

More than additions to population: the economic and fiscal impact of immigration

Mark Cully, Department of Immigration and Citizenship*

In the conceptual framework of the Inter-Generational Reports, immigration features as an exogenous input into the size of the population and its composition by age and gender. There are good reasons for believing that immigration has sizeable endogenous components; that attributes other than age and gender distinguish immigrants from the native-born, as well as from each other; and that these features are of significant economic and fiscal import. Last, it is suggested that, in the context of an ageing population, we may learn much about the effectiveness of different policy responses to achieving fiscal sustainability – as well as immigration policy – through a dynamic life cycle accounting approach.

In 1930, in the midst of the Great Depression, John Maynard Keynes published a remarkable essay entitled ‘Economic Possibilities for our Grandchildren’. In it, he offered some conjectures – projections, if you like – on the standard of living that might apply in the United Kingdom one hundred years from then. Assuming a constant growth rate of (just over) 2 per cent per annum would see material standards of living multiply eightfold by 2030.

To reach this state would Keynes reckon be “economic bliss.” The enduring economic problem of unsatisfied material wants would be resolved, giving rise to a new problem: how to use this freedom, and its associated additional leisure time, one with a maximum working week of 15 hours, “to live wisely and agreeably and well.”

Eighty years on, this vision of nirvana looks as unattainable as ever. The remorseless actuarial logic of the three Australian Inter-Generational Reports (henceforth, IGRs) offers no respite: twice as well off Australians might be by mid-century, but with no apparent diminution in wants, working an average 34 hour week, and saddled with a greater tax burden.

The dynamics of population change in Australia – since 1995, newly arriving immigrants have out-numbered births in population additions, a situation highly likely to continue should fertility rates remain below natural replacement level – means that the inter-generational “story” in Australia is not just about the economic

* The views in this paper are those of the author and should not be attributed to the Department of Immigration and Citizenship or to the Australian Government.

possibilities for our grandchildren; it is also about what prospects we offer to future waves of immigrants and the terms under which we grant entry.

In this paper I examine the treatment of immigration in the IGRs, before ranging into a discussion on the economic and fiscal impacts of immigration. The argument is that the immigration contribution to Australia, now and into the future, is considerably more than additions to population – and that this needs to be explicitly recognised, if not through the IGRs, then via a long-term migration planning framework.

The treatment of immigration in the IGRs

In the conceptual framework of the IGR, net overseas migration (i.e. immigration less emigration) is treated as an exogenous variable that, along with assumed rates of fertility and mortality, determines the size of the Australian population and its composition by age and gender in any given year over the 40 year outlook.

In each of the IGRs there is explicit acknowledgement in the text that net overseas migration has endogenous components. These are said to explain volatility from year to year, but this variance is treated as if it were random over the long-run, allowing for the adoption of an assumed average annual net inflow.

Part of the volatility is due to the economic cycle. Individual economic agents appear to modify their propensity to arrive or depart depending upon the relative state of economic affairs between sending and receiving countries. In the most recent downturn, emigration levels from Australia fell, while return migration of Australian citizens increased.

Policy settings also appear to be pro-cyclical. History shows that in downturns, the government tends to reduce the scale of the permanent migration program, and vice versa in upturns. For instance, having announced in May 2008 plans for a record high permanent skilled migration intake of 133 500 for 2008-09, the Rudd government subsequently trimmed the program to 115 000 in March 2009, in response to the global financial crisis.

It is a matter of record that each IGR has adopted markedly different assumptions on the average level of net overseas migration, starting at 90 000 per annum in IGR1, rising to 110 000 in IGR2, and again to 180 000 in IGR3.

The increase from IGR1 to IGR2 is attributed to a shift in government policy in favour of greater skilled migration. The 110 000 figure is justified as the average of the preceding 10 years.

There is no rationale presented in IGR3 for the 64 per cent increase, though there is an implied partial attribution to the revised methodology introduced in 2006 by the Australian Bureau of Statistics that had the consequence of raising the measured level of net overseas migration.¹ The assumption adopted is based on the average contribution of net migration to population growth (0.6 per cent per annum) over the preceding 40 years.

For the purposes of determining fiscal projections, some simplifying assumptions about population growth (and, therefore, net overseas migration levels) are required to make the exercise tractable. What if, though, the level of net overseas migration is endogenously determined not only by the state of the economic cycle but also by the underlying dynamics of the economy's adjustment to an ageing population? For much of the past decade, the Australian economy has been operating at relatively low and falling unemployment rates, with high levels of job vacancies, and many skilled occupations in short supply.

In the conceptual framework of the IGR, labour demand (as measured by working hours) is set by labour supply. If, however, labour supply adjusts to changes in demand through different mechanisms, such as migration flows, then it is future labour demand that should be modelled.² The Department of Immigration and Citizenship (2012) has developed a model to forecast net overseas migration and its sub-components within a demand framework, although only over a short horizon of 4-5 years. The forecasts are published quarterly.

The economic impact of immigration

A further simplifying assumption used in each of the IGRs is that immigrants are equivalent to Australian-born persons of the same age and gender with respect to fertility and mortality, labour force participation, and their consumption of government services such as education and health.³

It is self-evident that migration influences the size and composition of the population. The IGRs allow for this to flow through to a participation effect, but only by virtue of a "batting average effect". That is, the aggregate labour force participation rate will change if (and only if) immigration alters the age by gender composition of the population. Given that net migration into Australia is strongly biased towards persons of prime working age, the year-upon-year effect is to nudge up the labour force participation rate. This, in turn, is offset by population ageing (of all existing residents, including immigrants arriving in earlier years) which has the net effect of shifting people into age brackets that are historically those with lower participation rates. Which weighs larger depends upon their relative size.

Table 1 Contributions of changes in population composition and the propensity to participate to change in the aggregate labour force participation rate, 2000 to 2010 (percentage points)

Age group	Australian-born			Overseas-born			Total
	Males	Females	Total	Males	Females	Total	
<i>Population composition change</i>							
15-24	0.07	-0.14	-0.06	0.13	0.17	0.30	0.24
25-44	-1.48	-1.40	-2.89	0.11	0.08	0.18	-2.70
45 plus	0.54	0.33	0.88	-0.12	0.04	-0.08	0.80
Total	-0.87	-1.20	-2.07	0.12	0.28	0.40	-1.67
<i>Change in propensity to participate</i>							
15-24	-0.29	-0.10	-0.40	-0.01	-0.08	-0.09	-0.48
25-44	-0.10	0.43	0.33	0.02	0.17	0.19	0.52
45 plus	0.75	1.51	2.26	0.58	0.86	1.44	3.70
Total	0.36	1.83	2.19	0.59	0.95	1.54	3.73
Total change	-0.51	0.63	0.12	0.71	1.24	1.94	2.06

Source: aggregated from results presented in Cully (2011)

Table 1 summarises the results from a decomposition of changes in the aggregate labour force participation rate over the decade ending 2010, taking account of age and gender, and also of birthplace (Cully 2011). During the decade, changes in the age and gender composition of the immigrant population added 0.4 percentage points to the labour force participation rate.⁴ This was more than offset by a population ageing drag among the Australian born which lowered the aggregate labour force participation rate by 2.1 percentage points.

Changes in the propensity to participate added 3.7 percentage points to the aggregate labour force participation rate in the decade to 2010, fuelled by increases among older workers, women and immigrants. The immigrant contribution, independent of population composition effects, was 1.5 percentage points.

What might explain this? One factor known to correlate positively with participation is educational attainment. The shift in immigration policy, going back well over a decade, towards a greater share of skilled immigrants in the total intake has resulted in a substantial increase in educational attainment among the immigrant population. Recent data from the Australian Bureau of Statistics (2012) shows that 48 per cent of working-age migrants arriving since 2001 (and aged 15 years or more on arrival) have a degree or higher qualification. For immigrants as a whole, the proportion was 40 per cent, compared with 21 per cent among the remainder of the working-age population (comprising the Australian-born and migrants aged less than 15 years on arrival).

Two other changes to immigration policy are also likely to have boosted participation by promoting employability. The first is the restriction on access to welfare payments in the first two years of permanent residence.⁵ This is likely to have had a self-

selection effect (i.e. discouraging those with low employability from seeking entry) as well as lowering the reservation wage for new migrant workers, increasing the likelihood that they will accept early job offers. The second is the much greater scope that now exists for employers to sponsor foreign workers, meaning that the absorption process into employment is much faster.

The increase in educational attainment in the Australian population also offers potential spillover productivity gains not anticipated in the IGRs. There is an emerging body of literature, mostly from the United States, that immigrants are a source of innovation, for example through higher rates of patenting (Hunt 2010). The evidence in this area is less compelling than it is for the participation boost – there are, as yet, no empirical studies for Australia – although the argument is broadly consistent with the theory that the social pay-off to investments in human capital exceeds the private returns.

Beyond its impact on what has come to be known as the 3Ps, no account is taken of how immigration flows alter relative factor prices and the resultant economic consequences. Various attempts have been made to empirically estimate this through the use of computable general equilibrium (CGE) models. In Australia the best known instance of this is the Productivity Commission's 2006 research report into the economic effects of immigration. For the report, the Centre of Policy Studies at Monash University used its CGE model of the Australian economy to estimate the impact of a 50 per cent increase in the number of skilled immigrants. They found, relative to the base case, a cumulative increase in GDP per capita over 20 years of just 0.7 per cent. The projected income gains went mostly to the migrants, with a projected small decline in earnings among the existing population – again, relative to the base case.

The Productivity Commission did attach a number of caveats to the findings. Perhaps the most salient one in the context of an ageing population is whether immigrants are best considered as substitutes for, or complements to, the resident workforce. To the extent that they are complements, the model understates the income gain arising from immigration, as it incorporates an underlying assumption that immigrants are fully substitutable for resident workers. If immigrants are helping the economy to alleviate skill shortages, it is more reasonable to consider them as complements.

The fiscal impact of immigration

The increase in the assumed level of net overseas migration in each successive IGR accounts for a fair chunk of the projected improvement, over the course of the three IGRs, in the long-run fiscal position. The increase flows through, over the 40 year time horizon, into a higher labour force participation rate, and consequently growth in GDP and GDP per capita, resulting in a lower fiscal impost by mid-century than previously projected (Gruen and Thomson 2007).

It is worth delving a little more into the fiscal impact of immigration, and some of its nuances. There are two potential positive fiscal impacts arising from immigration that accrue simply through additions to population. First, there are some publicly provided goods for which there ought to be diminishing marginal costs as population size increases, thereby lowering the average cost per person of their provision. Clear examples of these would be defence and public broadcasting. It may also be true for some publicly provided infrastructure. Second, a greater population increases the size of the tax base, and thus avoids a potential situation that some countries with shrinking populations may face where living standards (GDP per capita) are maintained but GDP falls.

A further, unremarked, consequence of immigration is that any increase in the overall tax burden, so as to maintain fiscal sustainability, is highly likely to fall disproportionately on future immigrants. Cully and Pejoski (2012) estimate that, under the IGR3's assumption of a net migrant intake of 180 000 per annum, the overseas-born population in Australia would reach 11.4 million by 2050, close to double the current number, and equating to around a third of the total population. This is reported as an observation rather than a policy prescription: if the goal is fiscal sustainability, Rowthorn (2008) shows that policies to increase employment rates are far more effective than boosting immigration.

These issues are second order though to the larger one of the fiscal impact of particular types of migrants. For more than a decade, the Department of Immigration and Citizenship has collaborated with Access Economics to develop and update a migrant fiscal impacts model – see Access Economics (2008). The fiscal impact of new immigrants is also explicitly considered by the government as part of the annual process of setting the Commonwealth Budget, an aspect of which is determining the size and composition of the permanent migration and humanitarian programs.

Both use a direct accounting approach to estimate the fiscal impact, whereby the direct costs of the provision of government services to new immigrants – such as settlement services, education, and health – are estimated, as is the direct revenue contribution arising from visa charges and estimates of income tax paid by migrant workers. For budget purposes this is done over the forward estimates (i.e. 4 years), while the Access Economics model has a horizon of 20 years. Consistent with budget rules, the forward estimates are prepared on a no policy change scenario. That means that any subsequent policy change is regarded as a variation to the existing forward estimates.

The combination of this direct accounting approach and the budget rules around forward estimates potentially clouds the consideration of an optimal immigration policy. Some groups of immigrants may incur a fiscal deficit in their early years of settlement which is subsequently repaid in later years as their situation improves.

This is evidently true for children, and is true on average for humanitarian entrants. A more subtle point is that budget rules around forward estimates mean that changes to the permanent migration program from one year to the next can have negative consequences for the budget bottom line even where a single year cohort has a demonstrably positive fiscal impact in the short-term.⁶

To adequately account for variations by age and the settlement trajectory of different groups of immigrants, and therefore to better inform policy discussions on the impact of immigration, a more sensible approach would be to estimate the lifetime fiscal impact of admitting new migrants, discounted to arrive at directly comparable net present values.

Consider as an example a fifteen year old refugee and a forty year old skilled migrant worker. Who has the most to offer Australia? Under the direct accounting approach of Access Economics and the Commonwealth Budget, the answer is incontrovertible that the skilled migrant worker yields the larger fiscal benefit. The answer is not clear cut though if we estimate the net present value of their fiscal contribution over their expected life cycle. The refugee has a full working life ahead of them, while the skilled worker is half way through theirs. The answer would depend on the different earnings profiles.

This “dynamic accounting” approach to estimating the fiscal impact of immigrants has potential broader application in the IGRs. Storesletten (2003) applies this approach for Sweden to estimate what level of employment in an ageing and growing population (comprising native born and immigrants) yields a fiscally sustainable position in the long-run. That would help to inform broader policy settings around workforce participation and income retirement policies, as well as immigration.

Public discussion of IGR3 was waylaid by as much if not more interest in the underlying population projections as to the conclusions around fiscal sustainability. These projections have high levels of uncertainty surrounding them, in large part because it is simply not possible to forecast immigration levels that far into the future. A dynamic accounting approach to issues surrounding an ageing population would most likely yield the same policy insights with less effort and less potential for distraction.

Conclusion

I began this paper by looking at the one attempt made by Keynes, a somewhat whimsical one, to project the long-run economic future of the United Kingdom. In some respects (living standards, the drivers of growth) his projections have proven prescient; in others (the working week, the good life) they are well off the mark. But, as he also once quipped, in the long-run we are all dead.

Whatever the future holds for Australia, history suggests it will be inextricably bound up with immigration. That requires careful consideration of the prospects we offer to would-be migrants, and to whom we grant entry, having regard to the economic and fiscal *and* social impacts. This is beyond the remit of the IGRs, but it does need to be part of a long-term migration planning framework.

Endnotes

- ¹ The current rule to count into (or out of) the Australian population is for persons to spend 12 months within a 16 month window resident in (or away from) Australia. The previous rule was 12 continuous months. Under the current rule, some long-term temporary entrants who had previously not been counted into the population (e.g. students returning home on an annual basis in semester breaks) were added.
- ² Significant components of net migration are uncapped (e.g. temporary skilled workers) or are not regulated (e.g. free movement of Australian and New Zealand citizens under the Trans-Tasman Travel Arrangement).
- ³ It also assumes that immigrants of the same age and gender are equivalent to one another.
- ⁴ The scale and age bias – predominantly, young adults – was sufficiently large in the decade that the age profile of the total stock of immigrants became younger.
- ⁵ This restriction does not apply to refugees and humanitarian entrants.
- ⁶ To illustrate, assume that skilled migrants have a positive fiscal impact (PFI) that is twice as large as spouses coming through the family stream, and that this impact is constant over time. Let there be twice as many skilled migrants as spouses. In Year 1, that will mean 5PFIs multiplied by the total size of the program, and the same in Year 2 and Year 3 and so on. Now, let there be a policy change to have an equal number of skilled migrants as spouses and no change in the size of the program. That will mean 3PFIs multiplied by the total size of the program per year. For budget purposes this would be represented over the forward estimates as -8PFIs multiplied by the total size of the program rather than the 12PFIs which it is yielding.

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