

## **SA data shows large and unexpected increase in births around 2004**

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It is clear that something remarkable happened to South Africa's births around 2004. What led to this discovery reveals important improvements to ways social data have become available in South Africa.

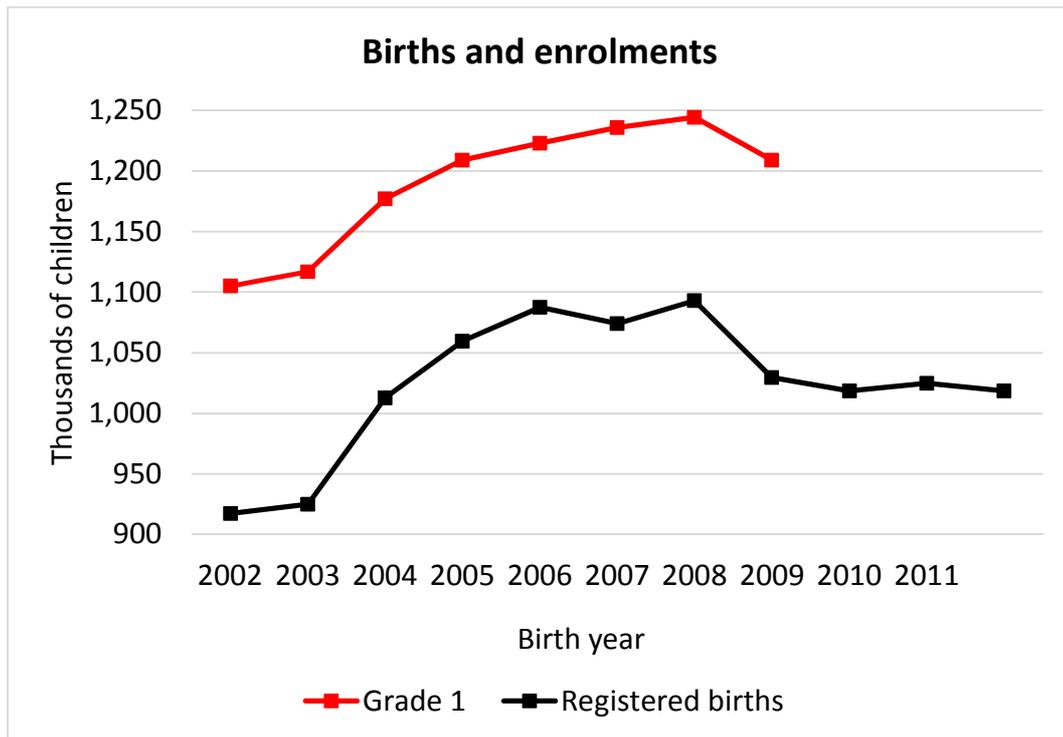
Starting in 2011, education analysts started noticing sharp increases in the number of children entering primary school, after at least five years of steady declines. Between 2010 and 2013, Grade 1 enrolments rose by 13%, or just over 100 000 children. These figures refer to all schools, whether public or independent. The wave moved its way up the primary grades, reaching Grade 7, the last primary grade, in the current year, 2017. Class sizes increased, resources became a little more stretched.

The increases confounded planners. Concerns were raised about the possibility that schools and provinces were creating 'ghost learners' to attract more funding. But why would this happen across virtually the entire country at the same time?

Had there not been a second, and completely separate data source to confirm what was seen in the enrolment data, we may still have been debating whether the enrolment trends were real or not.

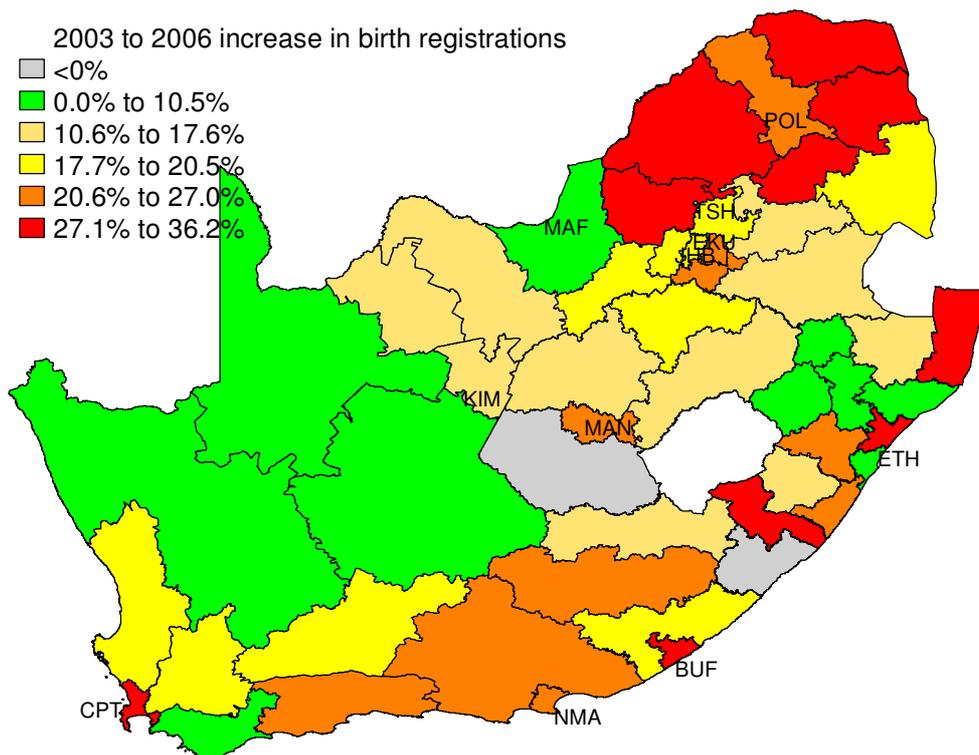
The second data source was the Home Affairs birth registrations data, which had recently become available to researchers through the DataFirst web portal hosted by the University of Cape Town.

The Home Affairs data revealed a surge in births, starting in 2004, which corresponded very closely with the subsequent rise in enrolments seen in schools. This can be seen in the following graph, which uses only publicly available data. These patterns are confirmed by the age-specific enrolment data of the Department of Basic Education, non-public data which analysts in the Department have been looking at. In the graph, Grade 1 enrolment in 2012 is assumed to represent births in 2005, and so on for the other birth cohorts.



Importantly, births declined in 2009, but did not return to their pre-2004 levels. The fact that the Grade 1 curve in the graph is on average 16% higher than the births curve is attributable to grade repetition, which means that a proportion of children remain in Grade 1 for more than year. This proportion has remained fairly stable in recent years. The important thing is that the two curves display the same shape.

The surge in births was remarkably widespread across the country. All provinces were affected to some extent, though most affected were Limpopo and Mpumalanga. The map provides details at the district municipality level (administrative units available in the Home Affairs data).



The approximately 15% increase in births between 2003 and 2006 is remarkable by international standards. Only a couple of countries have seen comparable increases. For instance, Ukraine did in the early 2000s following government efforts to boost an exceptionally low birth rate.

Are our increases in the number of children reflected in the official mid-year population estimates of Statistics South Africa? Yes and no. Historical figures published with the mid-year estimates some years ago, for instance 2013, offered no hint that there had been a surge in births around 2004. However, the most recent Stats SA estimates do point to increases, but of only around half the size seen in the enrolments and birth registrations data. Stats SA's 2016 estimates of past fertility rates reflect, for the first time, a rise and fall in births, with a peak in 2008 (as in the above graph).

One could say there has been a lag of as long as a decade between a major demographic phenomenon and its registration in the official population data, and even then it seems only partially reflected. By developing country standards, this is not unusual. This situation could be improved, in part if demographers and education planners compared notes more frequently. This kind of comparison hardly ever occurs, despite the fact that school systems tend to collect data on child populations with much greater frequency than national statistical agencies. A part of the problem is that pressure to standardise population estimation methods across countries, in line with the prescripts of UN bodies, can detract from the monitoring of local peculiarities and shocks.

The reasons behind the increase in births is not completely clear, but is being investigated. The patterns in the data suggest that the child support grant was *not* a major contributing factor. Nor does immigration into the country explain the phenomenon. Instead, it seems as if greater access to anti-retroviral treatment, and the associated reduction in the risk of mother-to-child transmission, brought about a sharp increase in planned pregnancies. However, conclusive evidence on causes is still to come.

Analysis of the kind just described has become increasingly possible, for researchers and students, in part thanks to the greater accessibility of data. In particular, the availability of multiple sources allows for important comparisons and verifications to occur. The United Nations Data Revolution Group refers to data as ‘the lifeblood of decision-making and the raw material for accountability’. Whilst data on its own cannot resolve the range of policy conundrums we face in South Africa, it can be hugely beneficial in bringing about a more informed debate. However, capacity to use data, in particular microdata (or ‘raw data’) in government, our thinktanks and university departments is weaker than it should be, given the complexity of the policy challenges we face, and the data that are available, and will increasingly become available.

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