E.G. TOTIMEH
Ministry of Finance & Economic Planning, Ghana
G.T. HARRIS
Department of Economics
The University of New England

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EXPECTED RATES OF RETURN TO OVERSEAS STUDENT POSTGRADUATE STUDY IN AUSTRALIA

This form of aid is based on the expectation that the return to the recipient society will be positive and, it is hoped, high. That education can be a worthwhile investment has been adequately demonstrated for example. Potoculopou and Nugent summarize a number of estimates of social rates of return for the 1950s; for developing countries, the rates ranged from 9 to 50 per cent for secondary education, and from 9 to 25 per cent for tertiary education.

The objective of this paper is not to measure social rates of return but expected private rates, i.e. the net returns anticipated by the individuals involved. Private returns will in fact be indicative of social returns: the marginal productivity theory of labour predicts that a worker's wage will be equalized with his or her productivity, and therefore, more productive, worker will receive a higher wage. If, then, the expected return in terms of higher wages) is sufficient to attract them to apply for study in Australia, it may be assumed that their contribution to society on their return will also be significant.

This article reports a study of overseas postgraduate students at the University of New England. The data derived from a questionnaire, private expected rates of return (ERR) are calculated). The calculations involve a comparison of the major costs to the student: -

- All costs of living in Australia are covered by the ADAB grants i.e. private saving and dissaving in connection with overseas study in Australia are assumed to be zero. This includes the costs of family air fares to and from Australia which are not met by ADAB, although additional living costs were incurred for the benefit of families.
- Earnings foregone by spouses, and holiday earnings were found to be negligible, and are assumed to be zero.

Expected monetary benefits - that is, the difference between salary before and after training - are assumed constant over the entire working life of the individual student. This is an assumption which may well not be true. Study in Australia may well lead an individual onto a more rapid promotion path than would have occurred otherwise, rather than simply growing at the same rate but commencing at a higher level. Personal predictions of changed promotion paths are, however, very difficult to derive.

Several other points should be noted. Respondents were requested to report all money values in constant Australian dollars; they would have converted their home currency, when necessary, to Australian dollars using an approximate (probably current) exchange rate. Second, only a limited proportion (36 per cent) of students had an opportunity to calculate an ERR value in the absence of a foregone income: some had no previous job and the majority of ADAB sponsored students were still receiving incomes from their job, although many cases these were being retained at home. Thus, for 64 per cent, the most important cost normally incurred (i.e. income foregone) was zero.

The ERR's, therefore attribute to only 36 students — 33 male and three female; for the others, it was not possible to calculate an ERR value in the absence of an opportunity.

The overall ERR was 51 per cent, and this was cross tabulated against age, region of origin, qualification and source of finance. With respect to age, it was anticipated that ERR would be higher for younger people; since they would have a longer period over which to earn and cover costs. This proved to be the case with a very high rate (85 per cent) for those in the 20-24-year group and a low 6 per cent for those 40 years old and over.

There was considerable variation between ERR as regards region of origin as is indicated in Table 1. To the extent that expected private rates of return are indicative of social rates, these suggest that from an aid standpoint, South East Asian and South Pacific students are the most desirable recipients.

First degrees give by far the highest ERR, and postgraduate diplomas the lowest. This appears to explain why the West's esteem for overseas students does not appear to give to diplomats. As regards field of study, the economics, social sciences and sciences fields had the highest (86 per cent) followed by accounting (51 per cent), the ERR for science students value was 34.6 per cent and education studies much lower at 9.3 per cent. This ranking is consistent with that for social rates of return from selected developing countries.

Table 3 reports ERR values by source of finance. Self-financing or privately-financed students had much higher rates than ADAB-sponsored students, and this, together with previously reported data, points to the existence of two quite distinct groups of students: older (normally in their late 30's or over), ADAB-sponsored students studying for a master's degree; and younger, self-financed or privately-financed students studying for a bachelor's degree.

Home governments tend to nominate students from among public servants or others with at least some years of work experience. There was a smaller group of mixed age/source of finance students.

Note: Six students did not indicate country or region of origin.

With respect to qualification sought, Table 2 indicates that substantial differences occur between qualifications.
The ERR for the first group (younger, self or privately-financed and studying for a bachelor's degree) is much greater (69.3) than that of the older, ADAB-sponsored master's students (17.5 per cent). This is explicable in terms of longer working life and the previously-reported greater ERR for bachelor's degrees. In the next section, we concentrate on those students whose studies form a part of Australia's aid commitment.

### Table 3

**EXPECTED RATE OF RETURN BY SOURCE OF FINANCE**

<table>
<thead>
<tr>
<th>Source of finance</th>
<th>Number</th>
<th>ERR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self, private</td>
<td>13</td>
<td>87.0</td>
</tr>
<tr>
<td>A.D.A.B.</td>
<td>18</td>
<td>30.6</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>30.0</td>
</tr>
</tbody>
</table>

As regards benefits, 49 per cent of respondents indicated that training would increase their job mobility outside their country and 41 per cent that it would increase mobility within their own country. These data have generated implications for educational aid administration.

10. In the original paper, ERR values were also calculated for students without foregone income by assuming they had foregone their salary for those without a previous job. It was assumed that foregone salary was half their expected future salary and return. With a zero cost figure, the ERR is infinite.


12. Yotopolous and Nugent, op. cit. p. 192, report a median actual private rate of return for thirteen developing countries during the 1980s of 14.5 per cent, this was above the social rate by an average of three per cent. Psacharopoulos, op. cit. 1981, reports private rates of return to higher education in 14 developing countries for the 1970s. These lie between 16.5 and 27.6 per cent with a median of 23.2 per cent.

13. Neither of the studies indicate the nature of the higher education considered. Presumably, the data relate to first degrees.

14. Of the 22 developing countries considered by Psacharopoulos (1981), only six fit into the World Bank's low income category.


16. Another possible explanation, on which our data provide no hard evidence, is that Australian degrees result in more rapid promotion than domestic degrees.

17. Three-quarters of the ADAB-sponsored students in the sample come from countries classified by the World Bank as low-income countries.

### Table 4

**EXPECTED RATE OF RETURN BY GROUP**

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of respondents</th>
<th>ERR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Younger, self/private financed, bachelor's degree</td>
<td>14</td>
<td>69.3</td>
</tr>
<tr>
<td>Older, ADAB-sponsored, master's degree</td>
<td>14</td>
<td>17.5</td>
</tr>
<tr>
<td>Mixed age, source of finance</td>
<td>8</td>
<td>74.7</td>
</tr>
</tbody>
</table>

Returns to ADAB-sponsored students

The ERR values calculated in this study for expected private rates of return to ADAB-sponsored students are higher than the actual rates to university level education reported by Yotopolous and Nugent and Psacharopoulos for developing countries. Anticipated rates are likely, of course, to be different to actual rates, but there are reasons for expecting the difference between the rates to have been in the other direction. In particular, it would have been expected that actual rates of return in the 1980s, when educated manpower was in more limited supply, would be higher than actual rates during the 1960s. In addition, the present study reports return from postgraduate study only, which we would expect to be less than the return on university level education in general.

A probable explanation lies in the countries included as 'developing' in the samples of the two studies previously cited. They include such middle income countries as Kenya, Malaysia, South Korea, Brazil, Chile, Mexico and Venezuela. It is recognized by these studies (e.g. Psacharopoulos) that as a country's level of development increases, the rate of return to education (both social and private) diminishes. It is likely that rates of return to education in middle income countries will be lower than in the lower income countries which dominate our sample.

### Conclusion

Private rates of return are normally used to explain the private demand for education. In order to evaluate public investment in education, or to estimate the effectiveness of educational aid programmes, social rates are desirable. Given the complexity of calculating social rates, and the link assumed by marginal productivity theory between social and private rates, this study's estimates of expected private rates of return are a useful indicator that this form of aid is worthwhile.

### REFERENCES

1. This article is a shortened version of a research paper 'Ex ante Rates of Return to Education: A Case Study of Overseas Students at the University of New England', by E.C. Tither, a copy is held in the Lewis Library of the University of New England.

2. The authors are respectively Economic Planning Office, Ministry of Finance and Economic Planning, Accra, Ghana, and Lecturer in Economics, University of New England.


6. Private overseas students make up about half the U.N.E. overseas student number. Those, of course, do not comprise part of Australia's aid commitment.

7. A copy of the questionnaire is incorporated in the original paper.

8. The general limitations of surveys of this nature have been well summarized by O.A. Meier, and G. Kalton, Survey Methods in Social Investigation, Heinemann, London, 1971, pp. 260-262.

9. Non-monetary costs and benefits were also examined, with students broken into three categories: those with families in Australia, those married but without their families and those who were not married. For the first group, the most commonly reported cost was that their wives were unhappy in Australia (reported by 37 per cent of respondents in this category). For the second group, loss of contact with wife and children was most important (75 per cent).

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