CPI in the time of Covid: communication about the quality and computation of alternative indices
The French experience
Since March 2020, a lot of restrictions in response to the health crisis

- From the 16th March to the 11th May, a first (strict) lockdown in France
- From the 11\textsuperscript{th} of May to July, a progressive reopening of activities
- Since then, new restrictions and curfews
- For two weeks, a new lockdown

Two consequences for the CPI

A change in the consumption pattern

- A lot of consumption segments disappeared (at least temporary): restaurant, hotel, tourism, culture...
- A lot of outlets were closed with a possible transfer to online purchases

The price collection on the field by price collectors was adjourned from the 16\textsuperscript{th} March to the 15\textsuperscript{th} June … and since the 30\textsuperscript{th} of October
Solution implemented to ensure the production of the CPI

Very useful guidelines were released by Eurostat and the UNECE/IMF and were implemented in the French case.

UNECE-IMF: https://statswiki.unece.org/display/CCD2/Compilation+of+CPI+in+times+of+COVID-19

Despite the shock on consumption, the French CPI remained a Laspeyres-type index:

- Weights remained unchanged
- Imputations were performed when no more transaction prices were observed (for lack of observation or lack of transaction)

Alternative price collections were implemented:

- Before the health crisis, only 4/10\textsuperscript{th} of the French CPI basket was collected “on the field” (online price collection, scanner data, administrative data)
- With the health crisis (during the price collection adjournment), an increase in the use of scanner data, online collection, and implementation of collection by phone.
01 Communication about the CPI quality

02 Communication about the CPI meaning: production of alternative indices
01 Communication about the CPI quality
Three consequences on the quality

- An important imputation rate
  - Because some products were no more transacted
  - Because of the adjournment of price collection

- A change in the methodology

- An impact of the collection calendar
### An important imputation rate

#### Imputation rate, in % of the consumption

<table>
<thead>
<tr>
<th></th>
<th>March</th>
<th>April</th>
<th>May</th>
<th>June</th>
<th>July</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food</strong></td>
<td>12.3</td>
<td>43.2</td>
<td>40</td>
<td>27.3</td>
<td>0.2</td>
</tr>
<tr>
<td><strong>Tobacco</strong></td>
<td>0.5</td>
<td>1.3</td>
<td>1</td>
<td>0.4</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>Manufactured products</strong></td>
<td>11.9</td>
<td>56.9</td>
<td>47.3</td>
<td>32.6</td>
<td>0.4</td>
</tr>
<tr>
<td><strong>Energy</strong></td>
<td>0.9</td>
<td>6.7</td>
<td>5.5</td>
<td>2.8</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Services</strong></td>
<td>9.6</td>
<td>44.7</td>
<td>41.7</td>
<td>23.6</td>
<td>2.3</td>
</tr>
<tr>
<td><strong>All-item CPI</strong></td>
<td>9.7</td>
<td>43.5</td>
<td>39.1</td>
<td>24.3</td>
<td>1.3</td>
</tr>
</tbody>
</table>
A change in the methodology

- Usually, price statisticians do not change a datasource within a year
  A study impact before the implementation
  The change in the methodology is introduced with a change in the year: due to the chaining process, no impact on the level of the index

- The change in the collection process may have affected the price measure or the quality of the products
  The level of the online prices may be different due to different commercial services
  The level of scanner data prices may be different due to different ways to record special offers

- In order to avoid that
  Data were carefully and manually checked
  Changes were made symmetrically when implemented in March/April (begin of the lockdown) and in July (back to normal month)
A particular focus on the price collection calendar

- Usually, the price collection calendar (4 weeks in the raw) is not always centered in the month
  
  IT constraints, particular attention to reproduce the potential shift in the sales calendar or in the holydays…

- Before the health crisis, only a general communication on this price calendar

- With the health crisis, we communicated precisely about this calendar
  
  Because the users were interested in the impact of the new health measures (that occurred within the month)
  The sales were postponed
- Methodological notes for each dissemination in order to explain the special issues with Covid-19
  

- Warning on the release and on the time series (‘U’ flag)

- Very detailed table on the imputation rates
Communication about the CPI meaning: production of alternative indices
The shock on the consumption structure

• An important shock on the consumption structure with the Covid-19 crisis

  Due to the fact that some outlets were closed, some consumption were prohibited (restaurant, museum…)
  The household changed their consumption habit: more lunch at home, less transport…

• Since the Covid-19 crisis, Insee has performed a nowcasting exercise for different statistics, among which the consumption
The shock on the consumption structure
Could we still use a Laspeyre-type index?

A lot of controversies about the underestimation of inflation by the CPI, in comparison with the perceived inflation.

A Laspeyres-type index is remote from the real consumption basket during the Covid-19 crisis and therefore from the perceived inflation.
Could we still use a Laspeyre-type index?

• The proposal of an alternative index to illustrate the impact of the Covid-19 shock on the consumption

  Using the consumption structure during the lockdown
  Thanks to the nowcasting exercise (performed for 139 levels of the consumption)
An alternative index using the current consumption structure

With the April consumption structure
In September, the alternative indice with the September structure was not very different from the CPI.
Join us on:

insee.fr  

Marie Leclaire  
CPI division  
Insee  
marie.leclair@insee.fr