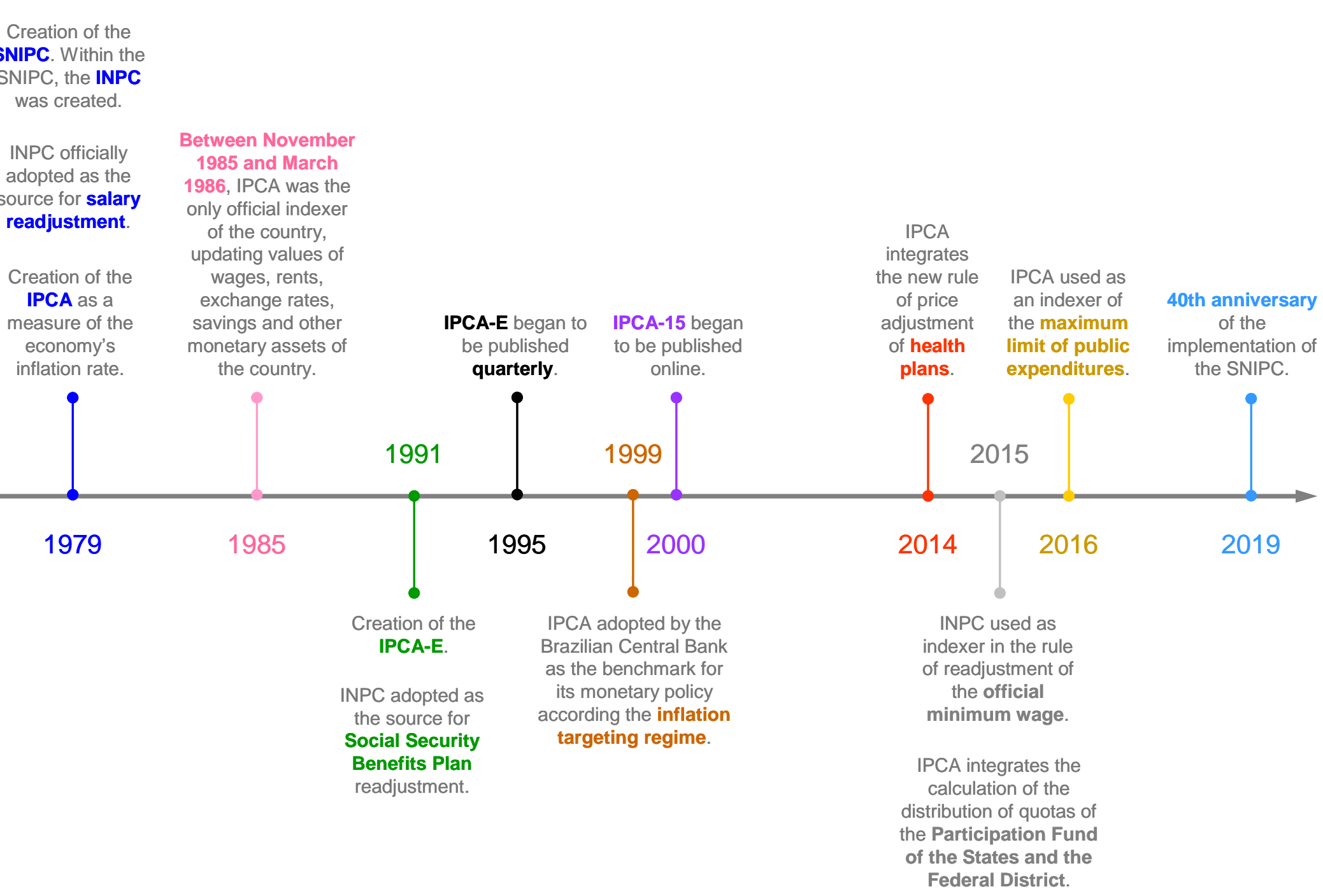


40 years of history

In 2019 IBGE celebrates the 40th anniversary of the first publication of its CPI series within the scope of the National System of Consumer Price Indices – **SNIPC**, a framework of official CPIs for different target populations.

Here we describe the main features of the SNIPC indicators, important historical facts and actions and plans to keep the System up to date.

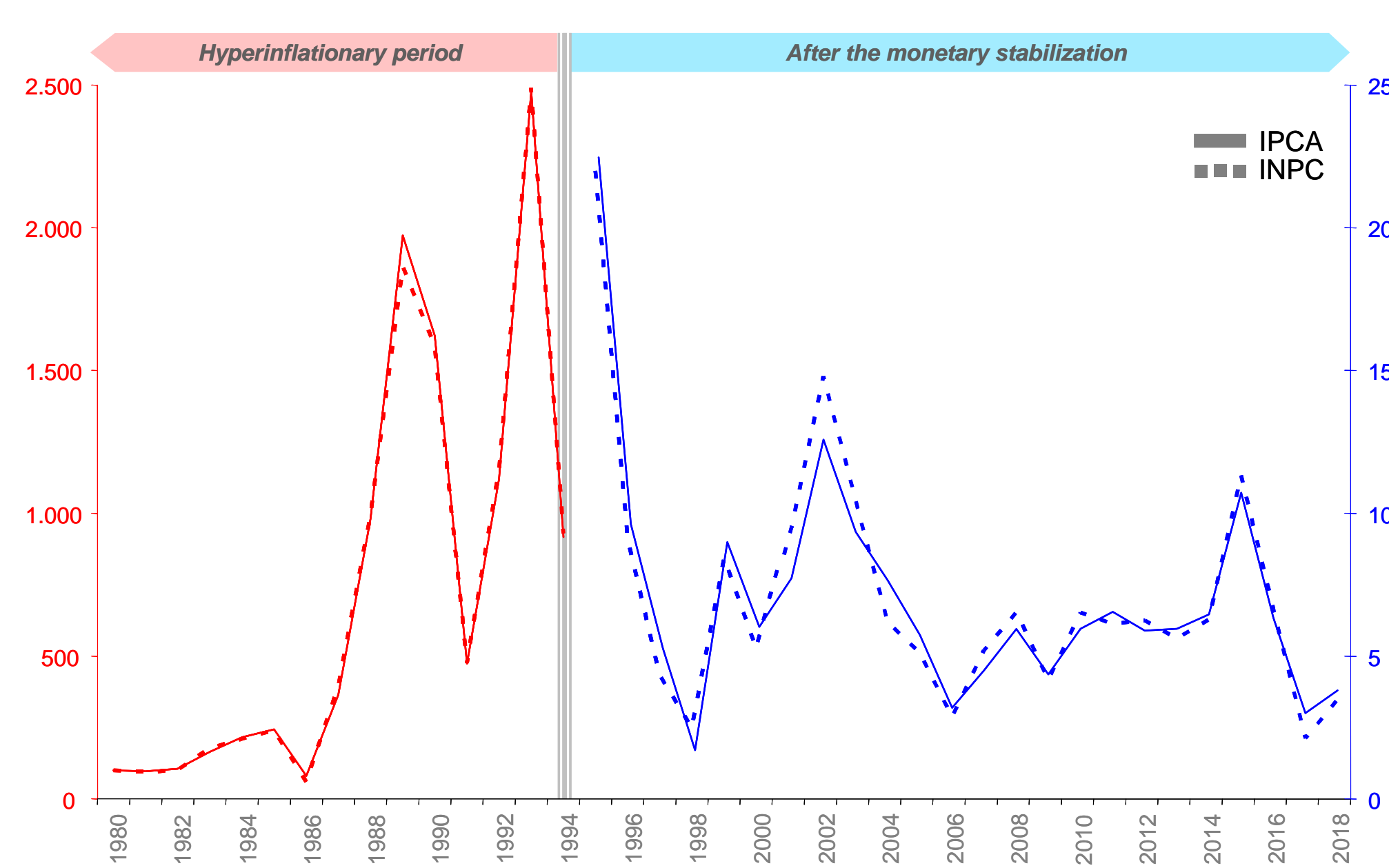
Historical marks



Main methodological changes

- Target population:** Defined on the basis of HBS data for the following years:
 - HBS 1974-1975: 1-5 minimum wages for INPC and 1-30 for IPCA.
 - HBS 1987-1988: 1-8 minimum wages for INPC and 1-40 for IPCA.
 - HBS 1995-1996: 1-8 minimum wages for INPC and 1-40 for IPCA.
 - HBS 2002-2003: 1-6 minimum wages for INPC and 1-40 for IPCA.
 - HBS 2008-2009: 1-5 minimum wages for INPC and 1-40 for IPCA.
- Weighting structure:**
 - Obtained from: National Family Expenditure Study (ENDEF), 1979; Household Budget Surveys (POFs); Editions: 1987-1988, 1995-1996, 2002-2003, 2008-2009, and 2017-2018 (to be released).
- Geographical coverage:**
 - 1979-1990: 10 areas (PA, CE, PE, BA, MG, RJ, SP, PR, RS, and DF).
 - 1991-2013: 11 areas (+ GO).
 - 2014-2017: 13 areas (+ ES and MS).
 - 2018: 16 areas (+ AC, MA, and SE).
- Regional weights:** Weights obtained from the following indicators:
 - Until 1989: urban resident population (INPC) and current total expenditure (IPCA).
 - 1989-2006: State's urban population (INPC) and total urban income (IPCA).
 - Since 2006: urban resident population (INPC) and available household monetary income (IPCA).
- Index reference period:**
 - 1979-1986: 1979=100.
 - 1986-1990: 1986=100.
 - 1991-1993: 1990=100.
 - Since 1994: 1993=100.
- Calculation formula:**
 - Until December 1993, the index of a subitem was generally obtained by aggregating the products prices relatives by the simple arithmetic mean.
 - Since January 1994, the subitem variation was calculated using the geometric mean of the product relative.

Annual inflation series



Main features of the SNIPC

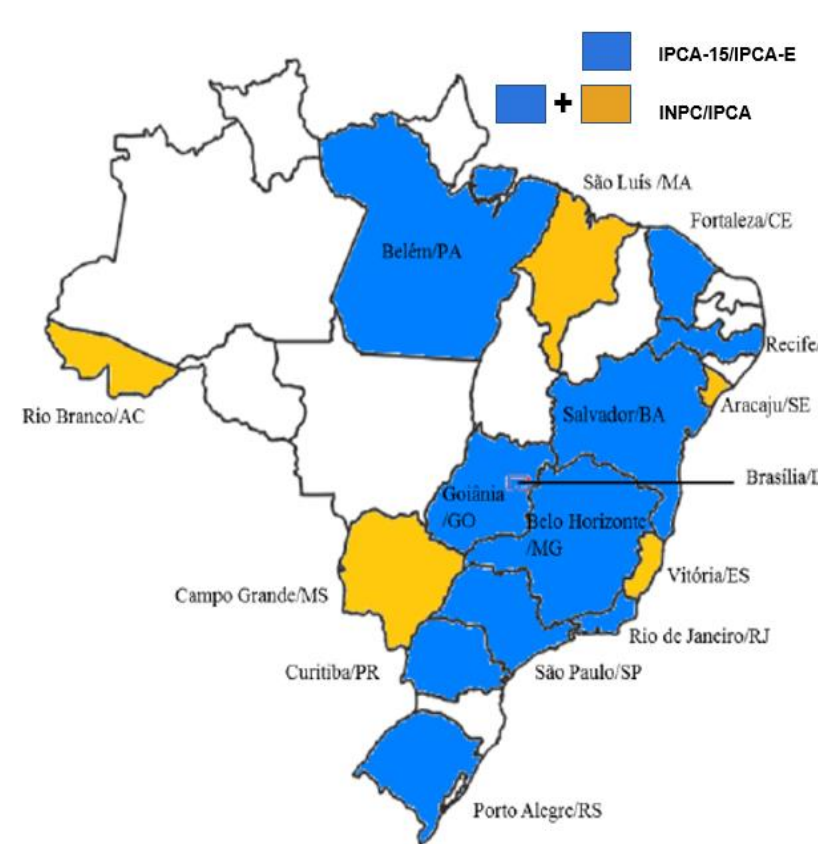
SNIPC "Family"

	INPC	IPCA	IPCA-15	IPCA-E
Geographical coverage	See colored areas in the map	See colored areas in the map	See blue-colored areas in the map	See blue-colored areas in the map
Price collection period	Usually from the 1 st to the 30 th day of month t	Usually from the 1 st to the 30 th day of month t	Usually from the 16 th of month t-1 to day 15 of month t	Usually from the 16 th of month t-1 to day 15 of month t
Frequency	Monthly	Monthly	Monthly	Quarterly
Target population	Families with monthly income ranging from 1 to 5 minimum wages, where the income comes from a wage earned by the head of the family.	Families with monthly income ranging from 1 to 40 minimum wages, regardless of the source of the income.	Families with incomes ranging from 1 to 40 minimum wages, regardless of the source of the income.	Families with incomes ranging from 1 to 40 minimum wages, regardless of the source of the income.
Weights source	Household Budget Survey	Household Budget Survey	Household Budget Survey	Household Budget Survey
Main uses	Indicates inflation for low income families. Together with the GDP, it is used to set the national minimum wage each year. Serves as a reference for the adjustment of social security benefits, such as pensions and retirement payments.	Is the country's official inflation. Measures the overall movement of prices in the retail market. Is commonly used to adjust figures in both public and private contracts. Serves as an index for some government bonds, namely the NTN-Bs.	Is commonly portrayed as a preview of the IPCA.	As the IPCA, it is commonly used to adjust figures in public and private contracts. It is also frequently used as a factor of adjustment of urban land and property taxes.

Classification system



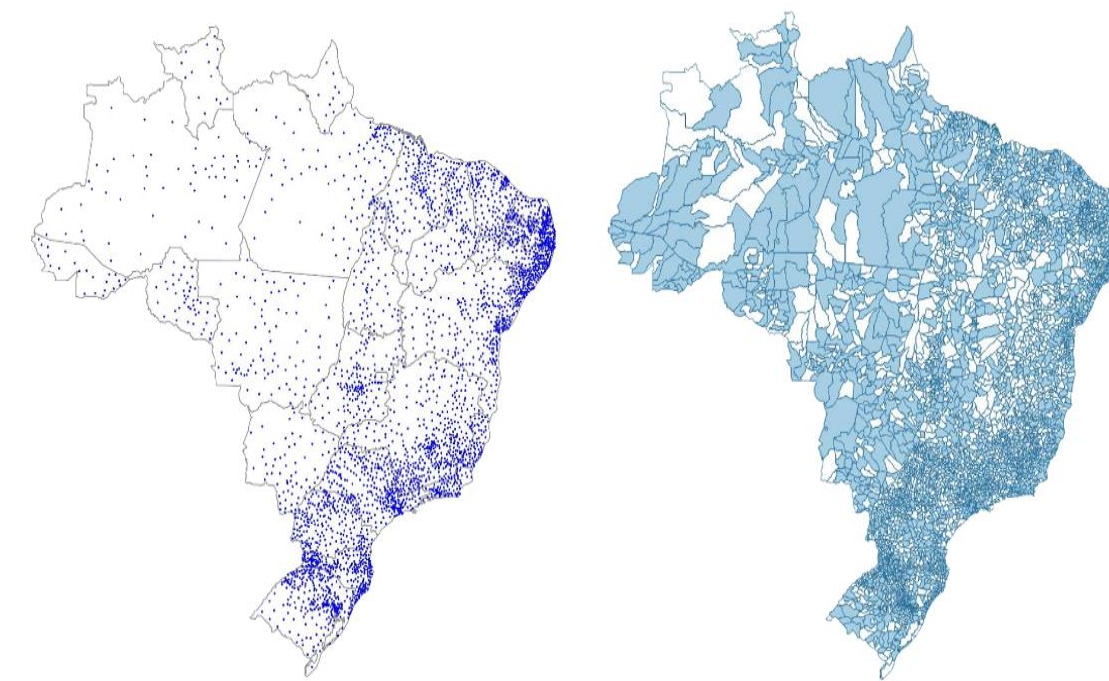
Geographical coverage



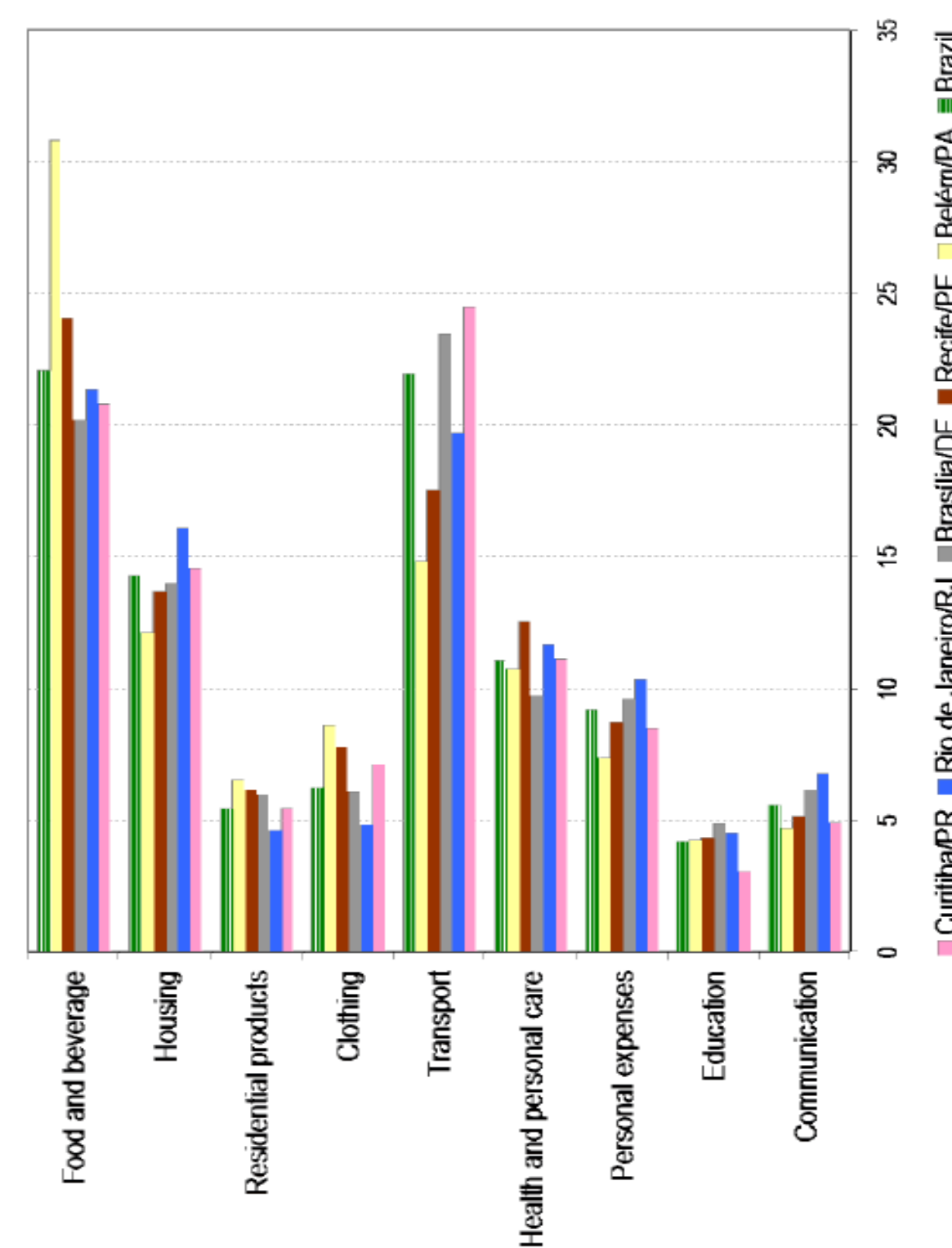
Basket characteristics

Weights' source: HBS

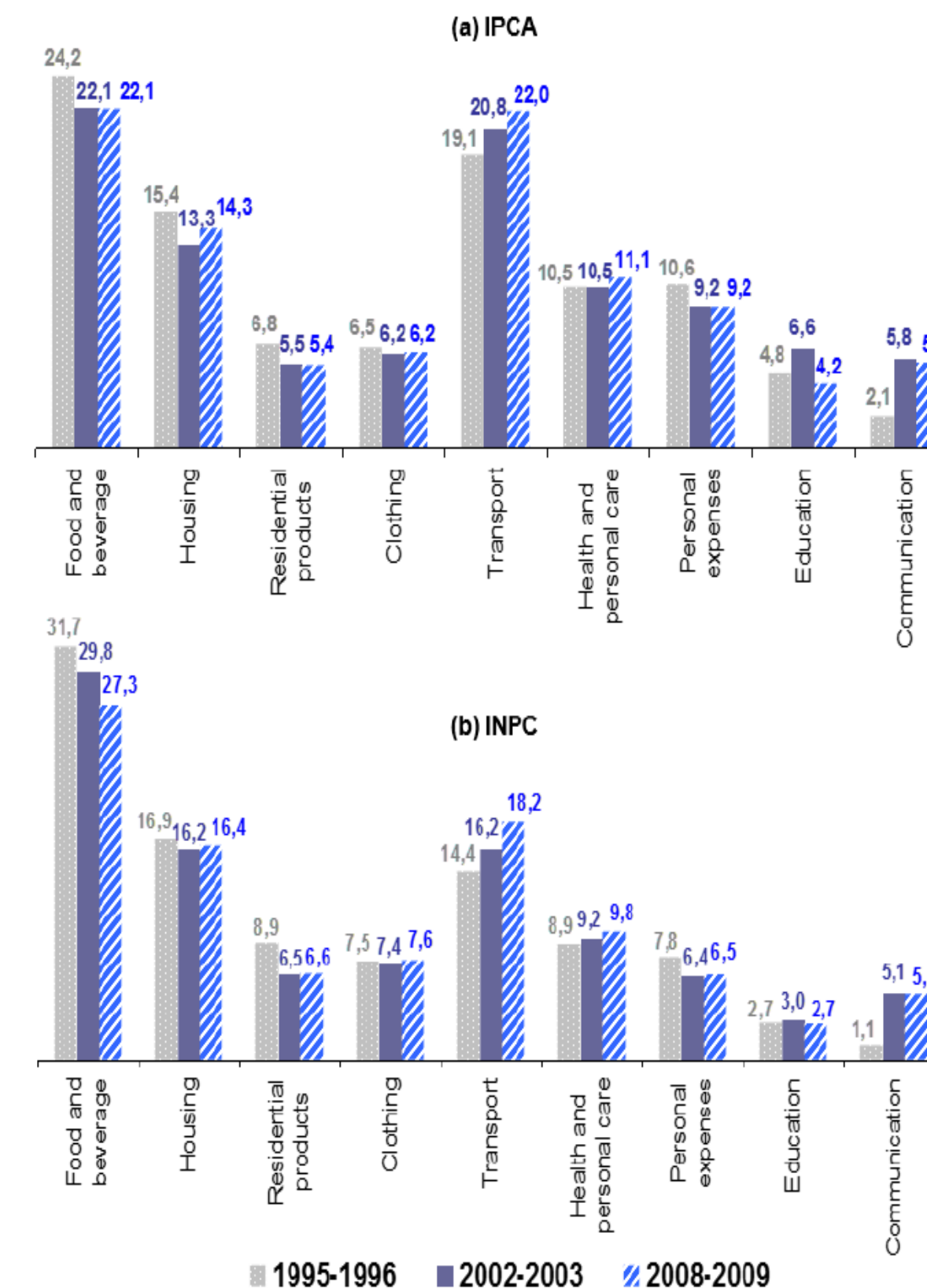
- POF 2017/2018
- 1,900 Brazilian municipalities selected in the sample
- ≈ 75,000 households visited
- Visits last 7 days



Baskets portrait regional features

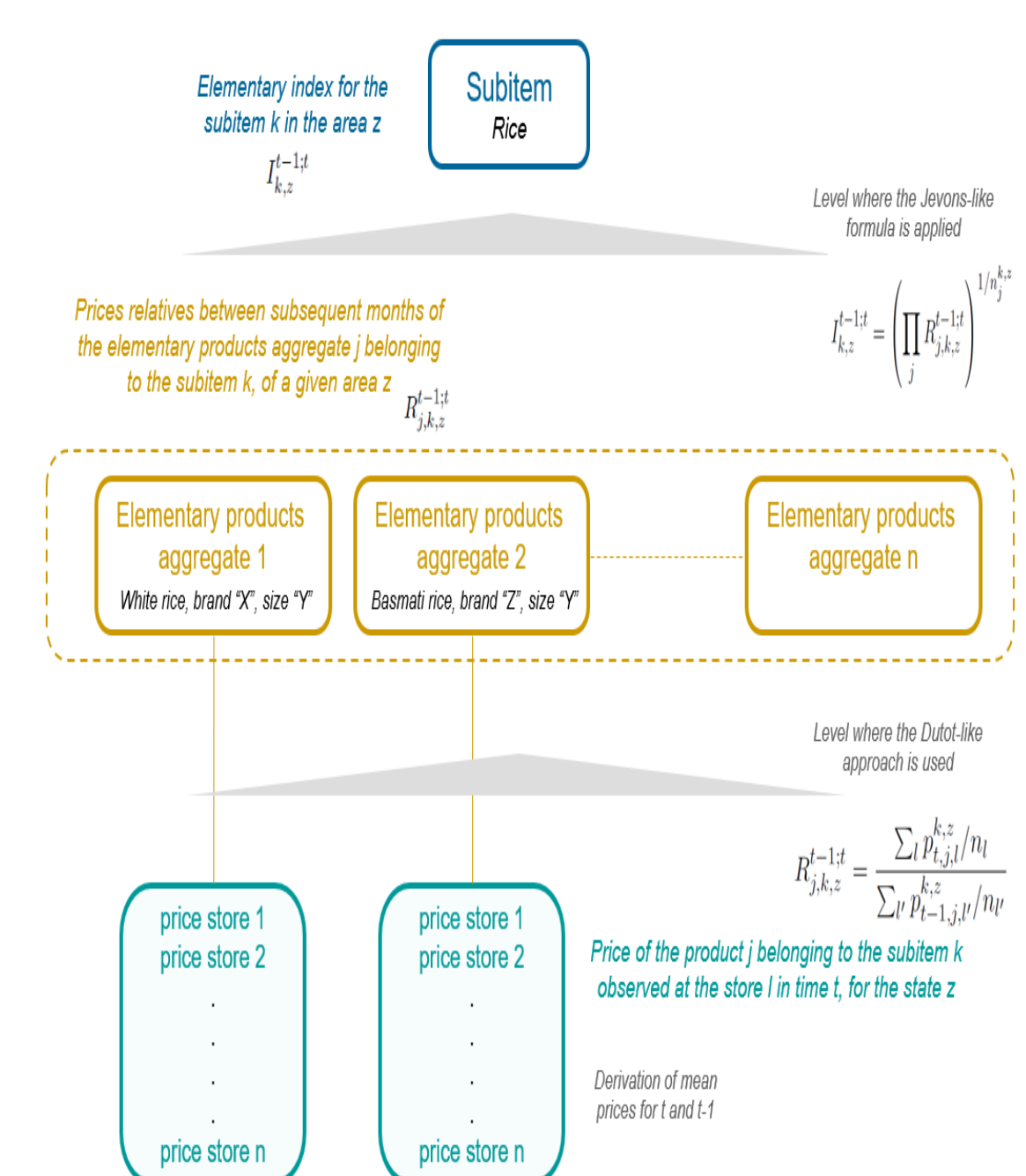


Time evolution of INPC and IPCA Weights

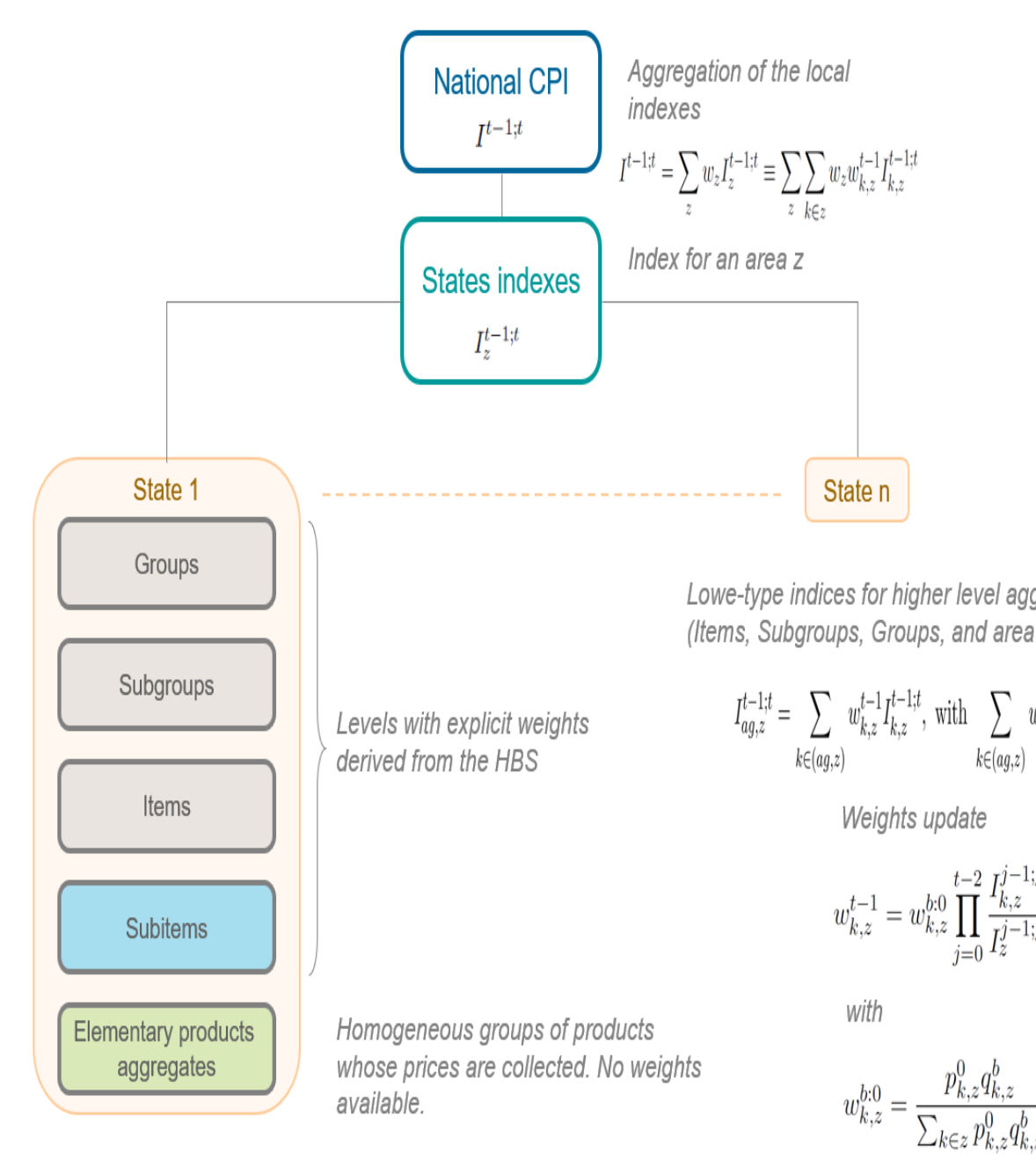


Methods

Elementary level formula

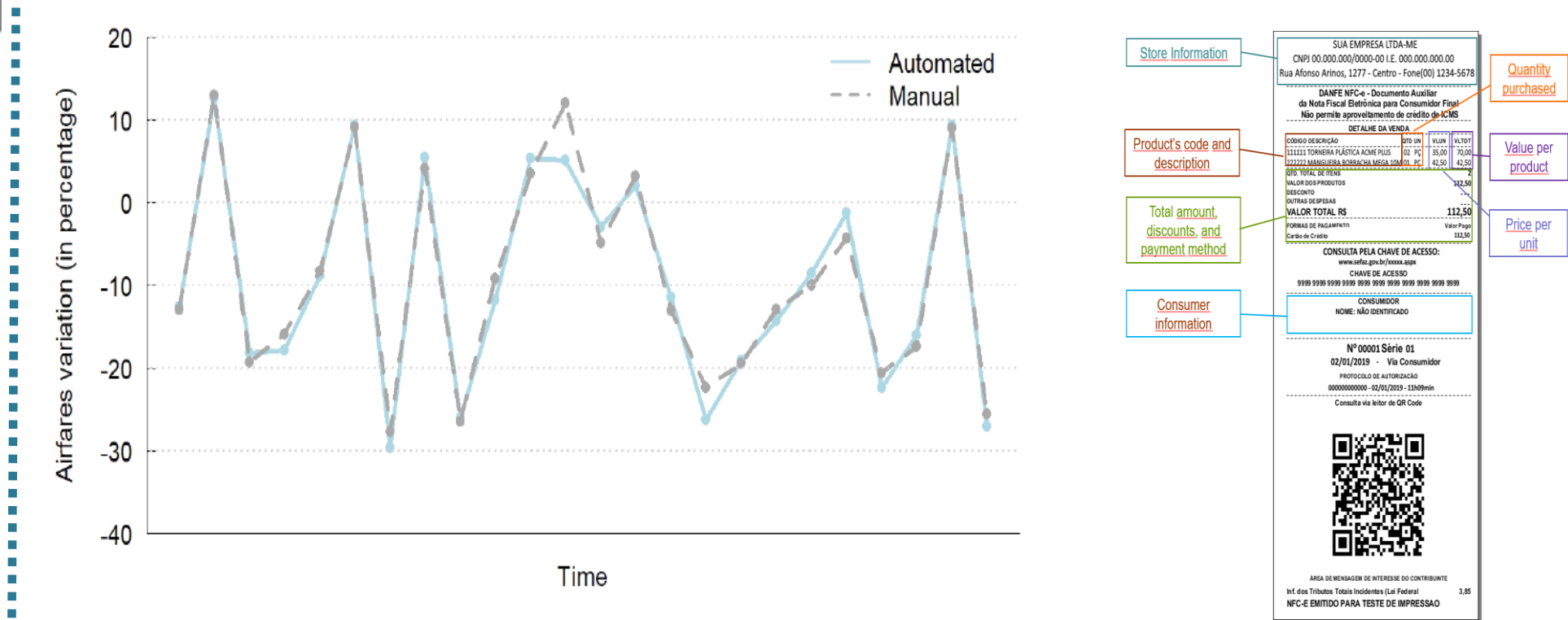


Calculation for high level aggregates



Moving on

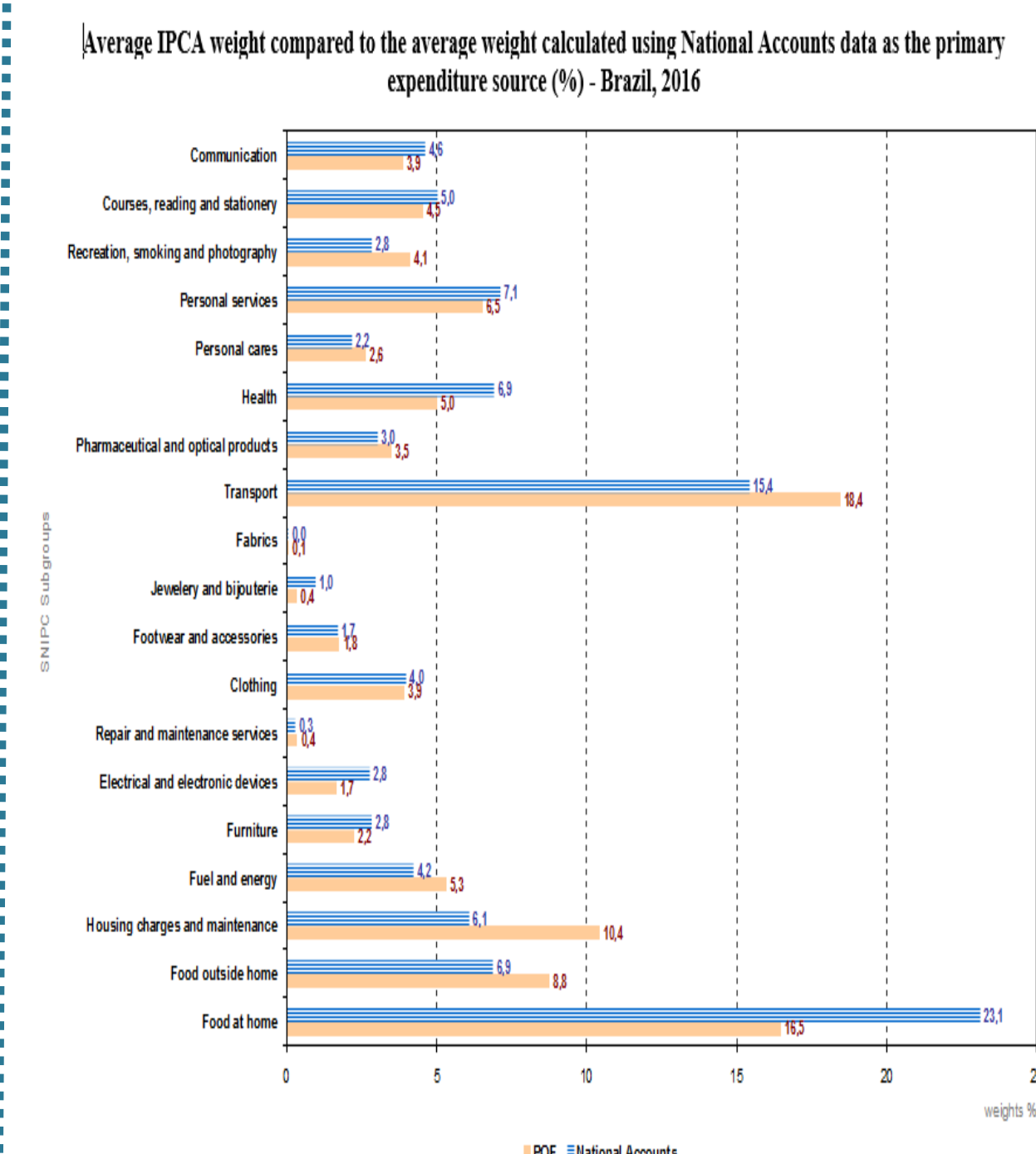
Exploration of new data sources: web, e-registers ...



Experimental series obtained by comparison of manual and automatic collection for airfares. (See da Silva et al paper Studies of new data sources and techniques to improve CPI compilation in Brazil).

Harmonization with international standards

Use of SNA for more frequent partial weights update



Move to COICOP

COICOP Level	2015 version	2018 version
Division	12	13
Subdivision	46	67
Class	108	152
Subclass	163	298

Classification structures	SNIPC	COICOP
Group	Division	
Subgroup	Subdivision	
Item	Class	
Subitem	Subclass	
Product	Category	

See Rodrigo V. Ventura paper: Challenges of Using National Accounts for a More Frequent Update of the Brazilian CPI Weights.

Use of hedonics for quality adjustment

$$\ln(p_t^j) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \epsilon_j$$

See da Silva et al paper Studies of new data sources and techniques to improve CPI compilation in Brazil.

Single step Jevons-like elementary formula

$$I_{k,z}^{t-1,t} = \left[\prod_j \left(\frac{p_{k,z}^{t-1,t}}{p_{k,z}^{t-1,t-1}} \right) \right]^{1/n_j^{k,z}}$$

Weights update due HBS 2017-2018



System expansion

