

New Collection Methods for the Compilation of the Consumer Price Index (CPI)

by the Singapore Department of Statistics

- To enhance the accuracy and reliability of inflation measurement, a **combination of data collection modes** is used to gather prices for the compilation of the CPI.
- New collection methods** have been introduced over time, leveraging **the use of technology and broader data sources**, to ensure a more precise reflection of price changes in today's evolving economy.

Traditional Data Collection Methods



Surveys

- Survey forms are emailed to establishments via an **automated system**
- Reasons for price changes are clarified with respondents before the prices are entered into the computerised system
- Examples: Tuition & enrichment centres, hospitals & clinics, insurance companies



Field Collection

- Prices are collected via handheld devices, with direct transmission to the database in a **seamless and secured** manner
- Reasons for price changes are clarified with respondents before they are entered into the handheld devices
- Examples: Departmental stores and cooked food establishments

Challenges in Traditional Data Collection and Emerging Opportunities



Limited human and financial resources



Increasing difficulty acquiring data from respondents



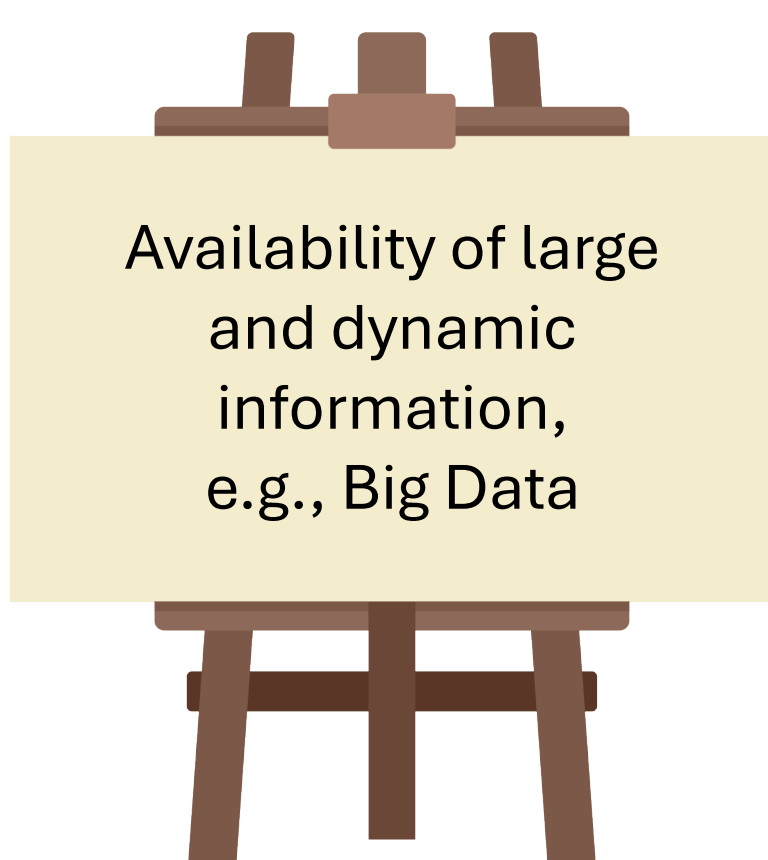
High data collection and editing costs



Increasing purchases made over the Internet/ mobile apps/ E-commerce marketplaces

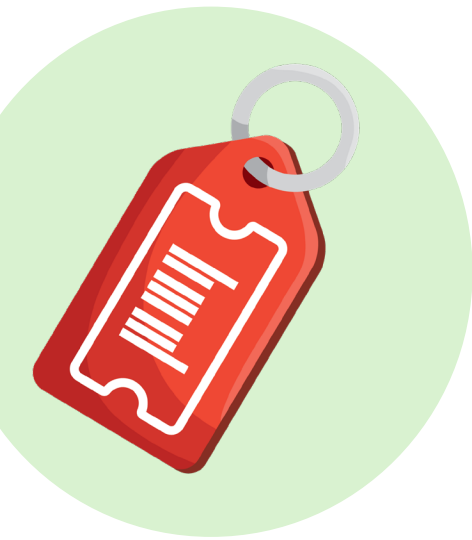


Advancement in data collection technology, e.g., Open-Source Tools



Availability of large and dynamic information, e.g., Big Data

Revolutionising Data Collection for More Accurate CPI



Electronic Prices

- Based on **actual transactions**
- More reflective of monthly average prices paid by consumers
- Increased number of price quotations used**
- Improved data quality** and **more efficient use of manpower/ time savings**
- Examples: Barcode prices from major supermarket chains



Web-Scraping & Application Programming Interface (API) data extraction

- With growing prevalence of online purchases, web crawlers or API data extraction are used to **automate online prices collection** from websites to minimise respondents' survey burden
- Improved data coverage** and **data extractions can be scheduled during off-peak hours**
- Examples: Online prices of Apparels, Airfares, Electronics, Hotels



Administrative Data

- Data collected for specific purposes under various legislation
- Comprehensive and regularly available**
- Improved data coverage, and reduced response burden and cost of conducting surveys
- Examples: Electricity prices paid by households provided by the Energy Market Authority and rentals from the Inland Revenue Authority of Singapore

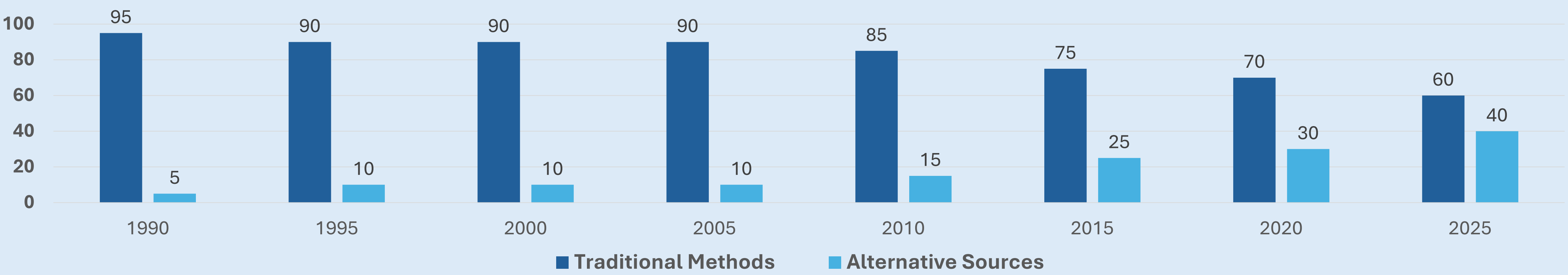


Mobile Apps and E-commerce marketplaces

- Rising popularity of purchases over mobile apps and E-commerce marketplaces
- Collection from apps reflects **real-time and dynamic price data**
- Inclusion of E-commerce marketplace prices **better reflect current consumer purchasing behaviour** and **track a broader variety of goods**
- Examples: Menu prices for Restaurant Food via food delivery platforms' apps, Fares from tour and cruise packages from E-commerce marketplaces

Increased Use of Alternative Collection Methods and Sources over the years

Proportion of Prices (in terms of weights) collected via Traditional Methods and Alternative Sources



Watch the video on 'How are Prices Collected for the Compilation of CPI?'



Visit the SingStat Website for the latest data on the Singapore CPI