6th European Working Conditions Survey

Quality control report

Prepared by Ipsos

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Introduction

The European Foundation for the Improvement of Living and Working Conditions (Eurofound) carried out the sixth edition of its European Working Conditions Survey (EWCS) from February to December 2015. In cooperation with Ipsos, Eurofound interviewed 43,850 workers in 35 countries about different aspects of their working life such as working time, work organisation, work-life balance, and work-related health outcomes.

Eurofound puts a strong emphasis on quality for the EWCS and, a range of measures for quality assurance have been taken in the successive stages of preparation and implementation of the survey, including:

- **Pre-fieldwork quality control measures** such as: cognitive tests; advanced translations; questionnaire pre-tests; thorough interviewer training; pre-scripted hard and soft data logic checks; micro-level central script checks through the use of dummy data; training of enumerators; and quality control of enumeration.

- **Fieldwork quality control measures** such as: interim data checks on the first few interviews and at 10%, 50% and 100% of cases; extra checks on interviews conducted by new-to-the-project interviewers; back-checking of at least 10% of completed interviews; checks on the distribution of values within variables; coding checks on the open-ended questions; and fieldwork visits by Eurofound.

- **Post-fieldwork quality control measures,** including final checks on: routing; permitted values; response distribution; straight-lining (in grid questions); soft-check overrides; (near-) duplicates; item non-response and outliers; back-checking; and the consistency of trend variables.

In accordance with the Terms of Reference and in cooperation with Eurofound, a Quality Control plan was developed by Ipsos. This Quality Control plan elaborated on the quality assurance indicators as described in the Quality Assurance (QA) plan, which was jointly agreed upon by Eurofound and Ipsos. The current report documents how the Quality Control plan was implemented and whether the quality assurance indicators were met. Each section commences with an overview of the relevant quality assurance targets and requirements (QA items) from the Quality Assurance plan, with the related outcomes. The ‘requirements’ refer here to the targets that *needed* to be reached, the ‘targets’ to ‘real-world targets’ that *could* be achieved (according to the QA plan). Under ‘evidence’ it is explained how the target was achieved (or was missed) and evidence is provided to support this. In the text of the chapters themselves the quality indicators and more general measurers taken to assure the quality of the project are subsequently explained in more detail.

A. Questionnaire development

Requirement

Topic	*QA#*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Questionnaire development	54	Support of Governing board/Advisory committee for questionnaire	YES	YES	Project and budget in the 4 year and annual work programme.
Cognitive test	62	Questionnaire meets mandate as provided by Governing board/Advisory committee	YES	YES	Questionnaire meets the objectives of the project. It has been discussed with Advisory Committee on working conditions.

Target

Topic	*QA#*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Questionnaire dev.	55	Percentage of questionnaire items in the final source questionnaire that meet international methodological standards of question design (such as outlined in Saris & Gallhofer (2007))	100%	100%	Following work on SQM, a check list developed and new questions have gone through the check list. Some deviations analysed and authorized.

Overview

Since 1990, six editions of the EWCS have taken place. Over this period, many survey questions have remained identical in order to allow the identification of working conditions trends. However, in order to capture new developments and salient issues identified in previous EWCSs, the questionnaire has been adapted, expanded and improved for every wave. This applies as well to the current wave six. To verify if these changes met the high quality standards of Eurofound, the new questionnaire was reviewed, tested and translated in accordance with international methodological standards of question design such as outlined in Saris & Gallhofer (2007) and in cooperation with GESIS (the Leibniz-Institute for the Social Sciences) and the University of Warsaw Below [QA item 54, 55 and 62].

A.1. Preliminary review

Eurofound and Ipsos undertook a thorough review of the draft questionnaire prior to the cognitive testing. Ipsos recommended slightly amending a number of questions and scales to improve clarity and randomising options/statements in relevant questions (due to the use of Computer Assisted Personal Interviewing (CAPI) in all countries). In addition, Ipsos recommended grouping a couple of questions together which appeared to ask about similar issues. Ipsos also proposed adding a brief introduction before the first question of each section rather than having all sections run into each other without transitions. After the preliminary review the draft questionnaire was updated and agreed with Eurofound, before moving on to conducting the cognitive interviews.

A.2. Cognitive testing

Requirements

Topic	***QA#***	***Indicator***	***Targ.***	***Ach.***	***Evidence***
Cognitive test	64	Percentage of questionnaire items that were cognitively tested for which systematic documentation was provided about the extent to which answers in the cognitive interviews corresponded with the concepts that were intended to be captured by the questions (as indicated in the glossary).	100%	100%	Question were tested and documentation was provided for: - comprehension; - required knowledge or recall; - social desirability bias; - including/excluding wrong things in answers; - categories which don't cover the likely range of responses. See Cognitive interviewing report.

Targets

Topic	***QA#***	***Indicator***	***Targ.***	***Ach.***	***Evidence***
Cognitive test	63	Number of questions for which 'major' issues were detected that were kept	0	0	No questions were kept in their original form. The old Q71_1 was removed completely. The other questions that had 'very problematic' issues (which became Q15a/b, Q36, Q38, Q66 and Q77) did not need to be removed, but were either split, restructured, reworded, had their answer scale amended or had a showcard added to aid respondent understanding.

A total of 36 cognitive interviews were undertaken in several different regions of the United Kingdom from 24 April to 16 May 2014, spanning all types of workers in terms of demographics and the nature of their job.

The results and methodology of the cognitive testing were made available in a separate cognitive interviewing report prepared in May-June 2014, covering all questionnaire items that were cognitively tested [QA item 64].

The overall aim of the cognitive test was to verify how well the new questionnaire worked in terms of respondents' understanding of the terms and concepts used in the questions and whether questions were easy for respondents to answer. The specific objective of the cognitive interviews was to highlight a range of potential issues including:

- problems with comprehension (e.g. ambiguous terms or unfamiliar concepts);
- questions which respondents find it difficult to answer because they don't have sufficient knowledge or find difficult to recall;
- questions where respondents feel there is a 'right' answer (leading to social desirability bias);
- respondents including/excluding the wrong things in their answer; and
- response categories which don't cover the likely range of responses.

The cognitive test was carried out in stages. Ipsos identified and analysed any problems after the first nine interviews, and discussed and agreed any subsequent amendments to the questionnaire with Eurofound, which were then tested in the next set of cognitive interviews.

During the cognitive tests, two versions of showcards were used: one set with the possible responses shown in the order they were listed on the questionnaire and the other set with the possible responses in reverse order where it made sense to do so. Each set was used in half of the interviews to mitigate any perceived bias due to having more positive or more negative responses appearing first.

The respondents participating in the cognitive interviews were recruited by specialist recruiters within local Ipsos field teams. A 'free-find' approach was used, with recruiters selecting potential respondents within the constraints of the quotas supplied and inviting them to take part in an in-depth interview at a date and time of their convenience. Attempts were made to recruit workers with a different social-demographic background and place of residence, including urban and rural areas.[1]

Interviewers used semi-structured discussion guides[2] to ensure the same key questions were probed in all interviews. Interviewers made full notes as they conducted each interview. In addition, all interviews were audio recorded to facilitate analysis.

The findings of the cognitive testing, together with those of an initial translatability assessment (see below), were discussed at a meeting in Dublin on 19 May 2014. Any questions with major issues were removed or amended [QA item 63]. The final source pre-test questionnaire was signed-off by Eurofound on 10 July 2014. This triggered the start of the translation process and the pre-tests (pilot), discussed below.

A.3. Translation

Requirement

[1] While the majority of quotas were met, some were relaxed given the short timescale to conduct the interviews.

[2] The discussion guide included a series of open-ended and structured questions with prompts and probes for the interview as well as instructions for the interviewer, underlining the key issues around a particular question, phrase or word ensuring feedback would be collected in a systematic way. For every interview, each question was also rated on a scale from 'very problematic' to 'not at all problematic'. Interviewers used the definitions in the table overleaf in their assessment.

Topic	*QA#*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Advance translation	57	Percentage of questions where substantive ambiguities were spotted, for which elaborate documentation of the consideration for translation was provided	100%	100%	Advance translations of the questionnaire in the German and Polish (See email correspondence: Trim ref GR-14-8452 & GR-14-6700)
Advance translation	58	Comprehensive documentation of the process of advance translation	YES	YES	Advance translations of the questionnaire in the German and Polish (See email correspondence: Trim ref GR-14-8452 & GR-14-6700)
Advance translation	59	Percentage of questionnaire items where substantive ambiguities were spotted for which either the source questionnaire was adjusted or a translation instruction was drafted	100%	100%	Advance translations of the questionnaire in the German and Polish (See email correspondence: Trim ref GR-14-8452 & GR-14-6700) Item by item translation instructions (See email correspondence: Trim ref GR-14-12939)
Advance translation	60	Clear translation instructions	YES	YES	Item by item translation instructions (See email correspondence Trim ref GR-14-12939)
Translator training	68	Percentage of translators and adjudicators that took part in the training	100%	100%	Attendance sheets were not collected as this was not requested, but can be proved by email communications. These sessions were held via web conference between 9 to 15 July and were around one hour in length. A total of 10 sessions were conducted by the Ipsos Central Coordination Team.
Translator training	69	Translation materials were constructed using input from the cognitive test and advance translation, were provided to the translators, and were made publicly available	YES	YES	All translation materials were delivered before each training session.
Initial translation	70	Percentage of countries where translation was carried out by two translators, out of which one was independent from the national fieldwork agency	100%	100%	CVs of people involved in translation are available and meet requirements set in tender specifications. CVs reviewed and approved by Eurofound.

Topic	*QA#*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Initial translation	71	Percentage of countries for which systematic documentation of results of initial translation (in accordance with template) was provided	100%	100%	Template master_Country_Translator 1.xls Template master_Country_Translator 2.xls
Within country adjudication (overall)	73	Percentage of countries where reviewing was carried out by two translators, out of which one was independent from the national fieldwork agency, and an adjudicator	100%	100%	CVs of people involved in translation are available.
Within country adjudication (overall)	74	Percentage of countries for which systematic documentation in English was provided about the process and results of adjudication (in accordance with template)	100%	100%	Adjudication Template_Country.xls
Cross country adjudication (overall)	76	Percentage of cross-national review sessions, in which adjudicators from each of the countries sharing the particular language participated	100%	100%	Adjudication Template_Country.xls
Cross country adjudication (overall)	77	Percentage of countries for which systematic documentation in English was provided about the process and results of the cross-national review (in accordance with template)	100%	100%	Adjudication Template_Country.xls Harmonization Template_country.xls Adaptation_country_language.xls Master EWC 1011 - Country_Adjudication.xls Master EWC 1110 - Country_language_Adaptation.xls
Translation pre-test	81	Percentage of countries where translation pre-test interviews were carried out with at least 30 respondents	100%	100%	In each country 30+ respondents were interviewed for the pre-test (including additional interviews in countries with multiple languages); in BG, CY, EL & SK up to 2 interviews were lost because of technical difficulties when uploading interviews.[3]

[3] A few interviewers experienced technical issues with their CAPI devices and interview finalisation could did not save correctly, which resulted in some lost interviews (Bulgaria (-1), Cyprus (-2), Estonia (-2), Greece (-2), Slovakia (-1).

Topic	*QA#*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Translation pre-test	82	Percentage of countries where translation pre-test interviews were carried out in all local languages	100%	100%	It was agreed that it was not needed to test Serbian in Montenegro. No other deviations from ToR.
Translation pre-test	83	Percentage of issues detected in the translation pre-test test for which a solution was implemented	100%	100%	Country_Language_Translation File_MASTER_FINAL_FOR EF.xls
Translation pre-test	84	Comprehensive translation pre-test report provided	YES	YES	Translation pre-test report, delivered 7/01/2015.

Targets

Topic	*QA#*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Selecting of questions eligible for translation	66	Percentage of questionnaire items - out of those for which high quality translations existed - for which these existing translation were used	100%	100%	All existing translations were retrieved in translation template
Edit final translated questionnaires	79	Percentage of questionnaire items that required editing (e.g. correcting typo's, copying and pasting errors, etc.)	<5%	7%	Editing changes to the questionnaire after the translated pre-test divided by the total number of items (questions and answer items, excl. interviewer instructions, etc.).
Translation pre-test	85	Percentage of items in the source questionnaire changed after the translation pre-test	0%	21%/ 11%	Refers to: - 21%: changes (e.g. improved translation, syntax change, etc.) made by the countries to the translated questionnaires after the pre-test divided by the total number of items (questions and answer items, excl. interviewer instructions, etc.). - 11%: changes in the EN source questionnaire after the pre-test (deleted, modified and added items) divided by the total number of items (questions and answer items, excl. interviewer instructions, etc.).

A total of 49 target language versions were used for the 6th EWCS. Some countries (e.g. Belgium and Spain) used more than one language, whilst other countries used adapted versions of base 'master' translation texts (e.g. Russian in Latvia). Below an outline of the quality measures taken during the translation process; for more detailed information on the translation see the Translation report.

A.3.1. Translatability assessment

Before translation commenced, a two stage translatability assessment was carried out by Eurofound and Ipsos. As a first step, an advance translation/translatability assessment was carried out in German and Polish by GESIS and the University of Warsaw on behalf of Eurofound. The entire process of advance translation was fully documented [QA item 57 and 58].

Secondly, a complementary second translatability assessment was conducted by Ipsos to assess the modifications that had been made following recommendations from both this first translatability assessment and the cognitive interviews. The second translatability assessment involved a group of linguists[4] reviewing new questions in the source questionnaire (as well as trend and modified trend questions) before they were sent for translation. The linguists produced draft translations and reported the types of problems that translators faced during the translation process, such as 'unclear source', 'intercultural difference', and 'adaptation issues'. The feedback from the translatability assessment was collated by the Ipsos Coordination Team and – together with feedback from the cognitive tests – was used to provide suggestions for changes to the final source questions and for the interviewer briefing material [QA item 69].

A.3.2. Translation approach

Depending on the language, three slightly different translation methods were used for the 6th EWCS: 1) *separate translation* – in which a translation was made directly from the English-language source text; 2) *harmonisation* – in which a translation was made directly from the English-language source text, but was later harmonised with another dialect of the same language; 3) *adaptation* – in which one master translation was made and then adapted for local use. All translations generated from these three processes were required to maintain, semantic, conceptual and normative equivalence across all surveyed countries.

Main translation approach

Ipsos based the main translation process, for languages which needed a separate translation, on the TRAPD model. TRAPD is the acronym for Translation, Review, Adjudication, Pre-Testing and Documentation, which are the five interrelated procedures involved in producing the final translated version of questionnaire.

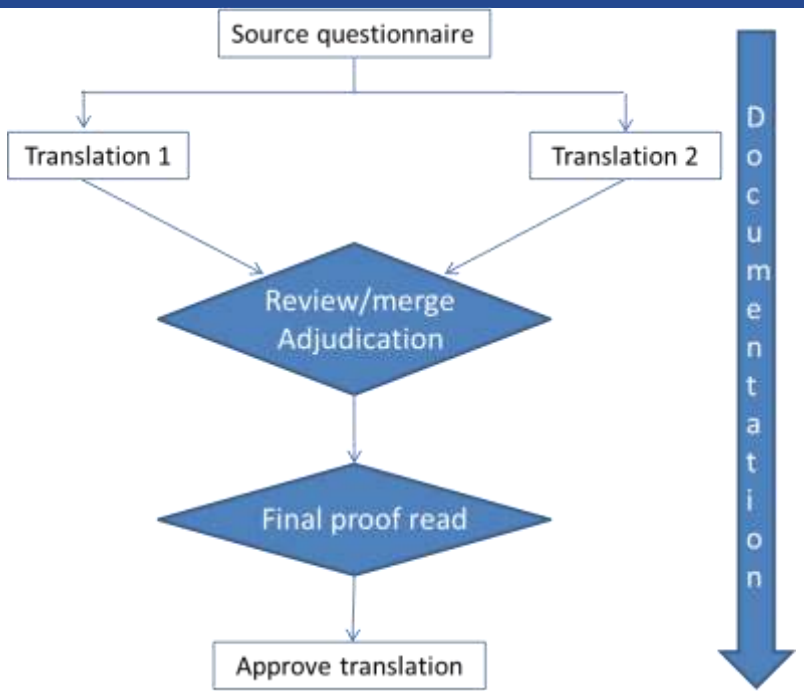
Using the TRAPD model, the main steps were:

- The source English version of the questionnaire was closely proofread by the Ipsos Coordination Team to check for minor errors in grammar and spelling.
- In all countries for each language two translators (one of them being independent from the national fieldwork agency) conducted parallel translations of the source English questionnaire into the target languages versions [QA item 70]. The translators translated new items and reviewed existing questions available from previous waves, ensuring coherence between the translation of the new and the existing questions. The results of the initial translation were fully documented and reported to Eurofound, in accordance with the template [QA item 71].

[4] The translatability assessment was conducted in five languages in order to provide good overview of the different language groups included the 6th EWCS. The languages were as follows: French, Croatian, Lithuanian, Hungarian, and Swedish.

- In all countries the independent translators met with an adjudicator to review the translations and agree on a final version [QA item 73]. The decision process was thoroughly documented (in English) by the adjudicator in accordance with the template [QA item 74].
- Each finalised target questionnaire was checked by the research team from the local network partner agency. They conducted a final proofread on the new translated items and the existing questions and also had to make sure key terms were translated consistently across items and within items.
- After the pre-test 7% of items required editing [QA item 79].[5]
- The final questionnaire was sent to Eurofound for approval.

Figure 1: Illustration of the main, 5-phase translation approach



Harmonisation and adaptation translation

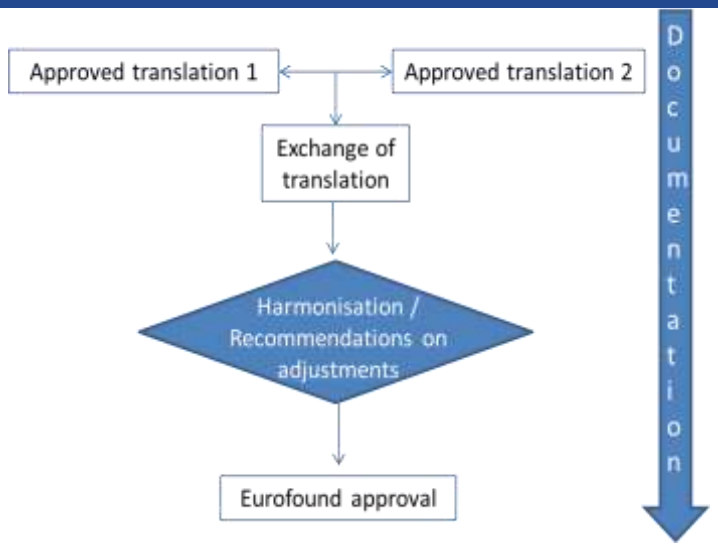
For languages spoken in more than one country, the translation went through either a harmonisation or adaption process. Harmonisation was used for those countries/languages where significant differences exist in the dialects used – separate translations were made for each country and these were then harmonised. Adaption was used for those countries/languages where there is little difference in the dialects spoken – one master translation was made and then adapted for local use.

For languages using the harmonisation approach, separate translations were made for each country in the manner described for the main translation approach, but prior to finalising the merged and adjudicated

[5] All changes to the questionnaire needed after the translated pre-test divided by the total number of items (questions and answer items, excl. interviewer instructions, etc.).

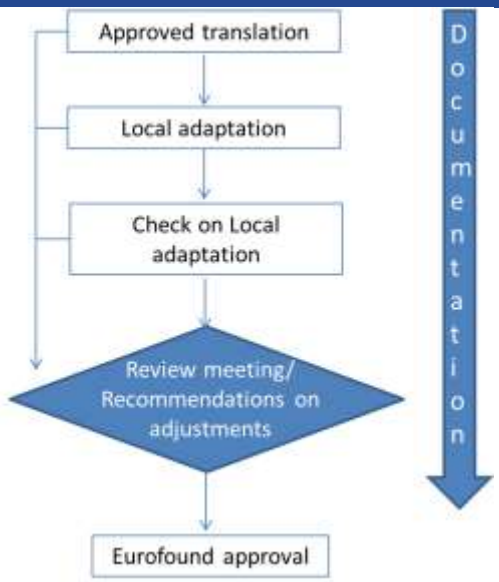
version, a process of harmonisation was implemented. All different translations were shared between the teams responsible for producing them in cross-national review sessions in order to ensure that the best possible translation was used for the target language, whilst guaranteeing that the translation suited the country in which it was to be used [QA item 76]. Systematic documentation in English was provided about the process and results of the cross-national review in all countries, in accordance with the template [QA item 77].

Figure 2: Illustration of the harmonisation approach



For languages using the adaptation approach, an initial translation (following the approach described previously) was prepared by the local agency of the country with the greatest number of native speakers of the language. Subsequently, this translation was adapted by the local agencies in the countries where a local version is spoken of the same language. As with the other two translation approaches, greater detail on the individual steps involved in this approach can be found in the Translation Report.

Figure 3: Illustration of the adaptation approach



Translation across waves

A special process for checking trend questions was developed in cooperation with Eurofound that provided detailed guidance to adjudicators on how to review this type of question. As part of this guidance, it was stipulated that new and modified questions needed to respect the translated wording of trend questions where this was relevant. In addition, a thorough review was undertaken of existing trend questions used in one or more of the five previous EWCS studies. Where translators and adjudicators considered that existing translations of trend questions could be further improved, this was documented in the translations Excel document and discussed in adjudication and harmonisation discussions. Eurofound insisted that changes on trend questions were only to be made unless there were very serious translation mistakes in the previous survey. For that reason, the existing translation was always used when a high quality translation was available from previous waves [QA item 66].

A.3.3. Translation team and training

All of those involved in the translation (including translators and adjudicators) were extensively briefed before starting their work [QA item 68]. These briefings involved a thorough review of the questionnaire to ensure common understanding of each question, the purpose of the task and the feedback required. Great emphasis was placed on practical exercises explaining how to use the Excel translation template. Written briefing notes were provided along with a glossary explaining the meaning/objective of all technical terminology [QA item 60]. Special attention was paid to all questionnaire items where uncertainties were noted during the translation process; in case of substantive ambiguities, the source questionnaire was adjusted or a translation instruction was drafted [QA item 59].

For each target language, Ipsos appointed one translator from its local network partner agency and one translator from Language Connect. Language Connect has worked closely with Ipsos on a number of large cross-national studies and could thus provide translators with experience of working on similar surveys in the past. The local network partners appointed a translator with extensive experience with survey questionnaires,

either from their pool of in-house translators or from their local network. The Ipsos Coordination Team ensured that each proposed translator had the right skills and experience to work on the study.

Local network partners also appointed a separate adjudicator, being a particularly experienced member of staff with the combined skills of a thorough knowledge of survey research, a native speaker of the local target, and an excellent command of English. CVs for all linguists/translators working on the project were submitted to Eurofound for approval prior to commencement of the task[QA item 71, 73].

A.3.4. Other translated fieldwork materials

Translation was not limited to the questionnaire; a range of materials needed to be translated, including the: interviewer feedback form, interviewer manual (3 versions depending on the sampling frame), screener (4 versions depending on the sampling frame), contact sheet (3 versions depending on the sampling frame), show cards, introduction letter, quality control questionnaire, enumeration manual and form, etc. To assure quality, translations were carried out by the local agencies in cooperation with Ipsos' approved translations partner, Language Connect.

A.4. Pre-test process

From 31 October to 18 December 2014, in each of the 35 6th EWCS countries, at least 30 respondents were interviewed for the pre-test of the questionnaire and questionnaire script. The number of interviews included in the Pre-test report was slightly lower, as in four countries up to two interviews were lost because of technical difficulties when uploading the interviews [QA item 81].[6] In all countries, pre-test interviews were carried out in all local languages [QA item 82].[7] National implementation teams made proposals for final revisions on the basis of the pilot tests in each country. All translation issues detected during the pre-test were addressed for the mainstage [QA item 83] and actions taken were documented in a Translation Pre-test report provided to Eurofound. In total 21% of items in the *translated* questionnaires were changed by the countries because the pre-test showed they needed improvement (e.g. improved translation, syntax change, etc.); 11% of the items in the English source questionnaire were changed after the pre-test (deleted, modified, added) [QA item 85].[8] A separate report about the results of the pre-test was delivered in January 2015 [QA Item 84].

A.5. Pre-test quality control

At least 10% of each country's pre-test interviews were back-checked. In practice, this meant that between three and five pre-test interviews were back-checked in most surveyed countries – a total of 161 pre-test interviews were back-checked. This allowed identifying potential problems that appeared during survey

[6] A couple of interviewers experienced technical issues with their CAPI devices, which failed to save interviews, resulting in lost interviews in Bulgaria (-1), Cyprus (-2), Estonia (-2), Greece (-2) and Slovakia (1).
In Belgium, Estonia, Spain and Switzerland, between 40-50 interviews were carried out; a higher target was set in these countries as multiple national languages were tested.

[7] It was agreed with Eurofound that no separate translation process was necessary for the Serbian and Montenegrin versions of the questionnaire as they represent two dialects of the same language (or two very similar languages, depending on the perspective).

[8] The figure for the changes needed after the translation pre-test is heavily influenced by the fact that the harmonisation of the Russian language questionnaire in the Baltic states was finished too late for the pre-test.

administration (both in specific countries and across countries) and was used to verify the working of the back-checking questionnaire.

Each country was given an extract of their pre-test dataset, which consisted of randomly-selected cases. The countries in turn randomly selected the individual cases that were to be back-checked. The back-check questionnaire itself was based on a questionnaire used for similar purposes by the UK Ipsos MORI team for its large, random probability surveys. Before being administered for the 6th EWCS pre-test survey quality control, the central team first made some minor adaptations (mainly consisting of making survey-specific questions relevant to the 6th EWCS). The back-check questionnaire was then translated into all the survey's target languages.

A.6. Technical set-up of the questionnaire

Targets

Topic	***QA#***	***Indicator***	***Targ.***	***Ach.***	***Evidence***
Fieldwork infrastructure	86	Percentage of countries that used a common integrated sampling management and CAPI system	100%	89%/ 74%	31 countries (all except DK, LU, SE & UK, i.e. 89% of all countries) used Dimensions ECS or iField ECS as sample management system. 26 countries (74% of countries) used Ifield as CAPI system.
CAPI / data entry process	87	Number of programming errors encountered in translation pre-test	0	0	Two programming errors occurred after the pre-test and are hence not included here: Q50 was modified wrongly by the Spanish Dimensions team; Q95a/b/d/f/g was not scripted consistently ('NA' not scripted in all scripts).

All countries except Luxembourg used one of two pieces of CAPI software; either IBM Dimensions or iField. Luxembourg used its own system, Nipofield. In total 26 countries (i.e. 74% of all countries) used iField. [QA item 86]. There are no differences in these systems which are relevant to the results. Both of the main systems used contained an integrated scripting and sample management system.

Of the 8 Dimensions countries, 7 used Dimensions Electronic contact sheet (ECS) data collection. The exception among the Dimensions countries – the UK - used iProgress (Ipsos MORI's own ECS software which was adapted to match the 6th EWCS ECS) in conjunction with a paper contact sheet (only for dwelling information). All iField countries used iField ECS except for Luxembourg, Denmark and in part Sweden. Luxemburg and Denmark had ECS in NIPO. Sweden changed mid fieldwork – it started in iField then

changed to another system for the CATI recruitment element of the work.[9] This means that in total 89% of countries (31 countries; all except DK, LU, SE and UK) used Dimensions ECS or iField ECS as sample management system [QA item 86].

The electronic contact sheet script was most often completed on the doorstep but some contact sheets were completed by the interviewers in their own homes home. In some instances it was agreed for the national partner organisation to allow interviewers to use paper contact sheets which either they themselves inputted electronically afterwards or which they sent to the local fieldwork office for input.[10] Information relating to this was sometimes communicated erratically to the Ipsos central team and it became a large-scale issue in the Czech Republic and Slovakia, while it was used on a more limited scale in some other countries (notably Croatia, Estonia, Finland, Ireland, Lithuania, Netherlands, Spain, Slovenia and Switzerland).[11] Eurofound expressed its disappointment about the need to revert to paper contact sheets as this was not originally envisaged, however in the light of the difficulties experienced by interviewers it had to accept the situation.

The three questionnaires, Electronic Contact Sheets (ECS), main and back-checking were all linked via unique addressIDs.[12] Dimension countries used a single sample file linking the main and ECS questionnaires which were built within a single script. The back-checking script was separate with separate sample created for this specific purpose. For iField countries, whilst a single sample file for ECS, main and back-checking records was built, separate data collection scripts were used for each of these elements.

Script testing

For Dimensions, the scripting team delivered an online test link to the research team. For iField, the testing process of the script was carried out on tablets (Nexus 7) with similar specifications to those used in field. The Dimensions and iField scripts were initially tested before delivery of the draft script to the research team. The scripters tested the script against the original master English questionnaire. Once the script was found to have zero defects compared to the questionnaire, it was delivered to the research team for a second test phase.

The Ipsos research team then tested the scripts in detail. This was to ensure the scripts were free of mistakes and made sense to respondents and interviewers as a survey instrument. At a minimum, the following checks were undertaken:

- check that all questions and answer codes were in the scripts;

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[9] Fieldwork progress was slow in Sweden and in order to accelerate progress, the country changed from telephone recruitment conducted by individual interviewers to a central CATI centre approached, based on lessons learnt in other countries, leaving face-to-face interviewers to focus on interviewing respondents recruited centrally on their behalf.

[10] Although the innovation of having the contact sheet scripted and fully available electronically was welcomed by many interviewers, and copious training was provided, it was the first time that a large number of interviewers had used electronic contact sheets and many indicated that they would be much more familiar with continuing to use paper contact sheets, to the extent that it would reduce data entry error and aid interviewer retention if interviewers were permitted to use and update paper contact sheets (as had been the case during the pre-test).

[11] The proportion of contact sheets that were filled out on paper varied between 5% and 11% in these countries. See the Technical report for detailed information.

[12] An exception was the UK; here the EWCS data was split into two parts, interviewers entered contact data into iProgress. Other variables (e.g. dwelling information) were completed on paper, which was then entered into the UK field management system. An automated process then exported the data from both iProgress and the field management system. These outputs linked together via their unique address ID were then merged and reformatted.

- check that questions were correctly coded as single or multi-code;
- check that any 'Other specify' answers had space to type in answer;
- check that relevant interviewer instructions were present;
- check that 'Don't Know'/'Refused' codes were included as necessary;
- check that numeric questions had appropriate ranges/digits allowed;
- check of rotations, reversals and randomisations; and
- check of all routing for all questions using pre-determined scenarios.

The errors and requested changes were communicated to the scripting teams via a Feedback/Change Request Form. The process was iterative, until all requested changes/updates were implemented correctly.

Once the research team was satisfied with these aspects of the script, dummy data was generated. This data was manually generated (punching of interviews) for iField and automatically generated for Dimensions. The research team subsequently checked the dummy tables in detail. With this process, a small number of issues with the routing and skip patterns were discovered that were immediately corrected by the scripters.

Finally, as part of standard Ipsos internal quality control standards, a scripted data check on dummy data was completed. The script was tested 'in-field' during in the translation pre-test and no programming errors were encountered [QA item 87].[13]

The Luxembourgish agency carried out its own tests and also generated dummy data. This dummy data was checked both by themselves and by the Ipsos research team. Lastly, as for the other scripts, Ipsos ran the scripted data check on the data before the script was approved to be used in field.

[13] This excludes two programming errors that occurred after the pre-test and are hence not included here: Q50 was scripted wrongly by the Spanish Dimensions team; Q95a/b/d/f/g was not scripted consistently ('NA' not scripted in all scripts). This was corrected for the mainstage.

B. Sampling

Requirement

Topic	*QA#*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Sampling frame (overall)	7	Percentage of countries where specified information on stratification variables (degree of urbanisation and region) was included in register	100%	100%	All PSUs and hence addresses were linked to the sample strata.
Sampling frame (overall)	9	Percentage of countries for which the characteristics of the sampling frame and procedure were documented in complete accordance with the template	100%	100%	Sampling plans
Reference statistics (overall)	12	Percentage of countries where specified information on stratification variables (degree of urbanisation and region) was included in the reference statistics	100%	100%	All countries have provided information on degree of urbanisation and region in the sample breakdown file.
Reference statistics (overall)	14	Percentage of countries for which the characteristics of the reference statistics were documented in complete accordance with the template	100%	100%	Assuming this refers to the population distribution by strata as per the sample breakdowns.
Sampling plan	16	Percentage of countries where sample size >= 1,000	100%	100%	Sampling plans and final data
Sampling plan	17	Percentage of countries for which distributions across stratification categories of reference statistics and selected PSUs/respondents were provided	100%	100%	Sample breakdown
Gross sample	20	Percentage of countries where the distributions across stratification categories of the gross sample closely approximates the distributions of the universe (sampling plan) (deviations in the proportional size of each of the strata between the two should not exceed 1 % point)	100%	11%	4 countries (or 11%). The deviations in cell size between the distribution across stratification categories of the gross sample and the distribution of the universe can be explained by differences in response rates across geographic regions and urbanisation levels. For example, in two-thirds of the countries, in urbanised PSUs, on average, more addresses were needed to reach the target number of interviews than in non-urbanised PSUs.

Topic	*QA#*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Net sample	23	Percentage of countries for which all stratification variables and distributions of universe statistics were made available in interim and final datasets	100%	100%	Final dataset
Net sample	33	Percentage of countries where the net sample size >= planned sample size	100%	100%	All 35 countries achieved a net sample size greater or equal to the planned sample size

Targets

Topic	*QA#*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Register vs. enumeration	1	Percentage of countries where a high quality register was used	>=34 %	46%	Of the 35 countries, 16 are using a register (5 individual-based; 11 address-based). See sampling plans.
Sampling frame (country)	2	Percentage of countries where the sampling frame covered at least 95% of the population	100%	100%	Sampling plans
Sampling frame (country)	3	Percentage of sampling frame units for which the contact information was incomplete and which were not contacted using other means	0%	3-5%	Applies to countries using telephone recruitment. Was 5% in DK, 4% in FI, 3% in SE. This data refers to entries for which a telephone number was available, but which was subsequently found to be faulty (not working, disconnected or wrong number).
Sampling frame (country)	4	In countries using pre-selected sampling frame, percentage of sampling frame units that referred to non-existent or non-eligible addresses	<=10 %	6%	6% - based on analysis of final outcomes classified as ‘address not valid (does not exist/demolished/institution/business’ and ‘address is not occupied (empty/second home etc.)’ in 16 countries using address-based (registry) frames or individual-based (registry) frames.
Sampling frame (country)	5	In countries using enumeration, percentage of sampling frame units that referred to non-existent or non-eligible addresses	<=2%	9%	Figure based on analysis of final outcomes classified as ‘address not valid’ in 16 countries using address-based (enumeration). See sampling report.

Topic	*QA#*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Sampling frame (overall)	6	Percentage of countries, where a register was used for sampling, where the register was updated within a year preceding fieldwork	100%	75%	Calculation: 12 out of the 16 (75% of) countries used a register from 2014. Five countries (DK, FI, PL, SE and NO) used individual population registers, all from 2014. Eleven countries used address-based registers; 7 from 2014 (BE, BG, LT, LU, NL, TR, UK), 2 from 2013 (EE, IE), and 2 from 2011 (HR, ME).
Sampling frame (overall)	8	Percentage of countries where the specified information on degree of urbanisation used a common set of categories	100%	66%	In total 23 countries used Eurostat's DEGURBA, the remaining 12 countries used other measures due to a lack of available data at the regional level.[14] Information about the degree of urbanisation is included in the sample breakdown for each country.
Reference statistics (country level)	10	Percentage of the population (private households) covered by the reference statistics	100%	100%	Stratification figures are based on the most recent available source. In 18 countries LFS data was used, in 5 countries Census information was used. Other sources were used for the remaining 12 countries. The source is documented in the sample breakdown.
Reference statistics (overall)	11	Percentage of countries where the reference statistics used for stratification were updated within a year preceding fieldwork	100%	26%	9 countries (26%) are using statistics from 2014; the remaining 26 countries are using statistics from 2011-2013. All information is recorded in the sample breakdown.
Sampling	13	Percentage of countries where the specified information on degree of urbanisation is using a common set of categories	100%	66%	See comments under point 8 above re: 'Percentage of countries where the specified information on degree of urbanisation is using a common set of categories'.

[14] DEGURBA was used in: AT, BE, HR, CY, CZ, DK, DE, EL, HU, IE, IT, LU, MT, NL, PL, PT, RO, SK, SI, SE, UK, TR and CH, see the Technical report for more information.

Topic	*QA#*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Sampling plan	15	Percentage of countries where a common set of variables was used for stratification	100%	100%	All countries have supplied information on the NUTS level / equivalent to be used (see implementation plan for each country).

Overview

The main principles that Ipsos followed to ensure the quality of the sampling for the 6th EWCS can be summarised as follows:

- using a sample size of at least 1,000 [QA item 16].[15]
- using the best probability sample design possible in each country – to ensure that every population member had a known non-zero chance of selection;
- stratifying the sample according to region and degree of urbanisation and allocating the sample to strata proportionately to the number of people in employment in each stratum;
- using at least 50 primary sampling units (PSUs) per country to achieve a maximum of 20 achieved interviews per PSU;
- randomly selecting one household at an address (where applicable);
- randomly selecting one eligible respondent per household;
- no substitution of individuals at any stage of sampling.

Sample size

Below the planned and achieved sample size per country. As can be observed, in all countries the actual number of interviews completed exceeded the planned sample size [QA item 33].

Table 1: Planned and actual sample sizes (as of 12/10/15)

Country/territory	Planned - reference sample	Planned - after increase	Actual number of achieved interviews
EU MEMBER STATES			
Austria	1000	n/a	1028
Belgium	1000	2500	2587
Bulgaria	1000	n/a	1064
Croatia	1000	n/a	1012
Cyprus	1000	n/a	1002
Czech Republic	1000	n/a	1003
Denmark	1000	n/a	1002
Estonia	1000	n/a	1015
Finland	1000	n/a	1001
France	1500	n/a	1527

[15] Eurofound required a reference sample size of 1,000 per country – except in the following countries, where the reference sample size was larger: Poland (1,200); Spain (1,300); Italy (1,400); France (1,500); UK (1,600) and Germany and Turkey (2,000). Eurofound also offered countries the opportunity to top-up their sample. This was taken up by Belgium, Slovenia and Spain, which led to sample sizes of 2,500, 1,600 and 3,300 respectively in these countries.

Table 1: Planned and actual sample sizes (as of 12/10/15)			
Country/territory	**Planned - reference sample**	**Planned - after increase**	**Actual number of achieved interviews**
Germany	2000	n/a	2093
Greece	1000	n/a	1007
Hungary	1000	n/a	1023
Ireland	1000	n/a	1057
Italy	1400	n/a	1402
Latvia	1000	n/a	1004
Lithuania	1000	n/a	1004
Luxembourg	1000	n/a	1003
Malta	1000	n/a	1004
Netherlands	1000	n/a	1028
Poland	1200	n/a	1203
Portugal	1000	n/a	1037
Romania	1000	n/a	1063
Slovakia	1000	n/a	1000
Slovenia	1000	1600	1607
Spain	1300	3300	3364
Sweden	1000	n/a	1002
UK	1600	n/a	1623
CANDIDATE COUNTRIES			
Albania	1000	n/a	1002
Former Yugoslav Republic of Macedonia (FYROM)	1000	n/a	1011
Montenegro	1000	n/a	1005
Serbia	1000	n/a	1033
Turkey	2000	n/a	2000
OTHER COUNTRIES			
Norway	1000	n/a	1028
Switzerland	1000	n/a	1006

Sampling plans

Eurofound required that sampling plans were designed for each country. These consisted of two parts – an implementation plan and a sample breakdown. The implementation plan comprehensively documented how sampling would be approached in each country. It contained details of the sampling frame, PSUs, stratification, population statistics, geographical coverage as well as fieldwork procedures such as method of first contact, language(s), promotional materials, quality control back-checks and interviewer call patterns. The sample breakdown showed how the sample was stratified for each country according to region and degree of urbanisation. Please refer to the Sampling Implementation report for more detailed information.

Sample stratification

The sample in each country was stratified by region and degree of urbanisation, as specified by Eurofound. The sample was allocated to the strata proportionately to the number of people in employment in each stratum. Eurostat Labour Force Survey (LFS) data was available and utilised in most countries – where this was not the case, national statistics were used instead (see Sampling report). With regard to the regions, the aim was to divide each country/territory into strata defined by region at Eurostat's Nomenclature of territorial units for statistics (NUTS) level 2 or equivalent. Most countries (N=18) were able to use NUTS 2, but others used NUTS 1 (five countries) or NUTS 3 (two countries). Eight countries were unable to use NUTS data and used country-specific regions instead.[16]

When possible a common set of categories for determining urbanity was used. This was achieved in 23 (66% of) countries that could use Eurostat's degree of urbanisation indicator DEGURBA, which defines densely, intermediate and thinly populated areas. The target of a 100% common set of categories for determining urbanity was not met; the remaining 12 countries used other measures because they were unable to use DEGURBA due to a lack of relating population data at the regional level within their country [QA item 8 and QA item 13].[17] Information about the degree of urbanisation applied and regions is included in the sample breakdown for each country, which can be found in the Sampling report [QA item 7].[18]

The requirement was that in all countries the distributions across stratification categories of the gross sample closely (deviations in the proportional size of each of the strata between the two should not exceed 1 percentage point) approximated the distributions of the sampling plan [QA item 20]. Ipsos did not realise this requirement in 4 countries (11%). The deviations in cell size between the distribution across stratification categories of the gross sample and the distribution of the universe can be explained by differences in response rates across geographic regions and urbanisation levels. For example, in two-thirds of the countries, in urbanised PSUs, on average, more addresses were needed to reach the target number of interviews than in non-urbanised PSUs.

Primary Sampling Unit (PSU) selection

Each country was responsible for selecting the required number of PSUs using PPS and following the step-by-step instructions issued by Ipsos. Each country submitted their PSU selection file to Ipsos in order for the

[16] For Ireland, Italy and Slovenia existing NUTS regions were merged in order to reduce the number of regions to be used. In Ireland and Slovenia, this meant merging NUTS3 regions to create 4 regions (IE) and 12 regions (SI); similarly in Italy four neighbouring NUTS2 regions were merged to create 16 regions (rather than 20). Cyprus, Estonia, Latvia and Lithuania were regarded as too small for a breakdown by NUTS2; Albania, Croatia, Luxembourg and Malta did not breakdown into regions that were suitable for stratification purposes so alternative regions were used. Montenegro only has one NUTS 1, one NUTS 2 and one NUTS 3 region. Instead the official statistical regions (North, Central and South) were combined with LAU 1 regions (municipalities) to create three regions

[17] Of the 12 countries not using DEGURBA, Albania, FYROM, Lithuania and Estonia used the indicators 'urban' and 'rural' only, whereas Montenegro, Norway, Serbia, Spain, Latvia, France, Finland and Bulgaria used national variations of DEGURBA. More specific details can be found in the Sample breakdown file for each country (see Sampling report).

[18] In relation to QA item 7; 'register' is interpreted as sample frame – it can be confirmed that all PSUs and hence addresses can be linked to the sample strata.

selection method to be verified. In each country, at least 50 PSUs were used in order to achieve a maximum of 20 interviews per PSU.[19] See the Technical report for more details.

Sampling frame

For the 6th EWCS, up-to-date (2014), high quality (i.e. suitable for survey use) sampling frames with registers of addresses or individuals covering at least 95% of the population at the time of their release were used when available [QA item 2]. This was possible in 16 out of 35 countries; meaning that in 46% of countries a high quality register based sampling frame was used, in line with the target of >=34% set by Eurofound [QA item 1]. The target to use only registers from a year preceding fieldwork (2014) was achieved in 12 out of 16 countries [QA item 6].[20] For some countries it was decided that also slightly older registers would provide better quality compared to enumeration: in Estonia and Ireland a register from 2013 was used, in Croatia and Montenegro it was decided to use a register from 2011.

When a suitable list of addresses/households/individuals was not available for a country (for example because it did not cover at least 95% of the population), enumeration was used to generate a list of addresses/of households and individuals in each PSU (see detailed section on enumeration below).

In countries using a register based sampling frame, the target set by Eurofound for the proportion of sampling frame units that referred to non-existent or non-eligible addresses was <=10%; Ipsos attained 6% [QA item 4].[21] The relating Eurofound target for countries using enumeration was <=2%; Ipsos achieved 8% [QA item 5]. The fact that this target was not reached had to do with the high proportion of unoccupied addresses – often being holiday homes or second houses – in Malta, Portugal and Spain.[22]

In the countries using telephone recruitment, the goal was to have 0% of sampling frame units for which the contact information was incomplete and which were not contacted using other means; in practise this was

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[19] During the implementation phase, both France and Norway changed the number of PSUs that they planned to use. The French team increased from 100 to 150 (and decreased from 15 to 10 target interviews per PSU) – due to an error in their original planning. In Norway, the number of PSUs was reduced from 100 to 50 and the number of interviews increased from 10 to 20.

[20] Of the countries using a register based sampling approach, twelve out sixteen (75% of) used a register from 2014. Five countries (DK, FI, PL, SE and NO) used individual population registers, all from 2014. Eleven countries used address-based registers; seven from 2014 (BE, BG, LT, LU, NL, TR, UK), two from 2013 (EE, IE), and two from 2011 (HR, ME).
In Luxembourg, the sampling frame used was developed by the survey agency for sampling purposes. The agency reported that this database combined the most up-to-date version of the register of all residential addresses in Luxembourg (provided by the Luxembourgish administration of cadastre and topography) with information from the National Postal Services database (the 'white pages ') as well as information from face-to-face surveys conducted by the agency (e.g. to identify private households vs. business addresses and to clean or enrich address information). The agency reported that using the National Postal Services database alone would have provided coverage of 88% of the population living in Luxembourg (based on 147,000 addresses). However, by merging this database with an additional 44,000 addresses from the Luxembourgish administration of cadastre and topography, the estimated coverage increased to almost 100% of the population – please refer to the Sampling Implementation report for details of this frame.

[21] This figure is based on analysis of final outcomes classified as 'address not valid (does not exist/demolished/institution/business' and 'address is not occupied (empty/second home etc.)' in 14 countries using address-based (registry) frames or individual-based (registry) frames.

[22] This figure is based on two outcome codes - address not occupied (empty/second home etc.) and address not valid (does not exist/demolished/institution/business' in 16 countries using address-based (enumeration). Of the two codes, 'address not occupied' accounts for a larger proportion of the total and the data for specific countries (e.g. Malta, Portugal and Spain) is relatively high – ranging from 11% in Portugal to 15% in Spain.

slightly higher, but never more than 5% [QA item 3].[23] All information is recorded in the sample breakdown, in accordance with the template [QA item 9].

Reference statistics

For all countries Ipsos used reference statistics that covered the entire population/ all private households [QA item 10][24] at the time of their release and that contained information on stratification variables including the degree of urbanisation and region [QA item 12]. Eurofound indicated that ideally they liked to see reference statistics from 2014 [QA item 11], but this appeared unfeasible as not all countries update their statistics frequently; 9 countries used statistics from 2014, the remaining 26 countries used statistics from 2011-2013. All countries used the most recent, reliable sources of data available. The characteristics of the reference statistics have been fully documented and for all countries the distributions across stratification categories of reference statistics and selected PSUs/respondents was provided [QA item 14 and 17]. For all countries the stratification variables and distributions of universe statistics are made available in the interim and final datasets [QA item 23].

B.1. Enumeration

Requirement

Topic	***QA#***	***Indicator***	***Targ.***	***Ach.***	***Evidence***
Training of enumerators	24	Percentage of enumerators that took part in enumeration training	100%	100%	In the 19 countries where enumeration was undertaken, all agencies signed a declaration showing that all enumerators were trained.
Training of enumerators	25	Percentage of countries (out of those where enumeration took place) for which an enumeration plan was provided	100%	100%	The 'enumeration plan' consists of the information on enumeration contained within Section 4c of the implementation plans and the enumeration guidance documents provided by Ipsos.

[23] Analysis of outcome code 15 (telephone number was not working/was disconnected/was a wrong number): 5% in DK (based on 344 cases of 'non-working phone' / by 7,154 final contact attempts); 4% in FI (based on 228 cases of 'non-working phone' / by 5,701 final contact attempts); 3% in SE (based on 381 cases of 'non-working phone' / by 14,910 final contact attempts). This data refers to entries for which a telephone number was available, but which was subsequently found to be faulty (not working, disconnected or wrong number).

[24] Stratification figures are based on the most recent available source. In 18 countries LFS data was used, in 5 countries Census information was used, other sources were used for the remaining 12 countries. The source is documented in the sample breakdown.

Topic	*QA#*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Enumeration	27	Percentage of countries where the country specific enumeration plan ensured random selection of respondents	100%	100%	The 'enumeration plan' consists of the information on enumeration contained within Section 4c of the implementation plans and the enumeration guidance documents provided by Ipsos.
Enumeration	28	Enumeration finalised before fieldwork	YES	NO	Yes for all countries except SI and HR. In SI, 4 PSUs were enumerated in March and April having previously been inaccessible due to snow. In HR, one PSU (119) was enumerated during fieldwork because house numbers were not provided for the addresses on the population registry frame; it was also impossible to match the addresses to the registry of voters. See Sampling implementation report.
Quality check on enumeration	29	Percentage of countries where enumeration was checked in at least 10% of the PSUs	100%	100%	This applied as well to BG and HR (both of which used a mixed-method sampling approach): BG enumerated 2 PSUs, both were subject to quality control checks; HR enumerated 3 PSUs, these were also subject to quality control checks. See the individual country enumeration reports.
Quality check on enumeration	31	Percentage of observed deviations from the country specific enumeration plan where follow up action was taken	100%	100%	The coordination team carried out central checks of the quality control data file and liaised with the agencies to establish that action had been taken when a deviation was detected. The agencies all confirmed that appropriate corrective action had been taken for the problems detected.

Topic	*QA#*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Quality check on enumeration	32	Quality check on enumeration finalised before fieldwork	YES	NO	The QC on enumeration was not finished before fieldwork in SI (QC finished by 04/2015) and HR (QC finalised early May 2015). In HR this was because the need to enumerate in one PSU was realised after f/w started. In SI snow prevented from accessing all PSUs. In BG the QC took place in January, i.e. before f/w started.

Targets

Topic	*QA#*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Quality check on enumeration	30	Percentage of enumeration checks that revealed deviations from the country specific enumeration plan	<5%	5%	Calculation is based on the number of addresses with at least one deviation divided by the total number of addresses subject to quality control checks x 100. See Annex 1 for a more detailed explanation on the calculation.

Enumeration overview

As noted above, in the 19 countries where a reliable up-to-date register of households or individuals was *not* available, an enumeration/random walk approach was used to select addresses or individuals in each PSU.[25] The address data for this approach was provided by national statistics offices (AT, CZ, FR, GR, IT, PT, SK, ES), government organisations / offices (CY, CH, LV), central electoral commissions (AL, HU, MK, RO, RS, SI), or a business association (DE).[26] The estimated coverage of the sampling frames for selecting PSUs ranged from 95% to 100% in all countries and the information was updated between 2011 and 2014.[27] In all countries using enumeration, a specific enumeration plan guaranteed random selection of respondents [QA item 25 and 27].

The enumeration process was completely separated from the interviewing process; there was no overlap between the people conducting the enumeration and those people subsequently involved in the interviewing. All enumerators were trained by managers in each country following the guidance and instructions supplied

[25] In addition, two countries using a pre-selected sampling frame used enumeration in some PSUs not covered by the register they used; this applied to Bulgaria (two PSUs were enumerated) and Croatia (three PSUs were enumerated). Please refer to the 6th EWCS Sampling Implementation report for further details.

[26] As a market research agency, Ipsos Germany was only able to access address information from ADM, a business association for private-sector market and social research agencies in Germany.

[27] In Malta, the frame used was developed by the survey agency for sampling purposes. The units of the electronic list of the Electoral Commission were further divided into sampling areas.

by Ipsos [QA item 24]. The materials were developed by Ipsos and approved by Eurofound before being used.[28]

To ensure that all addresses in a PSU had a chance of being selected, agencies were instructed to provide the enumerators with maps of the selected PSUs clearly showing the geographical boundaries of each PSU. In 12 countries a directory of addresses (with or without telephone numbers) was used in order to select starting addresses. In the other countries maps were used. A sampling interval was pre-determined and included in the instructions provided by Ipsos to the agencies. It refers to the distance between two selected random addresses. The interval to be used was determined by PSU size. See the Sampling Implementation report for full details.

Monitoring of enumeration progress

Ipsos monitored enumeration to ensure that the process was finalised before fieldwork; this target was achieved in all countries except in Croatia and Slovenia [QA item 28]. In Slovenia, four PSUs were enumerated in March and April having previously been inaccessible due to heavy snow. In Croatia, in one PSU (119), house numbers were not provided for the addresses on the population registry frame; it was also impossible to match the addresses to the registry of voters – so in this case the PSU was enumerated when fieldwork was underway.

Table 2: Enumeration dates

Country/territory[29]	Target N of addresses to enumerate (per PSU)	Number of enumerators	Start-End dates
EU MEMBER STATES			
Austria	40-70	26	05.12.14-21.01.15
Cyprus	35	14	12.12.14-07.01.15
Czech Republic	80	78	05.12.14-23.01.15
France	60	95	27.11.14-12.12.15
Germany	50	92	15.12.14 - 19.01.15
Greece	50	41	10.12.14- 09.01.15
Hungary	50	90	07.01.15-25.01.15
Italy	90 (rural); 180 (urban)	100	26.12.14-17.02.15
Latvia	40	34	15.12.14-12.01.15
Malta	50 (on average)	5	18.12.14- 09.01.15
Portugal	50	50	29.12.14 -14.01.15
Romania	40	61	19.12.14- 04.01.15
Slovakia	50	71	07.12.14-19.01.15

[28] The enumeration materials included: 1) enumeration memo for manager (guide to the enumeration process, reference document); 2) enumeration starting point selection instructions (for use in countries not using public directories to select starting points); 3) enumeration starting point calculation; 4) enumerator manual; 5) enumeration form (the form to be completed by enumerators in the field); 6) enumeration data entry template; 7) enumeration quality control form (forms were to be completed by Field supervisors during the quality control stage of the enumeration); 8) quality control data entry template (template into which country managers entered the data from the quality control checks of the enumeration process).

[29] Excluded here are Bulgaria and Croatia, as these two countries used enumeration for only a very limited number of PSUs (2 in Bulgaria and 3 in Croatia). Bulgarian enumeration dates: 12.01.15-13.01.15. Croatian enumeration dates: 02.05.15-05.05.15.

Table 2: Enumeration dates			
Country/territory[29]	Target N of addresses to enumerate (per PSU)	Number of enumerators	Start-End dates
Slovenia	75	45	26.12.14-04.02.15 (156 PSUs) 25.03.15-30.03.15 (2 PSUs) 15.04.15-22.04.15 (2 PSUs)
Spain	50	81	Dec 2014-Feb 2015
CANDIDATE COUNTRIES			
Albania	40 (on average)	30	25.12.14-14.01.15
Former Yugoslav Republic of Macedonia (FYROM)	40	58	11.01.15-23.01.15
Serbia	40	60	24.12.14-15.01.15
OTHER COUNTRIES			
Switzerland	50	26	15.12.2014 - 10.01.2015

Quality control of addresses

In all countries Ipsos checked for deviations from the country specific enumeration plan in at least 10% of PSUs [QA item 29].[30]

Table 3: Enumeration – PSUs subject to quality control			
Country/territory	Total N of PSUs enumerated	N of enumerated PSUs - subject to QC	% of enumerated PSUs subject to QC checks
EU MEMBER STATES			
Austria	100	34	34%
Cyprus	100	13	13%
Czech Republic	100	13	13%
France	150	15	10%
Germany	150	150	100%
Greece	100	10	10%
Hungary	100	26	26%
Italy	100	100	100%
Latvia	125	124	99%
Malta	125	13	10%
Portugal	100	14	14%
Romania	200	20	10%
Slovakia	100	13	13%
Slovenia	158	15	10%
Spain	837	105	13%
CANDIDATE COUNTRIES			

[30] This applied as well to Bulgaria and Croatia, both of which used a mixed-method sampling approach: Bulgaria enumerated 2 PSUs, both were subject to quality control checks; Croatia enumerated 3 PSUs, these were also all subject to quality control checks. See the individual country enumeration reports.

Table 3: Enumeration – PSUs subject to quality control			
Country/territory	**Total N of PSUs enumerated**	**N of enumerated PSUs - subject to QC**	**% of enumerated PSUs subject to QC checks**
Albania	100	100	100%
Former Yugoslav Republic of Macedonia (FYROM)	100	10	10%
Serbia	100	10	10%
OTHER COUNTRIES			
Switzerland	100	10	10%

The quality control checks in each country that carried out enumeration were based on paper forms completed by supervisors. The results of these checks were entered into an enumeration quality control data file. The procedures and documents were developed by Ipsos and approved by Eurofound before being implemented.

For each enumerated address within a PSU the following questions were asked:

- Was the interval applied correctly? (Y/N)
- Was the route followed correctly? (Y/N)
- Was the address noted down correctly? (Y/N)
- The supervisors were also invited to add comments on the enumeration of each address and any general remarks on the quality of the enumeration

More general questions about enumeration of the PSU were then asked:

- Had the enumerator listed the right number of addresses?
- Did enumerator use the given interval correctly?
- If it was not always applied correctly, what was the reason? [routed from Q2]
- [If starting point was given as a point on the map] Did enumerator select the correct starting point?
- [If starting point was given as an address] Was the starting address identified correctly?
- Was the route followed correctly?
- If not, what was the problem with the route?
- Were the addresses written down correctly?
- Were the addresses or additional notes enough for another interviewer to identify the addresses?
- Did any part of the route need to be enumerated again?
- Overall, would you say:
    1. Enumeration for this sampling point was done correctly; it can be used for the fieldwork.
    2. Enumeration for this sampling point was mostly done correctly, but some addresses need to be deleted or other addresses need to be added (details included in this form)
    3. Enumeration for this sampling point needs to be done again

About 5% of enumeration checks revealed deviations from the country specific enumeration plans when checking if: the interval was applied correctly, the route was followed correctly, the address was noted correctly, the correct starting point was used, and enough was noted to identify the address [QA item 30].[31]

[31] Based on data from 18 countries – Bulgaria and Croatia are excluded from the analysis as they were not regarded as enumeration countries since they were both using address based sampling frames at the outset; neither country had an enumeration plan to be

The coordination team carried out central checks of the quality control data file and corresponded with the agencies to establish that action had been taken when a deviation was detected. The agencies all confirmed that appropriate corrective action had been taken for the problems detected." All quality checks on enumeration were finalised before fieldwork, except in Croatia and Slovenia [QA item 32].[32]

Table 4: Enumeration checks and deviations detected

Country	Number of addresses subject to quality control checks	Number of addresses with at least one deviation
EU MEMBER STATES		
Austria	550	2
Cyprus	390	6
Czech Republic	720	82
France	1579	0
Greece	538	0
Hungary	568	421
Italy	1454	0
Latvia	4851	0
Malta	773	6
Portugal	542	17
Romania	800	80
Slovakia	800	23
Slovenia	1173	5
Spain	6073	452
CANDIDATE COUNTRIES		
Albania	553	0
FYROM	388	0
Serbia	577	107
EFTA COUNTRIES		
Switzerland	519	12
Total	22848	1213

B.2. Quality control of PSUs

All countries were issued with instructions to guide them in selecting PSUs. They were instructed to identify the number of PSUs to be selected within each cell and the total number of PSUs within each cell. The selection was carried out with probability proportional to size (PPS) – meaning that the likelihood of being included in the sample was directly proportional to the size of the PSU. This means that a PSU with the size of 100 was twice as likely to be selected as a PSU of 50. All PSUs were first ordered in the given cell (of the sample breakdown) by their size measure then the number of PSUs required for the cell was selected using

compared against. Germany is also excluded since they did not provide QC data in the format that was required. The calculation is based on the number of addresses with at least one deviation divided by the total number of addresses subject to quality control checks x 100. See Annex 1 for a more detailed explanation on the calculation and on what is counted as a deviation.

[32] As mentioned above, in Croatia, in one PSU the need to enumerate became apparent when fieldwork was underway. In Slovenia, enumeration was delayed in 4 PSUs because of heavy snow in the area.

PPS and random start in Excel. Each country sent the Excel file showing the selected PSUs to Ipsos for cross-checking against the agreed sample breakdown file. When discrepancies were found Ipsos always liaised with the local agencies and, where necessary, instructed to repeat the random selection [QA item 31].[33]

[33] The coordination team carried out central checks of the quality control data file and corresponded with the agencies to establish that action had been taken when a deviation was detected. The agencies all confirmed that appropriate corrective action had been taken for the problems detected.

C. Weighting

Requirements

Topic	*QA#*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Net sample	23	Percentage of countries for which all stratification variables and distributions of universe statistics were made available in interim and final datasets	100%	100% [34]	See interim and final datasets
Weighting strategy	34	Percentage of countries where the weighting strategy integrated all available information on those elements that were foreseen to be included in the weighting procedure, given the sampling plan	100%	100%	See weighting strategy
Weighting strategy	35	Percentage of countries for which the weighting strategy and procedure were made completely transparent in the weighting report	100%	100%	See weighting report
Weighting strategy	36	Weighting strategy included references to academic literature demonstrating that the selection of weighting variables and procedures took common practice of weighting in international surveys into account	YES	YES	See weighting strategy
Design weight	38	Percentage of countries where the design weight was specified in accordance with the sampling design	100%	100%	See weighting report
Design weight	39	Design weight included in dataset	YES	YES	See final data set
Design weight	40	Procedure for constructing design weights outlined in weighting report	YES	YES	See weighting report
Post-stratification weight	42	Percentage of countries where the post-stratification weight took all variables (gender, age, region, occupation, activity sector) into account	100%	100%	See weighting report

[34] Based on data delivered on 14/09/15.

Topic	*QA#*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Post-stratification weight	44	Post-stratification weight included in dataset	YES	YES	See final data set
Post-stratification weight	45	Procedure for constructing post-stratification weights outlined in weighting report	YES	YES	See Weighting report
Supra-national weights	48	Supra-national weights included in dataset	YES	YES	See final data set
Supra-national weights	49	Procedure for constructing supra-national weights outlined in weighting report	YES	YES	See Weighting report
Trimming of post-stratification weigh	52	Trimmed and untrimmed weights included in the dataset	YES	NO	The dataset contains the trimmed and untrimmed design weights, but not the untrimmed post-stratification weight. Since the trimming is done simultaneously with the post-stratification adjustments (via rim weighting, i.e. an iterative process – and based on the trimmed design weights), only the trimmed post-stratification weights is available.[35]
Trimming of post-stratification weigh	53	Trimming cut-off points and number of trimmed cases for each country included in the weighting report	YES	YES	See weighting report

[35] In theory, it is possible to run the weighting syntax using the untrimmed design weights as input weights, and removing the trimming instruction for the post-stratification step; however, this of course means that a very different set of weights would be calculated – and the impact of two-phase trimming is not easy to evaluate. Firstly, starting from the untrimmed design weights means that the post-stratification iterative estimation starts from different start values, and as such will produce a different outcome. Secondly, the weights will be different due to removing the trimming restriction in the post-stratification iterative process.

Targets

Topic	*QA#*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Net sample	22	Percentage of countries where the distributions across stratification categories of the net sample closely approximated the distributions of the universe (sampling plan) (deviations in the proportional size of each of the strata between the two should not exceed 1 percentage point)	100%	43%	Target was achieved in 15 countries (or 43%). In 18 countries, at least one deviation of between 1 and 3 percentage points was observed. In two countries (IE and EE), a comparison of the distribution across stratification categories of the net sample and the distribution of the universe showed larger deviations (between 1.3 and 10.1 percentage points).
Post-stratification weight	43	Percentage of countries where a common set of variables with common categories was used for weighting	>=90 %	100%	See the weighting strategy
Supra-national weights	47	Percentage of countries where the weights were based on LFS (or equivalent if not available) statistics on workforce size that had been collected within two years preceding fieldwork	100%	91%	Target was achieved in 32 countries. In 3 (HR, IE and MT) countries the calculation of weights was based on regional statistics on workforce size collected more than 2 years preceding the fieldwork.
Trimming of post-stratification weight	51	Percentage of countries where the proportion of cases for which the post-stratification weight was smaller than .3 or larger than 3 exceeded 2%.	<=7%	74%	Applies to 26 countries (74%): Across most of these countries, the proportion of post-stratification weights that are larger than 3 is below 2%; exceptions are IE, RO, ES and SK. Across all countries, however, a considerable proportion of cases have weights smaller than .3; in 24 countries, the proportion of stratification weights that are smaller than .3 exceeds 2%.

The weighing scheme developed by Ipsos has as key objectives:

- To counter selection probability inequalities resulting from survey design features
- To help reduce non-response bias arising in cases when survey response propensity correlates with survey variables (through non-response weights);
- To ensure that results pertaining to groups of countries country appropriately reflect country populations (through cross-national weights).

To counter these three potential sources of bias, and in accordance with standard practice for international surveys and academic literature [QA item 36], the weights applied to the EWCS data include:

- PSU selection weight
- Conditional PSU responding weight
- Household and individual selection weights
- Calculation of pre-weight
- Calculation of post-stratification weight
- Final individual country weights
- Cross-national weights

Ipsos developed a weighting report in which the weighting strategy and procedure is made completely transparent [QA item 35]. This report explains the general approach to the weighting strategy and shows among other how design weights, post-stratification weights, national weights (including the trimming approach) and supranational weights were constructed [QA item 40, 45, 49 and 53].

Quality assurance requirements

When carrying out the weighting, Ipsos achieved the following requirements mentioned in the QA plan:

- All stratification variables and distributions of universe statistics are made available in interim and final datasets [QA item 23]
- In all countries the weighting strategy integrates all available information on those elements that are foreseen to be included in the weighting procedure, given the sampling plan [QA item 34]
- In all countries the design weight is specified in accordance with the sampling design and included in the dataset [QA item 38 and 39]
- In all countries the post-stratification weight takes all variables (gender, age, region, occupation, activity sector) into account and is included in the dataset [QA plan 42 and 44]
- All supra-national weights are included in the dataset [QA item 48]

Ipsos did not meet the requirement to include all trimmed and untrimmed weights in the dataset [QA item 52]. The dataset contains the trimmed and untrimmed design weights, but not the untrimmed post-stratification weight; since the trimming is done simultaneously with the post-stratification adjustments (via rim weighting, i.e. an iterative process), only the trimmed post-stratification weights is available.

Quality assurance targets

Ipsos did achieve the Quality Assurance target specifying that >90% of countries should use a common set of variables with common categories for weighting [QA item 43]. The three other weighting targets appeared more difficult to realise:

- To begin with, when using the definition used in the QA plan, in 15 countries, the deviations in the size of each cell between the distribution across stratification categories of the net sample and the distribution of the universe do not exceed 1 percentage point. This means that in 43% of countries the distributions across stratification categories of the gross sample closely approximates the distributions of the universe (sampling plan) [QA item 22]. In 18 countries, at least one deviation of between 1 and 3 percentage points was observed. In five of these countries (Austria, the Czech Republic, Finland, the Netherlands, Norway and Switzerland), these deviations were positive. In three countries (Germany and Sweden), the deviations were negative, i.e. the target size of the sampling cell was not reached. In the remaining countries, both positive and negative deviations of between 1 and 3 percentage points were observed; this was the case in Belgium, Greece, Latvia, Luxembourg, Malta, Romania, Slovakia, Slovenia, Turkey and the UK. In the remaining two countries (Ireland and Estonia), a comparison of the distribution across stratification categories of the net sample and the distribution of the universe showed larger deviations (between 1.3 and 10.1 percentage points).

- Secondly, in 'only' 32 countries (91%, target 100%) the weights are based on LFS (or equivalent if not available) statistics on workforce size that have been collected within two years preceding fieldwork [QA item 47]. In three countries, the calculation of weights is based on regional statistics on workforce size collected more than two years preceding the fieldwork (Croatia, Ireland and Malta), as this was the best data available at the time. However, LFS statistics on the workforce size by gender, age, occupation and activity sector, for all countries, were collected within two years preceding the fieldwork.

  Thirdly, in 26 countries (74%, target was <7% of countries) the proportion of cases for which the post-stratification weight is smaller than .3 or larger than 3 exceeds 2% [QA item 51]. Across most countries, the proportion of post-stratification weights that are larger than 3 is below 2%; the exceptions are Ireland, Romania, Spain and Slovakia. Across all countries, however, a considerable proportion of cases have weights smaller than .3; in 24 countries, the proportion of stratification weights that are smaller than .3 exceeds 2%.

D. Fieldwork

Requirements

Topic	*QA*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Meeting national fieldwork managers	95	Percentage of national fieldwork managers who attended the fieldwork manager instruction meeting	100%	100%	Attendance sheets are available
Meeting nat. fieldwork managers	96	Meeting of national fieldwork managers delivered before start fieldwork	YES	YES	15-16/01/15 Berlin meeting
Constructive interviewer training materials	97	Training materials covered selection of respondent within household	YES	YES	Final instructions to interviewers
Constr. interviewer training materials	98	Training materials covered strategies for convincing reluctant respondents	YES	YES	Final instructions to interviewers
Constr. interviewer training materials	99	Training materials covered guidelines on contacting process	YES	YES	Final instructions to interviewers
Constr. interviewer training materials	100	Training materials covered instructions on CAPI program/questionnaire	YES	YES	Final instructions to interviewers
Constr. interviewer training materials	101	Training materials covered instructions on consistency checks	YES	YES	Final instructions to interviewers
Constr. interviewer training materials	102	Training materials covered instructions on probing for adequate answers to open-ended questions	YES	YES	Final instructions to interviewers
Constr. interviewer training materials	103	Percentage of countries for which all training materials were provided	100%	100%	Everything was provided to the countries, however some of the materials were not applicable in the local language and integrated in the interviewers training slides (this applied e.g. to the annotated questionnaire). See
Interviewer training	106	Training covered all relevant materials	YES	YES	Technical and fieldwork report
Interviewer training	107	Percentage of interviewers that took part in the training	100%	100%	Attendance sheets

Topic	*QA*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Interviewer training	108	Interviewer training delivered before start fieldwork	YES	YES	Technical and fieldwork report
Contact phase	110	Percentage of gross sample entries that were discarded before the net sample was realised, for which a final outcome has been realised	100%	99.4%	In total 0.6% open addresses (1,105/181,340).
Contact phase	111	Percentage of sample entries to which a final status of 'non-contact' was assigned that were not visited at least four times at different times and on weekdays and weekends	0%	0.62%	For the mainstage (including for the IPA[36] countries) the number of records coded EWCS_openaddress=1 in the data file (the number of addresses contacted only 1-3 times and with no final outcome code assigned) was 1,117 out of a total of 162,423 records, i.e. 0.62%.
Fieldwork monitoring	114	Percentage of countries covered in weekly monitoring data (in accordance with template)	100%	97%	All countries were present in the monitoring report. Only LU was not updated once. So if LU is excluded this is 97%.
Fieldwork monitoring	115	Number of times that the weekly monitoring data for the preceding week was not delivered on Tuesday by the end of business	0	3	All on time, except for: 28/5 (delivered on 29/5) 11/8 (delivered on 12/8) 1/9 (no reporting delivered that week)
Fieldwork monitoring	116	Number of times that the quantitative indicators in the weekly monitoring data and the progress and projections (of end date) were not checked by the following Thursday by the end of business	0	0	See written communications from Eurofound and minutes from teleconferences
Technical and fieldwork report	118	Comprehensive methodological and fieldwork report provided	YES	YES	Technical and fieldwork report outline sent to EF 15/07/15 and approved by EF 20/07/15. Last revised version sent by 20/01/2016.

Targets

[36]The five 'Instrument for Pre-Accession Assistance' ('IPA', also 'candidate') countries are: Turkey, Albania, the former Yugoslav Republic of Macedonia (FYROM), Montenegro, Serbia and Turkey.

Topic	*QA#*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Fieldwork monitoring	112	Percentage of issues identified based on information in weekly monitoring data for which a solution was provided	100%	NA (close to 100%)[37]	In the end, two issues were not completely solved: 1) an issue with workplace interviews and the related identification of these interviews 2) an issue with open contacts in Spain (See the text below under 'Fieldwork progress reports' for a more elaborate explanation)
Fieldwork monitoring	113	Percentage of countries where at least 10% of interviews are checked and for which the first re-contact attempt was made within a week after the interview was carried out	100%	100%/ 2%	In all countries at least 10% of interviews were back-checked. About 7% of back-checks were carried out within one week, 21% was carried out within 2 weeks

This chapter covers the various quality assurance measures relating to the interviewing process: the interviewer selection and training, the contact procedure, fieldwork progress reports, and interviewer back-checks. For more detailed information on the fieldwork, see the Technical and Fieldwork report from January 2016 (QA item 118). Prior to the start of fieldwork Ipsos provided Eurofound with a detailed quality control protocol for the fieldwork.

D.1. Interviewer selection and training

Before fieldwork started, on 15-16 January 2015, all national fieldwork managers attended a one day seminar organised by Ipsos in Berlin to review the survey protocols and procedures to be applied [QA item 95 and 96]. All interviewers working on EWCS took part in national interviewer training sessions [QA item 10 and 108]. As of November 2015, excluding the countries still in field, the national partners trained between 38 (Austria) and 136 (Belgium and Spain) interviewers to work on the project (see the Technical report for more information).[38] The trainings were predominantly organised in person and generally took about a day. During the training interviewers received background information on the study and were informed about all facets of fieldwork (e.g. the contact procedure, usage of the contact sheet and CAPI questionnaire, general

[37] Because it is hard to determine what qualifies as an 'issue', an exact figure cannot be provided.

[38] It should be noted that not all of these trained interviewers did work on the project; some did not wish to work on the study after the training session. In Bulgaria, Slovenia and Norway this applied to approximately one third of interviewers. Reasons for interviewer drop out included the difficulty of the project in terms of interview length, the rule for selecting the respondent, the revisits and the use of an electronic contact sheet, along with a small number of more personal reasons. See the Technical report for more details.

interviewing, refusal conversion, fieldwork protocol, field work materials, etc.). For these training sessions, in all countries and languages, training material was delivered on among others the following subjects [QA item 103]:

- selection of respondent within household [QA item 97];
- strategies for convincing reluctant respondents [QA item 98];
- guidelines on the contacting procedure [QA item 99];
- instructions on CAPI program/questionnaire [QA item 100] ;
- instructions on consistency checks [QA item 101]; and
- instructions on probing for adequate answers to open-ended questions [QA item 102].

To assure interview quality, only experienced interviewers participated in the 6th EWCS. Experienced interviewers were defined as interviewers with at least three months of experience in survey research and who had participated in at least 3 face-to-face surveys in the past 5 years. In addition to general survey research experience, interviewers selected to conduct fieldwork on the 6th EWCS had specific skills in conducting public opinion research and had experienced with random sampling techniques. All interviewers were native speakers of the language used in (the respective part of) each country and had experience conducting research using CAPI technology (with exception of Estonia, Latvia and Malta).

To prevent one interviewer from having an excessive imprint on the study in one country, interviewers were in principle allowed to carry out a maximum of 40 interviews. However, this limit was not always kept. Training sufficient interviewers and – in particular – keeping them on the project proved to be challenging in many countries. In some cases the sample in the interviewers' areas has been exhausted, and they did not live near enough to cover remaining points in other parts of their country. In other areas it was problematic to close all addresses. As these issues had a serious impact on the time schedule of the study, it was decided that some successful interviewers were allowed to do more than 40 interviews to speed up fieldwork.[39] The interviewers exceeding 40 interviews were closely monitored and further statistical analysis was carried out to test whether interviewers with more than 41 interviews significantly increased the interviewer variance; no evidence of bias was found (see Annex B of the technical report).

D.2. Contact procedure

For the 6th EWCS, interviewers in all countries were required to adhere to the following principles when attempting to make contact with potential respondents:

- Make at least four contact attempts (visits) to an address (at different times of the day and week – including weekends).
- Leave at least two weeks between the first and the last contact attempt.
- In countries using telephone recruitment, interviewers were required to make a minimum of 10 contact attempts (telephone calls).

[39] 148 interviewers exceeded 40 'good' interviews. This applied to the following number of interviewers per country: ES 25, BE 20, SI 15, LU 8, DE 8, MT 8, AT 6, NO 7, BG 6, LT 6, UK 5, CY 4, DK 4, IE 4, LV 4, NL 4, FI 3, CH 2, IT 2, HR 1, PT 1, SK 1. Eurofound specifically approved that some interviewers did more than 40 interviews in EE, HR, LU, NO, SI and UK.

- When more than one household was found at the same address, one of these was selected at random using a Kish grid. Within every household, one eligible person belonging to the target population (employed, aged 15 years and over) was randomly selected using last birthday selection method.

In order to assure a balanced and unbiased sample, the Quality Assurance plan required that the percentage of sample entries to which a final status of 'non-contact' was assigned that was not visited at least four times at different times and on weekdays and weekends needed to be 0%; with 0.62% Ipsos came close to realising this requirement [QA item 111]. The percentage of gross sample entries for which a final outcome (interview, refusal, non-contact etc.) was realised in accordance with the rules was 99.4% [QA item 110].

D.3. Fieldwork progress reports

Ipsos sent weekly quantitative and qualitative fieldwork reports for all countries to Eurofound [QA item 114]. Any quantitative indicators in the weekly monitoring data and the progress and projections (of end date) were checked by Eurofound by the following Thursday by the end of business [QA item 116]. In addition, the Eurofound and Ipsos project teams discussed progress weekly via teleconference. This would typically happen on a Thursday, so that all parties would have sufficient time to analyse the weekly fieldwork update that was sent before; most often on Tuesday [QA item 115].[40] Eurofound flagged a number of issues based on the weekly monitoring data. For example, Eurofound discovered a large proportion of open contacts in Luxembourg, This and comparable issues were subsequently solved by Ipsos. Two issues were addressed by Ipsos but could not be fully solved: 1) for some interviews it could not be determined if they were carried out in the workplace or at home[41]; 2) in Spain, an issue occurred with open addresses - 314 cases were contacted less than 4 times in which the outcome code was ‘nobody at home’ (or another interim outcome code). Many of these cases were contacted late in the fieldwork which could explain the open addresses. [QA item 112]

D.4. Local fieldwork visits made by Eurofound

In the early stages of fieldwork, Eurofound performed fieldwork visits to verify survey implementation. The countries visited were Denmark, Luxembourg and Spain. These fieldwork visits included an overview of the project activities with the local management teams, as well as interviewer ‘shadowing’ and debriefing to get first-hand experience of the actual administration of the questionnaire and contact attempts with the household. Eurofound then provided feedback to the ICC which was shared as relevant with fieldwork teams in all countries.

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[40] Twice the weekly fieldwork update was sent one day late: 28/5 (delivered on 29/5) and 11/8 (delivered on 12/8). The 1/9 weekly fieldwork update was skipped - no reporting was delivered that week.

[41] Back checking uncovered an issue with fieldwork in nine countries (BE, EE, ES, FI, IT, LT, NL, PT, SE), where a number of interviews were conducted in the workplace. In exceptional cases, it was permitted to have interviews carried out in a public space such as a café or a library. However, interviews at the workplace could only happen with the rare exception of self-employed people working from their residence. After further investigation with local partners, it appeared this request came directly from the respondent and that most of the workplace interviews have been carried out in a separate, quiet room. However for Eurofound, it was important to identify the workplace interviews on a case by case basis. The concerned countries were requested to check with their interviewers to possibly identify those cases. In order to help them, information such as the gender, age, verbatim responses to open-ended questions were provided to the countries to help interviewers to identify those. However, it was not always possible for interviewers to remember all cases. As requested by Eurofound, such identifiable cases or unsure cases were marked in a special variable in the data file.

D.5. Interviewer back-checks

To verify if interviewers delivered high quality work, back-checks on interviews have been carried out at national agency level by Fieldwork Managers and Supervisors along the lines defined by Ipsos.[42] In each country, at least 10% of completed interviews were back-checked (see table 5) [QA item 113]. Respondents who participated in an interview were called back, mailed or re-visited in order to verify their personal details and responses to a number of questions as outlined in the Quality Control Protocol document provided to Eurofound prior to the start o fieldwork). According to the Quality Assurance plan, a first re-contact attempt needed to be made within a week after the interview was carried out. However, this was only achieved for 7% of back-checked interviews, 21% was carried out within 2 weeks and 19% within 3 weeks [QA item 113]. Back-checking proved to be difficult to monitor, time consuming (the task was not automated) and interfered with other tasks. The priority was given to keeping all interviewers in field over back-checking *within one week.*

The interviewer back-checks focussed on interviews with 'suspicious' or 'odd' values and on interviews conducted by new-to-the-project interviewers. Ipsos used certain quality parameters[43] to determine whether an interview should be flagged as suspicious, which were then applied per interviewer and collated at a central level. Random selection was applied only if no quality issues were noticed.

Interviews were flagged as 'suspicious' in case:

- the interview length was less than 25 minutes or more than 90 minutes;
- the gap between two interviews was less than 5 minutes;
- the interviewer completed more than 5 interviews per day;
- the interview was conducted at the wrong time of day, before 8.00 am, after 10.00 pm;
- the interview did not start and finish on the same day.

According to the initial quality control protocol, interviews were to be flagged as well if: 1) the interview had a high number of 'DK/NA' compared to the average number of 'DK/NA' answers; 2) the interview had a high number of times (more than 2 std. dev.) the first answer was selected compared to the average number of times the first answer was selected; 3) the interview had a high number of times (more than 2 std. dev.) the second answer was selected compared to the average number of times the second answer was selected. However, implementing this caused technical difficulties, so these parameters were not used.

Table 5: Number of completed 6TH EWCS back-checks, by country (January 2016)

Country/territory	Back-checking interviews completed	Completed interviews (including rejected)	Target	Achieved
EU MEMBER STATES				
Austria	103	1028	10%	10.02%
Belgium	277	2590	10%	10.69%
Bulgaria	383	1064	30%	36.00%

[42] Control started during fieldwork, as soon as the first questionnaire and contact sheet data were returned to the agency (and within one week of the interview), in order to maximise reactivity and immediately replace interviews when relevant.

[43] The most frequent reasons for flagging interviews for back-check were interview length (e.g., less than 25 minutes or more than 90 minutes), being conducted at the wrong time of day, an interview not ending on the same day as it was started, and interviews by interviewers with more than 5 interviews occurring on the same day.

Table 5: Number of completed 6TH EWCS back-checks, by country (January 2016)				
Country/territory	**Back-checking interviews completed**	**Completed interviews (including rejected)**	**Target**	**Achieved**
Croatia	226	1051	20%	21.50%
Cyprus	202	1004	20%	20.12%
Czech Republic	305	1004	30%	30.38%
Denmark	104	1002	10%	10.38%
Estonia	117	1015	10%	11.53%
Finland	101	1002	10%	10.08%
France	158	1531	10%	10.32%
Germany	210	2094	10%	10.03%
Greece	121	1007	10%	12.02%
Hungary	103	1028	10%	10.02%
Ireland	106	1060	10%	10.00%
Italy	142	1408	10%	10.09%
Latvia	391	1004	15%	38.94%
Lithuania	191	1022	10%	18.69%
Luxembourg	102	1003	10%	10.17%
Malta	114	1004	10%	11.35%
Netherlands	106	1029	10%	10.30%
Poland	148	1229	10%	12.04%
Portugal	115	1038	10%	11.08%
Romania	107	1063	10%	10.07%
Slovakia	349	1002	30%	34.83%
Slovenia	456	1630	10%	27.98%
Spain	709	3402	20%	20.84%
Sweden	113	1026	10%	11.01%
United Kingdom	181	1682	10%	10.76%
CANDIDATE COUNTRIES				
Albania	345	1002	15%	34.43%
Former Yugoslav Republic of Macedonia (FYROM)	217	1015	20%	21.38%
Montenegro	241	1009	20%	23.89%
Serbia	231	1052	15%	21.96%
Turkey	701	2120	20%	33.07%
OTHER COUNTRIES				
Norway	111	1072	10%	10.35%
Switzerland	102	1007	10%	10.13%

Following the procedures for back-checking outlined in the quality control protocol document, inconsistencies observed in the back-checking questionnaire led to various actions such as re-training the interviewer,

removing an interview from the dataset, (re-)checking the interviewer's other interviews, and – in more extreme cases – the termination of the interviewer's contract.[44]

E. Coding process

Requirements

Topic	*QA#*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Coding	120	Percentage of countries where at least 10% of codes (classifying answers to open-ended questions) are coded by two separate coders	100%	100%	See Coding report
Coding	122	Percentage of codes for which non-correspondence between coders occurred that have been followed up on	100%	100%	See Coding report
Coding	123	Comprehensive coding report provided	YES	YES	See Coding report

Targets

Topic	*QA#*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Coding	121	For each country, the percentage of double-coded answers for which codes correspond between the two separate coders	>=95 %	NO	Calculation of inter-coder agreement rates (incl. IPA countries): - ISCO08: 74% (4-digit); 78% (3-digit) - NACE V2: 78% (3-digit); 85% (2-digit) See also Coding report

[44] Actions that were taken included: In Norway, 42 cases of suspected fraud for two interviewers were detected by the local partner. Both interviewers were removed from the project and replaced, and one of these interviewers had its work completely removed (31 cases); in Sweden, 24 interviews were removed as the respondent selection rules were not respected, with snowballing sampling used; in the UK, 52 interviews were removed as they did not meet various quality criteria; similarly 22 other interviews were removed in Poland for not meeting various quality criteria; 18 interviews (including two cases of interviews carried out the workplace) were removed in Lithuania due to various quality control issues.

In the 6th EWCS questionnaire, interviewers needed to code three variables according to the following international classifications:

- **OCCUPATION** (**CODIN**G AT 4 DIGIT LEVEL):
  In order to account for the revision of the ISCO classification, data on occupation was coded both in ISCO 88 and ISCO 08.

- **ECONOMIC ACTIVITY** (CODING AT 3 DIGIT LEVEL):
  In order to account for the revision of the NACE categories, data on economic activity was coded both in NACE rev 1.1 and NACE Rev. 2.

- **LEVEL OF EDUCATION** (AUTOMATIC CODING):
  The education categories in the questionnaire were country specific (i.e. levels in the local education system), so the responses had to be recoded in order to obtain the internationally comparable ISCED categories. This, however, was done in a fully automatic fashion on the basis of official correspondence tables.

Coding process

The network agencies put together a core team of experienced coders who were familiar with ISCO and NACE coding and had worked on similar projects before. Training materials, FAQs and continuous support were provided to the network agencies. The network agencies were responsible for training all coders involved in the study; trainings were carried out between 20 and 27 January 2015 in all countries. A 'refresher training' was carried out in the five 'Instrument for Pre-Accession Assistance' ('IPA', also 'candidate') countries between 3rd and 10th of September 2015.[45]

The coding in the main survey was performed in two phases: a test-phase and an actual coding phase. The test phase provided coders with some initial experience and gave an opportunity for feedback to be given and for improvements to be made to the coding manual and the coding process itself. An additional benefit was that it allowed the Central Team an opportunity to harmonise the coders' work ahead of the main stage (see for more information on the coding phases, the Coding Report).

Following the test phase, network agencies were responsible for coding the rest of the data considering the lessons learned from the pilot study and the test phase.

The actual coding was done in two steps:

- 1st step: coding with code list ISCO 08 and NACE V2 (questions Q2Q3_08, Q7_V2)
- 2nd step: coding with code list ISCO 88 and NACE 1.1 (questions Q2Q3_88, Q7_V11)

After the 1st step the data were exported and the codes matched to those in earlier versions (ISCO 88 and NACE1.1). On average about 72% of the coding in earlier versions were done automatically by *Ascribe*, for the remaining cases coders had to choose from several codes assigned by Ascribe or code it themselves from scratch.

For more details on the coding process, see the Coding report [QA item 123].

[45] The IPA or candidate countries are: Albania, Former Yugoslav Republic of Macedonia (FYROM), Montenegro, Serbia and Turkey.

Coding quality control

The quality assurance for the coding comprised the following aspects (each of which is expanded upon in the Coding report):

- the drafting of coding manuals and training documents;
- the selection of a core team of only experienced coders;
- usage of standardised coding software, Ascribe;
- a testing phase where three sets of independent coding were compared against each other; and
- full documentation of all coding procedures throughout the project.

The network agencies' researchers reviewed 10% of each coder's remaining work throughout the fieldwork period [QA item 120]. Errors were only recorded in case the researcher challenged the coder's coding and the coder (or another senior colleague) agreed that a different code should have been used. All codes for which non-correspondence between coders occurred were followed up on [QA item 122].

On average, the percentage of double-coded answers for which codes corresponded between the two separate coders (inter-code agreement rate) was:

- ISCO08: 74% (4-digit); 78% (3-digit)
- NACE V2: 78% (3-digit); 85% (2-digit)

Hence, Ipsos did not achieve the 95% inter-code agreement threshold as described in the QA plan [QA item 121]. The differences between the local coders were mostly due to different interpretations of the open-ended questions by the coders (due to the level of detail in the code list). Different interpretations also caused variation between triple coding and the final verified code.

F. Data editing and validation

Requirement

Topic	*QA#*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Cons. checks during interview / data entry	89	Number of hard consistency rules identified	>0	25	CAPI logic checks document sent 04/06/2015
Cons. checks during interview / data entry	90	Comprehensive documentation of all hard consistency rules	YES	YES	Logic checks document sent 04/06/2015, and syntax/programming instructions sent 09/06/2015
Cons. checks data checking	91	Number of hard consistency rules identified and programmed in CAPI	>0	25	CAPI logic checks document sent 04/06/2015
Cons. checks data checking	92	Number of soft consistency rules identified	>0	25	Data editing/cleaning report
Cons. checks data checking	94	Comprehensive documentation of all soft consistency rules	YES	YES	Final version of the logic checks document sent to EF on 04/06/2015, and the accompanying syntax/programming instructions were sent to EF on 09/06/2015.
Data checking and evaluation	125	An explorative analysis of item nonresponse was carried out (both within cases and within variables), in which all variables and cases were flagged that exceeded an agreed threshold (threshold to be defined)	YES	YES	Data was provided at an overall level, broken down by country where appropriate, all broken down by question, respondent and interviewer.
Data checking and evaluation	126	An explorative analysis of impossible and implausible values was carried out, flagging all cases and variables where impossible or implausible values were observed	YES	YES	Data editing/cleaning report; syntax for detecting impossible and implausible values was developed.
Data checking and evaluation	127	An explorative analysis was carried out of the distributions of all variables for each country, flagging all anomalies	YES	YES	Data from each country was tested and an overall summary was provided. In addition, syntax was provided.
Substantive dataset	129	Percentage of variables that were named in accordance with agreed template	100%	100%	Finalised in 14/05/2015 delivery; minor changes afterwards, including renumbering of all questionnaire questions/variables in line with EF preferences.

Topic	*QA#*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Substantive dataset	130	Percentage of variables that were labelled in accordance with agreed template	100%	100%	See item 129
Substantive dataset	131	Percentage of variables for which the missing values were properly defined	100%	100%	Issues discussed and resolved in time for delivery of 1st version of main stage data sent 10/04/2015.
Substantive dataset	132	Percentage of variables for which the level of measurement was properly defined	100%	100%	See item 131
Substantive dataset	133	Percentage of substantive variables included in the dataset	100%	100%	See item 131
Substantive dataset	134	Percentage of stratification variables included in the dataset	100%	100%	Final data set; all stratification variables included as required
Substantive dataset	135	Dataset delivered in specified format	YES	YES	Interim dataset delivered in specified format and approved 02/07/2015; same used for final data set.

The section below provides an overview of the quality assurance measures taken during the different steps of the data editing and validation process.

F.1. General quality assurance

In accordance with the quality assurance plan, Ipsos assured that the following general quality assurance measures were taken in relation to data editing and validation:

- All variables were named and labelled in accordance with agreed template [QA item 129 and 130][46]
- All missing values were properly defined for all variables [QA item 131][47]
- The level of measurement was properly defined for all variables [QA item 132]
- All substantive variables were included in the dataset [QA item 133]
- All stratification variables were included in the dataset [QA item 134]
- The dataset was delivered in the specified format [QA item 135][48]
- All relevant process variables were included in the dataset [QA item 142]

[46] Most variables were resolved in March and April 2015 (in line with feedback given by Eurofound on the pre-test data files sent in January/March, and the initial main stage data sent on 10 April), but finalised in the 14 May 2015 delivery; minor changes afterwards including renumbering of all questionnaire questions/variables in line with Eurofound preferences.

[47] Issues discussed and resolved in time for the delivery of the first version of main stage data sent on 10/04/2015.

[48] Process ongoing; the Interim dataset was delivered in the specified format and approved on 02/07/2015.

F.2. Routing

Ipsos checked the routing of the questionnaire and if respondents were asked a question that was not relevant to them, Ipsos removed these respondents from the base for that question (set their response to system missing). If a respondent had not been asked a question that would have been relevant to him/her, Ipsos flagged the details so that this could be taken into account during the analysis. This information was provided to Eurofound in a Data Cleaning and Editing report.

F.3. Permitted values

Every question had a list or range of permitted values. This could include permitted responses from a code list (e.g. 1 – Male, 2 – Female), a range (e.g. age is restricted to a maximum of 100), and includes 'don't know', 'refused' and 'not applicable' (where applicable). Every question also allowed either a single or multi response. In total 25 hard checks were identified and added to the script to refrain interviewers from recording impossible responses [QA item 89 and 91].[49] All questions were verified to check whether the script and hard-checks worked well; no variables were found with non-permitted values and no cases were identified were multiple responses had been allowed at a single response question.

F.4. Duplicates and near duplicate observations

As a first step, it was investigated whether the dataset included any duplicates on ID, or any duplicate interviews with identical values on all variables. The results verified that the dataset did not include any duplicates of this kind. The number of interviews with maximum percent match higher than 90% was 0.18% which is well below the 5% threshold set by Kuriakose and Robbins (2015).

As a second step, a range of substantive survey variables (excluding demographic information, open-ended questions, and questions with filters) was used to calculate the similarity measure. Interviews with a similarity measure of 95% or more were checked on a case-by-case basis, using input from other quality parameters and by taking a closer look at the interviews. All interviews of suspicious interviewers were double-checked. In total, six interviews in Hungary (2), Croatia (2) and Slovakia (2) that had high similarity and high item non-response were removed from the sample.[50]

F.5. Distribution of responses

In order to check for obvious mistakes and cheating, Ipsos checked for all questions if the distribution of responses was logical. The distribution, central tendency and variability of responses (including median and mode for categorical or ordinal variables and mean, range and standard deviation for numerical variables) for

[49] Documented on CAPI logic checks document sent 04/06/2015; approximately 25 hard checks [QA item 90].

[50] Ipsos decided to exclude these interviews even if the interviewers did not stand out in the distribution of highly similar interviews by interviewer. Ipsos also looked into other interviews by the same interviewers, but did not detect anything illegal (log files were provided to Eurofound for further information).

every identified question were analysed. Every grid question was checked for 'straight-lining'.[51] The results were reported on the overall level (country level results would take up a lot of space and it would cause a lot of repetition) and included Ipsos' recommendation for how to deal with any outliers or odd values (and how they are defined) [QA item 127]. The delivered syntax allowed readers to perform their own analysis and was clearly labelled.

F.6. Implausible responses

As mentioned above, the CAPI script contained 25 hard checks, blocking interviewers from entering extreme or impossible responses (e.g. having two spouses). In addition the CAPI script contained 25 soft checks, warning – but not blocking – interviewers when they entered illogical responses; for example warning the interviewers when a respondent said that he/she was working more hours in another paid job than in his/her main job [QA item 92]. Further analysis was carried out on interviews that included multiple instances of an interviewer 'overriding' soft checks.

Furthermore, Ipsos reviewed the questionnaire for implausible (although not per se impossible) combinations of responses that were not covered by the hard or soft checks; for example, a younger than 18 year old parent or step-parent, younger than 18 and a partner, full time education and older than 30, etc. [QA item 126]. Ipsos chose to provide an SPSS syntax file instead of applying changes to the data to correct implausible responses, in order to avoid irretrievable changes in the data. Based on its findings, Ipsos recommended adding some additional soft-checks for the next EWCS wave.

F.7. Item non-response

Respondents were permitted to 'refuse' to answer a particular question, or could answer 'don't know' or 'not applicable'. However, high levels of non-response could point to a problem, either with the question wording or response options, or respondent disinterest or unwillingness. Therefore, Ipsos investigated all interviews and interviewers above a 10% non-response threshold [QA item 125].[52] Ipsos computed a new variable for each question showing whether a non-response option was chosen. The item non-response was calculated by summing the codes of 'refusal', 'don't know' and 'not applicable' by question, respondent and interviewer. No data editing was undertaken due to these results, nor did this check determine whether any interviews should be removed, it was for information only.

[51] This is a term for cases where a respondent chooses the same response to every question in the grid.
[52] Data were provided at an overall level, broken down by country where appropriate, all broken down by question, respondent and interviewer.

G. Punctuality

Topic	*QA #*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Sampling	18	Sampling plan delivered at agreed date (08/08/2014]	YES	NO (17/02/15)	Some countries changed information sources (e.g. wanted to use more up-to-date statistics) leading to late changes and delays. The 'achieved deadline' is the date when the last approved implementation plan was sent to EF.
Sampling	19	Sampling plans approved at agreed date (29/08/2014)	YES	NO	The country sampling plans have been approved on an ongoing basis between 19/11/2014 and 17/02/2015.
Sampling	21	Gross sample provided by national agencies at agreed date (16/01/2015)	YES	NO	Gross sample from countries was received between 12/01 and 25/02/2015 in general. The latest country being Estonia where gross sample was provided on March 20.
Sampling	26	Training of enumerators delivered at agreed date (12/09/2014)	YES	NO	Training materials were provided to country managers. For the Pilot these were sent on 3 and 14 October. For the mainstage they were sent on 25 November and 10 December. Cause: Timetable delays; the translation and scripting for the pilot were behind schedule.
Weighting	37	Weighting strategy delivered at agreed date (10/10/2014)	YES	NO	First draft sent on 19/12/2014. 2nd draft sent on 18/02/2015. Delay related to personnel issues. No impact on other phases; fieldwork needed to be completed for final strategy.
Weighting	41	Design weights delivered at agreed date (10/07/2015)	YES	NO (09/10/2015)	Delivered with final data set, needed to wait until fieldwork completion
Weighting	46	Post-stratification weights delivered at agreed date (10/07/2015)	YES	NO (09/10/2015)	Delivered with final data set, needed to wait until fieldwork completion
Weighting	50	Supra-national weights delivered at agreed date (10/07/2015)	YES	NO (09/10/2015	Delivered with final data set, needed to wait until fieldwork completion

Topic	*QA #*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Questionnaire	56	Timeline for questionnaire development was defined and kept	YES	NO	For the pre-test, sign-off for the English questionnaire was received on 10/07/ 2014, and only minor changes were requested/required after that. For the main stage, the timeline was squeezed by the delays to pre-test fieldwork and reporting. EF signed-off on 20/01/2015. A request to amend randomisations and rotations was received on 2-3/02 and incorporated.
Questionnaire	61	Advance translation delivered at agreed date (19/05/2014)	YES	YES	The advance translation into German was delivered on 26/3/2014. The advance translation into Polish was delivered on 1/4/2014.
Questionnaire	65	Cognitive test delivered at agreed date (16/04/2014)	YES	YES/NO (23/04/2014)	An interim report was sent on 16/04/2014 with 34 of the 36 interviews in. Two respondents cancelled their interviews at the last minute; an updated report including all 36 interviews was sent on 23/04/2014.
Translation	67	Selecting of questions eligible for translation delivered at agreed date (17/06/2014)	YES	NO (08/07/2014)	Sign-off Master English questionnaire by EF.
Translation	72	Initial translation delivered at agreed date (25/07/2015)	YES	YES (20/7 to 1/8/2014)	All translations were delivered on a staggered way due to summer holidays and depending on translators' availabilities.
Translation	75	Within country adjudication (overall) delivered at agreed date (08/08/2014)	YES	NO (06/08 to 15/09/2014)	All adjudications were delivered in a staggered way due to summer holidays and depending on translators/adjudicators availabilities.
Translation	78	Cross country review (overall) delivered at agreed date (03/10/2014)	YES	YES (29/9 to 10/10/2014)	Cross country review
Translation	80	Final translated questionnaires (language version) delivered at agreed date (10/10/2014)	YES	YES/NO (10/10/2014)	Yes, except for Russian in EE, LV and LT: here the second adaptation process was finalised later (3/11 to 9/12/2014) for the mainstage.

Topic	*QA #*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
CAPI / data entry process	88	CAPI / data entry process programmed and finalised at agreed date (03/10/2014, later postponed to the end of October)	YES	NO (05/12/2014)	Date is when the final pre-test country (LU) started fieldwork. LU was delayed because of issues with integrating the script and this was deprioritised so that all iField countries could start first. The iField countries experienced problems with scripting, overlaying and testing/signing-off all translations.
Interviewer training materials – pre-test	104	Interviewer training materials delivered at agreed date (26/09/2014)	YES	NO (22/10/2014 to 30/10/2014)	Delayed because some documents needed small corrections.
Const. interviewer training materials – main-stage	105	Interviewer training materials delivered at agreed date (09/01/2015)	YES	NO (10/02/2015)	Delayed because of general delays incurred at the time
Fieldwork	117	Number of days that fieldwork continued after the agreed date (25/05; 19/06 for ES)	0	102 (0 for IPA)	FI and SE where delayed until end of August, so 98 days extra. For ES the reference sample was achieved by 29 September. In total 102 days extra. The IPA countries finished fieldwork according to schedule (December 2015).
Fieldwork	119	Technical and fieldwork report delivered at agreed date (24/07/2015)	YES	NO (23/09/2015)	Fieldwork delays prevented to deliver on time; needed to wait until fieldwork was finished.
Data processing	124	Coding report delivered at agreed date (24/07/2015)	YES	NO (30/10/2015)	Fieldwork delays prevented to deliver on time; needed to wait until fieldwork was finished.
Data processing	128	Data checking and evaluation finalised at agreed date (26/06/2015)	YES	NO (25/09/2015 – date of report)	Fieldwork delays prevented to deliver on time; needed to wait until fieldwork was finished.

Topic	*QA #*	*Indicator*	*Targ.*	*Ach.*	*Evidence*
Micro data	137	Substantive dataset delivered at agreed date (10/07/2015)	YES	NO (09/10/2015)	Final dataset (sent on 09/10) delayed due to fieldwork delays (esp. in ES/SE/FI)
Micro data	146	Process (para)data delivered at agreed date (10/07/2015)	YES	NO (09/10/2015)	Final dataset (sent on 09/10) delayed due to fieldwork delays (esp. in ES/SE/FI).

Explanation on delays

The initial stages of the project progressed smoothly. The complete Cognitive test report was delivered on 23 April 2014, a week after the planned date of 16 April [QA item 65]. An interim version of the Cognitive test report was sent by 16 April, but two respondents cancelled their interviews last minute and had to be replaced by other respondents in order to reach the target of 36 interviews.

At the beginning of the translation procedure the selecting of questions eligible for translation was delivered on 8 July 2014 (the date when the Master English questionnaire was signed-off by Eurofound) [QA item 67]. The target date of 17 June was not achieved because of the late delivery of the advance translation [QA item 61] and personnel issues at Ipsos' side. This had no significant impact on the initial translations, which were delivered between 20 July and 1 August, more or less according to schedule [QA item 72].

Many translators and adjudicators were not available because of the summer holiday season, a problem aggravated by the fact that the in some regions of Europe, such as Scandinavia, the holiday season starts early and lasts relatively long. Another issue which affected to the translation process was that the different ways in which trend and new questions were handled made the process very complex. As a consequence, the last country adjudications were finalised on 15 September 2014; the planned deadline was 8 August 2014 [QA item 75]. Nevertheless, Ipsos was able to make up for these delays by mobilising more manpower. The cross country reviews of the translations were delivered by Ipsos between 29 September and 10 October 2014, around the agreed deadline of 3 October 2014 [QA item 78]. Also the final versions of the translated questionnaires, which were used for the pilot, were mostly delivered in time for the 10 October 2014 deadline.[53]

The pre-test (pilot) was carried out between 31 October and 18 December 2014. Although the pre-test itself proceeded well, the time schedule was not wholly kept as some countries started the pre-test late November, early December 2014 [QA item 88]. This was caused in particular by the fact that the iField countries experienced some problems with scripting, overlaying and testing/signing-off all translations. In addition, the training of interviewers had to be postponed somewhat because the interview training materials were only ready by the end of October as some documents needed corrections – the initial deadline was 26 September 2014 [QA item 104]. An additional issue was that the training of enumerators, which initially should have been finished by 12 September 2014, was delivered between 3 and 14 October (for the pilot) and 25 November and 10 December (for the mainstage) [QA item 26]. This can be explained by difficulties related to

[53] Exceptions were the final versions of the Russian language questionnaire in Estonia, Latvia and Lithuania, which were finalised between 3 November and 9 December 2014 [QA item 80].

the translation of the training materials instructions. Altogether this caused the delivery of the pre-test report to slip to 7 January.

The remaining run-up to the mainstage proceeded well, but with the pre-test behind schedule, it was not feasible to complete questionnaire development in accordance with the initial schedule. The mainstage questionnaire was signed-off by Eurofound on 20 January after some minor improvements had been made in comparison to the pre-test questionnaire [QA item 56].

The mainstage of the EWCS fieldwork was planned to launch in all countries - except the IPA countries - within a three-week period from 16th February 2015 and onwards. All countries except Estonia[54] were in field by mid-March, but the proportion of countries commencing fieldwork in February was lower than planned. This was partly related to general time schedule issues (explained above), which interfered for example with the completion of the interviewer training materials for the mainstage (delivered on 10 February 2015) [QA item 105]. Another explanation was that some countries asked for improvements in the sampling plans, for example because they wanted to use more up-to-date statistics compared to the sampling plans. The sampling plans themselves were approved between 19 November and 17 February 2015 [QA item 19]. The last approved sampling implementation plan was sent to Eurofound on 17 February 2015 [QA item 18]. The late delivery of the gross sample by some national agencies also had an adverse impact on the start date of the fieldwork, as the central coordination team had little time left to verify and upload the sample in time for fieldwork [QA item 21]. In the weeks running up to mainstage fieldwork, Ipsos discovered scripting errors in the iField script; this concerned partially new errors and partially errors that had been fixed previously but reappeared. This was all solved in time for fieldwork.

When all countries were in field, Ipsos took many steps to speed up the progress. Most importantly, a dedicated coordination team member was allocated to each country to review daily progress and follow-up where needed. The information they received was shared with Eurofound. In addition, many country-specific interventions and initiatives were taken (see the Technical report for more details). This included, but was not limited to:

- significant efforts to recruit and train new interviewers and to increase interviewer motivation;
- the involvement of the senior management in the national partner organisations to ensure that the project received the necessary attention;
- the reassigning of sample between interviewers, as it was sometimes more effective to allocate soft refusals to other interviewers, especially the most experienced interviewers.

In addition, Eurofound relaxed some methodological requirements to assist countries in their efforts to complete fieldwork on a timely basis without impacting adversely on quality. For example, Eurofound relaxed the requirement for the number of addresses issued to interviewers not to exceed more three times the remaining number of target interviews (the '3:1' rule, see the Technical report for more information). Moreover, Eurofound (reluctantly) permitted the use of paper contact sheets in countries where the electronic contact sheets caused significant difficulties (see for more details the section 'Technical set-up of the questionnaire').

[54] In Estonia fieldwork started on 15 March, as the fieldwork team was awaiting the sample it had requested from the Estonian authorities. Ipsos sent a letter to the Estonian authorities to speed up this process.

The measures taken to speed up fieldwork were successful insofar as they prevented more delays. However, the project's complexity and the overall difficult context (e.g. the lower eligibility rates in some countries after the global economic crisis) made catching up with the initial schedule difficult. As a consequence, the completion of the main wave (i.e. the EU28 plus NO and CH) of the 6th EWCS continued during the summer of 2015 [QA item 117]. The IPA countries, which started fieldwork in September because of timing of the availability of funds on Eurofound's side, finished fieldwork according to schedule in December 2015.[55] The parts of the project that depended on fieldwork completion were drafted when mainstage fieldwork was complete and subsequently finalised when IPA fieldwork was finished. This applied notably to the reports – including the Technical and fieldwork report, the Coding report and the Data checking and evaluation report [QA items 119, 124, 128].The design weights, post-stratification weights and supra-national weights were initially delivered in combination with the substantive dataset on 9 October 2015. On the request of Eurofound, Ipsos changed the agreed reference statistics, delivering a revised version of the weights on 7 January 2016 [QA items 41, 46, 50 and 137].[56]

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[55] Fieldwork was completed by the beginning of November in Albania FYROM, Montenegro and by the second half of November in Serbia. Turkey had a larger sample size (N=2.000) and completed the last interviews on 7 December 2015.

[56] The initial weighting strategy was sent on 19 December 2014, an improved 2nd version was sent on 18 February 2015. This was later than the planned date of 10 October 2014 [QA item 37], but this had no impact on the schedule of the study as a whole, as fieldwork needed to be completed before a final strategy could be completed.

Annex 1: Enumeration checks

Additional explanation on deviations in the enumeration check [QA item 30]

We have reanalysed the data to focus exclusively on the following key checks and deviations:

a) Interval applied correctly (Yes/No) (No = deviation)
b) Route correctly followed (Yes/No) (No = deviation)
c) Address noted correctly (Yes/No) (No = deviation)
d) Correct starting point used (Yes/No) (No = deviation)
e) Notes enough to identify address (Always/Most of the time/Sometimes/Rarely or Never) (Rarely or Never = deviation)

We realised that our original calculation was flawed as it some checks were counted more than once and addresses were also counted multiple times. This was because our focus was on the number of checks carried out rather than on the number of addresses checked.

We have based our calculation on the checks mentioned above as we think that a single address can have deviations itself (from checks c and e) as well as be impacted by the context (from checks a, b, d) – since if the interval, route or starting point was applied incorrectly then the wrong address may have been enumerated.

Table 6: Enumeration checks and deviations detected

Country	Number of addresses subject to quality control checks	Number of addresses with at least one deviation
EU MEMBER STATES		
Austria	550	2
Cyprus	390	6
Czech Republic	720	82
France	1579	0
Greece	538	0
Hungary	568	421
Italy	1454	0
Latvia	4851	0
Malta	773	6
Portugal	542	17
Romania	800	80
Slovakia	800	23
Slovenia	1173	5
Spain	6073	452
CANDIDATE COUNTRIES		
Albania	553	0
FYROM	388	0
Serbia	577	107
EFTA COUNTRIES		

Table 6: Enumeration checks and deviations detected		
Country	**Number of addresses subject to quality control checks**	**Number of addresses with at least one deviation**
Switzerland	519	12
Total	22848	1213 (5%)