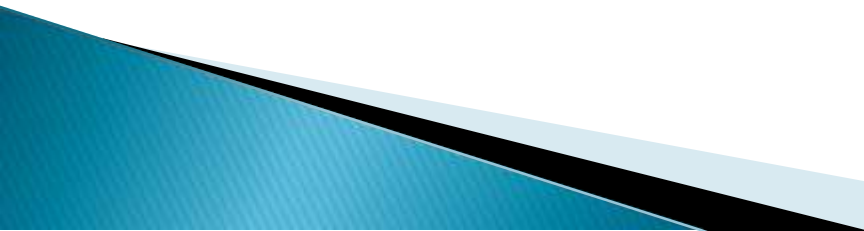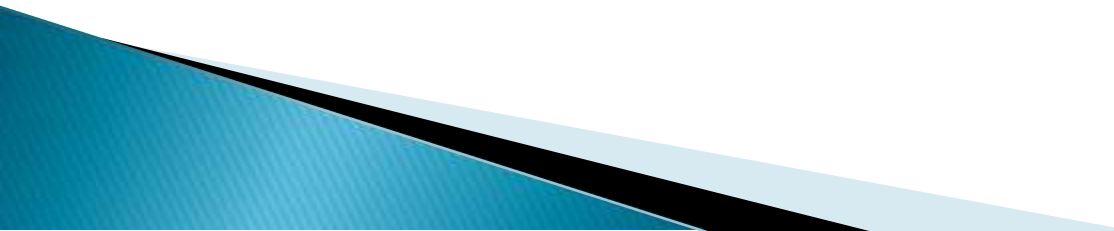# Rolling Price Survey

Norma Chhab Alperin
World Bank/ECLAC
May 2018

UN Statistical Commission Recommendation (2016)

▸ Relevance of ICP results depend on their frequent and timely availability

▸ Recommendation: a frequency of at least every two to three years with extrapolations to annual results

More Frequent Results

▸ Global ICP Unit has identified two major components to moves towards annual results:

1. compilation of annual time series of PPPs

2. rolling price surveys
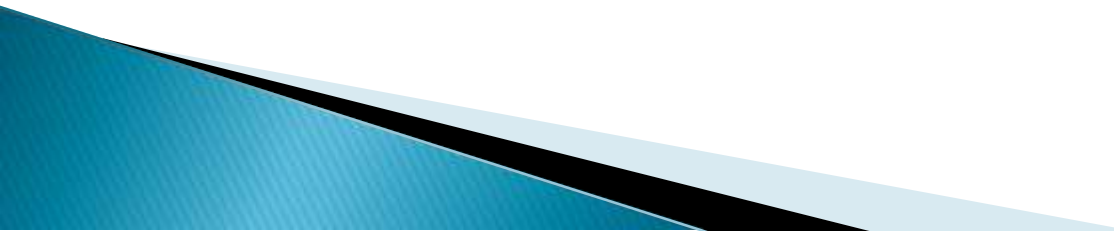
ICP Current Approach

- Benchmarks every six years (2005–2011–2017)

- Extrapolating PPPs for all elements of GDP between 2011 and 2017 using price and volume indicators
  - Relatively long period of extrapolation
  - Lack of good quality and comparable deflators and volume indices in all regions
  - At this point, this is the only method to estimate annual PPPs for 2012–2016

Rolling Price Surveys

- The rolling price survey approach was designed to increase the frequency of comparisons and to reduce the response burden

- It involves spreading the price data collection over a three-year time period around the reference year

- The PPPs are estimated with a mix of survey data and extrapolated data

Advantages

▸ Increase the frequency of comparisons

▸ Although it does not reduce the response burden in terms of amount of data to be collected, it makes it easier for countries to shoulder the burden

▸ Continuity of expertise in the national statistical institutes

Rolling Price Surveys Approach

- PPPs are calculated using prices that have been collected in the reference year t or prices that have been collected in the year t−1 or year t+1

- Prices surveyed in year t can be used directly in the calculation of the PPPs

- Prices surveyed in year t−1 and year t+1 have to be either extrapolated or retropolated to year t before they can be included in the calculation

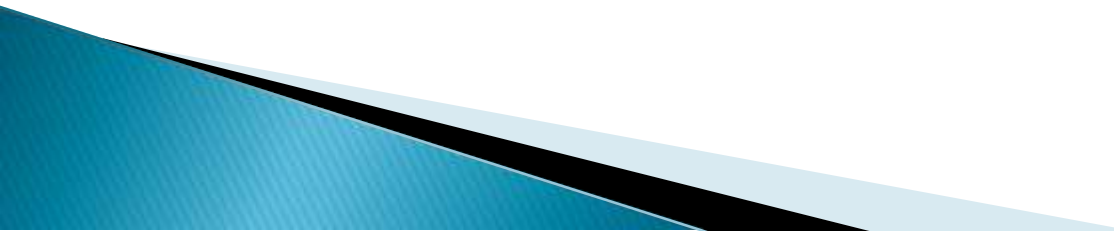# Rolling Price Surveys Approach

- The extrapolation or retropolation is done at the basic heading (BH) level with temporal adjustment coefficients

- The notion of rolling price surveys is not new to ICP: In this round, we are using this approach to obtain the 2017 PPPs by collecting prices in 2018 and retropolating them to 2017

- The price collection is cyclical: price surveys are repeated every three years

- The products to be priced and their specifications are updated and revised between surveys

Rolling Price Surveys Approach

- This approach is used to collect prices for consumer goods and services

- Prices for housing services, government services and capital goods (machinery, equipment and construction) are collected either in the reference year or retrospectively in the year following the reference year

Three−year Timetable

	ICP Year t			
	Year t-1	Year t	Year t+1	Year t+2
HOUSEHOLD CONSUMPTION				P u b l i c a t i o n Y e a r t
Price survey 1		X		
Price survey 2	X=>			
Price survey 3			<=X	
SPECIAL SURVEYS				
Private Education		X		
Housing volumens and rental surveys		X		
Government services survey		X		
Machinery and Equipement survey		X		
Construction Survey		X		
OTHER DATA				
CPI	X	X	X	
GDP Expenditures	X	X	X	
GDP Deflators	X	X	X	
Population	X	X	X	
Annual Average Exchange Rates	X	X	X	

Household Consumption (HHC)

▸ The household consumption is divided into three approximately-equal parts with one part surveyed each year
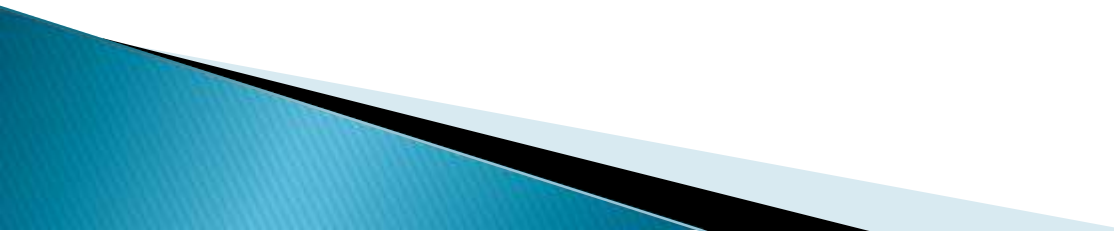
2017 Product List

2017 List of Products	Number of Products	
1101 Food and non-alcoholic beverages	123	
1102 Alcoholic beverages, tobacco, and narcotics	13	136
1103 Clothing and footwear	34	
1104 Water, electricity, gas, and other fuels	13	
1105 Furnishings, household equipment & maintenance	48	
1106 Health	45	140
1107 Transport	45	
1108 Communication	25	
1109 Recreation and culture	39	
1111 Restaurants and hotels	16	
1112 Miscellaneous goods and services	22	147
Total	423	
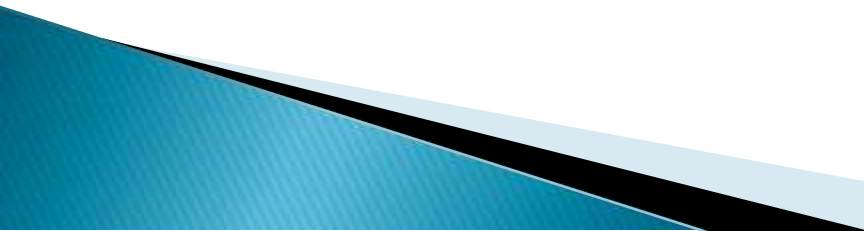
Other Possible Price Collection Scheme

	2017 List of Products	Number of Products	
1101	Food and non-alcoholic beverages	123	
1102	Alcoholic beverages., tobacco, and narcotics	13	
1105611	Non-durable Household Goods	8	
1112121	Appliances, articles and products for personal care	10	154
1103	Clothing and footwear	34	
1105	Furnishings, household equipment & maintenance*	40	
1109	Recreation and culture	39	
1112	Miscellaneous goods and services*	12	125
1104	Water, electricity, gas, and other fuels	13	
1106	Health	45	
1107	Transport	45	
1108	Communication	25	
1111	Restaurants and hotels	16	144
	Total	423	

Household Consumption

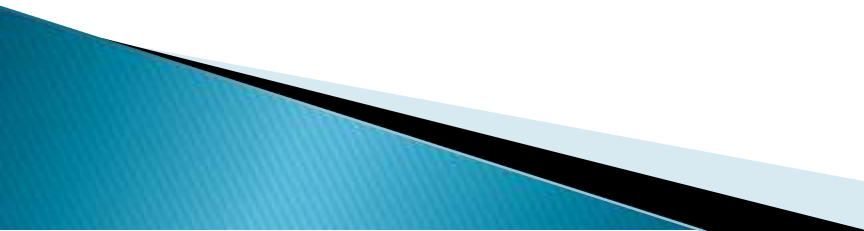- The price collection could be spread over the four quarters in the year

- The annual prices are used to calculate the PPPs for the BH in each year

HHC Temporal Adjustment Coefficients
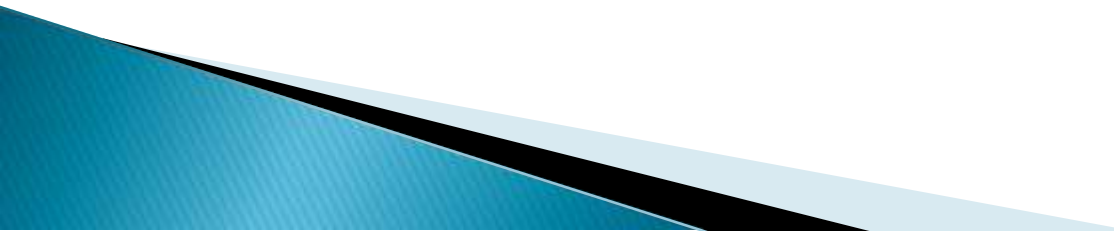
- CPI-sub-indexes are applied to:

  - extrapolate the PPPs of the basic headings priced in t-1 (but not priced in t) to t

  - retropolate the PPPs of the basic headings priced in t+1 (but not priced in t) to t.

HHC Temporal Adjustment Coefficients

- The accuracy of the PPPs extrapolation or retropolation largely depend on the strength of the correlation between the coverage of the CPI sub-index and the coverage of the BH

- When there is no CPI sub-index that matches a BH, a related sub-index, or an aggregation of sub-indexes that closely approximates the BH should be used

Other GDP Components

- Prices for housing services, government services, machinery, equipment and construction are collected once every three years

- The temporal adjustment coefficients are the implicit price deflators for GDP

Rolling Price Survey Scheme over a 7 Year Period
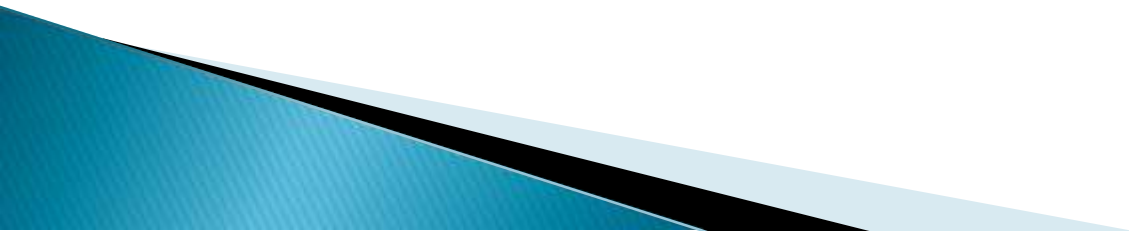
	Reference Year				Reference Year												Reference Year			
	ICP 2017				ICP 2020				ICP 2021				ICP 2022				ICP 2023			
	2016	2017	2018	2019	2019	2020	2021	2022	2020	2021	2022	2023	2021	2022	2023	2024	2022	2023	2024	2025
HOUSEHOLD CONSUMPTION																				
Food and non-alcoholic beverages			<=X		X=>						<=X			X			X=>			
Alcoholic beverages, tobacco, and narcotics			<=X		X=>						<=X			X			X=>			
Clothing and footwear			<=X	P			<=X	P		X		P	X=>			P			<=X	P
Water, electricity, gas, and other fuels			<=X	U			<=X	U		X		U	X=>			U			<=X	U
Furnishings, household equipment&maintenance			<=X	B			<=X	B		X		B	X=>			B			<=X	B
Health			<=X	L			<=X	L		X		L	X=>			L			<=X	L
Transport			<=X	I		X		I	X=>			I			<=X	I		X		I
Communication			<=X	C		X		C	X=>			C			<=X	C		X		C
Recreation and culture			<=X	A		X		A	X=>			A			<=X	A		X		A
Restaurants and hotels			<=X	T		X		T	X=>			T			<=X	T		X		T
Miscellaneous goods and services			<=X	I		X		I	X=>			I			<=X	I		X		I
SPECIAL SURVEYS				O				O				O				O				O
Private Education			<=X	N		X		N	X=>			N			<=X	N		X		N
Housing volumens and rental surveys			<=X			X			X=>						<=X			X		
Government services survey			<=X	2		X		2	X=>			2			<=X	2		X		2
Machinery and Equipement survey			<=X	0		X		0	X=>			0			<=X	0		X		0
Construction Survey			<=X	1		X		2	X=>			2			<=X	2		X		2
OTHER DATA				7				0				1				2				3
Temporal Adjustment Coefficientes		X	X		X	X	X		X	X	X		X	X	X		X	X	X	
GDP Expenditures		X	X		X	X	X		X	X	X		X	X	X		X	X	X	
XR and Population		X	X		X	X	X		X	X	X		X	X	X		X	X	X	

Note: The vertical text in the fourth column of each ICP group reads "PUBLICATION 2017", "PUBLICATION 2020", "PUBLICATION 2021", "PUBLICATION 2022", and "PUBLICATION 2023" respectively.

Annual PPPs

- A direct consequence of this approach is that annual PPPs can be estimated since all the necessary data is available

Proposal

- This continuous process could be implemented for reference year 2020 PPPs immediately after this round

- In 2018
  - Price collection for the HHC Basket
  - Retropolation indexes (CPI for HHC and deflators for GDP) need to be gathered
  - Expenditure weights for 2017 and 2018 have to be disaggregated to the BH level
  - Price collection of special surveys

Proposal

- In 2019
  - Price collection for a part of the HHC Basket
    - To be decided the products to price
  - CPI indexes and weights for 2019
  - GDP Expenditure weights for 2019
  - GDP Deflators for 2019

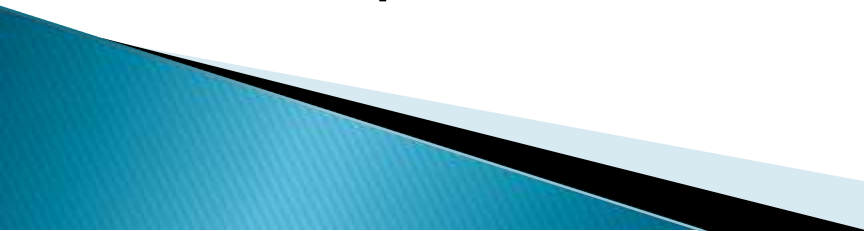# Proposal

- In 2020
  - Price collection for a part of the HHC Basket
    - To be decided the products to price
  - Extrapolation to 2020 of prices collected in 2019
  - Price collection for special surveys
  - CPI indexes and weights for 2020
  - GDP Expenditure weights for 2020
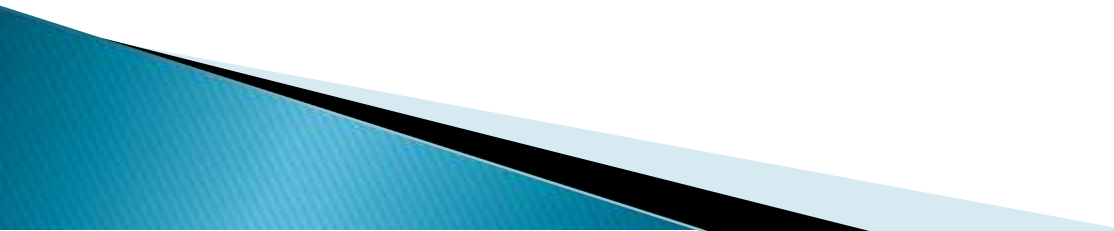 - GDP Deflators for 2020

Proposal

- In 2021
  - Price collection for a part of the HHC Basket
    - To be decided the products to price
  - Retropolation to 2020 of prices collected in 2021
  - CPI indexes and weights for 2019
  - GDP Expenditure weights for 2019
  - GDP Deflators for 2019
  - **Publication of Reference Year 2020 ICP**

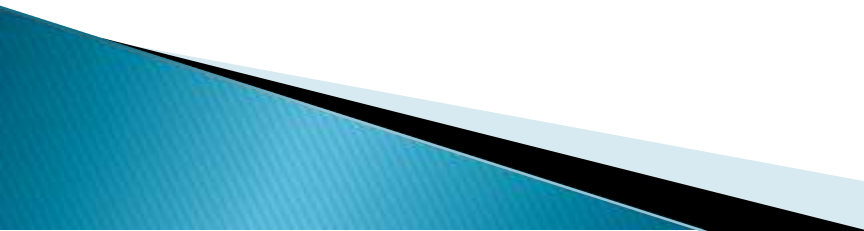- Start of rolling price survey for reference year 2023 ICP

Issues to Consider

- Determine the frequency of data collection (annual, biannual, quarterly) for the rolling survey for the Household Consumption

- Determine the frequency of the Special Surveys

- Assess availability and quality of national account deflators, CPIs and other price indices by GDP component to be used in the extrapolation to the reference year

Issues to Consider

▸ Determine the scheme of the rolling surveys

▸ Assess methods of extrapolating PPPs for the two years between individual benchmarks

▸ Determine how to link PPPs from regions with different timetables for data collection (GO)

Annual PPPs and Rolling Price Surveys

- For the annual PPPs 2012–2016, GDP the deflators and expenditures will have to be estimated for those years, correspondence of detailed CPI and BH have to be identified

- There is an opportunity to put in place sustainable procedures/mechanisms/methodologies that can be used to estimate these indicators in the next few years

THANKS/GRACIAS !