Meeting of the Group of Experts on Consumer Price Indices
7-9 May 2018, Geneva

Mexican CPI Statistical Sample Design Proposal

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According to CPI Methodological update and considering its Key Components, such as: Goods and services basket update, Weights update, Determination of the reference period, New Statistical design and Increase of geographical coverage is that we are presenting the new statistical design. The elaboration of the new CPI was based on sampling procedures.
Sample Design

1. Population object of study
2. Sampling frame
3. Sampling scheme
4. Sample size
5. Sample selection
6. Sample
1. Population object of study

Integrated by all economic units of the country where it is possible to quote some generic of the basket of goods and services.

*296 Sample out of 2014 Economic census
3 generics from house frame
### 1.1 Establishment Income – household expense relationship

**Type of market strata**

<table>
<thead>
<tr>
<th>NSHE</th>
<th>Traditional</th>
<th>Modern</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSHE</td>
<td>77.3</td>
<td>22.7</td>
</tr>
<tr>
<td>Frame of economic units</td>
<td>79.8</td>
<td>20.2</td>
</tr>
</tbody>
</table>

**Note:**
- NSHE = National Survey of Household Expenditure
- Place where households carried out their expenses.
- Establishments income.

**Frame of economic units**

- Traditional: 79.8
- Modern: 20.2
Economic units set from 2014 Economic census, whose location is located within any of the 55 geographic areas and whose main economic activity belongs to the 169 classes.

Sample frame

Generics 296*

Geographic areas 55

Economic Units 2,391,194

Frame Coverage

- Economic Units: 67.6 %
- Occupied personal: 76.1 %
- Income: 86.8 %

*3 generics with house frame
3. Sampling scheme

- **Probabilistic**
  - **Stratified:**
    - By market
      - Modern
      - Traditional
  - Income coverage
    - 249 Generics

- **No Probabilistic**

  - 50 Generics

  - Total: 296 Generics
3.1 Stratification

- Applied a stratification by kind of market (Traditional, Modern).
- Inside the market we applied a sub-stratification by income.

<table>
<thead>
<tr>
<th>Type of Market</th>
<th>Income sub stratum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modern</td>
<td>Big 44.8</td>
</tr>
<tr>
<td></td>
<td>Small 55.2</td>
</tr>
<tr>
<td>Traditional</td>
<td>Big 1.8</td>
</tr>
<tr>
<td></td>
<td>Small 98.2</td>
</tr>
</tbody>
</table>

44.8% of modern market EU focuses on large income stratum.

98.2% of traditional market EU focuses on small income stratum.

249 Generics

89 generics with sub-stratum
4. Sample size

<table>
<thead>
<tr>
<th>Concept</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confidence level</td>
<td>95 %</td>
</tr>
<tr>
<td>Relative weighted error</td>
<td>0.09 %</td>
</tr>
<tr>
<td>Design Effect</td>
<td>2.5</td>
</tr>
<tr>
<td>Non Response Rate</td>
<td>15%</td>
</tr>
<tr>
<td>Variable to estimate</td>
<td>Indice</td>
</tr>
</tbody>
</table>
5. Sample selection

**Probabilistic**

- Random within:
  - Strata or sub strata
  - Same probability of selection

249 Generics

**No Probabilistic**

- Good o service particular characteristics

50 Generics

It applies to those generic whose sources have high concentration or the dynamics of the prices is very particular
## Final Sample

<table>
<thead>
<tr>
<th>Design</th>
<th>Generics</th>
<th>Specifications</th>
<th>Modern</th>
<th>Traditional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probabilistic</td>
<td>249</td>
<td>98,068</td>
<td>37.5 %</td>
<td>62.5 %</td>
</tr>
<tr>
<td>Non probabilistic</td>
<td>50</td>
<td>13,771</td>
<td>10.1 %</td>
<td>89.9 %</td>
</tr>
<tr>
<td>Total</td>
<td>299</td>
<td>111,839</td>
<td>34.1 %</td>
<td>65.9 %</td>
</tr>
</tbody>
</table>

Modern: 37.5% to 10.1% to 34.1% to 62.5% to 89.9%