

Elaboration of methodological principles and tools for analyzing the indicators of education statistics of the BRICS countries

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The basis for the comparison of data is the UOE* experience

*UOE – abbreviation of three organizations: UNESCO, OECD, Eurostat

The experience of that international organization (UOE) in combination with the goals and objectives of BRICS countries educational systems would allow to work out a version of the international data base that will fully (or to the high extent) correspond to the bases of the other leading international organizations.



- Children who do not attend school;
- Registered schoolchildren & students;
- Coverage of different groups of pupils;
- 4) Level of attendance;
- 5) Duration of schooling;
- 6) Progressivity in education;
- 7) Completion of education levels;
- 8) Literacy;
- 9) International student mobility;
- 10) Staff;
- 11) Financial resources;
- 12) Education system.



- Accessibility of education and results
- Effects of education for the economy and labor market
- Financial investments in education
- 4) Staff
- 5) Examination of adult skills.

eurostat

- The level of involvement in the learning process,
- 2) Mobility of students,
- 3) Personnel in education,
- 4) Financing of education,
- 5) Graduates,
- 6) Languages of instruction.

Principle scheme of the BRICS database comparison



PRINCIPLES FOR DATA COLLECTION AND REPORTING *

- Principle 1 Relevance, impartiality and equal access.
- Principle 2 Professionalism.
- Principle 3 Accountability.
- Principle 4 Prevention of Abuse.
- Principle 5 Economic efficiency.
- Principle 6 Confidentiality.
- Principle 7 Publicity.

Principle 8 - National coordination and coordination between statistical agencies within countries.

- Principle 9 International coordination.
- Principle 10 International statistical cooperation.

Determination of the composition of comparable information

Three approaches to the formation of the indicators system:

- 1) The combined principle of indicator system forming is based on comparing the indicators of the BRICS countries educational systems with the identification of common and most relevant indicators for each country.
- Basing on the indicators of leading international organizations, UNESCO, OECD and Eurostat (the most suitable database OECD)
- Basing on indicators calculated by the UNESCO organization. The database of this organization has a socio-humanitarian focus.

INFORMATION SOURCES

The collection of statistics on education, carried out in accordance with ISCED, can be based on various sources:

- ✓ administrative documents;
- ✓ individual surveys;
- \checkmark household survey;
- ✓ aggregate of macroeconomic statistics

The initial unit of the ISCED classification is the national (and sub-national) educational program and the relevant recognized educational qualifications.

DATA COLLECTION PARAMETERS

1. Accounting period for indicators

Year		2016								2017														
Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Brazil																								
Russia, China																								
India																								
South Africa																								

2. Form for presenting statistical indicators

BRICS Programmer de	escription				
Schee	dule	Data			
Transmission date	Submission date	Sours of data	Methodology	Data frequency	Contact
Month, year	Month, year	Statistic report	Manual	Annually	E-mail

THE SYSTEM OF KEY STATISTICAL INDICATORS

CUMULATIVE GROSS GRADUATION RATE												
DEFINITION	CALCULATION METHOD	LIMITATION										
Total number of graduates at the specified level of education divided by the population at the typical graduation age from the specified ISCED level. The data allow to assess the level of population education in general	CGGR = NG ISCED0/P ISCED0 + NG ISCED1/P ISCED1 + NG ISCED2/P ISCED2 + + NG ISCED6/P ISCED6	The age of the BRICS countries graduates should be reduced to the average interval										
where: NG ISCEDn - number of graduates at the specified level of education P ISCEDn - population at the typical graduation age from the specified ISCED level												
CUMUI	LATIVE NET ENROLMENT RATE											
DEFINITION	CALCULATION METHOD	LIMITATION										
Number of students in the theoretical age group for a given level of education enrolled in that level	$CNER = \sum (NS ISCEDn/P ISCEDn) * 100$	If students take courses in multiple academic institutions simultaneously the indicator may include a double count										

where:

NS ISCEDn - number of students in the theoretical age group for a given level of education P ISCEDn - population at the typical graduation age from the specified ISCED level

CUMULATIVE GROSS ENROLMENT RATE												
DEFINITION	CALCULATION METHOD	LIMITATION										
Total enrolment for a given level of education. Total number of students enrolled in a given level of education, regardless of age divided by the	$CGER = \sum (TNS ISCEDn/P ISCEDn) * 100$	Can exceed 100% due to the inclusion of over-aged and under- aged students because of early or late entrants, and grade repetition.										
where: TNS ISCEDn – total number of students at the s P ISCEDn - population at the typical graduation	specified ISCED level age from the specified ISCED level											

CUMULATIVE ENTRY RATE											
DEFINITION	CALCULATION METHOD	LIMITATION									
Complementary indicator that shows total number of new entrants to a given level of education, regardless of age, expressed as a percentage of the population of theoretical entrance age to this level. The value will be calculated separately for each level of education	$CER = \sum (TNE ISCEDn/P ISCEDn) $ * 100	The age of the BRICS countries entrants should be reduced to the average interval									

where:

TNE ISCEDn - общее число впервые поступивших на данную ступень образования по классификации MCKO P ISCEDn - population at the typical graduation age from the specified ISCED level

GOVERNMENT EXPENDITURE ON EDUCATION AS % OF GDP												
DEFINITION	CALCULATION METHOD	LIMITATION										
The indicator provides information on the total financing of the education system	GEE = (GE / GDP) * 100	-										
where: GE - total government expenditure for a given level of education GDP - Gross domestic product												
GOVERNMENT EXPENDITURE PER STUDENT AS % OF GDP PER CAPITA												
DEFINITION	CALCULATION METHOD	LIMITATION										
The indicator shows the relative value of education expenditure in BRICS countries	GEPS = (AGEPS /GDP per capita)	-										
where: AGEPS - Average total general government exp GDP per capita - Gross domestic product per ca	enditure per student pita											
MI	EAN YEARS OF SCHOOLING											
DEFINITION	CALCULATION METHOD	LIMITATION										
Average number of completed years of education of a country's population aged 25 years and older	MYS=∑nSPn*ADEn	Based on HDI methodology										
where: SPn – share of the population aged 25 for which	level n is the highest level of education	received										

SPn – share of the population aged 25 for which level n is the highest level of education rec ADEn – average duration of education from the specified ISCED level

PUPIL-TEACHER RATIO											
DEFINITION	CALCULATION METHOD	LIMITATION									
Average number of pupils per teacher at a given level of education	$PTR = \sum(NP ISCEDn / NP ISCEDn)$	The indicator does not cover the extracurricular work									
where: NP ISCEDn - number of pupils at the specified ISCED level NT ISCEDn - number of teachers at the specified ISCED level in the context of full rates of work											

STANDARD FORM OF FINANCIAL INDICATORS PROVISION

	GOVERNMENT E EDUCATION	XPENDITURE ON AS % OF GDP	GOVERNMENT EXPENDITURE PER STUDENT AS % OF GDP PER CAPITA					
FINANCIAL	GE	GDP	AGEPS	GDP per capita				
INDICATORS								

STANDARD FORM OF STATISTICAL INDICATORS PROVISION

Coun	try																		
Orga	nization:																		
Acade	emic year:																		
	Cumulative gross graduation rate		Cumulative gross Cumulative net graduation rate enrolment rate			net rate	Cumulative gross enrolment rate			Cumulative entry rate			Pup	il-teache	r ratio	Mean years of schooling			
ISCED level	Age range	NG ISCE Dn	P ISCE Dn	CGG R	NS ISCE Dn	P ISCE Dn	CNE R	TNS ISCE Dn	P ISCE Dn	CGE R	TNE ISCE Dn	P ISCE Dn	CER	NP ISCE Dn	NT ISCE Dn	PTR	SPn	ADEn	MYS
0	before 6																		
1	6 - 11																		
2	11 - 15																		
3	15 - 18																		
4	15-18																		
5	18-22																		
6	18-22																		
7	22-24																		
8	24-27																		
Count	try indicator																		