

Survey Framework for ICP Price Collection

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Representative products

- In ICP 2005 price collectors were asked to identify “representative” products among all the products for **household private consumption expenditure**.
- For other major headings in the ICP Expenditure Classification, all goods and services were assumed to be “representative”.



Why does it matter?

- The calculation of PPPs is more accurate if the PPPs between any two countries are only calculated using prices for items that are “representative” in one or both of the two countries-
 - Or giving representative products more weight



Countries - difficulty defining “representativity” in 2005

- A “representative” product was one whose price was typical of the “price level” in each Basic Heading.
- For ICP 2005, countries in some regions found it difficult to decide which products within a given Basic Heading were “representative”.
- As a result “representativity” was not taken into account in calculating PPPs except for OECD-Eurostat and CIS countries.



Important Products

- For ICP 2011 it is proposed that the term “representative” will be replaced by “important”.
- Within each Basic Heading for Household consumption expenditure, countries will be asked to say whether each product is **IMPORTANT** or **LESS IMPORTANT**
- **Also equipment??**



What is an Important Product?

- We have agreed that countries cannot be asked to provide expenditure weights below the BH level.
- Therefore countries almost certainly do not know the expenditure weight for any product.
- **But if they did have the expenditure weight would it be LARGE or SMALL?**



LARGE and SMALL within a BH

- Note that “Large” and “Small” relate to the Basic Heading.
- A product that has a “Large” expenditure share within a given BH may still be “Small” in total household consumption expenditure.
- **Example:** Expenditure on the BH “Wine” might be quite small in many countries but this does not mean that all the specified wines should be treated as LESS IMPORTANT. There will be one or more types of wine where expenditure is “Large” relative to other types. These will be marked as “IMPORTANT”.



Heterogeneous Basic Headings

- Some BHs contain several different types of goods. In deciding what items are IMPORTANT or LESS IMPORTANT it is necessary to consider each type separately.
- **Example:** the BH “Garments” includes clothing for men, women and children. It is best to consider expenditure shares separately for each type.
- “Woman’s T-shirt, v-neck, short sleeve, 100% cotton” could be marked as IMPORTANT if its share is large for women’s clothing although it is small within “Garments”



How to Decide if a Product is Important? (1)

- Rule 1. **Is it in the CPI?**
- If a product is the same as, or similar to, a good or service included in the CPI. **IT IS IMPORTANT.**



How to Decide if a Product is Important? (2)

- **Rule 2. In-House Knowledge.** The price collector/national accountant may know if a product is IMPORTANT (i.e. Large expenditure share in the BH) from her/his own knowledge.
- **Example:** In this country, cheddar cheese is sold in almost all grocery stores. IT IS IMPORTANT. Brie cheese is only sold in a few “specialty” shops. IT IS LESS IMPORTANT.



How to Decide if a Product is Important? (3)

- Rule 3. **Ask an expert.** The expert will usually be the shopkeeper.
- **Example:** There are two products for breakfast cereals – “Kellogg's All-Bran, family size” and “Country Store Muesli, 500 gram”. Ask the **shop-keeper** if either is a “big seller”.
- The answer might be “both are” (both IMPORTANT), “neither” (both LESS IMPORTANT) or only one is (one is IMPORTANT, the other is LESS IMPORTANT).



How Countries Should Proceed

- For each Basic Heading, consider the full list of products.
- For some products the country may have no price because the product is not available. Ignore these products.
- For the products which are available, go through the list and mark each one as “Important” or “Less Important” using one of the three rules above.
- For a given Basic Heading, a country may decide that
 - all products are IMPORTANT – very rare
 - no product is IMPORTANT – very rare
 - some products are IMPORTANT and others are LESS IMPORTANT – the usual case.
- Note that PRICES should be collected for both IMPORTANT and LESS IMPORTANT products



Review product specifications and Importance during data validation

- Products in each country should be “balanced” with relative prices above and below average
- Products with large expenditures have lower relative prices than specialty items.
- Important products have prices below/near average
- Use Quaranta/Dikhanov table diagnostics when reviewing product specifications
 - Variation of product PPPs within countries
 - Large product variation—bad specs
- See example



Reliability of PPPs

- Product definitions
- Number of products to be priced
- Amount of overlap vs data gaps
- Outlet sample—number of price observations
- Use Quaranta/Dikhanov diagnostics



Sample Sizes by target precision 90 percent level of significance

Target precision n %	Estimated relative standard deviation : s / m				
	.05	0.1	0.2	0.3	0.4
	Number of products or number of price observations				
5	3	10	45	100	176
10	1	3	10	25	100
15		1	5	10	20



Number of products to price

Product	Relative STD of relative price ranges over countries	Target number of products	Number in 2005 Ring
Electricity	.03-.05	3	5
Rice	.10-.20	10 +	6
motorcars	.15-.25	10-45	30
Fresh/frozen seafood	.20-.25	10-45 +	10
Garments	3.0-3.5	25-100	68
Pharmaceuticals	2.5-3.5	25-100	43



Guidelines for number of products

- Consider the basic heading share of expenditures
 - Above average want more precise PPPs –more products
 - Below average—PPPs with less precision
- Consider size of overlap—or gaps—need more products to ensure minimum is priced
- Remember—number of products dependent on variability in Product PPPs—a joint decision of regions and countries



Outlet Sample for Price Collection

- Background
 - Remember target price—national annual average underlying national accounts
- Input/questions from data users about 2005 ICP
 - Was there an urban bias in some countries?
 - Did large country prices reflect national average?
 - Did countries follow same price collection methods?
- Requirement for 2011
 - Survey framework that identifies urban/ rural, or capability to calibrate urban to national
 - Code Outlet type for each price observation.



Sources of within country price variability

- Urban – Rural
 - Capital City vs. other urban
 - Suburban--Rural
- Outlet types
- Seasonality
- Inflation



Urban--Rural

- Following slide provides information from household surveys showing percent of expenditures by rural households
 - Use to determine survey sample,
 - And/or as weights to combine urban—rural prices

“UN –definition of rural depends on degree of concentration—country defines”



% Rural--- Senegal, S. Africa, India, Indonesia, Brazil

Rice			51.28	43.71	67.31	57.24	24.76
Other cereals, flour and other			63.44	54.06	63.18	69.92	34.06
Bread			25.54	32.37	36.36	30.88	9.61
Other bakery products			68.66	15.58	51.80	40.30	16.61
Pasta products			23.30	18.61	34.65	37.91	20.29
Beef and veal			13.25	29.50	60.05	24.00	19.94
Pork			8.48	18.81	65.26	55.76	32.08
Lamb, mutton and goat			31.39	17.01	53.20	46.05	29.41
Poultry			14.40	34.59	57.49	32.04	21.36
Other meats and meat prepara			46.37	19.34	68.68	16.35	20.99



Outlet type and location matrix

Outlet Types		
	Types	Examples
1	Large shops	Supermarkets, hypermarkets, department stores, etc.
2	Medium & small shops	Minimarkets, kiosks, neighborhood shops, grocery stores, convenience stores. etc.
3	Markets	Open markets, covered markets, wet markets, etc.
4	Street outlets	Mobile shops, street vendors, etc.
5	Bulk and discount shops	Wholesale stores, discount shops, etc.
6	Specialized shops	Supply shops, hardware shops, furniture shops, etc.
7	Private service providers	Taxi cabs, hotels, restaurants, private schools, private hospitals, etc.
8	Public or semi-public service providers	Water suppliers, electric power companies, public schools, public hospitals, etc.
9	Other kinds of trade	Online (Internet) shopping sites, catalogue orders, etc.



Outlet type and location matrix for price submission

Outlet Type	Outlet Location			
	Capital City	Other urban	Rural	
Large shops				
Medium/small shops				
Markets				
Street outlets				
Bulk and discount shops				
Specialized shops				
Private service providers				
Public or semi public service provider				
Other kinds of trade				
				National annual average price



Summary

- Products will be coded—Important or less Important
- Variability in Basic Heading Product PPPs used to determine number of products to price
 - Use BH shares to determine level of precision
- Both important and less important products will be priced
 - If less important available in outlet sample for important products
- Important/less important designation to be part of data validation



Summary

- **Survey framework includes urban/rural domains and outlet types**
- **Each price observation identified by location and type**
- **Capability to provide breakdown of the national annual average price by outlet type and location**
- **Use Quaranta/Dikhanov analysis to identify products with weak specifications and to verify importance classification**



Level of detail for price recording

Outlet Type	Outlet Location		
	Capital City	Other urban	Rural
Large shops			
Medium/small shops			
Markets			
Street outlets			
Bulk and discount shops			
Specialized shops			
Private service providers			
Public or semi public service provider			
Other kinds of trade			