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The Irish Brain Drain

*by*

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## INTRODUCTION

The tradition of the Economic and Social Research Institute has been to publish factual rather than policy studies. Professor Lynn's paper is a new departure—a discussion primarily of policies, though of course supported with factual material. Its starting point is Ireland's formidable brain drain which, like emigration in general, could well accelerate rather than slow down now that Ireland is moving into a population explosion.<sup>1</sup> How, Professor Lynn asks, can the stream of graduates be redirected so as to accelerate new business growth, the key to fuller employment within Ireland both for people in general and for graduates in particular?

One possibility would be simply to block the rush of new entrants to the universities, in the hope that those who are disappointed at the gate of the graduate professions will turn instead to the career of the self-made businessman, with or without qualifications from part-time study. Ought the number of university students to be tailored to the number of openings available in the professions and industry in Ireland in the hope that those excluded will burst their way upwards into business success?

A policy of that kind—though Professor Lynn leaves the question open—looks unpromising. As Elliot Jaques has pointed out from British experience,<sup>2</sup> the young man who is forced into work below his ability is at least as likely to turn up as a militant troublemaker as to find another road to making a million. Part-time study tends to be wasteful, with a high-drop-out rate. Limits to educational opportunity, as again can be documented from British experience,<sup>3</sup> are a marked disincentive to just those parents in management and professions whom it is particularly important to retain in the country or attract to it. Britain, the most immediate competitor for Irish talent, offers to brighter boys and girls a very good chance of a university or training college place, free of both fees and maintenance costs for all except well-to-do parents; and free even to these parents for all children after the first if they happen to have more than one studying at once. Above all, there is a clash of values which a policy of blocking

access to higher education could make explosive. Some certainly would accept the argument that a country should offer university places to only as many boys and girls as it can hope to get a return from itself. Others are likely to feel that it is the duty of each generation to give the best start in life that it can to the next and will see it as a great social injustice if this is denied. If a good start in life leads to a job overseas, that may be regrettable, but on this view is no reason for denying opportunity to people in the coming generation; especially as non-graduates as well as graduates may emigrate, and it is impossible to predict in advance which the emigrants in either category will be.

Can we then redirect the pattern of studies, without limiting the number of students, so as to get a better result than now in terms of the expanding of the economy and employment, including the employment of graduates themselves? This looks like being a major issue in Ireland for a long time to come and one on which more work needs to be done. Professor Lynn has a number of suggestions about university courses; stronger business schools; more directly vocational courses in particular fields of business; a stronger business element in courses in technology and science.

He leaves open, however, in this short paper a whole series of practical questions following from this. How are we to steer universities and university students towards a more direct interest in business and especially in entrepreneurship, supposing that we wish to do so? British experience in recent years has underlined that it is relatively easy to reshape university facilities—he who pays the piper can usually call the tune if he insists and is prepared to take any risk that there may be that outside direction may reduce universities' academic efficiency—but that students will not necessarily adapt their choice of course to the new pattern; even if this means that some faculties are scraping the barrel while in others good students are being shut out altogether. To steer students needs action reaching back into the schools and also forward into the job market.

Ireland today has acquired effective machinery for identifying and helping entrepreneurs. But there are still gaps, especially in creating opportunities for useful businesses in the most advanced technologies on which the future particularly depends. Ireland is a small country with good development facilities and

<sup>1</sup>Brendan Walsh: *Some Irish Population Problems Reconsidered*, to be published by ESRI, Autumn 1968.

<sup>2</sup>In his *Measurement of Responsibility*, Tavistock 1956 and *Equitable Payment*, Heinemann, 1961.

<sup>3</sup>R. E. and J. M. Pahl: *The Manager: his Wife, his Family, and his Career*, Graduate Appointments Register, April 1968.

easy personal communication; its population is almost exactly that of Greater Boston, where probably the most successful development of this type of business in the world has been built on just the sort of personal network that Ireland possesses.<sup>4</sup> Ireland has easy access to major centres of advanced technology an hour's flight away and good personal links with many of them. It is about to have free trade with Britain and may yet have it with Europe. Professor Lynn notes the difficulties in the way of promoting numbers of new high technology businesses in Ireland; but the possibility of doing so deserves at least to be seriously considered. Or, again, have we considered sufficiently the business possibilities, as well as the possibility of directly increasing the employment of graduates, which might follow incidentally from a stepped up programme of trade and aid to developing countries? A recent study of the Russian labour market<sup>5</sup> noted that in 1955 some 18½% of Soviet male graduates were in the armed forces. This, one hopes, is an example that Ireland will not find it necessary to imitate. But suppose that international aid programmes were stepped up to the point where something approaching this proportion of Irish graduates were at any one time serving temporarily or permanently overseas though keeping their base in Ireland, is it not possible that this could lead incidentally to the substantial advance in Irish business overseas as well as being a major contribution to employment for Irish graduates?

<sup>4</sup>The best documented account of this is in a series of unpublished theses written at the Sloan School of Massachusetts Institute of Technology. See also H. Johnson, *Progress in Management Education*, Management Today, April 1968.

<sup>5</sup>N. T. Dodge: *Women in the Soviet Economy*, Johns Hopkins, 1966.

Finally, Professor Lynn tackles the question of how university students are to be financed. He notes the budgetary and other difficulties of financing students entirely or primarily by grants. He comes out strongly for loans and then poses the sixty-four dollar question. If loans are an acceptable policy, and given that the Bank of Ireland Group has recently introduced a massive student loan programme, does Ireland need student grants at all? One answer might be that grants rather than loans can still be an effective way to encourage students to enter particular faculties. In any case, however, a number of issues remain to be clarified about loans. Should we, for example, offer a remission to women graduates who drop out of work on having children, or to graduates who undertake unremunerative social service work at home or service in developing countries? For graduates who remain in Ireland, what of the possibility canvassed in Britain of recovering a loan, not in a rush at the beginning of a graduate's career when there is a home to set up and a family to start, but over his whole life through PAYE?

The Economic and Social Research Institute is not of course committed to any policy views put forward in this paper. Its commitment to the paper is that it thinks it worthy of discussion and so of publication; not least because it points forward to a number of issues which need to be clarified by factual research of the ESRI's classical kind.

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# THE IRISH BRAIN DRAIN

by

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The brain drain has become a subject of increasing concern in a number of countries over the last decade. It refers to the large scale emigration of the best educated, most able and intelligent sections of the community, principally university graduates. The brain drain is sometimes used to refer only to scientists and technologists but the position taken in this paper is that it would be otiose to regard these

as having any monopoly of brains or their loss as any more serious to the nation than that of other able people qualified in other subjects. The term is used here to include the loss of all graduates through emigration. A brain drain is rather different from ordinary emigration and therefore constitutes a new problem, whose implications it is the purpose of this paper to discuss.

## 1. THE EXTENT OF THE IRISH BRAIN DRAIN

The Irish brain drain was the subject of an extensive inquiry by Professor D. Forrest<sup>1</sup> in 1967. He administered a questionnaire on emigration intentions to several hundred men students of Irish nationality in all four university colleges (i.e. U.C.C., U.C.D., U.C.G. and Trinity College), although the inquiry was confined to those reading commerce, engineering and science. He found that 32 per cent. of commerce students, 59 per cent. of engineers and 48 per cent. of science students intended to emigrate soon after graduation. This can be roughly averaged at 46 per cent. intending to emigrate. But of those who did not intend to emigrate immediately, only about half intended to remain in Ireland permanently. This suggests that widespread reluctance to move to jobs with lower salaries. It is difficult to estimate how many return. something like 75 per cent. of students plan to emigrate at some point. It is unrealistic to give precise percentages because a number of students are uncertain about their future plans.

When asked about their intentions on the length of time they intend to work abroad, a large majority of students expressed hopes of returning to Ireland. The majority envisaged working abroad for a period lasting between three and five years. But although students hope to return eventually to Ireland it seems doubtful whether many of them will do so. This is the age at which many will marry and settle down in the countries in which they have taken employment; the number of managerial and professional positions in Ireland is limited; salaries are

about thirty per cent. lower than in Britain and less than half those in the United States<sup>2</sup> and there is a widespread reluctance to move to jobs with lower salaries. It is difficult to estimate how many return. Possibly the figure is something like a quarter. The British brain drain commission<sup>3</sup> considered graduates who emigrate for more than a year and came to the conclusion that only a small minority return. The majority of Irish graduates intend to work abroad for a period of three to five years, and there is certainly less scope for a return to employment in Ireland than there is in Britain. If this estimate of a quarter returning is roughly correct it would mean that something over half of Irish graduates are permanently lost to Ireland.

In view of the serious nature of these results we at The Economic and Social Research Institute included a question on emigration in a survey which we were making of men students at University College, Dublin. We took a randomly selected sample of 160 students from all subjects and obtained replies from 152. The question put was "Do you intend to emigrate temporarily from Ireland?", and five categories of possible response were offered, to which we obtained answers as shown below:

Definitely Yes	Probably Yes	Not Sure	Probably No	Definitely No
% 38	% 41	% 14	% 5	% 2

It can be seen that our results are roughly in line with those obtained by Professor Forrest, though a little more discouraging. The addition of the "Definitely Yes" and "Probably Yes" categories

<sup>1</sup>For details, see below.

<sup>2</sup>The Brain Drain, H.M.S.O. 1967, Cmnd. 3417.

<sup>1</sup>Managerial Emigration, 1967.  
R. Lynn is research professor at The Economic and Social Research Institute. The paper has been accepted for publication by the Institute. The author is responsible for the contents of the paper and views expressed therein. The author is much indebted to Miss B. Hayes and Miss G. Kingston for assistance in preparation of the paper.

yields 79 per cent. intending to emigrate. It might even be legitimate to include half the "Not Sures", which would give a total of 86 per cent. intending to emigrate temporarily from Ireland. It may be objected that the question asks only about temporary emigration. As against this, it is doubtful whether questions on permanent emigration would yield valid information. No doubt many Irish graduates take employment abroad intending to return after some years. But equally there can be no doubt that many will find life abroad more agreeable than they had imagined and will marry and settle in the countries to which they have moved.

If we average Professor Forrest's figure of 75 per cent. and our own of 86 per cent. to a round 80 per cent. intending to emigrate, and assume that a quarter return, we arrive at a loss of Irish male graduates of around 60 per cent. Since about 3,500 men graduate annually from the universities, it may be estimated that in round figures there is an annual loss of about 2,000 male graduates each year.

It may be objected that students do not know their own minds and many fewer will emigrate in the event than say they intend to. Some evidence on this question is available from the 1967 annual report of Mr. D. Montgomery,<sup>4</sup> the Appointments Officer at Trinity College. The report states that of 193 graduates handled by the appointments board, only 42 found jobs in the Republic. Thus the percentage of recent Trinity graduates actually taking jobs abroad (79 per cent.) is almost exactly the same as the percentage of present undergraduates who say they intend to take jobs abroad. It would seem that undergraduates have a realistic grasp of their career intentions and prospects.

It may be wondered what proportion of young men of student age emigrate among the population as a whole. The 1966 Census of Population shows that it was about 20 per cent. during the period 1961-66. Furthermore, there was virtually no tendency for this loss to be made up by the return of older groups to Ireland. These figures appear to show that the emigration of graduates is on a very much greater scale than that of other young people of the same age.

Of course these two surveys only concern students' intentions and it is not strictly possible to know how far these intentions will be carried out. Those who intend to go may not in the event do so. Alternatively, those who intend to stay may go. There is also the difficult question of assessing how many may be expected to return. It is, however, possible to bring more evidence to bear on the question. One useful source is the annual report of the United

States Immigration and Naturalisation Service, which gives figures for immigrants into the United States. In 1965 the number of Irish citizens admitted in the Professional, Technical and Kindred Workers category was 921 and in the Managers, Officials and Proprietors category 77; for 1967 the respective figures were 724 and 38. It is probably reasonable to assume that these figures represent roughly the number of graduates, because although not all of them may be graduates there are likely to be graduates listed in other occupations (including the categories "No Occupation" or "No Occupation Given"). The average loss of the two years is 880. It seems reasonable to suppose that the number of Irish graduates emigrating to the United States would be something under half the number emigrating to the rest of the world, so that in the light of these figures our estimated loss of 2,000 Irish graduates a year does not seem excessive. It should perhaps be pointed out that the American figures are for permanent immigrants, and do not include temporary visitors who envisage a stay up to two years. This group normally enter the United States under a different visa which would exclude them from these figures.

Another approach to this problem is to consider the present employment of past generations of graduates. The only investigation we have been able to find on this subject is one carried out by the Southern Ireland Faculty of the College of General Practitioners. In 1966 this body published the results of a survey of 408 doctors who graduated from Cork between 1945 and 1954. They found that 60 per cent. were working abroad in 1964, and this figure may be taken as representing the percentage of permanent loss.

This investigation was only concerned with doctors and we considered it important to investigate the position with other kinds of graduates. Accordingly, we have made an investigation of the present whereabouts of 223 men who graduated from University College, Dublin, in 1952. This sample was randomly selected from the total number of students graduating and represents about one third of the total.

We were able to trace the present whereabouts of 187 out of the 223, which represents 84 per cent. Of these, 136 (73 per cent.) are at present working in Ireland and 50 (27 per cent.) are employed abroad. This inquiry was made in the spring of 1968, and it seems probable that the great majority of those working abroad sixteen years after graduation will continue to do so, so that 27 per cent. represents the minimum permanent loss of this generation of graduates. It is likely that this is an underestimate because of the probability that a higher proportion of those we were unable to trace are now abroad.

<sup>4</sup>Annual Report of Trinity College Appointments Office, 1967.

The detailed results of emigration by faculty are shown below:

Subject	Number Traced	Number Working Abroad	Percentage Working Abroad
Arts	61	19	31
Medicine	36	18	50
Engineering	24	4	17
Commerce	15	1	7
Dentistry	19	2	11
Agriculture	12	2	17
Science, Veterinary Science, Architecture	19	4	22
Total	186	50	27

It may be felt that this percentage of permanent graduate emigrants shows that the estimate of a 60 per cent. loss of the graduates of the late nineteen-sixties is too high a figure. But conditions have changed. It would not be safe to suppose that the loss today and in the future will be as low as in the early nineteen-fifties. There are two important reasons to expect that present losses will be higher. The first is that the tendency of the United States and Canada to recruit graduates from abroad has grown considerably in the last decade-and-a-half. These recruiting activities are still in the process of being extended. In 1967 the first American team arrived in Britain to recruit school teachers. As the salaries offered were around 10,000 dollars per annum it will probably come as no surprise to learn that their mission was successful. If the Americans' appetite for foreign graduates for their schools has been whetted by this success and their recruiting drive is extended this alone might absorb considerable numbers of Irish graduates.

The growth of American (and to a lesser extent Canadian and Australian) recruiting during the 'fifties and 'sixties has led to an acceleration of the brain drain during this period. The British loss of science graduates has risen by 5 per cent. per annum during the 'sixties. For this reason we should expect that the percentage loss of Irish graduates produced in the 'sixties would be substantially higher than that of the generation of 1952.

In addition to the effect of the growing international brain drain on increasing the Irish graduate loss, we should consider the problem from the point of view of the number of graduates Ireland can

provide with employment. Ireland only produced some 1,400 male graduates in 1952 as against some 3,500 in the late 1960's. It is probable that Ireland could absorb a larger proportion of the 1952 output than it can of the much greater output of 1968. It is doubtful whether the number of positions for graduates in Ireland has risen anything like the increase in the output. The number of jobs in many of the professions, such as medicine and dentistry, must be roughly constant, and Irish industry at the present time only recruits about 100 graduates a year.<sup>5</sup> For these reasons it seems doubtful whether Ireland can absorb anything like the percentage of graduates being produced now as was possible in 1952. Thus our estimate of a sixty per cent. loss of our present output of graduates seems not unlikely.

Any attempt to prophesy future trends in the international brain drain is naturally hazardous. The United States is changing its immigration policy during the course of 1968 in such a way that it will become more difficult for Irish citizens to emigrate there. There will, however, be special entry arrangements for qualified people and it may be doubted whether the new policy will have much effect on the brain drain. It has been calculated that the United States will need to recruit 40,000 science graduates from abroad by 1975,<sup>6</sup> and it seems likely that Ireland will be making its contribution to these requirements. The British brain drain commission took a gloomy view of the chances of stemming the flow. With United States' needs of this order, it seems impossible not to share their pessimism.

It is of course impossible to tell for certain what proportion of the present generation of Irish graduates will eventually be lost to Ireland; the output of graduates from the Irish universities has increased so substantially over the past decade that we are faced with a unique situation. But even if the percentage lost should remain at the 1952 figure of 27 per cent., there would still be some cause for concern. The British brain drain commission regarded a continued brain drain of these proportions as a grave threat to the country. Therefore, whatever the exact figure of the present Irish brain drain it is almost certainly too high for complacency, so that it is worthwhile to consider what steps might be taken to reduce the drain. This is a question to which we will presently proceed.

## 2. THE BRAIN DRAIN IN OTHER COUNTRIES

Ireland is not the only country to suffer a brain drain. To a greater or lesser degree, almost every country in the free world is affected, with the exception of the United States. In Britain a commission was set up to consider the problem and its report appeared in 1967. This investigation was

confined to technologists and scientists, and found that 42 per cent. of the universities' annual output of technologists and 23 per cent. of the annual output of scientists had left in 1966 to work abroad

<sup>5</sup>The Management of Irish Industry, B. Tomlin 1966.

<sup>6</sup>*The Times*, 21 May 1968.

for more than a year. Although statistics are not available for the proportions that return the commission concluded that this was only a minority. Furthermore, the percentage of the annual output of technologists and scientists from the universities who are emigrating has been rising in the 'sixties by about five per cent. each year. The British commission summarised the position in the following terms:

"The figures of migration present a picture of serious and increasing losses, particularly of engineers and technologists, with an increasing tendency to emigrate to North American industry. The total outflow of engineers and technologists has almost doubled in the last six years and is now equivalent to a third or more of the average annual output of such people in recent years. This trend could have disastrous consequences for British industry and the economy within ten to twenty years if it were to continue at the present rate".<sup>7</sup>

Another country which has become concerned about its brain drain is New Zealand. An investiga-

tion of the employment taken up by first class honours graduates in science between the years 1960-64 reached the conclusion that only 62 per cent. remain in New Zealand. Projections for the period 1966-70 for the total output of science graduates have estimated that 46 per cent may be expected to emigrate.<sup>8</sup> While New Zealand is in some respects similar to Ireland it is a considerably wealthier country and it seems probable that the Irish brain drain figures would exceed those from New Zealand.

The problems of other countries may be passed over briefly. In 1965 Canada lost about fifty per cent. of her annual output of engineers through emigration. Dahomey has retained only thirty per cent. of the doctors graduating from its medical school since its foundation.<sup>9</sup> Europe also loses considerable numbers to the United States, though less than English speaking countries, presumably because of the impediment of language. Suffice it to conclude that the brain drain is by no means unique to Ireland and that a number of countries are considering means by which it could be stemmed.

### 3. THE COST OF THE BRAIN DRAIN

The loss to Ireland which the brain drain entails can be considered from three points of view, namely economic, cultural and genetic. It is difficult to assess any of these losses precisely but some comment may nevertheless be made on them.

The economic loss of the brain drain can be considered in terms of the costs of providing university education for those who subsequently leave the country. The British brain drain inquiry calculated the cost of educating a typical B.Sc. in science and engineering as £6,000 and a typical Ph.D. in physics as £20,000. To some degree these calculations must be rather arbitrary, involving estimates of the return that could be expected on the capital of the university buildings and apportionment of university lecturers' salaries between teaching and research. Arts graduates are cheaper to produce than science graduates, and Irish graduates cheaper to produce than British graduates because there are roughly twice as many university lecturers per student in Britain as in Ireland. Taking these factors into consideration it seems reasonable to cost an Irish graduate at around £1,500. About 3,500 Irish men students graduate each year and if 60 per cent. emigrate this would represent a cost of a little over £3 million per annum.

Much more substantial losses are involved if we consider the lifetime earnings of emigrant graduates which would have been taxable for the benefit of Ireland. Considered from this point of view, Professor A. J. Merrett, Professor of Finance at the

London Graduate Business School, has calculated that the emigration of each British manager represents a taxation loss of £23,000 to the British people. He considers that for several reasons "this figure must be regarded as a somewhat conservative estimate" (for example, it ignores the taxation yield on pensions), but taking it as valid the British brain drain represents a loss to the United Kingdom of over £100 million per annum.<sup>10</sup> Professor Merrett's argument is given in Appendix 1.

Professor Merrett is concerned with the emigration of managers while our concern is with that of graduates, but it would seem reasonable to suppose that the categories overlap to a considerable extent. If we accept Professor Merrett's arguments and regard the loss of a potential Irish manager to Ireland as roughly equivalent to the loss of a British manager to Britain, and work on the basis of a loss of 2,000 graduates a year, we can calculate the financial loss of the Irish brain drain at £46 million per annum. Considered in relation to the annual revenue of the Irish government of £328 million (in 1968) and the yield from income tax of £78 million, it need hardly be pointed out that the brain drain loss is very considerable. Even if the magnitude of this loss should be scaled down to half, it would remain very substantial. None of these

<sup>8</sup>Some aspects of technological manpower in New Zealand, N.Z. National Research Advisory Council Interim Report 1967.

<sup>9</sup>Lord Bowden, House of Lords debate on the brain drain. Hansard, 20 December 1966.

<sup>10</sup>A. J. Merrett and D. A. G. Monk, Inflation, Taxation and Executive Remuneration, Hallam Press, 1967.

<sup>7</sup>The Brain Drain, p. 14.

calculations include the cost of the emigration of women graduates, which might add quite considerably to the losses involved.

It may be argued that there is a fixed number of management positions in Ireland, so that we should consider only the costs of replacing the manager who emigrates in terms of the educational expenditure. This would be a pessimistic view of the scope for industrial expansion in this country. There seems no reason why the number of management positions in Ireland could not be quite considerably increased—given that business enterprises could be encouraged to expand here or that more of our most able young people could be induced to start enterprises of their own.

Considerable though the loss to Ireland on the basis of Professor Merrett's calculations is, even this does not fully take into account the entrepreneurial loss which may be involved. It seems hardly worthwhile to attempt to calculate the benefits which would have accrued to Ireland if such families as the Fords and the Kennedys had exercised their considerable talents in this country rather than in the United States. Probably few would dispute that the advantages to Ireland would have been very substantial.

The loss of the brain drain can also be considered from a cultural point of view. The emigration of a high proportion of graduates must inevitably impair the standards of the press, theatre, television, universities, schools and so forth. A lowering of quality in these cultural areas will make Ireland a less attractive country for those who remain.

Yet another loss from the brain drain is genetic. This loss has received little attention and yet may reasonably be regarded as the most serious of all. It is sometimes thought that all infants are born with equal intellectual potentiality, so that if an expensively trained graduate emigrates our only problem is to train another in his place. This theory was aptly called by T. S. Eliot<sup>11</sup> the "mute inglorious Milton dogma", after its exposition in Gray's *Elegy* where the poet reflects on the wasted potentialities of the village ploughmen who might—had circumstances been different—have displayed the brilliance of a Milton.

Eliot rejected the theory and modern psychological research upholds him.<sup>12</sup> It is now well established that there are important genetical differences among infants, both in intelligence and also in some of the character qualities such as ambition and persistence which are important for achievement in life. It would not be appropriate to

review here the detailed evidence on which this conclusion is based, but an outline of some of the arguments may be briefly presented.

On a commonsense basis one can point to the wide range of abilities and personality which commonly occur within the same family. In middle class families it is common for one member to do rather particularly well; most members of the family have competent but unspectacular careers; and there is also the occasional black sheep who fails to make a go of anything and ends up in debt or bohemia. It is difficult to explain such typical occurrences on a theory that stresses the importance of environmental influences on intelligence or success in life. Only theories on the fringe of psychology, attributing momentous consequences to the precise age of weaning, potty-training and so on, can explain the wide range of ability and temperament within families. All members of the family are brought up in roughly the same way, exposed to pretty well the same standards of conversation, books, discipline, education and so forth. Since the environment is much of a muchness for all, we can best account for the differences in intelligence and personality by heredity. Just as some members of the family are born with blue eyes and others with brown and some are left-handed and others right-handed, so some are born with considerable intelligence and ambition and others with less.

While such typical family patterns as these make it clear that heredity must play the most important part in determining ability, the importance of heredity has in addition been demonstrated by more sophisticated techniques. One method involves the study of identical twins who have been separated at birth or soon afterwards and brought up in different families. Identical twins are identical at birth in all respects. If environment is important in the development of intelligence and personality, we would of course expect those brought up in different families to have different intelligences and personalities depending on the qualities of the adopting parents; while if inheritance is more important we should expect the twins to have similar intelligences and personalities even though they have been brought up in different families. It is comparatively easy to make an investigation of this question, involving no more than tracing a number of pairs of separated identical twins and testing their intelligence and personality. Such investigations have been made several times and it has always been found that the pairs have similar intelligences and resemble each other to a remarkable extent in several personality characteristics. These studies demonstrate that inheritance is an important factor determining intelligence and personality.

But even if the environment is accredited with a

<sup>11</sup>Notes towards the Definition of Culture, Faber, 1948.

<sup>12</sup>See C. Burt, Mental capacity and its critics, *Bulletin of the British Psychological Society*, January 1968; R. B. Cattell, *Personality and Motivation: Structure and Measurement*, Harcourt, Brace and World, 1957.

considerable degree of influence, it is generally held to be the family upbringing which is the most important environmental factor. Few will dispute that there is a tendency for middle and upper class families to occupy positions of leadership in countries down through a number of generations. Thus, for example, the Darwins have made important contributions to British science for about two centuries. Even those who think that being brought up a Darwin is an important element in such achievement would be bound to conclude that the loss of a significant percentage of such families would cause damage to a nation's economy and culture for a number of generations to come.

We may, nevertheless, conclude with a quotation from a recent article by Professor Sir Cyril Burt,<sup>13</sup> who is possibly the world's leading authority on this question: "intelligence, when adequately assessed, is largely dependent on genetic constitution". In recent years the importance of hereditary factors in the determination of personality qualities has also become increasingly recognised.

The purport of these studies is that the brain drain represents a genetic loss to the population, somewhat similar to that which would occur if the best specimens from a herd of cattle were continually exported and the herd replenished by breeding from the inferior stock which remained. Husbandry of this kind would hardly be desirable. Similar results can be expected from a continuance of the brain drain.

One of the dangers of the brain drain is that as the most able people begin to move out of a country in substantial numbers a vicious circle is liable to become established. As the most able go there are fewer to manage the economy efficiently and maintain high cultural standards. As a consequence the

economic growth rate may be expected to fall and the cultural standards in journalism, television, theatre and so on will decline. This widens further the gap between the home country and its more wealthy competitors, so that there becomes a stronger inducement to leave. It seems probable that vicious circles of this kind have become established in certain regions within countries. For example, Scotland has probably lost talent in this way to England and Sicily to the Italian mainland. But the movement of talent across national frontiers on the scale of the last decade is certainly a phenomenon without precedent. Its results are difficult to foresee. If a vicious circle of the type suggested became firmly established it seems conceivable that the Americans could eventually become intellectually a master-race, almost the sole repository of culture and the owners and managers of industry throughout many parts of the world. With American ownership of European industry already standing at about 10 per cent. and increasing annually, such a development could be regarded as having already begun. To sketch the logical conclusion of this development may seem fanciful and melodramatic, but history as it unfolds has many surprises and it seems important to consider the possible outcome of present trends. The international power and influence of the United States is already growing fast. Mr. J. J. Servan-Schreiber<sup>14</sup> has alerted French public opinion to the dangers of one aspect of this development. Probably few would regard any considerable extension of American economic and cultural domination as a desirable trend, if only in the interests of variety. For these reasons, in addition to our concern for our own people, it is important to consider what steps might be taken to stem the brain drain.

#### 4. DOES THE BRAIN DRAIN MATTER?

It is, however, possible to take two views of the brain drain. One puts first the interests of the individual graduate and of mankind as a whole; the other attaches priority to the interests and wellbeing of the people of Ireland. But it is important to recognise that these are incompatible values and that policies beneficial to one tend to act to the detriment of the other. Consider, for example, the case of a young Irish doctor who emigrates to the United States. Emigration is presumably in his own best interests, otherwise he would not have gone. Furthermore, though the Irish people lose, the American people gain, so that the sum of human happiness may be unaffected. On this argument the brain drain may occasion no concern. But it must be

pointed out that the emigration of a doctor is damaging to the Irish people. A clever and competent young man is not necessarily destined from birth for a medical career. If he were given a different kind of education he might enter Irish business and play a part in the generation of wealth for Ireland from which the whole population would benefit. Though there may be certain individuals who by temperament have a vocation for a particular occupation there are also a large number of intelligent and able people who might just as well be in one occupation as another. This was well illustrated during the 1939-45 war in which many teachers in different countries distinguished themselves as soldiers and administrators. What kind of career an able young person takes up is to a considerable degree a matter not of innate disposition but of the

<sup>13</sup>The genetic determination of differences in intelligence: a study of monozygotic twins reared together and apart, *British Journal of Psychology*, 1966, 57, 137-153.

<sup>14</sup>J. J. Servan-Schreiber, *Le Défi Américain*.

attitudes and traditions of his family and the kind of education society offers him. We are therefore faced with the question: should Ireland deliberately provide its able young people with the kind of education which encourages them to emigrate?

The answer given to this question will depend on personal preferences for one or other of the two views on emigration outlined above. If a man puts the interests of the individual clever young person and of the Americans and the British above those of the Irish people and can contemplate with equanimity the possibility of large numbers of the most able young Irishmen leaving this country, then he will regard the status quo and current trends as perfectly satisfactory. Such a man will probably find little to interest him in this paper. If, on the other hand, he regards the interests of the Irish people in Ireland as paramount, then we may proceed to a consideration of what steps might be taken to plug the brain drain.

It is sometimes argued that a graduate serves the world in his chosen calling and that on this account we need not be concerned at the emigration of Irish graduates. Such a view would maintain that while the Irish people paid for part of the education of, for example, Miss Edna O'Brien, her novels are part of the cultural heritage of the world and it makes little difference whether they are written in London or in Dublin. But it may be pointed out that while the Irish people have paid for the major portion of the education it is the British people who benefit from the taxation of the royalties, which are no doubt considerable. However, very few emigrants can be regarded as making contributions to world culture. The great

mass, working as school teachers, lecturers, executives, doctors and so on, serve only the country in which they are actually working.

It is also sometimes argued that families should be allowed to do the best they can for their own children. If a family thinks it can further its son's interests best by putting him through university and subsequently encouraging him to take employment abroad, it is right that families should be allowed to do their best for their sons. Such a view has considerable merit, but ignores the fact that families meet through the payment of fees only a minor part of the expenses of university education. Over two-thirds of the cost of university education are met by the Irish population as a whole through taxation. In effect, therefore, the Irish people are making gifts to the peoples of America and Britain, who are far better off than we are.

The point that the population as a whole loses when university graduates emigrate has been put by Professor H. Johnson<sup>15</sup> in the following passage:

"If education is financed in whole or in part by general taxation of the resident population, every emigrant takes with him a gift—in the form of the education he has received—from the place he leaves to the place he goes to. To put the point another way, the region of immigration gets the right to tax the high income made possible by an educational investment it has not paid for, while the region of emigration loses the opportunity to recoup by taxation the cost of the educational investment it has made."

## 5. PLUGS FOR THE BRAIN DRAIN

In considering the possibility of attempting to plug the brain drain it is important at the outset to state the general principles on which policy suggestions should be based. The first is that no physical impediment in any way resembling the iron curtain of the communist countries should be placed in the way of Irish emigrants. The liberty of the individual to go if he wishes must be preserved. Secondly, the Irish people should not be required to pay through taxation for programmes likely to increase the brain drain. This provision applies particularly to subsidized education for occupations in excess of the demand in Ireland. This principle may in turn be regarded as a special case of the more general principle that people should not be expected to pay through taxation for projects except where they may be expected to benefit from them. They may of course contribute to such projects privately. Probably most people would agree with this principle.

Within this general principle we may consider

three lines of approach to plugging the brain drain. These are exhortation, educational provision, and taxation. The first may be dealt with briefly. It consists of exhortation to businessmen to employ more graduates and was used in the British Brain Drain Commission, as in the following passage:

"We recommend that industry should be prepared to give engineers, technologists and scientists who have specialised as such during their careers far greater opportunities for promotion to the boards of companies."

Not everyone subscribes to the view that exhortation is effective. For example, Professor A. J. Merrett<sup>16</sup> has commented that "because of the inherent futility of general exhortation in economic matters, there is little point in public pronouncements

<sup>15</sup>H. Johnson, *The economics of the brain drain: the Canadian Case*, *Minerva*, 1965, 3, p. 30.

<sup>16</sup>A. J. Merrett, *The Real Brain Drain*. *Management Today*, December 1967.

urging industry to provide more challenging opportunities or places in the boardroom for scientists and technologists". Opinions will differ on the value of exhortation.

It is important to note that the brain drain is principally due to differences in national wealth between the United States and the drained countries. The *per capita* income of the United States stands at about four times that of Ireland and double that of Britain and much of the rest of northern Europe. The 1964 figures for *per capita* incomes in U.S. dollars were as follows: United States, 3,002; Britain, 1,698; Ireland, 895, and since that year the differences have widened. These differences in national wealth lead to two important results. One is that in the United States graduates are paid personal salaries which are more than double those in Ireland. The median salary for engineers for example is around 12,400 dollars in the United States as against £1,880 in Ireland.<sup>17</sup> The second consequence is that the United States can afford the large research and education programmes whose facilities attract graduates.

While these are not the only factors that lead graduates to emigrate few will dispute their importance. Nor could it be reasonably doubted that if the

*per capita* income of Ireland could be raised to that of the United States our concern about the brain drain would be at an end. The significance of this conclusion is that the problem of raising the economic growth rate becomes even more important than is generally appreciated.

In general terms, it should probably be said that it would not be desirable for Ireland to attempt the levels of public consumption on such objects as education and welfare as are provided in more affluent countries. Such expenditure is likely to divert resources from investment in business enterprises and thereby lower the future rate of economic growth. It is not of course certain that all the financial resources saved would be used for investment, but it is virtually certain that some would be, even though the proportion is impossible to estimate. Furthermore, public consumption undoubtedly necessitates higher personal taxation and this makes Ireland a less attractive place for graduates to work in. On both these grounds it is important to exercise restraint in public expenditure on items of consumption which, though popular in the immediate term, would be to the long term detriment of Ireland both as an economy and as a culture.

## 6. UNIVERSITY EXPANSION

We turn now to a more detailed consideration of what steps might be taken to plug the drain of talented young people from the Republic. Perhaps the most important question to consider is the policy for expansion of the universities. The function of the universities was described briefly but aptly by the Commission on Higher Education in the following terms:

"The university serves the community and draws a large part of its financial resources from public funds. While discharging its obligations to scholarship and learning, the university also has an obligation to meet the needs and interests of the community."<sup>18</sup>

It seems likely that few would disagree with this statement. But it would appear that by not considering the degree to which Irish graduates take jobs in Ireland the Commission neglected an important aspect of the work of the universities. Our consideration of the brain drain suggests that the Irish universities may be acting as a kind of siphon through which a substantial proportion of our most able young people are drained out of Ireland.

The view might be taken that a university education does so much good that it is worth training a hundred young people for the forty-odd who stay in Ireland. But considered from a strictly economic, as opposed to a cultural viewpoint, it is doubtful whether such a view could be sustained. The degree to which education can be regarded as an investment for economic growth is a much disputed question. Although some economists have argued for the case, it is equally true that many do not accept it. Thus Professor Kaldor has written:

"In our present state of 'knowledge' we cannot answer such questions as to what the social 'return' of any additional expenditure on research, education, etc. would be. . . . To pretend otherwise would be to abandon the scientific method and enter the realms of metaphysics."<sup>19</sup>

Professor J. Vaizey, for some years a supporter of the view that education ensures economic growth, wrote in 1968: "I was asked whether I thought education caused economic growth. I replied that

<sup>17</sup>For further details, see below.

<sup>18</sup>Commission on Higher Education, Vol. 1, p. 505.

<sup>19</sup>N. Kaldor, Comments on Mr. Ingvar Svernilson's paper, in *The Residual Factor and Economic Growth*, OECD, 1964.

on balance I was sceptical".<sup>20</sup> Lord Balogh has written more forcefully that attempts to demonstrate that expenditure on education stimulates economic growth rely on the "ramstam methods adopted by over-eager or just simple econometricians and mathematical economists".<sup>21</sup> It would be quite untrue to suppose that there is any solid evidence or consensus of agreement for the theory that increased expenditure on education is likely to bring returns in the form of higher economic growth rates. On this account, it seems reasonable to complain that the title of the report *Investment in Education* is a little misleading in so far as it suggests that expenditure on higher education is an investment. But it should be said that the discussion in the volume itself is scrupulously fair and on the question of whether or not education is conducive to economic growth the authors concluded that "we do not believe that economists have as yet treated education satisfactorily on these lines".

If the more-education-for-better-economic-growth theory is subject to dispute and certainly not proven in countries like Britain and the United States, it must be much more suspect in Ireland with something like half of our graduates emigrating. It is conceivable that Irish expenditure on the university education of many of our ablest young people is a good economic investment for Britain and the United States, but it can hardly be so for Ireland.

The brain drain appears to be due partly to our producing more graduates than there is demand for in Ireland and partly to our producing graduates of the wrong kind. Irish industry does not, at the moment, take much interest in graduates. Mr. B. Tomlin's investigation *The Management of Irish Industry* (1967) concluded that "most Irish companies have made little use of graduates in the past and do not intend to recruit them direct from university in the future". He estimated that Irish industry has vacancies for about 100 graduates a year. Yet the Commission on Higher Education has recommended that the annual output of graduates from the Irish universities should be raised by more than 3,000 by the mid-1970's. An expansion of this order would almost double the number of graduates produced annually by the universities. Where are these graduates to work? It seems inconceivable that the professions can double the number of entrants in the course of seven years, and probably undesirable that they should try to; the effect would be to employ too high a proportion of the available talent, and thereby starve business of ability. Professor A. J. Merrett has argued that

<sup>20</sup>J. Vaizey, *The Times*, 27 June 1968.

<sup>21</sup>T. Balogh, Comments on the paper by Messrs. Tinbergen and Bos, in *The Residual Factor and Economic Growth*, OECD, 1964.

this has already happened with undesirable consequences in Britain. It seems equally unlikely that in the next few years Irish industry will undergo conversion to the merits of employing graduates on a scale which would increase its annual intake from 100 to 3,000.

Thus it appears impossible to escape the conclusion that an expansion of the order recommended by the Higher Commission would produce a further *embarras de richesse*. The existence of a brain drain of the present proportions suggests that the universities are already producing more graduates than Ireland can absorb. This view has been stated by Dr. J. J. McElligott as follows:

"It should be borne in mind that, despite the large number of failures, there is already an excessive number of graduates, though not all of the right kind, beyond the country's requirements."<sup>22</sup>

It is probable that medicine is one example of a subject where there is excessive provision of graduates in relation to Ireland's needs. The Commission on Higher Education recommended that the country should plan on the assumption of 25 per cent. emigration of doctors and therefore overproduce by this percentage. Such a policy, however, would virtually compel 25 per cent. of the annual output of doctors to leave because there would be no jobs for them in Ireland. It would seem better to aim to provide exactly the number of doctors required. If the number produced should fall short of demand, it seems probable that some Irish doctors might return from abroad. Such a reversal of the brain drain would surely be desirable. If this policy were adopted the number of able young Irishmen admitted to the medical schools would be reduced and they would consequently be obliged to enter some other walk of life in which they would be more likely to serve Ireland. A measure of restriction on the number of Irish students reading medicine, or other subjects, would not necessitate any reduction of the teaching facilities. These could be kept for foreign students. Some of the medical training could either be provided at subsidized prices as a form of foreign aid and represent a contribution from Ireland to the problems of the underdeveloped world. For other foreign students economic fees could be charged and this would provide a useful source of foreign currency. This possibility will be further developed presently.

Another subject where the Irish universities are probably over-producing graduates is engineering. The United States has a strong demand for

<sup>22</sup>Commission on Higher Education, Vol. 2, p. 912.

engineers, principally because of her large defence and space research programme. In countries without this research expenditure the demand for engineers is comparatively slight.

The effect of studying a subject at a university naturally tends to be to develop interest in that subject and a commitment to make a career in it. The result is that when young Irish doctors and engineers graduate they look around and find there are insufficient jobs for them in Ireland. If they are to make use of their professional qualifications they have to emigrate. Hence from a national point of view it is desirable to consider what steps could be taken to provide our most able young people with the kind of training which might keep them in Ireland.

There is considerable agreement that Ireland needs more industry and commerce. There is scope for the expansion of business in Ireland and this is perhaps the country's greatest need. We should therefore consider ways in which more of our most able young people could be encouraged through the educational system to develop interests in taking up careers in business in Ireland. It would seem that the best way of doing this would be to provide courses both in business itself and in vocational subjects of a business nature. To this end three suggestions may be made. First, there could be some expansion of the university business and commerce schools. It may be hoped that the effect of this would be to develop in at least some students the ambition to start businesses of their own in Ireland. It is probably fair to say that there is a prevalent notion that there are not enough management positions in Ireland, and insufficient appreciation that enterprising entrepreneurs make their own jobs by starting up their businesses and selling their products in the international market. There is no reason why this should not be done in Ireland, and this is the kind of enterprise towards which it can be hoped that our business schools will direct the interests and ambitions of more of our young people.

The establishment of new business enterprises tends to require specialised knowledge as well as business acumen. It is therefore important to consider what kinds of courses might be provided at the university to develop knowledge which would be commercially valuable for Ireland. One possibility is hotel management, of which there are university departments in Britain at the University of Strathclyde in Glasgow and the University of Surrey. The tourist industry is unquestionably of great importance to Ireland, it is one of the most booming world industries and has great potential for future expansion. In 1967 world tourism grew by 8 per cent., as against a rise of only 5 per cent. in

world trade.<sup>23</sup> At the present time tourists are becoming increasingly conscious of standards, as the sales of the Good Food Guide in the British Isles and the Guide Michelin in France show. This would seem to be one direction in which the provision of university courses would do something to provide some of our young people with professional skills which would raise standards of management in Ireland and for which there is great scope for development.

Another possibility is the development of a university faculty of art and design. The Minister for Education announced in April 1968 that he was considering such a project. Ireland already has a certain international reputation in design, both in textiles and ceramics, and this would seem to be another area in which some of our able young people could usefully be given university training. A school of fashion on the lines of that in the Royal College of Art in London would be a useful department within this faculty. It is to be hoped that if such a faculty were established care would be taken to ensure that the most *avant garde* trends were kept in check and emphasis placed on work which has commercial potential.

The question of whether engineering should be further developed is a difficult one. Engineering can undoubtedly lead to the development of entrepreneurial enterprises of an advanced and highly profitable nature. But it is probable that both a high level of government expenditure and a large complex of university and industrial talent is required for the development of advanced technological companies which can compete on the frontiers of science in the world markets. It is well known that Europe as a whole is falling increasingly behind the United States in the successful commercial application of advanced technology, and it seems likely that Ireland is too small a country to be able to compete successfully in this field. In any event, Ireland is already producing quite a number of engineering graduates of whom a high proportion are emigrating.

It will be recalled that in Professor Forrest's investigation he found a higher proportion of engineering students intended to emigrate than either science or commerce students. Furthermore, the British are now losing a large number of their engineers, amounting to 42 per cent. of the annual output from the universities. The present problem for Ireland would seem to be how to use the engineers which are already being turned out, rather than the production of more of them. One possibility here is that joint courses in engineering and business should be established and also other

<sup>23</sup>*The Times*, April 23, 1968.

science subjects and business. The object of such joint courses would be to encourage engineers and scientists to develop an entrepreneurial outlook which could be put to use in Ireland.

If faculties of hotel management and art and design were to be established there is a valuable lesson to be learned from the British experience. In Britain there has been some tendency to establish such vocational subjects in technical colleges and separate art colleges which are held lower in public esteem than the universities. The result has been to attract inferior students to these vocational subjects and lower public regard for careers in business. This has been an unfortunate trend and has frequently been thought to contribute to the difficulties which British business has had in attracting talented people, which in turn has been a factor in the performance of British industry and commerce. Mr. C. F. Carter, Vice-Chancellor of the University of Lancaster, issued a warning against these eventualities in his reservation to the Commission on Higher Education. It is to be hoped that Ireland will benefit from the British mistakes and establish the new vocational courses in the universities.

It is sometimes argued that the object of a university should be to produce graduates of wide culture and taste and that vocational subjects of the kind suggested should have no place in a university. Perhaps the best way of accommodating this view would be to have combined degrees in the vocational subjects and the traditional academic disciplines. A student might graduate in, say, history and hotel management. Courses of this nature would do something to produce urbane hoteliers and historians trained to do a job of work. Both general culture and professional competence are important features of the well-rounded man and the best solution might be for the universities to try to produce combined courses of this type.

Among students themselves there is quite a sizable demand for more vocational courses. This became apparent in a survey we carried out in 1967 on English students at the university of Exeter. 100 men and 100 women students were canvassed

and among the questions put was: "Say the syllabus were arranged so that students took non-vocational subjects in their first year, but were then able to switch to a wholly or partly vocational course, would you have made this switch?" This question was answered as follows:

	Men	Women
Definitely yes	9	13
Probably yes	24	31
Not sure	18	19
Probably no	25	23
Definitely no	24	14

It is evident that almost a third of the men and approaching half the women would like to take advantage of a scheme of this kind. We then tried to find out which vocational courses would be most in demand and offered a number of possibilities to the men and women. The numbers of men saying they would like to read particular vocational subjects are shown below:

Business studies	27
Engineering	21
Law	18
Economics	17
Statistics	16
Accountancy	15

Some other possibilities were offered to the women, and the numbers saying they would avail themselves of the opportunity to read these can be seen in the next set of results:

Teacher training	23
Secretarial work	19
Social work	17
Occupational therapy	5
Law	5

Not everyone would wish to see the universities establishing departments of occupational therapy, still less of shorthand typing, but the import of the results is that there is quite a substantial student demand for more vocationally oriented courses.

## 7. FINANCIAL ASSISTANCE FOR STUDENTS

The presence of a large brain drain of graduates sheds a new light on the question of what kind of financial assistance should be given to university students. It may be felt that the presence of a large number of graduates enriches Ireland, and that there is much to be said for taxing the population to provide these graduates. But whether the Irish people should pay for the education of their most able

young people for the subsequent benefit of the United States and Britain would seem to be a somewhat different question.

What position is taken on this matter is essentially a question of value. On the one hand there is the view that Ireland should do everything it can for its young people, irrespective of cost and whether or not they later work in Ireland. Those who hold this

view will favour grants for students. The other view is that the Irish people should only be asked to pay through taxation if there is a probability that they will get some benefit from their contributions. This view tends to lead to a preference for financing university students on loans.

The Commission on Higher Education took the first view in its statement that: "We affirm as a principle that no qualified student should be denied the opportunity of higher education through lack of means." The question of whether or not the student later repays his debt to the Irish people receives no consideration. But whether the commissioners would really wish to take this position seems doubtful and it may be suggested that a recognition of the extent of the brain drain might well have induced the commissioners to change their views on grants.

The other view was put in a reservation by Lt.-General Costello:

"There is no inalienable right of any citizen to be given university education at the expense of the State unless it is clear that he or she can be expected to make effective use of such higher education in Ireland."

It is clear that this view conflicts with the Commission's statement of principle that all qualified students should have access to higher education as of right, subsidised by the Irish taxpayer. Ultimately, the reader must take his own choice between these two positions.

This is not the only point bearing on the grants or loans dilemma. Grants are generally favoured on the grounds that they encourage more working class entrants to universities. It is generally assumed that loans would tend to deter the working class. Although there appear to be no empirical studies on this belief it is a plausible one and partly supported by the fact that Britain, the only country in the free world which provides grants for almost all students (98 per cent. in England), also has a much higher proportion of working class students than other countries (e.g. Britain 25 per cent.; W. Germany 6 per cent.; France 7 per cent.; Netherlands 8 per cent.; Denmark 10 per cent.; Ireland 10 per cent.; Sweden 14 per cent.).<sup>24</sup>

It is generally assumed that it is desirable to encourage clever working class children to enter the universities. Nevertheless, some doubts may be expressed on this score. A study by Mr. B. Jackson and Mr. D. Marsden<sup>25</sup> in Britain has shown that a large

majority of working class graduates enter the professions, especially teaching. The reason for this is that this is the only part of the middle class world with which they are familiar and in which they feel at home. It is possible to argue that if the clever working class boys had not entered the university and thence the professions they would have taken positions in business and that this would have benefited the economy. A number of people in Britain have recently taken the view that its business sector has been starved of talent. It is possible that an easy path for clever working class boys into the professions may have exacerbated this tendency. It would also be an error to imagine that a university education is a *sine qua non* for success in life, and open to dispute just how important it is. The object of this paragraph is to suggest that the arguments for encouraging a large proportion of clever working class boys to enter the universities are not so overwhelming as is frequently supposed.

While the principal argument for grants is that it encourages working class entry to the universities, a grants policy is also favoured on the grounds that the alternative of loans puts a financial burden on the young graduates and is also likely to deter women who might be regarded as less desirable marriage partners encumbered with a loan.

There are also a number of arguments against grants, of which the following are some of the most important. First, it has sometimes been questioned whether it is just to expect the population as a whole to pay for the education of certain clever young people, who as a result will be able to earn substantial salaries. The poor pay taxes through indirect taxation on clothes, stout and so on, and the people as a whole already contribute more than two-thirds of the costs of maintaining the universities. To some people it seems more reasonable that those who stand to benefit by university education should themselves meet some of its costs.

Secondly, the provision of grants is apt to lead to a system which has within it the seeds of its own destruction. When goods or services are provided free the demand for them rises. The goods or services are of course not really free at all but have to be paid for by taxation of the population as a whole. As the demand for the apparently free goods continues to rise so the cost to the public mounts. Eventually the financial burden becomes so great that it becomes politically impossible to tax the population further. At this point charges for the "free" service have to be introduced or the supply has to be restricted to certain people. The imposition of charges for what was hitherto free causes much more embarrassment and resentment than would have occurred if the inevitable course of events had been foreseen and charges imposed in

<sup>24</sup>H. Janne *Accès à l'enseignement supérieur au point de vue de l'origine sociale, économique et culturelle des étudiants*. Unesco, 1967; M. Nevin: *study of the social background of students in U.C.D.*, 1967.

<sup>25</sup>B. Jackson and M. Marsden, *Education and the Working Class*. Routledge and Kegan Paul, 1962.

the first place. There is only a small number of things, such as for example burials, for which demand does not rise with free provision. It has recently been possible to witness the difficulties the British are involved in with the free or subsidised provision of higher education. Student grants have been raised periodically to keep pace with inflation. But with increasing numbers the cost has now grown to such proportions that in early 1968 the government announced that it would not raise student grants to the level recommended to keep up with inflation. Only half of the recommended increase was to be allowed. Here we can see the difficulties of a system of the provision of "free" goods and services which involve increasingly heavy taxation.

To provide grants for students in Ireland on the same scale as in Britain would, by the middle 1970's, cost about £6½ million per annum. This is quite a considerable sum of money, representing over twice the entire yield of surtax in 1968, and involving about 9d on the standard rate of income tax. Such an expenditure was regarded by the Commission on Higher Education as too great for Ireland to bear. But it should be recognised that the establishment of any policy of free benefits gives rise to pressure groups among the recipients and potential recipients which are increasingly difficult to withstand. There have already been letters in the press from borderline cases complaining that they have been left out of the system. If those who obtain four honours in the forthcoming Leaving Certificates are to have grants, why not those who already have four honours and are at university now? What about those who are preparing to take two or three honours but would, if they had known of the proposals, have taken four? Such pressure groups are difficult to withstand once the grants principle is accepted. But if they are all brought within the system the additional imposts in the form of taxation of the population become politically impossible.

Thirdly, a consideration of policies for financing students in other countries gives little encouragement to a grants policy. Britain is the only country in the free world where a very high proportion of students receive grants. In most other countries students are given loans, and even these are given only to a minority. The following are some details of the financial aid given to university students in a number of countries.<sup>26</sup>

In the United States only 29 per cent. of students receive any form of public aid. For the majority of students the university system is much like that

existing in Ireland at present. The universities are subsidised by the state or maintained partly by the income from their endowments, but the student must arrange for some of the financing himself. In France, 22 per cent. of students receive state aid. In Germany there are 19 per cent. on state aid, but this is given in the form of loans as well as grants. Norway gives grants to 30 per cent. of her students, but these cover a minor proportion of expenses and the rest must be met from loans. Sweden gives assistance to about 66 per cent. of students, but here again only a quarter of the assistance is grant and the rest loan. Denmark assists 60 per cent. of her students on a half grant and half loan basis. Finally, Finland may be regarded as in some respects an interesting comparison with Ireland as being the second poorest country in Northern Europe, and here only 7 per cent. of the student population are given grants.

It should be pointed out that in most of these countries the universities do not charge fees, so that this may be regarded as a kind of grant to all students. On the other hand all these countries are considerably wealthier than Ireland and in most cases have over twice the Irish income per head of population. The extent to which the entire population should be taxed in order to provide free university education for a minority should probably be considered in relation to the national wealth available. In the provision of grants to some 20 per cent. of students Ireland is already in line with the majority of advanced countries which have considerably greater resources than we do.

The British model of grants for virtually all students stands apart from those adopted in the rest of the free world. It may be doubted, in general terms, whether Britain is a happy model for Ireland to copy. Britain has had the lowest rate of economic growth in the post-war decades of all advanced countries and is widely regarded as the sick man of Europe. As a result of this unhappy performance, Britain is now one of the poorest countries of Northern Europe and the old Commonwealth. Since the United States and the Continent of Europe have had more successful economies in the post-war decades, there are some grounds for believing that we would be better to model our institutions on American and Continental models rather than the British.

It would certainly be going too far to maintain that the poor performance of the British economy is a direct result of grants for students. Nevertheless grants for university education are part of the British paternalist welfare philosophy in which the "free" provision of a wide range of goods and services reduces the individual's sense of personal responsibility for his own life. It seems plausible to suppose

<sup>26</sup>The following figures are taken from W. James, Student finance and the case for loans, *The Times*, 3 February 1968; and from A. C. Vaigo, Student loans in North Europe. *New Society*, 22 February 1968. Roughly comparable figures will be found in the Commission on Higher Education.

that a student whose own family is paying for his education, or who is paying for it himself, possibly on a loan or by working for a few years and saving, will be more concerned to make good use of his time than one who is maintained at the expense of the state. Mr. T. Nyhuus, a Norwegian graduate with personal experience of the loans system, has testified to the invigorating effect of personal financial responsibility for one's university career:

"I do not mind paying for my own education. It certainly makes study more of a challenge. You just cannot afford to fail."<sup>27</sup>

Any considerable extension of student grants in Ireland would be an important step towards the establishment of a British type universal welfare state. Whether Ireland would wish to move towards this type of welfare society, with the economic and moral consequences that it might entail, is a matter on which there will be a variety of opinions. Some will no doubt regard the British welfare state as an excellent model. Others will have reservations about whether this is the direction in which it is desirable for Ireland to move. In any event it seems important to indicate the direction in which further expansion of a student grants system would be taking us.

Fourth, a British type grants system in which grants of various sizes are awarded in accordance with a means test of parental income amounts in practice to a kind of education tax on middle and upper class parents. The children of these parents receive less than the full grant and the parents are expected to make up the difference. Thus the middle class parent pays both for his own children to attend university and also, through taxation, for other people's children as well. For countries faced with a brain drain it is desirable not to make taxation too onerous for the middle class, and a loans system has the advantage of releasing middle class parents from financial responsibility and transferring this to their children.

Fifth, some writers<sup>28</sup> have feared that extensive reliance on a grants system would increase the power of the state over the universities to an undesirable extent. The view is that under a grants

system university finance is ultimately derived from the state, and those who pay the piper are apt to wish to call the tune. In recent years some American universities have refused to accept government research contracts on these grounds, and the government inquiry in Britain during 1967 into how university lecturers spend their time is seen by some as a first move towards some *dirigisme* interference.

Sixth, while there are still considerable differences of opinion in Britain about the merits of the grants system, it is probably reasonable to say that there has been a rising tide of opinion against it in the last few years on one or other of the grounds which have been outlined. Professors Prest, Peston, Peacock and Wiseman have advocated the replacement of grants by loans. Mr. S. Maclure, writing in the *Spectator* on 5 April 1968, stated that "in the long term it seems inconceivable that loans will not play a major part in financing university students—if only on grounds of elementary social justice". Mr. W. James, the editor of *The Times Educational Supplement*, and Mr. C. Clark are others who have recently written in favour of loans.<sup>29</sup>

Finally, now that the Bank of Ireland is offering loans to students it is questionable whether the limited number of grants offered by the government serve much useful purpose. If it is held that there are some who would be willing to attend university on a free grant but not on a loan repayable at £100 per annum for ten years, it may be doubted whether such lukewarm characters should be encouraged to go to university. Furthermore, to give grants to some but oblige others to take up loans introduces an element of arbitrariness. Under the existing system the difference of one mark in the Leaving Certificate can mean the difference between receiving a gift of up to a thousand pounds or so from the state and taking up a loan.

It is difficult to believe that this situation can survive for long and it seems inevitable that Ireland will eventually either go over to a universal grants or a universal loans policy. Now that the Bank of Ireland has launched its loans scheme I believe that the best course would be for the state to withdraw entirely from its incipient grants system.

## 8. A LOANS POLICY FOR STUDENTS

Arguments against grants are generally taken to imply arguments for loans. But there are still the questions of the number of students who should be offered loans, and the degree of subsidy which should be given in fixing fees below the economic cost of maintaining the universities.

<sup>27</sup>*The Times*, 17 May 1968.

<sup>28</sup>A. R. Prest, *Financing University Education*, Institute of Economic Affairs, 1966; A. T. Peacock and J. Wiseman, *Education for Democrats*, Institute of Economic Affairs, 1964.

As far as the question of numbers is concerned we have seen that the practice in most continental countries is to offer loans to somewhere between 10 and 50 per cent. of students. This would seem a reasonable policy for Ireland to follow. This should ensure that no really able young person is denied

<sup>29</sup>W. James, *Student finance and the case for loans*. *The Times*, 3 February 1968; C. Clark, *An unorthodox proposal*. *Encounter*, May 1968.

the opportunity of a university education, while not encouraging very large numbers to enter the university beyond the country's requirements.

If a loans system were introduced, an emigrating student would of course still be required to repay the loan. The experience of other countries suggests that there are no great difficulties about loan repayments. The requirement of repayment follows from the principle that if the public pays for a student's education it is reasonably entitled to ask the student to serve the public in return, at least for a certain period of time. The student is fully entitled to repudiate this obligation, but if he does so may reasonably be asked to repay the costs which the public has contributed. As a general principle such a proposal has several precedents. For example, at the Ecole Polytechnique in Paris the graduate is obliged to repay the costs of his education if he does not work in the French public service for ten years after graduation. In Russia the graduate can be required to work for a year or two in the less agreeable parts of the union, of which there are a number. The imposition of such obligations in return for subsidised higher education does not seem unreasonable.

There is, furthermore, a limited form of this system in the training of teachers in Ireland. A similar system was used for a period after the war for the training of teachers in Britain. These conditions are more onerous than loan repayments because they tie the recipient to a particular occupation. There is therefore nothing especially novel in principle in the suggestion that those who have been educated at the expense of the Irish people should be asked to repay the costs of their education.

It is sometimes argued that to require those who emigrate to repay the costs of their education to the community constitutes an infringement of individual liberty. It seems doubtful if such a view is reasonable. Under the system proposed the 18 year old student would incur a loan for his university education in just the same way that any other citizen might incur a loan for, say, a house. Emigration does not absolve the citizen from other debts which he has contracted. Furthermore, the economic costs of education at an Irish university are now so low (at £120-£300 per annum) that foreign employers would almost certainly advance the sums due for repayment. In this event there would be no impediment to graduates emigrating.

A repayment scheme along the lines suggested would have the further advantage of reducing potential public resentment about a large body of students supported at public expense. The upsurge of student violence and hooliganism in Britain in 1968 has given rise to some public resentment that students should behave in such a fashion when they

are supported by public money. It is more tolerable, when such outbreaks occur, for the public to be able to reflect that it is at least not involuntarily subsidising such behaviour through taxation.

There is also the question of the size of the fees. At present university fees cover about one-third of the running costs of the universities, the other two-thirds being met from general taxation. There is no strong case for maintaining the universities entirely out of fees. The university teacher has in effect two jobs, one as teacher and one as researcher and custodian of culture. The whole of society benefits from the second role and there is no reason why the student should be required to pay for it. Since the whole of society benefits it is proper that the whole of society should pay through taxation for a proportion of university costs. Just what this proportion should be is a matter on which there may be reasonable differences of opinion, and possibly a fifty-fifty splitting of teaching and research costs would be more appropriate than the present one-third-two-thirds. This would involve raising fees by something of the order of 50 per cent.

There is no reason why fees should not be somewhat higher for foreign students, as at present, and even raised to cover the economic costs. Foreign students could then be admitted to the Irish universities in larger numbers. At present we are in the difficult position that while it is almost universally considered desirable to have foreign students at the Irish universities, if only in the interests of broadening the international perspective of our own students, we are having to put stricter limits on the admission of foreign students because so much of the costs are falling on the Irish taxpayer.

Charging economic fees to foreign students would solve this difficulty. Apart from the cultural and educational advantages to Irish students and the generation of international goodwill towards Ireland which opening the universities to more foreign students would entail, there would also be economic advantages arising from the currency which foreign students would spend in this country. If it is doubted whether many foreign students would come if economic fees were charged, it may be pointed out that parents pay about £800 per annum to keep a student at one of the private American universities, so that Irish fees of about £180 per annum (for arts students) plus living costs would not put an American parent under any considerable financial strain. It is common for American students to spend one year of their undergraduate course at a foreign university and there is a considerable demand for places in Britain. It seems likely that the Irish universities could meet this demand to the advantage of Irish education, culture and the balance of payments.

## 9. TAXATION

Although this is not the place for any comprehensive discussion of taxation in Ireland, no paper on the brain drain would be complete without some consideration of the effects of taxation and how they might be ameliorated. It has to be recognised that to an increasing extent graduates are becoming internationally mobile. This is perhaps especially true of Irish graduates with the long established tradition of emigration. It seems probable that salary is not a factor of major importance in determining the initial decision to emigrate. It is more likely, however, that salary considerations are important in determining whether or not to return. Such was the view of the British Brain Drain Commission. Once the pleasures of fairly substantial salaries have been experienced there is a natural reluctance to return to a lower salary level.

Table 1: Median Salaries in 1966.

Source: Associated Industrial Consultants, May 1967.

Canada	..	..	..	..	..	£4,299
Germany	..	..	..	..	..	£2,642
U.K.	..	..	..	..	..	£2,677
France	..	..	..	..	..	£3,117
Netherlands	..	..	..	..	..	£2,508
Ireland	..	..	..	..	..	£1,835

Managerial salaries in Ireland and a number of other countries are shown in Table 1. These are median salaries, and it can be seen that in Ireland they are around thirty per cent. lower than in Britain and less than half those in Canada. In the United States salaries are very much more substantial and at all levels tend to be over double those in Britain. It must be concluded that Ireland is at a fairly considerable disadvantage in the international market for graduates.

It would, however, be possible to do something to compensate for this disadvantage by more generous tax treatment. It has to be admitted that the scope for improvement here is not large. The British manager at £2,600 pays about 21 per cent. of his salary in direct taxation, so that even the complete abolition of Irish income tax would not bring the net incomes of Irish managers up to the British level. Nevertheless, there is much truth in the saying that every little helps, and it is to be hoped that direct taxation in Ireland could be brought below that of our major competitors for skilled manpower.

It may be pointed out in this connection that Ireland does not of course impose the capital gains taxes that are well established in the United States

and Britain and in this respect Ireland has some edge on these two countries. The British experience has been that the revenue yield from capital gains taxes has been very slight and barely worth the costs of collection. When account is also taken of the indirect costs of private accountants' time and the employment of additional skilled manpower as revenue officers who might otherwise have been working productively, it is possible that capital gains taxes have involved a net loss to the British economy. The Irish Labour Party has shown generosity in recognising these facts in its budget recommendations in the spring of 1968 and it is hoped that the agreement between all parties on the pointlessness of a capital gains tax at this stage in Ireland will continue.

TABLE 2: PROPORTION OF INCOME RETAINED AFTER TAX. MARRIED MAN WITH TWO CHILDREN

	Gross Income £2,000	Gross Income £5,000	Gross Income £7,500	Gross Income £10,000
France.	94.4	87.1	82.2	79.5
U.S.	92.3	84.4	80.9	77.8
Portugal	90.5	85.5	84.3	83.0
Canada	89.5	79.6	72.6	67.9
Italy	88.6	80.2	76.5	73.8
Switzerland	88.0	77.6	73.5	71.0
W. Germany	87.7	76.7	70.6	—
Spain	85.7	80.5	75.8	71.4
Ireland	85.4	71.4	63.7	54.4
U.K.	81.9	72.6	66.0	59.7
Netherlands	81.0	62.1	54.2	49.1
Norway	75.0	49.9	—	—

Source: Associated Industrial Consultants, May 1967.

Some figures for the incidence of direct taxation in Ireland and a number of other countries are shown in Table 2. It can be seen that direct taxation in Ireland is severe by international standards. At the £2,000 per annum level only the British, the Dutch and the Norwegians are more heavily taxed, while from £5,000 per annum upwards the Irish are more severely taxed than the British. The reason for this lies of course in the heavy incidence of Irish surtax, which in conjunction with income tax takes 80 per cent. of income above £7,500 per annum. This rate is exceptionally severe by international standards and indeed is never reached in the United States even at the highest salary levels.

It may be felt that such high rates of tax apply only to a small minority and are of little practical importance to the economy. But a recent book by Professor A. J. Merrett<sup>30</sup> argues persuasively that this would not be a correct view. According to this

<sup>30</sup>A. J. Merrett and D. A. G. Monk, *Inflation, Taxation and Executive Remuneration*, Hallam Press, 1967.

analysis a very high rate of taxation of senior management has a number of profoundly disturbing effects on an economy. One of the most important is that it makes it too expensive for companies to pay their top management large salaries, since 80 per cent. (in Ireland) of salary increases go to the government. The effect of modest salaries for top management is to depress other salaries all the way down the line to junior management level. The reason for this is that salary differentials must be present to provide incentives for those working their way up the career structure. Thus the very high surtax rate on top management in Ireland is probably one reason for the low management salaries at all levels.

This argument was also accepted by the British Brain Drain Commission, which put it in the following terms: "Another effect of the higher marginal levels of taxation in the United Kingdom is that in order to give meaningful net increases to senior staff, perhaps even to maintain their real incomes in times of rising prices, it is necessary to pay very high gross increases. The apparent reluctance of most employers to add in this way to their costs has the effect not only of frustrating the senior staff themselves but also of depressing the salary ranges for middle and junior levels. This in turn adds to the difficulty of maintaining scales attractive enough to deter emigration when compared with rewards in the United States." This argument applies equally, if not with greater force, to Ireland.

Lest it be thought that these are mere theoretical speculations, it may be noted that Lord Cole, the Chairman of Unilever, has recently written of the difficulty an international company has in sending top men to countries where personal taxation is very high. The taxation rates make it virtually impossible to pay them adequately. Lord Cole made particular reference to taxation in Ireland as an example of this problem. His words were as follows:

"In some countries the rates of personal taxation are so high that it is unreasonable to expect any foreigner to serve there at any salary which the company can afford to pay. It may surprise many that this is a problem we recently met when we wanted to send a man from the UK to the Republic of Ireland."<sup>31</sup>

A taxation situation in which it is to the advantage of the most able Irishmen to work in other countries, but talented foreigners are deterred from working in Ireland, must surely act to the long term detriment of this country.

We may pass quickly over the other undesirable effects of high rates of surtax: the difficulty of

<sup>31</sup>Lord Cole, *The right men in the right places*, *Sunday Times*, 26 February 1967.

accumulating private capital and the effect of this on the financing of new entrepreneurial enterprises; the deflection of the energies of the most able and enterprising into leisure or pursuits other than the creation of wealth from which the whole community can benefit; the difficulty of insisting on a high standard of managerial competence in conditions where high rewards for competence cannot be paid; the deterrent effect on wealthy people who might otherwise be disposed to settle in Ireland and bring their wealth into the country, where it would be taxable for the benefits of the community as a whole and generate secondary employment; and the deterrent effect on the wives of men earning high salaries from taking employment. Taking all these factors into account, the real cost of the high rates of surtax could be considerable.

There have been welcome concessions to surtax payers in the budgets of 1967 and 1968. On the other hand, there may be a certain tendency to regard Britain as the yardstick and to feel that Irish taxation is all right so long as our rates are roughly in line with those of Britain. It should be said that there is considerable feeling in Britain that the high rates of British taxation are having a deleterious effect on the economy and that the present rates are far from satisfactory. It is significant that Mr. Roy Jenkins, the British Chancellor of the Exchequer, referred in his 1968 Budget speech to the desirability of making reductions in direct taxation in order to give greater incentives to management and that in spite of the enormous tax increases which he imposed he made no increases in direct taxation. Mr. Jenkins is not the only Labour Minister to voice the view that the British are now at the limit of direct taxation. Mr. R. H. S. Crossman<sup>32</sup> has written that:

"there are limits to the amount of redistribution which can be achieved over the shorter term by taxation . . . I am prepared to assert against our critics that in peacetime the gap between private affluence and public squalor *cannot* be corrected without a fairly rapid rate of economic growth".

Another prominent member of the British Labour Party, Mr. Douglas Houghton<sup>33</sup>, a former tax administrator and Cabinet Minister, has expressed a similar view:

"No Chancellor feels able to face the enormous cost of health services of the higher standard needful in contemporary conditions so long as he has to get the money by com-

<sup>32</sup>From *Socialism and Affluence*, Fabian Society, 1967.

<sup>33</sup>Address to a conference of the Institute of Municipal Treasurers and Accountants, 7 April 1967.

pulsory taxes of one kind or another. While people would be willing to pay for better services for themselves, they may not be willing to pay more in taxes for services which are not worth the money price until they as tax payers actually use them".

If British Labour Cabinet Ministers have begun to say that further direct taxation is undesirable, it might be expected that less committed figures would take a stronger position. Such is indeed the case. Mr. Ronald Grierson,<sup>34</sup> the Labour government's appointee as managing director of the Industrial Reconstruction Corporation, has described British taxes on earned income as "By far the biggest obstacle to the dynamic development of industry". Mr. Nicholas Davenport,<sup>35</sup> a financial writer of centre views, has said: "Excepting the French, the British tax system must be the most irritating and disturbing in the world." Professor G. S. A. Wheatcroft,<sup>36</sup> a specialist in taxation, has advocated that British rates of surtax should be halved. Other academic writers who have written of the impairing effects which high rates of taxation have had on the British economy include Professors A. J. Merrett and N. Parkinson and Mr. Colin Clark,<sup>37</sup> as well as Dr. F. E. Jones and his colleagues on the Brain Drain Commission.

In view of the widespread discontent in Britain with British rates of taxation it should not be regarded as a source of satisfaction to bring Irish taxation rates into line with British ones. The United States would be a better model and even

here, in view of the desirability of providing tax compensations to do something to counterbalance the higher salaries, it is to be hoped that Irish levels of taxation might be brought below those in the United States.

In considering the points at which taxation concessions might be possible it is necessary to examine the yields to the revenue from different sources. The estimates for the financial year 1968-69 are that there will be a total revenue of £328 million, of which £78 million will be contributed by income tax and £3 million by surtax. These figures show that any substantial reduction in the standard rate of income tax is likely to be costly, though certainly desirable. On the other hand the surtax yield has almost no financial significance and may be regarded as little more than a symbolic gesture to those who believe that the rich should be made to pay over large proportions of their income to the state as a matter of principle. When it is considered that the annual loss to the country from the brain drain might be assessed at £46 million, and the many other damaging effects of high rates of surtax to the economy are also taken into account, it seems probable that the abolition of surtax would yield benefits to the economy which would greatly outweigh the very small cost. It should perhaps be made explicit that what is being suggested is not that the cost of the abolition of surtax should be placed on the rest of the Irish population, but that its abolition may be expected to lead to an increase and inflow of wealth for Ireland from which the entire population would benefit, possibly very considerably.

## 10. CONCLUSION

It may be appropriate to conclude with a consideration of the discussion of the emigration problem written by Dr. R. C. Geary and Dr. M. D. McCarthy<sup>38</sup> in 1954. Although they were discussing emigration in general and our present concern has been with the more restricted problem of the emigration of graduates, the remedies prescribed by them are very much in accord with those which have been suggested here.

The conclusions presented by Drs. Geary and McCarthy can be given in their own words:

"To promote an upward trend in the population the real national income per head of

<sup>34</sup>*The Times*, 1 April 1967.

<sup>35</sup>*Spectator*, 26 May 1967.

<sup>36</sup>*The Times*, 20 December 1966.

<sup>37</sup>N. C. Parkinson, *Left Luggage*; C. Clark, *Taxmanship*, Institute of Economic Affairs, 1964.

<sup>38</sup>R. C. Geary and M. D. McCarthy, *Commission on Emigration and Other Rural Population Problems, 1948-54*, p. 205.

population would have to be increased to enable Ireland to compete on more equal terms with countries of much higher standards of living for the services of her sons and daughters. An increase in the average real national income can be brought about only by a substantial increase in the volume of exports which must therefore be produced at competitive world prices. Irish exports have a considerable import content and the country has no control over this element of cost. It is all the more important, therefore, that costs per unit of product within the economy should be reduced to the minimum. A much larger proportion, in the future than in the past, of the national resources would have to be deflected from consumption to capital development for economic ends, at some sacrifice in the rate of increase of the national standard of living during the earlier periods of

expansion. While the greater part of investment must be on private initiative, we do not consider that too doctrinaire a view should be taken about exclusive reliance on private investment. Direct public investment for economic purposes may, in special cases, be justified. State aid should be directed, at every point, towards raising efficiency and productivity, especially where subsidies, guarantees, etc., are provided. Nevertheless, it is our conviction that for general economic development and, in particular, for an increase in savings and in capital formation for economic purposes, a substantial reduction in the level of public authority spending and taxation is essential".

The elements of the problem to which they drew

attention are very much the same as those present today: the necessity for concentrating on improved economic growth; of foregoing present public consumption in the interests of productive investment for future prosperity; and for reductions in taxation. In this paper attention has been directed towards the proposals for university expansion and student grants because it would seem that these run contrary to the desirable trend of public policy. They constitute an increase in public consumption; necessitate increased taxation; consume resources which might otherwise be used for productive investment; and are likely to lead to a greater number of our most able young people leaving Ireland. Such a policy would seem likely to lead to the impoverishment of Ireland both materially and culturally.

## 11. SUMMARY

Two independent surveys suggest that about 80 per cent. of Irish students intend to take employment abroad. The majority envisage emigrating for a period of 3-5 years and hope to return. But it may be doubted whether more than a minority do so. While it is impossible to forecast exactly what percentage of the present generation of graduates will be lost to Ireland it seems not improbable that it will be around 60 per cent.

These results have important implications for a policy of university expansion. It would seem that Irish universities are in some way orientating students towards employment abroad, whereas it would be preferable if they could be orientated towards careers in Ireland. Since the number of professional jobs is roughly constant, it would seem desirable to try to encourage more students towards making their careers in business. It is to be hoped that students could be made entrepreneurially minded, so that they could either expand Irish businesses or set up businesses of their own in Ireland.

The most likely way of accomplishing this would

seem to be to expand Irish university business schools and vocational subjects with business applications. Hotel management and art and design are suggested as possibilities.

The proposals for an extension of grants to university students seems likely to exacerbate the brain drain and should be viewed with considerable caution on these grounds. There are also many other arguments against a grants system. A loans system on the continental model would be preferable.

It is suggested that the universities might charge economic fees for foreign students. This would enable Irish universities to admit more foreign students, to the advantage of Irish education and culture and also to the economy.

One of the problems of the brain drain is to encourage more able people to remain in and to return to Ireland. The level of taxation is an important aspect of this problem. It is suggested that reductions of income tax and the abolition of surtax might be expected to generate greater wealth than would be lost in the small cost involved.

## APPENDIX 1

The Cost of Emigration—as estimated by Professor A. J. Merrett and Mr. D. Monk in *Inflation, Taxation, and Executive Remuneration*, pp. 88-91.

The seriousness of management migration from the standpoint of the economics of management and public policy depends upon an assessment of the productivity and the community's share in the productivity of U.K. managers who might be lost in this country. The total economic loss in this

sense is extremely difficult to measure. Assuming, however, that salaries reflect the value of the individual's services to the community, a lower limit on this loss must be the total loss of tax revenues both direct and indirect (less the cost of any central and local government services provided to this category of taxpayer) from the individual's salary. It is clear that the bulk of what might be termed the "overhead costs" of our society, namely defence, most central and local government adminis-

tration, police and additional services, etc., would not be reduced by a net loss of executive talent from the U.K. But it would be the case that the rest of the community would forgo the contribution made by these taxpayers to these overhead costs and also their contribution through taxation to the welfare of poorer members of the community.

An analysis of total taxes paid and benefits received for the year 1962-3 showed that total tax paid (net of the cost of allocable benefits received such as health services, education, etc.) was 59% of the before tax incomes of individuals with incomes in excess of £5,000 p.a. Given subsequent increases in tax rates this figure was probably in the region of 60% in the year 1967.

In assessing the cost of emigration, however, we must consider the probable earnings of the emigrants over their working lives. Junior management earnings, say, £1,500 at the age of 25 and with the prospect of rising to middle management in their thirties could expect to see an increase in salary amounting to about 8% p.a. compound. This would give a salary on retirement 35 years later of £22,000 in money of that time. But this would only be around £8,300 in real terms after allowing for 3% inflation in the general price level. As such it would not be substantially greater than that of other middle management at that time when allowance is made for the fact that when he receives the £8,300 he is assumed to be at the end of his career and average middle management salaries relate to a younger average age. In other words the emigrant manager is assumed to be on average merely of our middle manager abilities.

On these assumptions, emigration of junior management at 25 would cost the community the taxes forgone on this salary which starts at £1,500 and ends at £22,000 35 years later. Assuming average total taxes (net of benefits received) will average 60%, the real value of the future taxes\* lost as a result of migration (i.e. after allowing for changes in the price level) would be equivalent to an immediate loss of £22,500 or say £23,000 for each migrant. We are, however, ignoring taxes on unearned income throughout and on pensions in the years of retirement, hence this figure must be regarded as a somewhat conservative estimate.

It is probably in fact very conservative, as are most estimates of the cost of educated labour force emigration, since it takes no account of the loss to the country of emigration of the share which that country would have obtained from the earnings of

\*Discounting this real value at 7% p.a.

the children of emigrants who would typically also be members of the educated labour force.

These figures are, of course, merely illustrative of a particular case. But it would seem purely typical of the earning power of probably slightly better than average junior management who tend to emigrate. The most disputable assumption is probably that of the average total taxes (less benefits). We have taken the figure of 60% which broadly applies to incomes in excess of £5,000. This is the income which our executive will reach in 12 years and thereafter increase rapidly to much higher figures. Hence 60% would appear reasonable unless major changes in tax policy are assumed.

An average age of migration later than the average of 25 years assumed in our figures would, of course, reduce this total cost estimate. But it is reasonable to assume that in management careers emigration would occur relatively early in life. (The most common age bracket of all U.K. male emigrants into the U.S. is 20-29 and this age bracket is over twice as populous as the next most common age bracket, 30 to 39.)

It might also be noted that while our analysis has been confined to management, the orders of magnitude arrived at are probably similar to those of most scientists, engineers, doctors, technologists, etc. (It is, however, possible to argue that scientists whose work will become publicly available—e.g. those engaged in nationally sponsored research—involve little net loss and even a net gain, since the results of their expensive research are made available free by the host country.)

Statistics of international migration are inadequate and unreliable, given that the U.K. authorities have no complete record, hence the data must be pieced together from the different countries of immigration with their differing definitions of immigration occupations. The statistics for immigration into the U.S., Canada and Australia are, however, sufficiently comparable for some rough estimates to be made of total executive emigration to these countries.

A rudimentary estimate suggests that the number of managers from the U.K. emigrating to these three countries in 1965 was some 2,200. If the estimated cost of around £23,000 is viable, these figures also suggest that the total cost to the community from management emigration is equivalent to £50 million p.a. If this figure is broadly correct then it suggests that the total cost to the U.K. of emigration of its educated labour force is in excess of £100 million p.a.