

# Switzerland

## A: Identification

**Title of the CPI:** Swiss Consumer Price Index

**Organisation responsible:** Swiss Federal Statistical Office, Prices

**Periodicity:** Monthly

**Price reference period:** December 2011=100

**Index reference period:** December 2011=100

**Weights reference period:** December 2011 (weights are updated every year).

**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 and resident households of foreigners in the country.

**Population groups excluded:** Institutional households.

### Consumption expenditure includes:

- Food consumed away from home;
- Mortgage interest;
- Housing maintenance, minor repairs;
- Purchase of gifts of goods and services given to others outside the household;
- Second hand goods purchased (second hand cars only);
- 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);
- Occupational expenditures;
- Expenditures abroad

### **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;
- Major repairs, conversions and extensions to owner occupied housing;
- Interest payments (excluding mortgage interest payments);
- Life insurance premiums;
- Gambling expenditure, gross of winnings;
- Investment-related expenditures (e.g. purchase of shares/stocks);
- Other business-related expenditures;
- Social transfers in-kind of goods and services from government and No-profit institutions serving households

## **C: Concepts, definitions, classifications and weights**

**Definition of the CPI and its objectives:** The CPI measures the change in prices of goods and services which are representative of the private and institutional households' consumption in Switzerland. It indicates how much the mean consumers have to increase or to decrease their expenditure to maintain the same volume of consumption, despite the variations in prices.

**Definition of consumption expenditures:** acquisition concept

**Classification:** COICOP (Classification of individual consumption by purpose) at 4-digit level

**Weights include value of consumption from own production:** No

**Sources of weights:** Household expenditure surveys.

**Frequency of weight updates:** Annual

**Price updating of weight reference period to the index reference period:** Yes

## **D: Sample design**

### **Sampling methods:**

*Outlets:* Judgmental sampling, cut-off sampling (the elements with the highest sales or value of other auxiliary variable are included into the sample), quota sampling (a priori fixing of the number of elements)

*Products:* Judgmental sampling, cut-off sampling (the elements with the highest sales or value of other auxiliary variable are included into the sample), quota sampling (a priori fixing of the number of elements)

**Frequency of sample updates:**

*Localities:* Continuously checked and updated if needed

*Outlets:* Continuous (on a rotating basis)

*Products:* Continuous (on a rotating basis)

**If sample updates are irregular indicate when last updates were introduced:** Localities were updated during the 2005 revision (December 2005).

**Criteria used for determining the optimal sample sizes and the coverage of localities, outlets, items and variety samples:** Information concerning market share of the location, sales numbers of the item and the general importance for private households is obtained and used when fixing the basket. In the upcoming revision project, Neyman-method will be used.

**Criteria used for selecting an item variety in the outlet in case of loose specifications provided by the central office:** Data collectors are held to follow given instruction by the office which are normally more or less precise. If not applicable, they should ask the shop owner/present staff for the best-selling product realizing a large turnover or –in the worst case- follow the personal impression of the data collector self.

## **E: Data Collection**

**Approximate number of localities, outlets and price observations:** Localities: 11 regions covered by data collectors (plus data of nationwide important outlets is collected by the central even if located elsewhere (typically online-shops or huge outlet-markets on the countryside with important market share)), Outlets: 3,000 in total, most of them monthly, Price observations: 50,000 per month and 10,000 rents per quarter

**Frequency with which prices are collected:** Monthly (exceptions are made for long-term fixed prices, like e.g. tariffs, seasonal products etc.) and for rents (quarter)

**Reference period for data collection:** First two weeks of the month, fuel and gasoline prices are collected twice a month (at the beginning and at mid-month)

### **Methods of Price Collection**

- Personal data collection for all kind of items
- Mailed questionnaires for all kind of items.
- Telephone interviews for all kind of items.
- Scanner data for food and near food (in several outlets), medicines (order data), PC.

- Internet for books, music, film, hifi, AV, household goods, sports and cultural events, etc. (all of them are completing traditional data collecting).
- Official tariffs for energy, health care, official documents, public transports, etc.

### Treatment of:

**Discounts and sales prices:** Taken into account if reduction is applied to sampled goods, to all consumers and discounts for bulk purchases are not exceeding 3 times the standard quantity sold during normal period (“multipacks”).

**Black market prices:** Not collected because unknown.

**Second hand purchases:** Hard to follow because identical products must be found every month. For now, just prices for second hand-cars are followed.

**Missing or faulty prices:** Imputation methods (“bridged overlap”) are applied for clothing and footwear and for some technical products (mobile phones, TV/HiFi/AV, digital cameras, printers and household appliances). For other missing products (expected to be in stock again), price can be maintained for a maximum of 2 months before product replacement is done.

Period for allowing imputed missing prices: Seasonal products (e.g. summer clothing) until next season, others should be replaced after 3 months lacking. Products can be linked directly if quality is similar, if not, quality adjustment must be done or new series launched.

**Quality differences:** Direct substitution, chain method, explicit adjustment and non-substitution methods.

**Appearance of new items:** Collection is started if considered as widely and good sold item and if the basket allows classification.

### Treatment of seasonal items and seasonality

**Items that have a seasonal character and their treatment:** Fruits and vegetables, clothing and sports articles.

**Seasonal food items:** Seasonal food items are included in the CPI using fixed weights approach: the weights are kept constant over the year, while prices of out-of season products are estimated or imputed.

**Seasonal Clothing:** Seasonal clothing items are included in the CPI using fixed weights approach: the weights are kept constant over the year, while prices of out-of season products are estimated or imputed.

**Method to impute the price of seasonal items:** The method used to impute price development in out-of season periods is carrying forward the last observed price.

### Treatment of housing

**Treatment of owner-occupied housing:** Rental equivalence approach is used. The corresponding weight relies mainly on interest payments. The price evolution of the rents is imputed.

**Types of dwellings covered by the rent data:** Dwellings are stratified according to 2 dimensions: 1 to 6 rooms and 4 age classes. The sample is a rotating probability sample taken from a household frame; each quarter, 1/8 if the observations are replaced. The households are asked to indicate the landlord's address. We collect rent evolution from landlords during 2 years.

## F: Computation

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

**Formula to aggregate elementary indices to higher level indices:** Aggregation to higher level indices is by Laspeyre's formula given

$$I^t = \sum_{i=1}^n g_i^0 I_i^t,$$

Where:

$$g_i^0 = \frac{q_i^0 p_i^0}{\sum_{i=1}^n q_i^0 p_i^0} \text{ and } I_i^t = \frac{p_i^t}{p_i^0},$$

$I^t$  = the index for the month under review  $t$

$g_i^0$  = the weighting of  $i$  during the base period

$I_i^t$  = the index of commodity  $i$  (or of expenditure item  $i$ ) for the month under review  $t$

$q_i^0$  = the quantity of commodity  $i$  surveyed during the base period

$p_i^0$  = the price of commodity  $i$  during the base period

$q_i^0 p_i^0$  = the expenditure on commodity  $i$  during the base period

$p_i^t$  = the price of commodity  $i$  during the month under review  $t$

**Formula of aggregating regional/population group indices into national index:** Same as the one above.

**Monthly and annual average prices:** Unpaired arithmetic mean

**Seasonally adjusted indices:** No

**Software used for calculating the CPI:** PRESTA 3, a generic application developed for our purpose

## G: Editing and validation procedures

**Control procedures used to ensure the quality of data collected:** Field tests (done by the polling institute and the SFSO), logical testing of data when collected and imported (plausibility tests on every step, data compared to former period and homogeneity group test), survey handbook and continuous training for data collectors, monthly feedback of controlling

**Control procedures used to ensure the quality of data processed:** Variation and level of computed index, economical plausibility, monthly review of production processes and results etc.

## H: Documentation and dissemination

**Timeliness of dissemination of the CPI data:** Prices are imported around the 20th of every month; plausibility tests and computing are done until around the 25th, publication follows first 10 days of following month, depending on calendar. We count about 10 working days from data import to public release.

### Level of detailed CPI published

**Paper publication:** Division-level (12 Divisions)

**Online:** Division-level (12 Divisions), Average prices

**Restricted Access:** All items CPI, Division-level (12 Divisions), Group-level app. 40 groups, Class-level (100 classes), Average prices

**Separate indices published for specific population groups:** No.

**Type of products for which average prices are calculated and disseminated:** Food products, energy, fuels, rents, restaurant prices

### Documentation

**Publications and websites where indices can be found:** SFSO Press release, National Consumer Price Index, Neuchâtel Homepage of the SFSO, Prices:  
<http://www.bfs.admin.ch/bfs/portal/de/index/themen/05/02.html>

Treatment of quality differences is can be found at  
<http://www.bfs.admin.ch/bfs/portal/en/index/news/publikationen.html?publicationID=3186>  
(chapter 4.3.6)

Seasonal items and their treatment can be found at:  
<http://www.bfs.admin.ch/bfs/portal/en/index/news/publikationen.html?publicationID=3186>  
(Chapter 4.4.2)

Average prices are available at:  
<http://www.bfs.admin.ch/bfs/portal/de/index/themen/05/02/blank/key/durchschnittspreis.html>  
l. Energy prices are published more detailed in (subscriber restricted) online offer.

**Publications and websites where methodological information can be found:** Some translated information can be found on the SFSO Homepage:  
[http://www.bfs.admin.ch/bfs/portal/en/index/infothek/erhebungen\\_\\_quellen/blank/blank/lik/01.html](http://www.bfs.admin.ch/bfs/portal/en/index/infothek/erhebungen__quellen/blank/blank/lik/01.html)

## I: Other Information

Reported by the country in 2012.