is the types of offence to which the Department is (likely) subject. This depends on various things including the size of its vehicle fleet and the number, location and type of premises at risk. A third indicator is the number of offences recorded internally and/or reported to other agencies including the police.

Table 1 Departmental cost of crime data template

Field	Contents
Department within the N.I. Executive	Name of Department
Departmental Expenditure	Total annual expenditure, latest year
Interaction with the public	Degree to which the Department provides services to the public or has premises used by the public
Vulnerabilities to Crime	The kinds of offences to which the Department is vulnerable
Extent of crime	The volume of offences or incidents
Cost information: **a. Prevention activities** **b. Costs of response** **c. Consequences for victims**	a. Costs incurred by the Department in preventing and reducing crime b. Costs incurred by the Department in responding to crime c. Costs incurred by victims of crime associated with a Department
Sources of Published Information	List of sources including date of viewing where web sites are cited
Data gaps: further research scope	Notes on any critical gaps and on any measures that might be taken to fill them

When it comes to cost of crime data it is useful to distinguish (and document) the departmental activities influencing the volume of crime experienced and the activities and costs associated with departmental responses to crime. The third component, costs to victims, it may be possible to infer from data held by the department. The output from a piloting of the template covering all eleven departments is presented in Annex 1. This is followed by Annex 2 which presents a variety of materials that give more of a flavour of the kind of information that is available on the web.

5.3 Further analysis

As indicated above we have relied on external sources to build a preliminary collection of data on departmental crime costs. This is very far from being a complete picture, but it does give some indication of where

the gaps are. This raises the question of what further steps might be taken to identify costs of crime against departments.

5.3.1 NI-wide investigation

A key data source for cost of crime studies in many cases is the crime victimisation survey. The household-based Northern Ireland Crime survey (NICS) does include crimes experienced at work, but does not include whether the respondent is a public or private sector employee. This precludes using the findings to derive any information about the consequences for victims of crime experienced in a public sector work setting. The addition of such a question to the survey might provide some evidence from which the relative riskiness of the public sector working environment could be estimated.

For offences such as Violence Against the Person it might then be possible to isolate the proportion of work-related (or total) injuries incurred by public sector employees.

		Victim employed in:	
		Public sector	private sector or other
Injury occurred:	At work	a	b
	Elsewhere	c	d

Even if it were possible to use the resulting data to estimate the proportion of all assaults that were suffered by public sector employees while at work a/(a+b+c+d) this would probably not be useful at individual department level. Asking a further question of public sector employees about their employing department would probably not pass ethical scrutiny.

5.3.2 Questions for individual departments

At Department level there are questions that might elicit responses that could help build a more thorough evidence base and add to the data compiled for Table 1 above. Suggested questions include:

1. “To what types of offence do you think your department is vulnerable?”

[Here are some examples:

Contact with public leaving staff open to abuse or victimisation

Contact with public leaving you vulnerable to fraud

Premises that are vulnerable to burglary, damage or attack

Vehicles vulnerable to theft or break-in

Computer fraud or hacking]

2. What is your corporate policy in respect of reporting and monitoring offence rates?

3. What recording procedures do you follow in keeping records of offences?

4. What kinds of precaution do you take at present?

[Here are some examples:

Security patrols/CCTV/dogs, recurrent costs of maintaining

Firewalls, security procedures, encryption

Target hardening (locking doors, windows, machines)]

5. What kinds of measures are taken to help staff become conscious of any risks they may be running?

6. What kinds of training do staff get in risk assessment and in risk management?

7. What kinds of investment do you think might reduce the crime levels your department experiences?

8. What kinds of procedures do you have to establish whether these measures are cost-justified?

This set of questions is designed to be illustrative rather than definitive. They could be tailored more closely to a department’s own activities or could form a preliminary to a more detailed, department-specific questionnaire designed around its responses to this preliminary set of questions.

6. Concluding Remarks

Building a picture of the costs of crime against government departments is a challenging task, particularly from outside government. The motivation for tackling such a task is clear, however. Departments devote a lot of attention and resources to security of all kinds, their staff regularly suffer the effects of crime and they have to make difficult decisions about the vigour with which to respond to crime. Households may have a little discretion when it comes to security choices and whether they report incidents. But for government departments the area of discretion is much greater and the scope for allocating too few (or too many) resources to preventing and responding to crime is also larger.

Systematic efforts to make crime prevention measures proportionate to the risk of crime require a great deal of information as well as an understanding of the costs and benefits associated with the policy and managerial choices departments are making.

The purpose of this paper has been to explore some of the sources of information and to offer some suggestions as to how the managerial issues can be characterised and informed. In essence we have noted some of the useful contributions being made to the evidence base by departments themselves, by the requirement that departments each develop an anti-fraud policy and by organisations such as the Audit Office putting pressure on departments to improve their capacity to quantify some particular sorts of losses[3].

All Northern Ireland Departments are required to develop anti-fraud policies, fraud policy statements and fraud response plans (Government Accounting in Northern Ireland, Department of Finance and Personnel)[4]. The Counter Fraud Units set up in many of the Departments are potentially a good source of data on the costs of fraud. The reports of these bodies tend to summarise both the kinds of anti-fraud measures being used and the volume of prosecutions and recoveries made[5]. This gives a good basis for making some cost estimates, even where these are not reported directly. We note that the term 'fraud' is being used to cover a wide range of revenue loss including 'asset theft'.

There seems to be scope to build further on some of these developments, thereby improving the evidence base and supporting departments in the drive for crime prevention measures that reflect realistic and balanced assessment of their costs and benefits. The kinds of security management methods instituted in England are an attractive model for encouraging departments to develop:

3. The Audit Office's Report has qualified the accounts of the Health Boards for a number of years due to the level of estimated loss arising from exemption fraud (patients incorrectly or fraudulently claiming exemptions from statutory charges for prescriptions, dental treatment and ophthalmic services). For 2004-05 it was estimated that the loss was around £9.2m, equivalent to 1.6% of expenditure on Family Practitioner Services.
4. This provision is noted in section 6 of the NI Audit Office report on the health sector: http://www.niauditoffice.gov.uk/pubs/COMBINEDGENERALREPORTONHEALTHSECTOR/FullReport.pdf
5. See for example the analysis of fraud against the Department of Agriculture and Rural Development: http://www.dardni.gov.uk/counter-fraud-and-enforcement-activities-annual-report-2005-06.06.pdf and corresponding data on the 162 cases involving £638k reported by the Department of Finance and Personnel Fraud Report for 2007-08: http://www.aasdni.gov.uk/pubs/DAOs/dao0109att.DOC

- an explicit account of their vulnerabilities to crime;
- a system for recording incidents; and
- a strategy to tackle crime that is proportionate to the risks posed.

But irrespective of whether such a managerial path is chosen there are strong grounds for arguing that departments should be encouraged to consider the crime costs to which they are subject and the options they have in seeking to influence the profile and balance of these costs.

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Mrs Iris Robinson to Mr Woodward. (31st October 2005: Column 796W). Costs incurred by the Northern Ireland Fire Service as a result of assaults to staff and damage to vehicles: http://www.publications.parliament.uk/pa/cm200506/cmhansrd/vo051031/text/51031w36.htm

Sandra Gidley to Ms Blears. (27th February 2002: Column 1424W). Violent incidents against ambulance staff: http://www.publications.parliament.uk/pa/cm200102/cmhansrd/vo020227/text/20227w38.htm

Stephen Hesford to Mr Ivan Lewis. (14th March 2008: Column 673W). Cost of stress related injury to the NHS: http://www.publications.parliament.uk/pa/cm200708/cmhansrd/cm080314/text/80314w0002.htm

ANNEX

ANNEX 1 Departmental Reviews

The Tables in this first Annex provide a Department-specific review of information on the costs of crime against each Department within the Northern Ireland Executive and Police Service of Northern Ireland.

A summary Table A1.0 is followed by more detailed department-specific information.

A1.0 Summary Table

Annual Expenditur 07-08 £m.	Vulnerability to crime	Costs	Risk
Office of the First Minister and Deputy First Minister			
71.6	Limited interaction with public: some risk of personal attack	n/a	Low
Department of Agriculture and Rural Development			
247.4	Limited: some contact with farmers: possibility of fraud	Fraud estimated at £.5m.	Low
Department of Culture, Arts and Leisure			
137.5	High interaction with public: Museums and galleries potentially vulnerable to theft, fraud & damage	Internal fraud case, £71k	Med.
Department of Education			
2,403.8	High interaction with public: teachers & young people vulnerable to violence & property theft	Unknown but significant*	Med.
Department for Employment and Learning			
731.5	High interaction with public in JobCentres & Benefit Offices: vulnerable to violence & disorder	Private security costs quite significant**: offence numbers low: 5 asaults in past 3 years	Med.
Department of Enterprise, Trade and Investment			
199.6	Minimal interaction with public: possible vulnerability to fraud	Unknown	Low
Department of the Environment			
134.7	Responsibility for environmental crime but limited interaction with public	Unknown	Low
Department of Finance and Personnel			
450.4	Vulnerabilities principally internal: awareness of fraud risk	Unknown	Low
Department of Health, Social Services and Public Safety			
4,651.6	High interaction with public: staff & patients vulnerable to violence & theft; also damage to equipment & premises; fraud risk. Hospitals, ambulance Service and Fire & Rescue Service all vulnerable	4,281 reported physical assaults in hospitals, costing several £m.	High
Department for Regional Development			
1,533.4	Little interaction with public: some vulnerability to fraud	Unknown	Low
Department for Social Development			
4,843.5	High interaction with public: social workers very vulnerable to assault	Unknown but high	High
Police Service of Northern Ireland			
848.3	High interaction with public: officers very vulnerable	Unknown but significant	High

Notes:

* Minimum estimate of £2m in 07/08 for 264 assaults, 578 criminal damage incidents, 282 burglaries & 193 thefts, based on Duborg et al (2005) cost of crime estimates. There are also many children excluded from school each year for assaulting other pupils.

** We estimate somewhere between 1 and 2 £m. per annum for private security.

A1.1 Office of the First Minister and Deputy First Minister

Expenditure for 07/08	£m. 71.6
Interaction with the public?	Limited. Website and Annual Public Services Announcements suggest this department is mainly involved in internal regulation of NI Govt. and the abstract rather than the practicality and implementation of policy.
Vulnerabilities to Crime?	Minimal. Possibility of office pilfering, expenses claim fraud, vandalism to offices, siphoning of funds.
Extent of criminality?	Unexplored. Implication that criminality is infrequent. Glance over website and Google search suggests crime is not an issue within the department.
Financial Cost	Unknown.
Source/Published Information?	Website: http://www.ofmdfmni.gov.uk/
Other material/ Suggestions for further research	The National Audit Office has conducted a data matching exercise, as required by NI law, to ensure that funds are not misappropriated. More information can be found at http://www.niauditoffice.gov.uk/

A1.2 Department of Agriculture and Rural Development

Expenditure for 07/08	£m. 247.4
Interaction with the public?	Limited. "Public" in this sense consists largely of farmers, landowners, food producers and food processers. Some work in schools also.
Vulnerabilities to Crime?	Minimal. Possibility of office pilfering, expenses claim fraud, vandalism to offices, siphoning of funds. Occasional staff exposure to assault during times of agricultural crisis e.g. during culls. Possibility of organisations and individuals lying/not submitting information and bending rules and regulations e.g. by passing animal storage guidelines.
Extent of criminality?	Unexplored in depth. Department publishes very detailed counter fraud activities annual report of both internal and external crime, describing number and types of fraud. In 2006/2007 38 cases of fraud. Mostly farmers doctoring paperwork and misappropriating EU funding. Internally 10 cases of suspected fraud were investigated. Department takes issue seriously: has a new "transparency in government" initiative.
Financial Cost	Total cost of all fraud estimated at £512.7k. Unknown if this figure relates to government or society at large (e.g. loss of monies from sale of livestock etc.).
Source/Published Information?	Counter Fraud and Enforcement Activities Annual Report 2006/2007 and also "highlights". Website http://www.dardni.gov.uk/
Other material/suggestions for further research	The National Audit Office has conducted a data matching exercise, as required by NI law, to ensure that funds are not misappropriated. More information can be found at http://www.niauditoffice.gov.uk/

A1.3 Department of Culture, Arts and Leisure

Expenditure for 07/08	£m. 137.5
Interaction with the public?	Moderate. The department is responsible for national museums, galleries and other "cultural" exhibits and is responsible for sporting initiatives. However assault risks are minor.
Vulnerabilities to Crime?	Small. Possibility of financial fraud within the department, criminal damage to property and the chance of assault on staff. Possibility of theft of art works and equipment by staff or public.
Extent of criminality?	Unexplored in depth. The department does not publish a counter fraud report but it is mentioned repeatedly in department minutes as an ongoing concern. There is however no mention of any fraud or crime occurring and the department maintains the aim of no fraud occurring within the department. However one exception to this is a report on an internal fraud, uncovered in 2003, in which an employee defrauded the department of £70,690.
Financial Cost	Unknown. £70,690 only figure immediately available (offender forced to pay back). Crime conducted in "absence of proper controls", lack of supervision over individual or money and too much power for one person. Controls have since been tightened.
Source/Published Information?	website http://www.dcalni.gov.uk/ and departmental minutes http://www.dcalni.gov.uk/index/quick-links/general_publications.htm A cursory search of google suggest crime is not an issue within the department as extremely limited information was found.
Other material/suggestions for further research	The National Audit Office has conducted a data matching exercise, as required by NI law, to ensure that funds are not misappropriated. More information can be found at http://www.niauditoffice.gov.uk/ An alternate source of action would be to contact the department directly and sequester records of budget and criminal activity under the FOIA, the website being http://www.dcalni.gov.uk/

A1.4 Department of Education

Expenditure for 07/08	£m. 2,403.8
Interaction with the public?	Very high. Department members in constant contact with children and young adults aged 4-19. Also with parents.
Vulnerabilities to Crime?	Very high. Assault, both physical and verbal, by pupils and parents, damage to departmental property and theft all occur in schools. Also possibility of internal fraud.
Extent of criminality?	Very high. When asked in Hansard about crime against teachers the reply was "the information requested is not collected centrally" another Hansard question asking for info on crime for police statistics elicited the reply "Offences occurring on school property cannot be separately identified and no data is collected on the status of victims". However information collected by the Belfast Telegraph from PSNI under the FOIA about NI schools in 2007/2008 refers to 264 instances of violent crime, 578 of criminal damage, 282 burglaries, 34 sexual offences, 230 offences against the person and 193 instances of theft.
Financial Cost	Unknown. Hansard "Information not collected centrally."
Source/Published Information?	Hansard written answers, departmental website http://www.deni.gov.uk/index.htm (containing limited information). NASUWT, Unison and Unite sites contain limited information.
Other material/suggestions for further research	The National Audit Office has conducted a data matching exercise, as required by NI law, to ensure that funds are not misappropriated. More information can be found at http://www.niauditoffice.gov.uk/ Information possibly available under FOIA from http://www.deni.gov.uk/index.htm

A1.5 Department for Employment and Learning

Expenditure for 07/08	£m. 137.5
Interaction with the public?	High. DELNI is responsible for both Job Centres and Benefit offices. On a day to day basis it therefore deals with jobseekers and benefit claimants.
Vulnerabilities to Crime?	High. Physical assault to staff and criminal damage to property can often arise in situations involving denial of social security payments and desperate claimants.
Extent of criminality?	In Northern Ireland there have been no reported incidents of physical assault on staff in any of the 10 jobcentres in the last three years. In the last three years there have been five incidents of physical assault in Jobs and benefits offices. In the years 04/05 and 05/06 there was one incident of physical violence per year. (more detailed figures available for England and Wales). In 02 and 03 there was only 1 prosecution for assault on Jobcentre staff.
Financial Cost	Unknown. We estimate that DELNI may be paying approximately £1.7 million a year in contracting private security guarding. Other prevention costs include CCTV and protection of property costs such as reinforced windows etc. Due to these measures damage to property will probably be minimal. Costs of direct crime also minimal due to single reported assault and no convictions.
Source/Published Information?	Sources quoted in Hansard give the statistical information on assaults in Jobcentres. Prevention costs were inferred from existing guarding contracts in England and Wales.
Other material/suggestions for further research	The National Audit Office has conducted a data matching exercise, as required by NI law, to ensure that funds are not misappropriated. More information can be found at http://www.niauditoffice.gov.uk/ The website of the Department is http://www.delni.gov.uk/ A more detailed analysis of security costing is likely to be available in a budget available under the Freedom of information act. Furthermore the FOIA could be used to identify the cost of criminal damage and staff sick leave due to violence. Failing this the FOIA could be invoked to ask the Compensation Agency for Northern Ireland for details of compensation claims made by DELNI staff although such a request might be rejected on grounds of cost http://www.compensationni.gov.uk/

A1.6 Department of Enterprise, Trade and Investment

Expenditure for 07/08	£m. 199.6
Interaction with the public?	Minimal. This department is largely a regulator of the economy thus deals mainly with business employees and has little contact with the "public at large".
Vulnerabilities to Crime?	Moderate. As a "regulator" of the economy the department is susceptible to financial fraud, financial regulation crime, crimes of economic deceit, bribery etc.
Extent of criminality?	Unknown. In 2006 the department conducted a detailed fraud risk assessment. The fraud risk assessment is available under the FOIA but is not in the public domain. However the detailed assessment of relative fraud vulnerability is unavailable under the FOIA as it was claimed it might "prejudice the effective conduct of public affairs".
Financial Cost	Unknown.
Source/Published Information?	Departmental website: http://www.detini.gov.uk/cgi-bin/gethome
Other material/suggestions for further research	The National Audit Office has conducted a data matching exercise, as required by NI law, to ensure that funds are not misappropriated. More information can be found at http://www.niauditoffice.gov.uk/ Limited information is available under the FOIA at the website of http://www.detini.gov.uk/cgi-bin/gethome

A1.7 Department of the Environment

Expenditure for 07/08	£m. 134.7
Interaction with the public?	Minimal to moderate. The department is responsible for the environment and roads. It therefore mostly has contact with people taking driving test and environmental groups.
Vulnerabilities to Crime?	Minimal. Largely come in the form of indirect crimes, not specifically aimed at the department such as fly tipping, lying on planning applications and defrauding the driving licence application authority. Internal financial fraud also of concern.
Extent of criminality?	Unknown. No information found after cursory search on google. Documents published by department broadly condemn fraud but no specific information available such as a risk assessment or internal investigation published. No mention of fraud or crime in 2008-2011 business plan. Suggests is of minimal concern.
Financial Cost	Unknown. No data. Probably minimal.
Source/Published Information?	Departmental website http://www.doeni.gov.uk/index.htm
Other material/suggestions for further research	The National Audit Office has conducted a data matching exercise, as required by NI law, to ensure that funds are not misappropriated. More information can be found at http://www.niauditoffice.gov.uk/ Possibility of acquiring information form website under FOIA at http://www.doeni.gov.uk/index.htm

A1.8 Department of Finance and Personnel

Department within the Northern Ireland Executive and Expenditure for 07/08	£m. 450.4
Interaction with the public?	Minimal. Act as accountants, regulators in the abstract sense with the aim of "ensuring NI's resources are used effectively." Acts largely within government.
Vulnerabilities to Crime?	Minimal. Vulnerabilities largely internal. Department handles finances thus there is the possibility of misappropriation of funds/defrauding the government.
Extent of criminality?	Limited. Little information is published on the department itself but the NIDFP administers the National fraud initiative and audits the accounts of all govt. departments. Would assume that in terms of fraud it has purposefully made itself beyond reproach.
Financial Cost	Unknown
Source/Published Information?	Departmental website http://www.dfpni.gov.uk/index.htm
Other material/suggestions for further research	The National Audit Office has conducted a data matching exercise, as required by NI law, to ensure that funds are not misappropriated. More information can be found at http://www.niauditoffice.gov.uk/ Information probably available under the FOIA at website http://www.dfpni.gov.uk/index.htm

A1.9 Department of Health, Social Services and Public Safety

(1) Hospitals

Expenditure for 07/08	**(Total DHSSPS)** £m. 4,651.6
Interaction with the public?	Very High. Departmental responsibilities include hospital, ambulance, fire and rescue, community health and personal social services, all of which entail a high degree of interface with the public. Furthermore "public" in this sense does not mean a special interest group but the general population, often in states of distress.
Vulnerabilities to Crime?	Hospitals have very high vulnerability. Most prominent is physical and verbal attacks and aggression towards staff, especially predominant at Accident and Emergency but can occur throughout the hospital. Vandalism and criminal damage to property and equipment (especially pertinent due to the cost and intricacy of hospital equipment). Theft of property and equipment from both the hospitals and from staff and patients. Prescription fraud and theft of medicine. The high level of funding and number of staff mean fraud from staff, both major and minor, occurs at a higher rate than most other governmental agencies.
Extent of criminality?	Very high. Figures from the Northern Ireland Executive website give the number of verbal assaults reported in all trusts at 1702 and the number of physical assaults as 4281 (these figures can be broken down by trust). However given that the National Audit office estimates that 2 out of 5 incidents are not reported the true number is likely to be much higher. Similarly to the ambulance service "Sources quoted in Hansard say information on convictions is not readily available and can only be got at disproportionate cost". However given that according to a 2002 survey of Nurses only 2 out of 10 serious physical assaults result in prosecution and in spite of recent drives to prosecution and conviction figures are likely to be very low.

Financial Cost	In terms of attacks: sources quoted in Hansard state "the information requested is not readily available and can be provided only at disproportionate cost". Neither budgets nor expenditure reports provide information on the cost of security within hospitals. No information is available on the costs in terms of staff sickness and compensation claims. In Hansard it is claimed that in the last two years there has been no cost to the department of health in terms of repairing criminal damage. NHS Counter fraud agency estimates the cost of fraud and unlawful activity identified in the NHS to be £4,166,921. Information on costs of prevention (hidden in budgets) or convictions (Hansard-not collected centrally) unavailable.
Source/Published Information?	Information on Fraud taken from NHS Counter Fraud service annual report 07/08. Information on number of attacks taken from NI executive press release. Hansard written answers used extensively but with limited use, largely "information not collected centrally." National Audit office report on attacks on NHS staff "A safer place to work" 2003 drawn on extensively.
Other material/suggestions for further research	The National Audit Office has conducted a data matching exercise, as required by NI law, to ensure that funds are not misappropriated. More information can be found at http://www.niauditoffice.gov.uk Possible use of police and court records not available in the public domain for information on convictions arising from attacks on healthcare staff. Possible use of the FOIA to request information on criminal injuries compensation from Compensation Agency for Northern Ireland and details of attacks and costs from individual trusts. Request of greater access to NIAS budget and records for information on days and equipment lost to assault as well as costs of prevention equipment.

(2) Ambulance Service

Vulnerabilities to Crime?	**Ambulance Service** Very high vulnerability. The vast majority of this crime consists of physical or verbal attacks on ambulance personnel and criminal damage to equipment when on call. Attacks can take the form of either direct assault or of thrown objects.
Extent of criminality?	Very high. In the 2007/2008 financial year the Northern Ireland Ambulance service reported 56 verbal and 82 physical attacks. However sources indicate that many attacks go unreported so this may not be a true reflection of the situation. Sources quoted in Hansard say information on convictions is not readily available and can only be got at disproportionate cost.
Financial Cost	Sources quoted in Hansard state that the cost of attack, either in terms of equipment, personnel or prevention, are not collected centrally and that "the information requested is not readily available and can be provided only at disproportionate cost".
Source/Published Information?	Hansard written answers; Annual reports of the Northern Ireland Ambulance Service from 05/06 and 06/07. Figures for physical and verbal assaults recorded in a press release promoting the launch of a leaflet promoting a "zero tolerance" culture for staff assaults.
Other material/suggestions for further research	Possible use of police and court records not available in the public domain for information on convictions arising from attacks on ambulance staff. Possible use of the FOIA to request information on criminal injuries compensation from Compensation Agency for Northern Ireland. Request of greater access to NIAS budget and records for information on days and equipment lost to assault as well as costs of prevention equipment.

(3) Fire and Rescue Service

Vulnerabilities to Crime?	**Fire and Rescue** Very high vulnerability. In common with the ambulance service crimes take the form of attacks, both verbal and physical, on Fire and Rescue staff and equipment when on call. Especially prevalent in Northern Ireland where violence against perceived authority figures is common in deprived areas. Can often come in conjunction with malicious hoax calls.
Extent of criminality?	Very high. Most recent Northern Ireland figures available from 2007/2008 give 3 reported instances of attacks leading to Injury to Personnel, 1 of Damage to Appliances and Injury to Personnel, 42 of Damage to Appliances and 217 instances of a Hostile crowd with no Damage or injuries. This information available from 2003/4. Information on convictions is not available (Hansard).
Financial Cost	Sources quoted in Hansard give the 2004 cost of injuries to firefighters as a result of attacks (days lost and ill health retirement) as £4,436 and the cost of repair to appliances damaged in attacks as £1,794. These figures vary widely year on year. Figures are available for 2002, 2003, 2004.
Source/Published Information?	Information on costs of attacks published by Hansard. Info on Number of attacks taken from the NIFRS website. Alternative sources of information include the annual report of the NIFRS and two reports from the Labour Research Department, published by the FBU, on attacks on Firefighters in the UK. 2008's "Easy Targets?" and 2005's "Attacks on Firefighters".
Other material/suggestions for further research	Use of police and court records for details of convictions for attacking firefighters. Use of NIFRS records to detail costs of preventing attacks on firefighers including protection gear bought.

A1.10 Department for Regional Development

Expenditure for 07/08	£m. 1,533.4
Interaction with the public?	Minimal to Moderate. The department is responsible for public transport, water, sewage and upkeep of roads.
Vulnerabilities to Crime?	Minimal. Vulnerabilities include internal financial fraud and defrauding of the department by way of bending regulation/claiming unwarranted money.
Extent of criminality?	Unknown. No information found in departmental publications beyond a broad condemnation of fraud. No information found upon further google search.
Financial Cost	licatio
Source/Published Information?	Website http://www.drdni.gov.uk/index
Other material/suggestions for further research	

A1.11 Department for Social Development

Expenditure for 07/08	**Department for Social Development** £m. 4,843.5
Interaction with the public?	Very high. The role of the social worker includes dealing face to face with people from troubled backgrounds in socially deprived areas. Social workers spend a large proportion of their time making house calls to members of the public.
Vulnerabilities to Crime?	Very high vulnerability. Department holds responsibility for social workers. Vulnerabilities include verbal and physical attack as well as criminal damage to property (e.g. departmental cars).
Extent of criminality?	Very high. No figures are available from NI. Hansard quotes one source as saying: "Information about the number of incidents of violence against social workers is not collected centrally." UNISON states that there are 50,000 assaults on social care staff a year. Meanwhile a survey of "more than 1,000" social workers by 'Community Care' Magazine found that more than 50% had been assaulted in the course of their work, those who had been assaulted had been assaulted on average 6 different occasions, over a fifth had needed medical attention and 14% had been prescribed medication for stress.
Financial Cost	Unknown. Scale of the problem is not known as data on attacks is not readily available. Furthermore no cost analysis of attacks seems to have been carried out. In terms of attacks against public sector staff the government seem much more focussed on healthcare staff, Unison states "While the Government has committed £97 million to tackling violence against NHS staff, it has done little for social work". Implication is that little is being spent on protecting social workers.
Source/Published Information?	Limited sources were available. Figures for assaults on staff taken from Unison website. Survey statistics taken from 'Community care' magazine.
Other material/suggestions for further research	The National Audit Office has conducted a data matching exercise, as required by NI law, to ensure that funds are not misappropriated. More information can be found at http://www.niauditoffice.gov.uk/ Possible greater access to DSDNI records for incidents of reported violence. However it is likely that only a full survey of all workers would give a true picture of the scale of violence and its associated costs. Access to compensation claims from the Compensation Agency for Northern Ireland could give a greater idea of the cost of days lost from work.

A1.12 Police Service of Northern Ireland

Expenditure for 07/08	£m. 848.293
Interaction with the public?	Very high. The PSNI is in constant contact with members of the public, in a wide range of criminal situations.
Vulnerabilities to Crime?	Very high vulnerability. The PSNI constantly intervenes in high risk situations and is also a focal point of attacks itself. These attacks can come in the form of verbal and physical assault on officers. Criminal damage to property and vehicles and theft from said vehicles. Physical violence can involve crowds, handheld weapons, missiles and firearms.
Extent of criminality?	Very high. The 07/08 PSNI annual crime statistics give 2,827 recorded instances of assaults on police (for 05/06 this figure is 2,423). The most recent statistics from 06, quoted in Hansard, give 0 instances of death in PSNI but 564 injuries (unknown how many due to crime). In 2006 there were 684 convictions for assaults on police officers. The most recent figures for attacks on police vehicles and stations, from 2000, give the number of attacks on stations as 8 and on vehicles as 1,339 (attacks as a result of terrorism/ public disorder).
Financial Cost	Unknown. Unpublished by the PSNI website or NI Police Federation website. As quoted in Hansard in 2002 when the Secretary of State was asked of the cost of criminal damage to departmental property, the answer came: "this information could only be provided at disproportionate cost".
Source/Published Information?	Police Service of Northern Ireland website http://www.psni.police.uk/ and their published annual statistics. Police Federation of Northern Ireland website http://www.policefed-ni.org.uk/ Various Hansard sources.
Other material/suggestions for further research	Information on the volume, and financial costs, of crime against the Police Service of Northern Ireland could be available under the FOIA, through the PSNI website. It is unknown whether work related injury compensation is awarded by the department itself or Compensation Agency for Northern Ireland. There is the possibility that both are accessible under the FOIA.

ANNEX 2 Findings on costs of crime for departments

A2.0 Health Service

Violence against the person: Health Workers

Information about violence and aggression against NHS staff has been taken from a disparate range of sources. These include articles published national newspapers and in Nursing Union newsletters, questions raised in parliament and governmental papers such as the Comptroller and Auditor General's "A safer place to work; protecting NHS Hospital and ambulance staff from violence and aggression." However none of these sources provide a comprehensive overview of criminality within the NHS.

Focus is on the psychological and morale effects of violence and aggression on staff rather than the financial cost of attacks. It was initially thought that this information could be obtained from insurance records. However, neither the Criminal Injuries Compensation Authority in England and Wales nor the Northern Ireland equivalent, the Compensation Agency, publishes information on individuals claiming compensation on their websites.

Parliamentary Q & A

Emergency Services: Crimes of Violence

Mr. McGrady: To ask the Secretary of State for Northern Ireland how many people in Northern Ireland were charged with attacking emergency service workers in each of the last five years. [164446]

Paul Goggins: While there is no specific offence of attacking emergency service workers, the following tables set out the number of offences against the person and criminal damage offences recorded and cleared where:

> the primary occupation of the victim is recorded as the emergency services (although it is not known whether they were on or off duty at the time of the offence); or
>
> the details recorded of the victim indicate "emergency services"—this denotes a general offence against an emergency service rather than a named individual (for instance an attack on a manned police vehicle or ambulance).

The term "offences against the person" covers a range of matters of varying severity, from minor incidents to more serious assaults.

Offences against the person where the victim's primary occupation is "emergency services"[1]	
	Offences cleared by means of charge/summons
2002-03	1,626
2003-04	1,748
2004-05	1,861
2005-06	2,121
2006-07	2,315
[1] Offences against the person include offences of assault on police.	

Criminal damage where the victim is listed as "emergency services"	
	Offences cleared by means of charge/summons
2002-03	140
2003-04	191
2004-05	212
2005-06	211
2006-07	282

The PSNI have stressed that these figures include all the emergency services, and that they encompass many incidents which, while categorised as "offences against the person", are relatively minor in nature. The majority relate to interactions between police and public during arrests, interventions in assaults etc. rather than deliberate premeditated attacks on police.

During recent years, as policing with the community embeds, officers are having more and closer interactions with the public during night time economy operations and therefore are more likely to intervene in tense situations.

http://www.publications.parliament.uk/pa/cm200708/cmhansrd/cm080115/text/80115w0011.html

Number of assaults in England, breakdown by trust

http://www.publications.parliament.uk/pa/cm200708/cmhansrd/cm080109/text/80109w0016.htm

Much the same, from 1999

http://www.publications.parliament.uk/pa/cm200102/cmhansrd/vo020227/text/20227w38.htm

Criminal Damage to Health Department Buildings

Mr. Bercow: To ask the Secretary of State for Health what the cost has been of criminal damage to his Department's buildings in each of the last four years. [44846]

12 Apr 2002: Column 675W

Ms Blears: The recorded costs of repair to the Department's buildings attributable to criminal damage within the last four financial years are:

	£
1997–98	£3,698
1998–99	£5,908
1999–00	£1,650
2000–01	£3,289

7 Dec 2004: Column 500W:

Mr. Bercow: To ask the Secretary of State for Health what the cost has been of criminal damage to his Department's buildings in each of the last two years. [200793]

Ms Rosie Winterton: The Department has not incurred any costs in the last two years because of criminal damage.

http://www.publications.parliament.uk/pa/cm200506/cmhansrd/vo051031/text/51031w36.htm

25 March 2009

Health Minister, Michael McGimpsey today launched a zero tolerance campaign leaflet aimed at reducing attacks on healthcare staff.

Reported Incidents of Verbal and Physical Assaults on Staff, 2007-08:

Belfast Trust:	Verbal: 580	Physical: 1,372	Total: 1,952
Southern Trust:	Verbal: 320	Physical: 385	Total: 705
South Eastern Trust:	Verbal: 199	Physical: 1,017	Total: 1,216
Northern Trust:	Verbal: 331	Physical: 889	Total: 1,220
Western Trust:	Verbal: 272	Physical: 618	Total: 890
NI Ambulance Service:	Verbal: 56	Physical: 82	Total: 138

Taken from:

http://www.northernireland.gov.uk/news/news-dhssps/news-dhssps-25032009-mcgimpsey-launches-zero.htm

Hansard Written Papers

21 Nov 2005: Column 1638W

Hospital Staff (Attacks)

Mrs. Iris Robinson: To ask the Secretary of State for Northern Ireland how many working hours have been lost at each accident and emergency hospital in Northern Ireland in each of the last three years due to staff being injured or suffering stress following attacks by members of the public. [30286]

Mr. Woodward: The information requested is not readily available and can be provided only at disproportionate cost.

http://www.parliament.the-stationery-office.com/pa/cm200506/cmhansrd/vo051121/text/51121w33.htm

Some nurses claim they regularly face abuse, despite security measures.

UNISON, which represents health workers, says violence against staff is unacceptable and a zero tolerance approach must be maintained.

The RCHT said the increase could be partly explained by staff being actively encouraged to report all violent or aggressive incidents.

It said although the total number of incidents reported had gone down, 14% of those were of a violent and aggressive nature.

In the past three months, the percentage of violent incidents has risen to, almost 20%.

The government has said it is taking the issue of violence against NHS staff very seriously.

More than 60,000 NHS staff members were physically assaulted by patients or relatives nationally last year.

http://news.bbc.co.uk/1/hi/england/cornwall/5074718.stm

NHS: Security

James Brokenshire: To ask the Secretary of State for Health how much each NHS trust spent on *(a)* security guards and *(b)* other security measures to protect patients and staff in each of the last three years. [232141]

Mr. Bradshaw: This information is not held centrally and could not be provided without incurring disproportionate cost.

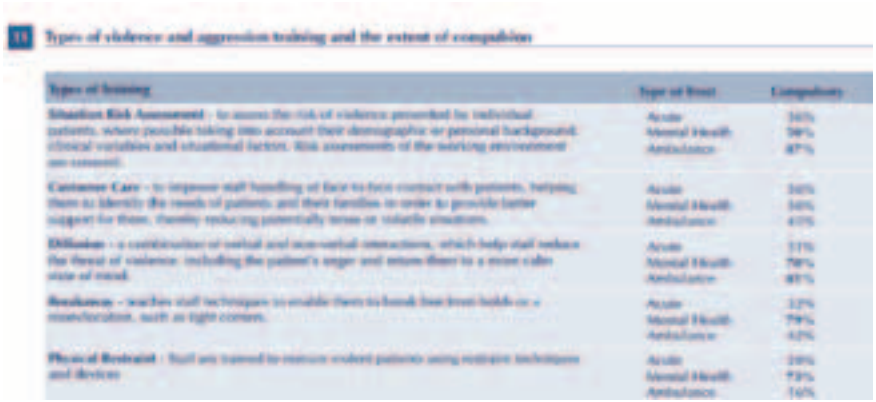
Hansard 3 Nov 2008: Column 86W

http://www.publications.parliament.uk/pa/cm200708/cmhansrd/cm081103/text/81103w0021.htm

United Kingdom

Prevention Measures

Around three quarters of NHS trusts provide induction and violence and aggression training to ancillary staff, while 54% provide this to Doctors.



66 out of 96 non-mental health and ambulance trusts used a formal risk assessment in terms of violence and aggression.

In addition to NHS trust investment, the Department, under the Improving Working Lives Initiative, part of the Human Resources Performance Framework48, has set aside £1.5 million for investment in new initiatives over three years, to be matched by £1.5 million from trust funds. In 2001-2002, the first year of operation, the Department received bids of over £4.9 million, and following analysis of the bids by the Regional Offices, some £0.8 million of central funding was used to support 173 local measures to address violence and aggression, including:

- fitting central locking systems to 33 ambulance trust vehicles;
- purchasing personal alarms for staff;
- commissioning personal safety training for staff;
- installing/upgrading CCTV cameras at inner-city clinics;
- installing swipe card access systems; and
- introducing a voice logging protection system for community staff.

Measure	% of Trusts	Comments	Evidence of Effectiveness
CCTV	92%	Already the most common form of security in many Trusts, and over 30% told us that they were considering improvements in both quality and coverage of CCTV. In addition 25% of ambulance trusts were using or trialling CCTV in their emergency vehicles.	A Home Office report: Crime Prevention Effects of closed circuit television: a systematic review, August 2002, noted that nine UK studies presented evidence that CCTV had a beneficial effect on the crime rate in town centres, reducing crime overall by 4 per cent. Five other studies, however, found that CCTV had no effect on violent crimes. Unless combined with on-site monitoring and response, CCTV is unlikely to offer any real security to staff, as the 'duration of combat' is usually 7 seconds and injury will occur in the first 3 seconds. CCTV's value is in the public perception of security.
Panic Buttons	85%	Panic alarms are commonly issued to staff working alone, however they do require that other staff including security staff are in a position, and have been trained, to react quickly and provide assistance.	Limited research on the impact of these security measures. In their report, Bleetman and Boatman were unable to draw any conclusions about the need for or efficiency of personal protective equipment and personal alarms.
Security Staff	40%	Most common in inner city accident and emergency departments. Cover is seldom 24 hours, 7 days a week but is more comprehensive than that provided by the police.	The report found only one example where high-profile security presence was reportedly effective in reducing assaults (Case example 8) but identified concerns that such staff were not always trained appropriately. A few trusts mentioned problems of recruiting and retaining security staff. Overall, security guards can improve feelings of security and when dedicated to a specific work area can increase staff confidence.
A Police Presence	20%	In general, this involves the provision of a room which the police could use to detain violent or aggressive people. In most cases the police are present only during high-risk periods, particularly on Friday and aturday nights.	The report found that police presence was effective particularly in making staff feel safer. However there was no quantifiable evidence of effectiveness.
Other Measures	17%	Other measures include key-coded door locks to restrict access, mobile phones for lone workers, particularly in the ambulance service, the use of security screens in reception areas and controlled access to sharps boxes.	Limited research on the impact of these security measures, however staff report feeling more secure as a result.

Scale

In the health services within all NHS trusts in 2001/2002 there were 64 assaults causing major injury that were reported to the Health and Safety Executive with 759 assaults reported overall. However the Health and Safety executive estimated that only 42% of all incidents that should be reported to them are.

Thirty ninth report of session 2002-2003 of the House of Commons Committee of Public Accounts

> "The above figure does not include the costs of to the NHS in terms of property damage, risk, liability or injury to staff. No reliable figures are available for this but estimates between £300 million and £678 million per annum"
>
> Taken from Mc Manus & Mullet (2001) Better Health; Lower crime, an NHS briefing, published by NACRO.
>
> The National Audit Office estimates that the financial costs of attacks within the NHS is, excluding the cost of replacing staff and the human toll of stress, low morale and lost productivity, at least £69 million a year. (crude estimate based on the fact that the direct cost of work-related incidents is £173 million a year and violence and aggression make up about 40% of these incidents).

A Safer Place To Work, 2003 report by the Comptroller and Auditor General.

Prosecutions

Official figures show that nearly 56,000 NHS staff were assaulted last year, but fewer than one in 50 attacks led to a prosecution. The total of 55,993 attacks on workers in 2007/08 was a rise of 284 on the previous year's figures. During the same period sanctions against people who commit assault have risen to 992 – an increase of 123 on 2006/07 and a substantial rise from the 51 that were recorded in 2002/3[6].

Around 75,000 NHS staff are subjected to assaults every year, but less than 1,000 of the incidents lead to prosecution.

Taken from the NHS 24/7 website, no citation.

According to the Department of Health, there were 112,000 violent or abusive incidents involving NHS staff between April 2001 and March 2002.

6. taken from: http://www.nhsbsa.nhs.uk/2453.aspx

Mr Hutton said NHS trusts had launched 51 prosecutions between June 2002 and March 2003.

Taken from the BBC news website, no citations.

The Royal College of Nursing 2002 survey of 6000 nurses noted that most cases of serious physical assault were reported (41%, accident report form – 42% reporting to senior staff). However in 80% of cases there was no outcome from the action, in 8% a verbal warning was issued, in 5% of cases, care was discontinued and in a further 5% of incidents were reported to the police. In only 2% of cases was the offender prosecuted.

Availability of Information

United Kingdom

"To date, no national report seems to have been collated or published [on the costs of crime to the NHS]. A survey of 50 health authorities and trusts showed that only 15 were actively collating data on the costs of crime."

Taken from Mc Manus & Mullet (2001) Better Health; Lower crime, an NHS briefing, published by NACRO.

Measuring the Cost and Impact of Violence and Aggression

"Our predecessor Committee found little information on the costs to the NHS of health and safety incidents involving staff. The Department confirmed that *they remain a long way from having reliable cost measures*, although some data does exist on the cost of temporary staff to cover sickness absence. The Department will be considering what more can be done in the light of the National Audit Office's report.

There is also a lack of evidence on the impact of violence and aggression on staff. One source of such information could be staff exit interviews, but exit interviews do not ask staff specifically whether they are leaving as a result of violence and staff do not spontaneously mention violence as a major contributory factor. The Department said that it needed a better understanding of how many people leave as a result of violence."

Miscellaneous: Hospital Accident Admissions

In Northern Ireland in 2007 there were 14,891 hospital admissions due to accidents. Of these 1,815 admissions were as a result of injuries due to road traffic collisions, 3,028 admissions were as a result of injuries in the home and 376 admissions were due to accidental injuries occurring at public administration area and other institutions.

Miscellaneous: Security Management in the NHS

The NHS Security Management Service was set up alongside the NHS Counter Fraud Service to build on the successes of the latter by extending the remit to security issues. As part of a new Special Health Authority the NHS SMS has begun to introduce the first ever national strategy for security in the NHS, which involves measures to protect staff in England against violence and abuse, prevent theft and damage to equipment and property, ensure the security of drugs and medicines and protect maternity and paediatric units.

The NHS SMS set about ensuring that every health body appointed a Local Security Management Specialist, trained and accredited by the NHS SMS, so that health bodies would be able to focus on the issues that affected them locally. In addition, the NHS SMS set up a Legal Protection Unit which provides cost effective legal advice to the NHS on pursuing sanctions against offenders and if necessary can pursue prosecutions. In 2004-2006, the rate of prosecution for people who assault NHS staff had gone up to 16 times what it had been in 2002-2003 (850 against 51), and increased again to 869 in 2006-2007.

In November 2007 it was revealed that there had been 55,709 physical assaults against NHS staff in England, 2,986 fewer than 2005-2006 and 4,586 fewer than 2004-2005.

In April 2004, the NHS SMS launched the biggest ever training programme in NHS history. Conflict Resolution Training aims to train 750,000 frontline NHS staff members in techniques to manage and prevent violence, looking at methods of communication, cultural awareness, environment and how to de-escalate violent situations as well as how to avoid being physically assaulted if de-escalation fails.

The NHS SMS has also contributed to trials of technology to help protect NHS staff and assets. This includes assisting with the Safer Hospitals Programme to develop environments which can help to reduce violence, and trialling a device for lone workers which will enable them to discreetly call for help to a response centre if in danger and give details as to their location, as well as recording evidence that can be used to prosecute offenders.

A2.1 The Fire Service

Staff Assaults, 2002-04

Mrs. Iris Robinson: To ask the Secretary of State for Northern Ireland what costs were incurred by the Department of Health, Social Services and Public Safety as a result of attacks on fire crews and their vehicles over the last three years; and if he will make a statement. [22635]

Mr. Woodward: The following tables detail the cost resulting from attacks on fire crews and their vehicles over the last three years.

Cost of injuries to fire fighters (in Northern Ireland) as a result of attacks (days lost and ill-health retirements)

	£
2002	45,583
2003	3,031
2004	4,436
Total	53,050

31 Oct 2005: Column 797W

Cost of repair to damaged fire appliances, 2002-04

	£
2002	2,714
2003	2,047
2004	1,794
Total	6,555

While there has been a year on year reduction in the number of attacks, the safety of fire fighters while carrying out their duties remains of paramount importance. Legislation is being introduced early next year to ensure that the perpetrators of such attacks will be prosecuted. Attacks on fire fighters and their equipment not only puts fire crews at risk, but also reduces their ability to deliver vital services, which may have tragic results for those unfortunate enough to be trapped by fire.

http://www.publications.parliament.uk/pa/cm200506/cmhansrd/vo051031/text/51031w36.htm

Attacks on Fire fighters, Northern Ireland

	2003/04	2004/05	2005/06	2006/07	2007/08
Injury to Personnel	9	5	5	6	3
Damage to Appliance(s) and Injury to Personnel	3	4	2	1	1
Damage to Appliance	81	70	51	36	42
Hostile Crowd - No Damage of Injuries	229	240	284	242	217

Taken from the Northern Ireland Fire Service website

In the 2005 report by the Labour Research Department for the Fire Brigades Union "Attacks on Fire fighters" Peter Craig, Assistant Chief Fire Officer, estimates that between £1.5 and £2 million is wasted as a result of attacks on fire-fighters and equipment. No reference or source is given for this number.

It should be noted, however, that "estimates of the true scale of the problem are difficult to obtain in the absence of a rigorous and consistent national system of reporting. However some participants in the research did attempt to quantify the matter.

A2.2 Schools

Schools: Crime

Mr. Jeremy Browne: To ask the Secretary of State for Education and Skills how many and what percentage of (a) primary and (b) secondary schools recorded incidences of (i) theft, (ii) criminal damage and (iii) assault in each of the last 10 years; how many of these incidents were committed by (A) staff and (B) pupils; and how many of those incidents resulted in the removal of the perpetrator from the school in question. [140779]

Jim Knight: The information requested is not collected centrally.

For the academic years 2003/04 and 2004/05 information is available on the reasons for pupil exclusions. These reasons include 'theft', 'damage' and 'physical assault against an adult or pupil'.

The tables provide a breakdown of the number of pupils who have been excluded for a fixed period or permanently from maintained primary and secondary schools for theft, damage and physical assault against an adult or pupil.

11 Jun 2007: Column 800W

Maintained primary and secondary schools[1] : Number and percentage of fixed period exclusions for theft, damage and physical assault against an adult or pupil[2] , 2003/04 and 2004/05, England

	Maintained primary				Maintained secondary			
	2003/04		2004/05		2003/04		2003/04	
	Number	%[2]	Number	%[2]	Number	%[2]	Number	%[2]
Theft	400	1.0	400	0.9	6,550	2.3	7,020	2.1
Damage	830	2.0	990	2.3	9,200	3.2	10,220	3.1
Physical assault against an adult	5,190	12.6	5,960	13.6	8,110	2.8	9,490	2.9
Physical assault against a pupil	10,890	26.4	11,950	27.3	55,440	19.2	65,790	20.0

[1] Includes middle schools as deemed. [2] Number of fixed period exclusions by reason expressed as a percentage of the total number of fixed period exclusions. *Note:* Numbers have been rounded to the nearest 10. *Source*: Termly Exclusions Survey.

http://www.publications.parliament.uk/pa/cm200607/cmhansrd/cm070611/text/70611w0017.htm

A2.3 Department for Social Development

Social Services: Assaults on Social workers

"Information about the number of incidents of violence against social workers is not collected centrally."

Hansard, 28 Feb 2000 pt.20

http://www.publications.parliament.uk/pa/cm199900/cmhansrd/vo000228/text/00228w20.htm

A2.4 Department for Employment and Learning

JobCentres

"The Department for Employment and Learning (DEL) has 10 jobcentres which form part of a network of 35 regional offices. The remaining 25 offices are Jobs and Benefits Offices (JBO) which are administered jointly with the Social Security Agency, Department for Social Development (DSD).There have been no reported incidents of physical assault on staff in any of the 10 jobcentres in the last three years. There have been five reported incidents of physical assault in Jobs and Benefits Offices in each of the last three years involving one DEL member of staff, one Social Security Agency member of staff and three contract staff as follows:

Table 1.1 Reported Incidents of Physical Assault in Jobs and Benefit Offices

	Number of incidents
October 2003 to October 2004	9
October 2004 to October 2005	3
October 2005 to October 2005	81

In England and Wales the DWP pay for Securitas staff known as "Customer Care Officers" (C.C.O.s) to ensure the safety of their staff. C.C.O.'s salaries are £22,000, and 1,542 C.C.O.s are employed over 595 job centres. To illustrate the order of magnitude of the costs of crime prevention in jobcentres in Northern Ireland, if DELNI employs the England and Wales average of 2.7 C.C.O.s per jobcentre over its 10 jobcentres, then the cost per annum is £594,000.

This cost may also be seen as covering some of the costs resulting as a consequence of crime in jobcentres as it is the C.C.O.s who must enforce the banning orders imposed on troublesome customers. The C.C.O.s also monitor and record the number and type of incidents that take place.

Costs in response to crime

The costs to DELNI in response to violent crime from the information publicly available, does not appear to be great. From 2002-2003 only 2 prosecutions have been brought in relation to jobcentre crime[8].

7. Maria Eagle MP, Written Answers to Questions, House of commons (Hansard), 26th October 2006, http://www.publications.parliament.uk/pa/cm200506/cmhansrd/vo061025/text/61025w0001.htm
8. David Anderson, Hansard, 15.12.2003 (source: occupational health and safety division) http://www.publications.parliament.uk/pa/cm200304/cmhansrd/vo040106/text/40106w30.htm

Department of Justice
Statistics and Research Branch
Justice Policy Directorate
Massey House
Stoney Road
Belfast
BT4 3SX
Email: statistics.research@dojni.x.gsi.gov.uk
Telephone: 028 9052 7157
Facsimile: 028 9052 7532

www.dojni.gov.uk

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