United Nations | Department of Economic and Social Affairs

Expert group meeting on the evaluation of adolescent fertility data and estimates

Virtual Meeting

26 to 27 October 2020

United Nations | Department of Economic and Social Affairs

Data selection for SDG monitoring and reporting on Indicator 3.7.2

Stephen Kisambira

Objectives

Inform this EGM about the procedures that we have hitherto used to select the adolescent birth rate among women aged 15-19 years for SDG monitoring and reporting

Extent to which those procedures can be applied to the selection of the birth rate among girls aged 10-14 years

Paper discusses the challenges that we have experienced

We cap the paper by suggesting some issues to be discussed

Global SDG Indicators Database

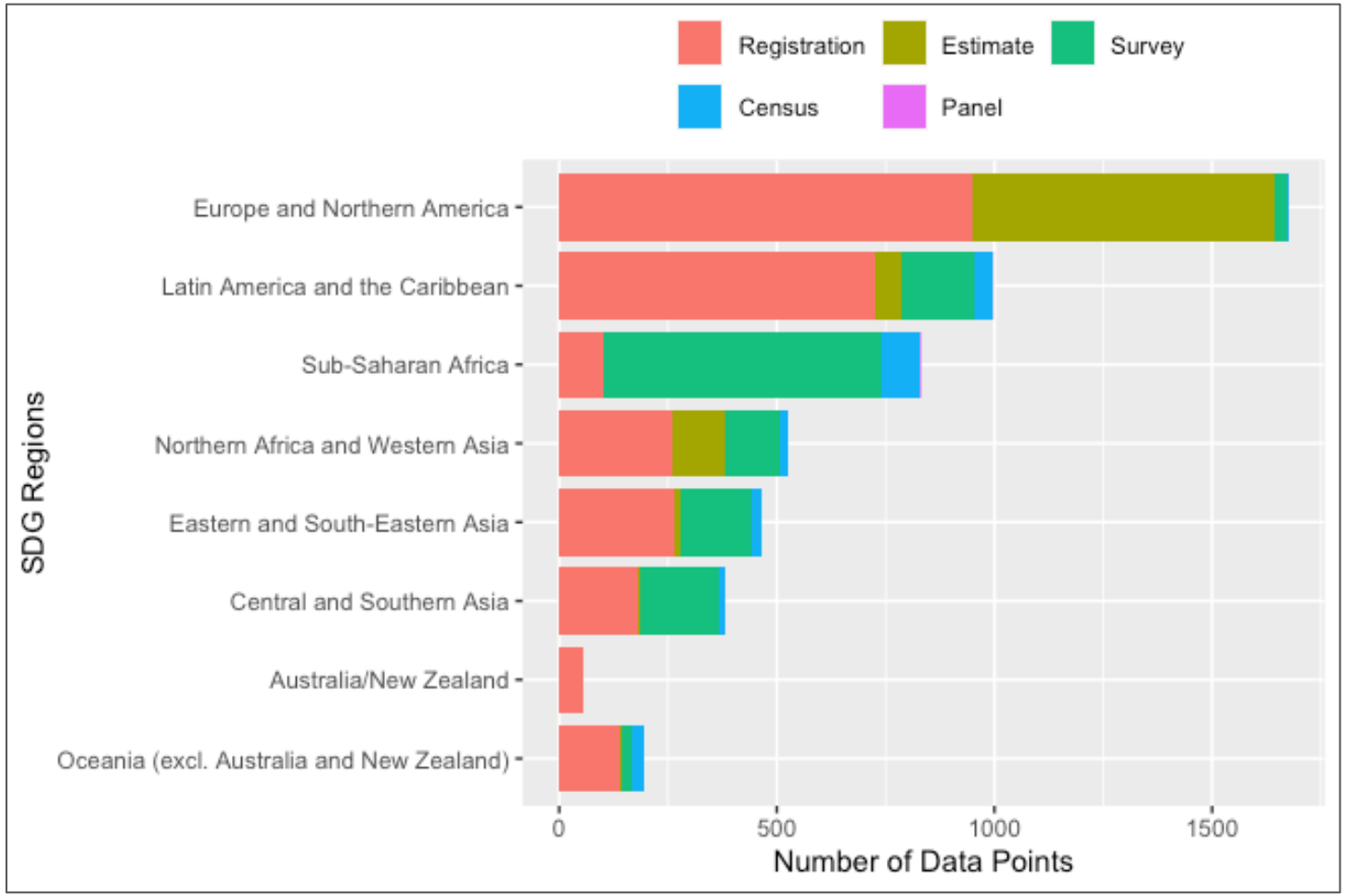
- The Global SDG Indicators Database admits **only one observation or data point** to be reported for each element of the indicator, for each year and country
- Custodian agency must select one data point for each year and country, drawn from the various available statistical data sources
- To the extent possible and as appropriate, this should be done in consultation with the respective national statistical offices or other pertinent national data producers

Experience in selecting observations for the adolescent birth rate (15-19 years)

- Population Division has a long history of fertility analysis
- Fertility levels among women aged 15-19 have been benchmarked for almost all countries and areas
- By comparison, only recently, has Population Division began to examine the available data with a view to report to the SDG database

Data sources (ABR 15-19 years)

Figure 1. Distribution of the adolescent birth rate (15-19) by SDG regions, 2000-2018



Guidelines and criteria for selecting the adolescent birth rate (15-19 years)

- Selection procedure is aided by internal guidelines and criteria
- Involves three-tiered groups of data sources
- Interactive automated process for preselecting the ABR
  - Analysts review the pre-selected data for further processing and selection

Three-tiered data selection

UNSD & WPP:

– Number of births from registration data from the Demographic Year Book

– Number of women aged 15-19 from World Population Prospects

National statistics & WPP:

– Number of births from registration data from national statistics offices

– Number of women aged 15-19 from World Population Prospects

Survey and Census:

– DHS surveys

– Other nationally representative surveys (including MICS)

– Census data from DYB and other sources (adjusted have preference over unadjusted)

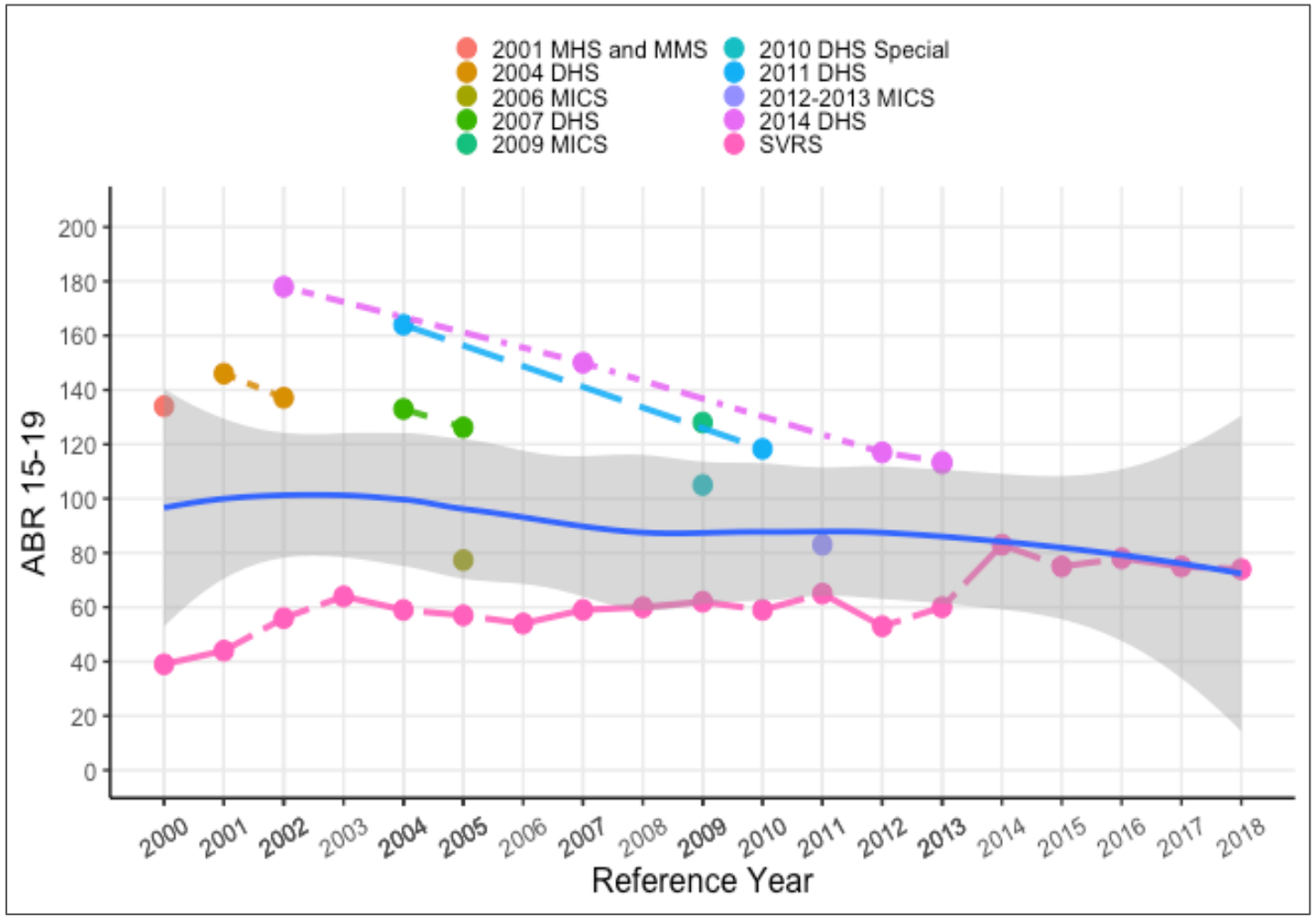
– Own-children estimates (both from survey and census data)

Selection based on a locally weighted regression model

- ABRs selected (using the three-tiered procedure) are plotted against the reference years with confidence intervals of 95 per cent
- Plot aids the analyst in seeing patterns and trends to further winnow out the most plausible data points
- Example is provided for Bangladesh

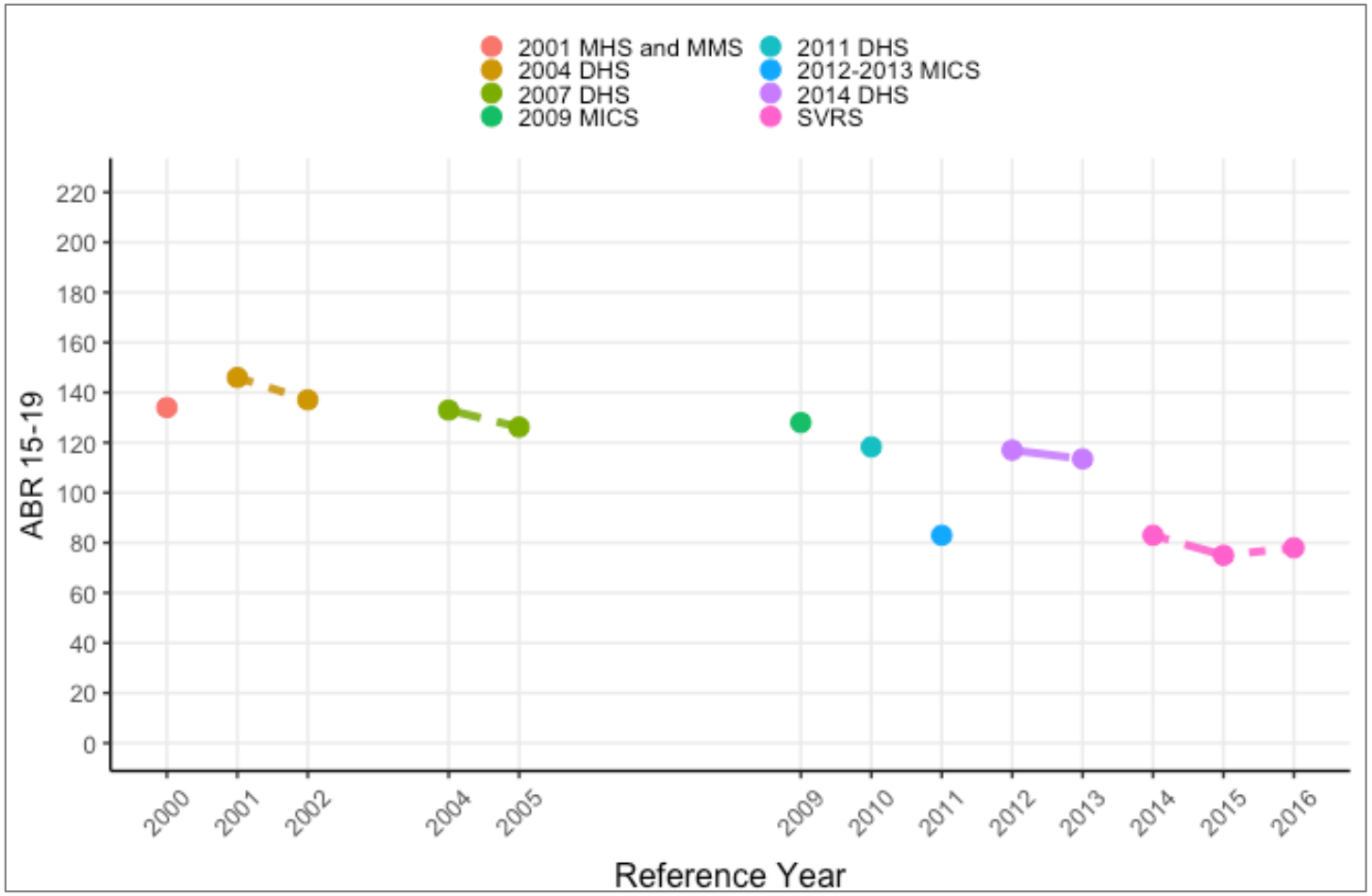
Bangladesh: selection based on a locally weighted regression model

Figure 2. Adolescent birth rates (15-19), Bangladesh, 2000 – 2018



Bangladesh: Adolescent birth rates (15-19) preselected for SDG reporting

Figure 3. Adolescent birth rate (15-19) preselected for SDG 2020 reporting, Bangladesh

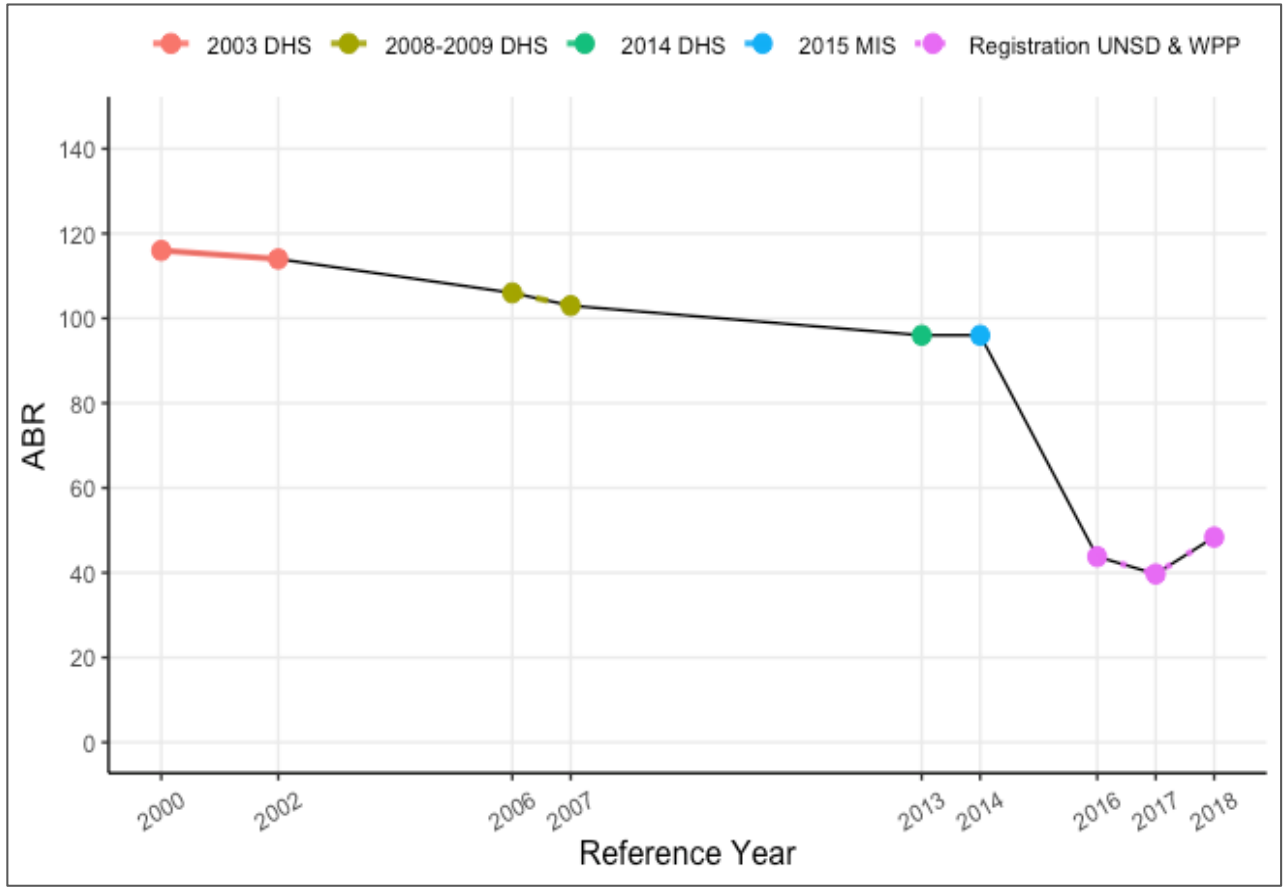


Assessment using average annual change

- Preselected ABRs are further assessed by calculating the average annual percentage change
- We exclude data points that show at least 25 per cent change in the average annual change in the ABR (15-19 years)

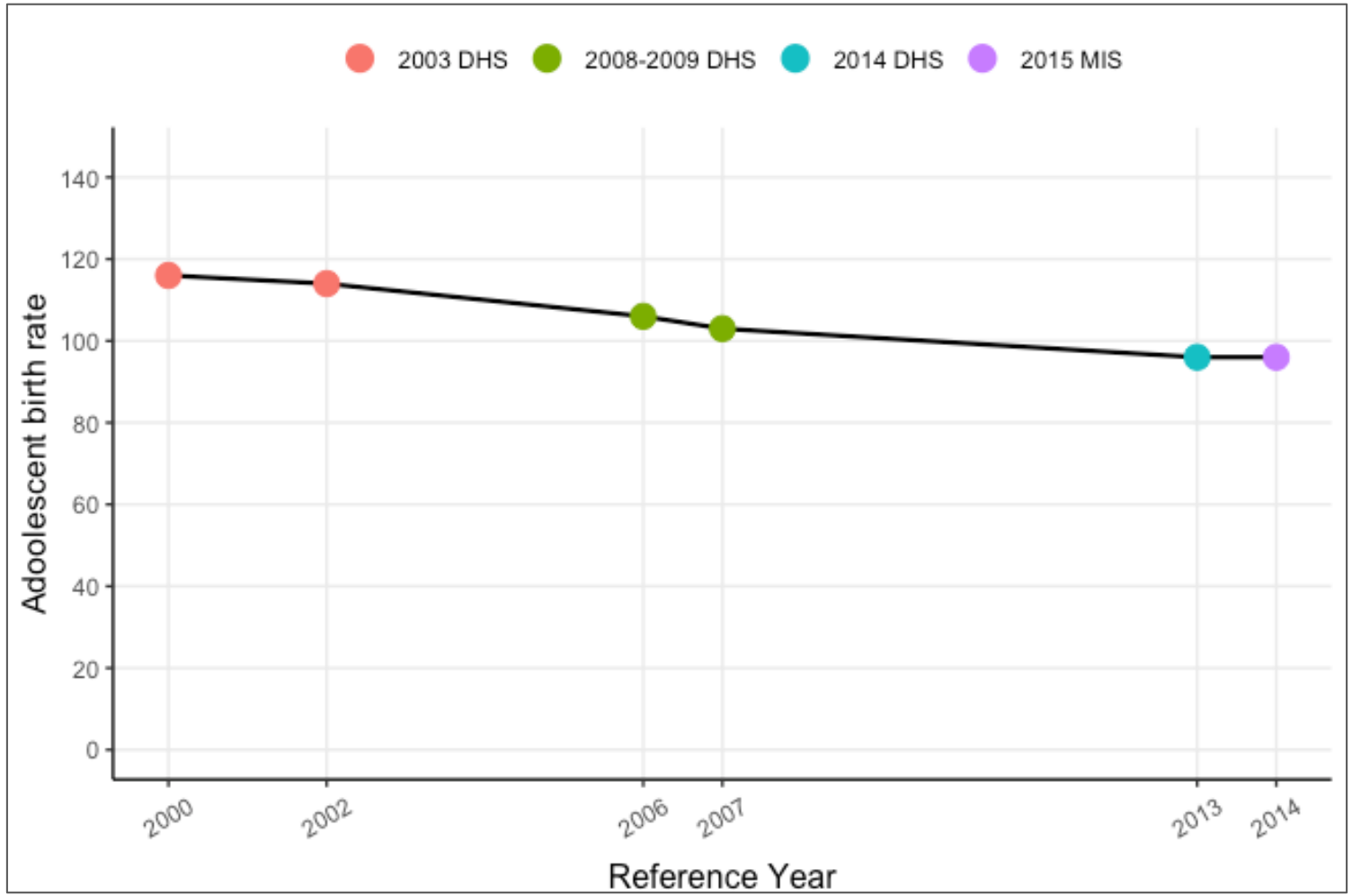
Kenya presents a good example of this selection step (based on average annual change)

Figure 4. Preselected birth rates (15-19) for SDG reporting, Kenya



Kenya: Selected adolescent birth rates for the SDG reporting in 2020

Figure 5. Selected birth rate (15-19) for SDG reporting, Kenya

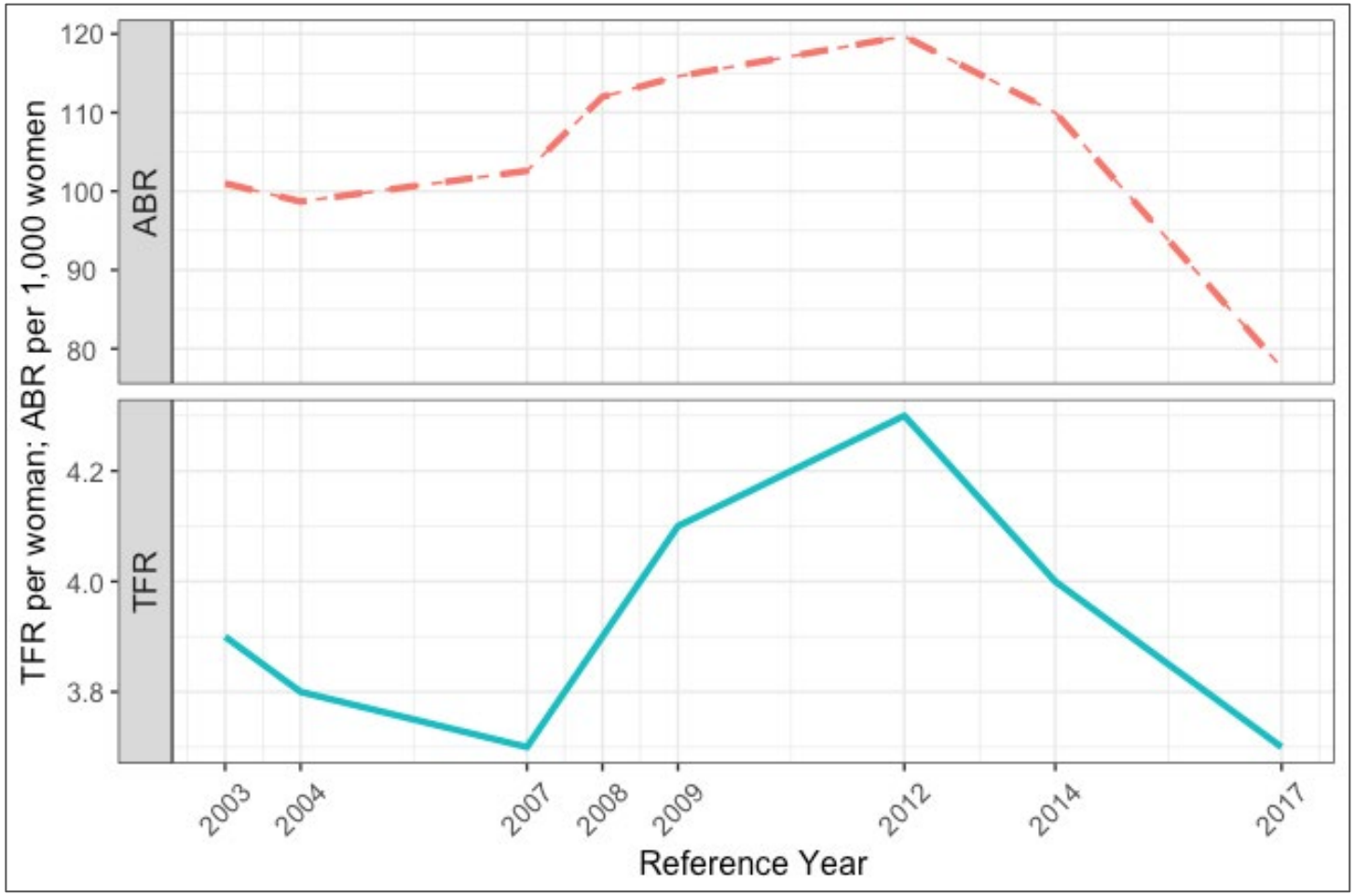


Alternative assessment and selection of ABR (15-19)

- Comparison of ABR (15-19 years) and TFR
- Often, high levels of the ABR are associated with high levels of the TFR
  - *A systematic comparison of the ABR (15-19 years) and TFR has never been applied in the selection process of the ABR (15-19 years) for SDG reporting*

Zimbabwe: Comparison of ABR (15-19) and total fertility rate

Figure 6. Comparison of adolescent birth rate and total fertility rate, Zimbabwe



Challenges in estimating, assessing and selecting adolescent birth rates

- Background paper presents the challenges in estimating, assessing and selecting:
  - conventional ABR (15-19 years)
  - ABR (10-14 years)

Challenges in estimating, assessing and selecting adolescent birth rates among girls aged 10-14

- In many countries or areas, the incidence of very early childbearing at ages 10 to 14 years is low
- Births of girls under the age of 15 are likely to be underreported
- But it is typically not known to what degree the adolescent birth rate of girls aged 10-14 is underestimated

Challenges: Scarcity of births data among girls aged 10-14

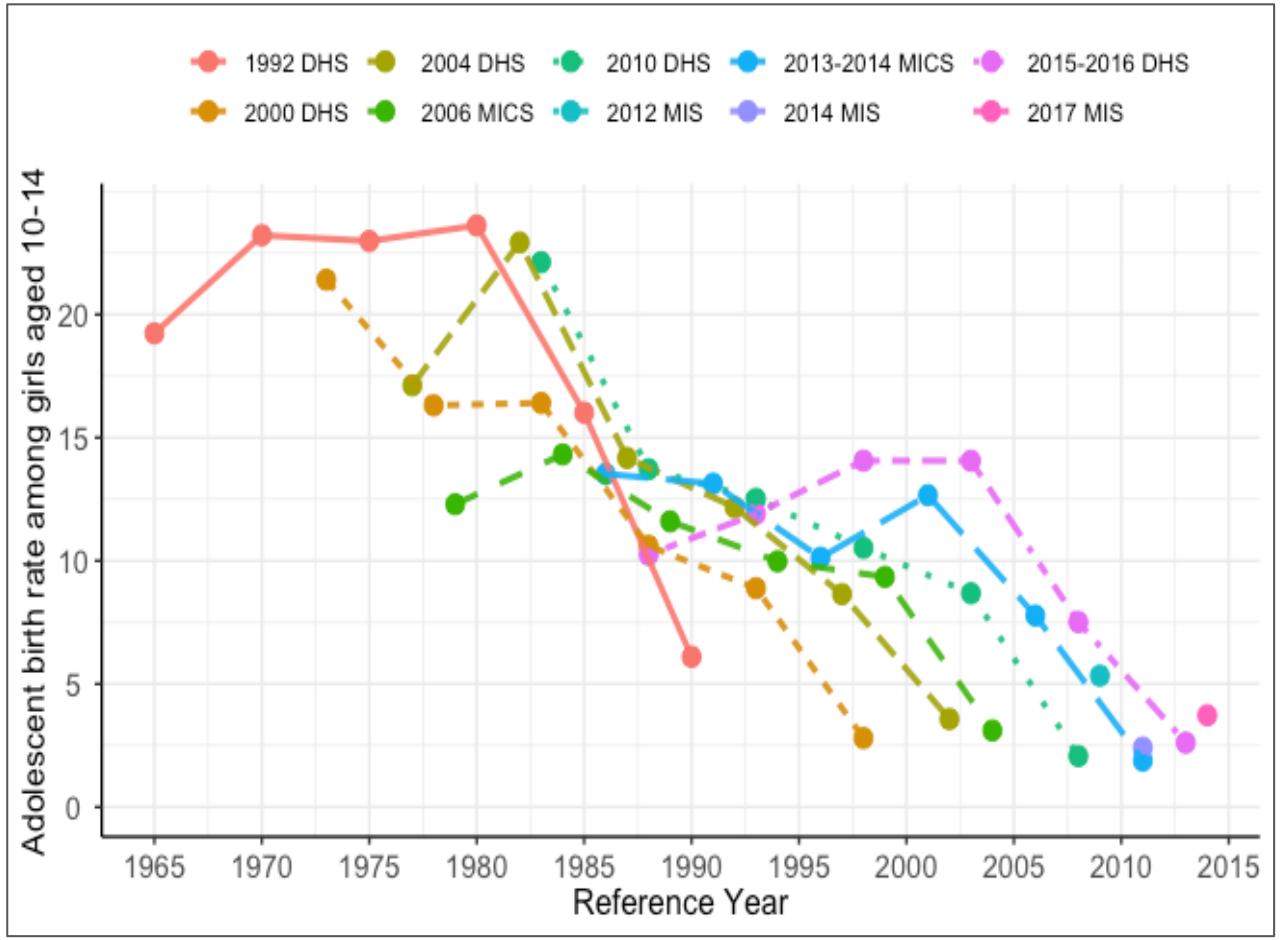
- Scarcity of the data to benchmark the levels and patterns of childbearing among this group of girls
- Little is known also about the relationship between the childbearing at ages 10-14 and at ages 15-19 or the wider reproductive age span (15-49 years)
- Births of girls aged 10-14 are usually not included in the calculations of the total fertility rate

Challenges: Levels and trends vary over time and by age

- Birth rates among girls aged 10 and 11 are close to zero in most countries
- Birth rates at ages 10-14 might be higher were it not for the fact that births do not occur at ages 10 and 11 years
- In most countries or areas, there is a large gap between fertility levels at age 13 or 14 and fertility at age 12 or below
- Inconsistent levels and trends

Challenges: Inconsistent trends across surveys, birth rates at ages 10-14

Figure 8. Adolescent birth rates among girls aged 10-14 during five-year periods before each survey, Malawi



Can the experience gained in the selection of the ABR (15-19 years) be applied to the selection of the ABR among girls aged 10-14?

- That is one of the objectives of this EGM
- Answer is yes or somewhere between "yes" and "no"

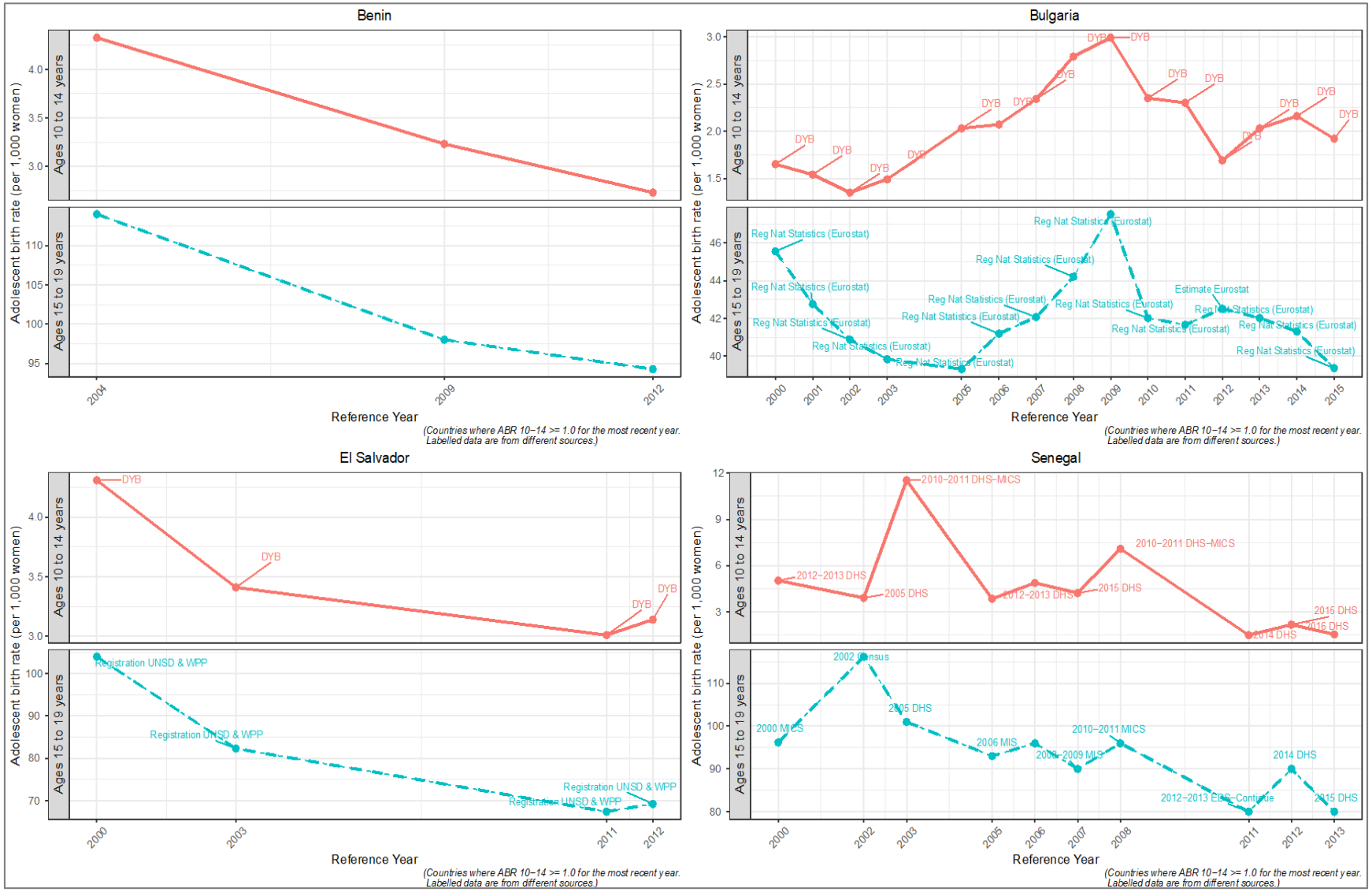
Matching data sources for ABRs 10-14 and ABRs 15-19

- We matched the data sources, the reference years, or both the sources and reference years for the ABRs 10-14 and ABRs 15-19
- We selected countries with at least three matched data points
- We divided them into two categories depending on the level of ABR for the most recent year:
  - 1st : ABR 10-14 was < 1 per 1,000 girls (77 countries)
  - 2nd: ABR 10-14 was 1+ births per 1,000 girls (40 countries)
- We observed little variability in the levels and trends of the ABRs 10-14 years among countries in the 1st category

Results of matching the data sources

- Among countries in the 2nd category, the levels and trends of the ABRs 10-14 seem broadly similar to the ABRs 15-19 years, for example in Argentina, Benin, Bulgaria, El Salvador, Chile, Cuba, Guatemala, Mexico, Namibia, Senegal and Uganda
- The same appears to hold even where some data points are drawn from different sources, such as in Argentina, Bulgaria, Guatemala, Namibia and Senegal.
- On the other hand, divergent patterns are evident in a few countries where the majority of data points on the ABR 10-14 and ABR 15-19 years are drawn from different sources such as Brazil, Romania (since 2010), Suriname and Venezuela
- Examples of the 2nd category of countries are shown in the next slide

Results of matching the data sources



Inferences from matching the data sources

- It is plausible to select the ABRs 10-14 based on the selection criteria for ABRs 15-19 when:
  - the data sources for both rates are the same,
  - or when either the birth rate is from the Demographic Yearbook or National Registration Systems
- On the other hand, divergent patterns are evident in a few countries where the majority of data points on the ABR 10-14 and ABR 15-19 years are drawn from different sources such as Brazil, Romania, Suriname and Venezuela

Recap and suggestions

- One goal of the EGM is to consider and recommend methods for assessing and procedures to select the ABRs 10-14 drawn from different data sources
- Discussion of possible inferences about birth rates at ages 15-19 as they may apply to birth rates at ages under 15 years
- Discussion of the selection of the rates for both adolescent age groups from the same source or from different sources
- Usefulness of different forms of age disaggregation and grouping, including rates by single years of age
- Whether or not to include under-15 adolescent fertility in the estimation of the total fertility rate

I thank you for your attention