

Sales volume index

Objectives

The sales volume indices are used to measure the monthly change in the sales volume of wholesale trade and retail trade. As such, they are a primary information to monitor the business cycle in France. Sales volume indices fall under the European regulation on short-terms statistics – the Council Regulation “STS” No 1165/98 of 19 May 1998, modified by subsequent amendments.

Scope

The sales volume indices are calculated according to the nomenclature NAF rev. 2, which came into force on 1 January 2008.

They cover the following sectors:

- Trade and repair of motor vehicles and motorcycles (Division 45);
- Wholesale trade, except for motor vehicles and motorcycles (Division 46);
- Retail trade, except motor vehicles and motorcycles (Division 47).

Trade volume indices are constructed from a tax source, the "CA3" form, which must be completed by enterprises for the payment of value added tax (VAT) every month. These indexes cover “whole France” including overseas departments (excepted French Guyana and Mayotte, which are not liable for VAT). Price indices calculated by INSEE, mainly for “whole France” (including Overseas Departments) are used as deflators for indices in value.

Dissemination

Trade volume indices are monthly disseminated at the latest 60 days after the month under review. They are available for sectors and more detailed levels – divisions, groups and classes in the NAF rev. 2 – on the INSEE database. Special indices are calculated:

- Retail trade in specialised stores, including retail sale of food, beverages and tobacco (47.2), of automotive fuel (47.3), of information and communication equipment (47.4), of other household equipment (47.5), of cultural and recreation goods (47.6) and retail sale of other goods (47.7);
- Retail trade not in stores, including retail sale via stalls and markets (47.8) and retail trade not in stores, stalls or markets (47.9).

The indices are transmitted to Eurostat and available on its website along with those of all European countries.

Sources

Two main sources are used to calculate sales volume indices:

- a tax source, the "CA3" form, which companies fill in for the value-added tax (VAT) every month (cf Methodology for Turnover indices). The tax authority (DGFIP) provides INSEE with VAT returns every month;
- price indices calculated by INSEE, as production price indices and consumer price indices.

Methodology

Calculation of indices in volume:

The sales volume indices at a fine level are defined as the ratio of the turnover index in value to the associated price deflator. This is done for the 116 sub-classes in the retail sector. Once the indices at the finest level of nomenclature are calculated, the indices for higher levels are obtained by aggregating (cf infra). They are disseminated on the INSEE website from the class level. They are calculated since 2005, according to the availability of the prices.

In Retail trade and Trade and repair of motor vehicles and motorcycles, price indices used as deflators are obtained by aggregating the Consumer Price Indices (CPIs) of the products concerned. A cross-reference table is established between the sectors of the Naf rev 2 and the nomenclature of consumer function (*Classification of Individual Consumption by Purpose* – COICOP). The Consumer Price Index (CPI) is measured all taxes included, so it is necessary to correct the VAT rates to make it duty-free.

For sales volume indices in wholesale trade, different price indices are used according to the products: IPGA (Wholesale food price indices), IPAMPA (Monthly agricultural means of production purchasing price indices), IPPAP (Monthly agricultural producer price indices), IPPI (French industry production price indices) and consumer price indices. The sectoral index is therefore a weighted average of the various indices representing the products making up the sales structure.

Aggregation method, rebasing and reference change to 2015:

Sales volume indices are rebased every 5 years. From now on, they have reference year 2015, which means that they have for average 100 in 2015. Previously, indices had reference year 2010.

The 2015 rebasing implements an innovation, with the introduction of a two-weighting system (instead of a constant-weight system) in order to better take into account the structural evolutions. Until now, aggregation of elementary indices was done on the basis of constant weights representing the reference year – i.e. 2010 previously. From now on, 2010 weights are used for the aggregation of elementary indices between 1999 and 2012, whereas 2015 weights are used for the period after. The calculation on the whole period is then achieved by chaining both series (computation of a link coefficient on the year 2013). This change responds to a recommendation of Eurostat in order to increase the robustness of indices over a long period.

The estimation of annual weights is based primarily on output by industry at basic prices per branch calculated by the annual national accounts. By definition, output by industry at basic prices excludes taxes on products but includes subsidies on products. It does not include transport services. At the lower levels of the classification, weights are also based on INSEE's Esane device (structural business statistics).

Seasonal variations and working days adjustments

Series are seasonally adjusted – SA – and working-days adjusted – WDA. The computation is performed with the X13-Arima program available in JDemetra+ - supplied by Eurostat – at the NAF rev. 2 class level for the volume ratio (i.e. the turnover index in value/ price index). Upper SWDA levels are obtained by class level series aggregation (indirect SWDA correction).

The annual mean of SWDA indices may slightly differ from that of the unadjusted indices, mainly because it takes into account the variations from one year to the next of the annual composition in working days – presence of leap year, position in the week of the various bank holidays, etc.

Revisions

VAT declarations of some companies may not be available when the indices are first published. This leads to revise raw indices or prices and SWDA indices when these declarations or prices are finally available.

Models used to correct seasonal and calendar effects are updated annually. Between two model updates, SWDA coefficients are updated monthly in order to take into account the most recent data – this includes raw data rectifications related to the previous months. At each publication, all SWDA indices disseminated on the INSEE website are updated from 2005.

Retail trade volume index within 30 days

Sales volume indices on retail trade and wholesale trade are monthly disseminated at the latest 60 days after the month under review. For retail trade, an early estimate of sales volume is also published within 30 days.

This estimate is based on econometric equations for which the main explanatory variables are currently:

- results of the monthly INSEE survey on the activity of large-scale food retailing;
- results of Bank of France monthly survey in retail trade;
- results of the monthly survey of retail trade by the Bank of France household equipments and food products;
- household consumer price index for fuels.