

Methodological Notes

Compilation of G-20 Consumer Price Index

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1 INTRODUCTION

1. In the aftermath of the 2008 global financial crisis, several data gaps have been recognised. In response, twenty recommendations to address the data gaps and improve statistical information were agreed upon by the G-20 Finance Ministers and Central Bank Governors: the so-called G-20 Data Gaps Initiative (DGI). Progress on the recommendations is coordinated and monitored by the Inter-Agency Group on Economic and Financial Statistics (IAG). The group consists of the Bank for International Settlements, the European Central Bank, Eurostat, the International Monetary Fund (chair), the Organisation for Economic Cooperation and Development, the United Nations and the World Bank. Annual progress reports are provided by the Financial Stability Board (FSB) Secretariat and the IMF staff to meetings of the G-20 Finance Ministers and Central Bank Governors. Economic statistics for the G-20 economies (and 10 non-G-20 economies with systemically important financial sectors) are published on a dedicated Principal Global Indicators website: <http://www.principalglobalindicators.org> established by the IAG.

2. One of the goals of the G-20 DGI is the compilation of zone-aggregates for the G-20 as a total. As a first step, quarterly economic growth for the G-20 aggregate has been compiled by the OECD following a methodology agreed by the IAG and is part of the regular OECD quarterly News Release on G-20 GDP growth at around 70 days after the reference quarter.¹

3. The “All items” consumer price index (CPI) is the second candidate for the compilation of zone-aggregates for the G-20 as a total. The objective of this note, as agreed by the IAG, is to provide some in-depth technical information on the compilation of the G-20 CPI (All items) and to highlight comparability issues of CPIs across G-20 economies.² Subsequently, attention will be paid to:

1. Compilation of the CPI All items for the G-20 aggregate:

- Geographical coverage
- Compilation sources
- Revision policy and reliability
- Calculation of CPI All items for the G-20 aggregate
- Preliminary results and data presentation

2. Comparability issues of CPI across G-20 economies:

- Definition
- National CPI versus HICP
- Coverage
- Treatment of housing
- Aggregation

1. <http://www.oecd.org/sdd/statisticsnewsreleases.htm>

2. The technical information herein is based on preliminary results of the G20 CPI (all items) and may be subject to change.

2 COMPILATION OF THE CPI ALL ITEMS G-20 AGGREGATE

2.1 Geographical coverage

4. The G-20 consists of the following economies: Argentina, Australia, Brazil, Canada, People's Republic of China (China), France, Germany, India, Indonesia, Italy, Japan, Republic of Korea (Korea), Mexico, the Russian Federation, Saudi Arabia, South Africa, Turkey, the United Kingdom, the United States, and the European Union. The G-20 CPI aggregate is calculated as a weighted average of the CPIs of the fifteen countries above that are not part of the European Union (that is, the fifteen individual country members of the G-20 other than France, Germany, Italy and the United Kingdom) and the Harmonised Index of Consumer Prices (HICP) for the European Union.

2.2 Compilation sources

5. For the fourteen countries that are not part of the European Union (except Turkey) only a national CPI is available while for the European Union, its Member States and for Turkey Harmonised Indices of Consumer Prices (HICPs) are available.³

6. Given their comparability, HICPs (see § 3.2) are used for the compilation of the G-20 CPI for Turkey as well as for the European Union (including France, Germany, Italy and the United Kingdom), while the national CPIs are used for the other countries.

7. Table 1 shows the official sources of national CPIs and HICPs: National CPIs for the G-20 economies are mainly sourced from National Statistics Offices (NSOs), while HICPs for Turkey and the European Union are directly sourced from Eurostat, which in turn receives the data from the NSOs.

8. The national CPI data are published according to national schedules.⁴ The HICP for the European Union is in general released by the middle of the month following the reference period.⁵

2.3 Revisions policy and reliability

9. National CPI and HICP data of G-20 economies are final at the date of the publication and are usually not revised. Still, HICP data, including back data, are revisable under the terms of an explicit revision policy.⁶

10. However, national CPI and HICP data may be exceptionally revised when major changes in methodology or underlying structural data are implemented. In this respect, it can be noted that the

3 . Note that for the European countries (France, Germany, Italy, and the United Kingdom) both national CPIs and HICPs are available.

4 . The IMF provides the advance CPI release calendar for countries subscribing to the Special Data Dissemination Standard (SDDS) at the following address:
<http://dsbb.imf.org/Pages/SDDS/CustomizedQuery/ByARC.aspx>

5 . Eurostat provides the advance HICP release calendar at the following address:
<http://ec.europa.eu/eurostat/news/release-calendar>

6 . The revision policy of HICP data can be found at the following address:
http://ec.europa.eu/eurostat/cache/metadata/FR/prc_hicp_esms.htm#data_rev1519378975526

weight reference periods of the national indices are subject to change – often referred to as a rebasing – every five years on average in G-20 economies. National providers also typically use this rebasing to introduce methodological changes and/or a new basket of products, and these exceptionally lead to revisions of the respective CPI series (HICPs should not be revised when new baskets are introduced).

11. The OECD publishes the CPI G-20 aggregate each month as part of the OECD CPI News Release following the release of national CPI and HICP data by G-20 economies and Eurostat (expected at the end of each month following the end of the reference period or the early beginning of the following month).⁷ However, some countries' CPI data may not be available at the time of the release. The current period CPI for countries whose CPI is unavailable is imputed using the weighted average of the percentage CPI change of the previous period covering all the members whose CPI are available. The individual imputed values used for calculation of the G-20 aggregate are not published.

12. When it comes to reliability, the primary goal of compiling and publishing G-20 aggregates is the provision of indicators which sufficiently portray the reality of the overall economic development in the G-20 area, in line with the principles of the quality frameworks subscribed by the international and supranational organisations constituting the IAG. This is necessary to ensure that G-20 aggregates are fit for policy use and allow for a comparison with the average for the area under consideration as well as comparing developments across countries. From these goals, it follows that the IAG would want to arrive at the best possible estimates for the G-20 area, using internationally-comparable data from the countries constituting the relevant area.

13. In this context, on November 9, 2016, the Executive Board of the International Monetary Fund (IMF) removed its Declaration of Censure on Argentina⁸, thereby considering, amongst others, that the IPC covering *Gran Buenos Aires* (April 2016=100) is in line with international standards. Following a declaration by the government of Argentina of a state of emergency in the national statistical system (issued at 7 January 2016), Argentina's Instituto Nacional de Estadística y Censos (INDEC) resolved the shortcomings of the CPI measurement, and made important progress on the previously specified actions regarding the improvement of inflation data (procedures for data collection, processing, development and dissemination).

14. On 11 July 2017, the Argentine Authorities started to publish a new national CPI (December 2016 = 100) covering the whole country. This CPI represented an extension of the geographical coverage of the IPC covering *Gran Buenos Aires* (April 2016 = 100), which was already considered in line with international standards. The CPI data covering the whole country, with a start of the series in December 2016, are officially reported data. Given the length of the series, the latter CPI data have been included in the G20 aggregate from January 2018 onwards. The inclusion of the Argentinian CPI in the G-20 aggregate entails a clear break in the series⁹. Given the small weights of Argentina in the G-20 CPI, each 10 percentage points of Argentina's CPI inflation affects G-20 aggregate inflation by about 0.1 percentage point. In January 2018, the inclusion of the Argentinian annual national inflation

7. The advance OECD CPI new release is available on the OECD website at:
<http://www.oecd.org/sdd/statisticsnewsreleases.htm>

8. <https://www.imf.org/en/News/Articles/2016/11/09/PR16497-Argentina-IMF-Executive-Board-Removes-Declaration-of-Censure>

9. Because Argentina is excluded in the G-20 aggregate CPI index series (where 2010=100) from January 1996 to December 2017, monthly inflation rates for the G-20 should not be derived from that series in January 2018; annual inflation rates for the G-20 should not be derived from that series for the full year 2018. Instead, users should use the inflation rates directly calculated by the OECD and shown in the tables thereof.

of 25.0% impacts the G-20 aggregate inflation by about 0.25 percentage point. The G-20 CPI aggregate is estimated, in January 2018, at 2.5% without inclusion of Argentinian CPI. All of this is communicated with appropriate foot-notes to the relevant press releases and the relevant data series in the country page on the Principal Global Indicators (PGI) website.

2.4 Calculation of the CPI All items for the G-20 aggregate

15. The CPI for the G-20 aggregate has been calculated for the headline indicator only (CPI/HICP All items). For reasons of comparability and availability of data, calculation of a G-20 aggregate for CPI Food, CPI Energy, CPI All items less food less energy is currently not feasible.¹⁰

16. The CPI All items for the G-20 aggregate is calculated by aggregating the national CPI/HICP in each period using Household Final Consumption Expenditure (HFCE) and Final Consumption Expenditure of Non-Profits Institutions serving Households (NPISHs) as weights. The relevant country data are converted into a common currency (US dollars) using purchasing power parities (PPP) which are estimates of the rates of currency conversion that eliminate the differences in price levels between countries. The PPPs used in the zone estimates relate to HFCE specifically and are not the same as the PPPs for GDP, which are more commonly available.

17. The weights used to compile the G-20 estimate are updated each year, usually in February. As a result of changes in the underlying national accounts data, the G-20 estimate is subject to revision even though national CPIs/HICPs are rarely revised themselves. The main reason for updating the weights annually as opposed to aggregating with weights from a particular fixed base year is to allow for the changing importance of a country over time. Table 2 shows the weights of each G-20 economy for the years 1995, 2000, 2010, 2015 and 2017 (2017 weights include Argentina and are derived from the year 2016 the last year available at the time of writing for all G-20 economies).

18. The G-20 CPI aggregate is compiled from G-20 national CPIs and HICPs as a chain-linked Laspeyres-type index. Each monthly index during one particular calendar year of the index, say 2012, is re-referenced so that December 2011 = 100 and then aggregated using the weights of the previous year, i.e. 2011 in this example, price-updated to December 2011. This process is repeated each year to form links for each calendar year referenced to December of the previous year. Next, these links are chained together by successive multiplication to create a time series which is then referenced to a common year, currently 2010=100. Since weights are usually available with some time lag (of around one year), G-20 estimates for the latest period continue to use the most recently available weights until new data become available.

2.5 Preliminary results and data presentation

19. CPI All items for the G-20 aggregate have been calculated for August 2013. These first results are shown in the G-20 News Release (date of first publication).

20. Each month, the CPI All items for the G-20 aggregate and the G-20 economies are published in two ways:

- as part of the **OECD CPI Press Release** of the current month, and

10. Available CPI data for food for Brazil, India, and China are not defined according to COICOP classification and are not fully comparable with COICOP 01. CPI data for energy are not currently available for Argentina, Brazil, India, China and Saudi Arabia.

- on the following **websites**:
 - Principal Global indicators website:
<http://www.principalglobalindicators.org>
 - OECD.Stat *Extracts*:
http://stats.oecd.org/Index.aspx?DataSetCode=G-20_PRICES
 - OECD Statistics Directorate webpage:
<http://www.oecd.org/sdd/prices-ppp/>

21. In the news release and in the relevant websites, CPI data for the G-20 aggregate and the G-20 economies are made available in the three following ways:

- **Index** with 2010=100 as index reference year;
- **Annual change**: percentage change on the same period of the previous year (%);
- **Previous period change**: percentage change on the previous period (%).

3 COMPARABILITY ISSUES OF CPI ACROSS G-20 ECONOMIES

22. The scope of this section is on issues affecting the international comparability of the CPI headline indicators across G-20 economies. Subsequently, the following topics will be discussed:

1. Definition
2. National CPI versus HICP
3. Coverage
4. Treatment of housing
5. Aggregation

3.1 Definition

23. All G-20 economies compile a national CPI/HICP that gives a measure of inflation by measuring price changes of a representative basket of goods and services typically purchased by households.

3.2 National CPI versus HICP

24. As mentioned in paragraph 2.2, data used for the compilation of CPI All items for the G-20 aggregate refer to HICPs for the European Union (including France, Germany, Italy, and the United Kingdom) as well as for Turkey, and to the national CPI for the other 14 countries.

25. The preference for the use of the HICP, when available, rather than the national CPI is founded on the fact that Eurostat has developed a harmonised approach and a single set of definitions in order to arrive at comparable measures of inflation in the EU. Given the higher comparability of the

HICPs, the use of HICPs when available is considered appropriate for the compilation of the CPI G-20 aggregate. The availability among G-20 economies is as follows:

- HICPs for the European Union covering all current 28 Member States: data from January 1996 (including HICPs for France, Germany, Italy, and the United Kingdom);
- HICP for Turkey: data from January 1996;
- Experimental HICP for the United States that differs from the US National CPI in two major aspects. The US HICP (i) includes the rural population, and (ii) excludes owner occupied housing.¹¹ However, for reasons of prominence, main uses and timeliness (the US HICP is published with a delay of one or two months with historical data starting in January 1998 only) the use of the US national CPI is preferred in the calculation of the G-20 aggregate.

26. France, Germany, Italy, and Turkey publish both HICPs and national CPIs.¹² The methodology used for the HICPs differs from the methodology used for the compilation of the national CPIs. A comparison of percentage changes in national CPIs and HICPs is shown in the annex (table 3).

27. In general terms, the main methodological differences between the HICP and the national CPIs are as follows:

1. Coverage: Excluded from HICPs are: Narcotics (COICOP / HICP 02.3); Imputed rentals for housing, including rentals of owner-occupiers (04.2); Games of chance (gambling) (09.4.3); FISIM (financial intermediation services indirectly measured) (12.5.2); and part of personal care services n.e.c. (12.1.3) (example: prostitution);
2. Treatment of subsidized healthcare and education: the HICP includes the net price paid by consumers (after reimbursements);
3. Formula used for elementary aggregates: the HICP use is ratios of arithmetic mean prices and/or ratios of geometric means;
4. Geographical and population coverage: the HICP covers all expenditures on the territory of the country concerned, whether made by residents or non-residents (e.g. tourists).

28. Table 4 highlights the main methodological differences between the HICP and the national CPI for individual countries.

3.3 Coverage

29. More generally, a number of dimensions relating to the reference population, and the types of expenditure and transactions covered need to be considered when comparing headline CPIs and HICPs.

11. See “Comparing US and European inflation: the CPI and the HICP” available at the following address: <http://www.bls.gov/opub/mlr/2006/05/art3full.pdf>.

12. Until January 2015, the United Kingdom published a Retail Price Index (RPI) as an official measure of inflation. However, “In accordance with the Statistics and Registration Service Act 2007, the Retail Prices Index and its derivatives have been assessed against the Code of Practice for Official Statistics and found not to meet the required standard for designation as National Statistics. The full assessment report can be found on the UK Statistics Authority website.

3.3.1 Geographical coverage

30. As shown in table 5, the CPI covers only urban areas in two third of the G-20 economies. Restricting collection of prices to urban areas may not be an issue if their movements can be considered representative of price movements in rural areas. In these cases national weights can be applied and the resulting index can be considered as a national CPI covering the whole country. If, however, price movements in urban and rural areas are sufficiently different and price collection is restricted to urban areas owing to resource constraints, then urban weights should be applied and the resulting index must be considered as merely an urban CPI, not a national one.

3.3.2 Socio-economic coverage

31. For CPI purposes, the definition of a household is essentially the same as in the *System of National Accounts (SNA) 2008*, which includes both private households, including those consisting of only one person, and institutional households such as religious orders, residential hospitals, prisons, etc. For many G-20 economies, however, the institutional population and those living in non-private households are excluded from the scope of the CPI, often due to problems related to obtaining data on their consumption patterns. In these economies the indices are restricted to the private household population or a subset of the private household population. On the other hand, the HICP coverage of households includes institutional households.

32. Ideally, the CPI should be designed to be representative for households and not to a specific socio-economic group. However in some G-20 economies such as Brazil, India and Indonesia, households with a low income level are excluded. Japan and Korea exclude households mainly engaged in agriculture, forestry and fishing, and all one-person households. Table 6 provides an overview of the socio-economic coverage.

3.3.3 Items coverage

33. The COICOP classification of consumer expenditures and prices on goods and services by purpose is only strictly applied by Korea and South Africa, while the COICOP/HICP classification (which is the COICOP classification adapted to the needs of the HICP) is used for the European Union and by Turkey. The other G-20 economies use national classifications which in some countries, such as Australia and Japan are consistent with COICOP at the highest level. Table 7 gives an overview of the systems of classification used and highlights the specific exclusions or inclusions by country.

3.4 Treatment of housing

34. As shown in table 8, the cost of housing is a major component of household expenditure. However, the measurement of housing costs is far from straightforward and not consistent. Different approaches to the treatment of owner-occupied housing (OOH), e.g. the (net) acquisition approach, the imputed rents approach or the user cost approach, make the comparability across countries difficult.

35. Table 9 presents how housing is treated in the G-20 economies. All G-20 economies include a measure of rentals for housing. However, decisions on the coverage, the adjustment for quality, the treatment of regulated rents and the design of price surveys in cases where the rental market is small or unregulated, may affect comparability across countries.

36. Eleven countries do not include a measure of OOH. All HICPs currently exclude OOH. Among the 6 countries that include OOH in the CPI, practices on how to deal with OOH vary between countries:

- Australia uses an acquisition approach;
- Canada uses a user cost approach; and
- Japan, Mexico, South Africa, and United States use a rental equivalent approach.

3.5 Aggregation

37. The compilation of a CPI consists of two main stages: 1) the calculation of unweighted price indices (mostly price ratios) for elementary aggregates, and 2) the weighted aggregation of these elementary price indices for higher level aggregates.

38. Three main aggregation methods are used to calculate elementary aggregate indices:

- The ratio of arithmetic mean of prices or **Dutot index**. This is often referred to as the ratio of averages (RA);
- The arithmetic mean of price relatives or **Carli index**. This is often referred to as the average of relatives (AR);
- The geometric mean of the price relative, which is identical to the ratio of the geometric means of prices (GM) or **Jevons index**.

39. The second stage in the compilation process is the aggregation of elementary price indices to higher level indices. This aggregation is typically done using a Laspeyres-type approach. Laspeyres-type indexes include Lowe, Young and (retrospective) Laspeyres indexes.¹³

40. Typical frequencies of updating the weights are either every five years or once a year. In most G-20 economies weights are updated every five years. Either of the above formulas can be chained annually or less frequently reweighted.

41. Table 10 shows information on the methods used for index calculation both for elementary aggregates and higher level aggregation. Methods used for combining prices to give elementary aggregates vary widely among the individual countries of the G-20, the geometric mean (Jevons index) is the method most commonly used (10 countries plus France, Italy and the United Kingdom). All G-20 economies use a Laspeyres-type formula for their published CPIs in one of the aforementioned forms.

13. Further information on aggregation can be found in the CPI Manual and in Armknecht and Silver (2012), *Post-Laspeyres: The Case for a New Formula for Compiling Consumer Price Indexes*, IMF Working paper available at: <http://www.imf.org/external/pubs/ft/wp/2012/wp12105.pdf>.

ANNEXES

Table 1. Compilation sources

Argentina	National CPI	NSO / Instituto Nacional de Estadísticas y Censos.
Australia	National CPI	NSO / Australian Bureau of Statistics.
Brazil	National CPI	NSO / Institute of Geography and Statistics.
Canada	National CPI	NSO / Statistics Canada.
China	National CPI	NSO / National Bureau of Statistics of China.
India	National CPI	NSO / Ministry of Statistics India.
Indonesia	National CPI	Central Bank / Bank of Indonesia.
Japan	National CPI	NSO / Statistics Bureau of Japan.
Korea	National CPI	NSO / Statistics Korea.
Mexico	National CPI	NSO / INEGI.
Russian Federation	National CPI	NSO / Federal State Statistics Service.
Saudi Arabia	National CPI	IMF National source: Central Department of Statistics and Information.
South Africa	National CPI	NSO: Statistics South Africa.
Turkey	HICP	Eurostat; national source: NSO.
United States	National CPI	NSO / Bureau of labour statistics.
European Union (EU 28)	HICP	Eurostat.
<i>France</i>	<i>HICP</i>	<i>Eurostat; national source: NSO.</i>
<i>Germany</i>	<i>HICP</i>	<i>Eurostat; national source: NSO.</i>
<i>Italy</i>	<i>HICP</i>	<i>Eurostat; national source: NSO.</i>
<i>United Kingdom</i>	<i>HICP</i>	<i>Eurostat; national source: NSO.</i>

Table 2. G-20 economies weights
In percentage of the G-20

	1995	2000	2010	2015	2017*
Argentina	0.0%	0.0%	0.0%	0.0%	1.1%
Australia	1.38%	1.40%	1.35%	1.33%	1.27%
Brazil	3.28%	3.39%	3.95%	4.02%	3.72%
Canada	2.28%	2.21%	1.98%	1.83%	1.78%
China	4.57%	5.93%	10.93%	14.85%	15.44%
India	6.16%	6.44%	8.32%	8.98%	9.10%
Indonesia	1.64%	1.85%	2.61%	2.91%	2.93%
Japan	8.70%	7.60%	6.46%	5.91%	5.70%
Korea	2.01%	1.94%	1.90%	1.65%	1.62%
Mexico	3.03%	3.19%	2.67%	2.65%	2.65%
Russian Federation	2.60%	2.30%	4.25%	3.91%	3.62%
Saudi Arabia	0.81%	0.71%	0.99%	1.12%	0.98%
South Africa	0.77%	0.79%	0.88%	0.87%	0.84%
Turkey (HICP)	1.59%	1.63%	1.78%	2.03%	1.98%
United States	31.19%	31.78%	27.61%	26.44%	26.11%
European Union (EU28)	30.01%	28.82%	24.32%	21.48%	21.14%

* derived from the year 2016

Table 3. HICP All items vs. National CPI All items
Percentage change of the same month of the previous year

	France		Germany		Italy		Turkey		United States	
	National CPI	HICP	National CPI	HICP	National CPI	HICP	National CPI	HICP	National CPI	HICP
Jan-11	1.8	2.0	1.7	2.0	2.1	1.9	4.9	4.9	1.6	2.0
Feb-11	1.7	1.8	1.9	2.2	2.4	2.1	4.2	4.1	2.1	2.6
Mar-11	2.0	2.2	2.0	2.3	2.5	2.8	4.0	4.0	2.7	3.3
Apr-11	2.1	2.2	1.9	2.7	2.6	2.9	4.3	4.3	3.2	3.9
May-11	2.0	2.2	2.0	2.4	2.6	3.0	7.2	7.2	3.6	4.4
Jun-11	2.1	2.3	2.1	2.4	2.7	3.0	6.2	6.2	3.6	4.4
Jul-11	1.9	2.1	2.1	2.6	2.7	2.1	6.3	6.3	3.6	4.4
Aug-11	2.2	2.4	2.1	2.5	2.8	2.3	6.7	6.7	3.8	4.5
Sep-11	2.2	2.4	2.4	2.9	3.0	3.6	6.2	6.1	3.9	4.7
Oct-11	2.3	2.5	2.3	2.9	3.4	3.8	7.7	7.6	3.5	4.1
Nov-11	2.5	2.7	2.4	2.8	3.3	3.7	9.5	9.5	3.4	4.0
Dec-11	2.5	2.7	2.0	2.3	3.3	3.7	10.4	10.4	3.0	3.4
Jan-12	2.3	2.6	2.1	2.3	3.2	3.4	10.6	10.6	2.9	3.3
Feb-12	2.3	2.5	2.2	2.5	3.3	3.4	10.4	10.5	2.9	3.2
Mar-12	2.3	2.6	2.2	2.3	3.3	3.8	10.4	10.5	2.7	2.8
Apr-12	2.1	2.4	2.0	2.2	3.3	3.7	11.1	11.3	2.3	2.3
May-12	2.0	2.3	2.0	2.2	3.2	3.5	8.3	8.4	1.7	1.5
Jun-12	1.9	2.3	1.7	2.0	3.3	3.6	8.9	9.0	1.7	1.5
Jul-12	1.9	2.2	1.9	1.9	3.1	3.6	9.1	9.2	1.4	1.4
Aug-12	2.1	2.4	2.2	2.2	3.2	3.3	8.9	8.9	1.7	1.7
Sep-12	1.9	2.2	2.0	2.1	3.2	3.4	9.2	9.2	2.0	2.0
Oct-12	1.9	2.1	2.0	2.1	2.6	2.8	7.8	7.9	2.2	2.2
Nov-12	1.4	1.6	1.9	1.9	2.5	2.6	6.4	6.3	1.8	1.7
Dec-12	1.3	1.5	2.0	2.0	2.3	2.6	6.2	6.1	1.7	1.7
Jan-13	1.2	1.4	1.7	1.9	2.2	2.4	7.3	7.4	1.6	1.5
Feb-13	1.0	1.2	1.5	1.8	1.9	2.0	7.0	7.2	2.0	2.0
Mar-13	1.0	1.1	1.4	1.8	1.6	1.8	7.3	7.5	1.5	1.4
Apr-13	0.7	0.8	1.2	1.1	1.1	1.3	6.1	6.0	1.1	0.8
May-13	0.8	0.9	1.5	1.6	1.1	1.3	6.5	6.3	1.4	1.2
Jun-13	0.9	1.0	1.8	1.9	1.2	1.4	8.3	8.0	1.8	1.7
Jul-13	1.1	1.2	1.9	1.9	1.2	1.2	8.9	8.6	2.0	1.8
Aug-13	0.9	1.0	1.5	1.6	1.2	1.2	8.2	8.0	1.5	..

* For the United Kingdom, the national CPI refers to the Retail Prices Index (RPI)

Table 4. Methodological differences between HICP and national CPI

France	For health, education, and social protection expenditures, the national CPI uses gross prices.
Germany	Traffic taxes, lotteries, and owner-occupied housing are included in the national CPI.
Italy	Games of chance are included in the national CPI. For health, education, and social protection expenditures, the national CPI uses gross prices. Temporary price reductions (i.e. sales) are not taken into account in the national CPI.
Turkey	Games of chance and obligatory earthquake insurance are included in the national CPI.
United States	Owner-occupied housing is included in the national CPI. Rural population is excluded from the National CPI.

Table 5. Geographical coverage

Argentina	..
Australia	Urban areas: the six State capital cities, plus Darwin and Canberra.
Brazil	Urban areas: 9 metropolitan cities, the municipality of Goiânia and the capital city which covers 40% of the urban population and close to 29% of the entire national population.
Canada	Urban and rural areas: in all provinces, Whitehorse and Yellowknife. Families and individuals living in urban and rural private households in Canada.
China	Urban and rural areas: 500 cities and counties of the 31 provinces (autonomous regions and municipalities).
India	Urban areas: selected industrial centers in the country that cover approximately 20% of the total population of India.
Indonesia	Urban areas: 66 cities, 33 provincial capital cities, and 33 other big cities.
Japan	Whole country.
Korea	Urban areas: 38 cities.
Mexico	Urban areas: 46 cities selected to represent small, medium and large cities in all seven regions of the country.
Russian Federation	Urban areas: Prices are recorded in 266 cities covering all of the constituent territories of the Russian Federation.
Saudi Arabia	Urban areas: 16 cities i.e. 13 regional capitals and additional 3 large cities: Riyadh, Jeddah, Makkah, Dammam, Madinah, Abha, Taif, Hafouf, Tabuk, Buraida, Hail, Arar, Sakakah, Al Baha, Jizan and Najran.
South Africa	Whole country: the 9 provinces in South Africa.
Turkey	Whole country.
United States	Urban areas: all urban areas of 2,500 or more population within the 50 states; U.S. territories are not included.
European Union	Whole country of Member States.
<i>France</i>	Whole country: <i>territory of mainland France including the overseas departments (DOM: Guadeloupe, Guyane, Martinique and Réunion). Monaco is not covered by the index.</i>
<i>Germany</i>	Whole country: <i>whole of unified Germany from 1991.</i>
<i>Italy</i>	Whole country: <i>Italian economic territory (San Marino and the Vatican State are not covered by the index).</i>
<i>United Kingdom</i>	Whole country: <i>England, Scotland, Wales and Northern Ireland are covered.</i>

Table 6. Socio-economic coverage

Argentina	..
Australia	Metropolitan private Households only (6 State capital cities plus Canberra and Darwin). However, the expenditure by people who reside in public dwellings (“institutional households”), such as residents of old people’s homes, student hostels, prisons, and hospitals is excluded from the Australian CPI.
Brazil	Households in urban areas with wage-earning heads of household and a household income of 1-40 minimum wages.
Canada	Private Households only. Collective Households, Indian reserves, and officials representing of foreign countries and their families are excluded.
China	Households in urban and rural areas.
India	Industrial Workers of seven sectors: factories, mines, plantations, railways, public motor transport, electricity generation and distribution, and ports and docks.
Indonesia	Households with various income levels: low, middle and high income; pensioners; wage and salary workers types of households.
Japan	Households with two or more persons are included. Households engaged in farming and fishing are excluded. An index covering all households including one-person households is calculated as a supplementary index annually.
Korea	All urban households. Households engaged in farming and fishing are excluded.
Mexico	All types of households living in towns with more than 20,000 inhabitants.
Russian Federation	Only urban households with various income levels.
Saudi Arabia	All households in the territory.
South Africa	All households living in urban areas.
Turkey	Whole households sectors: private and institutional households, residents and non-residents (domestic concept).
United States	All resident households living in urban areas (include about 87% of the total civilian non-institutional population).
European Union	Whole households sectors in the territory of the member state.
<i>France</i>	<i>Whole households sectors: private and institutional households, residents and non-residents (domestic concept).</i>
<i>Germany</i>	
<i>Italy</i>	
<i>United Kingdom</i>	

Table 7. Items coverage

Country	Classification / Consistency with COICOP	Type of prices	Specific exclusion / inclusion*
Argentina	..	..	..
Australia	Australian CPI Commodity Classification (CPICC) including 11 major groups. At the higher level there is a broad correspondence between CPICC and COICOP. CPICC is based on the concept of household utility grouping items together which are substitutable.	Actual transaction prices paid by the consumer including VAT and other taxes and discounts.	Exclusion: expenditure on gambling, income tax, cash gifts, mortgage interest payments, consumer credit charges and expenditure on illegal activities.
Brazil	On the basis of COICOP including 9 major groups. COICOP has not been applied comprehensively.	Actual transaction prices including VAT, other taxes and discounts.	n.a.
Canada	Commodity Classification including 8 major components.	Actual transaction prices including VAT with the exception of owner occupied on a user-cost basis. Unconditional subsidies and discounts are reflected; rebates are considered on a case by case basis.	Exclusion: many public goods and services (e.g. public security), which are paid with funds collected through the tax system. Excludes income taxes, charitable donations, contributions made to pension plans, and consumer savings and investments. Life insurance and health services provided under publicly funded health insurance programs are also excluded.
China	National classification of household expenditures including 8 categories. Revised recently to bring it closer to COICOP.	n.a.	n.a.
India	National classification of expenditures on consumption products defined by the Ministry of Statistics India including 5 consumption groups commonly adopted for working class.	Actual transaction prices paid by the consumer including taxes, discount and rebates.	Exclusion: non-consumption expenditure and expenditure on Capital outlays like income tax and other direct taxes, charities and gifts, interest on debts, repayment of debts, litigation expenses, and life insurance premium.
Indonesia	National classification including 7 major groups.	Actual transaction prices including sales taxes.	Exclusion: income taxes, expenditure on illegal activities, and expenditure on gambling.

* As reported by country

Country	Classification / Consistency with COICOP	Type of prices	Specific exclusion / inclusion*
Japan	National classification including 10 major groups that approximate the Eight Major Groups of the 1993 SNA. Broadly follows COICOP.	Actual transaction prices paid by the consumer including taxes, discount and rebates. Excludes temporary bargain (within a week) prices, prices for installment sales, abnormal prices due to disasters, and prices of second-hand articles.	Exclusion: income taxes, social security payments, savings including deposits, security purchases, and property purchases, remittances, money gifts, religious contributions, and obligation fees.
Korea	COICOP	Actual transaction prices including VAT and other taxes. Exclude abnormal prices such as temporarily irregular prices caused by disaster or similar conditions, discounts due to volume transactions, goods sold on an installment basis and second-hand articles.	Exclusion: interest, damage insurance, contributions and membership fees. Inclusion: rent deposits.
Mexico	National classification of consumption expenditure defined by Banco de México including 8 major groups.	Actual transaction prices including VAT and other direct taxes.	n.a.
Russian Federation	National classification of goods and services including 3 main groups Non consistent with COICOP.	Actual transaction prices incl. VAT & other taxes (excise tax, sales tax, and other indirect taxes).	Exclusion: value of goods and services spent for investment, savings, goods for which there is no real market prices (own consumption of agricultural products produced in private farms), cost for the purchase of works of art, antiques and jewelry (purchased as an investment), payment for materials and labor for construction and repair of residential and ancillary facilities, which are investments in fixed assets, income tax, and contributions to pension funds.
Saudi Arabia	National classification including 8 major groups.	Actual transactions prices.	n.a.
South Africa	COICOP	Actual transaction prices including VAT. Unconditional discounts are reflected.	Exclusion: Income taxes, contributions to pension plans, consumer savings and investments, gambling and expenditure on illegal activities.
Turkey	COICOP / HICP	Actual transaction prices paid by the consumer including taxes, discount and rebates.	The HICPs exclude interest and credit charges. Gambling, lotteries and life insurance are also excluded.

* As reported by country

Country	Classification / Consistency with COICOP	Type of prices	Specific exclusion / inclusion*
United States	The classification of expenditures on consumption products as defined by the US Bureau of Labor Statistics including 8 major groups.	Actual transaction prices including VAT, other taxes, discounts and rebates.	Exclusion: gambling, illegal activities, lotteries and life insurance.
European Union	COICOP / HICP	Actual transaction prices paid by the consumer including taxes, discount and rebates.	The HICPs exclude interest and credit charges. Gambling, lotteries and life insurance are also excluded.
<i>France</i>	<i>COICOP / HICP</i>	<i>Actual transaction prices paid by the consumer including taxes, discount and rebates.</i>	<i>The HICPs exclude interest and credit charges. Gambling, lotteries, and life insurance are also excluded.</i>
<i>Germany</i>			
<i>Italy</i>			
<i>United Kingdom</i>			

* As reported by country

Table 8. Weights of housing in the individual household consumption in 2008

Country	Actual rentals for housing	Imputed rentals for housing	Actual + Imputed rentals for housing
Argentina	..	..	..
Australia	4.0	11.9	15.9
Brazil	..	..	..
Canada	4.7	14.5	19.1
China	..	..	..
India	..	..	..
Indonesia	..	..	..
Japan	4.4	16.3	20.7
Korea	4.7	7.0	11.7
Mexico	4.1	8.3	12.4
Russian Federation	1.1	3.5	4.6
Saudi Arabia	..	..	..
South Africa	..	..	..
Turkey	4.3	12.2	16.5
United States	3.4	12.3	15.7
European Union	2.9	11.6	14.5
<i>France</i>	<i>4.3</i>	<i>14.3</i>	<i>18.6</i>
<i>Germany</i>	<i>6.9</i>	<i>9.4</i>	<i>16.3</i>
<i>Italy</i>	<i>2.2</i>	<i>13.5</i>	<i>15.7</i>
<i>United Kingdom</i>	<i>4.9</i>	<i>11.3</i>	<i>16.2</i>

Source: OECD PPP database, benchmark year 2008, based on relevant National Accounts data.

Table 9. Treatment of housing in the CPI

Country	Treatment of rentals for housing	Treatment of owner-occupied housing (OOH)
Argentina	A measure of rentals for housing is included .	A measure of OOH is not included .
Australia	A measure of rentals for housing is included covering rentals actually paid to private or government landlords, including housing authorities, by tenants or subtenants occupying unfurnished or furnished premises as their main residence.	A measure of OOH is included by using an acquisition approach . OOH costs are represented by the purchase of dwellings (excluding land) and major improvements to existing homes and other costs.
Brazil	A measure of rentals for housing is included .	A measure of OOH is not included .
Canada	A measure of rentals for housing is included . Rents are collected from households as part of the Labor Force Survey. Subsidized dwellings and units used for business purposes are excluded from the rent sample.	A measure of OOH is included by using a user cost approach including mortgage interest cost, replacement cost, property taxes, homeowners' insurance, homeowners' maintenance and repairs, and other owned accommodation expenses.
China	A measure of rentals for housing is included .	A measure of OOH is not included .
India	A measure of rentals for housing is included . The change in rent and related charges, which constitute a single item under housing group, is captured through Repeat House Rent Surveys, which are conducted in the form of six-monthly rounds. The index is calculated once in every six months and is kept constant for the entire six months on account of the tendency of house rent to remain more or less stable over short periods.	A measure of OOH is not included .
Indonesia	A measure of rentals for housing is included .	A measure of OOH is not included .
Japan	A measure of rentals for housing is included . Covers house rent, private including small wooden houses, medium-sized wooden houses, small non-wooden houses and medium-sized non-wooden houses.	A measure of OOH is included by using a rental equivalence approach .
Korea	A measure of rentals for housing is included . Rents are collected from households as part of the LFS (Labor Force Survey).	A measure of OOH is not included . OOH is provided as a complementary index.
Mexico	A measure of rentals for housing is included . Covers housing costs as a benefit received at work, rentals of dwellings and lands.	A measure of OOH is included by using a rental equivalence approach .
Russian Federation	A measure of rentals for housing is included . All types of dwellings.	A measure of OOH is not included . Only changes in the maintenance expenses of apartment owners are included.
Saudi Arabia	A measure of rentals for housing is included . Covers rent of flat and villa. Data collected every 6 months.	A measure of OOH is not included .
South Africa	A measure of rentals for housing is included . Covers houses, townhouses and flats. Includes additional services such as water and electricity included in the rent. The collection is carried out on a quarterly basis.	A measure of OOH is included by using a rental equivalence approach . Covers houses, townhouses and flats.

Country	Treatment of rentals for housing	Treatment of owner-occupied housing (OOH)
Turkey	A measure of rentals for housing is included . Refers to all rentals actually paid by tenants, i.e. the rentals the tenant pays to the landlord regardless of any social benefits the tenant receives from public authorities (including payments which at the tenant's discretion go directly to the landlord).	A measure of OOH is not included .
United States	A measure of rentals for housing is included . Covers rents of primary residence.	A measure of OOH is included by using a rental equivalence approach (rental equivalence of primary residence).
European Union	A measure of rentals for housing is included . Refers to all rentals actually paid by tenants, i.e. the rentals the tenant pays to the landlord regardless of any social benefits the tenant receives from public authorities (including payments which at the tenant's discretion go directly to the landlord).	A measure of OOH is not included .
<i>France</i>		
<i>Italy</i>		
<i>Germany</i>		
<i>United Kingdom</i>		

Table 10. Aggregation

Country	Elementary aggregates*	Index formula	Sources of weights	Approximate frequency of weights updating
Argentina	..	..	Household Expenditure Survey	..
Australia	Predominantly the geometric mean of the price relatives (Jevons Index) and exceptionally, for example in education, the ratio of arithmetic mean of prices (Dutot index).	Lowe formula	Household Expenditure Survey	6 years
Brazil	Dutot at product level and Jevons at sub-group level.	Lowe formula	Consumer Expenditure Survey	Not defined Last update 2002-2003
Canada	Predominantly the geometric mean of price relatives (Jevons Index) and, in a few cases, a unit value index.	Lowe formula	Survey of Household Spending	2 years
China	Not available	The index is Laspeyres-type annually chained using small adjustments to weights between major 5-yearly reweighting.	Urban and Rural Household Survey	5 years
European Union	The Euro area is treated as a single entity to which data for the other EU countries is then added.	Annual chain-linked Laspeyres-type formula	The weight of a country is derived from its household final monetary consumption expenditure (HFMCE) expressed in either in euro (for the euro area countries) or purchasing power standards (for the EU Member States not in the euro area). In the EU HICP aggregates the euro area is treated as a single entity to which data for the other countries is added.	Annual

* At this level of aggregation, data on expenditures or quantities are typically unavailable and the index formula is unweighted. The aggregation is generally for the prices of a relatively homogeneous product across different outlets, though in some cases it may be for a product within a region or type of outlet. For example, elementary aggregates for Japan's CPI are compiled for products within municipalities.

Country	Elementary aggregates*	Index formula	Sources of weights	Approximate frequency of weights updating
France	<i>Geometric mean of the price relatives (Jevons Index) for heterogeneous elementary aggregates and Ratio of arithmetic mean of prices (Dutot index) for homogeneous elementary aggregates.</i>	<i>Laspeyres-type formula</i>	<i>Household Final Consumption Expenditure as derived from NA</i>	<i>Annual</i>
Germany	<i>Ratio of arithmetic mean of prices (Dutot index)</i>	<i>Laspeyres-type formula</i>	<i>Household Budget Survey, National Accounts and Tax Statistics</i>	<i>Annual</i>
Italy	<i>Geometric mean of the price relatives (Jevons Index)</i>	<i>Laspeyres-type formula</i>	<i>Household final consumption expenditure as derived from NA</i>	<i>Annual</i>
United Kingdom	<i>Geometric mean of the price relatives (Jevons Index)</i>	<i>Lowe formula</i>	<i>Household final consumption expenditure as derived from NA, except for Air travel, Package Holidays and actual rentals for housing derived from Households Budget Survey</i>	<i>Annual</i>
India	Average of ratios of price relatives (Carli)	Laspeyres-type formula	Consumer Expenditure Survey data (2004-05)	7 years
Indonesia	Un-weighted arithmetic mean of price relatives (Carli index). For some seasonal goods/services, geometric mean of the price relatives (Jevons Index) is used.	Lowe formula	Cost of Living Survey	5-7 years

* At this level of aggregation, data on expenditures or quantities are typically unavailable and the index formula is unweighted. The aggregation is generally for the prices of a relatively homogeneous product across different outlets, though in some cases it may be for a product within a region or type of outlet. For example, elementary aggregates for Japan's CPI are compiled for products within municipalities.

Country	Elementary aggregates	Index formula	Sources of weights	Approximate frequency of weights updating
Japan	Ratio of arithmetic mean of prices (Dutot index)	Laspeyres formula	Average of household living expenditures by municipality	5 years
Korea	Geometric mean of the price relatives (Jevons Index) & Ratio of un-weighted arithmetic mean of prices (Dutot index).	Laspeyres formula	Family Income and Expenditure Survey	5 years
Mexico	Geometric mean of the price relatives (Jevons Index).	Lowe formula	National Survey of Household Income and Expenditures (ENIGH)	Currently 2008 however ENIGH 2008 only covered a three month period between August and November of 2008
Russian Federation	Weighted geometric mean of the price relatives (Jevons Index).	Lowe formula	Household Budget Survey	Annual
Saudi Arabia	Un-weighted arithmetic mean of price relatives (Carli index).	Laspeyres-type formula	Household Expenditure and Income Survey	14 years
South Africa	Un-weighted geometric mean of the price relatives (Jevons Index).	Young index in which the elementary price indices are averaged using expenditure survey-period weights.	Income and Expenditure Survey	5 years
Turkey	Geometric mean of the price relatives (Jevons Index).	Young index in which the elementary price indices are averaged using expenditure survey-periods.	Household Budget Survey	Annual, but average of latest 3 years used.
United States	Geometric mean of the price relatives (Jevons Index) and in few cases, an arithmetic mean of price relatives (Carli index), though both benefit from weighting using the sampling frame of the strata and are respectively estimators of weighted geometric and Laspeyres indexes.	Lowe formula	Consumer Expenditure Survey	2 years but average of latest 2 years used.

* At this level of aggregation, data on expenditures or quantities are typically unavailable and the index formula is unweighted. The aggregation is generally for the prices of a relatively homogeneous product across different outlets, though in some cases it may be for a product within a region or type of outlet. For example, elementary aggregates for Japan's CPI are compiled for products within municipalities.