

The counterintuitive facts about population growth

Michael Lardelli, October 2013

This year my 8-year-old daughter's school class has been studying "sustainability". Last term she was all over me like a rash about not wasting water. Unfortunately, I had to explain to her that saving every last drop of water was actually a waste of time, 'The water you save will just let the government bring in more people because it wants to grow the population. It actually makes more sense for you to use as much water as possible because that may slow the government down'. Adelaide's population has now grown to a size where coping with the growth has outpaced our capacity to pay. SA's \$2 billion desalination plant (costing \$130 million per year to run) was built [explicitly to cope with population growth](#) and would be unnecessary without it. Then there are the costs of extra hospital beds, congested roads, crowded schools etc. Counterintuitively, these dyseconomies of scale are counted as positives when GDP figures are calculated!

As a scientist I am used to reality sometimes appearing counterintuitive. The most famous example is Galileo dropping two metal balls of different weights from the leaning tower of Pisa to demonstrate that they would both hit the ground simultaneously. Demography - the study of the structure of human populations - is another area where the obvious answer is not necessarily the correct one. An interesting example of this was Senator Nick Xenophon's insistence before the recent election that he wanted to promote faster population growth in South Australia. Apparently [Nick believes](#) that, with SA's population growing at 1% per year, "We're sitting on a demographic time bomb. There'll be fewer taxpayers compared to the rest of the population." Nick appears envious of WA's population growth of more than 3.4% even though this will double WA's population in only two decades! Imagine trying to double a state's infrastructure - hospitals, roads, sewerage, power etc. - in 20 years when the current estimate is that each additional person requires about [\\$200,000](#) of infrastructure. From where will that money come?

Unfortunately, Nick has been deceived by the notion that it is possible to significantly "youngify" our population through migration. But even pro-migration demographers reject this idea. As demographers McDonald and Kippen stated in a [report](#) for the

Department of Immigration and Multicultural Affairs in 1999, “Levels of annual net migration [into Australia] above 80,000 become increasingly ineffective and inefficient in the retardation of ageing. Those who wish to argue for a higher level of immigration need to base their argument on the benefits of a larger population, not upon the illusory 'younging power' of high immigration.” At the moment annual net migration is about three times higher than the 80,000 recommended! A 2008 [paper](#) by demographer Katherine Betts shows how Australia's current sky-high rate of population growth could more than double our population by the end of the century (and our water, food and fuel consumption etc.) but make little difference to our population's median age. In fact, if we encourage immigration rather than supporting women to have children we could end up with an older population structure than otherwise! With ideas this counterintuitive it is no wonder that our normally intelligent Senator Nick is confused.

Australia's current rate of population growth is truly exceptional - or 'third world' - depending on your viewpoint. At the moment we are growing at three times the rate of the rest of the OECD. But despite the yawning infrastructure shortfalls that rate is not fast enough for Labor's Bill Shorten who wants to see [still higher levels of immigration](#). The next arrival could “be the next Albert Einstein or a good taxpayer” . But it could just as well be the next crime boss or a welfare recipient. And while the current SA Labor government starts to talk about [dismantling our current planning approval system](#) (to make it easier to realise its urban expansion and densification dreams) the leader of the alternative Liberal government wants more [incentives to boost our population growth](#). It's enough to make you bury your head in your hands in despair - or join [Stop Population Growth Now](#).

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