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Price collection with scanner data for the Swiss CPI/HICP

Reto Müller

2009-05-28 Ottawa group
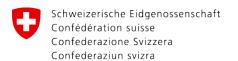
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Overview

- First introduction of scanner data for CPI/HICP calculation in July 2008 for

  - food and near food (without non-food)

  - the largest retailer in Switzerland (> 25% market share for food)

- Introduction of more retailers starting Jan 2010 (new software currently under development)

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Step by step proceeding (I)

Due to the many methodical difficulties related to scanner data the FSO has chosen a step by step proceeding:

• scanner data serve in a first step as an improvement of the existing price collection system (using current methods of index computation)

• evaluation of alternative index formulas or different kinds of quality adjustments to follow in a second step

• this allows the FSO to take immediate advantage of the most important benefits of scanner data without taking any major risks

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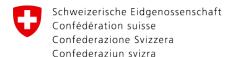# Step by step proceeding (II)

System started with the same methods for index computation used without scanner data:

Elementary indices:

• Geometric mean

• Unweighted price changes (BUT: average price per article of the first 14 days of each month!)
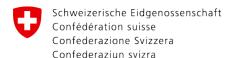
Higher level indices:

• Aggregation of elementary indices using weights from HBS (not scanner data)

• Lowe chain index: Annual reweighting and year to year chaining (Dec.) on product group level

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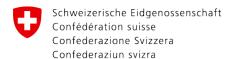# Step by step proceeding (III)

System also started with

- the same methods for selecting and replacing items (quality adjustments) used without scanner data:

  - selection of a representative sample of goods (according to CPI basket)

  - items with highest turnover

- one retail chain and a limited selection of product groups (food/near-food):

  - few assortment changes and quality adjustments

  - integration of more retailers and product groups step by step

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Advantages of scanner data using current methods (I)

1.) Increased data quality:

- precise sampling method according to turnover

- price collection during a period of two weeks instead of a single day

- recording of all transactions including sales, promotions and other offers

- scanner data usually include transactions from every single outlet nationwide (trad: sampling of stores)
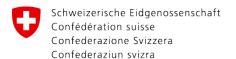
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Advantages of scanner data using current methods (I)

2.) Reduced costs

- Traditional price collection in the field is mainly done by a private market research institute on behalf of FSO
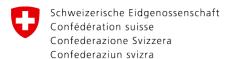
3.) Smaller burden of workload for the retail chains

- Traditional price collectors take up time of retail stores' staff

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Major challenges

- Allocation of each article to the correct CPI position: Information is bought from a market research institute

- Selection and replacement of items: Full automation is not possible with current methods of item selection and quality adjustment

- Limited item descriptions for some product groups (difficult quality adjustments, especially non food)

- Quantity discounts: Items temporarily sold in multiple units are often not identifiable as the same item without additional information

- Receiving (donated) scanner data from retail chains

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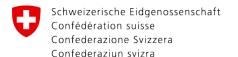
Project planning (I)

- **Pilot project**
  Web-based price collection software with largest retail chain:
  Finished July 2008 (software entered into production process)

- **Realization part 1**
  Software engineering (generic tool) for scanner data price
  collection of food / near-food product groups from every major
  retail chain in Switzerland

  - Jan 2010: Integration of first retail chain with new software

  - Until 2012: Integration of more retailers every 6 months

Project planning (II)

- **Realization part 2**

  - Evaluation of alternative methods of quality adjustment/ (esp. implicit for more automation) and alternative index formulas / weighting methods

  - Integration of non-food groups

  - Planification tbd

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