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**United Nations Economic Commission for Europe  
Statistical Division**

**Workshop on new data sources for the consumer price index  
28-30 October 2024, EFTA, Brussels**

**From survey to multiple source-based CPI**

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## Overview

- 1. Practices and plans in countries**
- 2. Need for more resilient production systems**
- 3. From survey to multiple source-based CPI**
- 4. Challenges for NSOs**

# 1. Practices and plans in countries

Surveys	
Price collectors	Used by all (12/12) countries
Mailed paper questionnaire	Used by one country (Tajikistan)
Electronic questionnaire	Used by 2 countries (Armenia, Georgia)
Website portal	Used by 2 countries (Serbia, Iran)

Other data sources and collection methods	
Central price collection	Used by 10 countries
Administrative data sources	Used by 6 countries
Scanner data	Used by 3 countries; 5 plans using scanner data
Web scraping	Used by 3 countries; 7 plans using web scraping

Replies from: Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Iran, Kazakhstan, Kyrgyzstan, Montenegro, Serbia, Tajikistan, Türkiye, Ukraine

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## 2. Need for more resilient production systems

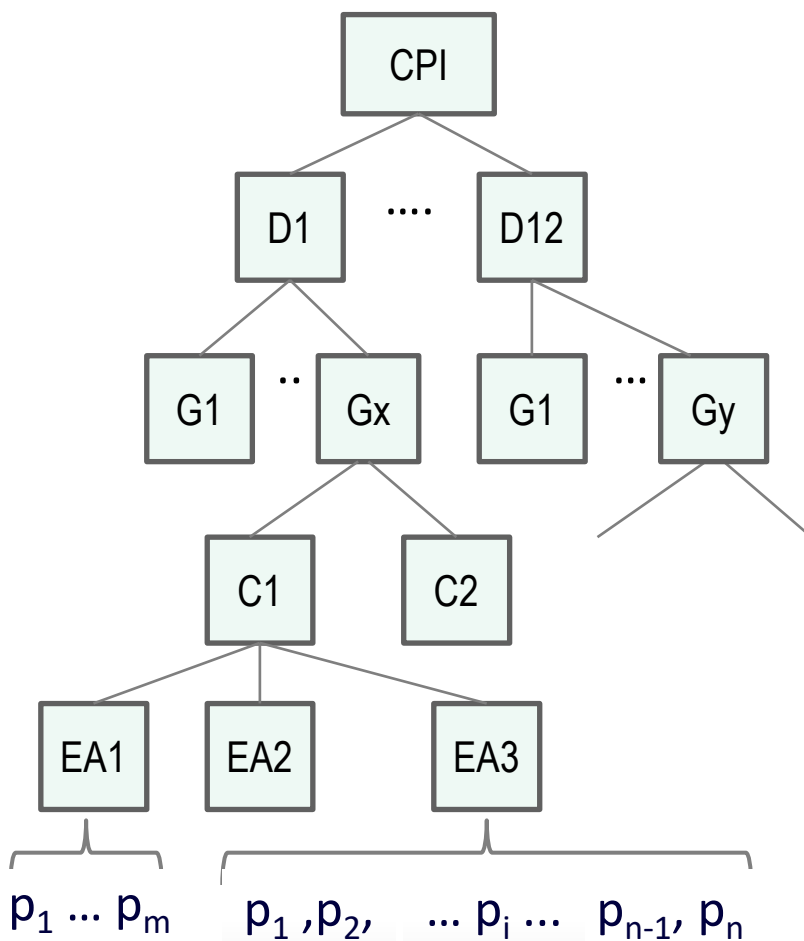
### Problems caused by Covid-19 lockdown

- Closed outlets and markets
- Price collectors not available or not allowed to enter outlets
- NSO Staff not able to work or work remotely

### NSO challenges

- Organising and conducting data collection
- Compiling CPI of best possible quality
- Publication: meeting user needs and maintain public trust in CPI
- Time constraints

## 2. Need for more resilient production systems



**All-items CPI**

**Divisions**

**Groups**

**Classes**

**Elementary Aggregates**

**Individual prices**

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## 2. Need for more resilient production systems

### Lessons learned

- ▶ Develop more resilient production systems
- ▶ Apply multiple data sources and multiple data collection methods/tools - move towards multi-source & multi-mode production systems
- ▶ Integrate contingency procedures in the regular production process - complete from data collection, processing, imputation & calculation methods and dissemination

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## 3. From survey to multiple source-based CPI

### Traditional survey-based CPI

- Targeted sample of outlets and products (goods & services)
- Price collection through surveys to outlets or by price collectors
- Ongoing replenishment of sample and regular/occasional resampling of all outlets
- Control and full information of individual observations
- Checking and validation of many individual observations
- Allows estimation of statistical uncertainty (in theory)
- Monthly (quarterly) production cycle
- Expensive and long production time

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## 3. From survey to multiple source-based CPI

### New data sources

- The web
- Scanner data
- Administrative data

### Drivers towards new data sources

- ICT development & growing availability of data (less so for services)
- Potentially available for free or at low cost
- Reduce production costs and response burden
- Improve efficiency, coverage, frequency and timeliness
- Competition from other providers of alternative price measures



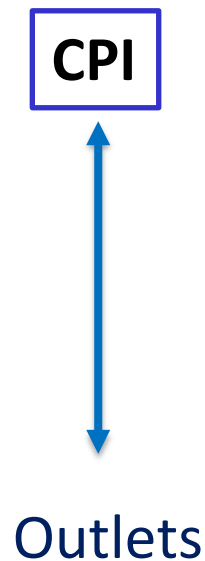
### 3. From survey to multiple source-based CPI



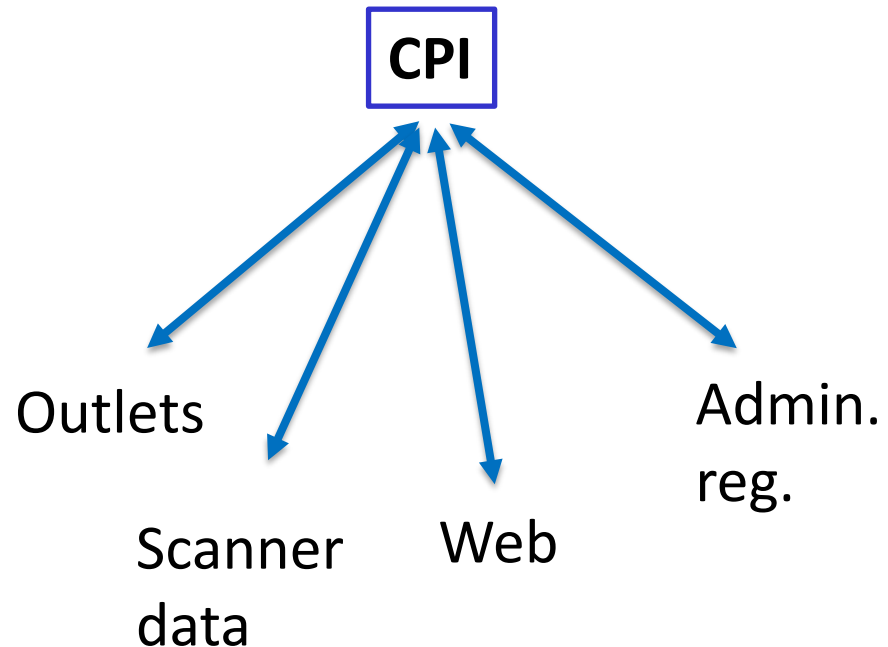
### 3. From survey to multiple source-based CPI

## Towards a new paradigm in CPI compilation

#### Survey-based



#### Multi source-based



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## 4. Challenges

### Use of new data sources requires

- **Investment in IT and training of staff**
- **Getting access to data** (coop, data quality, risks)
- **Research and testing**
- **Integration in regular CPI production** - develop data bases and index calculation formulas
- **Begin with the simplest cases**