



PPP Time Series Data
EXPENDITURES, DEFLATORS, CPIs,
POPULATION & MARKET XRs

6th Meeting of the ICP Inter-Agency Coordination Group
September 25-26, 2018
Washington, DC

Assessment of “PPP Time Series” data

PPP TIME SERIES (2011-2017)

- Fill gap between ICP benchmarks (2011 and 2017)
- Data requirements (time series): expenditures, deflators, CPIs, population and market exchange rates
- Task Force 01 (PPP Computation) will build the PPP time series for the interim period
- Biannual submission of data requirements agreed at the 2nd IACG meeting
- *Task Team* on Data Quality Assurance for the PPP Time Series –
UNSD + IMF + WB ICP GIU + WB WDI

Assessment of “PPP Time Series” data

STATUS OF SUBMISSIONS (AS OF SEPTEMBER 2018)

- All six regions (AFR, ASI, CIS, EUO, LAC, WAS) have reported or provided updated extrapolation data
- Not all regions sent PPP time series data over the summer; and some regions only submitted data for a subset of countries

DATE OF LATEST EXTRAPOLATION DATA SUBMISSION (AS OF SEPTEMBER 2018)

| AFR | ASI | CIS | EUO | LAC | WAS |
|-----------|-----------|-----------|-----------|-----------|-----------|
| Aug. 2018 | Mar. 2018 | Jul. 2018 | Aug. 2018 | Aug. 2018 | Aug. 2018 |

Time Series Data: Reporting Responsibility

| Region | ICP 2017 Participation | Time Series Data | Notes for “Time Series Data” Column |
|--------------------|------------------------|------------------|---|
| Africa | 50 ¹ | 50 | -Includes Eritrea, Somalia, South Sudan -Excludes Egypt, Sudan, Morocco |
| Asia & the Pacific | 22 | 22 | |
| CIS | 8 | 8 | -Includes Russia |
| Eurostat-OECD | 51 | 50 | -Includes Colombia, Costa Rica, Georgia and Ukraine -Excludes Russia (reported by CIS) |
| LAC | 37 | 37 | -Excludes Cuba and Venezuela |
| Western Asia | 12 ² | 12 | -Excludes Libya and Iran |

Note: (1) = Includes Egypt, Sudan and Morocco; but excludes Eritrea, Somalia and South Sudan
 (2) = Excludes Iran and Libya



DATA REVIEW: CPIs for PPP TIME SERIES

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Data Availability: Detailed CPIs series

- At the request of ICP Task Force 01 (PPP Compilation and Computation) data submission forms were expanded to allow reporting of more detailed CPI data, i.e. below COICOP-12, but following ICP Classification
- First attempt at compiling and including detailed CPI series – hefty exercise for all involved (countries, RIAs, GIU)
- Only three regions submitted detailed CPI series
 - Differences in classification b/w Eurostat and ICP
 - LAC tied by (informal) data confidentiality agreement?

CPI Series Availability: Headline & COICOP-12

| General CPI | | # of Country Submissions | | | | | |
|-------------------------|------|--------------------------|------|------|------|------|------|
| Region (# of countries) | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| Africa (50) | 45 | 45 | 45 | 45 | 42 | 26 | 11 |
| Asia & the Pacific (22) | 18 | 18 | 18 | 18 | 18 | 16 | 0 |
| CIS (8) | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Eurostat-OECD (50) | 47 | 47 | 47 | 47 | 47 | 47 | 45 |
| Latin America (14) | 13 | 13 | 13 | 13 | 13 | 14 | 13 |
| The Caribbean (23) | 21 | 21 | 21 | 21 | 20 | 20 | 18 |
| Western Asia (12) | 12 | 12 | 12 | 12 | 12 | 12 | 12 |

| COICOP-12 | | # of <u>Complete</u> Country Submissions (all 12 indicators) | | | | | |
|-------------------------|------|--|------|------|------|------|------|
| Region (# of countries) | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| Africa (50) | 40 | 41 | 41 | 41 | 38 | 27 | 13 |
| Asia & the Pacific (22) | 13 | 13 | 15 | 15 | 15 | 14 | 0 |
| CIS (8) | 5 | 5 | 5 | 5 | 6 | 6 | 6 |
| Eurostat-OECD (50) | 45 | 46 | 46 | 46 | 47 | 47 | 45 |
| Latin America (14) | 10 | 10 | 10 | 10 | 9 | 10 | 10 |
| The Caribbean (23) | 12 | 13 | 13 | 14 | 14 | 14 | 13 |
| Western Asia (12) | 11 | 11 | 11 | 11 | 11 | 11 | 11 |

Coverage & Reporting

CPIs SOURCED FROM ICP REGIONS

- Database completeness improving with each submission round, but gaps still remain for headline CPI (few) and COICOP-12 (many)
- CPI weights rarely reported by most regions
- Indices reported using a non-ICP classification (instead of COICOP-12 and ICP Classification)
- Fiscal year data reported (instead of calendar year)

Task Team: Quality & other concerns

CPIs SOURCED FROM ICP REGIONS

- Breaks in series
 - Due to new weights introduced, switch from national CPI classification to COICOP, changes in geographical coverage of CPI, etc.
- Consistency b/w General CPI and COICOP-12
- Geographic coverage of CPI: Urban, National, etc.
 - Does not matter if YoY price movements are the same
 - ‘Urban’ and ‘National’ may refer to expenditures, prices or both
- Other unknown differences across countries
 - Annual index calculation (harmonic mean, arithmetic mean, etc.), index number, sampling differences, geographical, etc. ?
 - Conceptual differences in CPI weights (HES are not harmonized) ?

Task Team checks: ICP Gen vs. WB WDI Gen

Reported general CPI inflation rates: ICP RIAs versus WB WDI

| Country | Year | ICP RIA | WB WDI | Difference |
|----------------------|------|---------|--------|------------|
| Azerbaijan | 2016 | 12.40 | 4.18 | 8.22 |
| Central African Rep. | 2014 | 8.20 | 25.28 | -17.08 |
| Congo, Dem. Rep. | 2012 | 3.70 | 9.72 | -6.02 |
| Comoros | 2012 | 6.30 | 1.77 | 4.53 |
| Comoros | 2015 | 2.20 | -8.12 | 10.32 |
| Cambodia | 2013 | -2.25 | 2.94 | -5.19 |
| Myanmar | 2013 | 8.88 | 5.52 | 3.35 |
| Mongolia | 2013 | 12.48 | 8.60 | 3.88 |
| Mongolia | 2015 | 1.88 | 5.78 | -3.90 |
| Mozambique | 2016 | 19.85 | 9.97 | 9.89 |
| Rwanda | 2012 | 10.27 | 6.27 | 4.00 |
| Sudan (AFR) | 2013 | 36.50 | 29.96 | 6.54 |
| Sudan (WAS) | 2013 | 36.50 | 29.96 | 6.54 |
| Sierra Leone | 2012 | 12.09 | 6.59 | 5.50 |
| Sierra Leone | 2013 | 11.14 | 5.52 | 5.62 |
| El Salvador | 2014 | 5.03 | 1.11 | 3.92 |
| El Salvador | 2015 | 3.13 | -0.73 | 3.86 |
| El Salvador | 2016 | 4.09 | 0.60 | 3.48 |
| Suriname | 2016 | 55.50 | 52.34 | 3.17 |
| Chad | 2012 | 7.51 | 14.02 | -6.51 |

Explanation: The table shows those country series for which the general CPI inflation rate reported by the ICP Regional Implementing Agencies (RIAs) differs, by an absolute difference of 3 percentage points of inflation (or more), from the general CPI inflation rate reported by the World Bank World Development Indicators.

Note: World Bank WDI CPI information is sourced directly from the IMF International Financial Statistics database.

Similar checks for *General CPI* (2011-17) against:

- IMF WEO
- IMF (STA) COICOP-12

Note: only certain years within a series may be different, but still worth checking the entire series (2011-17)

Task Team checks: ICP Gen vs ICP COICOP-12

CPIs submitted by ICP RIAs (based on 2017 submissions)

Counterfactual General CPI (based on COICOP-12) minus Actual General CPI
(% point difference in General CPI inflation, 2005-2016)

Distribution of differences (all countries and years)

Percentiles Smallest

| | | |
|-----|-------|--------|
| 1% | -3.85 | -75.58 |
| 5% | -1.84 | -17.37 |
| 10% | -1.08 | -11.05 |
| 25% | -0.40 | -10.88 |

50% -0.01

Mean -0.11

Largest

| | | |
|-----|------|-------|
| 75% | 0.30 | 10.12 |
| 90% | 0.67 | 12.24 |
| 95% | 1.09 | 34.43 |
| 99% | 3.42 | 48.41 |

Std. Dev. 2.95

Variance 8.73

Skewness -8.36

Kurtosis 400.51

Results in % points of inflation

(+) difference indicates that Counterfactual inflation > Reported inflation

(-) difference indicates that Counterfactual inflation < Reported inflation points

Task Team checks: CPI Availability

- Recall, TF01 needs a complete a database!
- RIA submitted extrapolation data will always be used when possible. However, if issues remain and/or incomplete then alternative sources will be required to augment and/or fill gaps in the database (we will notify you)

| General CPI: | | | | | | | |
|--|------|------|------|------|------|------|------|
| Data Availability by Region and Source | | | | | | | |
| Asia and the Pacific | | | | | | | |
| Number of countries (out of 22) | | | | | | | |
| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| <i>ICP</i> | 17 | 17 | 17 | 18 | 18 | 16 | 0 |
| <i>WDI</i> | 21 | 21 | 21 | 21 | 21 | 21 | 20 |
| <i>IMF_STA</i> | 19 | 19 | 19 | 21 | 21 | 21 | 21 |
| <i>IMF_WEO</i> | 22 | 22 | 22 | 22 | 22 | 22 | 22 |

Note: as of September 2018

Looking ahead

- Please use the submission forms (and do not modify them!)
- If submitted data is being pulled from an internal organizational database and there's API access – let us know (saves us all time)
- Task Team will continue to assess and validate extrapolation database compiled by World Bank ICP GIA
- Hopefully, this can be a two-way process, whereby the Task Team learns from the RIAs; and RIAs used inputs from Task Team to strengthen their understanding of their countries data



THANK YOU