



# An Overview of The Household Expenditure and Income Survey (HEIS)

Missing Values / Twinning Project

June 2023

# Goals of The Survey

- Obtaining detailed data on the household's income and expenditure and linking it to various demographic, social and economic variables.
- Recognize patterns of consumer expenditure prevailing in society.
- Provide basic data to assess and study the situation of poverty in society through various poverty indicators such as poverty rate and severity and identify poverty pockets in Jordan.
- Provide weights that reflect the relative importance of consumer expenditure items used in the preparation of the consumer price index.
- Provide some of the necessary data for national accounts on the final consumption of the household sector.

## Historical sequence of household expenditure and income surveys

Survey	Year	Sample Size
First	1980	1600
Second	1986	2377
Third	1992	9550
Fourth	1997	6048
Fifth	2002	12972
Sixth	2006	12768
Seventh	2008	12768
Eighth	2010	14000
Ninth	2013	24000
Tenth	2017	20000
Eleventh	2022	25000

# Survey data collection mechanism up to 2013

- The Household Expenditure and Income Survey methodology for 1980-2013 relied on a year-long visit of the same survey households, at a rate of 20 visits per household to collect data on household expenditure on goods, services and income achieved during the survey period, through three main questionnaires designed specifically for this purpose.
- The main disadvantages of this methodology are:
  - The frequent visits to the household resulted in high rates of unresponsiveness due to refusal and families moving out and consequently the loss of the household's data.
  - The high cost of the survey due to the visit of all the households of the sample during each month of the survey, in addition to the need for large numbers of workers.
  - The significant time gap between the data collection phase of the field and the publication of the survey's findings.

# Survey methodology used since 2017 – part 1

- The household Expenditure and Income Survey has been developed to avoid the shortcomings associated with the survey methodology. Since 2017, the survey methodology has been changed. The main amendments are as follows:
  - Distribution of the survey sample throughout the year where each household of the sample is followed up for several visits of not more than five visits per household within a period of only 10 days. Where the data of all survey variables are met from the characteristics of the dwelling, Individuals data, expenditure and income in all its details, and in the next 10 days, the enumerator is allocated to new households, And so over the reference period of the survey that lasts for a whole year, This mechanism has worked to raise response rates by reducing the burden of frequent household visits.

## Survey methodology used since 2017 – part 2

- Develop and amend the survey's questionnaire and change the methodology for the collection of household expenditure data on goods and services where the "Recall" methodology was adopted instead of the "Diary" methodology.
- Daily entry of the collected data from households in the designated centers in the governorates. The data entered is reviewed accordingly in a timely manner , then any error in the questionnaire is addressed during the next visit to the household.
- Daily data entry led to speedy release of the final results of the survey.

# Household Expenditure and Income Survey 2022

- The Household Expenditure and Income Survey 2022 was carried out over a year to grasp households' seasonal expenditure and income. Field work began on 1.11.2021 and ended on 31.10.2022.
- The survey was carried out by 45 field teams distributed in all 12 governorates of Jordan.
- The sample households were visited with an average of 4 visits within 10 days to complete all the questionnaire data.
- The questionnaire data were collected in paper and entered in a timely manner into the centers within Jordan's governorates.

# Survey Phases

- Designing and choosing the sample
- Designing the questionnaires and preparing the various instruction manuals
- setting up of computer software for data entry and transmission.
- Preparation and implementation of the pre-test of the survey, which aims to test all survey tools.
- Selection of survey staff and their training in the method of collecting and auditing data from the field.
- Collecting survey data.
- Data entry on computer.
- Audit/validate and process data
- Prepare detailed tables of survey results and post them on the department of statistics website.



# Survey Sample Design – part 1

- The frame of the General Population and Housing Census (2015) was adopted as the basis for drawing the sample of the 2022 Household Expenditure and Income Survey, which provided a detailed framework for dwellings and households at various administrative levels in Jordan.
- The survey sample design used the method of: "Random cluster stratified sampling" which was done in two stages:
  - During the first phase a sample of 3084 blocks distributed across Jordan's governorates was drawn, in addition to Syrian refugees, given the time gap between the general population and housing census and the HEIS survey 2022, there was a need for an updated list for the households within the blocks that were chosen from the census to update the selection probabilities and segmenting the sample to Jordanians and non-Jordanians, thus updating the survey frame before drawing the target household sample.

# Survey Sample Design – part 2

- The second phase included drawing a sample from the target households from these updated blocks, which were 24968 households, and within each block a sample of 8 households was drawn, with the exception of the Syrian refugees camps blocks, where 10 households were drawn within one block.
- Sample blocks were distributed to four survey rounds (duration of each round is 3 months) where there are 771 clusters per round, and each round was divided into 9 periods; Duration of each period is 10 days.
- The survey sample is designed to be represented in each round of survey for Jordanians only and at Jordan's level. By the end of the survey, Jordanians are represented at Jordan's, governorates, urban and rural levels, while the level of representation for non-Jordanians is at Jordan level only.

# Survey Sample Design – part 3

- Each of the following is excluded from the survey sample:
  - Collective households, whether they live in group homes, such as hospitals, prisons, children's villages SOS, etc., or in traditional housing, such as 6 or more workers residing in an apartment.
  - Students residing in traditional housing whether they form a private or collective household where they are registered with their families.
  - Non-resident families in Jordan who coincidentally were present during the survey period and were part of the households sample, whether they were Jordanian or any other nationalities.
  - Furnished and rented apartments for families to stay in on a temporary basis.

# Survey Questionnaire – part 1

- Housing/Dwelling Characteristics: Includes a set of residential data such as housing type, space, number of rooms, etc.
- Availability of durable goods and family property: This section contains questions concerning the family's ownership of major durable goods and certain assets.
- Social protection: This section identifies those who provide assistance and family allowances and identifies the type of family allowance.

## Survey Questionnaire – part 2

- Characteristics of family members: Includes a set of questions concerning the social, demographic and economic characteristics of family members such as marital status, educational level and some health indicators, as well as special questions to identify the status of family members' economic activity.
- Agricultural activities: Through this part, the household's agricultural activities are identified from the ownership, cultivation or possession of livestock
- Sources of the household's current income: This part of the questionnaire contains data on the income of family members from various sources of income such as income from rents, income from property, transformative income, etc.

## Survey Questionnaire – part 3

- Food expenditure: This part of the questionnaire is allocated to collect the household's expenditure data on food commodities during the 7 days preceding the interview to identify the purchase periodicity of this commodity, specifying the latest purchase amount allocated for family consumption and the price paid by the family for the amount purchased, as well as data on household consumption of any commodity received from any party in the form of gifts or subsidies, and the household is asked about 200 food commodity.

## Survey Questionnaire – part 4

- Expenditure on non-food goods and services: This part of the questionnaire is devoted to collect data on the household's expenditure on non-food goods and services. The household is asked about their expenditure or receiving of any non-food goods or services (320 goods), The goods and services are distributed according to reference periods of three parts:
  - Goods purchased during (30) days prior to the day of the interview.
  - Goods purchased during (90) days prior to the day of the interview.
  - Goods purchased in the 12 months prior to the day of the interview.

# Control data quality in the survey – part 1

- Design the questionnaire and formulate questions in a clear way that ensures accurate answers from the respondent.
- Conduct a pre-test for the survey to test all survey tools in order to ensure successful implementation of the survey.
- Training survey staff on data collection mechanism to ensure getting correct data.
- Develop rules for inspecting and audit /checking input data to ensure that input data is consistent with each other and logical.
- Having follow-up and supervision models both the team's observer and the governorate supervisor.
- Post enumeration to follow the work of the field teams and ensure the quality of the work.
- The technical team conducts field tours to monitor work in real life directly and obtain information to assess the actual performance reality.
- Follow-up on performance indicators of some key survey indicators at the enumerator and team level. These reports were used to identify poor performance and implement corrective actions.





## Survey response rates

- **The 2022 HEIS questionnaire's response rate (complete response) was about 72% of the total sample households, whereas 4% of households that responded partially to a portion of the questionnaire's data, and for the households that never responded to the survey enumerators and no data was filled for them, was around 24% ; due to the refusal of cooperation with the enumerator or the family was not in their home when the enumerator visited the dwelling or the dwelling was empty of any family, or there was no qualified individual to give the data to the enumerator.**

# Response rate in 2022 expenditure survey at governorate level

<b>Governorate</b>	<b>Completed</b>	<b>Partially Complete</b>	<b>Did not complete any part</b>	<b>Total sample</b>
<b>Amman</b>	2,816	263	2,073	<b>5,152</b>
<b>Balqa</b>	1,368	10	190	<b>1,568</b>
<b>Zarqa</b>	2,164	15	117	<b>2,296</b>
<b>Madaba</b>	1,277	49	242	<b>1,568</b>
<b>Irbid</b>	1,813	133	358	<b>2,304</b>
<b>Mafraq</b>	1,976	129	576	<b>2,681</b>
<b>Jerash</b>	966	148	454	<b>1,568</b>
<b>Ajloun</b>	1,159	97	312	<b>1,568</b>
<b>Karak</b>	1,178	20	370	<b>1,568</b>
<b>Tafilah</b>	1,339	5	224	<b>1,568</b>
<b>Maan</b>	1,033	43	485	<b>1,561</b>
<b>Aqaba</b>	860	30	676	<b>1,566</b>
<b>Total</b>	<b>17,949</b>	<b>942</b>	<b>6,077</b>	<b>24,968</b>

# Comparison of response rate in expenditure survey for 2017 and 2022

<b>Final result of the visit</b>	<b>2017</b>	<b>2022</b>
Completed	85%	72%
Partially completed	2%	4%
Did not complete any part	13%	24%
<b>Total</b>	<b>100%</b>	<b>100%</b>

# Dealing with Non-response

- The common pattern in the HEIS survey was the use of alternative households in case the original households did not respond to the field enumerator. The presence of alternative households helps in the enumerator 's diligence to access the original households, therefore enhances the performance of the enumerator and increases response rates, but the alternative household approach wasn't used in the 2022 HEIS survey.
- The survey dealt only with fully responding households and the households who responded partially and who did not respond were ignored. The initial weight given to the household after the completion of the survey was adjusted according to the result of the visit.

# Missing data at question level – part 1

- The overall percentage of data lost at the question level in the survey data was low, and the reason for the loss was the individual respondent's refusal to answer some of the questions posed to him, as these missing data were treated as follows:
  - Some of these missing data remained unprocessed because there was no clear way to impute such data, such as an individual's occupation, the economic activity of the enterprise in which the individual works, the individual's age, the educational level.
  - Some of the missing data at question level were given estimated values through the observations in the data. Examples of these questions include:

# Missing data at question level – part 2

- Missing values in the dwelling rental question: the value of the dwelling's rent was estimated by the "Regression Imputation".

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q205 Monthly rental Value for rented house or estimated monthly rental for owned hous

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Type: Numeric (int)

Range: [10,4000]

Unique values: 100

Units: 1

Missing .: 238/17,949

Mean: 132.552

Std. dev.: 95.5129

Percentiles:	10%	25%	50%	75%	90%
	50	90	120	150	200

## Missing data at question level – part 3

Missing values in the question for a person's income: Missing income values were estimated and imputed by "Median Imputation" from the same source, but according to different levels depending on the source of income.

For example: in the imputation of self-employed persons , the income median is imputed by governorate, urban area and rural area within each governorate with the occupation of the individual, while the income median for paid employees is imputed by the employment sector(public, private, international organizations) with the occupation of the individual.



# Treating outliers in values

- Outliers are mainly found in the HEIS survey in the expenditure and income data, especially in goods prices and quantities consumed from foodstuffs, in addition to individuals' income from different income sources, the outliers that deviated more than 2.5 standard deviations from the arithmetic mean or 5 standard deviations from income data are determined by the equation  $(\text{Mean} \pm 2.5 * \text{SD})$ , and these outliers have been replaced as follows:
  - In the case of expenditure, the outliers of the price of one commodity or the quantities consumed per person have been replaced by the median according to different geographical levels.
  - In the case of income, outliers were replaced by income value at  $(\text{Mean} \pm 5 * \text{SD})$  and high outliers were replaced by that value for each of the different sources of income.

**Thank you for  
listening**