

BRAIN DRAIN : FACT OR FICTION?

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There has been much publically expressed concern about an Australian brain drain. However, an analysis of the permanent and long-term movement of resident engineers reveals a continuing net brain gain' for Australia.

INTRODUCTION

Periodically the spectre of a brain drain' of Australia's most talented graduates is raised, usually in the form of media reports. Following the release of the most recent emigration report [1] from the Bureau of Immigration, Multicultural and Population Research (BIMPR), it was reported in the print media that thousands of university graduates quit the country'.[2]

While the BIMPR report shows the permanent departure of Australian-born persons has grown over the past decade to just over 10,000, less than half are classified as in the workforce. Furthermore, the loss of Australian-born professionals is more than compensated for by the arrival of foreign-born professionals. [3] Nevertheless, Hugo [4] has voiced concern that, in a more competitive world for expertise, Australia may be losing some of its previous migrants, in addition to locally-born and trained professionals, to some of its richer neighbours, especially in South East Asia. Engineers offer a good test case for this hypothesis because they constitute by far the largest category of professional movers to and from Australia. Also, because of the recent recession, which hit engineering employment particularly hard, one might expect some consequent outward movement.

This paper updates two earlier papers [5] which focused on the brain drain' issue as it relates to engineers. These papers showed that, contrary to the fears referred to above, up to and including the year 1992-93, Australia was a substantial net gainer from the movement of foreign-born engineers as long-term and permanent residents. Indeed, data extracted from the 1991 Census reveals that 31,369 (44.2 per cent) out of all 70,910 persons holding degree level qualifications in engineering resident in Australia were born overseas and that, of these, 12,082 arrived in Australia in the period 1986-91.

However, the census data also indicate that recently-arrived migrant engineers experience significantly higher levels of unemployment and under-utilisation of their professional qualifications compared with Australian-born persons and earlier arriving migrants.[6] Given these large numbers of immigrant engineers, and the subdued employment prospects in the profession, it would not be surprising if significant numbers did decide to leave Australia.

As noted, there was no major exodus up to 1992-93. But perhaps the pattern has changed in the two subsequent years for which we have data.

MOVEMENT OF ENGINEERS

As in the earlier studies, the following data are based on passenger card information provided by the BIMPR. The data analysed cover the permanent and long-term movement of resident engineers (defined as all those holding permanent-resident status whether Australian-born or overseas-born).

Long-term movements refer to those leaving Australia with the stated intention of staying away 12 months or more, as well as to those returning to Australia after an overseas stay of 12 months or more. Permanent movements include settler arrivals and departures of Australian-born residents and former settlers where the stated intention is to depart permanently.

There is a significantly larger movement of engineers holding short-term temporary resident visas which also impacts upon the brain gain' issue.[7] There has been a steady surplus of engineers classified as long-term visitor arrivals over visitors departing after a long-term stay in Australia, averaging 450 per year between 1991-92 and 1994-95. It is also possible that a number of resident engineers who state their movement is short-term actually stay or leave for longer periods. Nevertheless, it is felt that the permanent and long-term movements of resident engineers provides the most reliable indication of any brain drain'. Subject to this proviso, the movement of resident engineers to and from Australia over the twelve year period 1983-84 to 1994-95 is charted in Figure 1. These data encompass both Australian-born and overseas-born engineers. The net influx in this movement peaked in 1990-91 at 2,725, thereafter there was a drop to 1,332 in 1993-94. The data for 1994-95 suggest the downward trend has been arrested.

The drop in the net influx since 1990-91 is the result of a sharp decline in arrivals, particularly settlers and particularly since 1992-93. The main reason for the decline is that the Government has sharply tightened its selection rules. It is not a product of any increase in the outflow of engineers, including Australian-born engineers, as some have feared. Between 1990-91 and 1994-95 the permanent and long-term resident engineer outflow remained constant. In particular, the net outflow of Australian-born engineers fell from 401 to 231 between 1990-91 and 1993-94, increasing to 289 in 1994-95 (see [Table 1](#)). Nor has there been any increase in the outflow of over-seas-born resident engineers since 1990-91. These figures suggest that the recession has had no impact on the departure of resident engineers from Australia. The data for the major source areas of the net influx of foreign-born engineers are given in [Table 2](#). As a first observation, it should be noted that the total contribution from these selected areas abruptly dropped from about two-thirds to one-half of the net influx between 1992-93 and 1993-94. Each member of the group, with the exception of the United Kingdom has suffered a loss in market share of the net influx between 1990-91 and 1994-95.

In terms of actual numbers, there was a fall in the net migration from Malaysia, Hong Kong, India and the UK between 1990-91 and 1993-94 with evidence for a recovery commencing in 1994-95, except for Hong Kong. In contrast to this, there were dramatic increases in net migration from the USSR and Baltic States and Eastern Europe, with peaks of 425 in 1992-93 and 291 in 1991-92 followed by sharp falls in 1993-94. There is evidence of a recovery in 1994-95.

The human side to the experience of immigrant engineers in Australia has been documented by Hawthorne [9]. Her report identifies five major barriers to professional employment for non-English-speaking-background (NESB) engineers;

- **lack of Australian experience**
- **inadequate English language ability**
- **inappropriate job-seeking strategies**
- **differences in technology requirements**
- **cross-cultural issues.** It is also stated that the sole significant predictor of employability proved to be racial origin. Possession of advanced English language levels was advantageous only if engineers were European'. [10] In view of Hawthorne's hypothesis about the importance of race, the shift towards a European dominance for the country of origin of migrant engineers might be expected to help in the absorption of this more recent inflow of engineers. However, the capacity of the engineering labour market to accommodate the growth in migrant engineers must be in question.

In summary, the key findings are:

- there has been a significant brain gain' in engineers over the past decade;
- the departure of engineers either on a permanent or long-term basis has remained unchanged for six years and
- there has been no significant exodus of Australian-born engineers; there has been a significant swing in the country of origin of the net influx of engineers, and in particular those arriving as permanent residents, away from Asia towards Europe. This could have an impact on their employability.

References

1. Emigration 1994-95, Bureau of Immigration, Multicultural and Population Research
2. G. Maslen, Campus Review, March 28 - April 3, 1996
3. G. Hugo, Economic Implications of Emigration from Australia, Bureau of Immigration and Population Research, AGPS, 1994, Ch.7
4. *ibid.*
5. T.F. Smith, Is there a brain drain? The case of engineers', People and Place, vol. 1, no. 2, pp.43-46, 1993; T.F. Smith, The movement of engineers in and out of Australia', People and

Place, vol. 2, no. 1, pp. 25-29, 1994

6. T.F. Smith, The employment situation of migrant professionals holding tertiary qualifications, *People and Place*, vol. 2, no. 2, pp. 13-18, 1994

7. Concerns over the impact of the temporary entry of skilled professionals, particularly in the information technology industries on local training and employment have been voiced following the tabling in Parliament of the report *Business Temporary Entry Future Directions*. See B. Kinnaird *Temporary-entry migration: balancing corporate rights and Australian work opportunities*, *People and Place*, vol. 4, no. 1, 1996

8. L. Hawthorne, *Labour Market Barriers for Immigrant Engineers in Australia*, Bureau of Immigration and Population Research, 1994

9. *ibid.*

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