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Review of Costs and Benefits Analysis in Crime Prevention

Report to the European Commission, Directorate-General for Justice, Free-dom and Security

Contract JAI/B/1/2003/05a

Amsterdam, 28 April 2005

Paul van Soomeren – DSP-groep (Amsterdam, Netherlands)
Jack Wever – DSP-groep (Amsterdam, Netherlands)

In collaboration with:
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DSP – groep BV
Van Diemenstraat 374
1013 CR Amsterdam
T: +31 (0)20 625 75 37
F: +31 (0)20 627 47 59
E: dsp@dsp-groep.nl
W: www.dsp-groep.nl
KvK: 33176766 A'dam

Inhoudsopgave

Summary

In crime prevention the question ‘what’s worthwhile?’ is becoming ever more relevant. To answer this question we need to look at the costs and benefits of crime prevention.

In order to determine the current knowledge on cost and benefit analysis in crime prevention in the EU member states, the European Commission called for a review which included not only current EU member states but also some then applicant countries as well as countries such as Australia and the USA. This report is the result of this review.

The bad news is that the existing body of knowledge is almost exclusively Anglo-Saxon, dominated by research and practice in the USA, Canada and Australia. Of the EU member states only the UK is beginning to develop a noteworthy body of knowledge while countries like Finland, the Netherlands and Germany have begun to introduce evaluation policies that look at monetary aspects. As such these latter countries are taking their first steps towards putting cost-benefit analysis into practice.

Encouraging though, is what can be found at the local level; cities such as Angers (France), Amsterdam (Netherlands), Manchester (United Kingdom) and Helsinki (Finland) either establish what crime is costing them or demand thorough evaluations of specific crime prevention projects (such as CCTV).

There is certainly a desire to know more about the costs and benefits of crime prevention. However, the rather academic level of discussion surrounding the issue keeps many from putting it into practice.

Despite the dearth of knowledge and policies on cost-benefit analysis in crime prevention in the EU this review does not dwell on the theory and practice of cost-benefit and/or cost-effectiveness analysis in other parts of the world. This would be covering up a plain and simple outcome: if there is nothing there, we had better face the fact. Therefore this review focuses on introducing the main elements of cost-benefit analysis, the dilemmas surrounding it, the state of the art and how the EU member states could proceed on the matter.

Introduction

In recent years ‘what works' has become an accepted question in crime prevention.[1] Several studies have been published on this topic and some of these, like the 1997 US National Institute of Justice report *Preventing Crime: What works, what doesn't, what's promising*, have become something of a milestone. While the questions ‘what works’, ‘what doesn't’ and ‘what's promising’ are useful in determining where to spend crime prevention money, there is one question missing: ***what's worthwhile*****?** As crime imposes considerable costs on society, identifying and investing in programmes that are both effective (producing a desired or intended result) and efficient (working productively with minimum wasted effort or expense) is the way to go.

Why money matters in crime prevention

The one common subject in any budget discussion is money. Other subjects are important, but they are mentioned in relationship to money or are translated into money. Budgeting involves dollars and cents often expressed in the millions of dollars. (Lynch 1979)

To answer the question 'what's worthwhile' we need to look at the costs and benefits of crime prevention. As there are no large-scale European examples of cost-benefit analysis, the premier European network on crime prevention, the European Crime Prevention Network (EUCPN),[2] made the question of costs and benefits one of its priorities and objectives (work programme) for 2003 and 2004. As part of its work programme, the EUCPN suggested a review of cost and benefit analysis in crime prevention, to assist EU countries with the (further) development of cost-benefit analysis.

Note 1 The terms 'crime reduction' and 'crime prevention' will be used as synonyms. In this review we will use the term crime prevention.

Note 2 EUCPN website: http://europa.eu.int/comm/justice_home/eucpn/

Call for tenders

As one of five calls for tenders, the European Commission (Directorate-General for Justice and Home Affairs) called for a review of current knowledge on the cost and benefits of preventing crime in the EU member states.

This review focuses on cost-benefit analysis in crime prevention projects and programmes[3] as described in the call for tenders (JAI/B/1/2003/05).

The call for tenders stated that cost-benefit analysis *"can help show which crime prevention initiatives merit further funding and possible replication elsewhere. Any cost-benefit analysis will require, as its starting point, a credible evaluation of project relevance and impact. If possible, evaluation findings should be presented in a form that will facilitate subsequent economic analysis. (…).*

Effective crime prevention at all levels is characterised by: a systematic analysis of the crime problem and the conditions that generate it; a review of the services and interventions in place to tackle those conditions and improve them; implementation of the programme; and evaluation of the programme's impact on crime and its implementation, so that improvements can be made, including a cost benefit analysis."

The Amsterdam-based research and consultancy bureau DSP-groep[4] was awarded the contract to perform the review in collaboration with the Crime Risk Management department of BRE[5] in Watford. Addressing the call for tenders DSP-groep proposed a review in the EU member states[6] on the issue of the cost-benefit analysis of crime prevention projects and programmes addressing the four defined objectives:

Note 3 In this report concepts like 'project', 'programme', 'scheme', 'crime prevention measures/activities', 'policy', 'initiative', etc. will be used to describe a set of measures aimed at reducing and/or preventing crimes and/or the damage done by these crimes. The term most commonly used will be ‘project'.

Note 4 Since its foundation in 1984, DSP-groep (www.DSP-groep.nl) has gained broad experience regarding research, consultancy and management in various fields of expertise related to solving strategic social problems in communities. DSP-group is specialised in quantitative and qualitative research. For example, gathering and analysing new data on crime, fear of crime, crime reduction and prevention, adapting and applying existing data and developing and implementing monitoring systems and registration systems.

Note 5 Building Research Establishment, a UK-based research and consultancy organisation.

Note 6 The call for tenders was published late in 2003, before the enlargement of the European Union to 25 countries on 1 May 2004. Hence the focus of the study is mainly on the 15 countries that comprised the EU before the 2004 enlargement.

Objective 1

Describe current policies in the 15 EU member states, some applicant countries and some non-EU countries on the question of how cost-benefit analysis and cost-effectiveness analysis of crime prevention projects have been used and applied in the past

Objective 2

Make an inventory in the group of countries mentioned above of studies that have applied cost-benefit and/or cost-effectiveness analysis in crime prevention. The focus in this inventory is on:

- lessons learned
- practical problems
- the costs of crime

Objective 3

Develop a 'how-to' manual based on available knowledge and the information gathered by the inventory

Objective 4

Present good and bad practices on how local, regional and national governments – as well as business and collective civic approaches – should allocate scarce resources to make crime prevention projects more cost-effective.

Scope of research
Apart from the EU member states (in 2003), applicant countries like Estonia, Poland, Cyprus, Lithuania, Slovenia, Slovakia and Hungary and a few large non-EU countries like the USA, Canada, South Africa and Australia have been included in the research design as well. Information was gathered from all EU member states, a number of applicant countries and the USA, Canada and Australia through international conferences, workshops, personal contacts, replies to our questionnaire and a literature review.

An important reason to include countries like the USA, Canada and Australia is that these countries are ahead of Europe on the issue of costing of crime. Only in the UK is there something approaching a reasonable body of knowledge on the issue. Therefore, the list of references in this review includes many Anglo-Saxon sources.

Though limited, the available literature on cost-benefit analysis offers a lot of opportunity to elaborate. While the concept of cost-benefit analysis may at first seem uncomplicated (add and subtract), the available literature certainly proves quite the opposite.

As such this review could have resulted in a very thick, thorough and exhaustive report, exploring all kinds of related issues and academic discussions. Instead we have decided to keep this review simple and practical. Given the audience for this review, most of them novices in the field of cost-benefit analysis, and the lack of a noteworthy body of knowledge on the issue in Europe, this would seem to be the best choice.

Layout of the report
Chapter 1 details the research involved in this review, the questionnaire used for this review, the survey, the way the results of this review were discussed and disseminated and a European Seminar on Costs of Crime, Disorder and Crime Prevention in Helsinki in April 2004.

Chapter 2 introduces the main definitions in cost-type analysis as well as the more theoretical dilemmas associated with cost-benefit analysis.

Chapter 3 elaborates on the current state of affairs in cost and benefit analysis: evaluation policies and practice in a number of countries and the existing body of knowledge. This chapter also focuses on practical problems in cost and benefit analysis and lessons we should take into account.

Chapter 4 offers findings and conclusions. The implications of these findings and recommendations for additional future efforts can be found in chapter 5.

Annex 1 offers a short how-to manual on cost and benefit analysis, including a list of standard costs of crime which can be used in implementing cost-benefit policies.

Annex 2 offers a format for an on-line software computer program presenting a prototype for a 'crime cost calculator' (e-CCC©) which respondents can use to articulate their beliefs regarding the cost (as an indicator of the seriousness) of certain types of crime. The e-CCC© can be used as an alternative to the list of standard costs of crime. It should be noted however that the e-CCC© is still in its experimental phase (hence the ‘e’ in front).

Annex 3 is an excerpt from the 2000 International Crime Victim Survey (ICVS) and shows the number of crimes reported to the police by country.

Annex 4 shows a selected list of references. This list is limited to the most widely known (and used) studies, some recent studies and some of the presentations from the Helsinki conference on cost-benefit analysis. The fact that Anglo-Saxon studies (UK, USA, Australia, Canada) dominate the list is a reflection of the limited body of knowledge in Europe.

Annex 5 is the questionnaire used in this review.

Annex 6 offers a list of questions used in the International Crime Victim Survey (ICVS) and crime definitions used in the European draft pre-standard *ENV 14383-1 Prevention of crime by urban planning and building design – Part 1: Definitions of specific terms*. These questions may be of use in the further development of cost-benefit analysis in Europe as they offer definitions of crime free of 'legal speak'.

Annex 7 shows a list of organisations per country with whom we have discussed the review (either by e-mail, by phone or in person). The list of persons and organisations to whom we sent our e-mail questionnaire is too long (over 300 respondents) to include here.

1 Research

In this chapter we will elaborate on the main elements of our research including the *European Seminar on Costs and the Distribution of Costs of Crime and Disorder and Crime Prevention* in Helsinki in April 2004, the 'cost-benefit analysis in crime prevention' questionnaire sent out in May 2004, the nature and extent of exchanges on a personal level over the course of the review and discussion and dissemination of the results.

In elaborating on these elements, we will also focus on the problems and difficulties encountered. This to account for our main finding: there is not really much on cost-benefit analysis in Europe. At the end of this chapter we will present an overview of efforts and results per country.

1.1 European seminar in Helsinki

The *European Seminar on Costs and the Distribution of Costs of Crime and Disorder and Crime Prevention* was organised by the Finnish National Council for Crime Prevention in co-operation with the European Forum for Urban Safety and the Swedish Council for Crime Prevention (BRÅ). It took place on 1 and 2 April 2004 in Helsinki and was made possible by monetary support from the AGIS programme of the European Commission.

The coinciding of our review and the European seminar provided us with the unique opportunity to test some of our hypotheses and consult with academics, policy-makers and crime prevention practitioners. Therefore we contacted the organising committee of the Helsinki seminar as early as possible to arrange to give cost-benefit analysis a prominent place on the programme.

As a result we were able to organise and chair two workshops on the issues relevant for this review in which all EU member states, some applicant countries and academics and professionals from large non-European countries like the USA, Canada and Australia were present. This resulted in a very useful and productive exchange of views, both during and after the seminar.

The seminar programme consisted of plenary sessions and workshops. Plenary speakers included:

- Mark Cohen (Vanderbilt University, USA) on the monetary value of crime;
- Pat Mayhew (Australian Institute of Criminology, Australia) on counting the costs of crime;
- Daniel Sansfaçon (International Centre for the Prevention of Crime, Canada) on cost and benefits of crime prevention;
- Göran Skogh (Linköping University, Sweden) on the social costs of property crimes;
- Richard Dubourg (Home Office, UK) on conceptual and empirical developments in the measurement of the costs of crime.

Whereas the plenary sessions provided an introduction into the state of the art in cost-benefit analysis, the workshops offered the opportunity to discuss the state of affairs in counting the costs of crime and in cost-benefit analysis.

In the workshops, themes included: comparison of costs in EU countries; methods and problems of summing total costs of crime; distribution of costs between the state and the municipality in the EU countries; and cost-benefits of crime prevention. One of these workshops[7] – chaired by Paul van Soomeren (DSP-groep, Netherlands) – was an inventory of the policies of and practices in most (old and new) EU countries.

The workshop showed that – apart from the USA, Australia, the UK and a few scattered studies in countries such as France, Finland, Germany and the Netherlands – in most countries there are no policies to refer to nor studies on cost-benefit in crime prevention available.

These outcomes were disappointing as they did not give us much hope with regard to objective 1 (current cost-benefit analysis policies), objective 2 (cost-benefit analysis studies) or objective 4 (good and bad practices of cost-benefit analysis) mentioned in the call for tenders.

The outcomes did, however, help us focus more on objective 3 (a how to manual). This objective was met afterwards as we translated the existing theory, input we gained through the workshops, replies to our e-mail questionnaire (paragraph 1.2) and personal contacts (paragraph 1.4) into a 'how-to' manual.
Summing up the seminar, the spokesman for the organising committee concluded that we have to face the fact that cost-benefit approaches and studies on the subject in Europe are practically non-existent. This conclusion was shared by all participants at the Helsinki conference.

Nevertheless, the seminar did succeed in bringing cost-benefit analysis another step forward. The spokesman for the organising committee expressed the hope that the EUCPN review being undertaken by DSP-groep would be the necessary next step.

A final remark is that the initiative to assemble European and international experts and professionals involved in difficult but pressing issues like cost-benefit analysis is certainly worth the effort and money.

1.2 Questionnaire

One of the steps mentioned in the work programme was the use of a questionnaire. This questionnaire was to be sent to selected networks in order to get the necessary information to write the report and develop a 'how-to' manual. Hence one of the first steps in the project was the drafting of the questionnaire.

Note 7 Workshop 1 April 2004: Comparison of costs in EU countries – what is available, what is needed and how to go forward? Helsinki.

In the months leading up to the Helsinki conference both the organisers of the conference and the European Forum for Urban Safety put out questionnaires regarding the cost of crime, the costs of crime prevention and the benefits of crime prevention. Elements of these two examples were used in the questionnaire for this review. Added to the questionnaire was the knowledge gained in Helsinki. The questionnaire was sent out in May 2004 and can be found in this report as annex 3.[8]

The questionnaire was sent out to experts in a number of networks and some individual scholars, experts and crime prevention professionals. Amongst the networks were:

- **EUCPN** – the European Crime Prevention Network (national representatives and their substitutes);
- **European seminar on costs of crime in Helsinki** – participants and organising committee;
- **CLRAE** – the Conference of Local and Regional Authorities of Europe, which has organised several conferences on local policies and crime prevention;
- **AGIS 2003** – participants;
- **Hippocrates programme 2001/2002 participants** – the European Commission funded the 'Secure Urban Environments' project as run by the Universities of Salford (UK) and Sheffield Hallam (UK);
- **CEN TC325** – the European network drafting standards on crime prevention, which includes crime prevention specialists on a very practical level (police, local/regional, research) from all European countries;
- **ICA** – the International CPTED Association, a worldwide network of crime prevention researchers and practitioners specialising in environmental and situational crime prevention;
- **E-DOCA** – European Designing Out Crime Association, the European chapter of the ICA;
- **DOCA** – Designing Out Crime Association, the UK chapter of the ICA.

Although the questionnaire was sent out to over 300 experts in crime prevention, fewer than five per cent of them replied. A reminder sent out a month later did not improve this number much. Those who did respond included the City of Prague, the German Federal Criminal Police Office (Bundeskriminalamt), the Cyprus Police and several people from the UK Home Office.

From an information gathering point of view this was a disappointing result but at the same time a clear indication of the lack of interest in – and probably also knowledge on – the subject. This hypothesis is supported by the fact that the number of replies to two other questionnaires on cost-benefit analysis sent out a short time before ours (one by HEUNI, one of the most distinguished institutes in crime prevention, and one from the European Forum for Urban Safety) was just as bad.

Some of those who did reply provided us with very useful information and in some cases there has been follow-up contact in reply to the responses.

Note 8 The development and distribution of the questionnaire was done in close collaboration with the Watford based Crime Risk Management group of the Building Research Establishment (BRE).

These personal contacts also revealed that it was indeed primarily the lack of knowledge which resulted in the limited number of replies. Most people do regard the issue of cost-benefit analysis as a very important one, but most crime prevention practitioners simply do not know where to begin.
Also, even though the questionnaire provided an opportunity to name experts on the issue, none of those who replied made use of this. This seems to confirm the lack of knowledge on this issue.

1.3 Personal contacts

Early on, we came to expect that research into an underdeveloped and innovative subject like cost-benefit would not lend itself to a mass e-mail questionnaire. Therefore, when the number of replies only barely reached double digits, we increased the planned number of personal contacts.[9]

Those experts we spoke to confirmed that there are no clear policies or thorough studies in Europe on cost-benefit analysis in crime prevention. Many people we contacted replied that they were unable to answer our questionnaire because they did not have many answers for us. Of course we did not contact all members of the networks we used for our e-mail questionnaire, but we did discuss our findings with recognised experts such as Mark Cohen and Pat Mayhew. They could only confirm the bleak state of affairs in Europe.

We also contacted renowned crime prevention experts in some then applicant countries (such as Veiko Jürisson and Anu Leps in Estonia and Professor Elzbieta Budakowska of the University of Warsaw in Poland) and they all supported our conclusion that there were no clear policies or thorough studies in their countries on cost-benefit analysis in crime prevention.[10]

This confirmed for us the Helsinki conference finding that the EU (and Europe as a whole) is behind in the development of a body of knowledge on cost-benefit analysis and that as a result the practice of cost-benefit analysis is at best incomplete.

1.4 Discussion and dissemination of the results

Apart from an introduction, the e-mail with the questionnaire also provided a link to the website opened for the purpose of this and other European projects (www.ecprc.net). The website offered a short description of the review, progress reports, a literature list, web links and the opportunity for an online debate.

Awaiting European Commission approval to disseminate the results, the website has been closed since October 2004. If need be, the website can be brought online again and offer access to the how-to manual and in the future

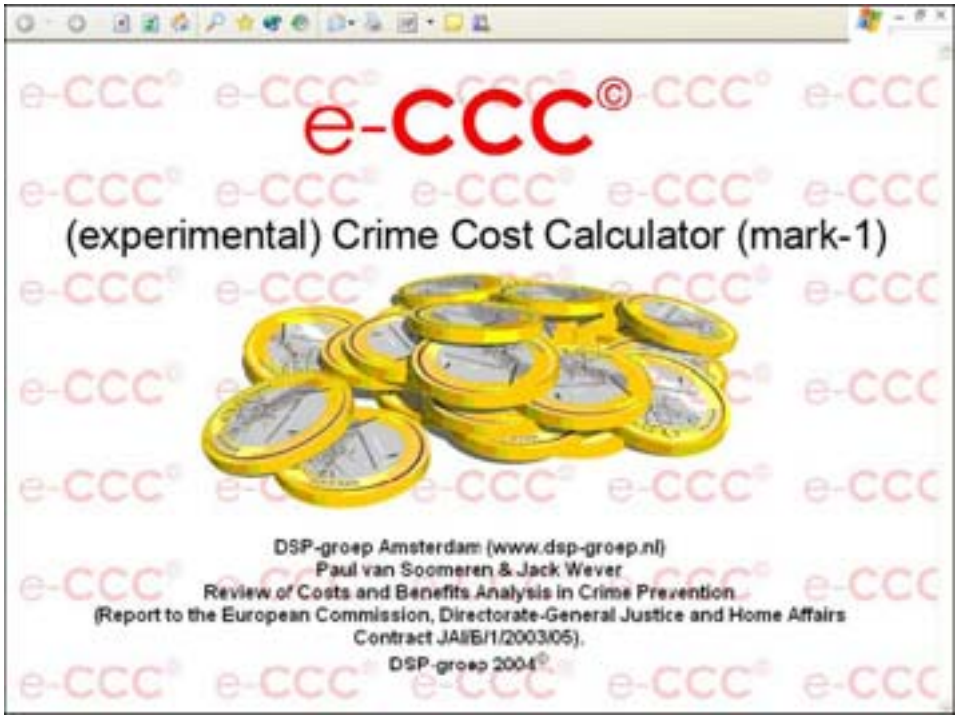
Note 9 As it would be too much to mention all persons contacted during the course of this project, we have compiled a list of organisations they represent (annex 7).

Note 10 Furthermore we have also contacted experts in the USA, Australia, South Africa and Japan. The USA and Australia yielded good results, while the results from South Africa and Japan have not been useful.

maybe also to software that can be used to calculate the costs of crime.

The how-to manual has been developed with simplicity as a goal. It does not elaborate on evaluation design, because there is enough literature on that issue. Users of this 'how-to' manual are not helped by extensive academic discourse: they want to know how to add and subtract to calculate the costs and benefits.

To calculate the costs of crime, we have developed an outline for an experimental crime cost calculator. This is a piece of software that allows users to ask respondents to divulge their perception of crime and the costs of crime. Whereas calculations of tangible and intangible costs of crime may lead to endless discussions, the e-CCC© allows respondents to allocate a certain weight to each of a standard list of crimes. In a sense, these weights represent the relative costs associated with these crimes. The Crime Cost Calculator is still in an experimental phase and following discussions with the EUCPN and the European Commission it will be decided if and how the calculator can best be used for the dissemination of information on cost-benefit analysis.



1.5 Overview

In the next table an overview is presented of all the actions we have undertaken by country. When there is nothing to report this is indicated by a zero (0). The beginnings of a cost-benefit policy are indicated by a single '+' and a proper cost-benefit policy by a double '++'. For some countries we have found examples (reports, policies, good and bad practices) or they have provided us with examples. A lot of these examples have been used in this report.

Table Overview by country

Country	Sent questionnaire	Contact at Helsinki seminar	Contact outside seminar	Policy	Literature or reports	Examples
Austria	V	0	0	0	0	0
Belgium	V	V	V	0	0	0
Cyprus	V	V	V	0	0	0
Denmark	V	0	V	0	0	0
Finland	V	V	V	+	V	V
France	V	V	V	+	V	V
Germany	V	V	V	+	V	V
Greece	V	0	V	0	0	0
Italy	V	0	0	0	0	0
Luxembourg	V	0	0	0	0	0
Malta	V	0	0	0	0	0
Netherlands	V	V	V	+	V	V
Portugal	V	V	0	0	0	0
Sweden	V	V	V	+	V	0
United Kingdom	V	V	V	++	V	V
Czech Republic	V	V	V	0	0	0
Estonia	V	V	V	0	0	0
Hungary	V	V	0	0	0	0
Latvia	V	V	0	0	0	0
Lithuania	V	V	0	0	0	0
Poland	V	0	V	0	0	0
Romania	V	V	0	0	0	0
Slovakia	V	V	0	0	0	0
Slovenia	V	V	V	0	0	0
Australia	V	0	V	+	V	V
Canada	V	V	V	+	V	V
Japan	0	0	V	0	0	0
New Zealand	0	0	V	+	0	V
South Africa	0	0	V	0	0	0
USA	V	V	V	++	V	V

V = yes
0 = no or unknown

2 Costs and benefits – definitions and dilemmas

Analysis of costs and benefits is the technique to ascertain *what is worthwhile*. One could be forgiven for thinking that costs and benefits analysis is simply a matter of adding up the value of the benefits of a course of action and subtracting the costs associated with it. While that is the case, this chapter will show that it can be a bit more complicated than that. A reassuring word at the start: the method we propose in the how-to manual (annex 1) is kept as simple as possible.

In its most basic form, cost/benefit analysis is carried out using only financial costs and financial benefits. For example, a simple cost-benefit analysis of an anti-burglary scheme would measure the cost of the scheme (e.g. improved lighting, better locks, etc.), and subtract this from the financial benefit of the improved burglary rate. It does not measure the cost of environmental damage (e.g. more power for lighting), communal costs, or the benefit of less post-traumatic stress syndrome due to the lower victimisation rate.

A more sophisticated approach to cost-benefit analysis is to try to put a financial value on these hard to qualify costs and benefits. This can be highly subjective – is, for example, the life of a victim of violence worth about €20 (the actual price of all human 'ingredients' remaining), €50,000 (the average life insurance policy), or €682,000 as was estimated in a Nordic road safety cost-benefit analysis (Rune and Amundsen, 2000)?

In this chapter we will introduce the main definitions used in cost-type analysis and the problems that analysts have to take into account. While cost-benefit analysis is a common methodology in many areas[11] we have to recognise that its use in crime prevention is limited. This is partly due to the problems associated with cost-benefit analysis, but also a sign that the development of crime prevention is not yet complete. There is much to be learned and in that respect this review should be of help.

2.1 Cost analysis

Where large sums of money are involved (for example, in financial market transactions), project evaluation can become an extremely complex and sophisticated art. The fundamentals of this are explained in *Principles of Corporate Finance* by Richard Brealey and Stewart Myers.[12] This book is something of a 'bible' on the subject and those who wish to determine the costs and benefits of the prevention of fraud may make good use of the lessons given in this book.

Note 11 E.g. in urban planning and property development it is common to perform feasibility studies in which the costs and possible benefits of alternative plans are calculated. The same goes for environmental issues: if there is new development which may have a big impact on the environment, a number of plans are compared with each other on environmental issues (which plan results in more pollution, etc.). It must be possible to do the same kind of thing with crime but reality shows that this kind of cost-benefit reasoning is not yet very widespread.

Note 12 See especially part two on Risk (page 151 and further).

However, generally speaking the cost-benefit analysis used in law enforcement and crime prevention policies is still rather simple and usually takes only some of the outcomes into account. Since most crime prevention projects generate a broad range of outcomes there is plenty of reason to be critical.

Mark Cohen (2000) is clear about this: *"Cost-benefit analysis is an art that is built on many important assumptions. It is important to understand some of these assumptions before attempting either to conduct such a study or to interpret a study that has been done by others. (...) When used properly, cost-effectiveness and benefit-cost analyses can be valuable tools that help inform the public policy debate. However when used improperly, they can become nothing but rhetorical ammunition in an ideological debate."*

Daniel Sansfaçon (2004) of the International Centre for the Prevention of Crime echoes the same type of sentiments in his aptly entitled paper *Handle with care: Cost-Benefit Studies and Crime Prevention*. What both Cohen and Sansfaçon are aiming to say is that we have to be careful. However, if we manage to keep it simple, cost-benefit analysis can be very useful.

Back to definitions: what are the main forms of cost-type analysis? The following four definitions[13] apply:

1 **Cost-benefit analysis** compares a programme's benefits to a stakeholder with the costs to that stakeholder. This approach places benefits and costs in comparable terms. Benefits that cannot be expressed as a monetary value cannot be compared and are included only for discussion. Cost-benefit analysis helps to determine a programme's value to the stakeholder. Analysis is often undertaken from the perspective of the broader community.

2 **Cost-savings analysis** is restricted to the costs and benefits realised by a programme's funding body (frequently a government agency). Only the costs to the funding body are taken into account, and the benefits are expressed as a monetary value. This kind of analysis is used to determine whether a publicly funded programme "pays for itself" – enabling a programme to be justified not only on the basis of services provided, but in financial terms as well.

3 **Cost-effectiveness analysis** determines how much is spent on a programme to produce a particular outcome (or how much of a particular benefit will result from a given expenditure). While this can be done for multiple benefits, each benefit is analysed individually. No attempt is made to present the benefits as a single aggregate measure.

4 **Cost analysis** – that is, no measurement of benefits – can be useful to decision-makers when identifying factors that need to be considered for replicating a programme elsewhere or for informing budget projections.

Note 13 See for details http://www.rand.org/publications/MR/MR1336/. See for more general information on cost-benefit analysis e.g. Boardman, Greenberg and Vining (2001), Nas (1996) or Pearce (1983).

In this review the focus is on the first type of analysis (albeit in a relatively simple version).

2.2 Cost-benefit analysis

Cost-benefit analysis

Basically costs and benefits analysis is a matter of calculating the net present value of the **costs** of crime (consequences) versus the **project costs** (programme, scheme, measures taken against crime) in a well defined period. The result (benefits) of crime prevention (monetary/economic effects) should be a drop in the costs of crime.

The cost-benefit approach essentially uses a net present value formula to make future costs and benefits comparable with present costs and benefits and is thus based on the usual formula to calculate the Net Present Value (NPV):

$$NPV = \sum_{t=0}^{T} \left(\frac{B_t - C_t}{(1 + r)^t} \right) - K_o$$

B_t = benefits of the project at time t

C_t = operational costs of the project at time t

r = rate of discount

T = lifetime of the project

K_o = initial costs of the project in the base period

The project is viewed as financially feasible if the calculated NPV > 0.

Alternatively one may also use a Cost-Benefit Ratio formula (CBR). In this case a quotient of the net present benefits and the net present costs is calculated. If the ratio is > 1 the social benefits outweigh the cost. The bigger the ratio the better the project.

In formula:

$$CBR = \frac{\sum_{t=0}^{T} \frac{B_t}{(1+r)^t}}{\sum_{t=0}^{T} \frac{C_t}{(1+r)^t}}$$

It may be obvious that formulas like the ones presented above do not appeal to crime prevention practitioners and only have appeal to statisticians and financial experts. Applying the 'keep it simple' rule, we will try to explain the principles without using complicated formulas.

The most important elements in these cost-benefit formulas are the symbols C and B. 'C' stands for the **costs** of a project and 'B' stands for the **benefits** of a project.

To calculate the 'B' we have to look at the present crime situation and all costs associated with that crime situation – hence the situation before the start of a project – and subtract from that the costs associated with crime at the end of the project.

Simple cost-benefit analysis

costs of Crime (cC[14]) before the crime prevention project:[15]	cC1
costs of Crime after the crime prevention project has run:[16]	cC2

cC1 - cC2 = B (benefits of the crime prevention project)

Note14 The symbol cC stands for 'cost of Crime'. The symbol C (see formula) stands for the project cost.
Note15 Period of e.g. a year before the start of the project.
Note16 Period of e.g. a year after the project. Longer periods of time are an option but at the same time make the calculation much more difficult.

The costs of crime before and after can be calculated by multiplying the number of crimes in the defined area and period with the costs of each of these crimes:

Costs and benefits of a burglary project
The costs of crime can be calculated by multiplying the number of crimes with the average cost per crime.

cC = number of crimes x average costs per crime.

In a project aimed at reducing burglary in the city of Babaras this leads to the following sum:

Before (pre = cC1):
10,000 burglaries in the city of Babaras
average cost per burglary (damage, loot, police, etc.): € 490
Costs of crime before prevention project: 10,000 x € 490 =
€ 4,900,000

After (post = cC2):
7,000 burglaries in the city of Babaras
average cost per burglary (damage, loot, etc.): € 510
Costs of crime after prevention project: 7,000 x € 510 =
€ 3,570,000

Costs before (cC1) minus costs after (cC2) = € 1,330,000 (= B: benefit of crime prevention project)

In the calculation above we have assumed that costs before and after can indeed be calculated. However, the benefits of a project may also be estimated before the project actually starts. In that case cC2 is estimated at the same time cC1 is calculated (cost analysis, see paragraph 2.1). This is sometimes necessary to get funding and approval for a project. Of course such an estimate is tricky business and can be a cause of problems once a proper 'ex post' calculation has been done.

To complete the cost-benefit analysis for the Babaras burglary project we have to include the costs of the crime prevention project itself.

Benefits and profits of crime prevention

Benefits (see above): € 1,330,000

Let's assume the costs for the anti-burglary project are about € 1,000,000 (e. g. better street lighting, burglary resistant doors/windows, offender focused action by police, quicker response by judicial system, rehabilitation programme for burglars, etc.):

Benefits of crime prevention project: € 1,330,000
Costs of crime prevention project: € 1,000,000

'Profit' € 330,000

2.3 Cost and benefits of crime

As shown in the previous paragraph the *benefits of crime prevention* are often defined as the opposite of the costs of crime or, in other words, the net result of crime reduction. The problem is which costs of crime to include. There are costs to the *victim*, to the *community and society* and there are costs related to the *offender*. Should all three be taken into account or just one or two? Some of these costs are direct, some of these costs are indirect. Some of these costs have a clear economic value, some are difficult to express in monetary terms.

Costs of crime (average costs per crime)

In 2000 the British Home Office released a research study (HORS217) that attempts to make judgments on the relative seriousness of different crimes and make the benefits of pursuing different approaches to reducing crime more explicit. The study concentrates largely on offences falling under notifiable offence categories (offences recorded by the police and then registered by the Home Office). The most costly property crimes are thefts of vehicles, costing around £4,700 per incident; burglaries cost an average of £2,300, and criminal damage around £500. Personal crimes are far more costly on average than property crimes. Homicides cost an estimated £1 million, with other violence against the person costing an average of £19,000 per incident. Robberies cost nearly £5,000 on average. Common assault is the least costly personal crime, with an average cost of approximately £500 per offence. Throughout the study the problems with and gaps in the evidence are highlighted and priorities for further work are identified to ensure estimates can be used with greater confidence.

See www.homeoffice.gov.uk/rds/pdfs/hors217.pdf

From a **victim perspective** one could take into account the costs related to a specific crime or incident. However should one also take into account the costs associated with preventive measures taken by victim (behaviour)? And what about the concept of lifetime victimisation: should one take into account the chances of becoming a victim of a certain type compared to becoming a victim of other types of incidents, for example a car accident? One could take into account the costs associated with health care (especially in case of violent crime), employment (losing one's job or not being able to improve oneself after an incident) and education (not being able to finish school or higher education after an incident).

Crime impacts on the **community** and **society**. Apart from rising medical costs, lost productivity and a lower level of education, crime has an impact on the social fabric of a community and society as a whole. Fear of crime and the consequences of that fear – e.g. using a car at night instead of walking – is a good example here.

Looking at the consequences or costs of crime from the **offender** point of view, it is possible to come up with a whole range of offender related costs. These range from police and prison costs related to one offender to costs like early childhood intervention and rehabilitation programmes.

Essentially, offender costs are incurred from the moment a future offender is born until the moment he or she passes away. During a criminal career a number of organisations 'have something to do' with the (prospective) criminal. On the one hand, one could argue that all these costs should be taken into account in an analysis of the costs and benefits of crime prevention. On the other hand, one could say that these costs only count when the project is offender oriented.

Jack's troubled career: the costs to society of a young person in trouble

In Canada the National Crime Prevention Strategy (NCPS) published a report in 2001 on the "Life of Jack" or what costs to society are associated with a typical criminal career. This does not include the 'damage' that results from the criminal acts of the offender but the costs to society in each stage of Jack's life until the age of 18. The total adds up to over CAD 500,000 and does not include costs resulting from Jack's criminal activities.

• 6,900	child welfare services (age 0-2)
• 6,900	child welfare services (age 3-5)
• 36,000	child care (age 3-5)
• 6,000	health and psychiatric services (age 3-5)
• 11,500	child welfare services (age 6-10)
• 36,500	foster care (age 6-10)
• 10,000	guidance counsellors and special education services (age 6-10)
• 10,000	health and psychiatric services (age 3-6)
• 1,000	court services for one appearance (age 6-10)
• 146,000	group home care (age 11-14)
• 8,000	special education services (age 11-14)
• 9,200	child welfare supervision (age 11-14)
• 1,200	probation supervision (age 11-14)
• 1,000	police contacts before age 12 (age 11-14)
• 4,500	three police investigations at ages 12-14 (age 11-14)
• 4,000	four court sessions (age 11-14)
• 1,000	four police attendances at court (age 11-14)
• 4,000	two psychological and psychiatric assessments (age 11-14)
• 19,250	three months' open custody (age 11-14)
• 2,000	special education services (age 15-17)
• 4,000	two psychological and psychiatric assessments (age 15-17)
• 6,900	child welfare supervision (age 15-17)
• 36,500	one year group home care (age 15-17)
• 3,000	three appearances in youth court (age 15-17)
• 3,000	two police investigations (age 15-17)
• 750	three police court attendances (age 15-17)
• 2,400	two years of probation supervision (age 15-17)
• 38,500	six months' open custody (age 15-17)
• 91,500	one year's closed custody (age 15-17)

Visit the site of the NCPS at www.prevention.gc.ca, go to the *'virtual library'*, chose *'publications'* and select *'cost of crime'* as subject.

Another point of view is that to have a The "Life of Jack" serves to illustrate some of the common features of how children and young people pass thought the child welfare and young offender systems. Not only are these services expensive to provide, but the offences themselves result in a cost to society in terms of the physical costs, personal injury and psychological harm experienced by victims.

Of course there are also *benefits of crime*. Without getting into a discourse on the difference in value to the victim and to the offender of, for example, objects taken during a burglary, or the 'pleasure' (value) derived by someone committing wanton violence, suffice it to say that if there were no criminal gain, there would be no crime.

In a sense, crime is a zero sum game: one man's loss is the other man's gain. This holds both in tangible terms (bicycle lost through theft versus money earned by selling stolen bicycle) as well as in intangible terms (post traumatic stress resulting from a rape versus the 'pleasure' derived from raping someone).

Another way of looking at crime as an economic activity is to say that it is an impulse to the economy: normally the result of crime is money spent by the victim (to replace stolen goods) or on behalf of the victim (health costs) and by the offender (spending criminal gains).
healthy economy, a certain degree of freedom is required. One of the consequences of this freedom is crime. In a sense, each society gets the crime it deserves.

Relativity of cost

The costs of crime can be a relative issue: they depend on value (availability) and impact (damage). Take the Netherlands, where there are millions of bicycles and second hand bicycles can be found relatively cheaply. As a result theft is taken almost for granted (''it's bound to happen''). The benefits of preventing bicycle theft are very low: the value of bicycles is low and the impact is low.

Another remark to be made is that the costs of a certain type of crime can change over time and place. Take for instance the theft of a horse, a capital crime some centuries ago but now a relatively minor offence.

2.4 Costs and benefits of crime prevention

The *costs of crime prevention* are usually defined as the costs related to all measures (schemes, projects, programmes, policies, institutions) to prevent or counteract crime and/or to reduce the damage that results from crime. As such the costs of crime prevention can also include the costs and the size of criminal justice systems.

Comparing criminal justice systems

In 2000 the Dutch Ministry of Justice published a report[17] in which the criminal justice systems in the Netherlands, Denmark, Germany, France, Austria, the UK, Sweden, Australia, Canada and the USA are compared (benchmarking). These countries are comparable societies in both economic and socio-cultural respects and basically have well functioning legal systems. The choice of countries was also limited by the availability of data.

Information on resources and performance of criminal justice systems were derived from the national budgets and other documents. However, these are difficult to compare due to the lack of international co-ordination of definitions and data collection, despite important initiatives by the UN and the Council of Europe. Unfortunately, these difficulties render comparisons less accurate or impossible. Clear-up rates are an important example.

2.5 Dilemmas

As the definitions and examples show, there are a number of problems associated with cost-benefit analysis in crime prevention. These problems can be narrowed down to seven dilemmas:

1 time
2 tangible costs
3 intangible costs
4 counting and comparing costs
5 how much crime is there (incidence and prevalence)
6 relationship between costs of crime and crime rate
7 what profit

These seven dilemmas will be further explored. Some of them will be incorporated in the how-to manual, but some of them will not, because we feel it is better to start off with a relatively simple cost-benefit instrument as a way to gain enough experience before exploring the matter further.

Dilemma 1: Time

Costs are either one-off or may be ongoing, while benefits are most often received over time. A sophisticated cost-benefit analysis builds this effect of time into its analysis by calculating a payback period. This is the time it takes for the benefits of a project to repay its costs. Following the cost-benefit theory and its economic roots, it is necessary to calculate the net present value of all costs and all benefits within the defined time frame (see also the formula in paragraph 2.1). In the business world many companies – and especially shareholders – look for payback over a shorter period of time (e.g. three to five years), while in the field of urban planning, housing and environmental affairs far longer periods of time are used (e.g. 20-50 years).

Note 17 Frans van Dijk and Jaap de Waard, *Legal Infrastructure of the Netherlands in International Perspective*, in the 'European Journal on Criminal Policy and Research', volume 8, no. 4, 2000

The problem in crime prevention is that some of the costs are short-term (e.g. material damage due to vandalism or burglary) while other costs are long-term (health problems as a result of an assault). For each type of crime one should consider the time frame. Moreover, the time frame will differ for different victim populations. As such, 'time' is the first subjective part of any cost-benefit analysis.

After discussions with crime prevention experts and practitioners regarding the issue of cost-benefit analysis, we would suggest simply leaving the time issue aside when time frames are short. Once the period of time in the cost-benefit analysis exceeds a certain threshold (say 2 years), one may consider taking the element of time (and calculations using a net present value approach such as in paragraph 2.1) into account and involving a financial or economic expert in the research team.

Time and costs

Either tangible or intangible costs (see dilemma 2 and 3): it is extremely difficult to 'monetarise' all effects of a crime prevention project within the given time frame of an evaluation design (pre-post design). Some types of crime (e.g. property crimes and crimes against the person) can have an impact that may last an extremely long time (the so-called pain and suffering and diminished quality of life). If items such as health, employment and education are taken into account, the time frame is not a matter of years but of decades.

Once the time frame exceeds the 2-year threshold it may be advisable to take the time factor into account and involve financial and/or economic experts.

Dilemma 2: Tangible costs

In its most basic form, cost-benefit analysis is carried out using only financial costs and financial benefits (the so-called **tangible** costs). For example, a simple cost-benefit analysis of an anti-burglary scheme would measure the cost of the scheme (e.g. improved lighting, better locks, etc.), and subtract this from the economic benefit of the improved burglary rate. It would not measure either the cost of environmental damage (e.g. more power for lighting), communal costs, or the benefit of less post traumatic stress syndrome due to the lower victimisation rate (the so-called **intangible** costs, see next dilemma).

'Tangible' (Oxford dictionary)

1 perceptible by touch
2 clear and definite; real

For example:
- medical costs, lost wages, car stolen
- government expenditures
- preventive expenditures

Even though the term 'tangible' suggests it is easy to include all tangible costs, research in Australia (Mayhew, 2003) and the UK (Brand and Price, 2000) illustrates the difficulty of coming to an all-inclusive calculation. To circumvent these difficulties, we would suggest using the outcomes of these studies into costs of crime (see annex 1 for a list of costs of crime for a limited number of crimes).

Dilemma 3: Intangible costs

A more sophisticated approach to cost-benefit analysis is to try to put a financial value on items which do not have one (the so-called **intangible** costs). This again can be highly subjective. Is, for example, the life of a victim of violence worth about €20 (the actual price of all human 'ingredients' remaining), €50,000 (an average life insurance policy), or is it worth at least €682,000 since each human life is worth that much? What is the value of a crime-free, secure and safe neighbourhood? Here again subjective elements have to be addressed in a scientifically sound cost-benefit analysis.

'Intangible' (Oxford dictionary)

1 unable to be touched; not solid or real
2 vague and abstract

For example:
- pain, suffering, reduced quality of life
- fear
- justice, freedom, etc.

In cost-benefit analysis the usual starting point is tangible costs. Should one also wish to take intangible costs into account, we suggest to first use the list of costs of crime for a number of typical crimes in annex 1. As these cost estimates are defined by time and place (in this case 2000 UK Home Office numbers in pounds sterling) they offer a rough indication. Alternatively, annex 2 offers an outline of an experimental Crime Cost Calculator which can be used to give a weight to each of a set of standard type of crimes as are measured in the International Crime Victim Survey (ICVS). This weight represents both tangible and intangible costs. The main thing is to keep it simple, as discussions about intangible costs can be never-ending.

Dilemma 4: Counting and comparing costs

Comparing costs over time requires taking into account monetary effects like the interest rate, inflation, etc.
Comparing costs in different countries requires taking into account (fluctuations in) exchange rates. It is common to fix time and currency in a table comparing costs or countries (e.g. 1990 price level in US dollars, or 2001 price level in euros). We also refer to earlier remarks on the use of a proper 'net present value calculation' as soon as the time frame exceeds the threshold of two years.

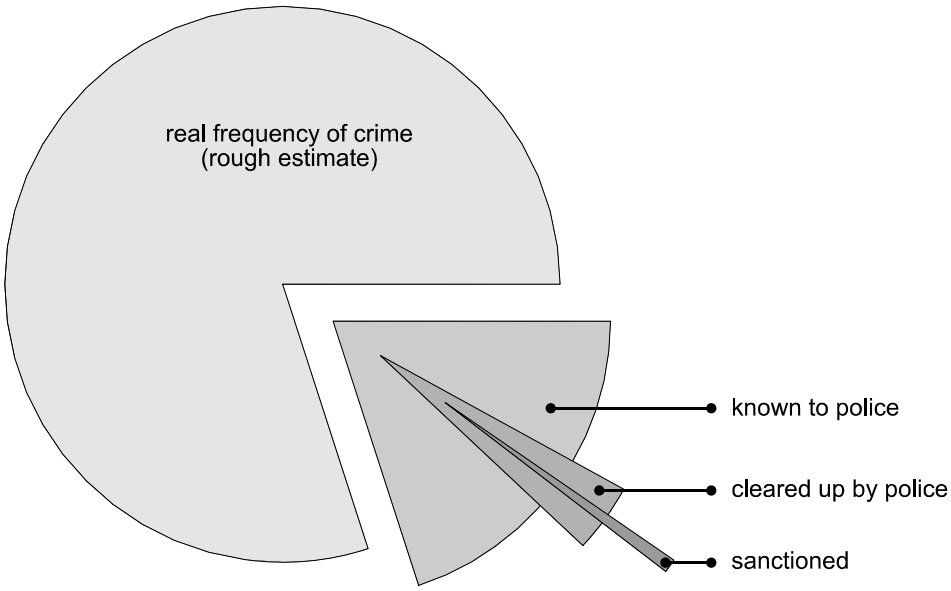
Dilemma 5: How much crime is there (incidence and prevalence)

Even if agreement is reached on the dilemmas mentioned before, there is still the matter of counting crimes. What is the incidence (number of crimes; frequency) and prevalence (number of victims) of crime?

Crimes reported to the police do not represent the actual incidence and prevalence of crime. A lot of crime is not reported, the so-called ‘dark number’ (see box). As a consequence costs and/or benefits may be higher or lower because the crime rate used in the analysis of costs and benefits is flawed.

Of the total number of crimes really taking place it is roughly estimated that about one in four is known to the police. Of this number of crimes – those that have households, businesses or institutions as a victim and those that are victimless – about one in three is cleared up by the police or has a known offender. Of the cases cleared up by the police or where the offender is known, only a minor number results in a sanction (jail, fine, alternative punishment).

Figure 1 : Dark number



Victim surveys are another way to get a picture of crime. Usually crime victim surveys are limited to households and a thorough victim survey would also require surveying businesses and institutions. Unfortunately this is only done in a few European countries.[18] Another drawback is that not many EU countries have regular crime victim surveys. Nonetheless, crime victim surveys offer a better indication of crime rates than crimes reported to the police.

Often crime surveys ask respondents about willingness to report different types of crime. The 2000 ICVS offers 'percentage of crimes reported to the police' for 11 types of crimes and by country.[19] Information like this makes it possible to come up with a better estimate of the crime rate in an area or specific city. Essentially one could multiply the number of crimes reported to the police in that area/city by the rate of non-reported crimes in the national crime victim survey. It is a rough methodology but certainly better than nothing.

International Crime Victim Survey

Most victim surveys tend to use a less formal definition of crime. In most cases these definitions are derived from the International Crime Victim Survey.

The International Crime Victimisation Survey (ICVS) is the most far-reaching programme of fully standardised sample surveys looking at householders' experience of crime in different countries. The first ICVS took place in 1989, the second in 1992, the third in 1996 and the fourth in 2000. Surveys have been carried out in over 50 countries since 1989, including a large number of city surveys in developing countries and countries in transition.
In 2004 a new sweep of surveys will be held, the results of which will become available in 2005.

See http://www.unicri.it/icvs/

Because we know the number of crimes we use is flawed we can take that into account. It is important though, to be aware of the limitations of crime rates.

Note 18 For example the UK, Finland, Netherlands. See also UNICRI: *International Crime and Business Survey*: http://www.unicri.it/Crimes%20against%20business.htm

Note 19 See Alvazzi del Frate, Anna, Van Kesteren, J.N., (2004) *Criminal Victimisation in Urban Europe. Key findings of the 2000 International Crime Victims Survey.* UNICRI, Turin

Dilemma 6: Relationship between costs of crime and crime rate

As if the confusion created by time (dilemma 1), the costs of crime (dilemmas 2 and 3) and the crime rate (dilemma 4) is not enough, there is also the matter of the relationship between these three. Apart from the fact that costs of crime and crime rates fluctuate over time, there is no linear relation between the costs of crime and the crime rate. The costs of crime may drop while the number of crimes rises (e.g. retail crime) and conversely the number of crimes may stay low but the costs of prevention may rise (e.g. terrorism). Changes in the costs of a particular crime and/or the crime rate of a particular crime have an influence on the cost-benefit analysis.

Another example is the use of vandal-proof material to combat vandalism. This material is usually more expensive than the original material so if the vandals manage to wreck the new material the damage is considerably higher. Also, the cost to replace this more expensive material is also higher. Sometimes clever preventive measures can work out to be more expensive.

Counting the costs of crime in Australia

In 2003 the Australian Institute of Criminology (AIC) published a paper on some of the major costs for a range of offences (no. 247 of its *Trends and Issues* series). In this paper the number of crimes is estimated by using a 'multiplier' (to correct for the difference between police figures and crime victim survey figures). The costs of crime are calculated by using several studies, for example on medical costs, lost output, intangible costs and the transfer of resources. For each type of crime a total and the costs per individual case are calculated.

Fraud is the most costly crime, followed by violent crime (homicide, assault and sexual assault) and burglary. The human cost of drug abuse is also high, even discounting crimes committed to support a drug habit.

See http://www.aic.gov.au/publications/tandi/tandi247.html

The AIC carried out a similar study in 1997 (no. 72 of the *Trends and Issues* series). In this paper, estimates are made of the financial and economic costs to Australia of the following crimes: homicide; robbery and extortion; offences against property (breaking and entering; fraud and misappropriation; theft of motor vehicles, boats and aircraft; shoplifting; stealing from the person; property damage; environmental crime); and drug offences. The paper also briefly deals with the costs of crime prevention and insurance.

See http://www.aic.gov.au/publications/tandi/tandi72.html

Dilemma 7: What profit

What to do with the outcomes of cost-benefit analysis? As mentioned earlier, cost-benefit analysis serves to determine not only what works in crime prevention, but also what is worthwhile. The question is: when is a crime prevention project deemed worthwhile: is breaking even (costs and benefits in balance) enough, or should a project be turning a profit (benefits higher than costs)? And if turning a profit is required, how big should that profit be and how tangible the benefits?

A proper crime prevention project should contain a paragraph (or more) on evaluation. To enable cost-benefit analysis, a sophisticated evaluation procedure must be part of the programme. However *"very few crime prevention programs, practices and policies have used cost-benefit analyses. The main reason for this is because of a lack of rigorous program evaluation, which provides the necessary foundation for benefit-cost analysis."* (Chisholm, 2000).

Or – as the call for tenders for this research project stated: *"Any cost-benefit analysis will require, as its starting point, a credible evaluation of project relevance and impact. If possible, evaluation findings should be presented in a form that will facilitate subsequent economic analysis."*

Return on investment

Brandon Welsh and David Farrington reviewed a number of situational crime prevention interventions (1999a), developmental prevention interventions (1999b) and correctional programmes (2000). These reviews offer a useful comparison in cost-benefit ratio of interventions in terms of money spent and benefits received (the often quoted American Perry Preschool programme with a 7 to 1 benefit being one example). They also show that time can be of the essence when it comes to return on investment; over the years the benefits of interventions such as developmental crime prevention continue to rise. All these cost-benefit analyses were part of the wider thorough evaluation of crime prevention projects and programmes.

2.6 Conclusions

The seven dilemmas described in this chapter illustrate the problems related to cost-benefit analysis in crime prevention. A cheap solution would be to say: it is too difficult, so just leave it. That would be a shame, as we do want to know whether public funds spent on crime prevention are well spent (is it worthwhile?).

If we follow some basic rules, many crime prevention projects are suitable for some kind of (simple) cost-benefit analysis. The rules are:

1 define measurable goals (SMART)
2 include a sophisticated evaluation design (before the start)
3 make cost-benefit analysis part of the evaluation design
4 keep the cost-benefit analysis simple (tangible costs, intangible costs if possible, short time frame, use rough estimates)

These four golden rules constitute the cornerstone of the how-to manual in annex 1.

3 State of the art in cost-benefit analysis

This chapter focuses on current evaluation policies in EU countries and a number of non-EU countries. Aside from the current policy, we will also look at current practices and consider the body of knowledge on cost and benefit analysis.

In this chapter we will mention those (few) European examples that are relevant. While both the questionnaire and the workshops at the Helsinki conference looked at these issues, the result for the EU countries and selected other European countries is rather weak. Only the UK seems to have developed a significant body of knowledge on cost-benefit analysis, albeit not enough has been put into practice. In Finland, the Netherlands and Germany evaluation policies have started to address cost-benefit issues. In other European countries the practice of cost-benefit analysis is rather limited and is mainly put into practice at local or project level. This bleak state of affairs was confirmed in personal contacts with a number of experts.

Since most cost benefit analysis in crime prevention follows the calculation 'number of crimes multiplied by the costs per crime minus the costs of crime prevention' we will first focus on the number of crimes and the crime rates and after that turn to the issue of costing.

3.1 Number of crimes

Police figures and crime victim surveys[20] are the two main sources that can be used to estimate the number of crimes taking place (see chapter 2 *'Dilemma 5: How much crime is there?'*). Police figures reflect reported crime and depend on legal definitions of crime. Crime victim surveys provide information on public perceptions of crime and the level of reporting to the police (see Alvazzi del Frate & Van Kesteren, 2004).

In a few countries, crime victim surveys are made available on a regular basis e.g. the British Crime Survey in the UK, Politiemonitor in the Netherlands and Heuni in Finland. In some cases these include regional crime victim surveys, city-wide surveys – using a representative sample of households – and victim surveys amongst businesses (although this latter type of survey is rather rare).

Another source for the number of crimes committed can be the insurance sector. Insurance companies keep numbers on certain types of crime, especially car theft, but it remains to be seen if it is possible to get enough information from the different insurance companies in one's country to come up with reliable numbers.

Note 20 In addition to crime victim surveys, some countries (like the Netherlands and Finland) have crime victimisation surveys for businesses.

Aside from the 'dark number' issue that was raised earlier in this review, crime rates are usually based on police figures. As mentioned before, only a few countries have a regularly repeated and broadly used crime victim survey. This is regrettable, as crime victim surveys offer an acceptable way to correct for the 'dark number' (see box below).

Estimating the number of crimes

This requires making estimates of the actual number of crimes that occur. In line with research in the US and the UK, Mayhew (2003) suggests using **the ratio between victimisation survey figures and the police figures** as a "multiplier". For example, when police figures for a country show 200,000 burglaries over a period of time and the national crime victim surveys comes to an estimate of 600,000 over the same period of time, the appropriate multiplier is 3.0. Though rather crude, this multiplier may then be used to correct the number of offences reported to the police in the following period – e.g. the next year in which there is no victim survey – and/or a region within the country for which there is no victim survey.

Another way to estimate the number of crimes is to use **the level of non-reported crimes from the crime victim survey**. By multiplying this by the number of crimes reported to the police, one can calculate the actual crime rate. For example, when the police figures show 200,000 burglaries and the crime victim survey shows that only 1 in 3 burglaries is reported, then the appropriate multiplier is 3.

In the absence of a national or regional crime victim survey, use can be made of the most recent International Crime Victim Survey. The 2000 ICVS contains a number of tables on crimes reported to the police, some of them by county and by crime.

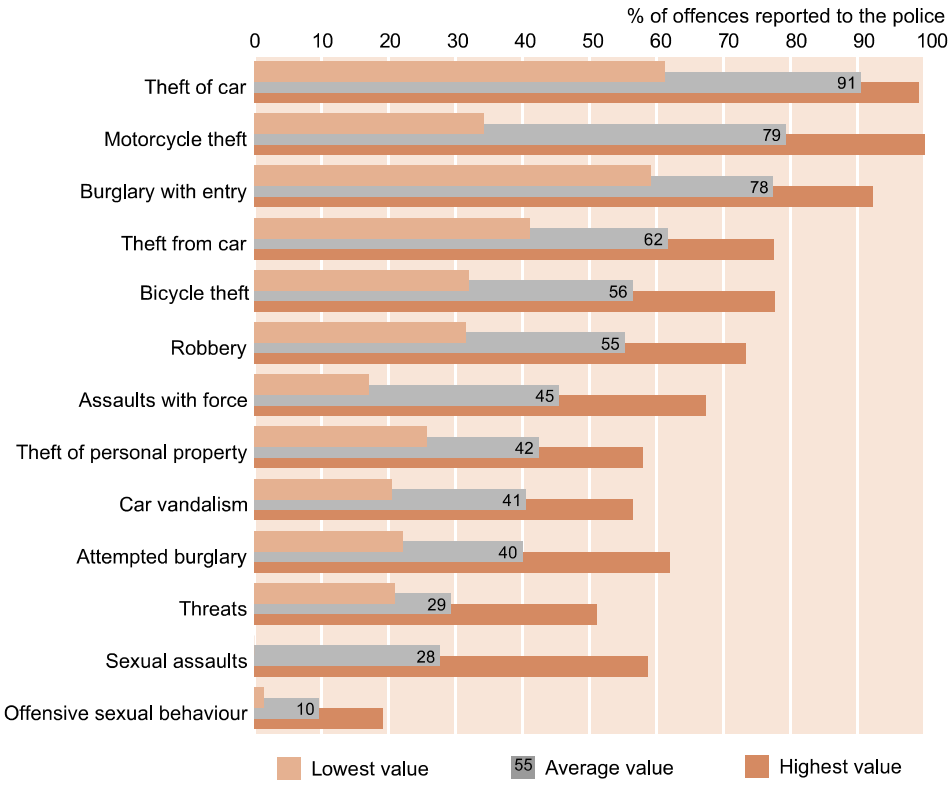
ICVS crimes reported to the police

See http://www.unicri.it/icvs/publications/index_pub.htm

Kesteren, J.N. van, Mayhew, P. & Nieuwbeerta, P. (2000) ***Criminal Victimisation in Seventeen Industrialised Countries: Key Findings from the 2000 International Crime Victims Survey,*** WODC, Ministry of Justice, the Hague, 2000

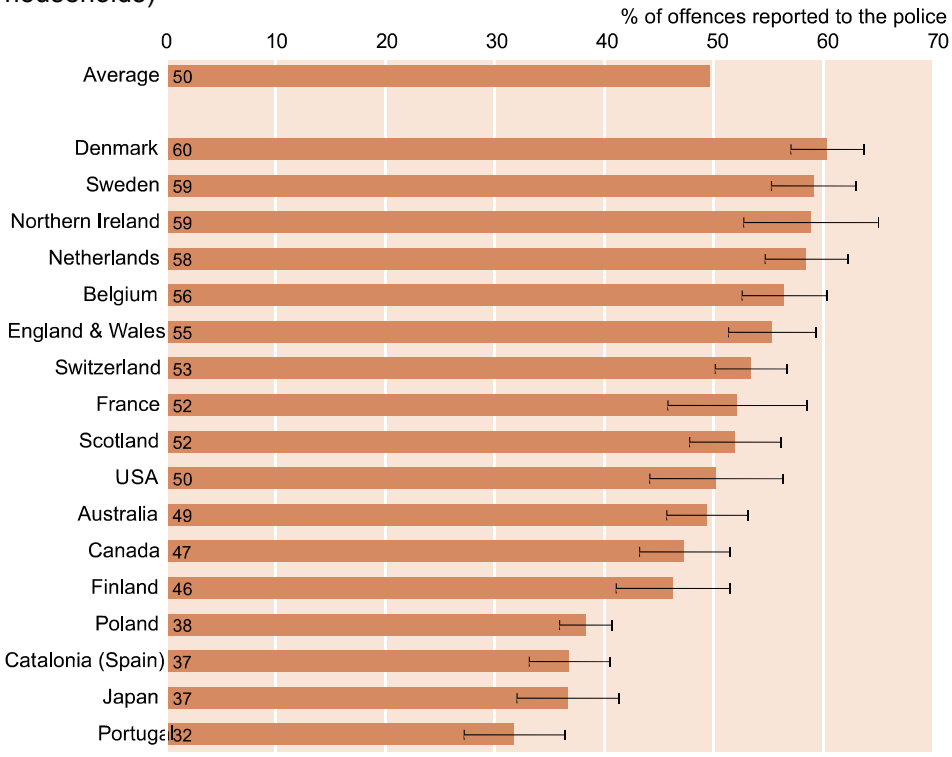
Click on '**download text in PDF**'
► Choose '**Reporting crime and the police**' for general information on reporting crimes by country (Table 10: Percentage of offences reported to the police).
► Choose 'Appendices' – '**Additional Tables**' (Appendix 4) for specific information on reporting crime by crime by country (Table 9: Percentage of crimes reported to the police).

Figure 2 Percentage of offences reported to the police (highest, lowest and average values): 17 countries (source ICVS, UNICRI site)



Crimes are sorted by average percentage. Note: only crimes to households

Figure 3 Percentage of offences reported to the police: overall figure for six types of offences by country (ICVS, 2000, see UNICRI site; note: only crimes to households)



3.2 Costs of crime

In some European countries the costs of crime are part of the police report of an incident. As the police report usually comes shortly after the incident has occurred, the estimate of the costs of crime have a limited value. Take burglary; the value of stolen goods and the costs incurred to repair a point of forced entry are easy to calculate, but what about the fear of crime as a consequence?

In general estimating the cost of crime can be done most accurate at the local level. Just the limited number of organisations involved at the local level makes gathering data less complex than gathering data on a regional, national or European level. Cities like Helsinki in Finland,[21] Angers in France and Manchester in the UK (see box below) have a fairly good idea of the costs associated with (certain types of) crime and disorder.

Note 21 See *The General Safety Strategy of the City of Helsink*i (Helsinki 2002).

Cost of crime in Manchester

In the *Manchester Crime and Disorder Audit 1998-2001* a detailed picture can be found of the main crime and disorder issues that affect Manchester people. This audit is based on police crime statistics, council surveys, government statistics and the experience of local communities. The research study provides some conservative estimates of the average cost of individual crime types.

The costing includes:

►The costs of anticipating crime: security and insurance administration (9% of the costs of crime);

► The costs of the consequences of crime: property stolen and damaged, emotional and physical impact on the victim, lost output, victim services and health services (71% of the costs of crime);

► The costs of the criminal justice system response: police, courts and prisons (20% of the costs of crime).

The calculations take into account the under-reporting of crime to the police, as estimated through the British Crime Survey. The *BCS multiplier* column is a measure of the level of under-reporting, and by multiplying the recorded crime figures by the multiplier, a much better estimate of the actual number of crimes is obtained

The figures do not yet take into account of:

► The hidden impact of crime victimisation on quality of life, such as not participating in education, training or employment through fear of leaving the home unguarded or not going out shopping through fear of street crime;

► The cost of fraud, drug offences or any estimate of the costs of disorder such as juvenile nuisance and other forms of anti-social behaviour;

► The larger costs to society.

It is estimated that the cost of crime in Manchester is an average of £2,295 per resident per year. This translates into roughly €3,330 per resident per year.

Go to www.manchester.gov.uk/crime, chose *'the audit'* and select *'estimating the cost of crime in Manchester'*

While cities like Helsinki, Angers and Manchester may be able to come up with reasonable estimates of the number of crimes, calculating the costs of crime is to some degree a matter of '*guesstimates'* (estimates by guessing). The main reason for this is the problem with intangible costs.

Given the difficulties of calculating the costs of crime it may be practical to make these calculations once every ten years. Because of all the assumptions involved it would be better to use these 'once every decade' numbers as a rough guideline and focus on using them at project level.

Both academics and crime prevention experts try to disentangle the dilemma of intangible costs (Dilemma 3). Of the European countries the UK is probably ahead in this. The Home Office is developing a cost of crime indicator and wants to come to a cost index for certain types of crime. As input for the costs of crime the Home Office wants to use such items as:[22]

- value of emotional and physical impact of non-fatal road accidents ('transferred' to crime);
- empirical research into the value of emotional and physical costs of violence;
- research into the economics of fear of crime;
- willingness to pay to prevent crimes with defined impacts;
- willingness to pay to reduce risk of crimes with defined impacts;
- impacts on wellbeing relative to full health;
- QALY (Quality Adjusted Life Year, see box below).

Quality Adjusted Life Year (QALY)

QALY is an outcome measure of the impact of interventions on health, and is used in cost-effectiveness analysis. Basically, a year spent in full health is given a QALY value of 1.
Anything less than full health receives a score less than 1.

From this starting point, it is possible to estimate what the gain in QALYs would be from giving a patient a particular intervention/treatment, and see what the difference is between their QALY score before and after. With a range of patients and a range of interventions, QALYs can then be used to improve cost-effectiveness – getting the maximum increase in QALYs for a given budget, for instance.

QALYs tend to favour small, cheap interventions which improve quality of life from 'not great' to 'better' (e.g. hip replacements), rather than expensive interventions which might postpone a death for a couple of years, but ultimately do not really produce much real benefit (e.g. heart transplants).

While developments like the QALY research in the UK deserve our attention, it may take some time before there is an accepted EU standard or before individual EU countries come up with reliable ways to calculate the costs of crime.

Note 22 Dubourg and Thorns, 2004

3.2.1 A standard list of costs of crime

To keep things simple and to stimulate the practice of cost-benefit analysis, it may be advisable to use a standard list of costs of crime for a limited number of crimes. While a single set of cost estimates for all EU countries may not account for national differences, the use of one set of cost estimates does offer the opportunity to compare between countries and does make cost-benefit analysis a whole lot easier. Annex 1, the how-to manual, contains such a list of standard costs of crimes.

Using cost estimates

Recent cost estimates are the UK study by Brand and Price (2000) and the Australia study by Mayhew (2003). While the crime profile of these countries may differ from many EU countries, the cost estimates do provide a guideline. A complicating factor in using these estimates is the difference in price levels.

However, in order to keep things moving it is better to simply use these rough estimates. This research and inventory shows that both crime prevention practitioners and professionals desperately need a simple 'crime price list' for the EU (and EU countries). In the meantime the lists in annex 1 will have to do.

3.2.2 Willingness to pay: the experimental Crime Cost Calculator (e-CCC©)

A second approach would be the so-called ‘willingness to pay’ methodology. In the USA the question of intangible costs is being answered along the same lines as in the UK. Here, a distinction is made between methodologies for estimating the cost of crime: direct/primary sources – such as victim surveys and criminal justice surveys – and indirect/secondary sources, such as property values and jury awards (which are likely to differ greatly from most European countries).

One method frequently used in the USA to estimate the intangible cost of crime is the willingness to pay (WTP) method. In a sense WTP indicates the demand for crime reduction in a way that crime victim surveys cannot. As such WTP may be used as a 'multiplier' to assess the actual cost of crime.

Willingness to pay (WTP)[23]

Instead of using a standard list of costs of crime which range from €500 for theft to €1,500,000 for homicide, WTP offers a way to obtain a more evenly distributed and usable measure of the costs of crime.

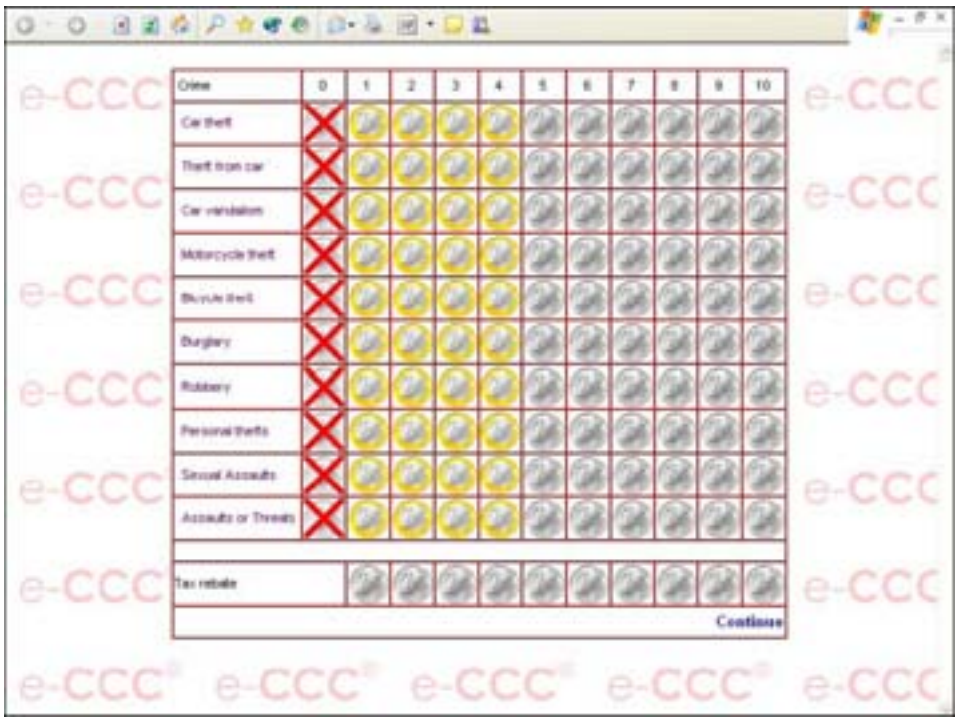
Respondents are asked about their willingness to forego a tax rebate in exchange for programmes that are designed to reduce certain crimes. In one example respondents are asked to put themselves in the shoes of their local mayor who has just received a grant from the government equal to €100 or €1,000 per head. The respondent is asked to decide how to allocate that money among several crime prevention projects (each with a specific type of crime as its goal). An alternative is to return all or part of the money to local residents (as a tax rebate).
The respondents then have to divide the grant between ten or so crime prevention projects. By awarding sums of money to particular crime prevention projects (or rather to the prevention of certain types of crime), respondents give a weight to each type of crime. This weight represents a combination of tangible and intangible costs.

Another example uses the contingent valuation methodology, as developed in the environmental economics literature. This places euro/dollar values on non-market goods such as improving air quality, reducing pollution, etc. In the case of crime prevention, respondents are asked if they would be willing to vote for a proposal that would require each household in their community to pay a certain amount of money that would prevent 10% of a certain crime (burglary, serious assault, armed robbery, rape/sexual assault and murder). If respondents are willing to do so, the exact sum they are willing to pay is retrieved (using a bidding process between $25 and $225). The majority of respondents are willing to pay up to $100 per year out of their own pocket for these crime prevention projects.

The weight awarded to each type of crime in the WTP methodology is a good indication of its relative cost. A WTP survey can be included in a regular crime victim survey but can also be used as a separate internet survey. For this purpose, we have developed an experimental crime cost calculator (e-CCC©). Derived from the WTP methodology, the e-CCC© offers a prototype of a piece of software that can be used in all EU countries to let respondents indicate the total of tangible and intangible costs.

In the e-CCC© respondents can choose between ten types of crime. The description of these crimes is based on the International Crime Victim Survey. Basically, respondents have to affix a monetary value to the prevention of each of these ten crimes, using a limited amount of money. Annex 2 offers an outline of the instrument.

Note 23 Mark Cohen et al (2004)



The e-CCC© software only exists as a web based prototype that was developed and tested during the course of this review. This prototype can be used to experiment with and offers a simple way to ask respondents about tangible and intangible costs. In consultation with the European Commission and the EUCPN it will be decided whether this prototype will be developed into a ready to use instrument which can then be made available on a website.

3.3 Costs of crime prevention

In general one may assume that the costs of an individual crime prevention project can be deduced from project plans and accompanying budgets. Unfortunately the issue of tangible and intangible costs tends to obscure the real costs of a project depending on the type of project. A budget spent on burglary prevention hardware is relative easy to calculate but time spent by police officers during the course of their daily work on a specific issue is hard to calculate.

At the national and international level the total costs of the criminal justice system can be deduced using open sources such as the annual budgets. However, given the differences in criminal justice systems, it can still be very difficult to compare countries. Some countries have only one police force, sometimes supervised by a separate government department, whereas other countries have several police forces which fall under the jurisdiction of different departments.

A pragmatic approach would be to make an informed guess.
Making a reasonable estimate is probably worth more than going through too much trouble to make a more precise estimate (also a matter of cost-benefit analysis). Better something than nothing.

3.4 Cost-benefit analysis

Only a few European academics and a limited number of government research organisations, such as the Home Office in the UK, the WODC in the Netherlands, the Finnish National Council for Crime Prevention, the Swedish Council for Crime Prevention and the Finland-based European Institute for Crime Prevention and Control, affiliated with the United Nations (HEUNI), are working on cost-benefit analysis.

Very few EU crime prevention projects have carried out the type of economic evaluations needed for a proper cost-benefit analysis. Where a sophisticated economic evaluation is in place, often the time period of the evaluation is simply too short, which may result in underestimating the crime preventive benefits of a project.

A problem with cost-benefit analysis is that the demand for proper cost-benefit analysis usually comes from the national level while most crime prevention projects happen at the local level. At project level, 'what works' is far more important than 'what's worthwhile'. Political pressure calls for results, and brushes aside longitudinal benefit studies.

In the past the Finnish Justice Department offered subsidies to local organisations to evaluate crime prevention projects. The subsidy cover a reasonable part of evaluation costs. Unfortunately there was little interest in the subsidy. People found it too complex, lacked manpower to do the evaluation or did not want to pay for the extra costs.

In the UK the evaluation studies which have been done have focused more on process evaluation and impact analysis than on costs and benefits. The problem with these kinds of evaluations of course is differences in implementation and differences in circumstances, which can make a programme that works in district A fail in district B (and cost-benefit analysis incomparable).

Where impact analyses have been done, for instance in case of CCTV, a Home Office study[24] of a number of CCTV project evaluations led to the conclusion that almost half of all evaluations could not be used owing to methodological mistakes in the evaluation design.

In the Netherlands crime prevention instruments designed for shopping centres and commercial estates (Quality Mark for Safe Enterprise) require a detailed pre-post evaluation design. Failure to perform these pre and post researches may lead the certifying body to withhold its seal of approval. While this research focuses on crime rates, it does provide a framework for cost-benefit analysis.

In the USA the Washington State Institute for Public Policy (2001) analysed evaluations produced in North America over the last 25 years.[25] The report recommends that, as not all programmes work, formal evaluations are important to determine if outcomes are being achieved in a cost-beneficial manner. Most programmes in the United States are not rigorously evaluated.

Note 24 Welsh and Farrington (2002)
Note 25 See also www.wsipp.wa.gov

Some programmes may be working and could be expanded, others may not be working yet continue to soak up money that could be directed towards more effective programmes. Hence, a portfolio approach to crime reduction programmes is recommended as this will achieve a reasonable balance between short-term and long-term resources and between research-proven strategies and those that are promising but in need of research and development. As a result Washington state, and also states such as Oregon, nowadays 'require' cost-effective programmes.

Cost-benefit analysis in situational prevention

In the field of crime prevention through environmental design (CPTED), the European Committee on Standardisation (CEN) has released a pre-standard *ENV 14383-2 (CEN) crime prevention – urban planning and design*, which in a way offers a crude cost-benefit analysis. In a few simple steps the pre-standard takes one from assessing or estimating risks (in an existing situation or for a new situation), to calculating or estimating the costs of crime (now or later), choosing between available preventive measures and calculating associated costs.

After a decision by a responsible body (e.g. local or regional government) on which measures to take, these measures are implemented and afterwards the output and outcomes are valuated. The outcome is, of course, the actual crime rate and this outcome can than be used to (roughly) calculate the benefits of the measures taken.

More information in English, German and Dutch at http://www.e-doca.net/resources.htm under the heading ‘standardisation’ which can be found by clicking on ‘documents’ and then ‘special documents’.

ENV 14383-2 is a European version of the Dutch Safety Impact Report (Veiligheidseffectrapportage) which, like its namesake the Environmental Impact Report (Milieueffectrapportage), requires an ex ante evaluation of a project (calculate beforehand what the impact will be). For more information see also Soomeren (2001) and Wever (2004).

3.5 Conclusions

The state of the art in cost-benefit analysis shows us that the EU is behind in the development of a European body of knowledge on cost-benefit analysis and that as a result the practice of cost-benefit analysis is at best limited.

At the same time the existing body of knowledge does not provide simple answers. Which poses the question what to do: focus on developing a body of knowledge or put existing ideas into practice? We would suggest to do both and let academics and crime prevention experts continue with their efforts. However, in this review we focus on putting existing ideas into practice and offer a relatively simple cost-benefit model which, through trial and error, can be modified into a European standard.

There is a demand for cost-benefit analysis but at the same time experience teaches us that we do not want to make it too complicated. If an instrument is too difficult for the intended customer to use, it will not be used. Hence we have opted for a simple how-to manual as can be found in annex 1.

In this chapter we have offered two ways of calculating crime rates by using crimes recorded by the police and crime victim surveys. We have also offered two ways to take into account the costs of crime: either by using a standard list (annex 1) or by using the crime cost calculator (annex 2). By using an agreed cost of crime standard, part of the cost and benefit analysis – and the accompanying polemics – become academic. Alternatively, one can use the experimental crime cost calculator (e-CCC©) as a way to obtain a useful indication of the costs of certain types of crime.

4 Findings and conclusions

The outcome of this review into cost-benefit analysis in crime prevention in the EU member states and former applicant countries can be summed up in five points:

1 **Limited knowledge and experience in EU**

The review showed that there is a limited European body of knowledge on cost-benefit analysis. As a consequence the number of useful European examples is limited as well. Furthermore, the few existing examples cannot be compared in terms of costs and benefits (due to e.g. differences in legal definitions of crime).

In that respect, this review has not been able to provide many answers with regard to objective 1 (describe current policies) objective 2 (application of cost-benefit analysis) and objective 4 (present good and bad practices).

2 **Crime victim survey as an essential element**

Whereas most European countries are able to produce crime rates based on police figures, only a few countries have crime victim surveys that can be used to correct ('multiply') police figures for the dark number. Apart from the legal definition problem, police crime rates without a crime victim survey multiplier severely hamper proper cost-benefit analysis.

Fortunately, the problem of lacking national crime surveys can be solved by using the International Crime Victim Survey (ICVS). This provides information on the incidence and prevalence of crime and also the rate of non-reporting to the police by country and by crime. This information can be used to calculate the true crime rate (see annex 3).

3 **Let’s keep it simple**

Cost-benefit analysis is like any type of science: many methodological and theoretical elaborations are possible. On the methodological side, there are questions regarding the definition of costs and benefits of crime prevention (narrow or broad), the perspective on costs and benefits (victim, society, offender), how to take into account the payback period (the time needed for a project to pay for itself), counting and comparing costs and what to think of the changing relationship between the costs of crime and its prevalence. Finally, there is the theoretical question when crime prevention can be considered worthwhile; when a project pays for itself or when there is a return on investment.

The main problems can be summed up in seven dilemmas (see also paragraph 2.5):

- time
- tangible costs
- intangible costs
- counting and comparing costs
- how much crime is there (incidence and prevalence)
- relationship between costs of crime and crime rate
- what profit

A more practical problem is what to do with the outcomes of cost-benefit analysis. If it turns out that a highly popular crime prevention project is in fact not worthwhile, will authorities accept that outcome and act upon it? Another practical problem is that one needs to have enough evaluation capacity and knowledge to perform proper evaluations which include cost-benefit analysis.

Whatever the problems may be, cost-benefit analysis in crime prevention is an important part of the future of crime prevention. We still have a long way to go so we suggest an easy start and keep it simple.

4 A duty to proceed

Despite these obstacles and problems, it is the duty of anyone active in crime prevention to prove not only that prevention works (what works, what doesn't) but also what can be gained from a particular project (what's worthwhile).

Even though there is no guarantee that a project that has proven to be worthwhile in setting A will be equally worthwhile in setting B, a project that has been 'vetted' for costs and benefits makes for a better choice than a project that is lacking in information on its costs and benefits.

Given the progress that has been made in some European countries on the subject and the available information from notably the US, Canada and Australia, there is a useful basis for cost-benefit analysis in Europe. However, given the implementation level of most crime prevention projects and the above-mentioned difficulties in making comparisons at the European level, a focus on cost-benefit analysis at the local project level would be wise. An international comparison of these local cost and benefit analyses is only useful when the evaluation design is comparable.

5 A how-to manual

We conclude that the lack of experience in cost-benefit analysis in combination with the (urgent) demand for a practical tool (accountable justification of public investments), requires a simple solution. Cost-benefit analysis can be simple so let us keep it that way.

To enable cost-benefit analysis, there are a few rules that have to be adhered to in a project:

- define measurable goals (SMART);
- include a sophisticated evaluation design (before the start);
- make cost-benefit analysis part of the evaluation design;
- keep the cost-benefit analysis simple.

How to keep cost-benefit analysis simple? Essentially cost-benefit analysis is the number of crimes multiplied by the costs of these crimes minus the cost of crime prevention. The how-to manual (objective 3 of this study, see annex 1) explains what a simple cost-benefit analysis looks like.

As the Helsinki seminar on cost-benefit analysis ended with the hope that this review would bring the issue of cost-benefit analysis one step further, we hope this review and the how-to manual will help those concerned with crime prevention to take the next step.

5 Implications and recommendations

When used properly, cost-effectiveness and benefit-cost analyses can be valuable tools that help inform the public policy debate. Estimating the costs and benefits of crime prevention is an increasingly important area of criminal justice research. However, we should be cautious about the potential abuse of estimates of costs and benefits.

Warning

What are we to do with this information? If we are successful in fully estimating the cost of crime we can compare this total cost estimate with that of other social problems (e.g. cancer, car crashes, homelessness). Whether one agrees that this is a useful exercise or not, various advocacy groups do compare 'costs of crime' estimates with the cost of other social ills in an effort to affect policy decisions. Unfortunately, misuses of these data occur on both sides of the political debate. (Cohen, 2000)

During the course of this review, we have spoken to many people and none of them spoke disparaging of cost-benefit analysis. Everybody believes cost-benefit analysis is important and forms an essential tool in learning about crime prevention. The problem is that because it seems complicated, people start to believe it is complicated. This review and the how-to manual go a long way in debunking this myth.

Because people believe it is complicated, they need proper tools. That is something the European Commission can help with and the main recommendation is to keep these manuals and tools simple. If there is one thing that this review shows, it is the complex nature of cost-benefit analysis. Each of the seven dilemmas of cost-benefit analysis described in this review offers plenty of opportunity for further discussion and research.

Let there be no doubt that further discussion and research is important. The EU needs its own body of knowledge on cost-benefit analysis if only because the Anglo-Saxon example does not always fit the diverse European reality. So what can the European Commission do to help?

1 **Support development and dissemination of knowledge and experience in EU**

Development of a body of knowledge and experience should focus on:
- EU list of costs of crime (by making an inventory of costs by crime by EU country)[26];
- studies into the costs associated with a life of crime ('Life of Jack'-type studies)[27] ;
- dissemination of knowledge and connecting experts[28] ;
- a limited number of cost-benefit analysis pilots to further the development of the practice in Europe (see also point 4).

2 **Promote the use of crime victim surveys**

Crime victim surveys are an essential element of cost-benefit analysis. Apart from that, they provide a wealth of information on crime. Therefore, the use of crime victim surveys should be promoted.

3 **Let's keep it simple**

To develop a body of knowledge, it is also important to gain experience in the matter and that is why there is an easy to use how-to manual included in this review (see annex 1) which we kept as simple as possible. When this manual is put into practice, it can evolve into an ever more sophisticated, yet simple, way of analysing the costs and benefits of crime prevention.

4 **A duty to proceed**

Part of the how-to manual is a variation on the concept of willingness to pay (WTP): the experimental crime cost calculator (e-CCC©). The e-CCC© promises the prospect of a practical piece of software that can be used in all EU countries to let respondents indicate the total of tangible and intangible costs.

Annex 2 offers an outline of this piece of software. In order to make it available to EU countries, this software needs further development which goes beyond the scope of this review.

Note 26 An important problem with cost-benefit analysis is the limited availability of cost standards. We have included two sets in annex 1, which include both tangible and intangible costs. While these sets can be used as a rough indication, it would be better to develop an EU list of tangible and intangible costs related to a limited number of crimes. Using this standard list of costs-to-be-included, each EU country would be able to calculate the costs of crime and develop a standard list of costs of crime.

Note 27 Part of the development of an EU list of tangible and intangible costs-to-be-included should be research into criminal careers. If there is one clear example of what it costs when prevention fails, it is a list of costs associated with a typical criminal career.

Note 28 Maintain a network of national contacts in the form of EUCPN, keep on organising international seminars and make maximum use of the internet.

Annexes

Annex 1 How to work with cost-benefit analysis in crime prevention

Costs and benefits should be part of any policy proposal. This can be made operational by having a 'before' cost-benefit estimate and an 'after' cost-benefit evaluation. This annex explains how one can perform a cost-benefit analysis. We realise cost-benefit analysis is complicated but we have kept is as simple as possible, so give it a try!

1 Look before you leap

Cost-benefit analysis requires guidelines on how to use cost-benefit analysis. In other words: look before you leap. This requires answering the question what to expect from cost-benefit analysis. Every type of analysis has its limitations. Hence we should be careful about using it and consider its implications. What is also important is that political pressures (demand for results) and institutional pressures (demand for funding) make it hard to take enough time to perform a proper evaluation.

Question 1: what is the goal of cost-benefit analysis (and for whom)?

- why do you want to do a cost-benefit analysis?
- what do you want to achieve (goals)?
- for whom are you doing the analysis (target group)?
- what level of analysis?[29]
- goals for each target group?
- prioritise goal-target group combinations.

In short: know beforehand why and for whom a cost-benefit analysis is made.

Question 2: are the analysis goals achievable?

- are you prepared (and able) to negotiate?
- do you have to adjust goals or target groups?
- should you forget about cost-benefit analysis?
- which judgments do you want to be able to make after the analysis?
- which decisions should be made as a result?
- will the target group neglect or use the analysis outcomes in their policy judgments and decisions?

Note 29 At project level it is easy to do cost-benefit analysis. Project management requires information on most basic elements, including costs. At city level the number of projects and organisations involved is far bigger, which makes it more difficult to collect data. However, sometimes cities have a good picture of the costs of certain crimes and the costs of projects targeted at these crimes. At country level local and regional differences start to act up. At international level this becomes even worse with different methods of counting crime and different definitions. Hence the rule of thumb on the level of analysis is: project level or city level.

In short: decide on achievability and type/form of the analyses (preferably: keep it as simple as possible!).

2 Which crimes

In a perfect world, cost-benefit analysis takes into account the whole chain of events of a programme, its tangible and intangible costs and benefits, looking from all three perspectives (victim, society and offender) over a period of several years. In the case of integrated programmes (with large numbers of parties involved) this may turn out to be very difficult.

As this manual is to be used in the various EU member states and cost-benefit analysis is a relatively new instrument for most crime prevention practitioners in the EU countries, it is advisable to keep the number of crimes used in cost-benefit analysis limited. It is better to select a few types of crime, making sure that most (cost and benefit) details are accounted for, than to select too many types of crimes, and to find out that new cost and benefit details keep on popping up.

Using the International Crime Victim Survey (ICVS) questionnaire (see annex 5 for the proper definitions), the following ten crimes could be used:

1 car theft
2 theft from car
3 car vandalism
4 motorcycle theft
5 bicycle theft
6 burglary
7 robbery
8 personal theft
9 sexual assault
10 assault or threat

3 Number of crimes

Apart from the costs and benefits, a vital element of the ana- lysis is the number of crimes. This requires making estimates of the actual number of crimes that occur. As mentioned earlier, it is advisable to use both victim surveys and police figures. One drawback to this technique is that victim surveys seldom include businesses and institutions (e.g. schools, hospitals). Hence, calculating crime rates for businesses using the methods described below may be impossible.
Police figures paint an incomplete picture: not everybody reports everything to the police and for some crimes this is worse than for others. Hence we need crime victim surveys to fill in the blanks. One way to correct the police figures is to use the ratio between victimisation survey figures and the police figures as a 'multiplier'.

For example, when police figures for a country show 200,000 burglaries over a period of time and the national crime victim surveys comes to an estimate of 600,000 over the same period of time, the appropriate multiplier is 3.0. Though rather crude this multiplier may then be used to correct the number of offences reported to the police in the following period

– e.g. the next year in which there is no victim survey – and/or in a region within the country for which there is no victim survey.
Another way to estimate the number of crimes is to use the level of non-reported crimes from the crime victim survey. By multiplying this by the number of crimes reported to the police, one can calculate the actual crime rate. For example, when the police figures show 200,000 burglaries and the crime victim survey shows that only 1 in 3 burglaries is reported, then the appropriate multiplier is 3.

When there is no national or regional crime victim survey available, use can be made of the International Crime Victim Survey for information on crimes reported to the police (by crime and by country).

ICVS crimes reported to the police

See http://www.unicri.it/icvs/publications/index_pub.htm

Kesteren, J.N. van, Mayhew, P. & Nieuwbeerta, P. (2000) ***Criminal Victimisation in Seventeen Industrialised Countries: Key Findings from the 2000 International Crime Victims Survey,*** WODC, Ministry of Justice, The Hague, 2000

Click on '**download text in PDF**'

► Choose '**Reporting crime and the police**' for general information on reporting crimes by country (Table 10: Percentage of offences reported to the police).

► Choose 'Appendices' – '**Additional Tables**' (Appendix 4) for specific information on reporting crime by crime by country (Table 9: Percentage of crimes reported to the police).

See also figures 2 and 3 in paragraph 3.1 and see annex 3 for figures by crime by country.

By using the police figures and crime victim surveys (national, regional or city surveys or the International Crime Victim Survey) we can calculate the **NUMBER OF CRIMES**.

4 Costs of crime: the standard list or the experimental crime cost calculator (e-CCC©)

Costs of crime can be calculated by adding all expected costs (tangible and intangible) of all (expected) crimes. As we have seen this is quite a difficult job. So one can try to come up with a rough calculation (add up all the costs that are easy to calculate and estimate further possible costs) or an educated guess.

To keep things simple and to stimulate the practice of cost-benefit analysis, this how-to manual uses a standard list of costs of crime for a limited number of crimes. While a single set of cost estimates for all EU countries may not account for national differences, the use of one set of cost estimates does offer the opportunity to compare between countries and

does make cost-benefit analysis a whole lot easier.
Of the crimes figuring in the ICVS, only seven have a price tag attached to them. Hence, owing to the lack of information on the costs of the other four, those seven are – for now – the ones to be used in cost-benefit analysis.

Standard list of costs of crime in the UK (Brand and Price, 2000)

1	Car theft	€	6,960	(theft of vehicle)
2	Theft from car	€	841	(theft from vehicle)
3	Burglary	€	3,333	(burglary in a dwelling)
4	Robbery	€	6,815	(robbery of individual)
5	Personal theft	€	493	(other theft and handling)
6	Sexual assault	€	27,550	(sexual offence)
7	Assault or threat	€	783	(common assault)

Standard list of costs of crime in Australia (Mayhew, 2003)

1	Car theft	€	4,860	(theft of vehicle)
2	Theft from car	€	330	(theft from vehicle)
3	Burglary	€	2,100	(residential burglary)
4	Robbery	€	2,160	(robbery)
5	Personal theft	€	216	(other theft and handling)
6	Sexual assault	€	1,500	(sexual assault)
7	Assault or threat	€	1,080	(assault)

Alternatively one can also use a crude but easier method: asking all involved stakeholders (potential victims) to estimate the amount of money they are willing to pay to prevent a crime. This is a rather good estimate of all possible tangible and intangible cost. The experimental crime cost calculator (e-CCC©, see annex 2) of which a prototype was developed during this project uses this approach. The e-CCC© is a simple program that can be added to a crime victim survey to answer the cost question by making respondents estimate their willingness to pay (WTP) for preventing certain types of crime. The value respondents give to each crime can be considered to be an indicator for the true costs of a particular type of crime.

By using the standard list or by using a WTP method we are able to come up with the **COSTS** of certain types of crime.

5 Cost of crime prevention project

Of all the costs involved in crime prevention, the costs of a project are usually documented fairly well. To get funding for a project or to report on the outcomes of a project, we need to be clear on the costs involved. Apart from input by government employees (whose time is not costed by the hour, unlike for instance the time of private security officers) most project costs are reasonably tangible (except perhaps overheads).

Besides the initial cost of the project, costs which should not be forgotten are future (operational) costs such as project maintenance and ex post project evaluation. In calculating the costs of a project the level of the project (neighbourhood, city, country, EU) will influence how much information on costs is available and what can be taken into account.

At the end of this step we have calculated the costs of the project.

6 Analysis of benefits

As was explained in paragraph 2.2 a rather crude but simple rule would be to calculate the benefits of crime prevention by adding up all costs associated with a certain type of crime before a project is started and subtracting from that the costs associated this particular type of crime once the project is finished.

What are the benefits

costs of Crime before the crime prevention project:[30] cC1
costs of Crime after the crime prevention project has run:[31] cC2

cC1-cC2 = **benefits** of the crime prevention project (= B)

The costs of crime before and after (variables cC1 and cC2) can be calculated by multiplying the number of crimes in the defined area and period by the costs of each of these crimes:

How to calculate costs of crime

number of crimes X average costs per crime (see step 3 and 4)

Note 30 Period of e.g. a year before the start of the project
Note 31 Period of a year after the project

If we take the example of a crime prevention project in Rock City aimed at reducing robberies the following calculation follows:

Example Rock City robbery prevention project

Before (pre or ex ante):
1,000 robberies in Rock City
Average cost per robbery:[32] € 3,000 (NB only tangible costs!)

Cost of crime before prevention project: 1000 x € 3,000 = € 3,000,000

After (post):
500 robberies in Rock City
Average cost per robbery:[33] € 3000
Cost of crime after prevention project: 500 x € 3000 =
€ 1,500,000

Cost before minus cost after = € 1,500,000 (= B)

Benefit of crime prevention project (B) = € 1,500,000

To make this Rock City cost benefit analysis complete we have to deduct the costs associated with the prevention project from the benefits received:

Note 32 Money taken, damage done, wounding, hospital, police work, post traumatic stress disorder, etc.
Note 33 Assuming that this did not change

Benefits minus project costs

Benefits (see above): € 1,500,000

Let us assume the costs of the anti-robbery project have been about € 2,000,000 (e.g. offender focused action by police, CCTV, better street lighting, quicker response by judicial system especially for repeated offenders, rehabilitation programme for offenders, etc.).

Benefits of crime prevention project:	€ 1,500,000
Cost of crime prevention project:	€ 2,000,000
'Loss'	-/-€ 500,000

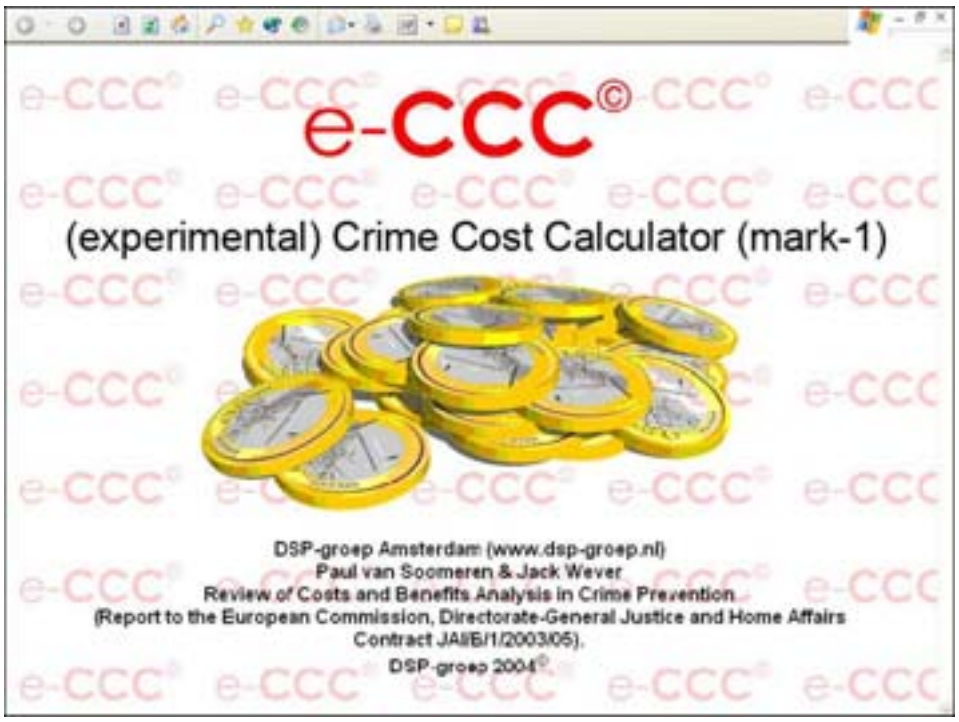
As in this case only tangible costs are calculated the local authorities in Rock City now have to decide if this 'loss' of
€ 500,000 is worth the reduced pain and suffering and the reduced fear of crime in Rock City (fear of crime went down by 15% in the victim survey done about half a year after the start of the project).

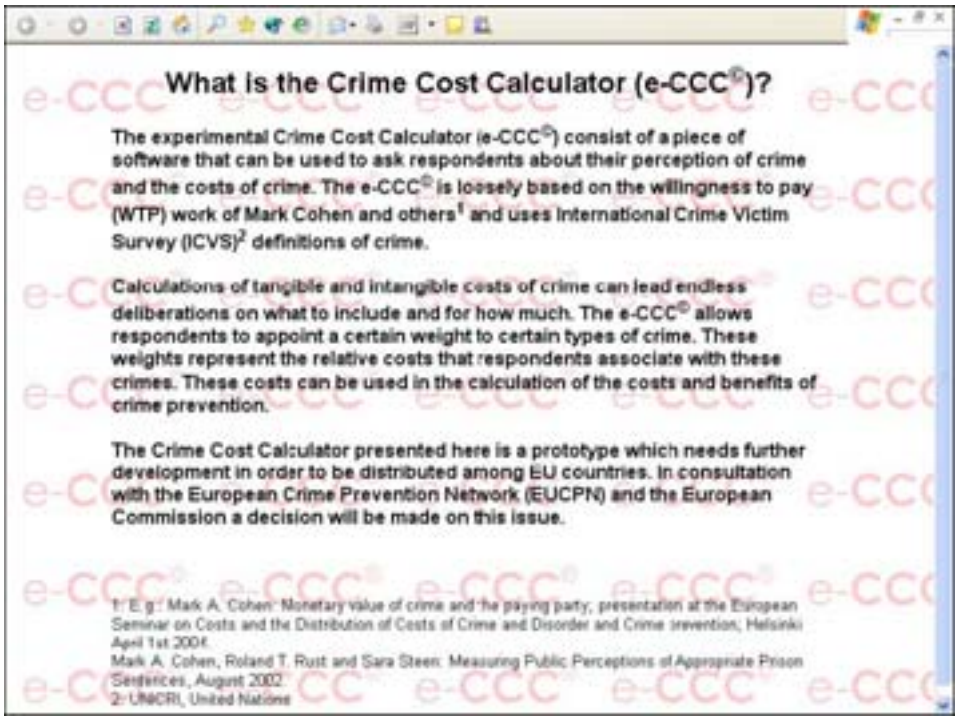
The example shows that even if it is impossible to present a complete calculation (because calculating the intangible costs would be too difficult) a cost-benefit analysis helps decision makers by showing that which can be calculated.

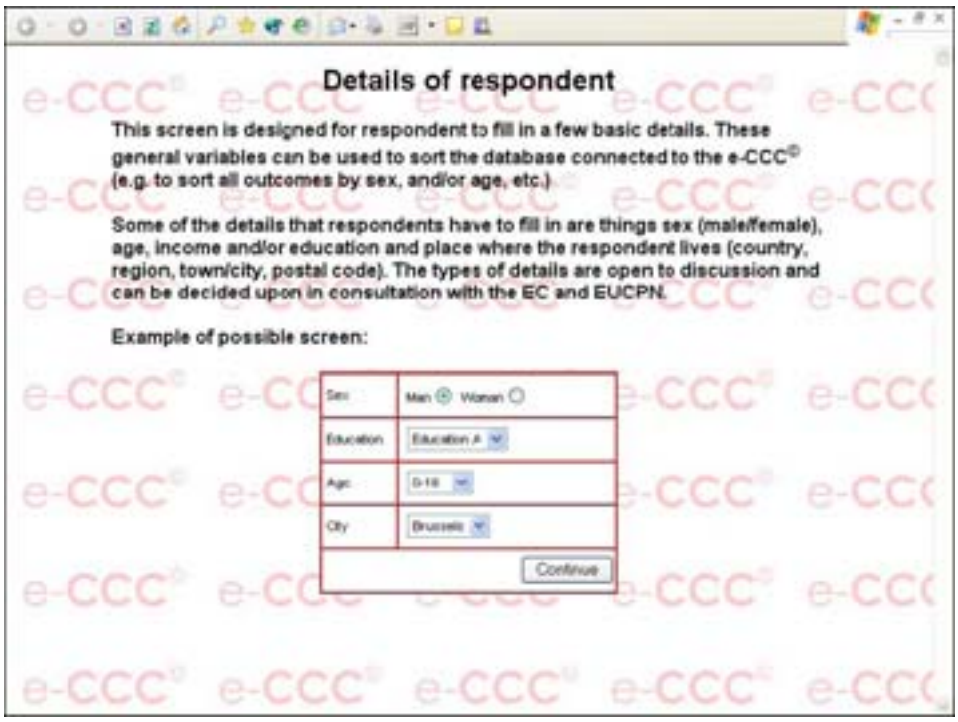
Note that in the example of Rock City we have assumed that the costs before and after can be accurately calculated. In crime prevention, the benefits of a project are often also estimated before the project actually starts. This is necessary to get funding and approval for a project. Of course such an estimate is a tricky business and can be the cause of problems once a proper 'ex post' calculation has been done.

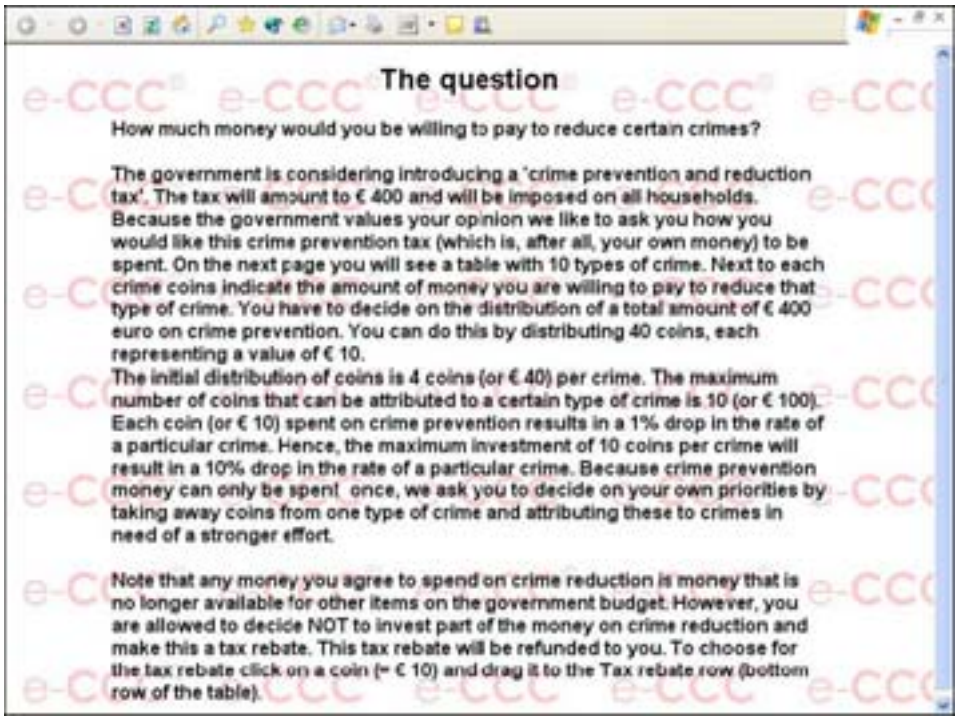
In the example of Rock City the authorities might have copied an anti-robbery project from the neighbouring city of Dalamas. Because the project in Dalamas resulted in a 50% drop in robberies, it was assumed the same would apply for Rock City. Hence in Rock City it was possible to calculate costs and benefits beforehand.

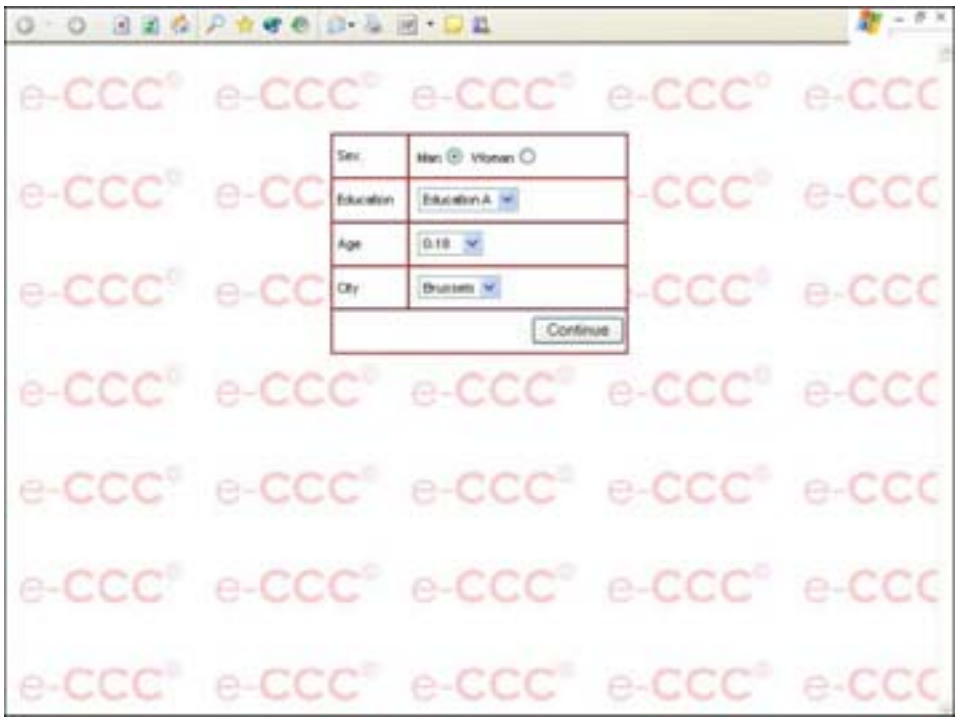
Annex 2 Experimental Crime Cost Calculator (e-CCC©)

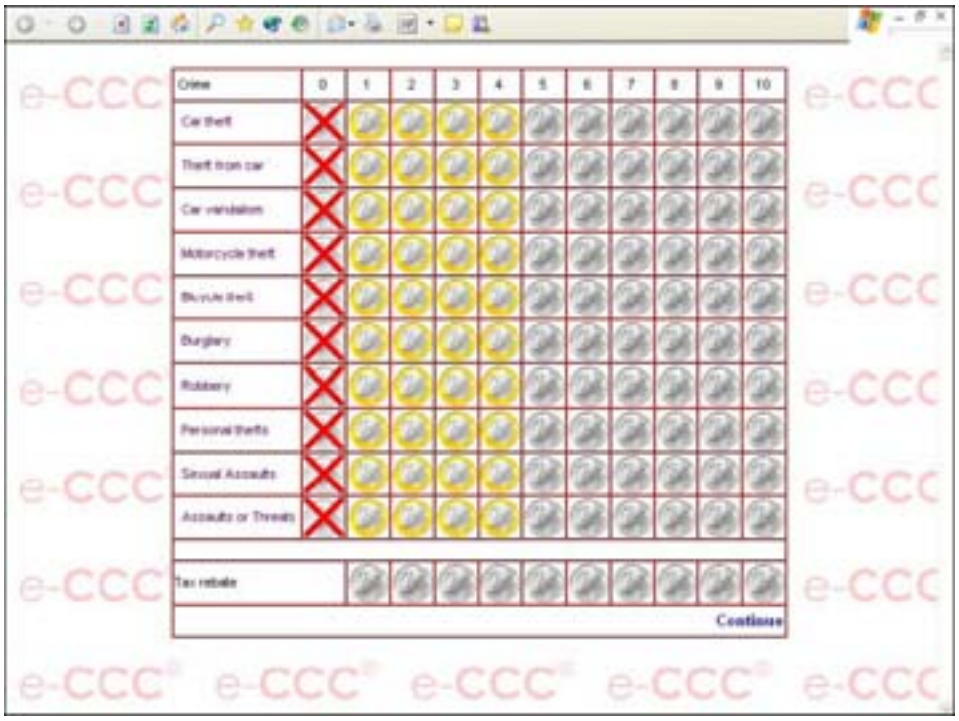


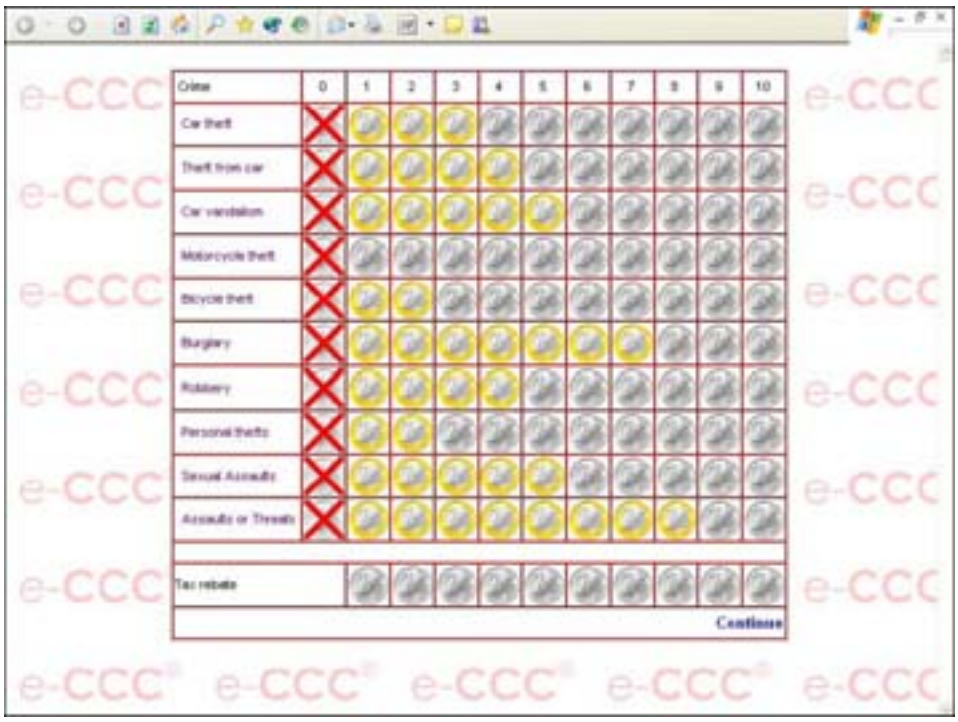


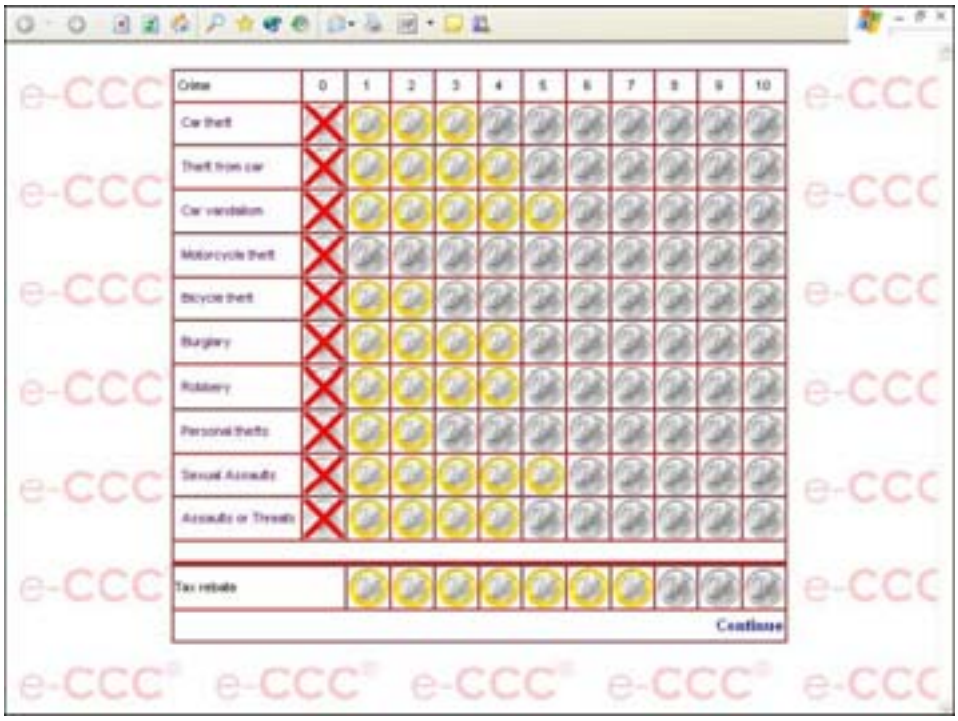

Details of respondent
This screen is designed for respondent to fill in a few basic details. These general variables can be used to sort the database connected to the e-CCC© (e.g. to sort all outcomes by sex, and/or age, etc.)
Some of the details that respondents have to fill in are things sex (male/female), age, income and/or education and place where the respondent lives (country, region, town/city, postal code). The types of details are open to discussion and can be decided upon in consultation with the EC and EUCPN.
Example of possible screen:
Sex
Man
Woman
Education
Age
City
Brussels
Continue

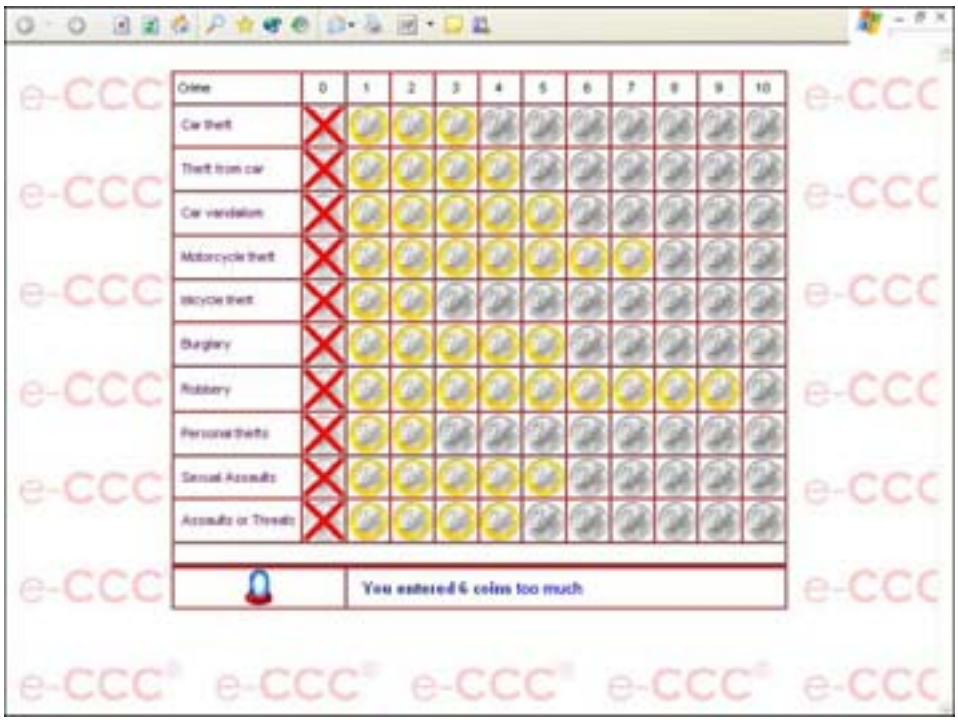

The question
How much money would you be willing to pay to reduce certain crimes?
The government is considering introducing a 'crime prevention and reduction tax'. The tax will amount to € 400 and will be imposed on all households. Because the government values your opinion we like to ask you how you would like this crime prevention tax (which is, after all, your own money) to be spent. On the next page you will see a table with 10 types of crime. Next to each crime coins indicate the amount of money you are willing to pay to reduce that type of crime. You have to decide on the distribution of a total amount of € 400 euro on crime prevention. You can do this by distributing 40 coins, each representing a value of € 10.
The initial distribution of coins is 4 coins (or € 40) per crime. The maximum number of coins that can be attributed to a certain type of crime is 10 (or € 100). Each coin (or € 10) spent on crime prevention results in a 1% drop in the rate of a particular crime. Hence, the maximum investment of 10 coins per crime will result in a 10% drop in the rate of a particular crime. Because crime prevention money can only be spent once, we ask you to decide on your own priorities by taking away coins from one type of crime and attributing these to crimes in need of a stronger effort.
Note that any money you agree to spend on crime reduction is money that is no longer available for other items on the government budget. However, you are allowed to decide NOT to invest part of the money on crime reduction and make this a tax rebate. This tax rebate will be refunded to you. To choose for the tax rebate click on a coin (= € 10) and drag it to the Tax rebate row (bottom row of the table).


Sex
Man
Woman
Education
Education A
Age
0-19
City
Brussels
Continue


Crime
0
1
2
3
4
5
6
7
8
9
10
Car theft
Theft from car
Car vandalism
Motorcycle theft
Bicycle theft
Burglary
Robbery
Personal thefts
Sexual Assaults
Assaults or Threats
Tax rebate
Continue


Crime
0
1
2
3
4
5
6
7
8
9
10
Car theft
Theft from car
Car vandalism
Motorcycle theft
Bicycle theft
Burglary
Robbery
Personal thefts
Sexual Assaults
Assaults or Threats
Tax rebate
Continue


Crime
0
1
2
3
4
5
6
7
8
9
10
Car theft
Theft from car
Car vandalism
Motorcycle theft
Bicycle theft
Burglary
Robbery
Personal thefts
Sexual Assaults
Assaults or Threats
Tax rebate
Continue


Crime
0
1
2
3
4
5
6
7
8
9
10
Car theft
Theft from car
Car vandalism
Motorcycle theft
Bicycle theft
Burglary
Robbery
Personal thefts
Sexual Assaults
Assaults or Threats
You entered 6 coins too much
e-CCC


Crime
1
2
3
4
5
6
7
8
9
10
Car theft
Your allocation
Average uptill now
Theft from car
Your allocation
Average uptill now
Car vandalism
Your allocation
Average uptill now
Motorcycle theft
Your allocation
Average uptill now
Bicycle theft
Your allocation
Average uptill now
Burglary
Your allocation
Average uptill now
Robbery
Your allocation
Average uptill now
Personal thefts
Your allocation
Average uptill now
Sexual Assaults
Your allocation
Average uptill now
Assaults or Threats
Your allocation
Average uptill now
Close

Annex 3 Crimes reported to police by country (ICVS 2000)

Figure Percentage of offences reported to the police: overall figure for six types of offences

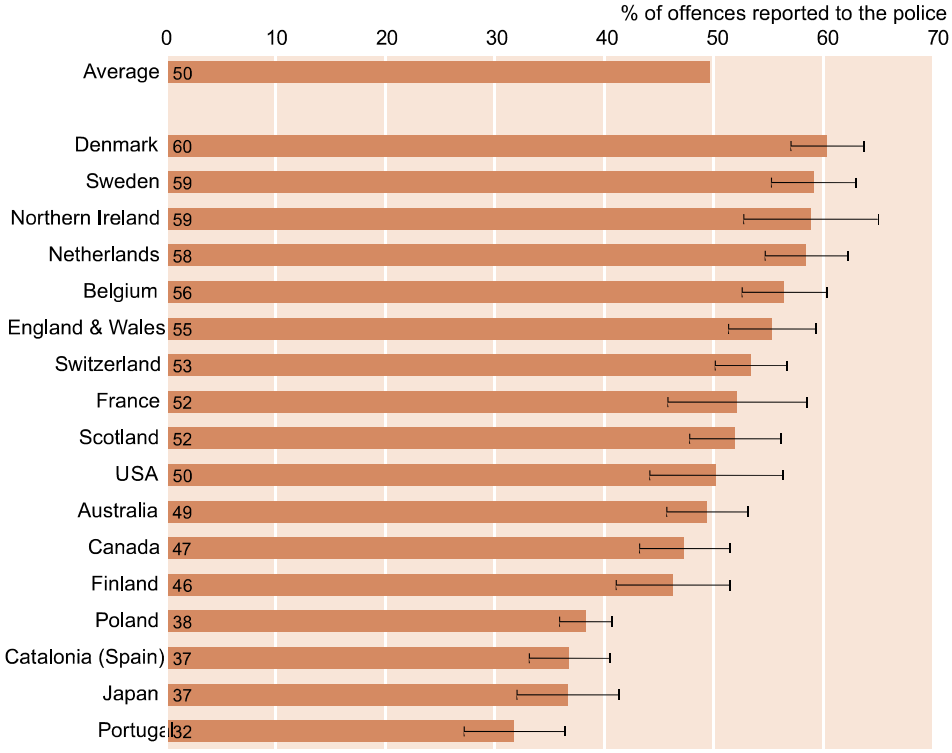


Table Percentage of crimes reported to the police

		10 crimes[1]	Car theft	Theft from car	Car vandalism	Motor-cycle theft	Bicycle theft	Burglary	Attempted burglary	Robbery	Personal theft	Sexual incidents	Assaults & threats
Australia	1989	47	91	55	25	92	70	84		52	45	8	36
	1992	46	92	54	27	94	76	88	47	53	39	12	39
	2000	50	92	53	36	70	63	81	41	60	38	15	43
Austria	1996	46	100	79	33	100	70	79	30	60	52	7	22
Belgium	1989	49	85	65	37	94	70	78		41	50	15	36
	1992	68	91	77	45	90	77	88	57	55	60	20	45
	2000	53	97	71	39	91	70	92	49	47	56	11	30
Canada	1989	49	89	64	48	100	70	83		57	38	11	38
	1992	51	92	60	50	72	65	82	44	48	36	13	36
	1996	50	88	62	47	85	56	85	47	50	32	17	40
	2000	48	99	58	47	34	50	80	46	41	28	19	35
Catalonia (Spain)	2000	41	91	43	22	82	39	71	31	57	54	13	27
Denmark	2000	56	98	75	43	76	67	88	25	73	51	12	30
England & Wales	1989	59	96	70	32	86	76	90		68	59	11	43
	1992	59	94	73	37	94	75	96	54	50	51	16	41
	1996	54	95	67	39	97	79	93	52	55	48	20	38
	2000	53	89	71	43	94	69	90	62	59	49	14	41
Finland	1989	42	65	61	42	100	63	62		30	38	7	18
	1992	41	100	55	36	85	55	74	21	28	37	12	25
	1996	43	na	71	47	88	52	71	34	39	43	7	27
	2000	41	96	69	51	100	54	71	22	67	37	1	26
France	1989	61	96	68	47	82	55	84		49	53	15	37
	1996	49	96	61	47	81	47	78	44	57	40	30	30
	2000	49	91	64	49	78	35	73	37	32	51	26	34
Germany (West)	1989	48	89	82	44	93	72	79		50	38	11	21
Italy	1992	40	95	40	15	77	29	65	21	42	43	5	24
Japan[2]	2000	39	61	42	21	70	36	60	35	31	39	11	21
Netherlands	1989	53	92	72	36	95	73	94		54	48	13	39
	1992	57	90	75	39	94	67	90	52	59	53	12	43

(Netherlands continued)	1996	53	90	72	43	88	64	85	49	70	57	14	42
	2000	58	94	77	49	90	66	91	60	63	50	17	42
New Zealand	1992	60	97	64	36	89	87	89	48	49	50	12	42
Northern Ireland	1989	46	96	55	36	89	57	85		59	26	8	51
	1996	55	94	60	40	100	69	86	50	93	40	43	58
	2000	60	95	61	44	100	64	86	40	73	30	22	55
Norway	1989	43	75	58	37	83	45	78		36	31	5	29
Poland	1992	32	93	53	30	89	47	49	20	31	20	8	25
	1996	34	93	45	33	79	45	54	25	37	20	12	31
	2000	40	92	47	28	69	50	62	30	40	26	18	32
Portugal	2000	36	76	41	23	57	32	59	26	40	34	16	33
Scotland	1989	62	92	78	50	81	77	93		49	51	29	44
	1996	54	97	73	41	77	76	96	59	38	48	25	44
	2000	50	89	69	47	100	78	91	49	68	58	23	41
Spain	1989	33	82	32	22	55	24	44		29	43	5	27
Sweden	1992	59	97	70	51	85	67	66	31	81	50	20	29
	1996	54	90	75	63	88	59	71	43	81	56	12	28
	2000	57	98	76	57	85	61	71	37	71	47	12	36
Switzerland	1989	59	89	72	47	88	84	80		39	42	21	26
	1996	52	98	85	31	87	75	88	43	24	37	16	32
	2000	52	87	71	43	80	74	88	45	50	45	10	33
USA[3]	1989	52	97	60	56	87	63	80		58	41	18	42
	1992	na											
	1996	58	90	66	51	88	47	68	52	66	36	28	45
	2000	52	95	61	48	71	54	71	45	69	31	15	53
All countries[4]	1989	50	88	64	40	88	64	80		48	43	13	35
	1992	51	94	62	37	87	64	79	39	50	44	13	35
	1996	50	87	69	42	87	64	82	45	54	43	19	36
	2000	49	91	62	41	79	56	78	40	55	42	15	36

1 Based on 10 crimes standard across all sweeps (the question was not asked for attempted burglary in 1989). For the 10 crimes, based on victims last year, last incident that occurred. Figures on reporting for individual crimes are based on the last incident over the previous five years.
2 Information for Japan was not collected in 1992; that from the 1989 sweep is not comparable with other countries.
3 Results for the USA (1992) are not available.
4 Averages are based on all countries taking part in each sweep. As countries included vary across sweeps, comparisons should be made cautiously.

Table Percentage of offences reported to the police[1, 2]

	1989	1992	1996	2000
Australia	49	↓ 43		↑ 47
Belgium	51	↑ 68		↓ 56
Canada	51	51	50	47
England & Wales	56	58	55	55
Finland	50	↓ 44	↑ 50	46
France	53		48	52
Netherlands	54	57	55	58
Northern Ireland	39		↑ 50	↑ 59
Poland		32	32	↑ 38
Scotland	64		↓ 56	↓ 52
Sweden		58	56	59
Switzerland	62		↓ 54	53
USA	55		53	50

1 Based on theft from cars, car vandalism, bicycle theft, burglary with entry, attempted burglary and theft of personal property. Based on last incident reported over the previous five years.
2 Countries that participated less than three times are omitted.

↑ and ↓ indicate that the difference compared to the previous survey is statistically significant (t-test; $p<0.10$).

↑ indicates an increase over the previous sweep; ↓ denotes a decrease.

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Annex 5 Questionnaire

Review of current knowledge on cost-benefit analysis in crime prevention

This questionnaire is part of the EU 'costs and benefits of crime prevention' project and is designed to find out about your knowledge of cost-benefit analysis in crime prevention. This project is being undertaken by DSP-groep in Amsterdam (Netherlands) in conjunction with Crime Risk Management in Watford (UK) and Perpetuity Research and Consultancy International (PRCI) in Leicester (UK). Information on this project and the partners involved can be found on the website of European Crime Prevention Research and Consultancy (www.ecprc.net).

The aim of the project is to find out more about current policies on the costs/benefits of crime prevention, examples of cost/benefit analysis and studies that have applied cost/benefit analysis Apart from an overview of current policies and the existing body of knowledge, a practical outcome of this project will be a 'how-to' manual on cost/benefit analysis.

Please do not feel that you need to answer every question, just answer the ones you feel you have knowledge on. Questionnaires can be printed, filled in and posted or saved to Word and e-mailed to the addresses at the bottom of the page. Feel free to pass this questionnaire on to anyone you think may be able to help with this research.

The information you supply will be used by our researchers and included in a report on the current knowledge on cost-benefit analysis in crime prevention for the European Commission. All contributions will be anonymous.

Background information

(Personal data will only be used for research purposes)

Name:

Company/organisation:

Position:

Country:

E-mail:

Telephone:

Your knowledge of cost-benefit analysis in crime prevention

1 Does your organisation/company apply a cost/benefit policy in relation to crime prevention?

YES NO

2 Do you know of an organisation/company that does apply a cost/benefit policy in relation to crime prevention

YES NO

3 If you consider someone else to be the best person to speak to on this issue, whom should we contact?

name
position
organisation + website
phone
e-mail

4 Can you describe how the cost-benefit policy is applied?

5 Can you tell us what practical problems your organisation/company has encountered applying cost/benefit analysis?

6 Which three studies on cost-benefit analysis in crime prevention would you recommend?
(name report, book, article, contact or website)

1.

2.

3.

7 Do you know of good and bad practices which can be used as an example?
(if yes, name report, book, article, contact or website)

8 What should be the main components of a 'how to' manual on cost-benefit analysis in crime prevention?

9 If costs of crime are defined as "the (negative) consequences of crime" (e.g. damage, lost property, pain and suffering, etc.), does your organisation/company have a reasonable estimate/calculation of these costs for certain types of crime?

If yes, what are the costs associated with certain types of crime?

10 If one considers a typical criminal career, an offender has had multiple contacts with all kinds of organisations from the start of the offender's career at a very young age (e.g. child welfare services, child care, guidance counsellors) to the height of an offender's career (e.g. probation supervision, police investigation, prison). Does your organisation/company have any indication of the costs to society (excluding criminal gains) associated with a typical criminal career?

If yes, may we contact you for further details?

YES NO

11 Is there any additional information you would like to add that you think may be useful for this review?

12 Are you happy for one of our staff to contact you for further details if necessary?

YES NO

Thank you for taking the time to fill in this questionnaire and assist us with our research.
If you have any comments or queries please do not hesitate to contact us on info@ecpcr.net

Questionnaires can be returned by:

Post (print out, fill in and send to) :
DSP-groep
Van Diemenstraat 374
1013 CR Amsterdam
Netherlands

E-mail (save into Word and then email to): cost@ecprc.net

Annex 6 Questions on crime and definitions of crime

ICVS questions

Car theft
Q35 Over the past five years have you or other members of your household had any of their cars/vans/trucks stolen?

Theft from car
Q40 Apart from this, over the past five years have you or have members of your household been the victim of a theft of a car radio, or something else which was left in your car, or theft of a part of the car, such as a car mirror or wheel?

Car vandalism
Q45 Apart from thefts, have parts of any of the cars/vans/trucks belonging to your household been deliberately damaged (vandalised) over the past five years?

Motorcycle theft
Q50 Over the past five years have you or other members of your household had any of their mopeds/scooters/motorcycles) stolen?

Bicycle theft
Q55 Over the past five years have you or other members of your household had any of their bicycles stolen?

Burglary
Q60 Over the past five years, did anyone actually get into your home/residence without permission, and steal or try to steal something? I am not including here thefts from garages, sheds or lock-ups.

Robbery
Q 70 Over the past five years has anyone stolen something from you by using force or threatening you, or has anybody tried to steal something from you by using force or threatening force?

Personal thefts
Q75 Apart from theft involving force there are many other types of theft of personal property, such as pick-pocketing or theft of a purse, wallet, clothing, jewellery, sports equipment. This can happen at one's work, at school, in a pub, on public transport, on the beach, or in the street. Over the past five years have you personally been the victim of any of these thefts?

Sexual assaults
Q80 First, a rather personal question. People sometimes grab, touch or assault others for sexual reasons in a really offensive way. This can happen either at home, or elsewhere, for instance in a pub, the street, at school, on public transport, in cinemas, on the beach, or at one's workplace. Over the past five years has anyone done this to you? Please take your time to think about it.

Assaults or threats
Q85 Apart from the incidents just covered, have you over the past five years been personally attacked or threatened by someone in a way that really frightened you, either at home or elsewhere, such as in a pub, in the street, at school, on public transport, on the beach, or at your workplace?

An incident of this sort might also have involved your partner, family member or a close friend. So apart from incidents already covered, have you in the past five years been personally attacked or threatened by someone you know in a way that really frightened you?

ENV 14383-1 definitions in English, Français, Deutsch[34]

Break-in
- Voluntary trespassing into premises causing material damage

Effraction
- action de pénétrer dans une propriété en causant des dommages matériels

Einbrechen
- Eine Handlung, welche mittels Zerstörung von Material das Eindringen in ein Objekt ermöglicht

Burglary
- Action of breaking into any premises with the purpose of stealing

Vol avec effraction
- Effraction dans un objet avec le but de voler

Einbruch
- Eindringen in irgendein Objekt mit dem Ziel einen Diebstahl zu begehen

Note 34 ENV 14383-1 Prevention of crime by urban planning and building design – Part 1: Definitions of specific terms

Car crime

- Crime ranging from vandalism to the theft of the vehicle

Actes de délinquance visant les véhicules à moteur

- Tout acte allant du simple vandalisme au vol du véhicule

Delikte im Zusammenhang mit Fahrzeugen

- Alle Kriminalitätsformen im Zusammenhang mit Fahrzeugen von Vandalismus bis Diebstahl eines Fahrzeuges

Fear of crime

- Justified or unjustified fear of personally becoming a victim of crime

Sentiment d'insécurité

- Crainte, justifiée ou non, d'être personnellement victime de malveillance

Kriminalitätsfurcht

- Bewusste oder unbewusste Angst persönlich Opfer eines Verbrechens zu werden

Pick-pocketing

- Theft on any person, in a public space without violence

Vol « à la tire »

- Vol sans violence sur une personne, dans un lieu public

Taschendiebstahl

- Diebstahl ab Person im öffentlichen Raum ohne Gewaltanwendung

Robbery

- Theft from the person when coupled with the threat of violence or violence

Vol avec violence

- Vol accompagné de menaces ou violences physiques

Raub

- Diebstahl im Zusammenhang mit Drohung oder Gewaltanwendung auf Personen

Shoplifting

- Theft of goods from shops, without the use of violence

Vol « à l'étalage »

- Action de dérober des biens sans violence dans un magasin

Ladendiebstahl

- Diebstahl von Artikeln aus einem Laden ohne Anwendung von Gewalt

Street violence

- Offence committed in public spaces against persons or properties by one or several persons

Délinquance de voie publique

- Délit perpétré par un ou plusieurs individus dans des espaces publics à l'encontre des personnes ou des biens

Straßengewalt

- Durch eine oder mehrere Personen ausgeübte Gewalt im öffentlichen Raum gegen Personen oder Sachen

Annex 7 Contacts by country

Contacts are first of all about 300 addresses used to distribute the questionnaire. These addresses are not included in the list below

Australia
Australian National University
Bond University
Australian Institute of Criminology
Department of Justice in Victoria
Queensland Police Service

Belgium
Ministry of Interior
Ministry of Justice
Vast Secretariaat voor het Preventiebeleid

Canada
International Centre for the Prevention of Crime

Cyprus
Cyprus Police

Czech Republic
Ministry of Interior
City of Prague

Denmark
Royal Academy of Fine Arts
Ministry of Interior

Estonia
Ministry of Justice
Estonian Security Association

Finland
HEUNI
Ministry of Interior
Ministry of Justice
City of Helsinki
National Council for Crime Prevention

France
European Forum for Urban Safety
Interministerial Delegation for Urban Affairs
Gendarmerie
Ville d'Angers
Ministry of Interior

Germany
Federal Criminal Police Office (Bundeskriminalamt)
Darmstadt University

Greece
MTI
Ministry of Justice

Hungary
Public Foundation for Crime Prevention

Ireland
Department of Justice, Equality and Law Reform

Japan
Japan Urban Security Research Institute

Lithuania
Ministry of Interior

Netherlands
Ministry of Justice
NYFER (forum for economic research)
TNO (The Netherlands Organisation for Applied Scientific Research)
Centrum voor Criminaliteitspreventie en Veiligheid

New Zealand
New Zealand Police
Land Transport Safety Authority
Ministry of Justice

Poland
University of Warsaw

Romania
National Police

Slovakia
State Council on Crime Prevention

Slovenia
Ministry of the Interior

South Africa
CSIR
South African Police Service

Spain
Directorate-General of Police
Police School of Catalunya

Sweden
Linköping University
National Council for Crime Prevention

United Kingdom
Home Office
University of Salford
Perpetuity Research & Consultancy International (PRCI)
Building Research Establishment (BRE)

United States of America
Vanderbilt University
Rutgers University
University of New Haven (Centre for Advanced Public Safety Research)
Virginia Tech
Department of Justice