

Methods for estimating the numbers of births: Lessons from an investigation of the age distribution of younger people in the 2011 South African census

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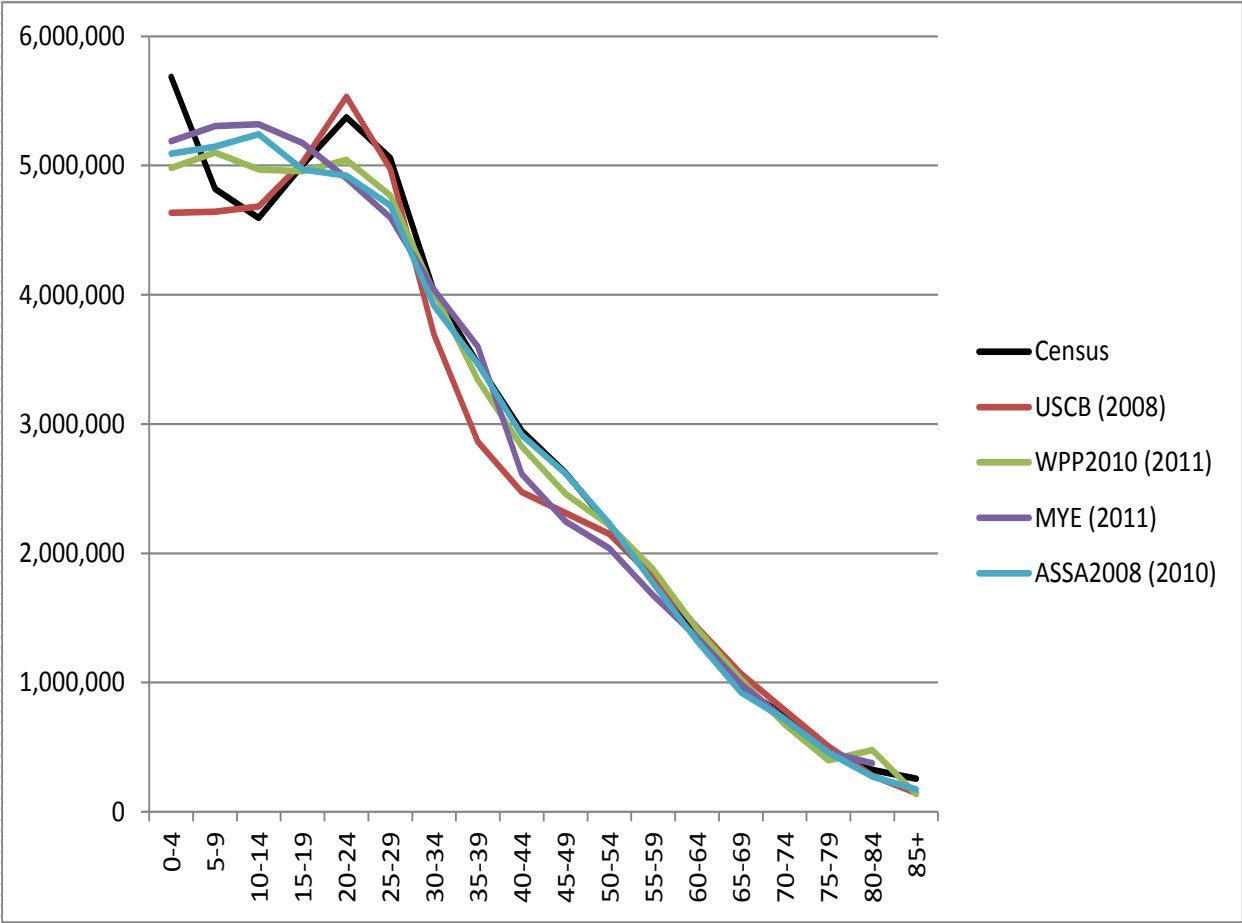
Analytical methods to evaluate the completeness and quality of birth registration

Session 2 of the UN Expert Group Meeting on the methodology and lessons learned to evaluate the completeness and quality of vital statistics data from civil registration

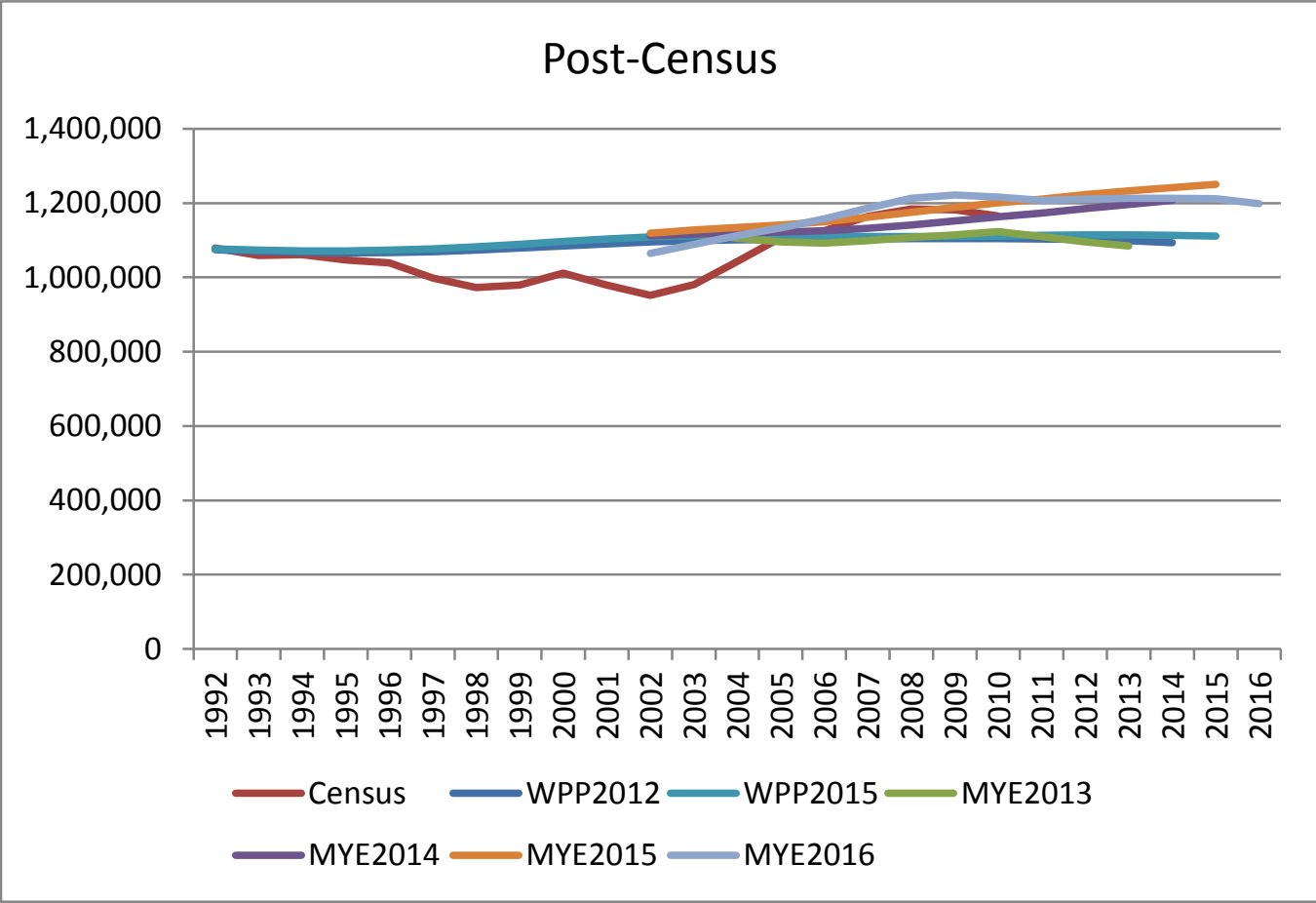
Background

- ❑ VR data are incomplete
- ❑ Surveys: DHS 1998 and 2003 (unsuccessful); GHS (limited information, Udjo 1997; 2005); Community Survey (not very reliable); HSRC 2012 (not publicly available)
- ❑ 3 post-apartheid censuses (1996, 2001 & 2011) not without problems (Moultrie & Timaeus 2002; Moultrie & Dorrington 2004)
- ❑ 2011 census count by age under 15 very different from expectation of declining fertility since the early 1970s
- ❑ And key projection models continue to ignore these data
- ❑ Thus this research is a search for the 'truth' about the trend in births over time (Dorrington & Moultrie 2015)

Births: 2011 Census age distribution



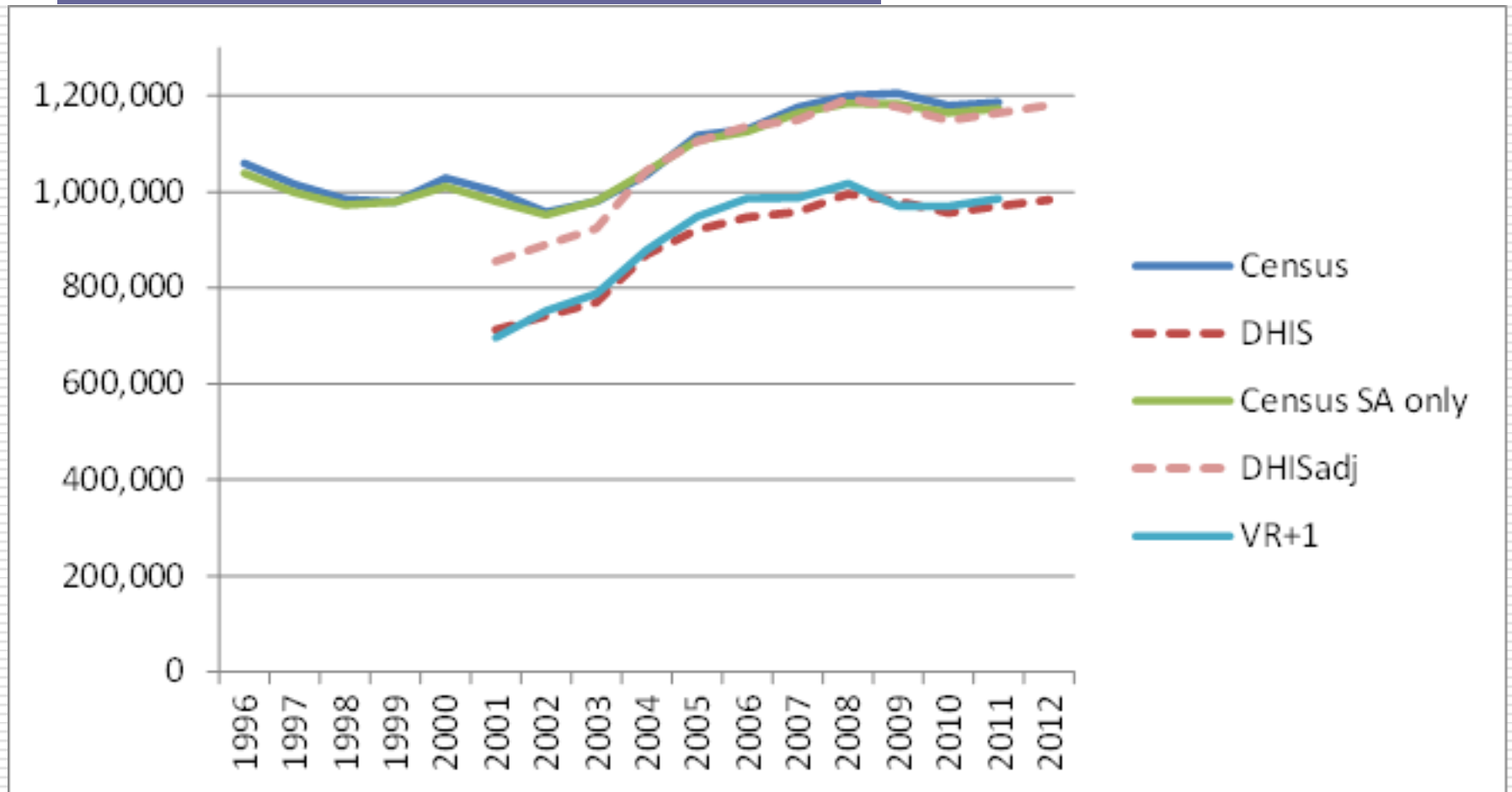
Post-census projections



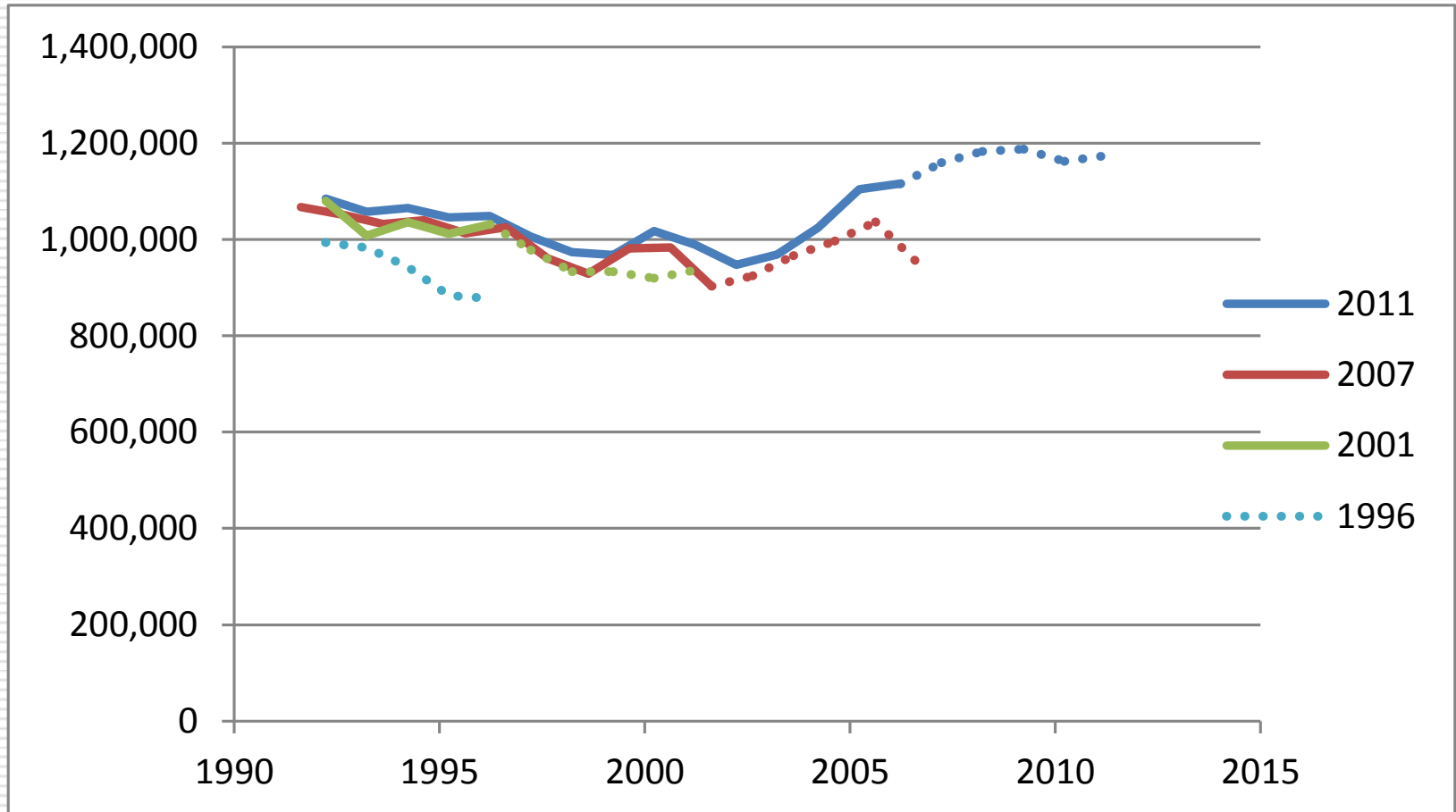
Approach

- ❑ Compare reverse-survival estimates to records of the number of births
- ❑ Compare estimates to reverse-survival estimates from previous censuses and surveys
- ❑ Compare the count of children by age to estimates of the population derived using school enrolment data from the Department of Education
- ❑ Compare the reverse-survival estimates to estimates derived from the VR births corrected for incompleteness of registration (estimated from comparison of VR and PR deaths)
- ❑ Estimate fertility implied by the reverse-survival estimates and compare to total fertility derived from reports of recent births in the censuses

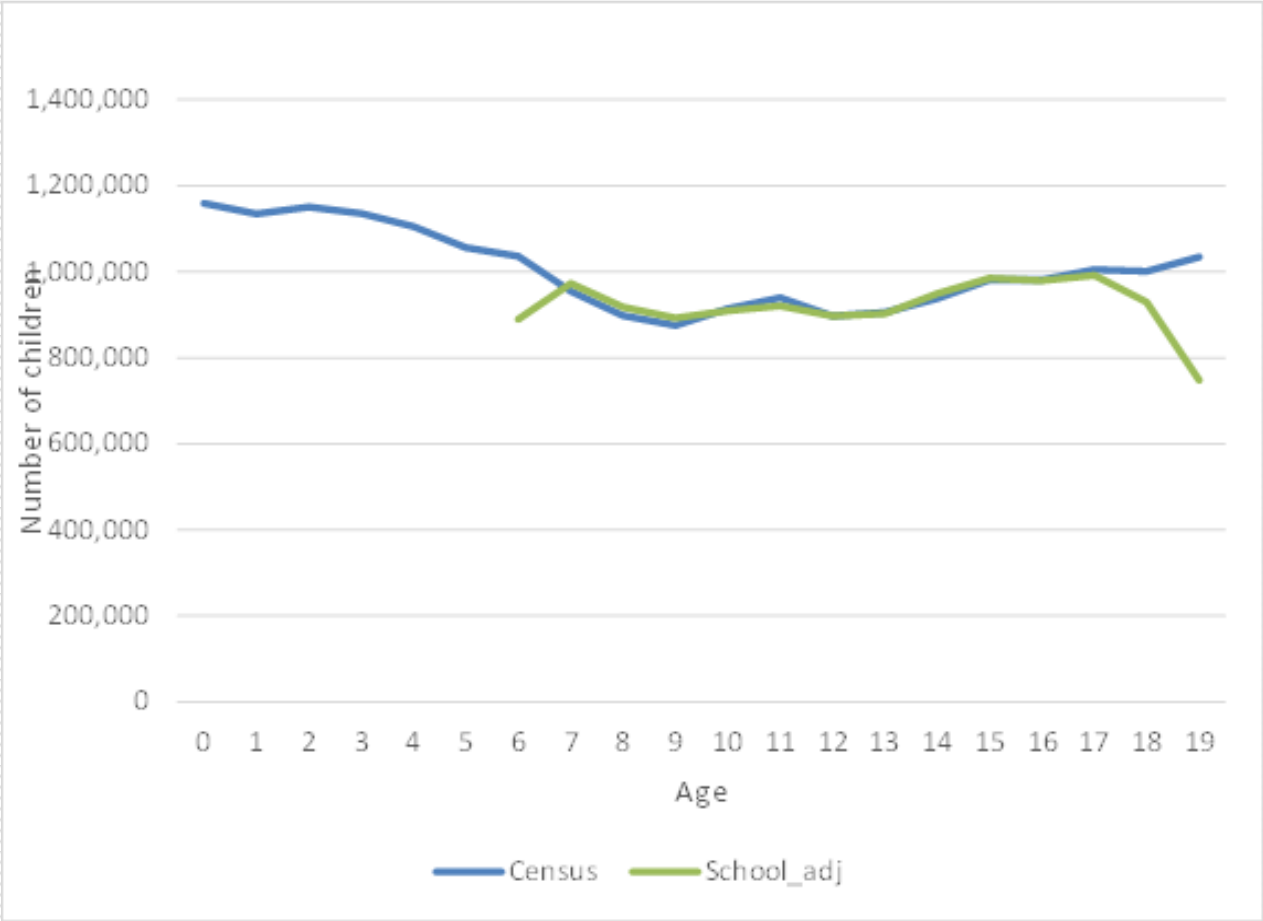
VR vs other estimates



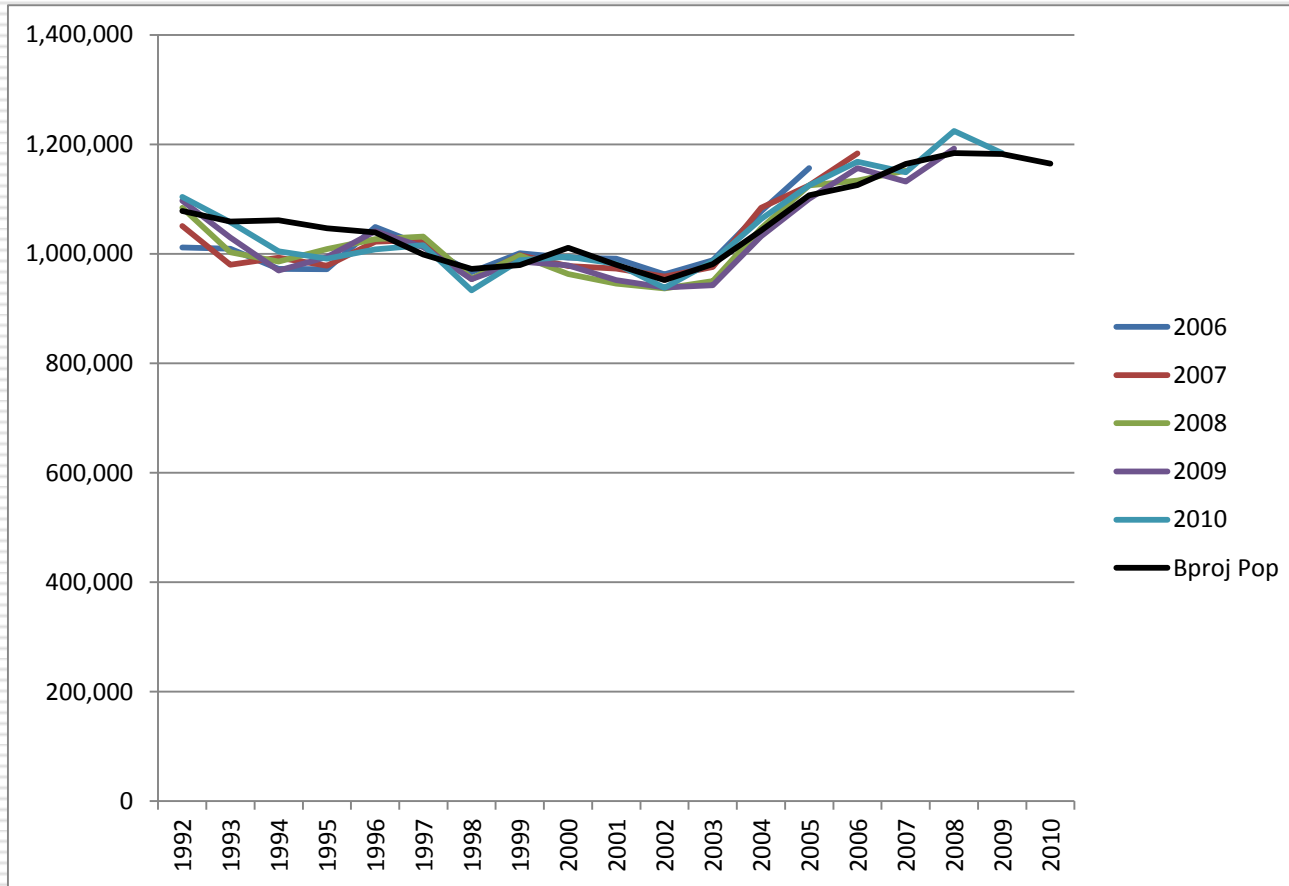
Implied by censuses



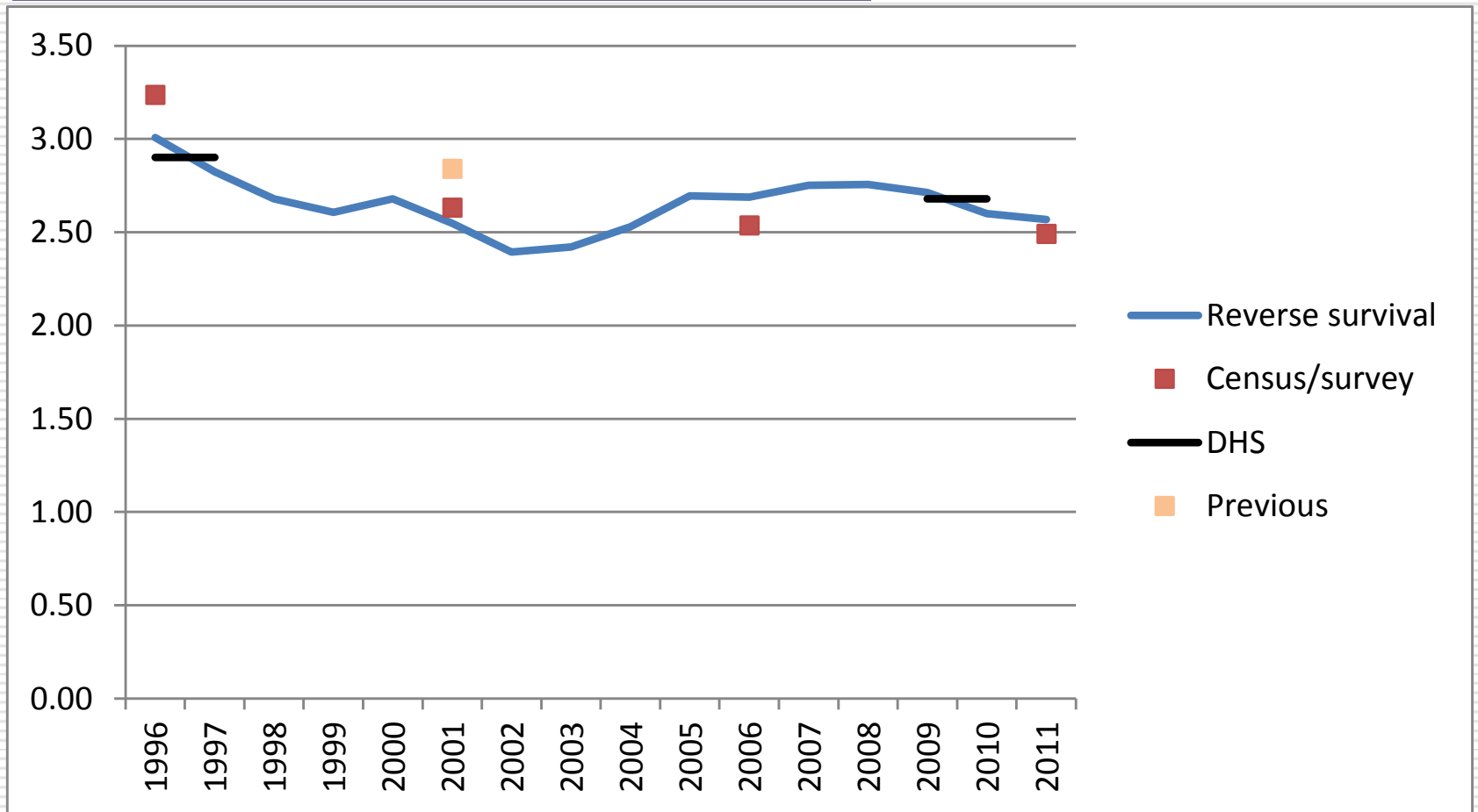
Numbers aged 7-17



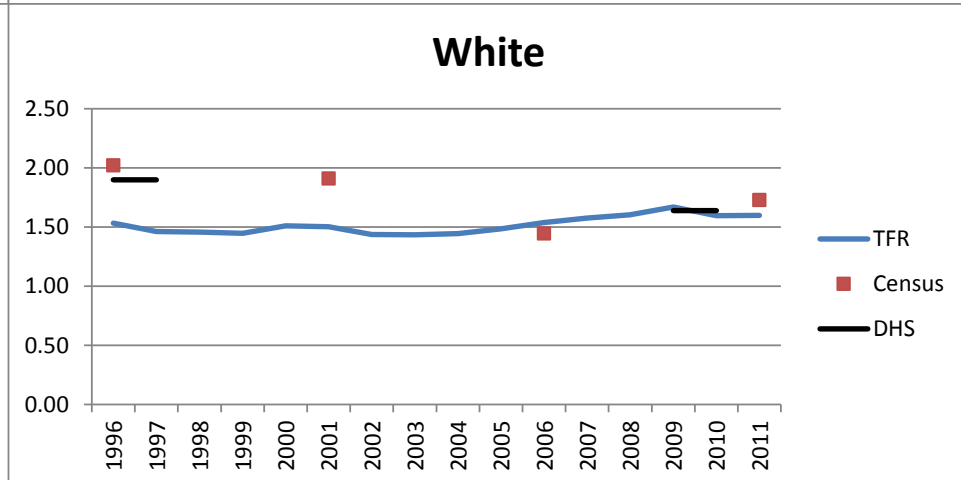
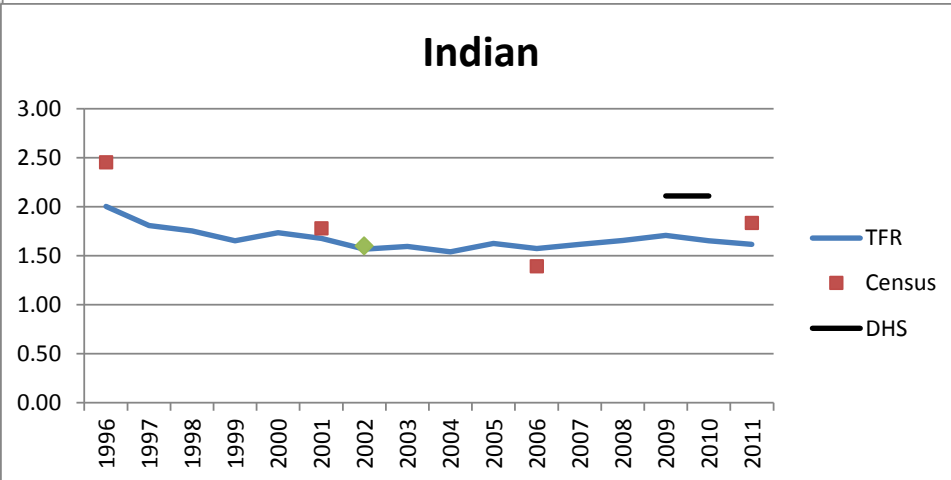
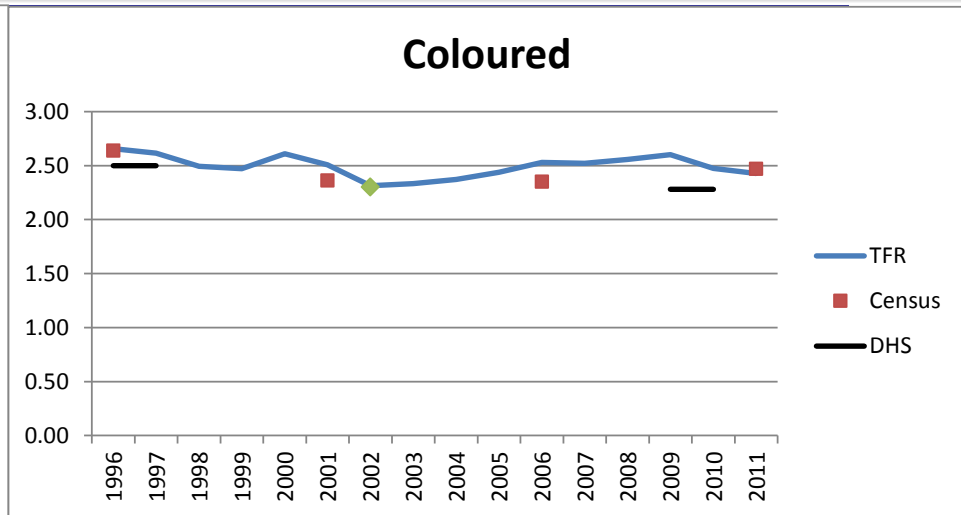
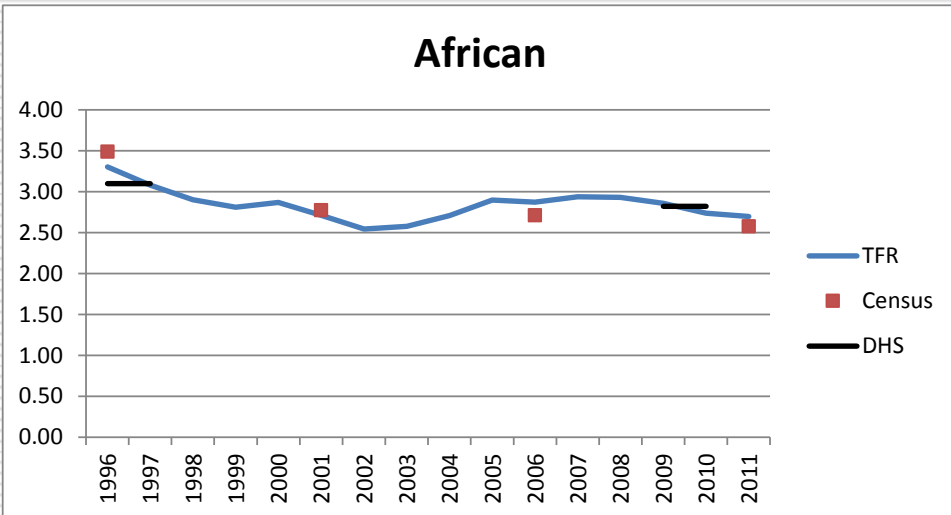
Number of births by year of birth - VR adjusted for PR completeness of birth



Total Fertility



Total Fertility by Population Group



Total fertility by province

- Census and school data didn't correspond as well with 3 (out of 9) provinces
- The Total Fertility corresponded well for only 5 provinces
- Surprisingly, the DHIS data (adjusted for births in the private sector) was only close in a few provinces
- Essentially, reasonably strong support for the reverse-survival in only 5 provinces out of 9 provinces – needs further investigation

Discussion

- Although trend in fertility confirmed nationally this is often not the case for sub-populations (e.g. population groups or provinces)
- At this stage it is unclear whether this is due to errors in the census count, errors in reporting of recent fertility or in the alternative data sources
- Previous censuses (but not 2011), 1996 in particular, undercounted children under age five
- It is good to make use of multiple data sources of data
- Even an incomplete population register can be useful
- **Consistency of trend over time as important as increasing completeness or reducing lag in release of data at the expense of seriously disrupting a well established trend**