5C: POPULATION, CONSUMPTION AND ENVIRONMENTAL DEGRADATION

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Economic and population growth

> Economic growth, as conventionally measured, is a 'good news' scenario for many; not so good if you think city life is polluted and congested enough already; not so good if you hate seeing ecosystems degraded and destroyed; not so good if you think that successive increments of economic growth are less and less beneficial to the average Australian. Should the community come to agree that economic growth needs to be slowed, reducing the rate of population growth is one effective readily available way of doing so.

It is Saturday May 25 2001 and I have just heard an Earthbeat program on ABC Radio National in which Paul Ehrlich, Tim Flannery and David Buckingham (of the Business Council of Australia) have been debating what Australia's population policy should be. Buckingham wanted strong population growth, Ehrlich wanted a much smaller population than at present and Flannery, recanting on his sometime population target of 6-12 million, didn't seem to know what he wanted–figures of 10, 12 and 20 million were offered as possible working targets along with the idea that we should set a target and somehow revise it every few years, depending on how the environment is faring at the time.

Before going any further, I should place my own position on population policy on record. In my 1996 book, *People Policy: Australia's Population Choices* (UNSW Press), I concluded that a sensible population policy for Australia would be to aim at stabilising the population within a generation or so and that this was quite feasible if net immigration of something below about 50 000 a year could be maintained. Population would then more-or-less stabilise somewhere between 19 and 23 million (depending on actual immigration) sometime before 2050. To get to that conclusion I examined, as disinterestedly, as honestly, as I could all the environmental, economic and social arguments I could find both for and against a much larger population. I did have a prior predisposition in favour of a stable population but I bent over backwards to discount my own prejudices (pre-judgements).

If the contributions I heard on the Earthbeat program are representative of the contemporary population debate, then things have not gone anywhere in the six years since my book was published.

Economic growth vs conservation

As then, business people and their economist friends are the main proponents of strong population growth and it's the biologists who want stable or reduced populations. Try as I might I cannot escape the feeling that business basically wants strong population growth because they see bigger markets as being good for immediate profits. If they could only admit that making maximum profits right now is extremely important to them then the grounds of the debate could be shifted, eg to asking why high profits are so desirable. Instead, they have started talking about the importance of pursuing a triple bottom line (TBL), ie environmental and social objectives as well as (less-than-maximum) profits. But, with a few exceptions, I feel that they are paying lip service to what their public relations friends tell them is good marketing strategy. Their talk is all at the level of the individual firm, not the society as a whole. I wonder if the stablists could develop a line of debate

here–ask business what TBL thinking means in terms of guidelines for managing the whole economy?

Turning to the stablists–the biologists and ecologists–their basic message is still that population growth is strongly correlated with economic growth and that economic growth requires rates of energy and material throughput that destroy or disable ecosystems. But they have made no progress in crafting a convincing argument that something really, really awful will happen if we do not stop destroying and disabling ecosystems. After all we have been doing this for 12 000 years. Historically, we have just folded tents and moved on, admittedly creating a lot of misery in the process. But having now filled the world with people, moving on when ecosystems stop delivering the services that the economy requires is no longer an option.

If I were a hired gun for the growth lobby I would agree that it is a pity that ecosystem services are no longer being provided free. If that's the case, I would say, flicking a speck of dust off my Italian suit, the economy will just have to start buying human-made versions of those services. You know, water purification plants, soil conditioners, plantation timber, minesite rehabilitation and so on. Or, I'd say, we entrepreneurs might have to move towards a product mix that is less dependent on the natural resource base. Sure, profits might go down as costs go up but the name of the game will be to see that your costs go up more slowly than the competition's. And anyway, offsetting technologies might appear. As for those ecosystem services that aren't being traded in the market, like smelling the flowers and bushwalking, well, people will just have to start paying for them if they want the remaining supply to be protected.

And smug business will be right. As long as the community values the marginal net products of the growth cocktail (population growth and higher consumption per head) more highly than the amenity losses associated with lost ecosystem services, it is perfectly rational to keep on destroying and disabling ecosystems. And the community will let it happen.

Valuing the natural world

Of course it won't go on forever. First, people will start valuing the natural world more highly as it disappears, and tell the politicians. Second, the proportion of additional GDP coming as things people want will keep falling relative to the proportion devoted to suppressing things people do not want or to replacing things they once had. This 'useless' component of GDP includes not only the costs of replacing lost ecosystem services but the market costs of ameliorating the growth cocktail's impacts on urban quality of life–air pollution, congestion etc. And to the extent that those impacts are not ameliorated, they need to be recognised as non-market costs to be set against the value of additional GDP.

Unfortunately, there are several reasons why GDP growth will not stop even when the net value of additional GDP reaches zero (which it already has for many people). One is that many of the costs that business is imposing on the community are *externalities* (unpriced side-effects) for which business does not have to pay. Indeed, many externalities are not even recognised as such (eg urban sprawl, increasing energy dependency). So it remains profitable for business to expand output beyond the point where extra benefits to the community (but not business) are less than the extra disbenefits. In economist-speak, marginal social net benefits go negative at a lower GDP than marginal private net benefits.

The recognised remedy for this, even among laissez-faire free marketeers, is to internalise (sheet home to business) those externalities by making entrepreneurs pay compensation in various ways for the external disbenefits they are imposing on the community, and hence discourage them. Another is for the community to directly regulate to stop business imposing the worst of these disbenefits on people.

The more general point though is that only the community as a whole can decide when the net benefits of further economic growth have fallen below the net disbenefits of further ecosystem and cityscape degradation. But there is no institution in place to even attempt this evaluation in a disinterested manner. There is not even a public debate in which opposing sides are willing to concede legitimate points to each other. What we call public debate is better described as aggressive adversarialism. And it is not just useless, it is worse than useless. Why? Because it gives some illusion that we are trying to address the issue when all we are doing is providing a sideshow while the growthists proceed on their merry way. Spare us the population inquiry that Labor promised in the election campaign.

Should the community become convinced that the social net benefits of further economic growth are zero or negative, the population argument comes right back into the picture. While increasing consumption per head is an important part of the growth cocktail, the single simplest, most effective action for slowing economic growth is to slash population growth. In Australia, we are fortunate in being able to do this by simply slashing immigration.

The population debate

Let me see if I can reduce the above argument to a few assertions around which I would like to see the population debate framed:

- As the Australian economy grows, the rate at which the natural and urban environment is being degraded and destroyed increases
- As the Australian economy grows, the fraction of that growth which people are likely to regard as useful will decrease. This is because of increased costs per unit of growth as a result of (a) having to use degraded resources and (b) having to pay to ameliorate an increasing degradation of the natural and urban environment
- Therefore, at some stage, technology notwithstanding, the decreasing benefits of additional growth will fall below the increasing disbenefits of natural and urban environmental degradation.
- If the community can recognise that this point has been reached, economic growth can be slowed by reducing population growth or reducing growth in output per head, or both.

These assertions need to be debated in two ways. Are they correct in principle? If so, what are the numbers? That is, what are socially acceptable measures of wildscape and cityscape degradation and destruction; what is a socially acceptable measure of ‘useful’ GDP; what is a socially acceptable tradeoff rate or exchange rate between environmental losses and ‘useful’ GDP? The sorts of social technologies that can help the community decide whether the value of extra economic growth is going negative include *state of environment monitoring* and constructing alternatives to GDP such as the *genuine progress indicator (GPI).*

Discussion notes

- Questioning economic growth is even more difficult politically than questioning population growth. This paper is revisiting a perennial debate about the costs and benefits of further economic growth, with population appearing as a lever for managing economic growth. This is a very difficult issue to analyse convincingly and that is why we have recourse to arbitrary measures like the genuine progress indicator (GPI). Ultimately of course, GPI is no more arbritary than GDP, but how do you make it as legitimate? One tack is to undermine the credibility of GDP as a measure of wellbeing. Another is to rally behind GPI (suppressing any doubts) and make it a household phrase – again very difficult. It would be a help if it could be adopted by the Australian Bureau of Statistics. The Australia Institute, its main proponent to date, is probably seen as too partisan

- It is difficult to model the population debate because one has to model the whole complex system in which population is embedded, and we simply do not have the tools to do that realistically yet. That is, we can model relationships where causes lead to effects full stop, but not systems where population change produces effects that feed back on the size and distribution of population (not to mention effects that we do not know how to quantify, like the psychological effects of crowding)

- Human population x resource use = environmental degradation. There is a general perception that economic growth and provision of ecosystem services must be environmentally destructive. On the other hand there is enormous potential for economic and employment growth from the provision of renewable technologies (solar, fuel cell, wind, geothermal, sewage use, water and waste re-cycling, organic farming, etc.) Perhaps we should re-phrase economically sustainable development (ESD) as EESD (ecologically AND economically sustainable development – could become a catch-cry, like GPI)

- There is no doubt that as developed economies become less energy intensive in terms of joules per dollar of GDP (many are, but not Australian), environmental degradation per dollar of GDP declines. Unfortunately, if GDP is growing faster than energy intensity is declining we are still going down hill (see recent articles in the financial review on the website: http://www.labshop.com.au/dougcocks)

- The fact that water shortages will affect half the world's population by 2025 will heavily affect their ability to produce food. That may be true for the current 'conventional 'food producing methods which are heavily reliant on water, especially by irrigation, for an adequate output of food. This contrasts with 'mixed' cropping systems, especially those that incorporate a variety of trees and plants which bear food in a variety of seasons. In Malawi, there are trees which produce vegetables, fruits, nuts, legumes, insects and staple (starchy) foods that are able to provide all the macro- and micro-nutrients that are needed, even through the dry season, without irrigation

- The fact that three billion people will face water shortages by 2025 (some say 2015) has been cited by a number of water authorities. Making irrigation more efficient and changing agricultural practices are critical, but even then it is unlikely to be sufficient to meet agricultural, industrial and domestic needs for this many people

- Jared Diamond (1992) notes three situations in which human populations tend to wreak great damage on their environments:

1) When people suddenly colonise an unfamiliar environment, e.g. Maoris in New Zealand

2) When people advance along a new frontier (like the first peoples to reach America) and can move on when they have damaged the region behind

3) When people acquire a new technology whose destructive power they have not had time to appreciate, e.g. New Guinea pigeon shooters with shotguns.

Diamond says it has always been hard for people to know the rate at which they can safely harvest biological resources indefinitely, without depleting them. Decline may be difficult to distinguish from year-to-year fluctuations. By the time that signs are clear enough it may be too late. Resource degradation has been the repeating process behind the steady westward movement of the centre of western civilisation over several millenia. Particularly in arid and variable climates, deforestation, time and again, has led to soil erosion and the destruction of dams and terraces. As a rule of thumb, irrigation-based civilisations such as first arose in Egypt, Mesopotamia and the Indus valley several thousand years BC seldom last for more than a few centuries before degrading the soil resource through salting and water-logging. There is no reason to expect Australia's irrigation regions to escape this fate.

- There has been a number of widely differing estimates for the sustainable population of Australia, varying from less than the present population to upwards of 100 million. A realistic estimate might be in the region of 20 million, particularly if salinity and ENSO/climate change decrease our grain growing capacity. It may be possible for our population to stabilise within a generation or two. Whether or not it will do so will depend on our immigration policy. Restriction of immigration to 50,000 p.a. might make it feasible, accepting a higher proportion of refugees, on humanitarian grounds. Whatever number we can realistically accept, it will be a drop in the ocean compared with the millions of political and ecological refugees to be expected worldwide in years to come.

- A preventive approach to the refugee problem might be for all industrialised nations, including Australia, to massively invest in the empowerment of local communities in the third world to develop sustainable agriculture, renewable energy resource systems, universal education and family planning programs. This may reduce the gross inequalities to which Colin Butler refers (2B), and therefore lessen the pressures for emigration. With the honourable exception of Scandinavian countries, the pledge given by the rich nations thirty years ago to assign 0.7% of their GDP to developing nations has steadily declined, to a miserly average of 0.19% for OECD countries, with USA at the bottom of the league table with 0.1%.

Further reading

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