

Survey of Expenditure of Households in Education (2023/2024)

Methodology

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1 General approach to the survey

The Survey on Expenditure of Households in Education (EGHE, per its Spanish initials) is a multi-annual statistical research carried out by the National Statistics Institute (INE) that meets the statistical demand for information regarding households' expenditure on education.

The first research conducted on household expenditure on education was carried out in 2007 by means of a specific information module that was integrated and collected within the Household Budget Survey (EPF, in Spanish) of that year. Afterwards, this operation was carried out twice, once in the 2011/2012 period and again in the 2019/2020 period, both as independent and separate surveys. This new edition of the survey, which involves the 2023/2024 academic year, is therefore the fourth edition of this research and incorporates several new features—both from the point of view of its content and from the point of view of information collection.

The need to carry out an *ad hoc* survey such as the EGHE to complement the information offered by the EPF on educational expenditure is justified by the nature of the goods and services classification (ECOICOP) used in said EPF, since the different headings of this classification do not allow for determining the detail of all the educational goods and services consumed. While the EPF provides total expenditure by level of education, it does not provide information on each of the different educational services received at each level of education, nor does it provide specific information on the different goods purchased for educational purposes.

The years that have passed since the execution of the previous survey, the changes in research developments and methods, and the new demands for information that have arisen over time have led to the introduction of significant methodological modifications in this survey project. Said modifications affect both the information collection methods and the intrinsic content of the operation itself (variables investigated, reference periods, etc.).

It is worth highlighting the contribution of updated information on household expenditure on education provided by this survey, as well as the role it plays as a basic statistical source, considering the development of the *International Statistics on Education and Training Systems (UNESCO/OECD/Eurostat Questionnaire)* synthesis operation, for which the Ministry of Education, Vocational Training and Sports is ultimately responsible.

This synthesis operation is of great relevance due to its contribution toward building the knowledge of the education-training system's situation as a whole and, within it, the EGHE is a statistical baseline of enormous value regarding covering the information demand related to *Private Household Expenditure*.

The regulatory requirements for an operation like the one in question are set out in the following European regulations:

- Regulation (EC) No 452/2008 of the European Parliament and of the Council of 23 April 2008 concerning the production and development of statistics on education and lifelong learning.
- Commission Regulation (EU) No 912/2013 of 23 September 2013 laying down implementing rules for Regulation (EC) No 452/2008 of the European Parliament and of the Council as regards statistics on education and training systems.

Among the different design possibilities considered for the collection of information from the different respondent units, it has been decided to select the survey sample from households that have participated and completed their collaboration period in the Household Budget Survey (EPF).

This option allows the information obtained in the EPF to be exploited, simplifies the collection and reduces the response burden on the respondent units. The information generated from the EPF has set up an initial filter in the selection of households and has established the reference framework for the research, by providing information on households in which educational expenditure has been made. This, in turn, has made it possible to significantly reduce the sample size and, consequently, the operation's corresponding economic cost.

2 Survey objectives

The fundamental objectives that this survey hopes to achieve are:

- To quantify total household expenditure on education, relating both to the different educational services received in the different educational centres, and to the different goods that have been acquired for educational purposes mainly.
- To estimate the cost households face when attending different levels of education.
- To provide information on total and average expenditure per household and per student by level of education, type of education and type of educational good or service.
- To analyse education expenditure according to certain qualitative characteristics of households and students (type of household, size of municipality, etc.).
- To obtain information on the contribution of households to the education sector, both public and private.
- To meet the demands for statistical information on education expenditure at both the national and international level.

3 Target population and areas of research

3.1 POPULATION UNDER STUDY

The population under study is the set of those existing households in Spain where any of their members are undertaking studies, whether these studies are regulated in nature or correspond to non-regulated training.

For the purposes of the survey, a household is understood to be the person or group of persons who habitually reside in a dwelling.

Within each household, those people who are in training or receiving some kind of education will be the subject of more specific research.

3.2 GEOGRAPHICAL OR TERRITORIAL SCOPE

The survey scope covers the entire national territory.

3.3 INFORMATION REFERENCE PERIOD

The survey's information refers to the 2023/2024 academic year. For the purposes of the survey, the summer months prior to the start of the school year are considered to be part of the school year, so that both studies and expenditure on educational goods and/or services purchased on those dates are included and are also part of this research.

4 Survey units

The primary data obtained in the survey refer both to the households included in the sample and to the persons who are part of each household, especially those people who are in formal education or receiving some other type of training or education.

Everyone who was part of an interviewed household was included in the survey, although only some basic socio-demographic variables (sex, age, etc.) were collected for those who were not undertaking any type of studies.

The basic units of the survey are therefore, on the one hand, the household (considered as the expenditure unit) and, on the other hand, the 'student', i.e. the person who has been undertaking some kind of studies during the survey reference period.

The respondent unit, i.e. the person who has provided the information requested in the survey, is always one of the people (of legal age) belonging to the household interviewed.

5 Variables studied

The main analysis and classification variables investigated in the survey are as follows:

5.1 ANALYSES VARIABLES

The following fundamental information blocks can be determined:

- Expenditure on Educational Services:
- Expenditure on Educational Goods.
- Scholarships and Study Grants.

Expenditure on Educational Services

In order to carry out a detailed analysis of household expenditure on education, the following types of educational services have been considered:

- *Enrolment and Tuition.* The teaching activity considered involves the disciplines contained in the official teaching programmes. Likewise, support classes for students with specific educational needs (immigrants, people with disabilities, etc.) are also included within the term 'tuition'. From the economic point of view, this includes the amount of both the enrolment fee and the possible periodic fees associated with the student's receipt of these educational services.
- *Extracurricular activities.* Extracurricular activities are considered to be those activities organised by the educational centre which are carried out voluntarily by students outside school hours and which may include both a cultural and a leisure component. This includes leisure and cultural activities (ballet, sports, music, non-compulsory languages, etc.) aimed at promoting various aspects of educational training.
- *Support classes:* Support classes (mathematics, English, computer science, etc.) organised within the school itself, focusing on the extension or consolidation of the knowledge taught during the course of the school classes.
- *Complementary services:* This concept includes:
 - School transport. All types of school transport, both urban and inter-urban, which enables students to travel to the school itself. This does not include the costs of travelling to school by public transport (metro, bus, etc.) or by the school's own means of transport.
 - Schools and university canteen. Canteen service for students in schools, colleges, universities, etc. Both food and beverage expenses are included. Expenditure on consumption in traditional catering establishments (bars, restaurants, etc.) outside the school environment is not included.
 - School and university residence. Accommodation services in boarding schools, student residences, residence halls, campuses, student hostels, etc.
 - Extended hours service. Childcare before or after school hours.
- *Complementary activities* (excursions, cultural visits, sports activities, etc.) carried out through the centre and within the school timetable.
 Complementary activities are considered to be those carried out within the compulsory timetable of the pupils and as a complement to the school activity, in which all pupils can participate voluntarily. Examples of this type of activities of an educational nature—although not strictly educational—are excursions, sports competitions, visits to museums or companies, conferences, etc.
- Parents Association fee. Fees corresponding to the Parents Association.
- *Other activities carried out or services provided by the school.* This includes other possible activities or services provided by the educational institution that are not explicitly included under the previous headings:
 - Psychological office, counsellor, school nurse, etc.
 - Voluntary supplementary hours. These are support classes that seek to reinforce or expand on subjects taught during class time (nature workshops, etc.). They are voluntary and, on occasion, the centre may receive some financial payment in the form of a donation.
 - Other donations or expenses (administrative services, teaching materials, etc.).

- *Expenditure on educational services for informal education.* This includes payments made to academies, private tutors, on-line courses, etc., corresponding to the different types of unofficial studies (languages, music, IT, accounting, preparation for competitive examinations and entrance exams, etc.) that may have been carried out during the reference period.

For the purposes of tabulation and dissemination of information, some of these headings have been aggregated to ensure representativeness. Specifically:

- *Other complementary services:* School transport + Residence (school or university) + Extended timetable service.
- *Extracurricular and support activities:* Extracurricular activities (including support classes at the school itself) + Complementary activities.
- *Other formal education services:* Parents Association fee + Other services provided by the school.

Expenditure on educational goods

It includes any expenditure incurred by households on the purchase of goods that have been acquired for educational purposes primarily. Among these types of goods, the following can be highlighted:

- Textbooks, manuals, university texts, notebooks and complementary study support books (dictionaries, recommended reading, etc.).
- Photocopying and printing of documents.
- Uniforms, school shoes or sportswear, backpacks, etc.
- Stationery.
- Furniture and accessories.
- IT tools and products.
- Musical instruments, drawing tools or materials, specialised instruments and equipment (laboratory materials, eyewear, etc.) and other goods acquired for basic educational purposes.

For the purposes of tabulation and dissemination of information, some of these headings have been aggregated to ensure representativeness. Specifically:

- Stationery and photocopying.
- Furniture and accessories + Other goods acquired for educational purposes.

Scholarship and study aid

Scholarships or study aid are contributions from public administrations (in the most general case) or private institutions, which contribute to the financing of household educational expenses. Depending on their typology, they are channelled either through direct financial contributions to beneficiaries or through reductions or elimination of fees or other economic costs.

The survey collects differentiated information, based on each educational level and on the different types of scholarships or grants that each student has received:

- Basic or general aid: Financial aid is granted to certain students, mainly as a result of low family income. It can be fixed or variable.
- Scholarship or tuition aid: Reduced tuition fees or free tuition under certain circumstances (socio-economic conditions, large families, academic record, etc.)
- Scholarship for specific educational needs: Aimed at meeting certain specific educational support needs of students, as well as targeted at special education pupils.
- Transport aid: Financial aid for studies targeting those students who study abroad (e.g. Erasmus grant) or in another Autonomous Community (e.g. Seneca grant) during all or part of the academic year.
- Excellence scholarship: A contribution to help finance the studies of students who have displayed an excellent academic performance.
- Grant or aid for meals: Aimed at financing all or part of the cost of the canteen (school or university).
- Transport or travel grant or aid: Aimed at financing all or part of the transport expenditure.
- Scholarship or grant for textbooks or school supplies
- Other types of aid

5.2 CLASSIFICATION VARIABLES.

The main classification variables used in the survey are as follows:

- **Age:**
Age is collected in years.
- **Sex:**
 - Man
 - Woman
- **Nationality:**
 - Spanish.
 - Foreign.
 - Dual nationality (Spanish and other).
- **Level of current studies:**
 - Aggregate level:
 - Pre-primary education.
 - Primary education.
 - Secondary education.

- Higher education.
- Other studies (no academic level).
- Level of detail:
 - Early childhood education, first cycle.
 - Early childhood education, second cycle.
 - Primary education.
 - Compulsory Secondary Education.
 - Upper secondary education.
 - Vocational Training Cycles.
 - Other secondary education studies.
 - University studies.
 - Higher Level Vocational Education and Training Cycles.
 - Other higher education studies.
 - Other studies (no academic level).
- **Type of education:**

A distinction is made between three categories, depending on the type of funding for the school:

 - Public Education
 - Subsidised education.
 - Private Education.

And two other categories, according to the type of training:

 - Face-to-face teaching
 - E-learning
- **Location of the educational centre:**

The following categories are specified:

 - In the municipality of residence
 - In another municipality in the same province
 - In another province of the same Autonomous Community
 - In another autonomous community
 - Abroad

6 Design and Sampling

6.1 SAMPLE DESIGN

The sample of the EGHE survey is selected from households that have completed their collaboration period in the Household Budget Survey (EPF) and, therefore, shares the same basic aspects of the sample design as this survey.

In the EPF, two-stage sampling with stratification of the first stage units has been used. The first-stage units are the census sections into which the national territory is divided. The second-stage units are the main family homes.

In each Autonomous Community, the census sections have been stratified according to the size of the municipality to which the section belongs.

As regards sample selection, first-stage units are selected with a probability proportional to their size within each stratum. Second-stage units are selected with equal probability in each census tract selected in the first stage. In this way, the sample of dwellings is self-weighted at the stratum level, i.e. all sample dwellings have an equal probability of belonging to the sample.

The sample selection framework used was based on an EPF area framework formed by the revised list of existing census sections as of the start of each year. The second-stage units are selected from the list of family dwellings for said frame.

The sample is proportional to that of the EPF, since the sub-sample is used in the second and last interview of this survey.

6.2 ESTIMATORS

The estimators to be used will be based on the raising factor of each EPF sample dwelling. They will then be corrected for non-response in homogeneous groups, and finally calibrated to external population totals.

The sampling errors of the main estimates shall be calculated using the Jackknife method.

The households selected in the EGHE are those that have declared education expenditure in the EPF, as well as those that have not made any expenditure but which include a member of the household under 30 years of age: This ensures an adequate level of coverage of the research population

The dwelling sample is constructed from households that have recently ceased to collaborate in the EPF, which prevents any negative interference with the collection of this research.

The sample size was 7,304 dwellings.

7 Information Collection

A multi-channel data collection system was applied in the survey, combining the collection of questionnaires via the internet (CAWI) with a telephone interview (CATI).

A specific computer application has been developed to facilitate both the fieldwork management and the completion of the information by the informant units. The corresponding flow and inconsistency controls have been implemented in this application in order to achieve an adequate level of quality in the data collected.

Versions of the questionnaire have been made available in the different Autonomous Communities' official languages.

The collection period was scheduled from September 2024 to January 2025, i.e. at the beginning of the school year following the survey reference year. The effective sample was 7,304. Finally, the number of households from which the completed questionnaire was obtained was 4,368. Of these, a total of 2,988 were households in which one of the members was studying.

8 Processing of information

The first part of the computer processing of the survey has been carried out at the same time as the information collection process itself, by periodically downloading the corresponding files of completed questionnaires.

The aim has been to detect possible inconsistencies, to check for valid values and to carry out a first general assessment of the data received in order to facilitate potential issue detection in the initial stages of the process for subsequent decision-making.

The continuous monitoring of the information received and the study and analysis of ratios and percentage distributions has provided information that has proven useful in assessing the advisability of modifying some of the guidelines established *a priori* regarding computer processing.

Once the survey collection period was over and the complete data file was available, the second stage of the processing of the information—structured in different phases—was undertaken.

The detection and imputation of incompatibilities between variables and the filtering of invalid values has been carried out using the DIA (Automatic Detection and Imputation) computer software, a generalised editing and imputation system developed by the INE and widely applied in different surveys over time.

DIA is based on the Fellegi&Holt debugging and imputation methodology, whose mathematical model ensures compliance with the system's basic principles:

- Principle of minimum change: All errors (edits) must be removed from the records by modifying as few fields as possible.
- The imputation is performed automatically by the system itself on the basis of the previously established editing rules.

- Insofar as possible, the automatic imputation should maintain the marginal frequency distributions (and preferably even the joint distributions) of the different variables corresponding to the error-free records.

DIA allows the compatibility of two subsystems for data processing:

- The probabilistic imputation subsystem itself, for the treatment of random errors: The specification of the edits associated with both the socio-demographic variables and the different expenditure variables are the basis from which the system establishes the imputation rules, following Fellegi's methodology.
- The deterministic imputation subsystem for the correction of systematic errors (edits). This sub-system has been applied when a behaviour—presumably derived from an error of this type—has been detected in a survey variable, which has led to a treatment and specific imputation rules outside the general system.

After processing the data file using the DIA application, a clean data file is generated and, as complementary information, a set of reports on the results of the process that allow the initial quality of the data to be evaluated, as well as the impact of the cleaning on the processed data. The detailed information provided has been analysed at file, variable and code level.

The treatment of errors that, due to their characteristics, have been left out of the DIA has been carried out by means of specific imputation procedures that have taken into account auxiliary variables (average expenditure ratios and statistics, both of which were generated by the EGHE itself and derived from the EPF). Once the previous phases had been carried out, the processing of the survey concluded with the calculation of the elevation factors and collection of the first tabulations (quality control) which, by means of the study of the aggregate information, made it possible to detect—and eventually correct—possible errors or inconsistencies not detected in previous phases at a macro level.

After this last review, the results tables corresponding to the dissemination of the survey were generated, as well as the anonymised data file made available to users on the website.

9 Dissemination of results

The dissemination of the survey via the internet (inebase) includes the results tables, the methodology and the standardised methodological report.

The methodological characteristics of this survey—in particular its sample size—condition the exploitation of its results.

The survey results are disseminated nationwide. Although in previous editions of this research the results were also disseminated at national level, the initial technical project of this new edition of the survey envisaged the dissemination of some tables at Autonomous Community level that reached an adequate level of precision and representativeness. However, the partial coincidence of the information collection period with the months during which the state of alarm has been declared as a result of the pandemic caused by COVID-19, has significantly reduced the response rate of the survey and has led to a loss of precision that has forced the initially planned tabulations

to be reconsidered, and has prevented the dissemination of results on a regional level given their low representativeness.

On the other hand, when analysing the results disseminated in the tables, the special circumstances that have occurred in the past 2023/2024 academic year must be taken into account for a correct interpretation of the information. More specifically, the possible reduction of certain educational services (canteen, complementary and extracurricular activities, etc.) during the lock down months in comparison with a standard year must be taken into account.

The set of dissemination tables has been structured into three main groups:

- Tables referring to the set of households with students (persons undertaking some kind of study) and to the total expenditure of these households on education.
- Tables referring to the set of households with formal education students (persons undertaking some type of regulated studies) and the total expenditure of these households on educational services corresponding to formal education studies.
- Tables referring to the set of households with informal education students (persons undertaking some type of informal studies) and the total expenditure of these households on educational services corresponding to informal studies.