

Turkey

A: Identification

Title of the CPI: 2003 = 100 based Consumer Price Index

Organisation responsible: Turkish Statistical Institute (TURKSTAT)

Periodicity: Monthly

Price reference period: December 2011 = 100

Index reference period: 2003 = 100

Weights reference period: 2011 December

Main uses of CPI: Indexation of wages, pensions and/or social security payment, indexation of rents, contracts and/or other payments, main inflation indicator used for monetary policy, deflate household expenditures in National Accounts, computation of purchasing power of households, macroeconomic modelling and other analytic uses.

B: CPI Coverage

Geographical Coverage

Weights: Nation-wide

Price collection: Nation-wide

Population coverage: Resident households of nationals, resident households of foreigners in the country, temporary visitors and institutional households in the country.

Consumption expenditure includes:

- Food consumed away from home;
- Housing maintenance, minor repairs;
- Major repairs, conversions and extensions to owner occupied housing;
- Purchase of gifts of goods and services given to others outside the household;
- Second hand goods purchased;
- Luxury goods;
- Financial services (including fees for financial advice, brokerage fees);
- Non-life insurance premiums (e.g. vehicle, housing, other property, medical), gross of claims;
- Licences and fees (e.g. driver's licence, hunting licence, vehicle registration);
- Gambling expenditure, gross of winnings

Consumption expenditure excludes:

- Foods produced for own final consumption;
- Other goods produced for own final consumption;
- Services produced for own final consumption;
- Income in-kind receipts of goods;
- Income in-kind receipts of services;
- In-kind goods received as gifts;
- In-kind services received as gifts;
- Purchase of owner-occupied housing;
- Mortgage repayments;
- Mortgage interest;
- Interest payments (excluding mortgage interest payments);
- Life insurance premiums;
- Investment-related expenditures (e.g. purchase of shares/stocks);
- Occupational expenditures;
- Other business-related expenditures;
- Social transfers in-kind of goods and services from government and No-profit institutions serving households;
- Expenditures abroad

C: Concepts, definitions, classifications and weights

Definition of the CPI and its objectives: CPI is an economic indicator that measures the change over time of the prices of consumer goods and services acquired by households. CPI covers the whole household sector, more precisely the goods and services that acquired by households.

Definition of consumption expenditures: The target statistical universe is the 'household final monetary consumption expenditure' (HFMCE) within the economic territories of the country compiling the CPI. The household sector to which the definition refers includes all individuals or groups of individuals irrespective of, in particular, the type of area in which they live, their position in the income distribution and their nationality or residence status. These definitions follow the national account concepts in the European System of Accounts (ESA 1995).

Classification: COICOP (Classification of individual consumption by purpose)

Weights include value of consumption from own production: No

Sources of weights: Household expenditure surveys and administrative data.

Frequency of weight updates: Annual

Price updating of weight reference period to the index reference period: The weights for calculating the index in a given year are based on the data from the household budget survey. These data are also supplemented and verified using other statistical (tourism survey and special survey for institutional population) and non-statistical sources. Weights are changed every year. The present weights are based on the HBS 2008-2009-2010 (t-4, t-3, t-2) results and price-updated to December t-1. A review of critical weights is also part of the ongoing annual review of weights. At the first step of weighting structure, commodities produced by

households for own consumption, imputed rents from dwellings resided by owners and income in-kind excluded. For the insurance and games of chance net consumption application is used. After this step, the basket of CPI is obtained and then the weighting structure for both Turkey and the 26 regions are constituted. The consumption of tourists and the consumption expenditures of institutional population are then added to 12 main groups. At the final step, these weighting structures are price-updated to December t-1. For the weights to be used in 2012, 2010 weights coming from HBS data are price updated by the ratio of December 2011 over average of 2010 in 5 digit COICOP level.

Weights for different population groups or regions: The weights are calculated for both Turkey and the 26 statistical regions.

D: Sample design

Sampling methods:

Localities: Judgmental sampling

Outlets: Judgmental sampling

Products: Judgmental sampling

Frequency of sample updates:

Localities: Annual

Outlets: Annual

Products: Annual

Criteria used for determining the optimal sample sizes and the coverage of localities, outlets, items and variety samples: All of the items whose weights are more than 1/1,000 of total consumption expenditure are covered by the CPI. The sample size is determined by using some of statistical techniques (confidence interval analysis, non-parametric tests, etc.). Every year the distribution of population and outlet censuses in the regional level are controlled and both these distribution and statistical techniques are used for the determination of optimal sample sizes.

Criteria used for selecting an item variety in the outlet in case of loose specifications provided by the central office: The decision of which product (reference product-offer) will be observed in a specific outlet is taken by price collectors. Price collectors are instructed to select the most adequate product available in the outlet taking into consideration its specification as well as the instructions for selecting product offers as agreed in joint meetings (head office staff and price collectors) at the beginning of each year. The specifications for the individual good/service are more or less detailed; indicating size, unit, materials, brand characteristics, in some cases the quality and price levels. How tight or loose the specification will be depends on the nature of the product. If a product has many characteristics could which can affect its price, the specification is more exact. There are

detailed specifications in case of cars, technical products, medical, tobacco goods and some services. For some products such as food and some garments, specifications are looser.

E: Data Collection

Approximate number of localities, outlets and price observations: Localities: 81 city centers, 74 districts, Outlets: 27,500, Price observations: 375,000

Frequency with which prices are collected: Data on prices for representative goods and services are collected twice a month. Fruits, vegetables, some specific items (e.g. cheese, eggs, etc.) and oil prices are observed 4 times per month. Rents are priced once a month.

Reference period for data collection: Daily averages are used for the products having administered prices like tobacco, electricity, water etc. Specified dates are used for the prices of oils, lpg and diesel. Data on prices for the other representative goods and services are collected twice a month, firstly the week included 10th of the month and secondly the week included 20th of the month by price collectors.

Methods of Price Collection

- Personal data collection
- Telephone interviews for real renters.
- Internet just for the control of the prices derived from the outlet.
- Official tariffs

Treatment of:

Discounts and sales prices: Seasonal sales, other sales prices and reduced prices (e.g. special offers, discounts, etc.) are included in the index when they are available to all potential consumers without special conditions attached.

Black market prices: Not collected.

Second hand purchases: Not included in price collections.

Missing or faulty prices: If a non-seasonal item is missing permanently, the item is replaced with the most comparable one in the same outlet or its price is extrapolated on the basis of price changes to the same or similar item in (an) other outlet(s).

Period for allowing imputed missing prices: If a non-seasonal item is missing permanently, the last price is carried forward only for two periods (maximum 1 month) if the outlet gives permission that the same brand of that will sell again.

Disappearance of a given type or quality from the market: If a non-seasonal item is disappearing permanently, the item is replaced with the most comparable one in the same

outlet or its price is extrapolated on the basis of price changes to the same or similar item in (an)other outlet(s).

Quality differences: During a year, price adjustments due to quality changes are most frequently made for cars, PCs, major household appliances, clothing, and technical products. The following methods are used: Implicit methods: Direct price comparison: e.g. clothing – as required, Overlap: e.g. clothing, audio-visual goods – as required, Bridge overlap: e.g. PCs – as required, Retropolation (“base-price imputation”): mainly used for all other products – as required, Package size adjustment: e.g. food and medicines, Judgmental quality adjustment: e.g. clothing, cars – as required, Mixed approaches: – as required.

Appearance of new items: The process of identifying new goods and services is continuous throughout the year: existing products are reviewed for their continued relevance and research is undertaken to identify new goods and services. The basket of goods and services, including newly significant goods and services, is updated at the end of each year.

Treatment of seasonal items and seasonality

Items that have a seasonal character and their treatment: Seasonal characters are used for clothing (e.g. winter coats, swimming trunks), footwear (e.g. boots, skis, tires), fresh fruit and vegetables.

Seasonal food items: Seasonal food items are included in the CPI using variable weights approach: the weights vary over the year.

Seasonal Clothing: Seasonal clothing items are included in the CPI using variable weights approach: the weights vary over the year.

Treatment of housing

Treatment of owner-occupied housing: Owner occupied housing is not included in the CPI

Types of dwellings covered by the rent data: The rentals are stratified in to groups according to number of rooms, type of dwelling and the type of heating system.

F: Computation

Formula used for calculation of elementary indices: The ratio of geometric mean prices (Jevons index) (Direct form)

Formula to aggregate elementary indices to higher level indices:
Higher level indices

$$I = W \cdot \frac{P_i}{P_0}$$

I: higher level indices

P_i: price of current period

P₀: price of base period

W: weight

Formula of aggregating regional/population group indices into national index: All of the calculation procedures are same both for regions and Turkey. The difference is that the price of Turkey is calculated by using weighted average of the regions in the elementary aggregate level.

Monthly and annual average prices: Geometric means are used.

Seasonally adjusted indices: No seasonal adjustment.

Software used for calculating the CPI: Data entrance program is Java based and index calculation program is written in the visual basic form.

G: Editing and validation procedures

Control procedures used to ensure the quality of data collected: Price is automatically calculated by considering quantity, discount as a percentage and rayon price. By comparing the preceding price and current price, if change rate exceeds 20% limit, the system gives a warning. This is the first alert for the price collector.

Control procedures used to ensure the quality of data processed: There are 30 queries in the Java based data entrance program and lots of macros in the excel program. Moreover SAS queries support the price control level.

H: Documentation and dissemination

Level of detailed CPI published

Paper publication: All items CPI, Division-level (12 Divisions)

Online: All items CPI, Division-level (12 Divisions), Group-level app. 40 groups, Average prices

Type of products for which average prices are calculated and disseminated: All items (COICOP level 7) are disseminated on the internet.

Documentation

Publications and websites where indices can be found: Internet website:
http://www.turkstat.gov.tr/PreTablo.do?alt_id=17

Publications and websites where methodological information can be found: Internet website: http://www.turkstat.gov.tr/MetaVeri.do?alt_id=17

I: Other Information

Reported by the country in 2012.