

THE SPANISH SURVEY OF HOUSEHOLD
FINANCES (EFF): DESCRIPTION
AND METHODS OF THE 2020 WAVE

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Abstract

The Spanish Survey of Household Finances 2020 (EFF2020) provides detailed information on the income, assets, debt and spending of Spanish households as at end-2020. Given the lack of alternative statistical sources that provide detailed household-level information on these variables for the same households, the concurrence of this edition of the survey with the COVID-19 pandemic makes it unique, allowing for all these variables to be analysed together in an exceptional setting. As in previous editions, this paper provides a detailed description of the most relevant methodological aspects of the design and implementation of the 2020 edition, including: the sample design, the questionnaire, the data collection process, the validation of the data, the computation of weights and the imputation procedures. In addition, it also describes the most important methodological changes that had to be implemented as a result of the pandemic, mainly the interviewing mode, which was switched from CAPI to CATI.

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

JEL classification: C81, D31.

Resumen

La Encuesta Financiera de las Familias 2020 (EFF2020) proporciona información detallada sobre la renta, los activos, las deudas y los gastos de los hogares españoles referida a finales de 2020. Dada la falta de fuentes estadísticas alternativas que proporcionen información sobre estas dimensiones para los mismos hogares, la concurrencia de esta edición de la encuesta con la pandemia de COVID-19 la hace si cabe más única, permitiendo analizar todas estas variables de forma conjunta en un contexto excepcional. Como en ediciones anteriores, el presente documento ofrece una descripción pormenorizada de los aspectos metodológicos más relevantes del diseño y la implementación de la edición de 2020: el diseño muestral, el cuestionario, el proceso de recogida de datos, la validación de los mismos, el cálculo de los pesos y la imputación. Además, también describe los cambios metodológicos más importantes que fueron implementados a consecuencia de la pandemia; en especial, el modo de la entrevista, que pasó de ser presencial a telefónico.

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

Códigos JEL: C81, D31.

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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 edition relating to 2020 (EFF2020) offers a representative and updated picture of the composition and distribution of household assets and debts referring to end-2020. Given the lack of alternative statistical sources providing detailed household-level information on these dimensions for the same households, the concurrence of this edition with the COVID-19 pandemic makes it more unique, allowing for all these variables to be analysed together in an exceptional setting. This new wave also enables the analysis of the changes in Spanish households’ financial position to be extended to the period from end-2017 to end-2020.¹

Despite the complexity of the context in which the EFF2020 was implemented, the survey maintains two important characteristics, as in previous waves. First, some of the households that had participated in previous editions were re-interviewed. Combining the samples from different editions allows us to observe a sub-set of households at different points in time and, in some cases, over a period of almost ten years.² This longitudinal dimension is important for analysing the behaviour of income, wealth and consumption throughout the life cycle of households and for exploring household transitions across the distributions of the variables under study. In addition to the panel component, a refreshment sample was included to preserve cross-sectional representativeness and overall sample size.

Second, the sample maintains its over-representation of households with a high level of wealth. Such oversampling is essential to ensure 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 accurately measure 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. To account for this feature of the sample and obtain estimates representative for the population, weights are provided as part of the data files³.

This article is organised as follows. The second section briefly outlines the questionnaire and the changes in contents and in the interviewing mode. 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

¹ For a detailed description of the main results of the EFF2020 and the most significant changes observed in the period from end-2017 to end-2020, see: <https://www.bde.es/f/webbde/SES/Secciones/Publicaciones/InformesBoletinesRevistas/ArticulosAnaliticos/22/T3/Fich/be2203-art21.pdf>.

² As we will describe in more detail later, the sampling design for the EFF2020 did not include households interviewed in the EFF2002, EFF2005 or the EFF2008.

³ Further details on the sample and the use of weights are provided in the User Guide that can be found at the EFF website: https://app.bde.es/efs_www/documents?lang=ES.

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.

2 The questionnaire and the CAPI interview

Contents

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

- 1 Demographics⁴
- 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

In the EFF2020 none of these sections was adapted to shorten the interview given the change to the CATI mode. That means that the nine sections remained fully comparable to previous editions. On the contrary, the questionnaire was extended in this particular edition with a new (tenth) section to collect information on the potential effects of the COVID-19 crisis on households' economic situation through employment or income losses⁵.

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 2019.

As a result of the pandemic mobility and contact restrictions, the information was collected by means of telephone interviews with the households, conducted between November 2020 and June 2021, complying with the standard calendar period of the survey. As in the previous waves, the interviews were conducted by interviewers with specific training and were computer-assisted (CATI).

⁴ 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.

⁵ All changes implemented on the EFF2020 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: https://app.bde.es/efs_www/home?lang=EN.

Despite the switch of the interviewing mode to CATI, the questionnaire was not shortened or simplified in terms of content or functionalities given the need of collecting complete and accurate data in such a unique context. As in the previous waves, the following retrieval cues and quality checks were 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 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.⁶
- 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 EFF2020 included 23 questions that were audio recorded (12 more than the EFF2017) for quality monitoring purposes. In particular, audios represent a crucial methodological tool to detect mistakes, misunderstandings, interviewers' bad practices, and respondents' difficulties to process and answer complex questions. Besides, they are extremely useful to understand the interaction between the interviewer and the respondent.

The median time taken to complete the EFF2020 questionnaire was around 91 minutes while 90% of the interviews took less than 140 minutes. Only for 1% of the interviews was the duration above 208 minutes.⁷ Table 1 reports some descriptive figures concerning the number of questions households were asked. The number of euro questions

⁶ 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.

⁷ For these calculations 42 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.

Table 1

Number of questions asked and answered per sample household, unweighted

	Average	Median	Standard deviation	Minimum	Maximum
No. of questions asked (a)	272.9	269.0	62.0	138.0	567.0
No. of € questions asked					
Excl. ranges	32.5	31.0	11.1	9.0	93.0
Incl. ranges	37.4	35.0	13.6	9.0	136.0
No. of questions answered (a)	267.1	263.0	61.3	129.0	565.0
No. of € questions answered					
Point value	29.1	27.0	11.2	3.0	93.0
Self-reported range (b)	2.8	2.0	2.3	1.0	22.0
Predefined range (c)	2.3	1.0	2.7	1.0	31.0
% of questions answered (a)	97.6	98.2	2.2	80.1	100.0
% of € questions answered					
Excl. ranges	88.6	92.3	12.3	20.0	100.0
Incl. ranges	95.8	100.0	7.6	34.7	100.0

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

a Excluding ranges.

b For those 3,686 households who provide some answers in self-reported range format.

c For those 1,577 households who provide some answers choosing a range from the list provided.

posed is similar to previous editions (35 at the median, 30 in 2017) as is the overall number of questions (269 at the median, 259 in 2017).

Changes with respect to EFF2017

The questionnaire instrument was enriched significantly already in previous editions by including many new confirmation and consistency questions and improving some of the existing ones. In the EFF2020 edition, some few additional internal checks were included in order to reduce errors for example in the reporting of revenues from financial accounts, the characteristics of pension funds, and the education level of individuals. 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.

In addition to the new section on the effects of the pandemic on the economic and financial situation of households described above, the following new questions were included: (i) a question about whether the individual continues to study and another question about the reasons for which the individual without tertiary schooling did not continue studying, (ii) a question on the reasons for renting instead of owning the household' main residence, (iii) questions about partially rescued retirement plans, and (iv) the present value of retirement plans from which households are already receiving a pension income. Additionally, the question asked on the current employment status for each individual was extended to include "being furlough from work" as a new response option.

3 Sample design

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 seventh 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 2008 were dropped, which means that the panel component of the EFF2020 initial sample included households participating since 2011 (1,171), 2014 (1,988) and 2017 (2,779). Moreover, a refreshment sample was designed to complement the longitudinal component (up to a total sample of 9,100 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 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.

Sampling design and oversampling

The population frame for the EFF2020 sample was the Continuous Population Register corresponding to January 2020, in which the units are households as defined by their postal

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.

address. The basis for the oversampling of the wealthy was the wealth tax file information from the 2018 individual wealth tax returns, held by Agencia Tributaria.

In order to implement the oversampling, the Tax Office constructed for all households in the Population Register 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 wealth amount reported in 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 218,991 individuals filed a wealth tax return in 2020. 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 2018 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 the panel sample by wealth strata. 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 primary sampling units were selected (PSUs or “secciones censales”) with a probability proportional to their population.⁸ In the second stage, households were randomly selected within each PSU to supplement the panel households belonging to it, up to an overall number of ten households per PSU.⁹ 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.

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.¹⁰ 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.

⁸ In the editions 2005 to 2017, PSUs were the same as those selected in 2002. However, in 2020 INE updated again probabilities according to the population and some of them could have changed accordingly.

⁹ In previous editions, nine households were selected per PSU. In 2020 this number was increased to ten to deal with the expected higher difficulty of gaining cooperation in the pandemic context.

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

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.¹¹

¹¹ 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.

4 Fieldwork

The fieldwork period lasted around 8 months, from the beginning of November 2020 to the end of June 2021. During this period 6,326 households completed an interview, although after the validation and editing process, 13 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 27% of the total number of valid interviews were already completed. Half of the interviews were collected by the end of February.

As in the previous four editions, NORC at the University of Chicago together with KANTAR PUBLIC were selected by BdE to be in charge of the programming of the CAPI questionnaire and the data collection process¹². This collaboration allowed this new edition to benefit from NORC's experience in conducting previous editions of 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, KANTAR PUBLIC in Spain was also the local agency responsible for the EFF2011, EFF2014 and EFF2017 fieldworks, and it organizes and communicates directly with the network of local interviewers.

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.

Table 3
Number of completed interviews by month of fieldwork period

Month	No. of interviews	Percent
November	573	9.08
December	1,136	17.99
January	782	12.39
February	894	14.16
March	962	15.24
April	876	13.88
May	647	10.25
June	441	6.99
July	2	0.03
Total	6,313	100.00

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

¹² Since 2020, KANTAR-PUBLIC is the company in charge of the programming of the questionnaire, and the files that are generated and transmitted to BdE.

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 PUBLIC implemented a very comprehensive training programme for interviewers in collaboration with BdE. The training for the EFF2020 was conducted at the end of October, just before the start of the fieldwork period. All interviewers were required to give their full-time commitment to this task and they attended the same training course, which took place online due to the Covid-19 restrictions. 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 67 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 CATI instrument and the specific protocols to administer the interview. Indeed, a key part of the training was the review of the questionnaire instrument, delivered via video tutorials to guarantee that all four groups were exposed to the same material and contents. 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.¹³ 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, 60 passed the training

¹³ 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.

accreditation and were selected to work on the EFF2020¹⁴. Overall, the new online set up implemented in the EFF2020 allowed for an extension in the duration of the training (up to 7 days) as well as in the time available for interviewers' evaluation.

Efforts to reduce non-response

Before conducting any contact attempt, advance letters from the Governor of the BdE and from NORC-KANTAR PUBLIC, 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.

In the EFF2020 edition, despite the use of the telephone to conduct the interview, interviewers first visit households in-person as long as the mobility and contact restrictions allowed. The main motivation for this "at the door" contact was to enhance respondents' participation by providing extra information about the project and building rapport by addressing respondents' concerns and worries. Besides, interviewers could provide specific documentation on the project, materials needed for the interview (e.g., showcards) and make an appointment for the telephone call. Specifically, each household received a printed copy of the article on the main EFF2017 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.

Never at home and Refusals

Overall, 15,457 households were contacted during the fieldwork period.¹⁵ As mentioned before, BdE required that all households were visited in person by interviewers unless COVID-19 related restrictions did not allow. However, some telephone numbers of all selected households were provided by the Spanish National Markets and Competition Commission (CNMC in its Spanish acronym) to help contacting and locating households.¹⁶ As an additional requirement, a minimum of 5 in-person or telephone contacts distributed among different times and days of the week had to be made for each household. BdE and KANTAR PUBLIC 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.

¹⁴ Out of the 67 interviewers who started the training course, 5 did not pass the minimum requirements in respect of accreditation and 2 gave up and did not finish the course.

¹⁵ See Table 4 for more details.

¹⁶ This information was provided to BdE as a result of the need to change the whole statistical operation to a telephone set up and the priority status that the EFF has as an official statistic that belongs to the Spanish Statistical Plan.

Table 4

Number of attempted contacts, by type of response

	Total	Panel	Non-panel
Completed	6,313	3,831	2,482
Refused	6,175	1,376	4,799
Never at home (a)	462	22	440
Out of scope (wrong address, not a housing unit, empty dwelling, deceased (b), others out of scope)	1,702	234	1,468
No successful contact (a)	430	142	288
Discarded after supervision	13	6	7
Total	15,095	5,611	9,484

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

- a** In the EFF2017, most of the households with at least 5 in-person contacts where it was not possible to talk to anyone living in the household were finally considered as “Never at home”. The code “No successful contact” was finally assigned to those cases for which the interviewer interacted with someone from the household but no one was available at that moment to do the interview or make an appointment.
- b** Only in cases of 2014 one person panel.

Overall, the average number of telephone calls per household was 2.5 (the median was 1) and for each household the percentage of those calls conducted during weekends was small (5.9% on average). The final data on contacts showed that completed cases received 2.7 telephone calls on average and that 11.7% of these households received at least one call during weekends. Refusal cases received on average 2.33 calls, whereas 12% of them received at least one call during the weekend. Finally, those cases that were not finally contacted personally because they were not at home or did not pick up the telephone received on average 3.14 in-person visits and 30.5% were called 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 interviewer¹⁷. 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 emphasized 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 72.4% compared to 33.3% 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 edition, the cooperation rate was 3.6 pp lower for the panel sample (72.4% compared to 76% in

¹⁷ The denominator of the cooperation rate includes both refusals to collaborate and inability to respond (households where all members have deceased for panel households, and households that could not be interviewed because of linguistic barriers for non-panel households).

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	3.1	49.6	0.4	72.4	4.6	33.3
Stratum 1	2.8	51.9	0.4	74.5	4.4	35.0
Stratum 2	3.8	34.5	2.4	76.9	3.9	29.2
Stratum 3	3.1	37.8	0.0	75.3	3.8	27.0
Stratum 4	3.4	42.2	0.5	63.7	5.0	28.3
Stratum 5	3.9	44.1	0.2	62.7	6.8	26.5
Stratum 6	3.5	41.2	0.0	65.2	5.5	23.7
Stratum 7	6.1	41.8	2.5	64.9	8.6	21.4
Navarre and Basque Country	3.2	56.6	0.0	75.2	5.4	42.0

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

a Defined as (Never at home/Contacted households).

b Defined as (Completed/Completed+Refused).

2017) and 6 pp lower for the non-panel (33.3% compared to 39.1% in 2017)¹⁸. By strata, higher rates were achieved among households in the two lower groups whereas substantial decreases were observed among the richest.¹⁹

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 3.06% of the total number of contacted households in the EFF2020, which was significantly lower than in the previous edition²⁰.

To further explore unit non-response, Table 6 presents logit odd-ratios²¹ of the households’ accepted vs. refused decision to participate in the EFF2020 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

¹⁸ Cooperation rates were even higher in the EFF2014 (80.1% and 46.5% for panel and non-panel, respectively).

¹⁹ In terms of the response rate, as defined as the proportion of households completing an interview among all those contacted by the survey agency (subtracting incidences with the population frame), differences with respect to the EFF2017 are lower. In particular, response rates fell down from 70.5% to 68.3% for the panel sample and from 30.5% to 26.2% for the non-panel sample.

²⁰ This might be related to the use of the telephone to contact households and to the mobility restrictions imposed to the population, which made people stay at home during long periods.

²¹ 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).

Table 6

Logit parameter estimates of the completes vs. Refused decision (a): panel vs. Non-panel sample

	Non-panel sample		Panel sample	
	Odds ratio	t-ratio	Odds ratio	t-ratio
Building condition				
Good	1,192	0,80	0,643	2,17
In need of some maintenance	1,110	0,48	0,674	1,74
Very poor	2,193	1,65	1,658	0,59
Type of area				
High-standing	0,953	0,21	0,994	0,01
Medium	1,119	0,40	1,344	0,61
Medium-low	1,063	0,23	1,143	0,31
Low	0,948	0,18	0,960	0,10
Size of municipality				
2,000<inhab=<10,000	0,966	0,24	0,959	0,16
10,000<inhab=<50,000	0,947	0,42	1,040	0,15
50,000<inhab=<100,000	0,910	0,73	0,910	0,38
100,000<inhab=<500,000	0,771	2,46	0,631	1,94
500,000<inhab=<1,000,000	0,740	1,92	0,706	1,10
Inhab>1,000,000	0,946	0,34	0,521	2,33
Region				
Aragon	0,934	0,40	1,061	0,07
Asturias	1,005	0,03	0,885	0,23
Balearic Islands	0,795	1,87	1,006	0,01
Canary Islands	1,247	0,60	0,846	0,27
Cantabria	0,943	0,11	1,740	0,74
Castile-La Mancha	1,483	1,81	1,128	0,29
Castile-León	0,764	2,16	1,670	1,89
Catalonia	0,629	3,53	1,247	0,67
Valencia	0,926	0,35	1,312	0,85
Extremadura	1,182	1,30	1,512	2,07
Galicia	1,758	2,25	1,170	0,39
Madrid	0,721	1,83	1,268	0,87
Murcia	1,295	0,48	1,569	1,04
Navarre	1,504	1,23	2,079	0,89
Basque Country	1,126	0,60	1,088	0,27
La Rioja	0,839	1,01	1,958	1,47
Number of observations	6,962 of which 2,474 yes (35.5%)		5,149 of which 3,831 yes (74.4%)	
Pseudo-R2	0,017		0,019	

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.

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 but decreases with the economic level, proxied by the building condition solely

for the non-panel cases. The type of area does not provide very telling results. If any, medium and medium-low areas seem to be associated to higher participation rates as opposed to luxury areas but these association are not significant for either sample. Regarding regions, there are important differences among them, which might reflect or capture interviewer effects.

Tracing panel households

As mentioned above, the panel component of the EFF2020 initial sample included households that participated in 2017 and started to collaborate in 2011 or 2014. Many of these addresses were visited in-person 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 2017. This was performed through a short CATI 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 2020 coincided with one adult member of the household at the time the interview was completed in 2017. 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 in the EFF2011 to minimise errors in this part of the process. In addition, from the sixth edition (EFF2017), detailed revisions and cross-checks of the panel status and matching outcomes are additionally implemented by the BdE and the survey agency as part of the monitoring and editing process.

Some of the panel households could not be found at their 2017 address because they had moved. Efforts were made to trace, locate and re-interview these households with the help of the database containing telephone numbers. Overall, 457 households were registered as moved households, 362 of them were located at a new address and of those, 310 completed the interview.²²

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

²² Given the pandemic context and the use of the telephone as contact and interviewing mode, some households were interviewed while being temporarily living in second residences or houses. Those cases were not considered as moved households.

Table 6B

Interviewers' characteristics

Interviewers' characteristics	Percentage (%)
Female	65.0
Males	35.0
Age	
≤35	6.7
36-45	23.3
46-55	43.3
56-65	26.7
Education	
Lower secondary education or less (Inferior a bachillerato)	21.7
Upper secondary education (Bachillerato)	33.3
Vocational training (FP)	13.3
Tertiary education (Estudios universitarios)	31.7
Tenure (in survey agency)	
Less than a year	26.7
1 to 5 years	26.7
More than 5 years	46.7
Participated in EFF2017	41.7
# of interviewers with at least one interview:	60.0

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

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.²³ Interviewers were also aware that they were closely monitored and their interviews fully reviewed and supervised so that they could be penalized and even be removed from the study.

In the EFF2020, 60 interviewers went into the field and completed at least one interview. The distribution of completed cases among them was as follows: 1 interviewers completed fewer than 10, 15 completed between 10 and 50, 13 completed between 51 and 100, 15 completed between 101 and 150, and 16 interviewers completed more than 150. The median number of interviews completed per interviewer was 104 (the mean was 73), with seven interviewers completing over 200 cases. The 17 most productive interviewers completed approximately 50% of the cases in the final sample. Table 6B summarizes the main characteristics of those interviewers who went into the fieldwork. Specifically, 65%

²³ 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, 2014, and 2017 the reward system was similar to that described for 2020.

of them were females, almost 43% were aged between 46 and 55, around 73% had been working for KANTAR PUBLIC for at least one year (with around 47% of those having worked for KANTAR PUBLIC for more than 5 years), and 41.7% had previous experience in the survey since they had already worked on the EFF2017 fieldwork.

Control and validation

As mentioned in section 2, many consistency checks (hard and soft) were programmed in the CAPI instrument to minimize different types of errors (e.g. values out of range, implausible values and inconsistencies). In addition, BdE and KANTAR PUBLIC devoted during 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.²⁴ 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, some questions have been audio recorded along the interview since the EFF2017. 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 (6.5%). Neither respondents or interviewers knew which questions were selected to be recorded. Audio records has turned out to become a crucial methodological innovation for quality monitoring and the revision process. In particular, they provide extremely useful information to better detect mistakes, misunderstandings, interviewers' bad practices, and respondents' difficulties to understand questions. Overall, they represent a clear upgrade of the data revision and editing processes, having 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 PUBLIC. All reviewers attended the online interviewer training sessions plus some extra sessions to learn specific contents on revision and editing protocols. Specifically, their main task was to revise 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

²⁴ 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 week 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 separately.

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 to be 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 analyze 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 proposed by KANTAR PUBLIC 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, 691 households were re-contacted by KANTAR PUBLIC reviewers (10.4% of the interviewed households).

The interaction and the exchange of information between the survey agency and BdE during the process was managed by a web-based platform developed by KANTAR PUBLIC, where all completed questionnaires can be visualized. This platform was an improved version of the ones used in the EFF2011, 2014 and 2017. 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 anonymized by KANTAR PUBLIC so that nobody involved in the reviewing process could 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) visualize 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 centralized all the information and details entered for each revised case throughout the process. Second, it allowed KANTAR PUBLIC 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 35 different error categories detected, the most

common errors were: the misclassification of occupations (36%),²⁵ implausible value for a monetary amount (15.3% of the errors), the omission of an asset, debt, income or expenditure (10.4% of the errors), the wrong use of the category “Other” (8.5%), the misclassification of a particular asset, debt, income or expenditure (4.7%) and error in the employment status (3.6%).

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 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 13, as shown in Table 4.

²⁵ 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).

5 The final sample

Panel and refreshment in the final sample

The total number of valid interviews completed in this fifth wave was 6,313²⁶, with 3,813 (60.4%) corresponding to households that also participated in the EFF2017. Out of the 5,938 panel households included in the initial sample, this represents a retention rate of 63.8%.²⁷ Regarding the panel households in the final sample, 808 had participated since 2011, 1,368 since 2014 and 1,655 since 2017. Table 7 shows the changes in household composition of the panel households between the two last waves. In particular, 76% of them (i.e. 2,913) had neither gained nor lost members, 5.1% (194) had one additional member, and 12.8% (492) had lost one member. The number of individual household members interviewed in the two waves is 9,262.²⁸

Degree of oversampling in the final sample

According to the Tax Office, around 20% of the sample are wealth tax filers while in the population the proportion of households that filed a wealth tax return is around 0.9%. 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 2017 and 2020 waves. In particular, the results show that a progressive oversampling of the wealthy is achieved. For example, in both editions, in the wealthier 1%

Gráfico 7

Change in the composition of panel households (number of households)

	No. of members that dropped out between the 2017 and the 2020 wave				Total
	0	1	2	3 or more	
No. of new members in 2020 compared to 2017					
0	2,913	492	78	24	3,507
1	194	44	6	6	250
2	46	9	2	2	59
3 or more	11	3	1	0	15
Total	3,164	548	87	32	3,831

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

²⁶ 232 households completed the interview through a proxy person. Out of these, 82% corresponded to daughters or sons not living in the household. In only 12 cases was the proxy not a relative (e.g. caregiver, administrator, accountant or friend).

²⁷ As was mentioned in section 3, panel households participating since 2002 or 2005 or 2008 were not included in the EFF2020 initial sample. Therefore, just 5,973 households out of the 6,413 households interviewed in the EFF2017 were included.

²⁸ 49 individuals, corresponding to 38 panel households interviewed in 2020, declared that they had been excluded by mistake as members of the household during the interview in 2017.

Table 8

Degree of oversampling in the final sample

Net worth decile group	EFF 2017		EFF 2020	
	Number of observations	Oversampling rate (a)	Number of observations	Oversampling rate
Bottom 50%	2074	0.65	2198	0.70
50% to 90%	2265	0.88	2278	0.90
90% to 95%	433	1.35	438	1.39
95% to 99%	864	3.37	713	2.82
Top 1%	777	12.12	686	10.87

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 would

the number of observations is between eleven and twelve times what would be obtained with random sampling. It is noteworthy that the oversampling degree achieved for the 2017 and 2020 waves is still very similar to that of 2011 for all groups, in spite of the substantial increase in the non-taxable minimum wealth approved in 2011.²⁹

²⁹ See <https://www.bde.es/f/webbde/SES/Secciones/Publicaciones/PublicacionesSeriadadas/DocumentosOcasionales/14/Fich/do1407.pdf> for more details on the oversampling rates achieved in the EFF2011.

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).

Longitudinal weights

The initial weights for the panel households were their 2017 design weights corrected for 2017 non-response. These were further corrected for the non-response in 2020 of the 2017 sample, using as a reference the 2017 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 2020 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 2020 structure of the population according to gender, age by municipality size, and household size by municipality size.^{30,31,32}

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.

³⁰ 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.

³¹ The population data used for this calibration are the population projections by INE, based on the most recent census and other population information.

³² In addition, another set of longitudinal weights that are adjusted to conform to the 2017 population are also provided.

Weights using 2011 Census information

In previous waves to the EFF2014, the original weights provided were based on the 2001 Census (and the Padrón Continuo, a continuously updated municipal population register). After the 2011 Census, INE started calculating weights on the basis of the that new Census (and Padrón Continuo) for surveys between the two Censuses (2002, 2005, 2008 and 2011). The new weights are available for all EFF waves as part of the main dataset available through the EFF webpage³³ and they were used to compute the main results from the EFF2014, EFF2017 and EFF2020, published in their corresponding analytical article.³⁴ The new weights show some differences from those based on the 2001 Census, which may lead to some deviations in some aggregates or results between those published in the EFF2008 and the EFF2011 articles and the ones referring to 2008 and 2011 in the EFF2014 analytical article “Survey of Household Finances (EFF) 2014: methods, results and changes since 2011”.

³³ https://app.bde.es/efs_www/home?lang=EN.

³⁴ These documents can be found under the column “Main results” in https://app.bde.es/efs_www/documents?lang=ES.

7 Item non-response and imputation

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 EFF2020 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 EFF2020 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 (25.0%; 1,577 households) at least one of their euro answers is in the form of a predefined range from the list whereas for 58.4% (3,686 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 1 at the median, 2 at the mean and 31 at the maximum. As a percentage of the euro answers provided by a household, these figures would be 7.15%, 9.8% and 68.2%, respectively.³⁵

³⁵ Percentages not shown in the table.

The percentage of questions answered (reported in Table 1) was similar to 2017 and 2014 (which were already substantially larger than in 2008 and 2005). The percentage of euro questions answered (excluding ranges) was in this edition 92.3% at the median, just 0.3 pp lower than in 2017. When answers provided in ranges were considered, numbers were also very similar to the ones in the EFF2017 data. The larger percentage of values in ranges in the EFF2017 and the EFF2020 as compared to previous waves 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 substitute 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 EFF2020. In general, and comparing to the results from the EFF2017, no increases in item non-response are observed. The largest increase is shown for the self-employment income referring to 2019 for the reference person for which the proportion of DK/NA answers increased in 1 pp to 4%, which is still a very low level. On the contrary, larger decreases are observed in variables such as the value of unlisted shares (2.3 pp) and the value of the first mutual fund reported (1.7 pp). In these two cases, these improvements translated into increases in the proportion of point values, that also increased for the value of fixed income securities (4.8 pp). Part of the increase in the proportion of point value answers might be the result of the extended training program implemented in the 2020 edition as long as of the recording of a longer list of audios for each interview. On the other hand, higher proportions of answers given in the form self-reported intervals are observed for some variables such as the value of the main residence (3.7 pp), the value of the first other real estate property (3.3 pp), the wage and self-employment income of the reference person (3.3 and 3.2 pp, respectively), the value of the pension received by the reference person (9.1 pp) and food expenditure (2 pp). For some of these variables, the increase in the proportion of answers given in intervals (especially for wage income, self-employment income and pensions) 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.³⁶

Imputation methods

In the EFF2020 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)).³⁷

³⁶ More details on the effect of telephone interviewing (as opposed to in-person interviewing) on several data quality indicators are provided in Crespo et al. (2023).

³⁷ In the seventh wave, 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.

Table 9

Reporting rates (%) of various items, unweighted sample

	Have item		Point value	Value for those having the item				
	Yes	Un-known (a)		Own interval (b)	Fixed interval (c)	Don't know	No answer	NP/NF (f)
Own main residence	80.3	0.0	82.1	11.1	3.4	2.8	0.2	0.4
Amount owed, 1st loan, main residence	23.6	0.0	92.2	4.2	0.9	1.6	0.4	0.7
Monthly payment, 1st loan, main residence	23.6	0.0	98.0	1.5	0.1	0.1	0.2	0.1
Rent main residence	14.6	0.0	97.8	1.2	0.3	0.0	0.3	0.3
Other real estate, 1st property	58.0	0.0	83.4	8.2	3.8	4.0	0.1	0.5
Amount owed, 1st loan, 1st other real estate	8.4	0.0	90.7	4.0	1.3	3.4	0.0	0.6
Accounts usable for payments	99.8	0.0	84.6	6.5	3.5	1.7	3.6	0.1
Accounts not usable for payments	14.6	0.3	87.4	3.4	2.2	2.1	4.2	0.8
Listed shares	24.6	0.1	86.5	4.8	3.5	3.5	1.4	0.2
Unlisted shares	8.0	0.1	77.1	6.3	6.9	8.1	0.2	1.4
Mutual funds, 1st fund	18.2	0.4	92.1	1.3	1.4	2.2	2.1	0.9
Fixed-income securities	1.5	0.2	88.5	0.0	2.1	4.2	5.2	0.0
Pension plans, 1st plan	34.7	0.1	86.0	3.7	2.6	5.8	1.2	0.6
Life insurance (1st policy) coverage	14.7	0.0	75.9	4.3	5.4	12.2	0.6	1.6
Business market value (household), 1st business	15.9	0.0	77.5	8.3	3.2	8.0	1.5	1.6
Wage income (reference person, t-1)	44.7	0.0	86.5	11.4	1.0	0.3	0.8	0.1
Self-employment income (ref. person, t-1)	14.3	0.0	82.3	12.6	1.1	2.0	1.9	0.1
Unemployment benefits (ref. person, t-1)	7.1	0.0	94.2	4.0	0.7	0.7	0.0	0.4
Pensions (reference person, t-1)	32.2	0.0	76.9	21.4	0.6	0.0	0.8	0.2
Income from real assets (t-1)	23.3	0.0	95.1	2.0	1.1	1.0	0.7	0.1
Income from dividends, coupons, etc. (t-1)	13.6	0.4	86.4	6.8	2.9	2.8	0.6	0.5
Bank-account interest income (t-1)	14.8	0.5	81.3	5.8	6.3	5.6	1.0	0.1
Food expenditure	100.0	0.0	93.9	4.3	0.8	0.8	0.1	0.2
Non-durable expenditure	100.0	0.0	94.0	4.0	0.9	0.9	0.2	0.1

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

- a Household does not know whether it owns the item.
- b Household provides a self-reported interval that contains the monetary value.
- c Household selects interval from a predefined list of fixed intervals in a printed showcard.
- d Not plausible / not formulated.

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.

The panel aspect of the EFF would in principle allow a new imputation of the 2017 (and 2014, 2011, 2008, 2005, 2002) EFF data using the information obtained in 2020, and vice versa. This has not yet been done and the imputations provided so far are static ones.

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