



Consumer Price Index (CPI) Compilation

Course: Baskets, Weights and Quality Adjustment



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Introduction:

Consumer Price Index CPI compilation, covering baskets, weights and quality adjustment, is a 5-day course for price statisticians, central bank inflation analysts and ministry economists who publish price indices, ending with a CPI Methodology Upgrade Plan. Many price units still publish inflation from an outdated basket, stale household expenditure weights and replacement items that are not adjusted for quality, so headline inflation drifts away from what households actually pay. Nominees already collect, check or analyse price data and work through a modelling build on a case index. CoreConcept Training Center delivers this consumer price index compilation course.

Course Objectives:

- Derive CPI expenditure weights from household budget survey data and structure the basket by consumption purpose, region and outlet type
- Design outlet and item samples with tight product specifications and a monthly price collection schedule
- Calculate elementary aggregate indices with Jevons, Dutot and Carli formulae and aggregate them with a Lowe or Laspeyres-type formula
- Apply quality adjustment methods, including overlap, class-mean imputation and hedonic regression, when sampled items disappear or change
- Integrate scanner and web-scraped transaction prices and manage weight updates, chain-linking and rebasing without breaks in the series
- Prepare a CPI Methodology Upgrade Plan and a monthly inflation release that explains contributions to change in plain language

Target Audience:

- Price statistics units responsible for compiling and publishing the monthly consumer price index
 - Producer and import price teams responsible for business price surveys and industry deflators
 - Central bank analysts responsible for monitoring inflation and core inflation measures
 - Ministry economists responsible for using price indices in indexation, wage and subsidy decisions
 - Housing and real estate statistics teams responsible for residential property price indices
 - Statistical methodology units responsible for basket reviews, weight updates and rebasing
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Course Outline:

Day 1: CPI Purpose, Scope and Basket Structure

- Consumer Price Index Manual Concepts of Scope and Coverage
- Cost-of-Goods Versus Cost-of-Living Index Measurement Choices
- Household Consumption Purpose Classification for Basket Structure
- Weight, Price and Index Reference Period Distinctions
- Current CPI Methodology Gap Assessment Against Manual Practice

Day 2: Household Budget Weights, Sampling and Price Collection

- Household Budget Survey Expenditure Weights by Product Group
- Regional and Outlet-Type Weight Allocation Methods
- Outlet Sampling Frames and Probability Proportional to Size
- Representative Item Selection and Tight Product Specifications
- Price Collection Schedule, Handheld Capture and Validation Rules

Day 3: Index Formulae and Aggregation

- Jevons Geometric Mean for Elementary Price Aggregates
- Dutot and Carli Formulae Bias and Axiomatic Tests
- Lowe and Laspeyres-Type Upper-Level Aggregation Procedure
- Paasche, Fisher and Tornqvist Superlative Index Benchmarks
- Missing Price Imputation and Seasonal Item Treatment

Day 4: Quality Adjustment, New Data Sources and Rebasing

- Overlap and Class-Mean Imputation Quality Adjustment Methods
- Hedonic Regression Quality Adjustment for Technology Products
- Scanner Data and Web-Scraped Prices in Elementary Aggregates
- Chain-Linking, Weight Updating and Rebasing to New Reference
- Producer Price Index Manual and Residential Property Price Methods

Day 5: Modelling Build and the CPI Methodology Upgrade Plan

- Case Statistics Office Basket and Weights Rebuild
 - Case Elementary Aggregate and Upper-Level Index Calculation Workbook
 - Case Replacement Items Quality Adjustment and Chain-Link Test
 - Monthly Inflation Release Contributions Table and User Briefing
 - CPI Methodology Upgrade Plan Completion and Panel Review
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Skills You Will Gain:

- Expenditure Weight Derivation
- Outlet and Item Sampling
- Elementary Aggregate Calculation
- Index Formula Bias Diagnosis
- Hedonic Quality Adjustment
- Alternative Price Data Integration
- Index Chain-Linking and Rebasing
- Inflation Release Writing

Why Attend This Course:

- Deliver a CPI Methodology Upgrade Plan to the head of price statistics and the methodology board for approval
- Decide which elementary formula, quality adjustment method and weight update cycle the index should use, with a documented basis
- Avoid upward formula bias, unexplained breaks at rebasing and public doubt about published inflation figures
- Coach price collectors and compilers with the weights workbook, index calculation template and quality adjustment decision tree

Conclusion:

Back at work, the participant presents the CPI Methodology Upgrade Plan to the head of price statistics and the methodology board, who use it to approve the next basket review, the weight update and rebasing timetable, the elementary formula and the quality adjustment rules. Central bank and ministry users receive a clearer monthly inflation release. After the first release under the plan, the unit should review the share of imputed prices, the size of quality adjustments, revisions and user questions against the targets set, then adjust the actions that have not moved.

Frequently Asked Questions FAQ:

What should participants know before a consumer price index compilation course on baskets, weights and quality adjustment?

Participants should already collect, check or analyse price data and be comfortable with spreadsheets and percentages. Bringing an anonymised basket, weights table or recent inflation release from their own unit makes the modelling build more useful.

How does consumer price index compilation training differ from a national accounts or general official statistics course?

It teaches how the price index itself is built: basket, expenditure weights, outlet sampling, index formulae, quality adjustment and rebasing. National accounts courses use price indices as deflators for GDP, and official statistics courses cover statistical systems and indicators broadly.

Why does consumer price index compilation need quality adjustment when items are replaced?

Without it, a price difference caused by a better or worse product is recorded as inflation. Overlap, class-mean imputation and hedonic regression separate pure price change from quality change, so the index measures what households pay for the same quality.

What do participants take back from consumer price index compilation training on baskets and weights?

Participants take back a CPI Methodology Upgrade Plan for a case statistics office, with a weights workbook, an index calculation template, a quality adjustment decision tree and a monthly release layout they can adapt to their own index.
