



Can't weight anymore!

South Africa's use of national accounts and point of sale data to update the CPI basket and weights

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The need to update weights



As weights get older they become less relevant

- Changing tastes
- New products and services
- Upward substitution bias



International standards require that CPI weights are updated at least every five years

The need to update weights



The South African CPI weights and basket last updated in January 2017 based on 2014/15 HES



No funds provided for HES to allow for an update by 2022

“ The HES [household expenditure survey] serves as the primary data source for deriving expenditure shares for the goods and services covered by the CPI ”

2020 CPI Manual: Methods and sources

Benefits of the household expenditure survey

- Covers all categories of consumer expenditure with detailed product values
- National and sub-national coverage
- Conceptual and classification consistency with CPI
- Covers all outlet types including informal sector

Data sources for weights

National accounts

“ National accounts data may be used when the HES is conducted too infrequently to ensure the reliability of the CPI ”

2020 International CPI Manual: Methods and sources

Many countries use the Household final consumption expenditure (HFCE) component of the national accounts for regular updates of high-level CPI weights



Benefits

- National accounts provides a conceptual framework for CPI household expenditure
- Uses same classification (COICOP)
- Updated annually and so are timely
- Uses wide range of sources



Drawbacks

- Level of product detail
- Only national estimates
- Revisions



European HCPI and UK CPIH: Annual updates based on national accounts (HFCE)

Australia: Annual update of higher-level weights with HFCE. Lower-level proportions retained

Brazil: Research on using HFCE to update higher level. Propose to retain lower-level proportions

Key takeaway:

Australia and Brazil do not have annual or bi-annual HES
Both propose using HFCE growth rates – not actual proportions

- Transition of responsibility for HFCE from central bank to Stats SA finalised in 2016
- Featured major review of methods and source data
- 2021: Major benchmark review based on 2014/15 LCS (for HFCE)
- Method improvements in owner occupied housing, gambling & insurance

Number of products	
CPI	National accounts
404	79 (4-digit) + 15 (3-digit)

- National Accounts: National
- CPI: Provincial publication, weights for specific urban areas

Limitations of the South African HDCE for CPI weights

Product detail

Number of products	
CPI	National accounts
404	79 (4-digit) + 15 (3-digit)


Index offering: Geographic, analytical, population sub groups...

Use of national accounts

Local developments

COICOP	HFCE	CPI total country
Food and non-alcoholic beverages	14,6	19,1
Alcoholic beverages and tobacco	4,8	6,0
Clothing and footwear	5,2	4,1
Housing and utilities	15,1	22,5
Household contents and equipment	5,8	4,3
Health	6,9	1,3
Transport	15,7	14,7
Communication	4,2	2,6
Recreation and culture	7,2	4,8
Education	3,2	2,3
Restaurants and hotels	5,1	3,4
Miscellaneous goods and services	12,2	14,9

Alternative data sources



Large sample surveys of Retail, Food and Beverages, Accommodation



- Difficult to link to basket without HES
- Include business sales
- Excludes informal sector
- Different classification

Administrative data sources: Tax records for alcohol and tobacco; motor vehicle licence registrations



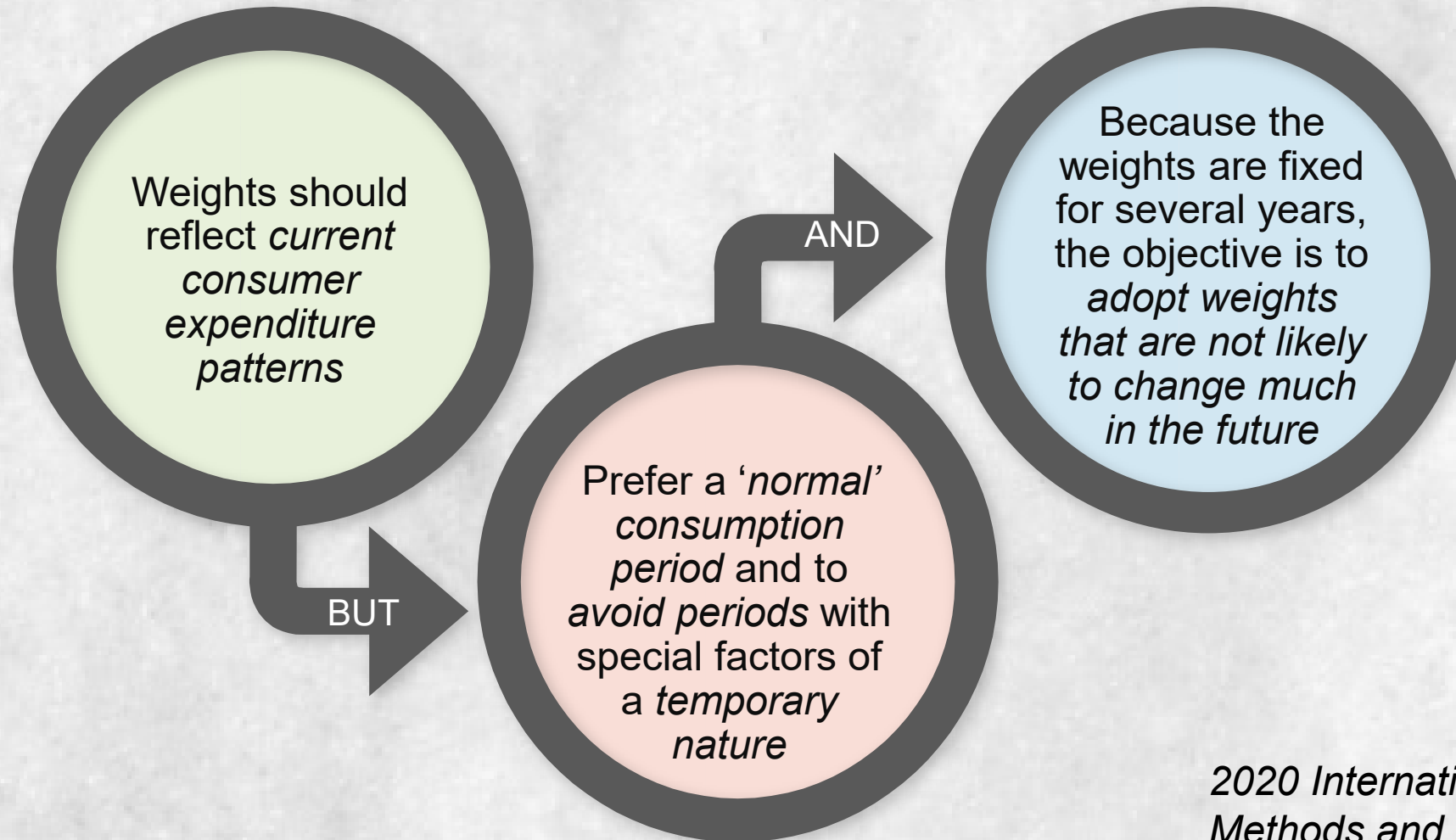
- Already used to compile HFCE
- Some useful for verification

Point of sale data from chain stores



- Requires classification
- Used for basket level selection and weights

Weights reference period



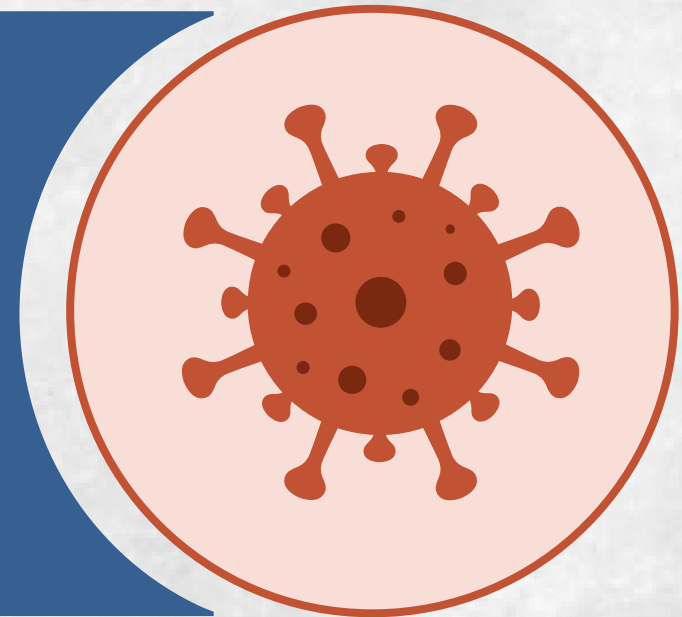
2020 International CPI Manual:
Methods and sources

Weights reference period

Expenditure patterns in 2020 complicated by COVID-19

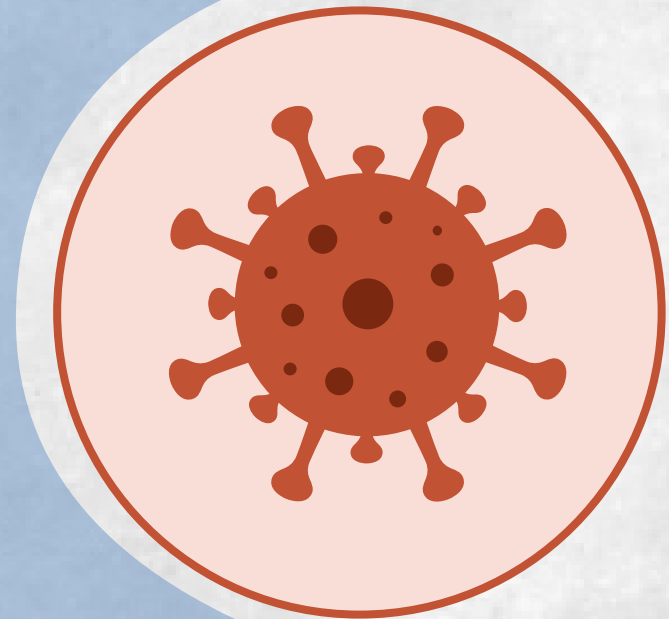
Overall drop in economic activity

Specific categories affected: e.g. hotels, restaurants, alcoholic beverages, public transport dropped, streaming and data usage increased

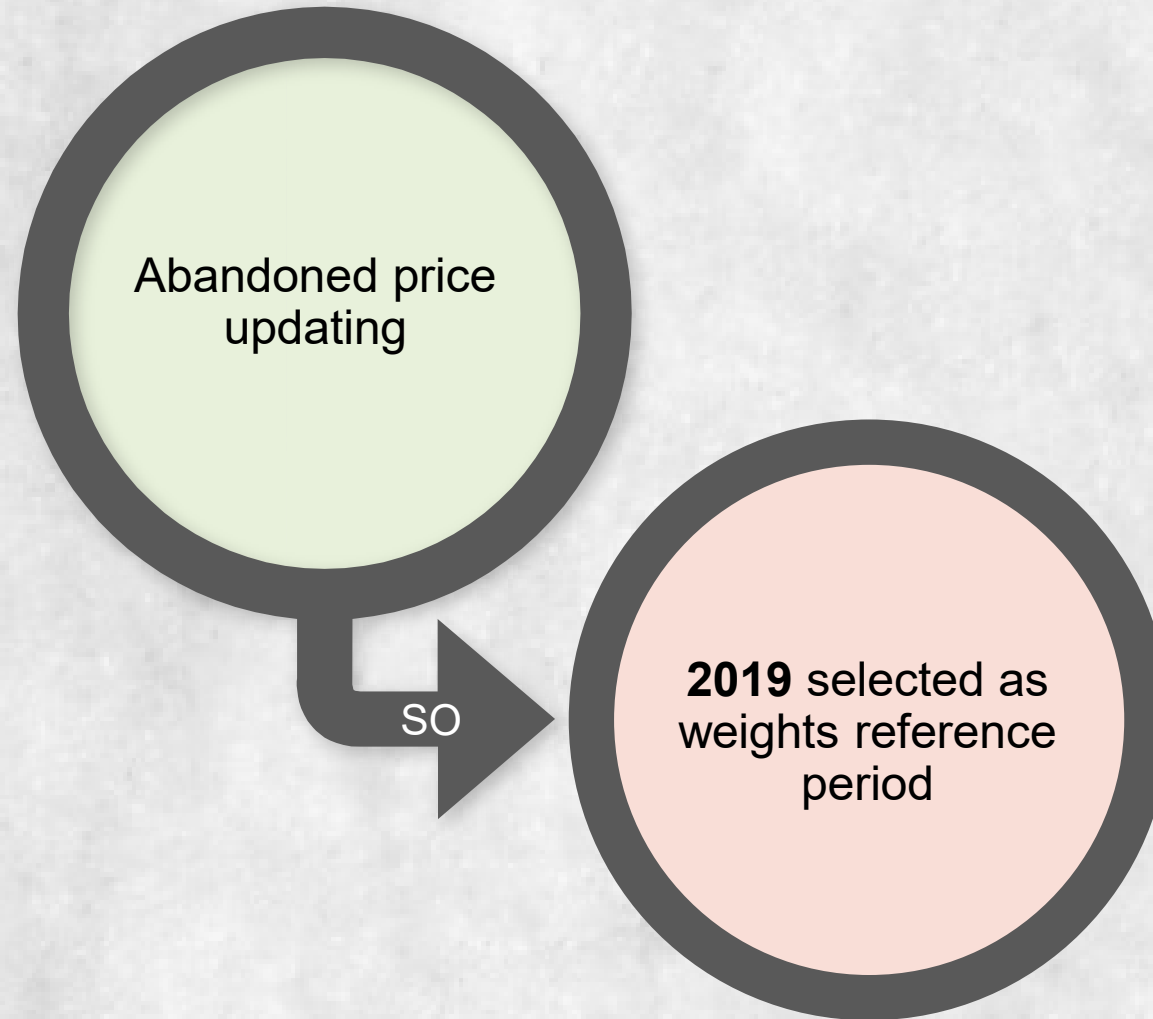


Weights reference period

COVID impact	% change 2019–2020
Alcoholic beverages, tobacco and narcotics	-13.8
Clothing and footwear	-20.3
Transport	-9.9
Recreation and culture	-13.3
Education	7.5
Restaurants and hotels	-40.0
Total Expenditure	-3.9



Weights reference period



Weights calculation

Applied HFCE growth rates from
average 2016–2017 to 2019

Weights calculation

Product level

Total country

COICOP	HFCE growth	% change to CPI weights values
TOTAL	15,2	15,0
Food and non-alcohol beverages	14,5	14,6
Alcohol beverages, tobacco and narcotics	21,8	22,1
Clothing and footwear	9,1	8,6
Housing, water, electricity, gas and other fuels	14,7	15,0
Furnishings, household equipment, maintenance	15,2	16,3
Health	18,2	17,8
Transport	13,2	15,1
Communication	6,1	6,1
Recreation and culture	13,2	16,7
Education	19,8	19,8
Restaurants and hotels	17,6	17,7



Weights calculation

Results



Total country

	2016	2019	Diff
Food and non-alcoholic beverages	19,14	19,07	- 0,06
Alcoholic beverages and tobacco	5,87	6,23	0,36
Clothing and footwear	4,04	3,82	-0,22
Housing and utilities	22,54	22,54	0,00
Household contents	4,34	4,38	0,05
Health	1,29	1,33	0,03
Transport	14,72	14,74	0,02
Communication	2,62	2,42	- 0,20
Recreation and culture	4,83	4,90	0,07
Education	2,34	2,44	0,10
Restaurants and hotels	3,42	3,49	0,08
Miscellaneous goods and services	14,86	14,64	- 0,21

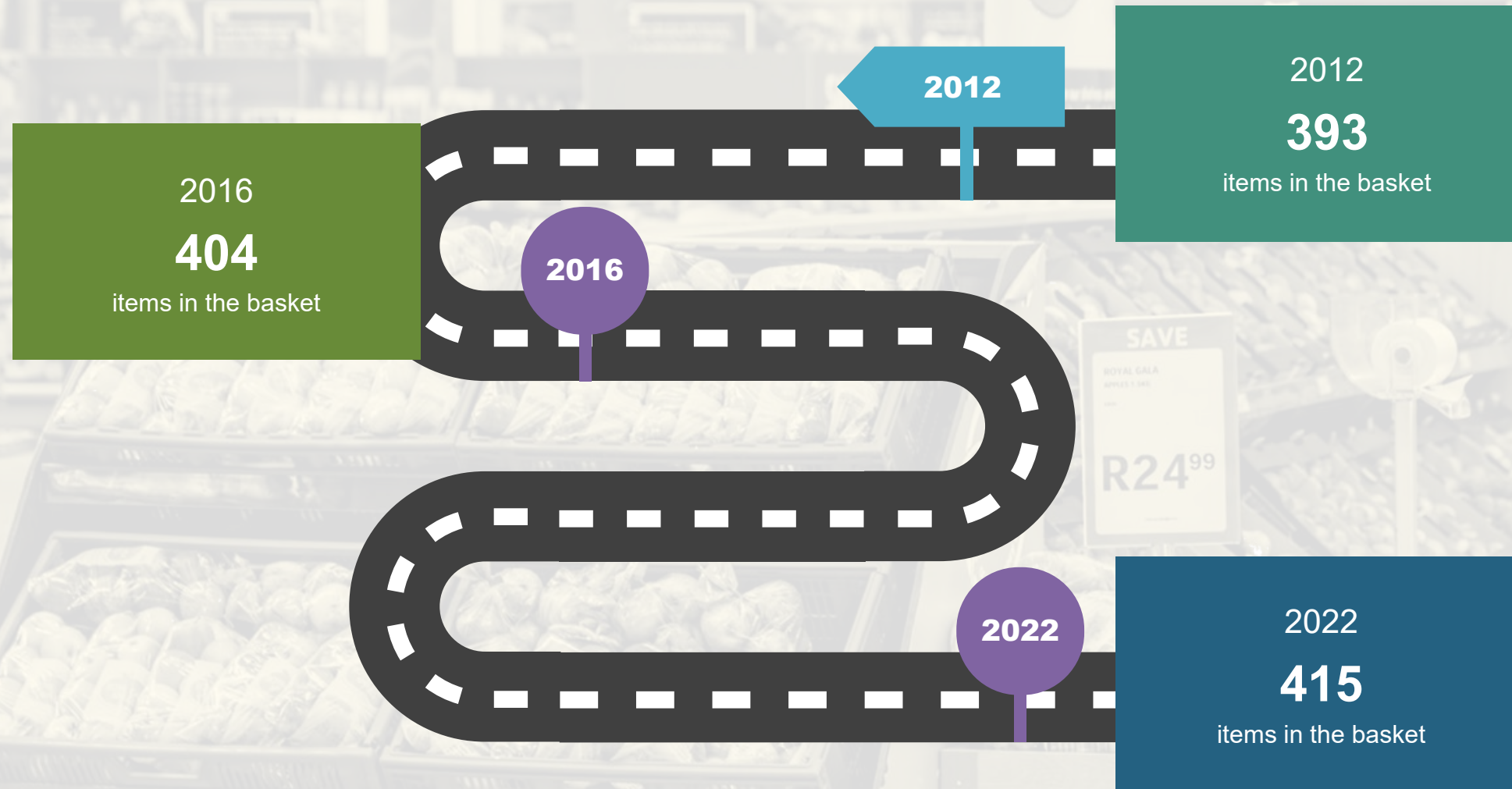
Basket changes

Method

1. Retailer POS data used for identifying basket changes
2. Caution in removing products
3. New products considered if over threshold (80%) in retailer data
4. No changes made in groups with no data (mainly services) – major limitation

Basket changes

Highlights



Basket changes

Highlights

14
products
enter the
basket

2
products
leave the
basket

1
product
split into
2

4
products
combined
into
2

1
product
renamed

Stakeholder communication

- Stakeholders well aware of risks of no HES
- These methods were significant methodological change which required timely and transparent stakeholder engagement
- Established an advisory committee: Central Bank, Treasury, Private sector and academic economists
 - To obtain expert inputs
 - To obtain buy in
- Additional targeted pre-release briefings
- Public release of results
- Documents on website
- Media interviews

Lessons

- Now have a permanent budget allocation for HES
- Survey started in 2022 with next weights and basket update planned for 2025
- Better insight of National accounts results
- Many adjustments previously made for weights are done by national accounts
- Opportunities for closer alignment of CPI and NA expenditure shares
- Annual updates using national accounts to be researched
- Obtain retailer POS data each year for capacity building and time series
- Realise that there is no replacement for a HES!

CPI reweighting 2022

Thank you!



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