



# Turnover index for retail trade

## Retail trade index

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# Outline

- Existing recommendations and sources
  - UNSD Data collection
  - Definitions
  - Indexes in industrial sector
  - Indexes in retail sector
  - Recommendations for retail indices
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# Recommendations and sources

- International guidance on indices exists in several forms:
  - System of National Accounts (SNA 2008)
  - International Recommendations for Distributive Trade Statistics (IRDTS), 2008
    - In combination with:
    - International Recommendations for Industrial Statistics (IRIS), 2008
  - International Recommendations for the Index of Industrial Production (IRIIP), 2010
    - Most detailed index number guidance and discussion
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## Recommendations and sources

- Specifically for the retail trade sector:
  - IRDTS focuses on concepts, data items, but not compilation guidance
  - IRDTS was to be followed by:
  - Indices of Distributive Trade: Handbook on Good Practices
    - Draft completed only (2010)
    - Uses country examples: Ireland, USA, Australia, Singapore, UK
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# Recommendations and sources

- Related guidance:
    - Producer Price Index Manual (IMF, 2004)
    - Consumer Price Index Manual (ILO et al, 2004)
  - Necessary when deflation is used, to compile relevant price deflators
  - In preparation:
    - “Data Template and Metadata for Short-Term Statistics” (UNSD)
      - Includes section on Production and Turnover
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# UNSD data collection

- IIP compilation had been active for 60+ years
    - Monthly at 1-digit level
    - Quarterly at 2-digit level
    - (no seasonally adjusted data)
  - Retail trade index is collected
    - Retail trade deflated sales/turnover, seasonally adjusted
    - Monthly, total only
    - “Passive” calculation
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# Definitions

- Turnover
    - Referred to in many publications but usually not a core theme
    - Elementary concept in accounting
      - Applicable in industry, retail and many other sectors
    - Important indicator of activity in general
    - Even more important for retail, wholesale and other services, since very few indicators are available for these activities
    - Objective of a turnover index is to show the development of the market for goods and services
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# Definitions

- Turnover
    - Comprises the totals invoiced by the establishment during the reference period and corresponds to market sales of goods or services supplied to other enterprises or transferred to other establishments of the same enterprise.
    - Includes all other charges (transport, packaging, etc.) passed on to the customer, even if these charges are listed separately in the invoice.
    - Value Added Tax and other similar deductible taxes directly linked to sales/turnover as well as all duties and taxes on the goods or services invoiced by the unit are usually excluded.
    - Price rebates, discounts etc., allowances on returned goods, value of returned packaging are deducted.
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# Turnover

## Includes:

- Gross sales of goods
  - Provision of services
  - Shipping and handling
  - Installation
  - Maintenance and repair, Alteration
  - Storage
  - Receipts from the rental of vehicles, equipment, instruments, tools and other merchandise
  - Commissions from the arrangement of financing
  - Payments for work in progress
  - Market value of compensation received in lieu of cash
  - Gross sales from departments, concessions, and amusement and vending machines operated by others
  - Amounts received from work subcontracted to others
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# Turnover

## Excludes:

- Consumption, sales and value-added taxes \*
  - Units share of sales from departments, concessions, and amusement and vending machines operated by others
  - Proceeds from the sale of real estate, investments or other assets held for resale
  - Income from interest and dividends
  - Rental of real estate
  - Contribution, gifts, loans and grants
  - Reduction in prices, rebates, discounts and returned packaging \*
  - All duties and taxes on the goods or services invoiced by entity
  - Operating subsidies received from public authorities
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# Turnover

- In the case of distribution (wholesale, retail), the most important component of turnover is:
    - the sale of goods purchased for resale in the same condition as received and the invoiced services provided
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# Indices in industrial sector

- Index of Industrial Production
    - Provides a volume measure of production
  - Turnover Index
    - Provides a value measure of sales
  - Deflated turnover index
    - Provides a volume measure of sales
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# Indices in retail trade

- Index of production
    - Provides a volume measure of the sales service (output)
    - Relevant for national accounts
  - Turnover index
    - Provides a value measure of sales (products and services sold)
    - Relevant to show the development of the market for goods and services
  - Deflated turnover index
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# Turnover vs. Output in indices

- For industrial activities, turnover and output (IIP) values are usually close (in the index compilation)
    - Differences exist due to items entered into stocks or sold from stocks
      - Less relevant for annual than for monthly collections
    - Differences exist due to different scopes, treatment of secondary activities
  - For retail trade, the concepts differ substantially
    - Output is not measured as the goods sold, but the retail service provided (margin)
    - In the Central Product Classification (CPC), the output of retail sales is in Section 6 (Division 62), not in Sections 0-4 where the goods are classified
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# Turnover index vs. Index of Industrial production

- It is sometimes assumed that the turnover index and the IIP are quite similar, but in reality, the differences are considerable:
    - turnover includes sales of merchanted goods (resale) which is not considered in the IIP
    - services provided to other units are included in turnover, but usually are not included in production notably when the IIP is compiled from physical quantities
    - goods produced (or purchased) and stocked before sale are included in both production and turnover, but are considered at different moments in time;
    - sales data will often include the output of secondary activities, while the IIP, if based on a list of products, is more homogeneous
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# Turnover index vs. Index of Industrial production

- Nevertheless, there is still a strong connection between these two indicators and in some cases deflated turnover is used as proxy for the IIP





# Turnover index vs. index of output of retail

- As for the comparison to IIP (in the industrial sector), there are significant differences
  - Turnover volume index shows evolution of the market for goods and services
  - Output index (index of production of retail services) reflects the evolution of the contribution of retail to the economy
  - Turnover index uses value of goods resold in same condition as received, while output index does not
  - Output index takes account of changes in the quality of the *trade service*, not of the products
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# Recommendations for distributive trade indices

- General recommendations based on the International Recommendations for Distributive Trade Statistics (IRDTS)
  - Periodicity:
    - Monthly compilation of turnover volume and output indices
      - Better reveals short-term fluctuations
    - Produce within one month (or two) following the reference period
  - Index formula:
    - Chain-linked Laspeyres index
      - Better accounts for changes in relative prices
    - Weights updated at least every five years (which weights?)
  - Base period is the monthly average in the base year
  - Seasonal adjustment is recommended
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# Deflation

- Turnover value index is a direct index comparing value of turnover in current period (at current prices) with value in the base period (at base-period prices)
  - Turnover volume index eliminates the price effect on turnover
    - Deflator should be a price index **representative** of the particular distributive trade activity class
      - Reflecting price changes in the goods sold (not in the trade service provided)
      - Possible proxy: Consumer price index (CPI)
        - But CPI may not be based on ISIC breakdown, requiring a conversion
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# Alternatives to deflation

- If appropriate price indices are not available to deflate turnover (owing to the difficulties in measurement of price changes or the complexity of data sources), its volume might be estimated using output volume indicators or input indicators:
  - (a) *Output volume indicators*. E.g., physical quantity of goods sold if they represent well-defined products and are applied in sufficient level of detail
  - (b) *Input indicators*. Employment can be used as a proxy measure of production.
  - There are many situations where information on input measures, although not recommended, is the only readily available source. In this case, it is assumed that the changes in input and output are proportional to each other.
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# Aggregation

- In order to compile turnover indices at higher aggregations of ISIC, low-level indices have to be aggregated
  - For the turnover value index, the weights are the turnover values of each ISIC category at the lower level in the base period
  - For the turnover volume index, the weights are value added contributions of the respective ISIC categories in the base period
    - IRDTS also allows turnover
  - For output index, the weights are value added contributions of the respective ISIC categories in the base period
  - Aggregation calculation follows standard procedure, e.g. as shown in IRIIP
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# Disaggregation

- Certain disaggregations of the indices are recommended, e.g. between domestic and non-domestic sales, due to differences in price levels, taxes etc.
  - Calculations of the index follow the same principles (apart from more detailed collections) than the standard recommendations
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# Recommendations for distributive trade indices

- IRDTS des not provide explicit guidance for the actual data collection and index calculation
  - No specific guidance on data sources is given
  - This was intended for the Compilers Manual, which exists now as a draft with some country examples, but no method is recommended
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# More information

- <https://unstats.un.org/unsd/trade/methodology%20DTS.htm>
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