THE SPANISH SURVEY OF HOUSEHOLD FINANCES (EFF): DESCRIPTION AND METHODS OF THE 2017 WAVE

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Abstract

The Spanish Survey of Household Finances 2017 (EFF2017) provides detailed information on the income, assets, debt and spending of Spanish households referring to end-2017. Together with the previous waves of 2002, 2005, 2008, 2011 and 2014, the EFF2017 enables the analysis of several phases of the recent economic cycle and of the related developments in Spanish households' financial position. This paper provides a detailed description of the most relevant methodological aspects in the design and implementation of this sixth edition: the sample design, the questionnaire, the data collection process, the validation of the data, the computation of weights and the imputation procedures. Important characteristics also present in this wave are the oversampling of wealthy households and the panel component of the sample.

Keywords: wealth survey, oversampling of the rich, panel, refreshment sample, data collection, imputation, weights.

JEL classification: C81, D31.

Resumen

La Encuesta Financiera de las Familias 2017 (EFF 2017) proporciona información detallada sobre la renta, los activos, las deudas y los gastos de los hogares españoles referida a finales de 2017. Junto con las olas anteriores de 2002, 2005, 2008, 2011 y 2014, la EFF 2017 permite analizar varias fases completas del ciclo económico reciente y la evolución de la situación patrimonial de los hogares españoles. Este documento proporciona una descripción detallada de los aspectos metodológicos más relevantes del diseño y la implementación de esta sexta edición: el diseño muestral, el cuestionario, el proceso de recogida de los datos, su validación, el cálculo de los pesos y la imputación. Características importantes también presentes en esta ola son el sobremuestreo de los hogares ricos y el componente panel de la muestra.

Palabras clave: encuesta de riqueza, sobremuestreo de los ricos, panel, muestra de refresco, recogida de datos, imputación, pesos.

Códigos JEL: C81, D31.

Contents

1 Introduction

The Spanish Survey of Household Finances ("EFF" by its Spanish acronym) is a survey conducted by the Banco de España (BdE) that provides detailed information on the income, assets, debt and spending of Spanish households. Specifically, the wave relating to 2017 (EFF2017) offers a representative and updated picture of the composition and distribution of household assets and debts referring to end-2017. The EFF2017 is the sixth edition of the survey following those of 2002, 2005, 2008, 2011, and 2014 and enables the analysis of changes in the financial position of Spanish households to be expanded to the period from end-2014 to end-2017.[1]

Two important characteristics of the EFF, which are also present in this fifth wave, are the oversampling of wealthy households and the panel component of the sample. Regarding the first, such oversampling ensures that there is a sufficient number of households to study – with enough precision – the financial behaviour of households at the top of the wealth distribution and to measure more accurately the aggregate wealth of the economy. This aspect is crucial in surveys of this kind, since the distribution of wealth is very asymmetrical and only a small fraction of the population invests in certain kinds of assets, mainly high-wealth households. Regarding the longitudinal dimension, some of the households that participated in previous editions have been re-interviewed from the second edition onwards. As a result, the combination of samples from the different editions allows a common sub-set of households to be observed at several points in time and, in certain cases, over a period of nearly ten years.[2] This longitudinal approach is important for analysing the behaviour of income, wealth and consumption over the household life cycle and for exploring household transitions or mobility across the distributions of the variables under study. To reconcile these two characteristics with the requirement of the cross-sectional representativeness of the overall sample, a refreshment sample was designed and added to the longitudinal component.

This article is organised as follows. The second section briefly outlines the questionnaire. The third section describes the sample design in greater detail. The fourth section provides relevant information on some aspects of the data collection process such as the monitoring of fieldwork, the editing of the data and the response rates achieved. The fifth section describes the final sample and its main properties. The sixth section discusses the weighting and the calculation of the cross-sectional and longitudinal weights. The seventh section presents an analysis of unit non-response and provides some remarks on the imputation procedures used in the survey in cases of item non-response.

1 For a detailed description of the main results of the EFF2017 and the most significant changes observed in the period from end-2014 to end-2017, see: https://www.bde.es/bde/es/areas/estadis/estadisticas-por/encuestas-hogar/relacionados/Encuesta_Financi/eff_2017.html.

2 As we will describe in more detail later, the sampling design for the EFF2017 did not include households interviewed in the EFF2002 or the EFF2005.

2 The questionnaire and the CAPI interview

2.1 Contents

The EFF questionnaire is divided into the following nine main sections:

1 Demographics[3]

2 Real assets and their associated debts

3 Other debts

4 Financial assets

5 Pension plans and insurance

6 Employment status and related income

7 Non-labour income in the previous calendar year (2016)

8 Means of payment

9 Consumption and savings

The questions on assets and debts refer to the household as a whole, while those on employment status and related income are asked of each household member over the age of 16. Most of the information relates to the time of the interview, although information is also collected on all pre-tax income in the calendar year prior to the survey, in this case 2016. The information was collected by means of personal interviews with the households, conducted between October 2017 and June 2018. As in the previous waves, the interviews were conducted by interviewers with specific training and were computer-assisted (CAPI).

Compared to paper questionnaires, the use of CAPI presents two main advantages which are crucial when implementing complex surveys such as the EFF. First, it allows interviewers to conduct a complex and long interview. Second, it allows for the development of a questionnaire instrument that embeds desirable functionalities which are useful for improving the completeness and the quality of the data. As in the previous waves, the following retrieval cues and quality checks are implemented in the course of the interview:

— Currency units: the EFF questionnaire instrument enables the functionality of converting automatically pesetas to euro and viceversa. This allows respondents

3 The demographic questions were worded to enhance the comparability with similar questions from other household surveys conducted by the National Statistics Institute (INE), such as the EU-SILC.

to report monetary amounts in the currency unit they are more familiar with, preventing them or interviewers from having to make calculations. This tool refers specifically to the sequence of screens where the respondents provide a monetary amount, choose a currency, and then verify that their answers have been registered correctly.

— Soft and hard consistency and correction checks: an increasing number of these checks have been included in the instrument since the first edition of the survey to improve as much as possible the internal consistency of the data.

— Euroloop: this aid tool allows respondents to answer monetary questions in intervals (self-reported or chosen from a predefined fixed list) when the respondent is unable or unwilling to provide a point estimate.[4]

— Interviewers' comments: interviewers may enter at any stage of the interview comments to explain particular details or to provide additional clarifications or relevant information. This tool has always been very useful for correcting mistakes or understanding specific answers during the data editing process conducted by BdE and the survey agency.

In addition to all these functionalities, the EFF2017 was the first edition in which some questions were audio recorded for quality monitoring and the supervision of interviewers. Despite the limited number of questions recorded per interview (11), these audios became a crucial methodological tool to detect mistakes, misunderstandings, interviewers' bad practices, and respondents' difficulties to understand complex questions. Besides, they were extremely useful to understand the interaction between the interviewer and the respondent.

The median time taken to complete the EFF2017 questionnaire was around 70 minutes and 90% of the interviews took less than 110 minutes. Only for 1% of the interviews was the duration above 172 minutes.[5] Table 1 reports some descriptive figures concerning the number of questions households were asked. The number of euro questions posed is similar to previous editions (30 at the median, 26 in 2014) as is the overall number of questions (259 at the median, 244 in 2014).

2.2 Changes with respect to EFF2014

The CAPI instrument was enriched significantly already in previous editions by including many new confirmation and consistency questions and improving some of the existing ones.

4 A self-reported interval is defined by a lower and/or upper bound provided by the respondent. If no self-reported interval is provided, the respondent can choose from a predefined list of fixed intervals. The alternative unfolding bracket format where respondents are asked whether the monetary amount is less, about, or more than a specific shown entry point was discarded because of the difficulties in designing meaningful entry points and avoiding anchoring effects. Moreover, we felt this strategy could alienate respondents.

5 For these calculations 149 questionnaires were excluded because their durations were so long that we suspected that interviewers did not close the computer application properly when finishing the interview.

In the EFF2017 edition, some few additional checks were included in order to reduce errors in the reporting of loan terms and the number of pension plans. In addition, the wording of some particular questions was carefully revised and improved to help respondents to understand them without affecting the comparability across waves.

Concerning the questionnaire, it was fundamentally the same as in the previous waves but with the following new questions added[6]: (i) a question on the monthly amount the household should be paying for the rental of the main residence if the household reports not to be paying at the moment of the interview; (ii) the sequence of questions on renegotiations and refinancing of loans for the purchase of other properties and other debts; (iii) questions on the year life insurances were taken out and on the age the holders expect to receive the insurance benefits; (iv) questions on the number of years at the present job and subjective expectations on the probability of losing job in case of self-employed household members; (v) separate questions for public and private pensions received in the previous calendar year; (vi) a question on spending on leisure travel and holidays; (vii) separate questions for monetary transfers provided regularly to relatives, ex-partners and charities; (viii) a question to know whether reported financial difficulties in debt repayments are with banks; (ix) and finally, a question at the end of the questionnaire on the propensity to save.

6 All changes implemented on the EFF2017 questionnaire are marked in the paper version of the questionnaire which is available together with the data files at the EFF section on the BdE webpage.

3 Sample design

3.1 Main characteristics

A fundamental characteristic of the EFF sample is the over-representation of high-wealth households. This aspect is crucial in surveys of this kind since the distribution of wealth is very asymmetrical (a small fraction of households hold a large share of household wealth) and only a small fraction of the population invests in certain kinds of assets, mainly high-wealth households. Under these circumstances, a standard random sample would not contain enough observations to study the financial behaviour of households at the top of the wealth distribution and to obtain an accurate measure of the aggregate wealth of the economy. Such oversampling guarantees having a sufficient number of rich households to perform this kind of analysis.

As in the previous editions of the EFF, the sample design implemented for the sixth edition pursued two main objectives:

1 To achieve a sample representative of the current population with oversampling of wealthy households.

2 To include a panel component, i.e. a set of households that also participated in previous editions of the survey. This longitudinal approach is important for the analysis of the behaviour of income, wealth and consumption over the life cycle, household transitions or mobility across the distributions of those variables and individual changes. Moreover, it facilitates the study of causal effects.

Given these two objectives and similar to the previous edition, a rotation procedure was followed limiting the maximum number of editions of the survey in which a household may participate. Specifically, panel households participating since 2005 were dropped, which means that the panel component of the EFF2017 initial sample included households participating since 2008 (629), 2011 (1573) or 2014 (3,149). Moreover, a refreshment sample was designed to complement the longitudinal component (up to a total sample of 9,105 households) and to ensure that the overall sample satisfies the representativeness and oversampling requirements. This sample was obtained thanks to the cooperation of INE and the tax authorities (Agencia Tributaria), through a coordination mechanism that enables taxable household wealth records to be assigned to the sampling frame complying with strict confidentiality and anonymity requirements at all times. A procedure for replacing non-respondent households with others with very similar income and wealth levels was also included in the refreshment sample design, thus ensuring that the desired characteristics of the sample were maintained in spite of non-response. More details on these aspects are provided in the following sections.

3.2 Sampling design and oversampling

The population frame for the EFF2017 sample was the Population Register corresponding to January 2017, in which the units are households as defined by their postal address. The

basis for the oversampling of the wealthy was the wealth tax file information from the 2014 individual wealth tax returns, held by Agencia Tributaria.

In order to implement the oversampling, INE sent the Population Register to the Tax Office, which constructed three variables based on information drawn from both the wealth and the income tax returns for each address. The first variable, the wealth stratum indicator, is based on the total declared taxable wealth of the household, which is obtained by adding up the tax returns of all its members when applicable. The new wealth tax regulation approved in Spain in 2011 increases the non-taxable minimum wealth amount to 700,000€ so that just 181,874 individuals filed a wealth tax return in 2014. Based on the new percentile distribution of the taxable wealth of those households filling a wealth tax return, wealth strata were re-defined from the EFF2014 on. In particular, seven strata were considered and oversampled progressively at higher rates (see Table 2 for the definition of the new intervals). Strata 2 and 3 captured approximately one-third of the distribution of taxable wealth. Strata 4, 5 and 6 captured from the percentile 30 to the percentile 95, approximately, and finally the last two strata captured a little less than the last five percentiles.

The second variable computed by the Tax Office for those households who file income tax but not wealth tax returns indicates the quartile in the national taxable income distribution to which the household belongs. Finally, information on the per capita income of the household is also added. These income variables were helpful in the selection of sample replacements, and also to ensure that households from all income levels were selected in the sample. This last requirement was guaranteed by using systematic sampling with a random start in a properly ordered data frame. Furthermore, the income quartile indicator was used to correct for non-response in large cities. The income tax information relating to 2014 was used for consistency with wealth tax information. As is usually the case, there was some limited mismatch between the tax and the Population Register sources.

Besides, the sampling design differed in terms of municipality size as follows:

1 For municipalities that were the capitals of their provinces and municipalities over 100,000 inhabitants, a fresh oversampling was designed to supplement by wealth strata the panel sample. This required, first, the updating of the wealth (and income) tax information of panel households taking into account the new wealth strata. Then, within each of the seven wealth strata, random sampling was implemented, closely following the sampling procedure used in the previous waves for municipalities in this group.

2 For municipalities with 100,000 or fewer inhabitants, there was no fresh oversampling. Instead, a two-stage cluster sampling procedure was implemented, where in the first stage the primary sampling units selected (PSUs or «secciones censales») were the same as those used in the previous waves.[7] In the second

7 In the first wave the PSUs were selected with a probability proportional to their population.

stage, households were randomly selected within each PSU to supplement the panel households belonging to it, up to an overall number of nine households per PSU. In the first wave, oversampling in these types of municipalities was achieved only for PSUs with ten or more wealth tax filers. For these PSUs, four wealth tax filers and four non-wealth tax filers were drawn.

3 For Navarre and the Basque Country, the sampling procedure was similar to that for the group of smaller municipalities but with a finer stratification by municipality size for small municipalities. The panel sample was also supplemented with up to a total of nine households within each of the PSUs used in the previous waves. No oversampling of the wealthy was implemented because the national Tax Office does not hold the personal tax file information for these regions.

3.3 Replacements

Since information on the wealth stratum of sample households was not available either to the survey agency or to BdE, "directed" efforts during fieldwork to preserve the oversampling scheme were not possible. Instead, tightly controlled replacements were selected for refreshment households in large municipalities.[8] The replacement of an original sample household occurs when the selected household does not participate and is replaced by another household with very similar characteristics in terms of income and wealth. The use of those controlled replacements in the EFF helps avoid very low response rates in specific strata.

The procedure for replacing non-respondent households with others with very similar income and wealth levels is as follows. In large cities and provincial capitals, up to four replacements were drawn for each original household in the sample. These "replacement" households were fully attached to the original household selected and could not be used to replace another original household. In particular, the replacements for each original household were the two households immediately before and the two immediately after each particular original household in a list ranked by income quartile (for non-filers of wealth tax), wealth stratum and per capita household income. Replacements had to belong to the same income quartile (for non-filers of wealth tax returns) or the same wealth stratum as the sample household. This was done within municipalities to keep replacements geographically not too distant from the original sample household.

In the case of smaller municipalities, Navarre and the Basque country, four replacement households were drawn for each refreshment sample household from the same PSU. As with the previous wave, no replacements were provided for panel households. This allowed for a larger refreshment sample.[9]

8 In the first wave controlled replacements were also selected in small municipalities in the case of PSUs with 10 or more wealth tax filers.

9 When designing the refreshment sample a rough 70-75% participation rate was assumed for the panel sample based on the rates of the previous waves.

3.4 Confidentiality guarantees

The Tax Office is subject to very stringent confidentiality requirements and cannot release any personal tax information (not even in the form of ranges). To overcome the problem and enable wealth tax oversampling while preserving confidentiality, the National Tax Office volunteered to actually do the random sample selection itself as instructed by the BdE and INE according to the sample design described above.

4 Fieldwork

The fieldwork period lasted around 8 months, from the end of October 2017 to the beginning of June 2018. During this period 6,413 households completed an interview, although after the validation and editing process, 41 interviews were discarded for various reasons (see below for more details). Table 3 contains the distribution of interviews by month over the fieldwork period, which shows that by the end of December around 50% of the total number of valid interviews were already completed

As in the previous three editions, NORC at the University of Chicago was selected by BdE to be in charge of the programming of the CAPI questionnaire and the data collection process. This allowed this new edition to benefit from NORC's previous experience in conducting the EFF as well as the Survey of Consumer Finances (SCF) in the US since 1993, on behalf of the Board of Governors of the Federal Reserve System. At the same time, NORC hired KANTAR TNS in Spain to have access to a network of local interviewers and to enable a closer monitoring of their work. KANTAR TNS, which was also the local agency responsible for the EFF2011 and EFF2014 fieldworks (TNS-Demoscopia at that time), worked together with NORC in close cooperation.

The data collection process for wealth and income surveys is particularly demanding because of high unit non-response given the nature and difficulty of the questions asked. In this context, the design and the implementation of fieldwork protocols and procedures that help to achieve high standards of data quality are particularly important. Special efforts were devoted to specific strategies designed to minimise non-response and measurement errors such as training of the interviewers, gaining cooperation protocols, and analysis and validation of the data.

4.1 Training the interviewers

Interviewers play a key role in the data collection process. Specifically, they can have a very strong impact on cooperation rates, the amount of item non-response and the accuracy of the measures collected. As one of the strategies to guarantee a significant level of standardisation in interviewing performance, NORC and KANTAR TNS developed a very comprehensive training programme for interviewers, based on specific input from BdE. The training for the EFF2017 was conducted at the end of September, just before the start of the fieldwork period, and lasted five full days. All interviewers were required to give their full-time commitment to this task and they attended the same training course, which took place centrally in a hotel on the outskirts of Madrid. Some days before training the interviewers, trainers and representatives of BdE attended a one-full day briefing where all protocols, contents and materials were reviewed and fine-tuned.

A total of 79 interviewers were selected by the survey agency to attend the training course. Given the large number, they were divided into four groups and trained in parallel sessions. Two trainers were assigned to each group. Additionally, one representative of BdE

was also present in each of the four rooms during the training sessions to provide support and specific insights into the contents of the study if needed. The training course covered comprehensively all the EFF protocols and strategies aiming at minimising errors or biases induced by interviewer behaviour. In particular, interviewers received in-depth training on the specific strategies to contact households and gain their cooperation, the correct recording of contact attempts through the case management system, the tracking of panel households, the CAPI instrument and the specific protocols to administer the interview. Indeed, a key part of the training was the review of the questionnaire instrument. Given the complexity of the interview, a substantial part of the agenda was devoted to going through the different sections and routines of the questionnaire using test cases prepared by NORC. During this extensive review, the interviewers received specific instructions and feedback from the BdE experts on how to administer the interview.

NORC and KANTAR TNS, under the supervision of and in collaboration with BdE, developed all materials used during the training as well as the interviewer manual, which covers all essential topics. Well before attending the training course, the interviewers received these materials and were requested to respond to a home test to familiarise themselves in advance with the survey contents. Furthermore, on the last day of the training course, all interviewers had to complete accreditation requirements. In particular, they had to complete an online test and conduct a "gaining cooperation" exercise followed by some sections of a mock interview guided by a predefined script. The interviewers were assessed based on these tests and the skills they demonstrated during the training.[10] Based on the final evaluation, some interviewers had to go through extra reinforcement practice in one or various aspects of the study before going into fieldwork. Finally, 69 passed the training accreditation and were selected to work on the EFF2017[11].

4.2 Efforts to reduce non-response

Before conducting any contact attempt, advance letters from the Governor of the BdE and from NORC-KANTAR TNS, together with a brochure, were sent to all households in the sample. These letters provided detailed information on the nature and purpose of the study and also emphasised the importance of achieving high participation rates for the data to be representative of the whole population. Households were also informed that a website and a telephone number to contact the survey agency or the BdE were available in case they wanted to confirm the legitimacy of the study and ask additional questions. BdE's headquarters and local branches were informed that the survey was being run and they were instructed on how to contact the EFF team in case they received calls or requests from sample households.

When visiting the households, interviewers carried and provided additional copies of the advance letters together with extra documentation on the survey. Specifically, each

10 In particular, 5 different skills were assessed: (i) computer practice and case management, (ii) gaining cooperation, (iii) CAPI interviewing techniques, (iv) familiarity with the study (home test), and (v) fluency with the contact guide.

11 Out of the 79 interviewers who started the training course, 10 did not pass the minimum requirements in respect of accreditation.

household received a printed copy of the article on the main EFF2014 results published by the BdE as well as news excerpts from the major newspapers showing the media coverage of those results. Finally, interviewers offered a token gift to participant families as well as to panel households even if the latter did not agree to collaborate in this edition. Only in the case of panel households who had voluntary provided a telephone number in previous waves was the fieldwork company central office allowed to initially contact them by telephone in order to enquire about suitable times for an interviewer visit.

4.3 Never at home and Refusals

Overall, 14,261 households were contacted during the fieldwork period.[12] Even though some few panel households were initially contacted centrally by phone, BdE required that all households were visited in person by interviewers. As an additional requirement, a minimum of 5 in-person contacts distributed among different times and days of the week had to be made for each household. BdE and KANTAR TNS closely monitored the fieldwork process using the data on contacts entered by the interviewers in their case management application. Interviewers were instructed to register detailed information on all contacts and incidences for each household. Overall, the average number of in-person visits per household was 4.1 (the median was 2.5) and for each household the percentage of those visits conducted during weekends was small (9.5% on average). The final data on contacts showed that completed cases received 2.9 in-person visits on average and that 8.7% of these households received at least one in-person visit during weekends. Refusal cases received on average 3.9 in-person visits, whereas 9.5% of them received at least one visit during the weekend. Finally, those cases that were not finally contacted personally because they were never at home received on average 6.3 in-person visits and 12.3% were visited at least once during the weekend.

Table 5 shows two different indicators of the fieldwork final result based on the final state of each contacted household. The cooperation rate, which is defined as the completed/(completed+refused) ratio, measures the percentage of households that completed an interview among those successfully contacted by an interviewer[13]. Thus, it might be considered as a measure of the success in the implementation of gaining cooperation strategies. Regarding this indicator, something that should be emphasised is that aggregate co-operation rates for the whole sample mask significant differences between the panel and the non-panel components. Overall, the co-operation rate of the panel component was 76% compared to 39.1% for non-panel. These differences were large in all strata. Throughout the strata, this rate varies in a non-monotonic way reaching the maximum values for the samples in Navarre and the Basque Country. Set against the previous editions, the cooperation rate was slightly lower in this last wave for the panel sample (76% compared to 80.2% in 2014 and 78.1% in 2011) and somewhat in the middle for the refresher sample (39.1% compared to 46.5% in 2014 and 33.0% in 2011).

12 See Table 4 for more details.

13 The denominator of the cooperation rate includes refusals, households where all members have deceased for panel households, and households that could not be interviewed because of linguistic barriers for non-panel households.

The "never at home" rate is defined as the percentage of households that could not be successfully contacted owing to prolonged absence during the entire duration of fieldwork. Table 5 shows that this category accounted for 4.61% of the total number of contacted households in the EFF2017, which was significantly lower than in the previous edition[14].

To further explore unit non-response, Table 6 presents logit odd-ratios[15] of the households' accepted vs. refused decision to participate in the EFF2017 using the information available for all successfully contacted households. In particular, the list of regressors includes measures of the building condition, and the type of area, which are recorded by interviewers, in addition to municipality size, and region. Information related to number of contacts and interviewers characteristics were not included because of potential reverse causality. For instance more visits were scheduled for difficult cases and often more difficult cases were given to more experienced interviewers. Results are obtained separately for the panel and non-panel samples given the very large differences in unconditional co-operation rates described above. The main findings suggest that, overall, the probability of co-operating decreases with the municipality size in both samples and the economic level of the neighbourhood solely for the non-panel cases. The building condition does not provide very telling results. Regarding regions, there are important differences among them, which might reflect or capture interviewer effects.

4.4 Tracing panel households

As mentioned above, the panel component of the EFF2017 initial sample included households that participated in 2014 and started to collaborate in 2008 or 2011. All of these addresses were visited by the interviewers. After a successful contact, interviewers had to check the panel status of these households by comparing the current composition of the households with that registered in 2014. This was performed through a short CAPI interview where some demographics of all household members were collected and used to match individuals across both waves. The demographics collected were first name, gender, year and place of birth, and kinship with the reference person who was answering the interview. The panel status required that at least one of the members of the household at the time of the interview in 2017 coincided with one adult member of the household at the time the interview was completed in 2014. Because of the importance of getting individuals matched correctly, the protocol designed to perform the matching of household members in the questionnaire was substantially improved already for the EFF2011 to minimise errors in this part of the process. In addition, for this sixth edition, detailed revisions and cross-checks of the panel status and matching outcomes were implemented by the BdE and KANTAR TNS as part of the monitoring and editing process.

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14 In the EFF2014, the survey agency assigned the code "Never at home" to many households with at least 5 in-person no successful contacts even if it was not clear whether they were absent during the entire fieldwork. This might explain the high percentage of "Never at home" obtained in that wave. To avoid this situation, in the EFF2017, interviewers were particularly trained and instructed to use this code only for households they were completely sure will be absent during the whole fieldwork period.

15 The odds ratio of a given characteristic -say, municipality size- measures the ratio between the probability of cooperating in the survey vs not in a municipality of a given size compared to the same ratio in the omitted category (in Table 6, less than 2,000 inhabitants).

Some of the panel households could not be found at their 2014 address because they had moved. Efforts were made to trace, locate and re-interview these households. Overall, 374 households were registered as moved households, 188 of them were located at a new address and of those, 173 completed the interview.

4.5 Interviewer incentives and production

In addition to the training, selection and supervision of interviewers, the reward system for interviewers represents another important aspect that should be considered when trying to improve productivity and data quality. In particular, the optimal strategy would be to design an interviewer pay system not only based on response rates and productivity indicators but also on the quality of the data.

Payment per completed case as opposed to fixed weekly/monthly pay is the system used by most survey agencies in Spain. However, given the complexity of the study, it was deemed important for interviewers to earn some fixed pay, despite the fact that such a scheme requires a closer monitoring of personnel by the survey agency. Additionally, and in order to reward production, the interviewers earned a bonus per interview completed, which varied according to the number of completed interviews they achieved.[16] Interviewers were also aware that they were closely monitored and their interviews fully reviewed and supervised so that they could be penalised and even be removed from the study.

In the EFF2017, 67 interviewers went into the field and completed at least one interview. The distribution of completed cases among them was as follows: 4 interviewers completed fewer than 10, 14 completed between 10 and 50, 24 completed between 51 and 100, 12 completed between 101 and 150, and 14 interviewers completed more than 150. The median number of interviews completed per interviewer was 80 (the mean was 96), with four interviewers completing over 200 cases. The 17 most productive interviewers completed approximately 50% of the cases in the final sample. Table 6B summarises the main characteristics of those interviewers who went into the fieldwork. Specifically, 74.6% of them were females, almost 40% were aged between 46 and 55, around 70% had been working for KANTAR TNS for at least one year (with almost 35% of those having worked for KANTAR TNS for more than 5 years), and 25.4% had previous experience in the survey since they had already worked on the EFF2014 fieldwork.

4.6 Control and validation

As mentioned in section 2, many consistency checks (hard and soft) were programmed in the CAPI instrument to minimise different types of errors (e.g. values out of range, implausible values and inconsistencies). In addition, BdE and KANTAR TNS devoted during

16 In 2002, interviewers were paid per completed interviews. In 2005, payment was established according to a (non-linear) per completed interviews scheme but with a minimum pay per month of work. In 2008, interviewers were paid according to the number of interviews they completed, with some non-linearities to encourage production, and there was also a small retribution for each visit that did not end up with an interview. In 2011 and 2014, the reward system was similar to that described for 2017.

the fieldwork substantial efforts and resources in the implementation of strict monitoring and quality control procedures to ensure the accuracy and internal consistency of the data. As in past editions of the survey, interviewers' work was closely supervised not only regarding response rates but also in terms of data quality. BdE revised all interviews completed by each interviewer during the first weeks of data collection to detect deviations from the standard protocols or other mistakes. Interviewers were informed accordingly and given feedback about their errors. Reports on the progress of the fieldwork and each interviewer's performance according to various measures of data quality were also regularly sent to BdE.[17] Additionally, calls to all interviewed households who were asked a pre-defined script of questions were performed regularly as part of the supervision of interviewers.

As mentioned above, the EFF2017 was the first edition in which interviews were partly audio recorded. Respondents were informed correspondingly and were asked for explicit consent at the beginning of the interview. Not all households accepted to be recorded, but this percentage was low (15%). Neither respondents or interviewers knew which questions were selected to be recorded. Audio records turned out to become a crucial methodological innovation for quality monitoring and the revision process. In particular, they provided extremely illuminating pieces of information to better detect mistakes, misunderstandings, interviewers' bad practices, and respondents' difficulties to understand questions. Overall, they represented a clear upgrade of the data revision and editing processes, which had a positive impact on the data quality.

As in previous editions, the extensive process of reviewing all completed interviews was conducted by a team of reviewers from KANTAR TNS. All reviewers attended the interviewer training sessions and spent a week at the BdE learning specific revision and editing protocols. Specifically, they revised each completed questionnaire to detect and flag errors such as implausible values, coding errors, inconsistencies, currency errors and omitted information, among others. Apart from the audio records, comments and clarifications entered during the interview by the interviewers represented useful sources of information.

Each reviewer had a number of interviewers assigned and was in charge of their supervision. Interviewers received feedback from their respective reviewers on a regular basis on deviations from protocols, bad practices, misunderstandings and clarifications. They also received regular positive feedback for good work. The listening of audio records was especially important to monitor and analyse interviewers' compliance with protocols and methods.

Given the strong impact that editing can have on the properties of the measures collected, it was the BdE team who had the final say in accepting the changes to the data

17 The measures computed, at the interviewer level, were the number of interviews achieved, their average duration, the average number of questions asked, and the number (and percentage) of DK/NA answers in the interviews collected during the last two weeks. BdE also received a comprehensive report every two weeks from the survey agency including detailed contact and response rates both at the province level and at the interviewer level for the panel and the non-panel samples separetely.

proposed by KANTAR TNS reviewers. Aside from interviewers' comments and audio records, the longitudinal information provided by the panel was also of help for BdE reviewers for this task. BdE looked at the completed cases that had severe errors detected as well as some interviews by each interviewer to monitor closely their performance. In addition, BdE implemented the agreed changes and performed a variety of other checks and tabulations. When additional information or clarification of reported answers was considered important, BdE requested the survey agency re-contact the household. The trade-off between gaining additional information and bothering households was taken into account by the BdE team for each individual case. Overall, 1386 households were re-contacted by KANTAR TNS reviewers (21.5% of the interviewed households), a much higher proportion than in previous editions, which was the result of the use of the audio records to detect errors, misunderstandings and omissions.

The interaction and the exchange of information between KANTAR TNS and BdE during the process was managed by a web-based platform developed by KANTAR TNS, where all completed questionnaires could be visualised. This platform was an improved version of the ones used in the EFF2011 and EFF2014. Every reviewer had a personal log-in and could look into each case. In order to preserve the confidentiality of the information, all cases were anonymised by NORC and KANTAR TNS so that the staff from BdE could not see personal names, phone numbers or names of employers that might be displayed in the questionnaires or in interviewers' comments. After selecting one particular case, different screens and tabs were available for the reviewers to: 1) visualise the whole completed questionnaire together with interviewers' comments and listen audio records; 2) enter comments and descriptions on each detected error; 3) enter the list of changes needed to solve those errors; 4) mark the case as high-priority if many errors were detected or if re-contacting the household was needed. The main advantages of this platform were two. First, it centralised all the information and details entered for each revised case throughout the process. Second, it allowed KANTAR TNS and BdE reviewers to interact and share that information in a sequential and flexible way.

Based on all the information registered in the revision platform, it was possible to know the relative frequency of each type of error out of the total number of errors detected. In particular, out of the list of 32 different error categories detected, the most common errors were: the misclassification of occupations (31.4%)[18], the omission of an asset, debt, income or expenditure (12.8% of the errors), implausible value for a monetary amount (12.2% of the errors), the misclassification of a particular asset, debt, income or expenditure (7%), the wrong use of the category "Other" (6%), and the conceptual misinterpretation of particular questions (3.11%).

Aside from the individual review of completed cases, the team at BdE checked the completeness of the interviews as part of the supervision analysis. With respect to

18 Respondents who report to be working or have been working in the past are asked to provide verbatim descriptions of their main occupation and code them according to the national classification of occupations (CNO).

this, the following cases were discarded because they did not pass minimal requirements on the number of key questions that need to be completed: (i) completed interviews where no income information was provided (neither labour income nor asset income nor assistance income of any kind), except in the case of panel households with a high percentage of answered euro questions other than income questions, and (ii) interviews where less than 30% of the questions in euro were answered, unless that percentage increased substantially when answers provided in intervals were considered. These conditions emerged as natural thresholds after having reviewed the information reported in all completed cases. In addition, they were in line with those adopted for previous waves. The total number of discarded interviews after supervision was 41, as shown in Table 4.

5 The final sample

5.1 Panel and refreshment in the final sample

The total number of valid interviews completed in this fifth wave was 6,413[19], with 3,634 (56.7%) corresponding to households that also participated in the EFF2014. Out of the 5,351 panel households included in the initial sample, this represents a retention rate of 67.9%.[20] Regarding the panel households in the final sample, 475 had participated since 2008, 1,171 since 2011 and 1,988 since 2014. Table 7 shows the changes in household composition of the panel households between the two last waves. In particular, 77.6% of them (i.e. 2,819) had neither gained nor lost members, 5.6% (204) had one additional member, and 10.6% (385) had lost one member. The number of individual household members interviewed in the two waves is 8,909.[21]

5.2 Degree of oversampling in the final sample

According to the Tax Office, around 23% of the sample are wealth tax filers while in the population the proportion of households that filed a wealth tax return is around 0.7%. In addition, oversampling rates in the final sample can be calculated throughout the distribution of household net worth (total wealth net of total debts) based on the EFF data. The oversampling rate is defined as the ratio of the number of observations actually in the sample for a specific percentile interval of the distribution to the number of observations one would expect if the sample were randomly drawn from the population. Table 8 shows these rates for the 2014 and 2017 waves. In particular, the results show that a progressive oversampling of the wealthy is achieved. For example, in both editions, in the wealthier 1% the number of observations is over twelve times what would be obtained with random sampling. It is noteworthy that the oversampling degree achieved for the 2014 and 2017 waves is very similar to that of 2011 for all groups, in spite of the substantial increase in the non-taxable minimum wealth approved in 2011.

19 160 households completed the interview through a proxy person. Out of these, 80% corresponded to daughters or sons not living in the household. In only 13 cases was the proxy not a relative (e.g. caregiver, administrator, accountant or friend).

20 As was mentioned in section 3, panel households participating since 2002 or 2005 were not included in the EFF2017 initial sample. Therefore, just 5,351 households out of the 6,120 households interviewed in the EFF2014 were included.

21 41 individuals, corresponding to 50 panel households interviewed in 2017, declared that they had been excluded by mistake as members of the household during the interview in 2014.

6 Correcting for unit non-response and weights

As in previous editions, both cross-sectional and longitudinal weights computed by INE are provided as part of the data. In this section, we describe the construction of these weights. For details on further potential corrections for non-response and the relationship with econometric selectivity corrections, see Bover (2004).

6.1 Longitudinal weights

The initial weights for the panel households were their 2014 design weights corrected for 2014 non-response. These were further corrected for the non-response in 2017 of the 2014 sample, using as a reference the 2014 population. Non-response corrections in both EFF waves are made at the cell level, defined by the sampling frame variables, which include the municipality size, the wealth stratum and the income quartile for non-filers of wealth tax returns.

In a second step, the aforementioned weights were adjusted to conform to the 2017 population, by wealth stratum and income quartile. Finally, these were further adjusted (by a linear distance function using the Calmar procedure) to conform to the 2017 structure of the population according to gender, age by municipality size, and household size by municipality size.[22,23,24]

6.2 Cross-sectional weights

To obtain cross-sectional weights, the panel and non-panel components of the sample are considered as two independent samples.

The basic weights for non-panel households are the inverse of the probability of being included in the sample (as given by the sampling design), subsequently adjusted for non-response within the cells defined by the various sampling frame variables. For panel households, the basic weights are the longitudinal weights prior to their Calmar adjustment, as described earlier.

Finally, the two sample components are combined and their weights corrected according to the relative size of the sub-samples, this being the minimum variance estimator for two independent samples representing the same population. The resulting weights were adjusted using the Calmar procedure to conform to the most recent structure of the population according to gender, age by municipality size and household size by municipality size.

6.3 Weights using 2011 Census information

In previous waves to the EFF2014, the weights provided were based on the 2001 Census (and the Padrón Continuo, a continuously updated municipal population register). After the 2011

22 Details of the Calmar procedure, developed by the French INSEE, can be found in Sautory (1993). One useful feature of this procedure is that it allows for different levels of adjustment simultaneously, in particular, households and individuals.

23 The population data used for this calibration are the population projections by INE, based on the most recent census and other population information.

24 In addition, another set of longitudinal weights that are adjusted to conform to the 2014 population are also provided.

Census, INE started calculating weights on the basis of the thatnew Census (and Padrón Continuo) for surveys between the two Censuses. These new weights are available for all EFF waves at the EFF section on the BdE webpage, and were used to compute the main results from the EFF2014, EFF2011 and EFF2008 published in the analytical article "Survey of Household Finances (EFF) 2014: methods, results and changes since 2011" and in the corresponding publication for the EFF2017. The new weights show some differences from those based on the 2001 Census, which may lead to some deviations in some aggregates or results compared with those published in the EFF2008 and the EFF2011 articles.

7 Item non-response and imputation

7.1 Item non-response

Item non-response occurs when a household agrees to participate in the survey but fails to respond to one or more questions. Together with high unit non-response, item non-response is an inherent characteristic of wealth surveys. Moreover, they are closely related. Indeed, item non-response will partly depend on the stringency of the conditions that have to be met for an interview to be declared valid (in terms of the number of key questions that have to be completed), which in turn affects unit non-response rates. This is an issue that often arises in the early stages since it may affect the terms of the contract with the field agency. In particular, there is a trade-off because stringent conditions would give the right incentive to interviewers but would introduce self-selection into the sample in addition to that created by overall refusals to participate. Moreover, interviewers faced with overly stringent conditions are more likely to cheat or to induce answers from the household. The fieldwork contract conditions in the EFF2017 were the same as in previous waves regarding this dimension.

Answers to the questions on whether the household holds a particular asset are usually readily provided. In contrast, households may have more difficulty in answering questions on asset values or amounts of incomes. Since the EFF2005, the CAPI instrument allows households to give answers in the form of a range when not able or not willing to provide point values when answering monetary questions. This functionality is available for most monetary questions in the questionnaire. Namely, when the household answers DK (don't know) or NA (no answer) to the point value question, he/she is prompted to provide an answer as a self-reported range (as defined by an upper and a lower bound) or, failing that, to choose from a set of predefined ranges.

The comparison of non-response rates to some key monetary questions for the EFF2017 to those obtained for the EFF2002 (where there was no possibility of providing answers in intervals) suggests that having the option of answering in the form of ranges (and more particularly as predefined ranges) might have helped to reduce significantly the proportion of DK/NA answers, mainly the DK ones, without reducing in general the number of point value responses. Similar comparisons can be found in Bover (2008, 2011, 2014 and 2018) for previous waves.

In Table 1 we document the number of questions answered by the household. For the euro questions, we distinguish between answers provided through point values, self-reported ranges, and predefined ranges from a list. For around one-quarter of the sample (26.0%; 1,669 households) at least one of their euro answers is in the form of a predefined range from the list whereas for 48.3% (3,094 households) we had at least one self-reported range. In any case, the range answer was not used extensively, as we can see from the statistics provided. For example, among those with at least one predefined range, the number of questions with answers in this format was 2 at the median, 3 at

the mean and 44 at the maximum. As a percentage of the euro answers provided by a household, these figures would be 5.9%, 10.9% and 90%, respectively.[25]

The percentage of questions answered (reported in Table 1) was similar to 2014 and 2011 (which was substantially larger than in 2008 and 2005). The percentage of euro questions answered (excluding ranges) was in this edition 92.6% at the median, 5 pp lower than in 2014. However, when answers provided in ranges were considered, numbers were very similar to the ones in the EFF2014 data. The larger percentage of values in ranges in the EFF2017 was explained mainly by the fact that the audio records allowed to detect many more reporting errors in income and other monetary values than in previous editions. The most typical example of measurement error in income was the reporting of a net instead of a gross value, which had to be substituted by an interval and later imputed. The figures in Table 1 were similar for the panel and non-panel components of the sample.

Table 9 shows the proportion of answers given in point values or intervals as well as the proportion of DK/NA answers for some monetary questions in the EFF2017 and the EFF2014. In general, there was a decrease in the proportion of point value answers, especially for the value of the main residence (-7 pp), the value of the first other property (-6.8 pp), the balances of accounts usable for payments (-6.2 pp), the value of the fixed income securities (-6.8 pp), the value of the first life insurance coverage (-6 pp), the wage income (-8.7 pp), the self-employment income (-10.2 pp) and the value of pensions (-11.9 pp). For most of these variables, this decrease in the proportion of point values has meant an increase of answers given in intervals (especially for wage income, self-employment income and pensions). As mentioned above, this transfer was partly the result of a substantial increase in the detection of reporting errors in some monetary variables, especially income variables, thanks to the audio records. In addition, in some few cases, there was also a transfer to DK/NA answers (fixed income securities, life insurance coverage, and the value of the main residence and first other property).

7.2 Imputation methods

In the EFF2017 the imputation of DK/NA answers was performed using the same methods as in the previous waves (for a general rationale and description, see Bover (2004); for a detailed explanation of the procedures and the models involved, see Barceló (2006); and for a comparison of the performance of different imputation methods, see Barceló (2008))[26].

However, although the same framework and methods were used, the models for all the variables were revised and often modified as a result of the new data. Moreover, given the possibility of range answers, imputation was performed subject to the imputed values belonging to the range provided by the household, when applicable.

25 Percentages not shown in the table.

26 In the sixth waves, nearest neighbours procedures as described in Bover (2004) were implemented only for the first iteration of the imputation process. When preparing the final data, this way was judged superior to using them in the final imputation as well.

The panel aspect of the EFF would in principle allow a new imputation of the 2014 (and 2011, 2008, 2005, 2002) EFF data using the information obtained in 2017, and vice versa. This has not yet been done and the imputations provided so far are static ones. However, forward and backward imputation are avenues we are currently exploring.

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Tables

Table 1

NUMBER OF QUESTIONS ASKED AND ANSWERED PER SAMPLE HOUSEHOLD, UNWEIGHTED

	Average	Median	Standard deviation	Minimum	Maximum
No. of questions asked (a)	263.2	259.0	61.3	137.0	594.0
No. of € questions asked					
Excl. ranges	31.6	30.0	11.2	8.0	104.0
Incl. ranges	36.5	35.0	13.9	8.0	156.0
No. of questions answered (a)	258.0	254.0	60.7	133.0	590.0
No. of € questions answered					
Point value	28.4	27.0	11.4	1.0	100.0
Self-reported range (b)	2.6	2.0	2.2	1.0	18.0
Predefined range (c)	3.0	2.0	3.6	1.0	44.0
% of questions answered (a)	97.5	98.2	2.4	79.8	100.0
% of € questions answered					
Excl. ranges	88.4	92.6	13.4	4.5	100.0
Incl. ranges	95.1	100.0	8.0	35.7	105.0

SOURCE: Encuesta Financiera de las Familias, Banco de España.

a Excluding ranges.
b For those 3,094 households who provide some answers in self-reported range format.
c For those 1,669 households who provide some answers choosing a range from the list.

Table 2

DEFINITION OF WEALTH STRATA EFF2017

Stratum 1	Do not file wealth tax returns
Stratum 2	≤ 700,000 €
Stratum 3	700,000 – 900,000 €
Stratum 4	900,000 – 2,000,000 €
Stratum 5	2,000,000 – 6,000,000 €
Stratum 6	6,000,000 – 25,000,000 €
Stratum 7	> 25,000,000 €

SOURCE: Encuesta Financiera de las Familias, Banco de España.

Table 3

NUMBER OF COMPLETED INTERVIEWS BY MONTH OF FIELDWORK PERIOD

Month	No. of interviews	Percent
October	667	10.4
November	1,553	24.2
December	1,003	15.6
January	1,287	20.1
February	967	15.1
March	469	7.3
April	252	3.9
May	131	2.0
June	84	1.3
Total	**6,413**	**100.0**

SOURCE: Encuesta Financiera de las Familias, Banco de España.

Table 4

NUMBER OF ATTEMPTED CONTACTS, BY TYPE OF RESPONSE

	Total	Panel	Non-panel
Completed	6,413	3,634	2,779
Refused	5,300	1,056	4,244
Never at home	657	37	620
Out of scope (wrong address, not a housing unit, empty dwelling, deceased (a), others out of scope)	1,585	342	1,243
No successful contact	265	73	192
Discarded after supervision	41	14	27
Total	**14,261**	**5,156**	**9,105**

SOURCE: Encuesta Financiera de las Familias, Banco de España.

a Only in cases of 2014 one person panel.

Table 5

SOME MEASURES OF NON-PARTICIPATION (%), BY WEALTH STRATUM

	Total		Panel		Non-panel	
	Never at home (a)	Co-operation rate (b)	Never at home	Co-operation rate	Never at home	Co-operation rate
Total	**4.6**	**54.0**	**0.7**	**76.0**	**6.8**	**39.2**
Stratum 1	3.9	56.9	0.7	77.0	6.0	42.0
Stratum 2	6.5	34.0	–	74.5	7.2	28.5
Stratum 3	5.1	38.5	–	68.4	7.7	21.2
Stratum 4	5.8	42.9	1.4	72.1	7.5	30.0
Stratum 5	6.8	47.6	0.9	70.5	10.0	32.1
Stratum 6	7.8	45.8	0.6	67.7	11.5	31.9
Stratum 7	6.6	63.5	–	77.3	16.7	31.6
Navarre and Basque Country	4.0	64.6	0.6	82.4	6.2	51.3

SOURCE: Encuesta Financiera de las Familias, Banco de España.

a Defined as (Never at home/Contacted households).
b Defined as (Completed/Completed+Refused).

Table 6

LOGIT PARAMETER ESTIMATES OF THE COMPLETED VS. REFUSED DECISION (a): PANEL VS. NON-PANEL SAMPLE

	Odds ratio	t-ratio	Odds ratio	t-ratio
	Non-panel sample		Panel sample	
Building condition				
Good	0.877	1.0	0.858	1.09
In need of some maintenance	0.871	0.9	0.802	1.10
Very poor	1.409	0.5	0.949	0.07
Type of area				
High-standing	1.258	1.2	2.690	1.86
Medium	1.491	1.6	2.259	1.61
Medium-low	1.443	1.4	1.988	1.28
Low	2.326	1.7	1.500	0.69
Size of municipality				
2,000<inhab=<10,000	0.789	1.51	0.785	1.43
10,000<inhab=<50,000	0.657	3.12	0.864	0.76
50,000<inhab=<100,000	0.626	3.12	0.899	0.56
100,000<inhab=<500,000	0.519	6.01	0.695	2.18
500,000<inhab=<1,000,000	0.541	3.83	0.620	2.92
Inhab>1,000,000	0.546	4.13	0.602	2.09
Region				
Aragon	1.572	1.91	0.892	0.47
Asturias	1.338	0.85	1.445	1.39
Balearic Islands	1.422	1.00	1.130	0.52
Canary Islands	1.452	3.01	0.746	1.21
Cantabria	1.403	1.01	0.624	3.13
Castile-La Mancha	1.429	1.16	0.972	0.08
Castile-León	1.362	1.03	0.899	0.42
Catalonia	0.738	2.38	0.578	2.34
Valencia	1.147	0.61	1.140	0.48
Extremadura	1.490	1.69	1.050	0.21
Galicia	2.003	4.18	1.039	0.13
Madrid	1.024	0.13	1.063	0.19
Murcia	0.905	0.73	0.963	0.12
Navarre	0.950	0.45	1.241	0.63
Basque Country	1.801	2.86	1.256	0.38
La Rioja	1.221	1.38	1.132	0.51
Number of observations	6,948 of which 2,779 yes (40.0 %)		4,636 of which 3,634 yes (78.4 %)	
Pseudo-R2	0.025		0.02	

SOURCE: Encuesta Financiera de las Familias, Banco de España.

a The omitted categories are: luxury building, very high-standing neighbourhood, municipalities with 2,000 inhabitants or less and Andalusia. The t-ratios are computed using standard errors clustered at the interviewer level.

Table 6 B

INTERVIEWERS' CHARACTERISTICS

Interviewers' characteristics	Percentage (%)
Female	74.6
Males	25.4
Age	
≤35	14.9
36-45	25.4
46-55	37.3
56-65	22.4
Education	
Lower secondary education or less (Inferior a bachillerato)	6.0
Upper secondary education (Bachillerato)	25.4
Vocational training (FP)	26.9
Tertiary education (Estudios universitarios)	41.8
Tenure (in survey agency)	
Less than a year	29.9
1 to 5 years	35.8
More than 5 years	34.3
Participated in EFF2011	25.4

# of interviewers with at least one interview: 67

SOURCE: Encuesta Financiera de las Familias, Banco de España.

Table 7

CHANGE IN THE COMPOSITION OF PANEL HOUSEHOLDS (number of households)

	No. of members that dropped out between the 2014 and the 2017 wave				Total
	0	1	2	3 or more	
No. of new members in 2017 compared to 2014					
0	2,819	385	86	26	3,316
1	204	39	11	3	257
2	34	7	3	1	45
3 or more	13	1	2	0	16
Total	**3,070**	**432**	**102**	**30**	**3,634**

SOURCE: Encuesta Financiera de las Familias, Banco de España.

Table 8

DEGREE OF OVERSAMPLING IN THE FINAL SAMPLE

Net worth decile group	EFF 2014		EFF 2017	
	Number of observations	Oversampling rate (a)	Number of observations	Oversampling rate
Bottom 50%	1,981	0.65	2,074	0.65
50% to 90%	2,097	0.86	2,265	0.88
90% to 95%	469	1.53	433	1.35
95% to 99%	813	3.32	864	3.37
Top 1%	741	12.11	777	12.12

SOURCE: Encuesta Financiera de las Familias, Banco de España.

a The oversampling rate is defined as the ratio of the number of observations actually in the sample for a specific percentile range of the distribution to the number of observations one woul

Table 9

REPORTING RATES (%) OF VARIOUS ITEMS, UNWEIGHTED SAMPLE

	Total		Value for those having the item					
	Yes	Un-known	Point value	Own interval	Fixed interval	DK	NA	NP/NF (a)
Own main residence	82.1	0.0	82.7	7.4	4.8	4.3	0.2	0.6
Amount owed, 1st loan, main residence	20.7	0.0	93.4	2.6	1.9	1.4	0.1	0.7
Monthly payment, 1st loan, main residence	20.7	0.0	97.4	1.3	0.5	0.2	0.2	0.4
Rent main residence	12.2	0.0	96.4	2.9	0.3	0.0	0.0	0.4
Other real estate, 1st property	60.7	0.0	83.8	4.9	4.7	4.9	0.2	1.6
Amount owed, 1st loan, 1st other real estate	7.4	0.0	91.9	2.5	1.5	2.8	0.2	1.1
Accounts usable for payments	99.8	0.0	85.8	5.0	4.0	1.8	3.3	0.1
Accounts not usable for payments	19.3	0.0	85.9	4.5	2.8	1.8	4.8	0.2
Listed shares	26.4	0.1	85.5	3.8	5.1	3.8	1.4	0.4
Unlisted shares	9.4	0.1	73.7	5.1	5.6	9.6	1.0	5.0
Mutual funds, 1st fund	16.7	0.3	89.5	1.6	2.5	3.2	2.6	0.5
Fixed-income securities	1.7	0.2	83.8	0.9	3.6	6.3	3.6	1.8
Pension plans, 1st plan	33.9	0.0	86.3	3.2	3.1	5.5	0.9	1.1
Life insurance (1st policy) coverage	14.6	0.0	76.7	3.5	4.6	12.3	1.0	1.9
Business market value (household), 1st business	17.2	0.0	76.8	8.9	4.0	8.5	0.3	1.5
Wage income (reference person, t-1)	36.5	0.0	89.0	8.0	1.7	0.3	0.5	0.5
Self-employment income (ref. person, t-1)	15.0	0.0	83.4	9.4	2.4	1.6	1.3	1.9
Unemployment benefits (ref. person, t-1)	7.5	0.0	92.9	4.6	1.5	0.4	0.2	0.4
Pensions (reference person, t-1)	35.6	0.0	85.8	12.3	1.0	0.0	0.4	0.5
Income from real assets (t-1)	23.9	0.0	94.3	2.3	1.1	1.0	0.5	0.8
Income from dividends, coupons, etc. (t-1)	14.1	0.4	85.6	5.3	4.0	3.1	0.8	1.3
Bank-account interest income (t-1)	27.0	1.6	84.8	4.6	4.4	4.9	1.0	0.3
Food expenditure	100.0	0.0	94.5	2.2	2.1	0.8	0.2	0.2
Non-durable expenditure	100.0	0.0	93.4	2.9	2.4	0.7	0.2	0.4

SOURCE: Encuesta Financiera de las Familias, Banco de España.

a 1. NP/NF: not plausible/not formulated.

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Unidad de Servicios Generales I
Alcalá, 48 - 28014 Madrid
E-mail: publicaciones@bde.es
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