Flash EB Series #253

Survey on Tobacco

Conducted by
The Gallup Organisation, Hungary
upon the request of Directorate General
Health and Consumers

Survey co-ordinated by
Directorate General Communication

THE GALLUP ORGANISATION

II. Survey details

This general population survey "*Survey on Tobacco*" (N° 253) was conducted for the European Commission, DG Health and Consumers.

Telephone interviews were conducted in each country, with the exception of the Bulgaria, Czech Republic, Estonia, Latvia, Lithuania, Hungary, Poland, Romania and Slovakia where both telephone and face-to-face interviews were conducted (70% webCATI and 30% F2F interviews).

Telephone interviews were conducted in each country between the 13/12/2008 and the 17/12/2008 by the following institutes:

Belgium	BE	Gallup Europe	(Interviews: 13/12/2008 - 17/12/2008)
Czech Republic	CZ	Focus Agency	(Interviews: 13/12/2008 - 17/12/2008)
Denmark	DK	Hermelin	(Interviews: 13/12/2008 - 17/12/2008)
Germany	DE	IFAK	(Interviews: 13/12/2008 - 17/12/2008)
Estonia	EE	Saar Poll	(Interviews: 13/12/2008 - 17/12/2008)
Greece	EL	Metroanalysis	(Interviews: 13/12/2008 - 17/12/2008)
Spain	ES	Gallup Spain	(Interviews: 13/12/2008 - 17/12/2008)
France	FR	Efficience3	(Interviews: 13/12/2008 - 17/12/2008)
Ireland	IE	Gallup UK	(Interviews: 13/12/2008 - 17/12/2008)
Italy	IT	Demoskopea	(Interviews: 13/12/2008 - 17/12/2008)
Cyprus	CY	CYMAR	(Interviews: 13/12/2008 - 17/12/2008)
Latvia	LV	Latvian Facts	(Interviews: 13/12/2008 - 17/12/2008)
Lithuania	LT	Baltic Survey	(Interviews: 13/12/2008 - 17/12/2008)
Luxembourg	LU	Gallup Europe	(Interviews: 13/12/2008 - 17/12/2008)
Hungary	HU	Gallup Hungary	(Interviews: 13/12/2008 - 17/12/2008)
Malta	MT	MISCO	(Interviews: 13/12/2008 - 17/12/2008)
Netherlands	NL	MSR	(Interviews: 13/12/2008 - 17/12/2008)
Austria	AT	Spectra	(Interviews: 13/12/2008 - 17/12/2008)
Poland	PL	Gallup Poland	(Interviews: 13/12/2008 - 17/12/2008)
Portugal	PT	Consulmark	(Interviews: 13/12/2008 - 17/12/2008)
Slovenia	SI	Cati d.o.o	(Interviews: 13/12/2008 - 17/12/2008)
Slovakia	SK	Focus Agency	(Interviews: 13/12/2008 - 17/12/2008)
Finland	FI	Norstat Finland Oy	(Interviews: 13/12/2008 - 17/12/2008)
Sweden	SE	Hermelin	(Interviews: 13/12/2008 - 17/12/2008)
United Kingdom	UK	Gallup UK	(Interviews: 13/12/2008 - 17/12/2008)
Bulgaria	BG	Vitosha	(Interviews: 13/12/2008 - 17/12/2008)
Romania	RO	Gallup Romania	(Interviews: 13/12/2008 - 17/12/2008)

Representativeness of the results

Each national sample is representative of the population aged 15 years and above.

Sample sizes

In most EU countries the target sample size was 1000 respondents. In Cyprus, Malta and Luxembourg the target was 500 interviews, and Norway was involved into this survey with 1000 interviews, the table below shows the achieved sample size by country.

A weighting factor was applied to the national results in order to compute a marginal total where each country contributes to the European Union result in proportion to its population.

The table below presents, for each of the countries:
(1) the number of interviews actually carried out
(2) the population-weighted total number of interviews

TOTAL INTERVIEWS

	Total Interviews			
	Conducted	**% of Total**	**EU27 weighted**	**% of Total (weighted)**
Total	**26582**	**100**	**25580**	**100**
BE	1002	3.8	540	2.1
BG	1002	3.8	408	1.6
CZ	1003	3.8	541	2.1
DK	1002	3.8	272	1.1
DE	1009	3.8	4344	17.0
EE	1005	3.8	70	0.3
EL	1000	3.8	588	2.3
ES	1002	3.8	2335	9.1
FR	1008	3.8	3171	12.4
IE	1000	3.8	211	0.8
IT	1000	3.8	3121	12.2
CY	500	1.9	39	0.2
LV	1002	3.8	121	0.5
LT	1003	3.8	175	0.7
LU	503	1.9	24	0.1
HU	1006	3.8	516	2.0
MT	503	1.9	21	0.1
NL	1003	3.8	823	3.2
AT	1001	3.8	430	1.7
PL	1002	3.8	1972	7.7
PT	1006	3.8	550	2.2
RO	1005	3.8	1110	4.3
SI	1001	3.8	106	0.4
SK	1009	3.8	278	1.1
FI	1001	3.8	269	1.1
SE	1000	3.8	465	1.8
UK	1002	3.8	3080	12.0
NO	1002	3.8		

Questionnaires

1. The questionnaire prepared for this survey is reproduced at the end of this results volume, in English.
2. The institutes listed above translated the questionnaire in their respective national language(s).

Sampling error

Surveys are designed and conducted to provide an estimate of a true value of characteristics of a population at a given time. An estimate of a survey is unlikely to exactly equal the true population quantity of interest for a variety of reasons. One of these reasons is that data in a survey are collected from only some – a sample of – members of the population, this to make data collection cheaper and faster. The "margin of error" is a common summary of ***sampling error***, which quantifies uncertainty about (or confidence in) a survey result.

Usually, one calculates a 95 percent confidence interval of the format: ***survey estimate +/- margin of error***. This interval of values will contain the true population value at least 95% of time.

For example, if it was estimated that 45% of EU citizens are in favour of a single European currency and this estimate is based on a sample of 100 EU citizens, the associated margin of error is about 10 percentage points. The 95 percent confidence interval for support for a European single currency would be *(45%-10%) to (45%+10%)*, suggesting that in the EU the support for a European single currency could range from 35% to 55%. Because of the small sample size of 100 EU citizens, there is considerable uncertainty about whether or not the citizens of the EU support a single currency.

As a general rule, the more interviews conducted (sample size), the smaller the margin of error. Larger samples are more likely to give results closer to the true population quantity and thus have smaller margins of error. For example, a sample of 500 will produce a margin of error of no more than about 4.5 percentage points, and a sample of 1,000 will produce a margin of error of no more than about 3 percentage points.

Margin of error (95% confidence interval)

Survey estimate	Sample size (n)									
	10	50	100	150	200	400	800	1000	2000	4000
5%	13.5%	6.0%	4.3%	3.5%	3.0%	2.1%	1.5%	1.4%	1.0%	0.7%
10%	18.6%	8.3%	5.9%	4.8%	4.2%	2.9%	2.1%	1.9%	1.3%	0.9%
25%	26.8%	12.0%	8.5%	6.9%	6.0%	4.2%	3.0%	2.7%	1.9%	1.3%
50%	31.0%	13.9%	9.8%	8.0%	6.9%	4.9%	3.5%	3.1%	2.2%	1.5%
75%	26.8%	12.0%	8.5%	6.9%	6.0%	4.2%	3.0%	2.7%	1.9%	1.3%
90%	18.6%	8.3%	5.9%	4.8%	4.2%	2.9%	2.1%	1.9%	1.3%	0.9%

95%	13.5%	6.0%	4.3%	3.5%	3.0%	2.1%	1.5%	1.4%	1.0%	0.7%

(The values in the table are the margin of error – at 95% confidence level – for a given survey estimate and sample size)

The examples show that the size of a sample is a crucial factor affecting the margin of error. Nevertheless, once past a certain point – a sample size of 800 or 1,000 – the improvement is small. For example, to reduce the margin of error to 1.5% would require a sample size of 4,000.

Evaluation of the samples

The attached tables (after the Technical Report tables) provide a detailed insight to the within country weighting of the study. (For cross-country weights please refer to the table on previous page) The weighting of the dataset is a three-fold exercise.

In the *first step* we will apply the basic **selection probability weights**, primarily to avoid the overcoverage of households with multiple telephone lines. In the same step, we calculate the weights that corrects the estimations based on the merged **dual frame** samples, i.e., weights that deal with phone owners;

In the *second step,* on a country-by-country basis, a **nonresponse population weighting** was carried out. As nonresponse rates vary by social segments, the sample characteristics reflect such differences as well (i.e., there are usually less males and especially less young people in the samples than in the universe.) In this step, we .compensated. for the nonresponse bias that stems from the field execution process. The most advanced method for eliminating such deviations is the so-called *Raking Adjustment for Nonresponse* (raking). Gallup applied this method. This procedure performs iterative proportional fitting in contingency table analysis. This method is also used to deal with the problem of large variability of weights . when weighting classes are formed based on full cross-classification of the auxiliary variables, the result is a large number of weighting classes with unstable response rates.

However, one drawback is that raking assumes that the variables used for adjustment are independent. Raking works in the following way:
1) sets initial weight factor values in each cross-classification term to 1;
2) adjusts the weight factors of the first cross-classification term so the weighted sample is representative for the variables involved;
3) adjusts the weight factors for the next cross-classification term so the weighted sample becomes representative with respect to the variables involved (this might disrupt the representativeness with respect to the variables involved);
4) repeats this adjustment for all cross-classification terms;
5) repeats all steps until the factors do not change.

A common approach to weighting is to determine the sample weights adjusting for unequal probabilities of selection, revise these weights to compensate for different sub-class response rates, and finally modify the weights again to conform the weighted sample distribution for certain variables (e.g., age, gender, education, activity etc.) to the known population distributions of the same variables.

The following variables will be used in all national raking procedures (with categories levels used):

Age X Sex
male, 15-29
male, 30-49
male, 50 -64
male 65+
female, 15-29
female, 30-49
female, 50-64
female , 65+

Activity
Active worker
retired
Other non-active worker

Regions (NUTS2)

Please note that levels might be collapsed to achieve convergence or universe information is not available in the necessary detail.

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Survey on Tobacco

ARCHIVE INFORMATION AND ERRATA

- UNIQID: The original case identification (CASEID) is not unique (113 cases) and not available for all cases (17 missing values). A unique serial id was appointed by the archive.
- IW_LANG: Interview language coded as XB for BELGIUM is not documented (n=322).
- REGION: Official NUTS classification in this variable has been specified by the archive in accordance with the corresponding official NUTS classification, former Flash EB waves, and the technical report. Regions for NORWAY were assigned in accordance with official NUTS2 units for EFTA countries. The 13 categories for GREECE could not be clearly specified in accordance with NUTS 2, except for Attica (6022). The four NUTS1 categories were reconstructed by the archive based on the corresponding frequency distribution documented in the technical evaluation report and in accordance with former waves. Variable NUTS1 also recodes NUTS1 levels for Belgium and the Netherlands.

GESIS – Leibniz-Institut für Sozialwissenschaften
Data Archive and Data Analysis
Cologne, 23.06.2009

http://www.gesis.org/eurobarometer/

http://ec.europa.eu/public_opinion/archives/flash_arch_en.htm