



**Interstate Statistical Committee  
of the Commonwealth of Independent States  
(CIS-Stat)**



# **CIS ICP: 2014 experience and 2017 activities**

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**4<sup>th</sup> ICP IACG Meeting  
World Bank, Washington D.C.  
October 23-25, 2017**



# Outline



- 2014 CIS ICP implementation
- CIS ICP linking to EU/OECD comparison
- 2014 CIS ICP results
- Dissemination and advocacy
- Data access
- Extrapolation issues
- 2017 CIS ICP



## 2014 CIS ICP implementation (1/4)



CIS countries participated in both Global ICP rounds – 2005 and 2011; successful and productive experience.

**CIS Economic Council, December 2013: official intergovernmental decision to carry out the 2014 CIS ICP.**

CIS-Stat – coordinator of the CIS ICP.

Carrying out the 2014 CIS ICP was important for several reasons, the key ones of which are:

- to have PPPs based on a full-fledged survey data, not extrapolated;
- to keep human capacities which had been formed in the CIS NSOs thanks to their participation in previous global rounds.

The World Bank provided an essential support allowing the successful implementation of the 2014 CIS ICP.



## 2014 CIS ICP implementation (2/4)



**2014 CIS ICP items list: 2400 items** (1920 consumer items, 480 M&E).

Based on GCL-2011 and EU/OECD list:

- GCL-2011 items, priced by most CIS countries within the 2011 Global ICP (~20% of the CIS list);
- EU/OECD list (~75% of the CIS list);
- CIS specific items (~5% of the CIS list).



## 2014 CIS ICP implementation (3/4)



	TOTAL	Consumer items		Machinery and equipment
		included in the list	representative items (marked with “*” )	
<b>LIST, number of items</b>	<b>2400</b>	<b>1920</b>	-	<b>480</b>
<i>priced items, % of the LIST:</i>				
<b>Armenia</b>	<b>64%</b>	73%	62%	26%
<b>Azerbaijan</b>	<b>74%</b>	78%	61%	56%
<b>Belarus</b>	<b>71%</b>	75%	58%	55%
<b>Kazakhstan</b>	<b>79%</b>	83%	54%	67%
<b>Kyrgyzstan</b>	<b>53%</b>	60%	44%	28%
<b>Moldova</b>	<b>70%</b>	71%	64%	67%
<b>Russia</b>	<b>75%</b>	76%	63%	72%
<b>Tajikistan</b>	<b>63%</b>	65%	52%	56%



## 2014 CIS ICP implementation (4/4)

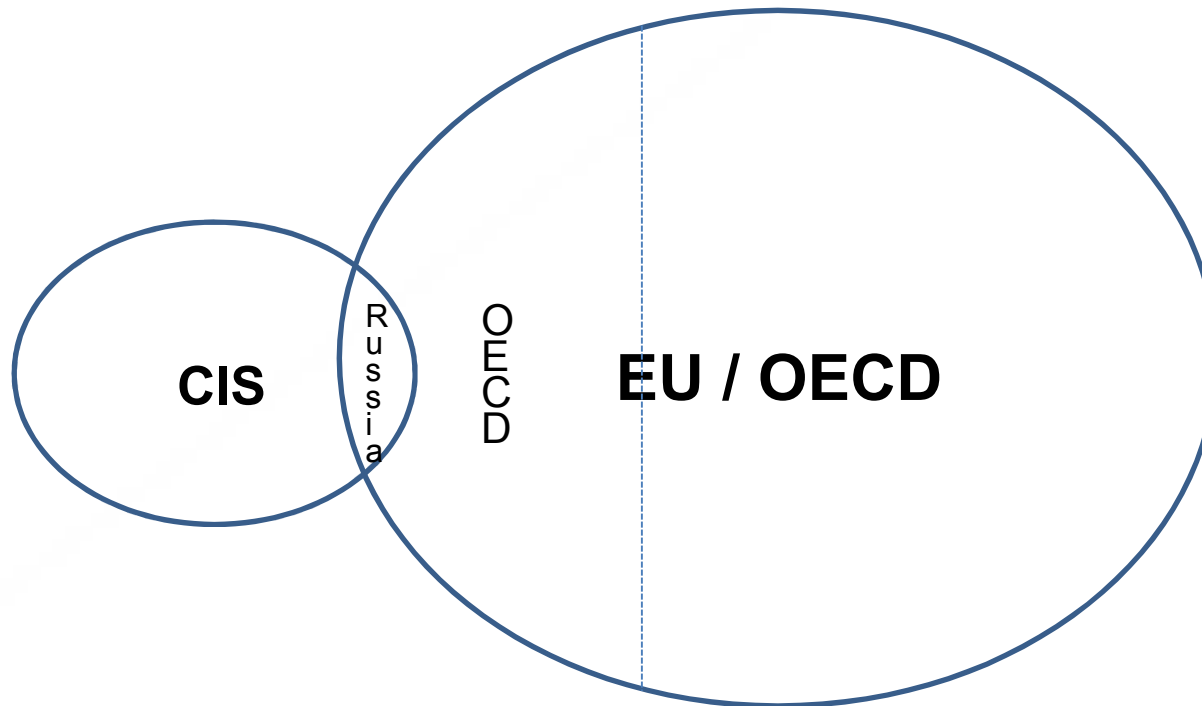


Important features of the CIS ICP results:

- 1) The numeraire currency in the CIS ICP is RUB – the CIS countries get PPPs of their National Currencies towards RUB;
- 2) Russia participates in both CIS ICP and OECD comparison and needs its PPPs towards USD, gotten from the OECD comparison, to stay strictly fixed;
- 3) CIS countries are highly interested in getting **PPPs of National Currencies towards USD** and/or euro – **wider area for comparative analysis**;
- 4) CIS countries are highly interested in getting PPPs towards USD based on a **multilateral comparison** approach;
- 5) According to the EU/OECD rules, there is no option to include CIS countries (except Russia) into the EU/OECD comparison at the items level.



## 2014 CIS–EU/OECD linking (1/4)



Russia's regular participation in two comparisons ("CIS" and "EU/OECD") allows to link the other CIS countries to the UE/OECD comparison in order to get CIS countries' PPPs towards USD (EUR).



## 2014 CIS–EU/OECD linking (2/4)



**Direct Linear Recalculation** – a simple procedure, applied within 2005 and 2011 rounds for linking the CIS ICP to the EU/OECD comparison.

PPPs for each CIS country's National Currency ( $NC_{CIS}$ ) towards the OECD dollar ( $\$_{OECD}$ ) were calculated using Russia's results from both comparisons:

$$PPP(NC_{CIS} / \$_{OECD}) = PPP(NC_{CIS} / RUB) * PPP(RUB / \$_{OECD})$$

(+) ensuring the strict fixity of Russia's results gotten from the OECD comparison, nominated in USD

(-) contradiction with the key idea of multilateral comparison – 'direct comparison of each country with any other country'

(-) **any specific feature of one (bridge) country's statistics fully affects the other CIS countries' results** while recalculating them into the EU/OECD terms





## 2014 CIS–EU/OECD linking (3/4)



**Partially-Multilateral Comparison (PMC)** – new, two-stage procedure, applied for linking the 2014 CIS ICP results to the EU/OECD comparison.

First stage – **simple linear recalculation** for BH PPPs.

Second stage – all steps performed in full compliance with the concept of **multilateral comparison**:

- the EKS method is used for the combined set of BH (CIS and EU/OECD) – to compute intermediate aggregated PPPs of each CIS and EU/OECD country's currency towards the dollar;
- one part of the obtained results (for EU/OECD participating countries including Russia) are brought back to the values obtained within the initial EU/OECD comparison (i.e. are strictly fixed), and another part of the values (for CIS countries) are modified proportionally.

So, PPPs are scaled to the level of EU/OECD=1, and PPPs for EU/OECD countries are replaced back with the PPPs from the initial EU/OECD comparison. Scaling does not change the inter-country ratios – this is only another form of a (more neutral) presentation.



## 2014 CIS–EU/OECD linking (4/4)



The Partially-Multilateral Comparison procedure allowed to meet key points mentioned above:

- the results for Russia, nominated in USD(PPP), stay fixed;
- CIS countries get results nominated in USD(PPP) and a much wider area for the comparative analysis;
- results for the CIS countries are based on multilateral concept procedures;
- the EU/OECD rules, limiting the linking at the items level, are fully respected.

A detailed description of the PMC approach is available at the CIS-Stat web-site:  
paper “Purchasing Power Parities: developing methods and computations practices in 2014 CIS ICP”



## 2014 CIS ICP results



Ranking of CIS countries by GDP(PPP) per capita did not change while moving from 2014 CIS ICP interim regional results to 2014 CIS–EU/OECD results.

But, even if it would change, one should bear in mind:

The multilateral comparison (even a “partially” one) is methodologically much more sound than the linear recalculation;

**Shouldn't the results (including countries' ranking), based on partially-multilateral comparison, be considered as more correct in any case?**

In order to avoid any ambiguity of results:

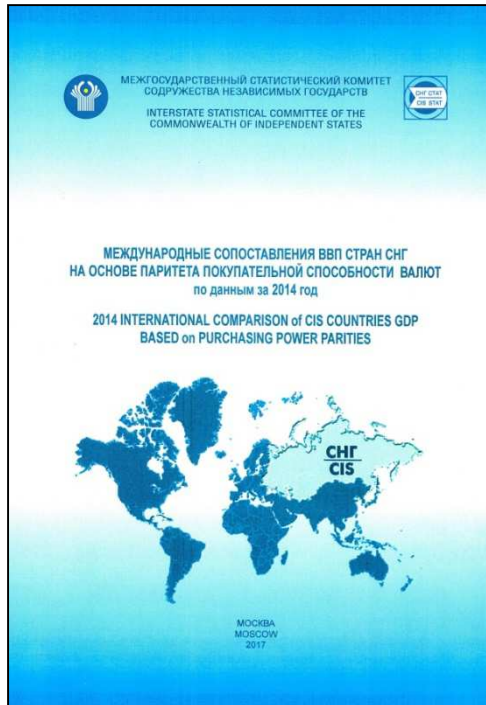
the **officially published results** of 2014 CIS ICP

are only those **based on PPPs of national currencies towards USD**, gotten from CIS–EU/OECD linking.

CIS-Stat highly appreciates the constructive cooperation granted by the OECD and Eurostat which allowed to make the new step.



## Dissemination and Advocacy (1/3)



2014 CIS ICP results publication:

### **“2014 INTERNATIONAL COMPARISON of CIS COUNTRIES GDP BASED on PURCHASING POWER PARITIES”**

bi-lingual (Russian / English)

print version available at:

<http://www.cisstat.org/icp/2014%20CIS%20ICP%20Statistical%20Abstract.pdf>

Excel tables available at:

<http://www.cisstat.org/icp/>

These PPPs, nominated in USD, are official data for the CIS countries.

**We kindly ask the IMF and the WB to include these data officially into:**

World Economic Outlook Database

WB data publications



## Dissemination and Advocacy (2/3)



CIS-Stat: ICP web-site (since 2005) presenting various ICP aspects in Russian and broad links to key international resources.

Программа междунао: x  
www.cisstat.com/icp/

**ПМС**  
Программа международных сопоставлений ВВП  
на основе паритета покупательной способности валют

**Международные сопоставления в регионе СНГ**

[Паритет покупательной способности валют](#)

[Участие региона СНГ в международных сопоставлениях ВВП на основе паритета покупательной способности валют](#)

[План мероприятий по проведению сопоставлений стран СНГ по данным за 2017 год](#)

[Итоги международных сопоставлений ВВП стран СНГ по данным за 2014 год](#)

[Итоги международных сопоставлений ВВП с на основе ППС по данным за 2011 год](#)

[Итоги международных сопоставлений ВВП с на основе ППС по данным за 2005 год](#)

**Методологические материалы**

[Региона СНГ](#)

[Международных организаций](#)

**Статьи и публикации**

**Семинары и совещания**

[Региона СНГ](#)

**Международные сопоставления в регионе СНГ**

Программа международных сопоставлений (ПМС) валового внутреннего продукта на основе паритета покупательной способности (ППС) валют – крупнейший статистический проект, охватывающий все регионы мира.

Современная история международных сопоставлений ВВП на основе паритетов покупательной способности валют насчитывает полвека. Ее основателями считаются ученые Пенсильванского университета. Разработка теоретических подходов к международным сопоставлениям на основе паритета покупательной способности валют послужила основой для первого в истории проекта, осуществленного совместно с ООН – международных сопоставлений 1968 г.

Осуществление международных сопоставлений под эгидой ООН получило название Программы международных сопоставлений (ПМС) ООН. При этом последовательно шло развитие методологии, система расчетов ППС опирается на серьезные математические построения.

В первом проекте сопоставлений 1968 г. приняли участие 10 стран. В дальнейшем эта работа постоянно расширялась. ПМС постепенно охватывала страны мира, с разной скоростью укрепляясь в различных регионах. В объединенной группе стран ОЭСР и ЕС эта работа давно проводится на регулярной основе. Сегодня список участников сопоставлений ОЭСР – Евростата включает, помимо членов этих международных организаций, другие страны Европы, а также Россию (с 1996 г.).

По решению Статистической комиссии ООН, первый всемирный цикл (раунд) сопоставлений состоялся по данным за 2005 г. и получил название Глобального раунда сопоставлений 2005 (ПМС 2005). В нем приняли участие 145 стран и территорий, в которых проживает 95% населения. Второй Глобальный цикл (раунд) состоялся по данным за 2011 г. (ПМС 2011), в нем приняли участие 199 стран и территорий.

Регион СНГ принимает участие в циклах ПМС начиная с 2005 года.

Решение о проведении третьего глобального цикла сопоставлений по данным за 2017 год (ПМС 2017) принято на 47-й сессии Статистической комиссии ООН в марте 2016 г.

**Организация Объединенных Наций (United Nations)**

**THE WORLD BANK**  
Всемирный банк (World Bank)

**Стамбулском СНГ (CIS)**

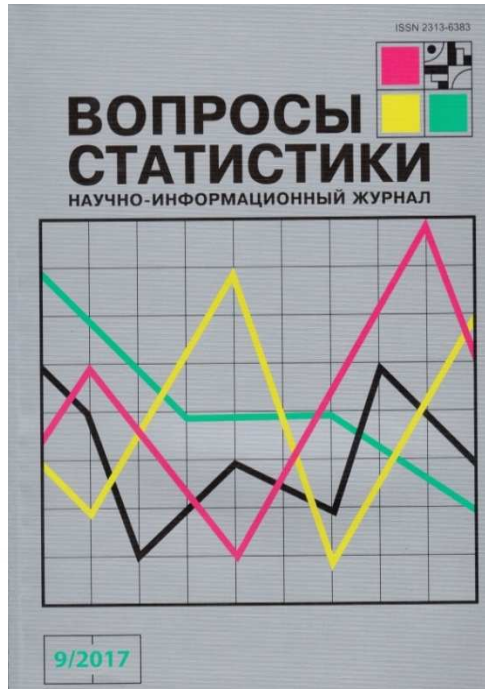
**AFRICAN DEVELOPMENT BANK GROUP**

17:48  
28.09.2017

<http://www.cisstat.org/icp/>



## Dissemination and Advocacy (3/3)



### “Voprosy Statistiki”

statistical monthly journal (since 1919)

<http://voprstat.elpub.ru/jour>

# 9 / 2017 :

“Purchasing Power Parities: developing methods and computations practices in 2014 CIS ICP”

*A.E.Kosarev, S.M.Sergeev*



## Data Access



The official CIS-Stat publication “2014 International Comparison of CIS Countries GDP Based on Purchasing Power Parities” is quite detailed.

For different levels of granularity – GDP, GDP main aggregates, several groups, several classes, several categories – the data include:

- nominal expenditures in national currencies and USD(XR);

- nominal expenditures per capita and USD(XR);

- PPPs;

- real expenditures in USD(PPP);

- real expenditures per capita in USD(PPP);

- volume indices of real expenditures per capita;

- price level indices.

All tables are available in Excel format at the CIS-Stat web-site.





## Extrapolation issues



We support the WB efforts in PPPs extrapolation. In accordance with the WB requests we submit CPIs, GDP growth rates, GDP deflators, GDP expenditures, deflators and growth rates for GDP main aggregates, population data, exchange rates.

CIS-Stat's data base – data since 1993 is updated annually.

Approach to the PPPs extrapolation: **'Top – Down'** vs. **'Bottom – Up'** ?

No conflict contradiction, but different pros & cons, depending on practical statistics.

**'Top – Down'** approach: well grounded. The GDP data integrate all economic factors. Extrapolation estimates for detailed PPPs should be developed further.

**'Bottom – Up'** approach: more detailed basis, but quality of necessary input data should be checked and proved.

Most CIS **countries do not produce deflators for detailed ICP positions** (groups, classes, categories, BH). If produced – quality of detailed positions' deflators?





## 2017 CIS ICP (1/10)



March 2016: 47<sup>th</sup> session of UN Statistical Commission decision on 2017 ICP cycle.

**October 2016: CIS Council of Heads of Governments recommended to all CIS countries to participate in the 2017 Global ICP.**

January 2017: CIS-Stat adopted the 2017 CIS ICP Activities Plan.

**Most CIS countries prefer to stay with the 3 years cycle comparison.**

The rolling benchmark year approach requires having good price indices (deflators) for detailed ICP positions, BHs. Each country has to assess:

- are all such deflators being produced by the NSO?
- if not – how much would it cost to produce necessary deflators?
- if yes – is the quality of these deflators exhaustive for the ICP purposes?
- how much would it cost to improve the quality if needed?

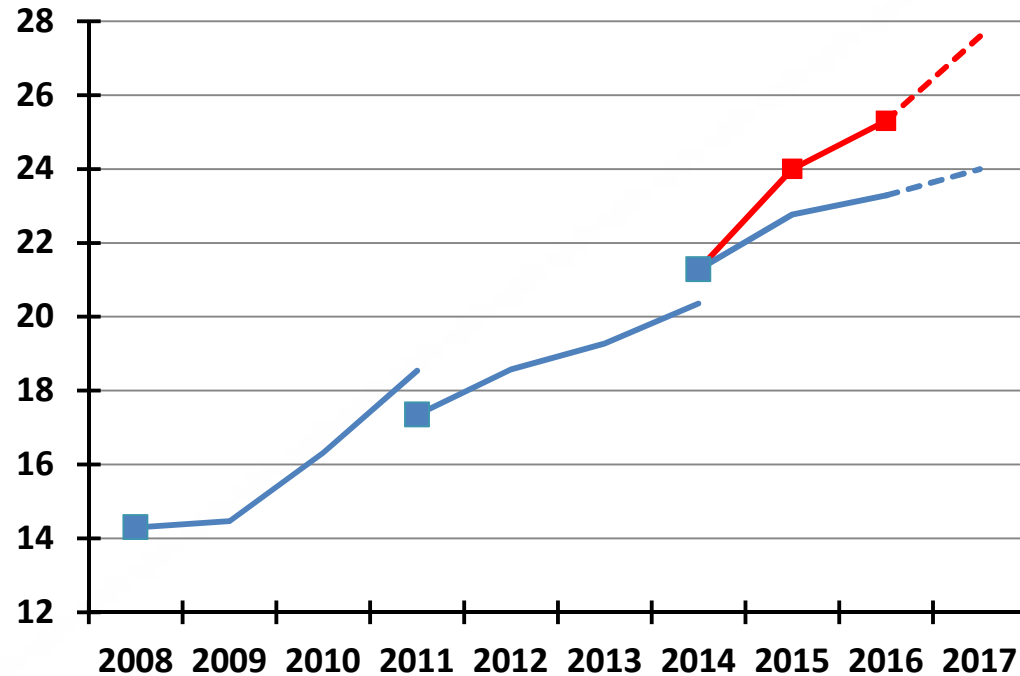
No grounded answers up to now.



## 2017 CIS ICP (2/10)



PPP (RUB/USD)



- 1-(rolling)-year comparison
- 'GDP deflator' extrapolation
- 3-years-cycle comparison

3-years-cycle based on a full list survey within one year: **extrapolation** estimates based on **GDP deflators are very close to full-survey results.**

1-(rolling)-year: results differ substantially from the 'GDP deflator' extrapolation.

**Some detailed positions' deflators, used within the rolling benchmark year approach, are not of the best quality ?**



## 2017 CIS ICP (3/10)



**Experts meetings**, one of key forms of coordination in the region:

**April 2017** (Moscow) – **consumer items list** – survey guidelines, coordination of data collection, time schedule

**December 2017** (Moscow) – **machinery and equipment** – items' specifications, data collected, Quaranta tables, data validation

**April 2018** (Minsk) – **NA** methodological issues, update of GDP classification for 2017 ICP

**June 2018** (T.B.D.) – **consumer items** – data collected, Quaranta tables, data validation

**November 2018** (T.B.D.) – **price statistics** development following 2017 ICP requirements

**April 2019** (T.B.D.) – **GDP classification** for 2017 ICP, draft PPPs computations



## 2017 CIS ICP (4/10)



CIS consumer items list agreed at the CIS experts meeting, April 2017.

### List composition

number of items

	Total CIS	including:			
		Global Core List	OECD		CIS n.i.e.
			GCL	non- GCL	
Consumer items	2135	631	371	1439	65
Machinery and equipment	566	195	105	371	0
<b>TOTAL</b>	<b>2701</b>	<b>826</b>	476	<b>1810</b>	<b>65</b>
	100,0%	30,6%	-	67,0%	2,4%



## 2017 CIS ICP (5/10)



### **Data collection**

Each CIS country collects data in the capital city and in the regions.

Survey frequencies vary depending on the items and national statistics' experience: monthly, quarterly, annually.

Time schedule:

### **Household consumption**

Data collection: Q2–Q4/2017

Data validation: Q1–Q4/2018

### **Machinery and equipment**

Data collection: Q3–Q4/2017

Data validation: Q4/2017, Q1–Q3/2018



# 2017 CIS ICP (6/10)



## **Construction**

Data collection: Q3–Q4/2017

Data validation: 2018, Q1–Q2/2019

## **Housing**

Data collection: 2018 (for 2017)

Data validation: Q1–Q3/2019 (for 2017)

## **Government compensation**

Data collection: 2018 (for 2017)

Data validation: Q1–Q3/2019 (for 2017)

## **GDP expenditures**

Update of GDP classification: 2018

Disaggregation of GDP by expenditures: Q1–Q2/2019

Validation of GDP expenditures: Q2–Q3/2019



### **2017 CIS ICP additional data quality checking**

Data checking procedure based on Q2/2017 data.

All standard aspects: exhaustiveness and correctness of filling in the questionnaires (type of outlet, units, accuracy of figures etc.).

Analysis of quarterly price data submitted by NSOs – similar to further analysis of annual price data.

Quaranta Tables using 2014 expenditures.

All participating CIS countries (except one) express high interest in getting results of this additional data quality checking.

This data checking procedure represents a strong additional argument proving the data quality for all countries having presented data for it. It also makes further annual computations much more efficient.



## 2017 CIS ICP (8/10)



### PPPs computations

Raw computation of M&E PPPs, based on 2014 expenditures – Q4/2017

Raw computation of consumer PPPs, based on 2014 expenditures – Q2/2018

Improvement computations of raw PPPs (checking and improving data quality) – 2018

Preliminary computation of PPPs, based on 2017 expenditures – Q2/2019

Improvement computations of preliminary PPPs (checking and improving data quality), based on 2017 expenditures – Q2–Q3/2019

Final computation – October–November 2019

First brief release of results – **December 2019**

Detailed publication – **March–June 2020**





## 2017 CIS ICP (9/10)



### **Perspective topics for the CIS ICP:**

- ICP – CPI integration;
- Sub-national PPPs.



## 2017 CIS ICP (10/10)



### **Risks and mitigation efforts:**

- Alternation of generations of ICP experts in some countries. CIS-Stat provides an additional support to NSOs which have faced this problem;
- Two countries haven't yet confirmed their participation officially. CIS-Stat develops contacts at the expert level: provides them with all ICP operational materials (guidelines, items lists, specifications, questionnaires etc.) and ensures their participation in the regional experts' meetings;
- Funding issues. The WB support would be of crucial importance.



***Thank you***