Interpreting trends and measuring progress in Education

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Outline of presentations

- Domains of measuring progress
- Indicators
- An overview of data sources and guidelines of measurement
- Example of statistical analysis
- Conclusion

Domains of measuring progress

- Supply side status
  - Schools – infrastructure, material resources
  - Schools – human resources
- Demand side status
  - Children and their schooling
- Performance status
  - Pupils and their performance
  - Teachers and their performance
  - Other staff and their performance
- Governance side
  - Education systems and finances
  - National and international policies
  - Social norms and environment
    ↳ Only have closer look at Demand side

Goals and Initiatives

- Millennium Development Goals (MDG)
- Education For All (EFA)
- Out Of School Children Initiatives (OOSCI)

- Guidelines:
  - UIS guidelines
  - SABER Initiatives
  - Conceptual and Methodological Framework on OOSC

MDG goals

- Goal 2: Achieve universal primary education
  - Target 2.A: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling
    - 2.1 Net enrolment ratio in primary education
    - 2.2 Proportion of pupils starting grade 1 who reach last grade of primary
    - 2.3 Literacy rate of 15-24 year-olds, women and men

Millennium Development Goals

- Goal 3: Promote gender equality and empower women
  - Target 3.A: Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015
    - 3.1 Ratios of girls to boys in primary, secondary and tertiary education
      - 3.2 Share of women in wage employment in the non-agricultural sector
      - 3.3 Proportion of seats held by women in national parliament

Education For All

- Expand early childhood care and education
- Provide free and compulsory primary education for all
- Promote learning and life skills for young people and adults
- Increase adult literacy by fifty per cent
- Achieve gender parity by 2005, gender equality by 2015
- Improve the quality of education

Out Of School Children Initiatives

- NAR – Net Attendance Rate
- ANAR – Adjusted Net Attendance Rate
- In School – Children attending lower grades and not included else where
- GAR – Gross Attendance Rate
- Survival Rate
- And many others

Five Dimensions of Exclusion

- CONCEPTUAL AND METHODOLOGICAL FRAMEWORK (CMF)
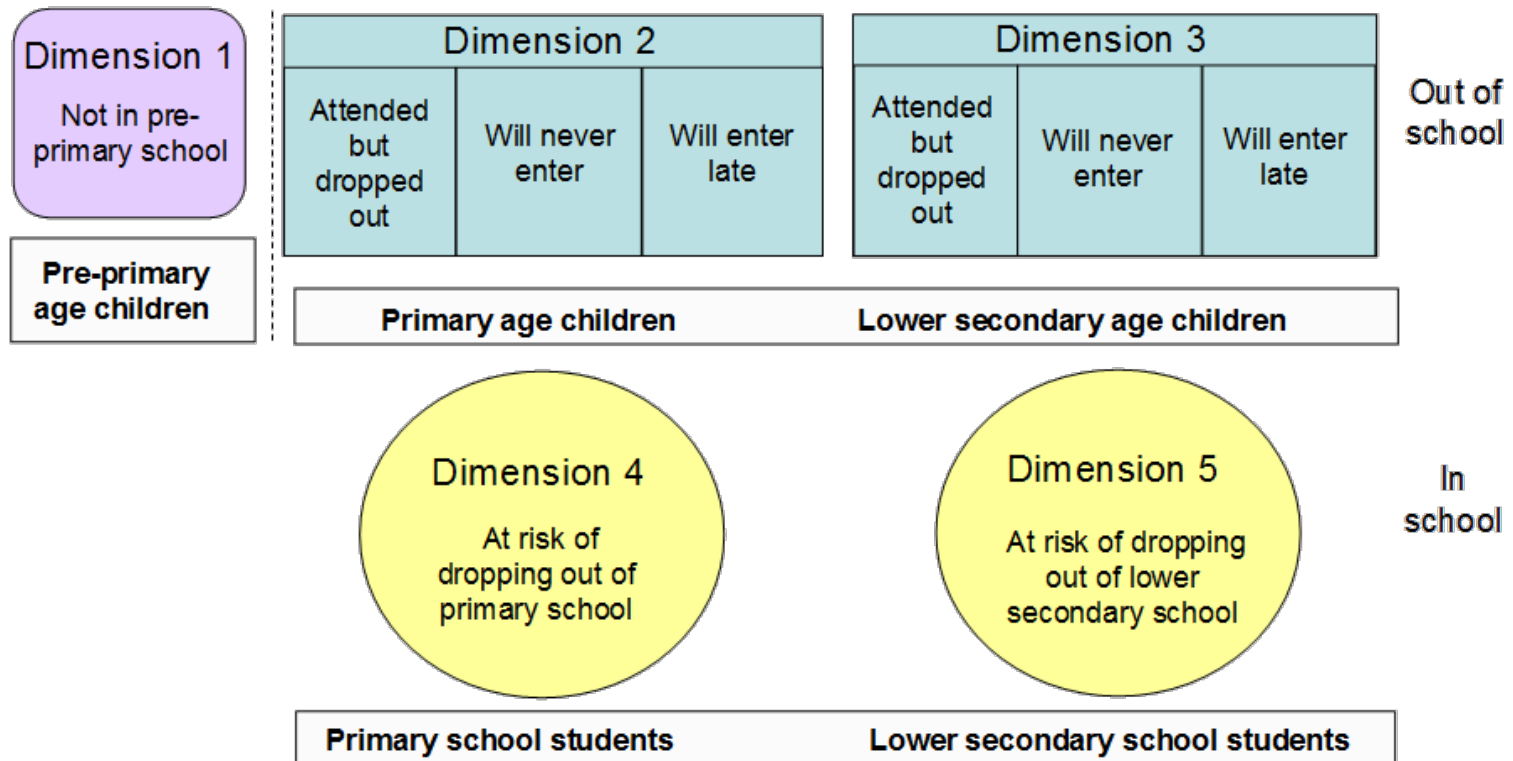
Statistics Required

- On demand side (child/youth status):
  - Current year schooling status
  - Previous years schooling status
  - Performance level in school

↳ Current and Previous year schooling status

Data Sources:
Well Established Surveys

- Census
- Demographic Health Survey (DHS)
- Multiple Indicator Cluster Survey (MICS)
- Socio-Economic Survey (SES)
- Living Standard Measurement Survey (LSMS)
- Labour Force/Child Labour Survey (LFS)

Characteristics:

- Large scale household surveys / census
- Generally conducted by National Statistics Offices
- Can be difficult to accommodate more education related questions
- Unit of analysis: Person and Household

Data Sources:
Specific Surveys

- WASH survey
- Other achievement survey

Characteristics:

- Small scale establishment surveys, possibly school based
- Administered usually by consultancy firms under the guidance of organisations
- Unit of analysis: student, school

Data Sources:
Administrative Records

- **Education Management Information Systems (EMIS)**

Characteristics:
- Small/large scale surveys/census
- Managed usually by relevant ministries (can be more than one)
- Data collection procedures and items vary
- Unit of analysis : Person, school, locality

Data Sources Examined

- Following micro data have been analysed as OOSCI
  - Timor Leste DHS 2010 and EMIS
  - Cambodia Socio-Economic Survey (CSES) and DHS
  - Vietnam Household Living Standard Survey (VHLSS) 2008 and Census 2009 and EMIS
  - Thailand MICS 2005 and Thailand Child and Youth Survey (CYS) 2008
  - Survey on Barriers to Education in Solomon Islands 2010
  - Mongolia MICS 2010 and Mongolia School Survey 2011
  - Indonesian Household Income and Expenditure Survey (SUSENAS) 2011
  - Indonesian Community Based Census (CBEIS) 2011
  - Laos DHS 2006 and EMIS
  - Philippines Annual Poverty Indicatory Survey (APIS) 2008 – secondary data only

Dimension 1, 2 and 3

- ## Pre-Primary School Age Children
  - Pre-primary and primary school attendance rate
  - Percentage of Out of School Children

- ## Primary School Age Children
  - Adjusted Net Attendance Rate (ANAR)
  - Percentage of Out of School Children

- ## Lower Secondary School Age Children
  - Adjusted Net Attendance Rate (ANAR)
  - Lower Secondary School Age Children Attending Primary School
  - Percentage of Out of School Children

Dimension 4 and 5 and other

- Attendance Status of School Age Children (Age 5 - 17)
- Children Who Never Attended School
- Dropout Children
- Repetition
- Over-Age
- Children in Labour

Reasons for being Out of School ?

Levels of Aggregation

- ## Main Aggregation Levels
  - Age
  - Male and Female
  - Urban and Rural
  - Region or Province

- ## Other Aggregation Levels
  - Ethnic Groups
  - Religion
  - Language
  - Nationality
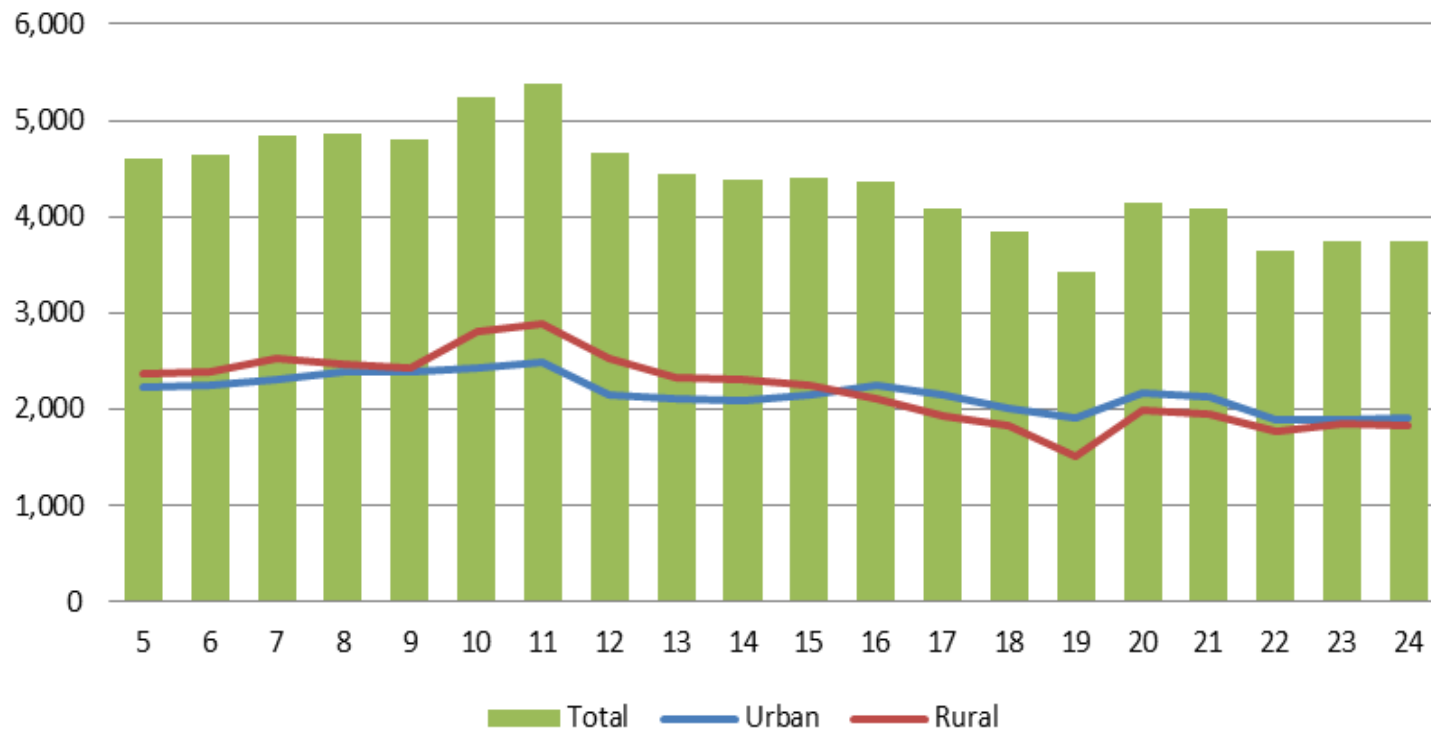 - Disability
  - Wealth Index

Examples of Statistical Analysis

All analysis were produced based on following micro data
- Timor Leste DHS 2010
- Cambodia Socio-Economic Survey 2009
- Vietnam Population Census 2009 (15% micro data)
- Thailand Child and Youth Survey (CYS) 2008
- Indonesian Household Income and Expenditure Survey (SUSENAS) 2011

Age specific population:
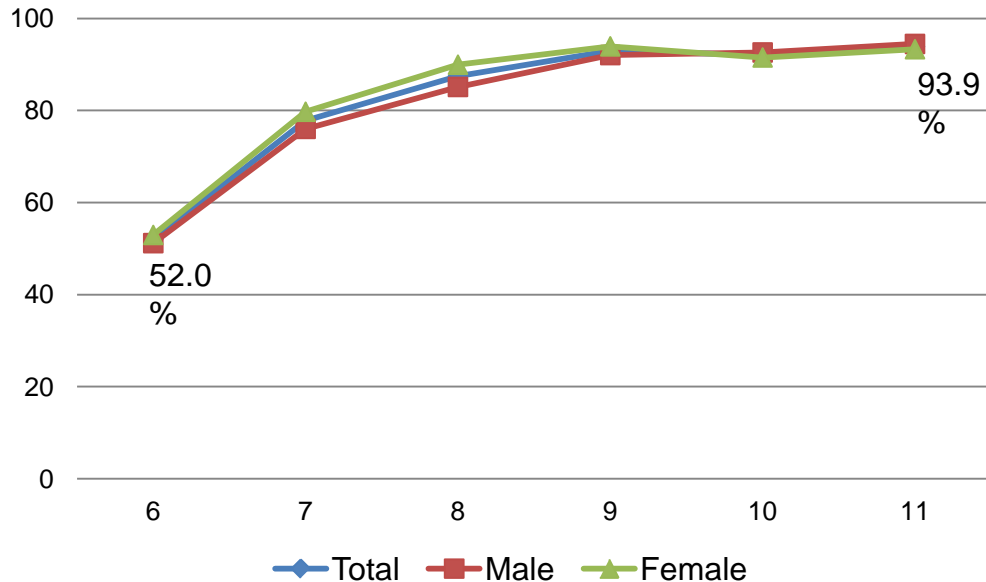## Indonesia (Susenas 2011)

Population in thousands

OOSC Aged 5:
Vietnam (Census)
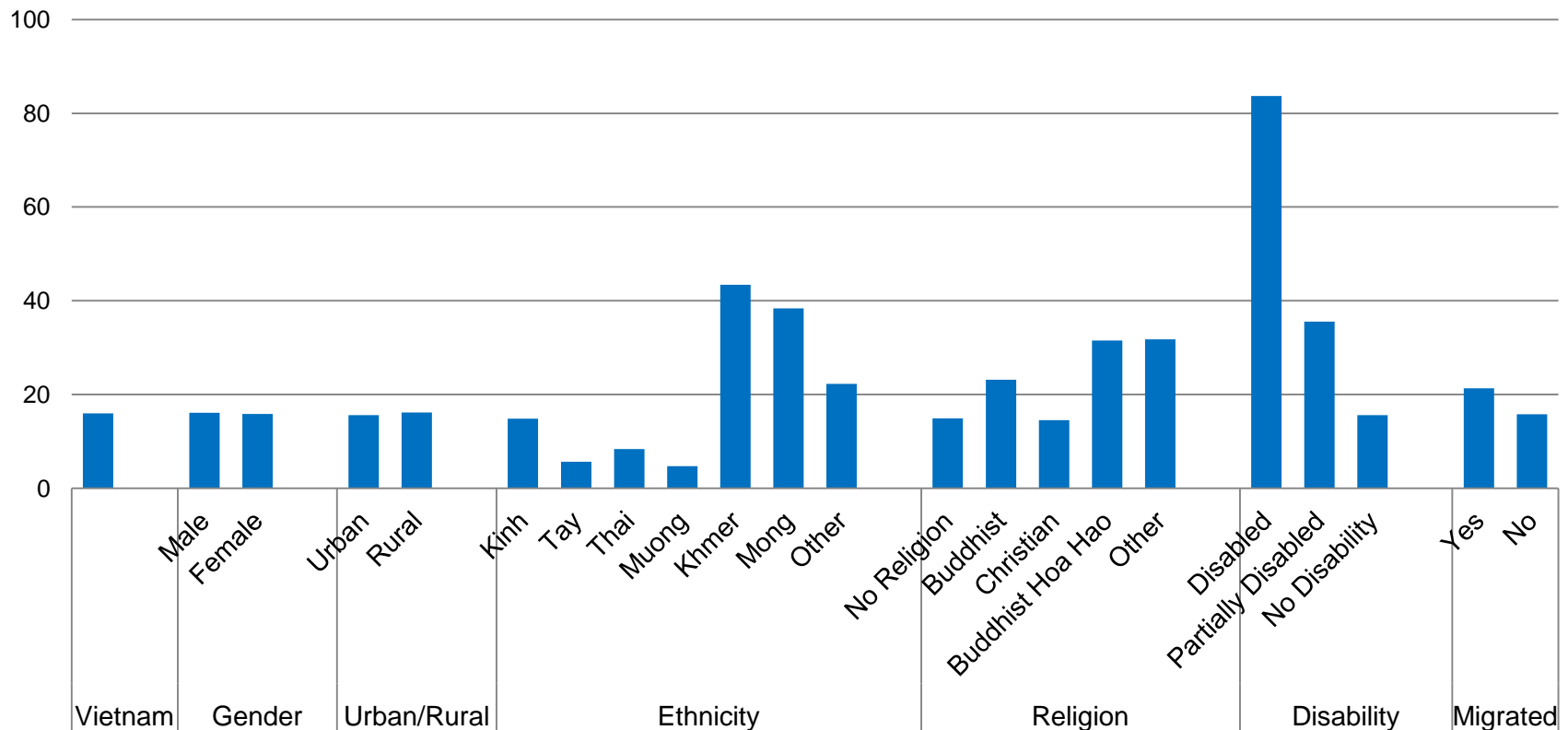
- ## Disaggregation:
  - Gender, Urban/rural, Ethnicity, Religion, Disability, and Migration
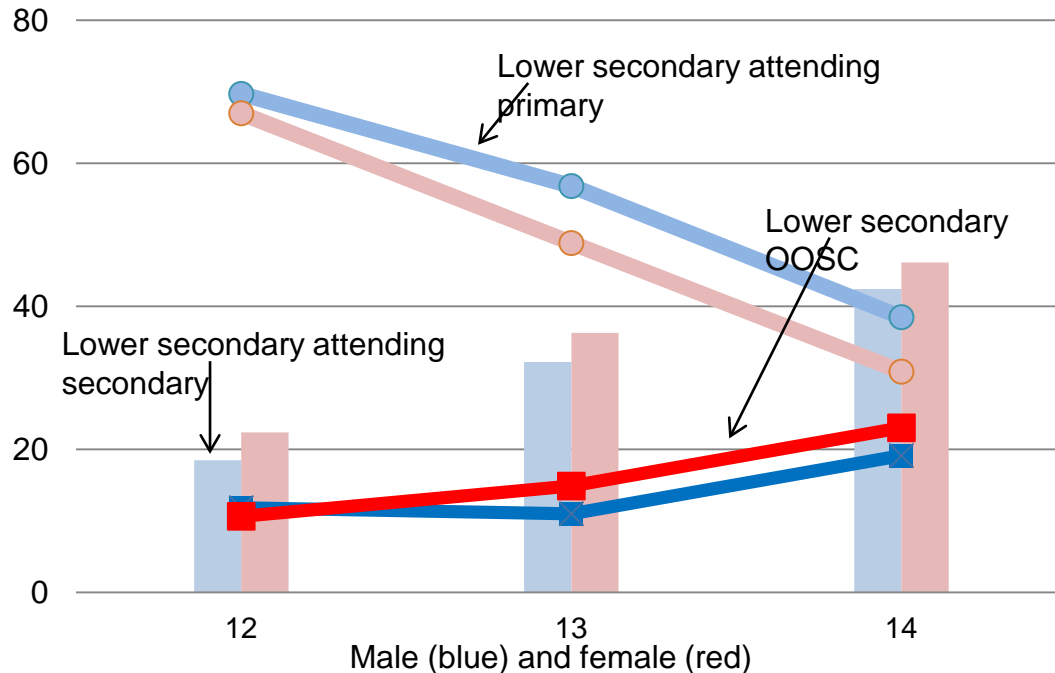
Primary ANAR:
Cambodia

- Children start schooling late
- 82.6% of primary school age children attend schools
- OOSC rate: 17.4%. OOSC number: 320,773
- Large gap between urban and rural areas
- Slight gender disparity

	Male		Female		Total		GPI
	ANAR	N	ANAR	N	ANAR	N	
6	51.2	167,461	53.0	149,558	52.0	317,020	1.03
7	76.0	155,676	79.7	143,517	77.8	299,193	1.05
8	85.1	149,109	90.0	143,668	87.5	292,777	1.06
9	92.0	161,133	93.9	160,321	93.0	321,454	1.02
10	92.6	164,364	91.5	152,771	92.1	317,135	0.99
11	94.5	148,209	93.3	146,636	93.9	294,845	0.99
Total	81.6	945,951	83.7	896,472	82.6	1,842,423	1.03
Urban	87.4	149,635	91.2	137,425	89.2	287,060	1.04
Rural	80.5	796,316	82.3	759,048	81.4	1,555,363	1.02

GPI > 1.03 (pink), the percentage of girls is higher than that of boys. GPI < 0.97 (blue), the percentage of girls is lower than that of boys.

Lower Secondary OOSC:
Cambodia

Chart labels:
- Lower secondary attending primary
- Lower secondary OOSC
- Lower secondary attending secondary
- Male (blue) and female (red)

- OOSC Rate: 15.1%. OOSC number: 144,894
- Significant gender disparity: although girls make better progress into secondary school, they are more likely than boys to leave school early
- Chance of being out of school in rural areas almost double of that in urban areas

	Male		Female		Total		GPI
	OOSC	N	OOSC	N	OOSC	N	
12	11.8	18,430	10.6	15,854	11.2	34,285	0.90
13	11.0	19,346	14.9	23,599	12.8	42,945	1.35
14	19.1	32,461	23.0	35,203	21.0	67,664	1.20
Total	14.0	70,238	16.2	74,656	15.1	144,894	1.16
Urban	6.3	5,431	12.7	9,260	9.2	14,691	2.02
Rural	15.6	64,807	16.9	65,396	16.2	130,203	1.08

Number of OOSC:
Cambodia

	Out of School Children		
	Male	**Female**	**Total**
Dimension 2			
Primary School Age (6 - 11)	174,452	146,320	320,773
Dimension 3			
Lower Secondary School Age (12 - 14)	70,238	74,656	144,894
Total	244,691	220,976	465,667

Close to half million 6-14 years old children are out of school in Cambodia.

Lower Secondary OOSC Rate in Provinces:
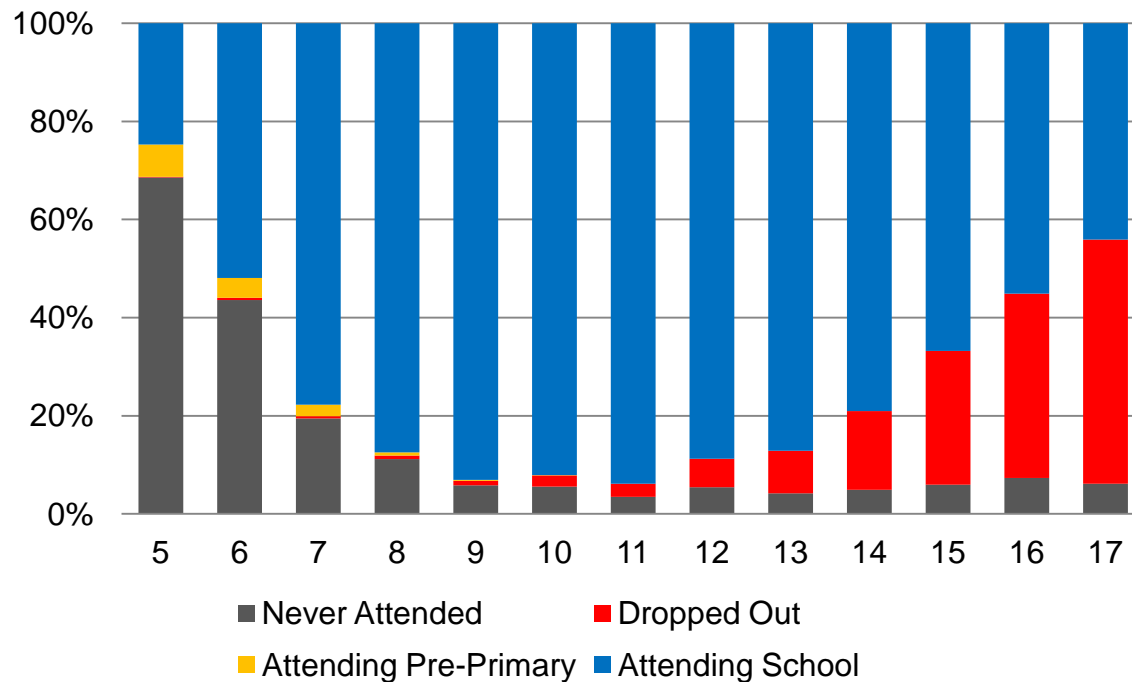## Cambodia
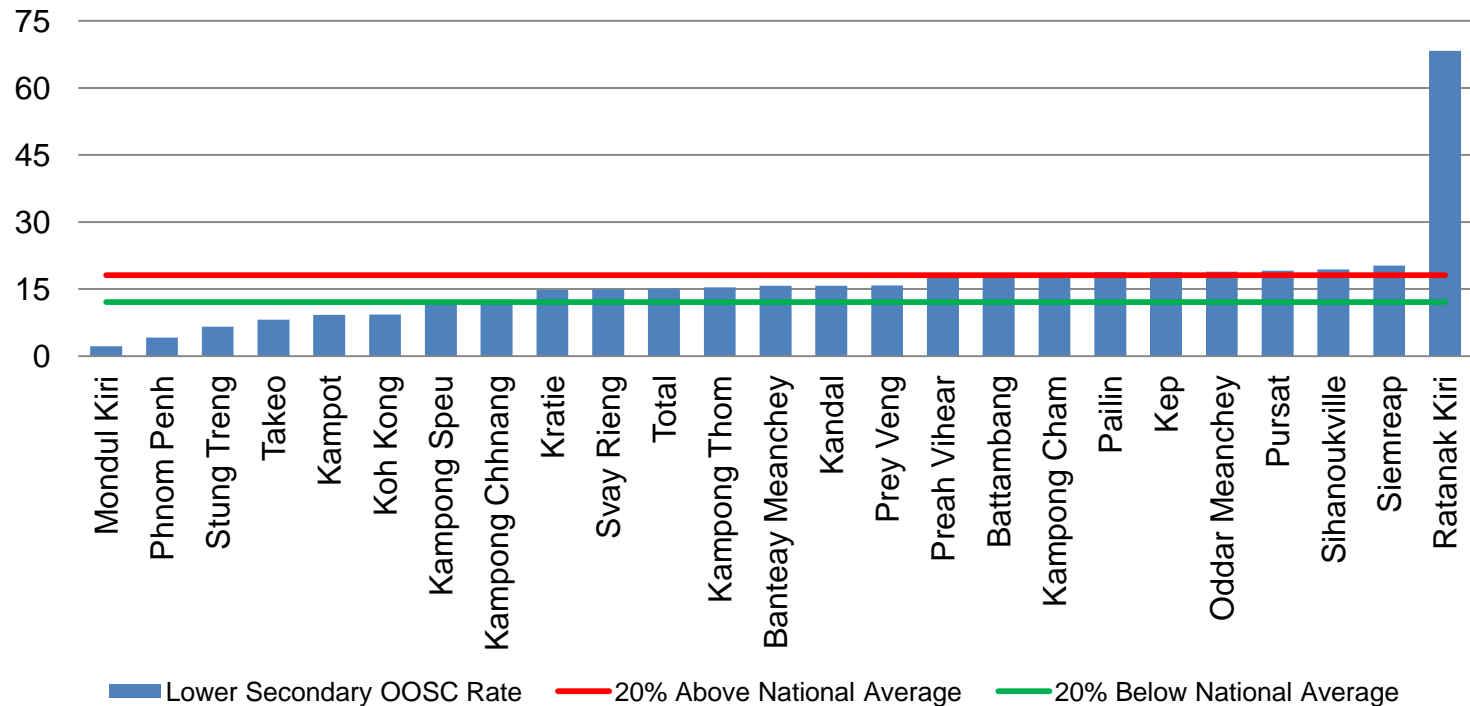
Mondul Kiri and Ratanaka Kiri: high Indigenous population provinces.

Both with very low ANAR but at the opposite end of OOSC rate spectrum.

Reason: children in Mondul Kiri attend schools, albeit majority of them at primary grades, whereas in Ratanaka Kiri, children simply do not attend schools.

Attendance Status of School Age Children:
Cambodia

Aged 9 – 17:

- 5% never attended schools.

- Number of Never Attended children in this age range: 157,834.

|	5	6	7	8	9	10	11	12	13	14	15	16	17
Never Attended	68.5	43.6	19.4	11.2	5.8	5.5	3.5	5.4	4.2	4.9	5.9	7.3	6.0
Dropped Out	0.1	0.5	0.4	0.7	0.9	2.3	2.6	5.8	8.7	16.1	27.3	37.4	49.0
Attending Pre-Primary	6.6	4.0	2.4	0.6	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Attending School	24.7	51.9	77.7	87.5	93.0	92.1	93.9	88.8	87.2	79.0	66.7	55.0	43.4

Percentage of Never Attended Children by Ethnicity:
Cambodia
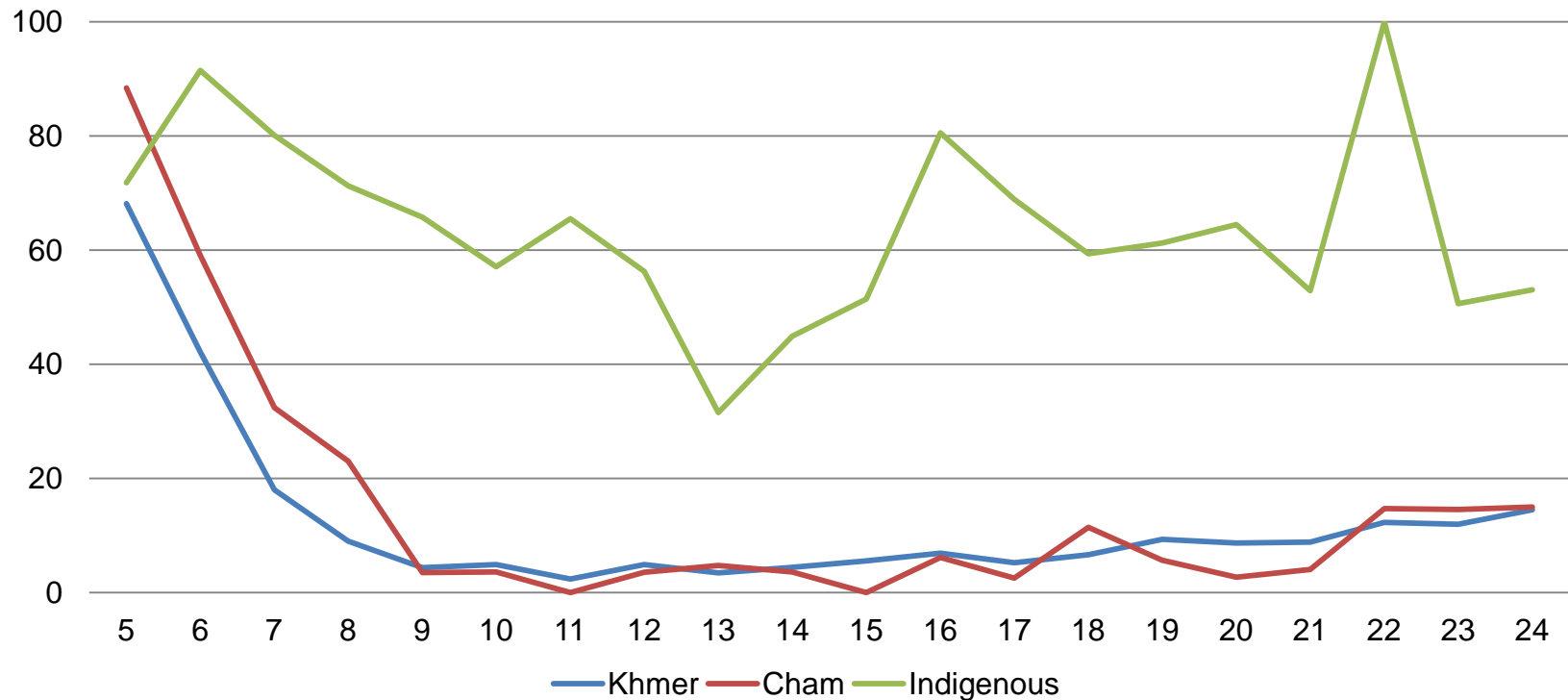
The Indigenous group has a much higher percentage of children who never attended school.

# Dropout Rate by Age: Cambodia
Ethnic and Indigenous Groups
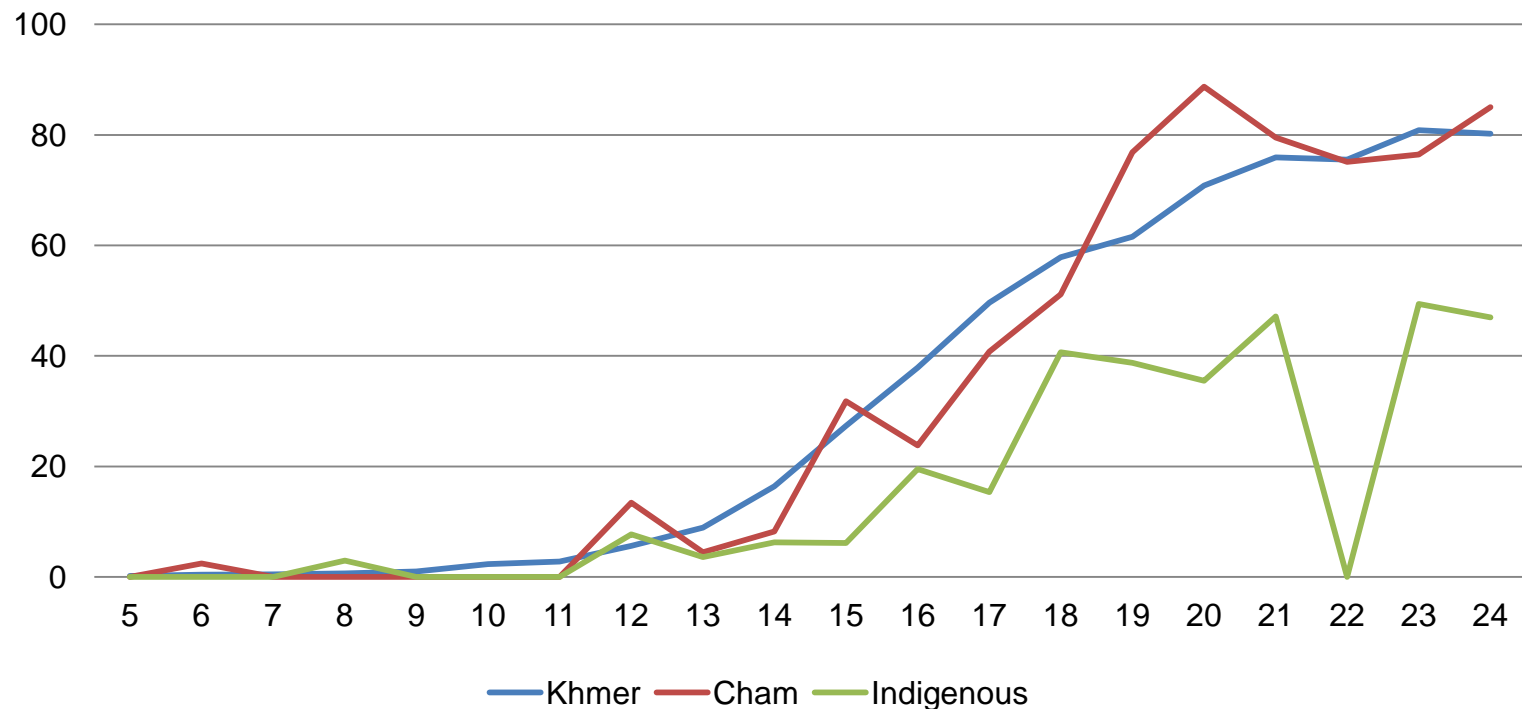
In the Indigenous group, even though the OOSC rate is high, the dropout rate is relatively low.

Number of Repetition Times:
Cambodia

Highest grade achieved	Total							Total attended
	Number of times repeated							
	0	1	2	3	4	5	6	
1	82.5	15.2	2.0	0.3	0.0	0.0	0.1	464,351
2	85.5	12.5	1.7	0.1	0.1	0.0	0.0	451,385
3	86.5	12.0	1.3	0.2	0.1	0.0	0.0	412,227
4	87.5	10.7	1.5	0.3	0.1	0.0	0.0	363,191
5	87.8	10.9	1.1	0.1	0.0	0.1	0.0	358,074
6	87.5	11.9	0.6	0.0	0.0	0.0	0.0	333,532
7	89.8	9.6	0.5	0.0	0.0	0.0	0.0	262,175
8	89.2	10.4	0.4	0.0	0.0	0.0	0.0	209,674
9	90.5	8.8	0.6	0.1	0.0	0.0		128,796
10	90.5	9.5	0.0	0.0	0.0			72,431
11	88.7	11.3	0.0	0.0				27,791
12	94.6	0.0	5.4					3,344
No grade completed	25.7	1.9	0.2	0.0	0.0	0.0	0.0	230,957

- Approximately 88% of children pass through education without repetition.

- 10% repeat once.

- 2% repeat multiple times.

Over-Age by Grade:
Cambodia
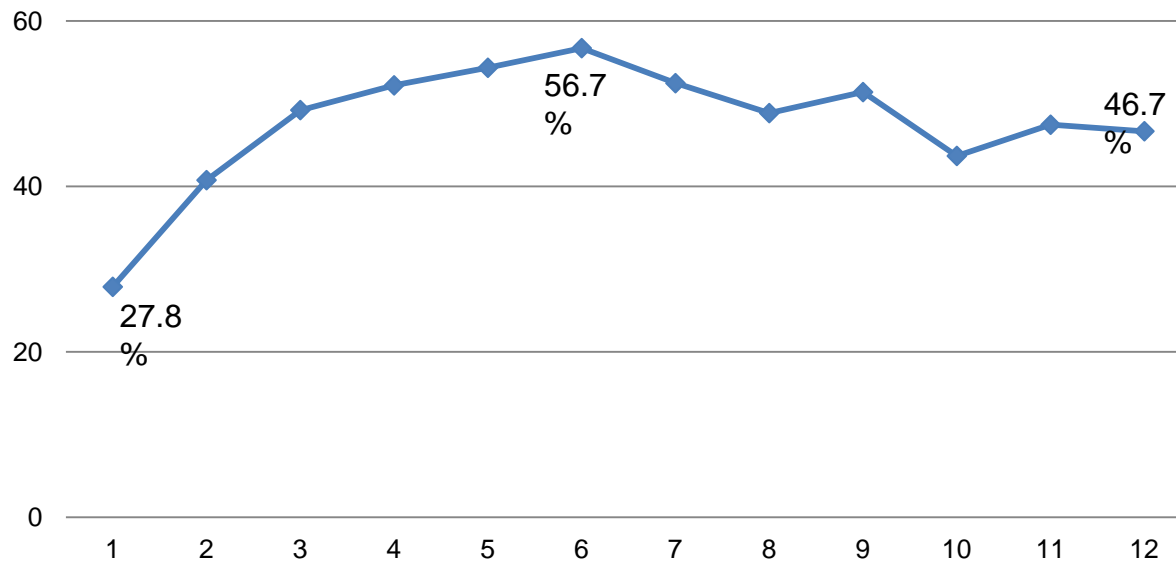
Over-Age
= Official Age + 2

Overall at least 47% children who attend schools are over-age. This amounts to almost half of the children in school.

Reasons of over-age?

Cambodia	1	2	3	4	5	6	7	8	9	10	11	12	Total
Under-Age	16.8	11.2	8.2	7.8	7.6	7.6	9.1	10.1	10.3	9.6	11.3	8.6	10.0
Official Age	31.1	24.2	17.6	18.5	16.8	16.3	16.1	19.2	17.3	19.9	19.1	15.7	20.1
Official Age + 1	24.3	23.9	25.0	21.5	21.3	19.4	22.4	21.9	20.9	26.9	22.1	29.0	23.0
Over-Age	27.8	40.7	49.2	52.2	54.3	56.7	52.5	48.9	51.4	43.7	47.4	46.7	47.0

Regional OOSC:
A Study of Six Countries

Country Name	Primary School Age			Lower Secondary School Age		
	Male	Female	Total	Male	Female	Total
Cambodia	174,452	146,320	320,773	70,238	74,656	144,894
Indonesia	335,217	243,397	561,934	1,081,192	864,502	1,940,423
Philippines	720,106	544,964	1,265,070	624,074	355,688	979,762
Thailand	286,073	264,069	550,142	72,080	34,608	106,688
Timor-Leste	28,956	26,017	54,990	6,619	6,694	13,323
Vietnam	292,094	269,577	561,671	337,381	277,494	614,875
Total	1,836,898	1,494,345	3,314,579	2,191,585	1,613,641	3,799,965

*Philippine and Indonesia numbers are from secondary sources

- More than **three million** primary school age children are out of school.
- At lower secondary school age, the number is close to **four million**.
- When combined together, the number of children who are at primary or lower secondary school age and do not attend any formal schools **exceeds seven million in the six countries**.

School Attendance Rate by Age
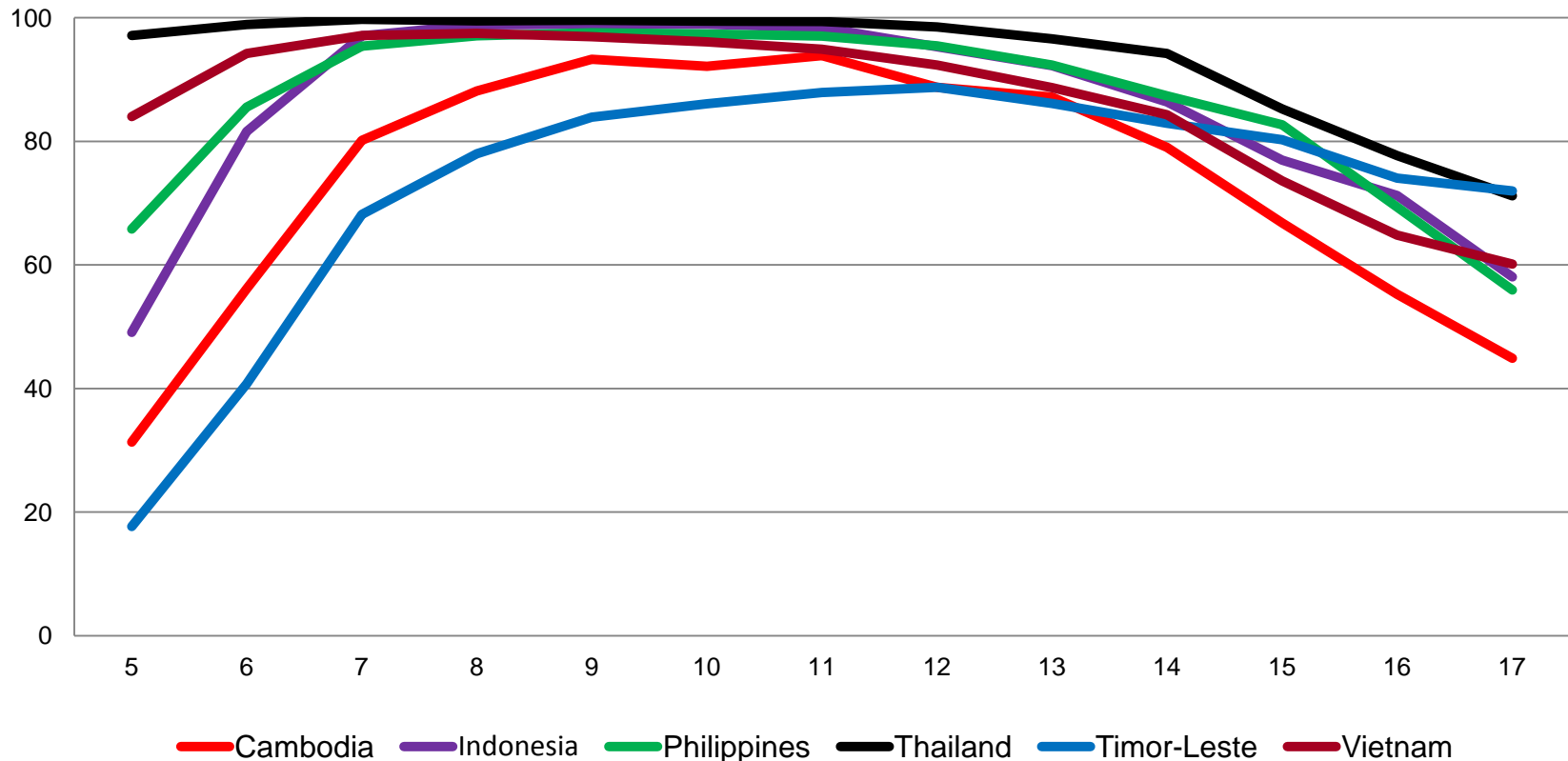
- Late start in education and early leave of school is common.

Deviations from National Average in LS-ANAR

|	Location		Wealth Index			Province/Region		
	Urban	Rural	Richest	Poorest		Best		Worst
Cambodia	69.0	-13.7			106.4	Phnom Penh	-24.2	Kampong Cham
Indonesia	7.8	-6.8						
Philippines	11.1	-8.6	28.1	-29.4	17.3	National Capital Region	-28.3	Autonomous Region in Muslim Mindanao
Timor-Lest	43.1	-12.6	69.8	-45.9				

Values in percentage of national average

Deviations from National Average in LS-ANAR
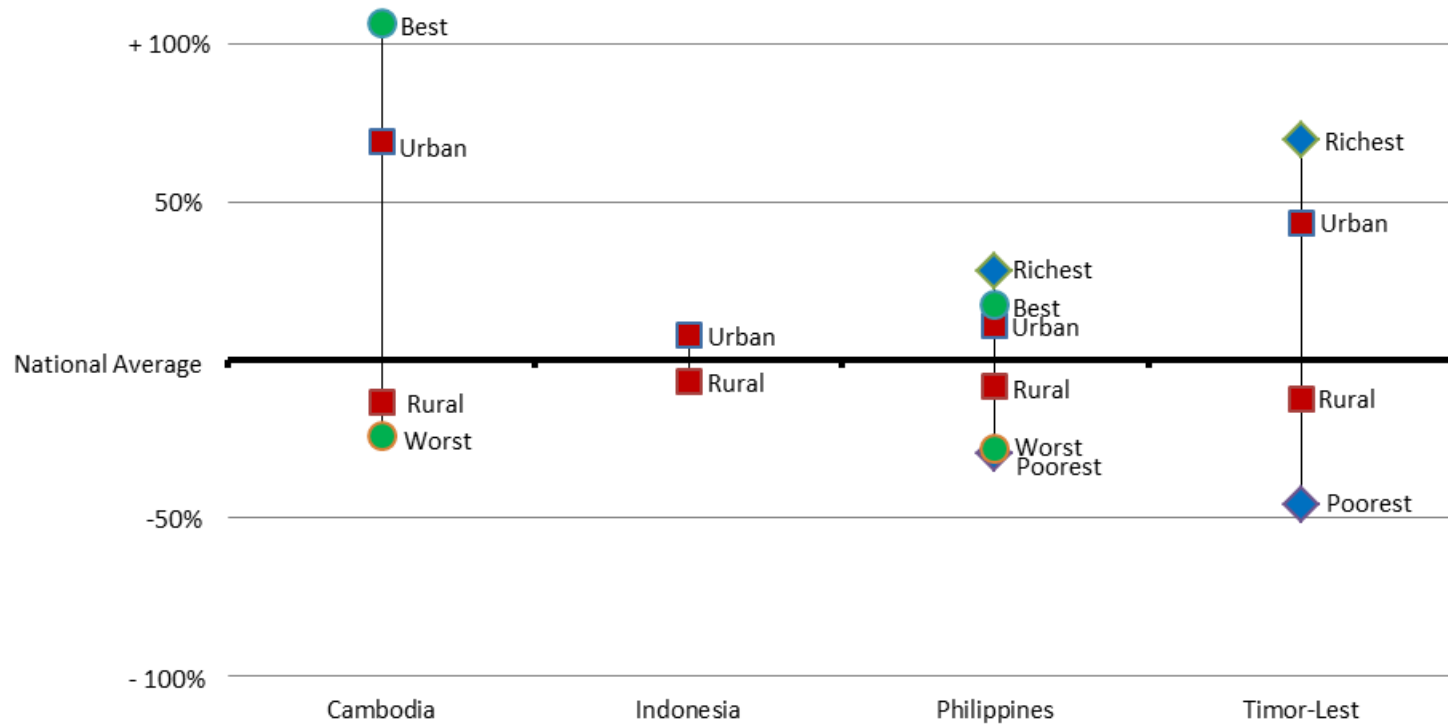
OOSC trend in Cambodia

Percentage of Out of School Children
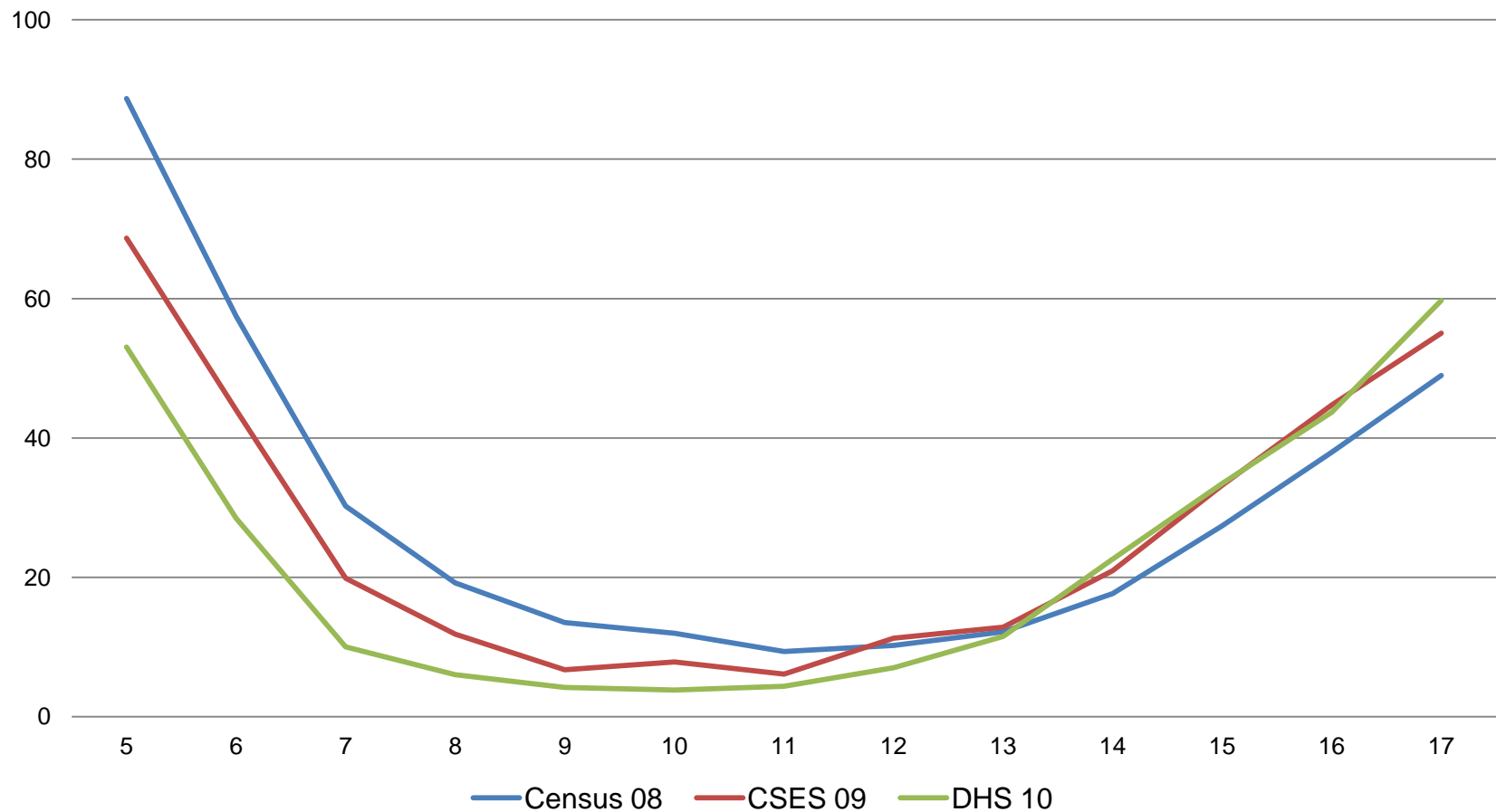
Caution

- Age specific education statistics generated from survey data should be interpreted with caution as there is strong relationship between age, academic year and survey time.
- Definitions should be carefully checked to see if non-formal/informal education system are included in the analysis.

Conclusion

- ANAR
- Over age
- Out of school children
- Sources of data and their limitations
- Statistical examples are basis for "further analysis during current workshop".