Methodology of the European Crime and Safety Survey

1. Background to the European Crime and Safety Survey

The European Crime and Safety Survey (EU ICS) is carrying on the traditions of the International Crime Victim Survey (ICVS) which was initiated in 1987 and is currently coordinated by the United Nations Interregional Criminal Justice Research Institute (UNICRI) in Turin, Italy. The survey has evolved into the world's premier programme of fully standardised surveys looking at householders' experience of common crime in different countries. There have so far been four main rounds of the ICVS (1989, 1992, 1996 and 2000) and over 75 countries across the world have participated in different rounds of the survey.

For the execution of the EU ICS in the member countries of the European Union a consortium was set up. This consortium is led by Gallup Europe[1] in Brussels and comprises UNICRI (Italy), the Max Planck Institute for Foreign and International Criminal Law (Germany), CEPS/INSTEAD (Luxembourg) and GeoX (Hungary). The consortium received a grant from the European Commission, DG Research, to carry out the EU ICS survey in 2005 among the 15 'old' Member States of the EU, and the consortium committed to include three newly acceded members (Poland, Estonia and Hungary).

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[1] also representing a network of European Gallup offices: Gallup Hungary, Gallup Luxembourg, Gallup UK

Fieldwork for the EU ICS was conducted in 2005 by Gallup Europe in EU-15 and Hungary. Data collection in Estonia and Poland was organised independently by third parties in 2004/2005, using elements of the same standardised methodology, including the adjusted ICVS questionnaire.

2. Coverage and target population

The target population of EU ICS are all residents of 16 years of age or older in the following 18 countries of the European Union:
  – Austria
  – Belgium
  – Denmark
  – Estonia
  – Finland
  – France
  – Germany
  – Greece
  – Ireland
  – Italy
  – Luxembourg
  – The Netherlands
  – Poland
  – Portugal
  – Spain
  – Sweden
  – United Kingdom (England/Wales, Scotland and Northern Ireland[2])

3. The content of the EU ICS Questionnaire

The EU ICS is similar to most crime surveys of householders with respect to the types of crime it covers and inherited its core questions from ICVS. The survey asks a representative sample of the population about selected offences (car theft, motor theft, burglary, robbery, assaults, drugs etc.) they have experienced over a given time. The primary objective of the ICVS (and EU ICS) is to compare levels of crime across countries and in time independent of

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[2] There was separate data collection for Northern Ireland and Scotland. Both regions have been included in the United Kingdom data.

police records. The survey thus provides a more realistic count of how many people are affected by crime and a measure of trends in crime unaffected by changes in victims' reporting behaviour or administrative changes in recording crime.

When asking respondents about their experiences with crime, the survey applied the so-called ICVS methodology. Respondents are asked first about their experience of crime in the last five years. Those who mention an incident of any particular type are asked when it occurred: in the first months of the current year (2005), in the last year (in this case 2004), or before that. By collecting social and demographic information on respondents questioned, EU ICS also allow analysis of how risks of crime vary for different groups within the populations, in terms of age, income levels etc.

The types of crime included cover the bulk of 'common crimes' such as theft, burglary, robbery and assault. *Household crimes* are those which can be seen as affecting the household at large, and respondents report on all incidents known to them. The questionnaire covered as separate household crimes: car theft (including joyriding), theft from or out a car, motorcycle theft, bicycle theft, burglary and attempted burglary. For *personal crimes*, respondents report on what happened to them personally. Types of personal crimes included are sexual incidents (including rapes and other sexual assaults), threats/assaults (including assaults with force), robbery and personal theft (including pickpocketing). Through a set of special questions the survey also collects information on non-conventional crimes such as petty corruption (bribe-seeking by public officials) and consumer fraud.

The EU ICS not only looks at householders' experience with crime, but also at their views about policing, crime prevention and feelings of safety. All those who say they have been victimised over the five-year period are asked a number of follow-up questions about what happened - whether the police were notified, for instance, and whether they were satisfied with their treatment by the police. A few other crime-related questions are asked of all respondents. They include opinions on general police performance, what respondents would recommend as a sentence for a recidivist burglar and the use of precautionary measures against crime.

Changes in the questionnaire compared to ICVS
Because of the comparability issues with ICVS and the longitudinal aspect of the series, changes to the questionnaire have always been kept to a minimum. The core ICVS module was extended into some further important aspects, for which analysis is still undergoing.

– We included some questions about 'hate crimes' (whether or not respondents or their family members were subjects of a crime that was partly or completely motivated by prejudices regarding religion, race or colour, ethnicity, nationality or sexual orientation). To capture the increasing tensions across Europe in terms of religion and ethnicity, we also included a few questions that describe the respondents' religious background and immigrant status.

- Adjustments were made to tackle *cultural bias* in reporting levels of the level of insecurity. It has been widely documented that different cultures report similar experiences differently. Of course this makes international comparisons of data on personal safety very difficult. While crime incidences are thought to be reported in a more consistent manner across nations (however the evaluation of certain episodes or incidents might differ country-by-country, but even by demographics, whether or not these incidents qualify as crimes or not) the perception – and therefore the expression – of personal safety is very different.
- The survey addresses the geographical dimension of crime and safety. So far, very little has been done to capture the geographical aspect of safety and criminality. Police usually tries to draw city maps, where they mark the locations of different crimes. EU ICS attempts to draw similar maps in the capital cities in each of the 17 participating countries and regions, adding perceptions of safety, happiness and recent unsafe experiences. There are points in the questionnaire where we were collecting information that helps us to put the collected information in a geographical context.
- An finally, in certain capital city sub-samples we asked about satisfaction with the city life, to compare that to criminality: how differences in crime and safety influence other dimensions of the general urban experience.

4. Mode of data collection

Telephone surveys have, from the outset, been widely implemented during the ICVS rounds, especially in the more industrialised countries with high telephone penetration rates (above 70 percent). Most EU ICS interviews have been carried out with CATI telephone methodology, however, in Poland and Estonia the interviews were carried out face-to-face in the respondent's home.

Interviews were carried out via fixed (landline) telephones, with the exception of Finland where a sub-sample was interviewed via mobile phones. The average duration of the interview was 23.2 minutes.

WebCATI solution
Twelve of the countries were surveyed using an Internet-based CATI server (exceptions are the UK, Ireland and Spain). In these countries a centralised multilingual WebCATI solution was used to collect the data. WebCATI is a product that allows for Computer-Assisted Telephone Interviewing (CATI) through the Internet and/or an Intranet.

Traditional CATI requires that the PCs of the interviewers are linked through a network to a main PC (server) that functions as a central storage location for sample and data. WebCATI connects to the main server through the World Wide Web, and interviewers use their browser to access the study files and to enter the responses. Thus, WebCATI uses centrally-located

study files for multiple interviewing sites, minimising study management errors (no need to send out updates, files, etc.) and simplifying the process of job sharing/overflow phone hours.

WebCATI provides all the same powerful features of Survent (quotas, logic, sample control and access, rotations, call-backs) as the normal CATI client. The program is written using a combination of Survent software and XML/HTML, though which a high-level integration of the multilingual questionnaire database, the CATI software, the sample, and the tabulation/data export component is possible.

5. Sampling and sampling frames

In each participating country, the samples of the study were uniformly selected along the same design in each participating country, with the exceptions of Poland and Estonia. The samples used for the EU ICS were designed to provide the most complete coverage with the least bias.

Sampling

The samples were divided into a larger national sample and a relatively smaller capital city sample. There were no additional interviews done in the capital cities of Luxembourg, Poland and Estonia.

Random Digit Dialling (RDD) samples of landline telephone numbers were used in most countries to carry out the interviews. This means that telephone numbers were not selected from a list, but were generated randomly (within so-called "working banks" – stacks of 100 telephone numbers within there is at least one positive feedback for an operating line). The Random Digit Dialling of telephone numbers, stratified using 'NUTS 2' or similar regional strata, guarantees a solid and cost effective coverage of the population in a country.

The RDD samples for most countries were provided by Survey Sampling International Inc. (www.surveysampling.com). The samples were provided by the national field agencies in Greece, Sweden, Finland, Denmark, Hungary, Ireland, Netherlands and the United Kingdom.

The surveys conducted in Estonia and Poland used randomly selected persons drawn from official national registration. These samples were also stratified by local area.

Sample size and response rates

The targeted number of actual interviews in most countries was 2000. The samples were divided into a larger national part (with a targeted achieved sample size of 1200) and a relatively smaller capital city part (with a targeted achieved sample size of 800). There were no additional interviews done in the capital cities of Luxembourg, Poland and Estonia.

The table below illustrates the actual sample sizes in each country for both sub-samples and in total. The Finnish survey includes 500 additional interviews with owners of mobile phones who could not be reached by fixed telephones. The column on the right shows the sizes of the adjusted samples used for calculating country rates presented in this report. With the exception of Luxembourg and Estonia, sample sizes are 2000 or more.

Achieved response rates ranged from 36.9% in Luxembourg to 56.9% in Finland (landlines only), averaging 46.9% overall in the 17 countries where sampling and interviewing was carried out over the telephone. Following previous ICVS methodology, response rates are based on completed interviews divided by eligible contacts.

Table 1: Achieved sample sizes and response rate by country

	National sub sample	Capital city sub sample	Overall	Overall response rates (%)
Austria	1198	806	2004	45.7
Belgium	1213	801	2014	54.7
Denmark	1198	786[3]	1984	44.2
Estonia	1687	not available	1687	51.5
Finland	1212	789	2001+ 500	56.9
France	1216	800	2016	46.9
Germany	1202	823	2025	43.3
Greece	1216	804	2020	43.6
Hungary	1238	865	2103	52.6
Ireland	1202	801	2003	41.8
Italy	1219	804	2023	54.3
Luxembourg	800	not available	800	36.2
The Netherlands	1209	801	2010	46.1
Poland	5013	not available	5013	71.5[4]
Portugal	1210	801	2011	42.6
Spain	1194	840	2034	39.6
Sweden	1210	802	2012	55.0
United Kingdom	1204	800	2004	42.6
EU-18	**25641**	**13605**		**48.3**
Northern Ireland	1200	802	2002	40.9
Scotland	1206	804	2010	46.4
EU-18+	**28047**	**15211**		

[3] Copenhagen metro area
[4] with a face-to-face methodology

6. Coverage error, non-response error and measurement error

Coverage error – the problem of mobile-only households

Mobile telephony grows at an enormous pace, and it seems to slowly replace fixed telephones in certain societal segments in developed countries. Our real concern, of course, is not the growing mobile penetration rate, but the increasing number of those who only have a mobile telephone and no landline telephone in their residence. These rapid changes have important consequences for telephone surveys in the EU: (1) a reduction of coverage rate of landline telephone sampling frames and (2) an increased complexity in the social composition of household not covered by these frames. These two factors are likely to affect the quality of landline telephone surveys.

In Finland, the emerging trend among specific population groups to exclusively use mobile phones – notably young people – necessitated an additional sample of persons exclusively owning mobile phones. These owners were identified through a nationwide screener survey. Although the group of exclusive mobile users differed in many respects from the general Finnish population their inclusion in the sample did not alter victimisation rates much. The bottom line is that post-stratification weighing was able to produce estimations from the incomplete sample (only fixed line sample) that were very close to those based on the full-coverage sample (fixed and mobile phone samples). Since Finland is one of the most extreme cases, we are confident that, at least in this round of EU ICS, the non-coverage of mobile only persons did not seriously affect the victimisation estimates in any of the participating countries.

More information on the inclusion of mobile-only persons in the Finnish ICS is available from the consortium's website (www.gallup-europe.be/EUICS).

*Non-response error – decreasing response rates for telephone surveys in the EU*

Achieved response rates ranged from 36.9% in Luxembourg to 56.9% in Finland (landlines only), averaging 46.9% overall in the 17 countries where sampling and interviewing was carried out over the telephone. The overall response rates achieved during the EU ICS are slightly better than the one of the first ICVS sweep in 1989 but remain below the levels obtained in the three subsequent ICVS sweeps. Unfortunately, decreasing response rates are a common trend in CATI-based survey research in Europe, and this raises the issue how far respondents who are successfully interviewed differ from those who refuse to co-operate, or who cannot be reached. A related issue is to what extent variability in response levels distorts comparability.

Several actions were taken to increase cooperation in EU ICS throughout the data collection period. Besides using a highly experienced field force that was specifically trained to tackle

respondent reluctance, we applied a so-called 7+7 call design over an extended period of time. Each telephone number was dialled at least seven times to establish initial contact (i.e. if the line was busy, or was not answered) and, after initial contact was made with the household, there were a maximum of seven repeated calls to establish contact with the eligible respondent within the household. Finally, the field period has been extended to allow more flexible scheduling to reach people who are only rarely at home.

An important method to increase response rates to a telephone survey is to increase the number of attempt to contact a household. During a pilot study done in 1991 – in preparation to the ICVS 1992 round – it was found that many refusals to participate could be attributed to temporary disposition of the respondent. However, a fair part of respondents that initially refused to participate, finally agree to respond when called a second time a few weeks. As a consequence, it is not only sufficient to increase the number of contact attempts, but also to apply a 'second attempt' strategy. In EU ICS the selected numbers were contacted up to seven times after the initial contact with the household.

Number of calls for each successful call in 14 EU ICS countries
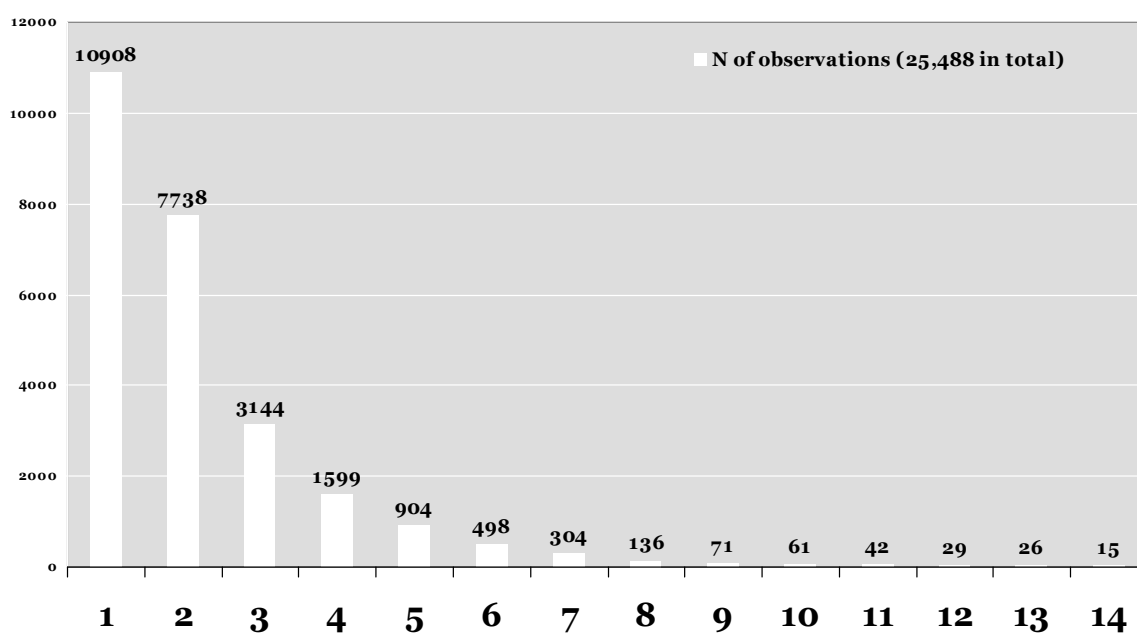
Measurement error – patterns of forgetting

Crime victimisation surveys are prone to various sources of measurement errors. We are especially interested in recall errors. Recall bias consist of two separate types of memory bias: telescoping, which is the tendency of the respondent to report events as occurring either earlier or later in time than they actually occurred; and forgetting, which is the failure to recall an event at all, presumably due to memory decay (Sudman and Bradburn 1973). Respondents may forget to report less serious incidents, or they may 'telescope in' the more serious incidents which happened before the period they are asked about. If respondents are allowed to report only about incidents that happened over the past twelve months, many of them will report older incidents as well.

There is no way of knowing whether recall errors are constant across country. However, the tendency to forget more trivial incidents of crime may be relatively universal, as may be 'forward telescoping' of more salient incidents. Nevertheless, due to administrative delays fieldwork in some countries started later than in other countries; these differences may have compromised comparability of one-year victimisation rates of these countries.

In principle, ICVS fieldwork had been largely executed within the first three months of the year, although there have been exceptions. In the current EU ICS study, fieldwork was planned for January/February 2005. Interviewing later in the year may have posed special problems; the delayed fieldwork may have resulted into more forgetting to report victimisations in countries where the interviews were executed latest. Previous research had indicated that victims tend to forget crime incidents as a function of the time lag between when the crime occurred and when the interview took place. This factor may then have compromised comparability of one-year victimisation rates by deflating the 2004 victimisation rates of these countries.

To test the time-effect, Gallup went back to one of the countries where fieldwork started the earliest: Ireland. The EU ICS fieldwork has been carried out in January/February of 2005. In the retest the data collection of the core victimisation questions regarding the 10 crimes was repeated. The retest happened in November 2005, while the reference period for both surveys remained the calendar year of 2004. The retest had a sample size of 1002, and the fieldwork was carried out by the UK-based ICM Direct Ltd.

The figures below shows that there are almost no differences in the five years prevalence rates between the Irish ICS and the November retest; the differences are minimal and are well within the margin of error, however, the one-year prevalence comparisons show some larger differences, especially in the case of contact crimes (personal theft, assaults and threats, sexual incidents). In the November retest we found a lower annual rate for each of these crimes. But as far as the more serious crime types are involved (theft of a more significant property such as car, or other vehicle, robbery, burglary, etc.) memory effects do not play a

role, the measured levels of the November retest almost exactly matched those from the January ICS.

Irish Crime Prevalence Rates, 5 years
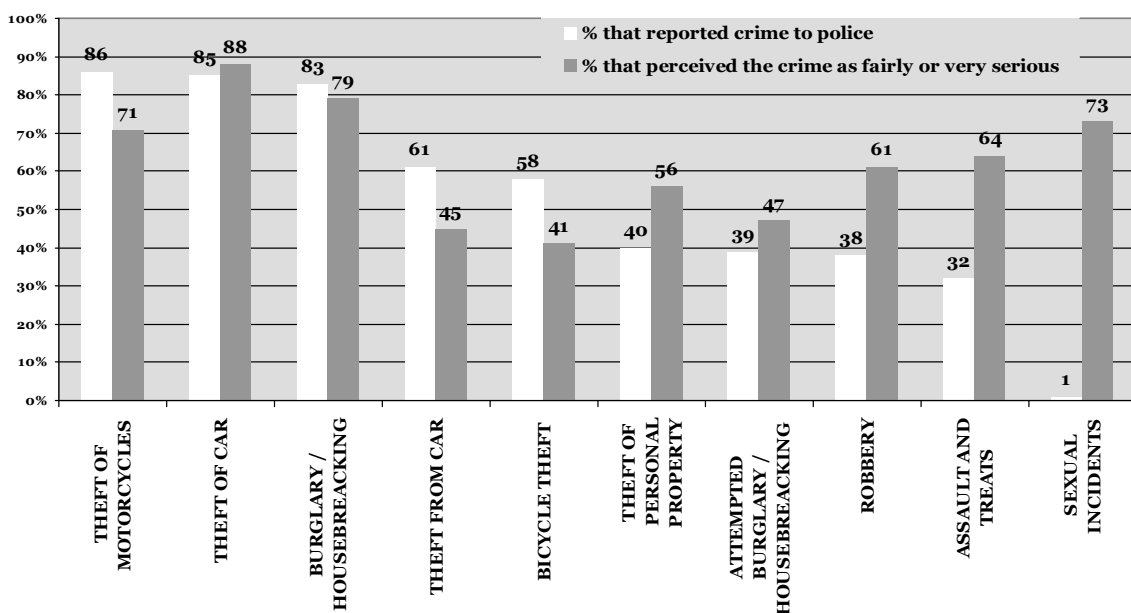### Comparison of Irish ICS & November Retest
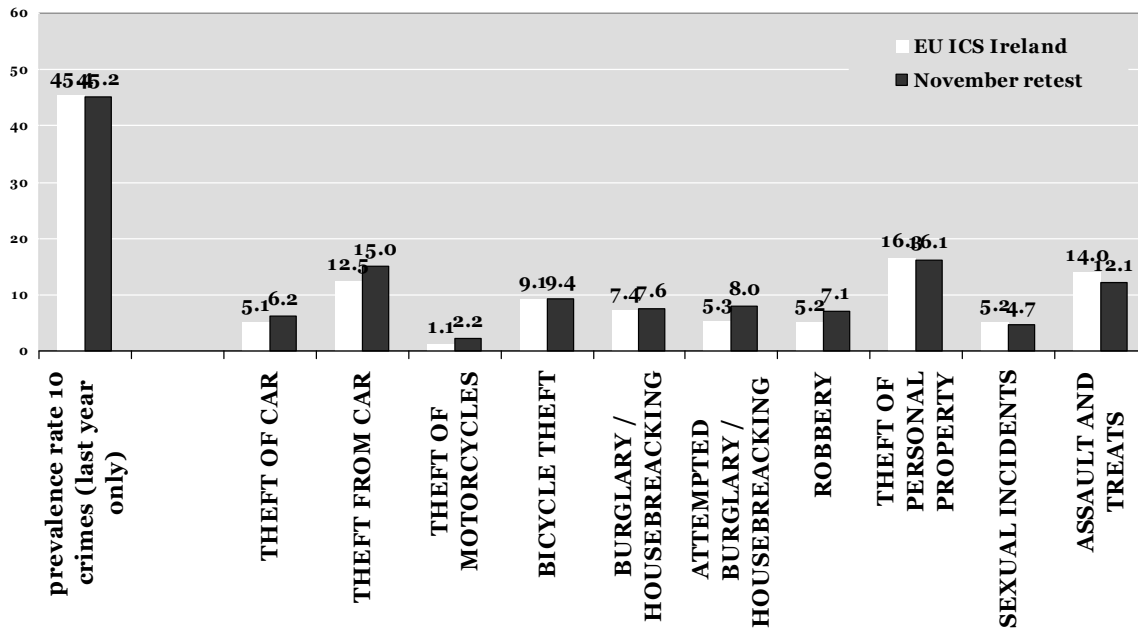
Irish Crime Prevalence Rates, 1 year
Comparison of Irish ICS & November Retest
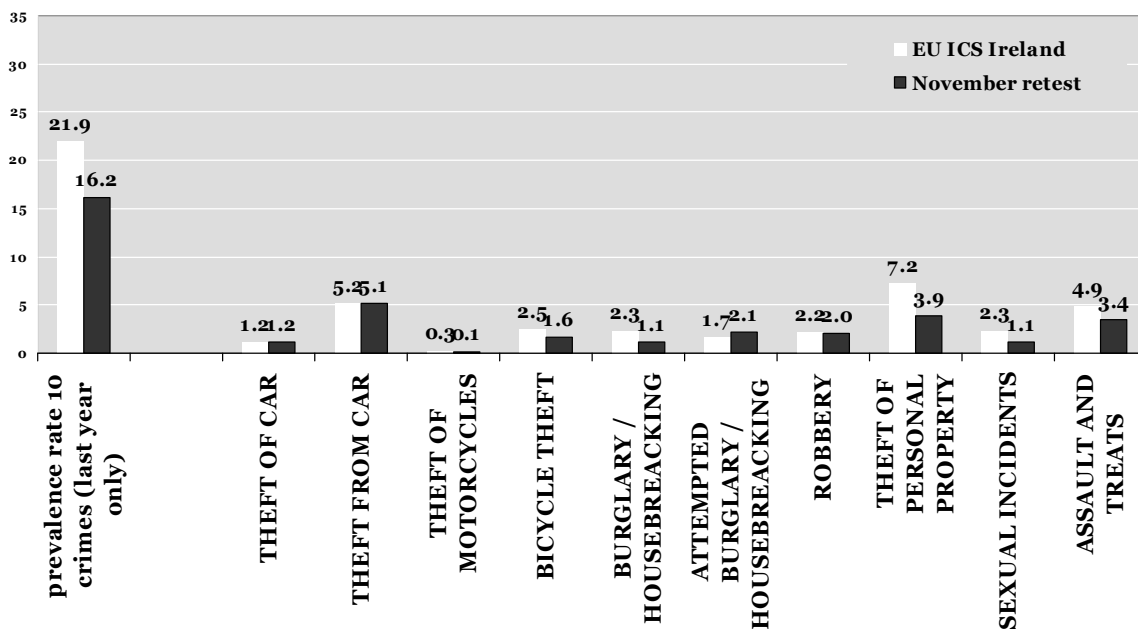
We can conclude that memory effects might have played a role in a decreased reporting of smaller contact crimes in countries where fieldwork was carried out later. The evidence supports the contention that memory bias has a greater impact on crimes that are perceived as less serious. The figure below shows that the crimes of lesser importance (personal theft, assaults and threats, sexual incidents) are also less often reported to the police than the more serious crime types (theft of a more significant property such as car or other vehicle, robbery, burglary, etc.). There is a possible memory decay that occurs in relation to crimes of lesser importance and that are also less often reported to the police; we slowly forget about being threatened by someone. Similarly, we do not necessary store the memories of small thefts for a long time.

Reported crimes and seriousness of crime (Irish ICS)

Base: victims of each type of crime

Legend:
- % that reported crime to police
- % that perceived the crime as fairly or very serious

Crime type	% reported to police	% perceived as serious
THEFT OF MOTORCYCLES	86	71
THEFT OF CAR	85	88
BURGLARY / HOUSEBREACKING	83	79
THEFT FROM CAR	61	45
BICYCLE THEFT	58	41
THEFT OF PERSONAL PROPERTY	40	56
ATTEMPTED BURGLARY / HOUSEBREACKING	39	47
ROBBERY	38	61
ASSAULT AND TREATS	32	64
SEXUAL INCIDENTS	1	73

7. Weighting

The EU ICS is designed to provide estimates of experience with crime, policing, crime prevention and feelings of safety for the adult population in a number of European countries. We are interested in the characteristics of the wider population (the adult population of one or more of the EU ICS countries) rather than the achieved sample. However, in most cases, the achieved samples do not accurately reflect the general population. Due to differential selection probabilities (e.g., in surveys where only one adult per household is interviewed, those living in households with more than one adult will have a lower probability of being selected than those adults living on their own) and differential response probabilities (e.g.,

younger individuals tend to be harder to contact than older individuals) we cannot interpret the achieved sample of the EU ICS as providing unbiased estimates of the adult population in these countries. To generate estimates that are unbiased estimates of the adult population in the selected countries, we have to weight the EU ICS data. The purpose of weighting is to adjust the sample so that the sample profile on key variables reflects that of the population. Weighting involves statistically increasing or decreasing the numbers of cases with particular characteristics so that the proportion of cases in the sample is adjusted to the population proportion.

Base (sub-sample) weights

Base or (sub-sample) weights are calculated separately for the national samples and capital city sub-samples. Such weight does not exist for Luxemburg, Estonia, and Poland because of the different sample design.

We have developed a household-level weight to be used for estimating household level attributes, and household level crimes (e.g. burglary), called ss_hhwght. The household sample is "self-weighting" within the national and capital city sub-samples; the selection probabilities are totally random and proportionate to regional location. However, since household using more telephone lines have higher selection probabilities than household with only one telephone line, we have corrected for these unequal selection probabilities by attributing an inverse weight to households with more than one telephone line.

The weight variable developed for individual-level estimates is ss_indwght, which has to be used when sub-sample level estimations of individual attributes are calculated. At the individual level, we have controlled selection probability with weighting according to household size. In surveys where only one adult per household is interviewed, those living in households with more than one adult will have a lower probability of being selected than those adults living on their own. In addition, to make sure that the proportions of people in each age group and by each sex are the same in each sub-sample as they are in the whole population, we developed population based weights. Finally, within the national sub-sample we continued to control for the NUTS Level 2 regional distribution in the post-stratification phase (note that at the sampling stage there already was a built-in control for geographically proportional selection of respondents).

Both weight variables, household and individual-level, are included in one variable for both sub-samples. When using these weights for sub-sample level estimations, the different sub-samples can be selected by the segm_new variable: 1-national and 2-capital city samples.

National weights

National weights were computed to combine estimation from the capital city and national sub-samples. Weights were developed similarly to the base weights, but we imputed the capital city ratio as a post-stratification factor in the raking process. Where it was applicable, we weighted the households according to the disproportionate selection within the overall N=2000 target sample – assigning less weight for households from the capital city and more weight to those elsewhere in the country.

This weight exists for each country. We have developed a household weight (hhwght) and an individual-level weight (indwght).

Capital city weights

Capital city weights were computed to calculate estimates for all capital cities by combining the responses of the respondents in the capital city sub-sample and the capital city cases from the national sub-sample.

Individual (cap_indwght) and household level weights (cap_hhwght) were developed similarly to the above described methods. The *cap* variable is to be used to sort or select the capital city cases within the total sample (1: capital city, 2: rest of the country).

Cross-national individual weights

We also added a weight variable that projects the individual weight to the relative size of the country within the total geographical area covered. This weight is to be used for estimations based on more than one country (i.e. joint Benelux estimations, or EU-18 estimations).

The separate Northern Irish and the Scottish datafiles are not part of this weighting system. The variable is called *eu_indwght*. This is an individual level weight.

The countries' proportions are based on the number of 16+ population, with the following population sizes as presented in the following table.

Table 2: Total adult population in EU-18
(source: Eurostat and national statistical offices - 2005)

	16+ population (in thousands)
Austria	6,653
Belgium	8,324
Denmark	4,303
Estonia	1,114
Finland	4,215
France	49,155
Germany	68,722
Greece	8,785
Hungary	8,380
Ireland	2,968
Italy	48,621
Luxembourg	373
The Netherlands	12,871
Poland	30,830
Portugal	8,709
Spain	33,882
Sweden	7,168
United Kingdom	47,397
EU-18	352,470

A comparison of weighted results for different samples

The EU ICS samples for most countries consist of a national sample and capital city sub-samples. We explained that the purpose of weighting is to adjust the sample by statistically increasing or decreasing the numbers of cases with particular characteristics so that the proportion of cases in the sample is adjusted to the population proportion. When studying separate samples (e.g., capital city sub-sample versus national sample) or when combining different samples (e.g., samples from different countries) to generate estimates that are unbiased estimates of the adult population in the selected countries or geographic area, it is of course important that the EU ICS data are weighted using the correct weights.

In the following tables we illustrate that the estimation of the victimisation prevalence is the same when looking at the weighted national sample (excluding the capital city sub-samples) and in the weighted full sample (analysing both the national sample and the capital city sub-sample).

Table 3: Comparison of weighted victimisation estimates for different samples, Austria

AUSTRIA	National sample *base weights* (n=1198)	Full sample *national weights* (n=2004)
prevalence rate 10 crimes (last five years)	41.1	40.4
5-year prevalence rate of different crimes		
THEFT OF CAR	1.3	1.1
THEFT FROM CAR	9.2	9.2
THEFT OF MOTORCYCLES	.5	.4
BICYCLE THEFT	11.8	10.7
BURGLARY / HOUSEBREAKING	4.1	4.2
ATTEMPTED BURGLARY / HOUSEBREAKING	4.7	4.6
ROBBERY	2.7	2.2
THEFT OF PERSONAL PROPERTY	17.0	16.4
SEXUAL INCIDENTS	6.7	6.5
ASSAULT AND TREATS	9.0	8.6
% living in the capital city	21.4% (un-weighted 20.1%)	19.6% (un-weighted 52.2%)

Table 4: Comparison of weighted victimisation estimates for different samples, Denmark

DENMARK	National sample *base weights* (n=1198)	Full sample *national weights* (n=1984)
prevalence rate 10 crimes (last five years)	52.6	52.2
5-year prevalence rate of different crimes		
THEFT OF CAR	5.0	4.8
THEFT FROM CAR	12.1	11.2
THEFT OF MOTORCYCLES	2.4	2.1
BICYCLE THEFT	22.3	23.0
BURGLARY / HOUSEBREAKING	11.6	10.9
ATTEMPTED BURGLARY / HOUSEBREAKING	6.8	6.9
ROBBERY	2.8	3.0
THEFT OF PERSONAL PROPERTY	11.6	11.9
SEXUAL INCIDENTS	4.5	4.6
ASSAULT AND TREATS	8.9	9.6
% living in the capital city	23.1% (un-weighted 22.3%)	23.1% (un-weighted 53.1%)

Table 5: Comparison of weighted victimisation estimates for different samples, Germany

GERMANY	National sample base weights (n=1202)	Full sample national weights (n=2025)
prevalence rate 10 crimes (last five years)	43.1	43.1
5-year prevalence rate of different crimes		
THEFT OF CAR	1.9	2.0
THEFT FROM CAR	10.4	10.1
THEFT OF MOTORCYCLES	.5	.6
BICYCLE THEFT	14.8	13.9
BURGLARY / HOUSEBREAKING	3.3	3.5
ATTEMPTED BURGLARY / HOUSEBREAKING	6.3	5.2
ROBBERY	1.5	1.8
THEFT OF PERSONAL PROPERTY	14.6	14.7
SEXUAL INCIDENTS	6.1	6.5
ASSAULT AND TREATS	12.3	12.1
% living in the capital city	6.8% (un-weighted 5.2%)	4.2% (un-weighted 43.1%)