

## A REAPPRAISAL OF THE "BRAIN DRAIN"—WITH SPECIAL REFERENCE TO THE MEDICAL PROFESSION\*

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**Abstract**—The "brain drain" problem is not so much a question of the numbers who migrate as the distortion in training systems and economic structures that their mobility implies. The persistence of the problem reflects the ineffectiveness of the policies so far implemented to reduce it. This ineffectiveness stems largely from the inadequacy of the standard neoclassical framework of analysis, which also misrepresents the effects of the "brain drain". The fundamental inadequacy of this analysis derives from the fact that it deals with the response of individuals to a number of variables without taking account of the structure within which individual decisions are made and of the relevant interdependencies and dynamic effects. The most important aspect of this structure is the existence of an international market in professional skills into which the educated elite of the Third World is more or less integrated, to the benefit of their salary levels and, in a process of institutional determination of salaries, those of all who can plausibly claim "compatibility" with them. The condition of integration into this international market is the possession of internationally negotiable qualifications and international negotiability implies, to a varying degree, lack of relation to local needs.

The question of international (medical) migration is of interest not so much in itself, but because of what it reveals about the nature of particular (health care) systems and the socio-political structures in which they operate. If everything else were to stay much the same the reduction of (medical) emigration would probably make no difference at all to the welfare of most of the population of the Third World. In the same vein, the solution to the problem raised by these international movements are not to be found within the movements themselves but in necessary changes within the framework of specific national (health care) systems and, of course, the social, political and class structures in which they exist.

### INTRODUCTION

Statistics on the outflow of trained personnel from developing to developed countries are not only of poor quality [1], but usually also considerably out of date. Thus the most recent year for which relevant data is available is 1973 or even, in the case of many important countries, 1972 [2]. The picture shown by these statistics is one of some falling away in the early seventies from the highest levels of outflow of the sixties, but of still substantial numbers in aggregate, with the United States, the United Kingdom and Canada as the major recipient countries and with doctors, nurses, teachers, engineers and scientists as the predominant categories of manpower involved.

Since the end of 1973 there have been several new developments. The capitalist world economy has entered and is still suffering a serious recession. The rate of expansion in the demand not only for economic resource based professionals such as engineers,

but also for school and university teachers and possibly even medical graduates has been considerably reduced. At the same time output from medical schools in Britain and North America has been significantly raised and is likely to increase further in the next decade [3]. On the other hand, the oil-producing countries, particularly in the Middle East, have emerged as new areas of rising demand for high-level manpower. And in the European Economic Community moves towards the liberalization of professional licensure regulations, coinciding with Britain's entry, have increased the opportunities for movement between and therefore possibly into the EEC countries.

While a change in the direction of "brain drain" [4] thus seems fairly certain, the prospects for the size of the outflow, although in any case likely to be below pre-1974 levels at least for some years, depend to some extent on the timing and pace of recovery from recession. In the case of professions other than doctors the reaction to recession in the developed countries has been to cut back on training provision, which in time may mean short-term employment opportunities for qualified immigrants as economic activity picks up. Even in the case of the medical profession, with its very different institutional framework, the rate of increase in demand may in some instances outstrip that of supply. Moreover, to

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the extent that Third World professionals fill *specific* roles in developed countries, opportunities for them might persist even though the gap between *overall* demand and supply were closing.

Even if the numbers actually migrating were to fall drastically over the next few years this would not be the end of the "brain drain" and its related problems. As things now stand the training institutions of the Third World have the capacity to produce increasing numbers of internationally acceptable and potentially mobile professionals, to be added to the world's "reserve army" of high-level manpower to be drawn on at will by the developed countries. As will emerge in what follows, *the problem is not so much the numbers who migrate as the distortion in training systems and economic structures that their mobility implies.*

The persistence of the problem reflects the ineffectiveness of the policies so far implemented to reduce it. This ineffectiveness stems largely, it will be argued here, from the inadequacy of the standard framework of analysis, which also misrepresents the effects of the brain drain. In the following pages the assumptions underlying, and the policy prescriptions arising from, the traditional approach are examined and an alternative framework is suggested—with alternative implications for policy.

#### ANALYSIS

The standard framework of analysis of the *effects* of "brain drain" is that of neoclassical welfare economics. The typical neoclassical view is that those remaining behind suffer no loss in welfare as a result of the migration of an educated person from a poor to a rich country. Grubel and Scott [5], for instance, maintain that "the emigrant removes both his contribution to national output and the income that gives him a claim to this share, so that other incomes remain unchanged". Even in its own terms such analysis is fallacious. The proposition that "brain drain" will leave the income of those remaining behind unchanged holds only if a *marginal* loss of a single skilled worker is involved. But, as Sen remarks [6], "who is really interested in a one-man 'brain drain'?" It is easy enough to show that, given normal neoclassical assumptions about demand conditions, the loss of output resulting from substantial emigration will exceed the consequent fall in the wage bill. In other words the average income of those remaining behind will fall; in which case there is a situation in which some (the emigrants) gain and some (the non-emigrants) lose and whether the results are regarded as net gain or net loss will depend on how the income units of each group are translated into welfare units. It seems at least plausible to suggest that when, as is usually the case, the gainers already have considerably higher incomes than the losers there is a presumption in favour of net loss from brain drain [7].

Moreover, so far the argument has accepted the underlying neoclassical assumption of perfect competition in the relevant markets. In the real world of market imperfections, however, the impact of a skilled worker on an economy is not completely reflected in the size of his income; there will be indirect or

"external" effects on the output and incomes of others (such as, e.g. a doctor's effect on the health and physical productivity of the labour force, an agronomist's on farmers' crop yields, etc.). The usual neoclassical attitude to such externalities might be summed up as "because no one has yet demonstrated that these externalities are significant, we can disregard them". A more convincing recognition of the reality of the disintegrated and administered labour markets of the Third World would be to concede that not only are externalities important but that they are likely to be significantly more important for developing countries than for developed ones.

In fact it is interesting to note that the most careful attempt to measure the effects of "brain drain" within the neoclassical framework [8] does concede this point, defining benefits lost to the developing country and benefits gained by the developed country in terms of losses and gains of lifetime income streams, *but adjusting for estimated externalities and for intra-marginal gains or losses in excess of those indicated by market wages and salaries.* On this basis, using the actual figures for the numbers of Third World immigrant engineers, physicians and social and natural scientists into the U.S. in 1970, the authors calculate that this immigration represented a transfer to the U.S. of around \$3700 million, compared with U.S. development assistance to developing countries in the same year of \$3100 million.

As might be expected neoclassical analysis of the *causes* of "brain drain" puts the emphasis heavily on economic motives. The standard hypothesis, the one that most empirical work on "brain drain" has set out to test, runs broadly as follows. The net inflow of educated persons from a poor to a rich country will be the greater, the greater the relevant salary differentials between the countries; the easier it is for an immigrant to get an appropriate and satisfying job in the rich country; the more difficult it is for a potential emigrant to get such a job in the poor country; and the lower the cost of migration and relocation in the rich country.

There can be little quarrel with the view that economic considerations (thus broadly defined) predominate. Certainly this is what migrants tend to tell surveyors inquiring into their motives. The recent UNITAR survey [9], for instance, carried out in France, Canada, the U.S., Sri Lanka, Greece, Ghana, Brazil and Colombia, suggests adequacy of income, quality of jobs, number of jobs and the interests of children as the strongest influences on migration plans at all stages. Similarly an earlier UNITAR [10] survey of Cameroon, Colombia, Lebanon, the Philippines and Trinidad and Tobago found the economic factor, including the employment situation, working conditions and salaries, to be the most important one.

However, this does not necessarily mean that rates of migration respond to *marginal changes* in these economic variables. The data are too poor to be confident about the results of regression analysis, but the hypothesis that the pattern of immigration is related to (i) the income difference between the country of origin and the U.S. and (ii) cost of transportation involved in the movement does not come well out of an analysis by Sen [11] of immigration of less developed country engineers, doctors, dentists and natural

and social scientists into the U.S. in 1966 and 1967. Except for the case of doctors and dentists, where special institutional factors apply, the strongest explanation of the pattern seems to be in terms of the number of students doing graduate work in the U.S. These results are highly tentative, but in general they are consistent with the fundamental critique of the standard framework to which the discussion will now turn.

The fundamental inadequacy of neoclassical analysis of brain drain derives from the fact that it deals with the response of individuals to a number of variables without taking account of the *structure* within which individual decisions are made and of the relevant interdependencies and dynamic effects.

The most important aspect of this structure is the existence of an international market in professional skills into which the educated elite of the Third World is more or less integrated, to the benefit of their salary levels and, in a process of institutional determination of salaries, those of all who can plausibly claim "comparability" with them [12]. The condition of integration into this international market is the possession of *internationally negotiable qualifications* and international negotiability implies, to a varying degree, lack of relation to local needs. In other words Third World professionals acquire international mobility either by studying abroad or by attending a local institution with curricula and syllabi appropriate to the job context of the developed rather than the less developed countries [13].

In addition to this qualitative distortion of education and training systems the tying of local professionals into the international rather than the local market, and the consequently higher anticipated private rate of return on their training open to them, *build in* an overproduction of inappropriate skills as the state responds to the excess demand for training school places by building more training schools or by sending more students overseas. This is the point overlooked by economists who talk about overflow rather than drain. Their view [14] that the "brain drain" is no problem because there is a surplus of educated manpower at home can be seen to be excessively static, to say the least.

All this fits in well with Sen's conclusion, already discussed, that the most powerful explanation of the pattern of Third World immigration into the U.S. is provided by the number of nationals doing graduate work in the U.S. Some qualifications, clearly, are more negotiable than others and none more so than those of a receiving country's own graduate schools. In general one might predict that the less internationally acceptable are the qualifications obtained (whether at home or abroad) by a category of professionals the lower the incidence of brain drain. This general line of reasoning is supported by Myint for example, who observes that one of the reasons why "the actual 'brain drain' of engineers from Asian countries has been much less than of doctors" is that "professional affiliations between the advanced and the underdeveloped countries seem to be weaker for engineers than for doctors, so that an engineer trained in Asia is less likely to obtain a professional appointment in the U.S. or Britain without further training in these countries" [15]. It must be stressed that the

point at issue is not so much this international negotiability and consequent mobility as such, but the effects these have upon the possibility of creating more relevant professional cadres within the Third World.

#### DOCTOR CASE STUDY

The "brain drain" is made up of many kinds of professionals, and of movements between different types of countries. However, serious international public concern over the brain drain issue has been reserved primarily to the movement of professionals from the less to the more developed countries. This continues to be the situation despite the increasing volume of professional migration from poorer developing countries to, in particular, oil and other mineral rich parts of the Third World. In some countries movements of this latter type are even being encouraged as an alternative to emigration to industrialized countries, and also because they are not generally of a permanent character. Such movements are also sometimes supported/justified on the basis of their potential for creating feelings of political solidarity between Third World countries. In any event the volume of movement of professionals from, say, the Indian subcontinent to the Middle East is still far less than to the industrialized countries and although such movements are still on the increase they are characterized more by circulating than one way flows (although some migrants use a posting in the Middle East or Africa as the basis of a further move to Europe or North America). It remains the case that the movement of professionals from developing to developed countries remains at the heart of the "brain drain" issue as a matter of significant international public concern.

The out-migration of Third World professionals has been dominated by movements to the industrialized English-speaking countries; that is, the U.S., the U.K., Canada and Australia. There are also relatively important flows into the Federal Republic of Germany and France. Because such a substantial part of all professional education within the Commonwealth is in the English language, its graduates are especially at risk with regard to future emigration. Movements within the Commonwealth itself are also facilitated by similarities in higher education and professional institutional structures.

The professional composition of the migrants varies according to country and has changed over time in keeping with the needs (demands) of particular industrialized countries. The groups that have dominated the migration statistics since 1967 (the year U.S. professional immigration rose by over 60 per cent) are scientists, engineers and doctors. In spite of the overall significance of these categories there are other, smaller groups that constitute areas of concern in particular countries, for example accountants in Sri Lanka and teachers in the Commonwealth Caribbean. Although there are conditions that are specific to the migration of each category of professional and to each country, there are also broader and more significant issues that apply more or less "across the board". These issues are well illustrated in the case of the migration of health workers in general and doctors in particular.

Within the United Nations and most other international bodies concern over the "brain drain" extends to all categories of professional migrants. However, within both donor and recipient countries it is doctor migration that tends to generate the greatest volume of interest and feeling. It is also important to note that even in quantitative terms doctor migration has come to dominate international professional movements as the increased output of science and engineering graduates in the United States in particular, coupled with economic recession, has reduced the demand for immigrants with these skills.

Doctors and other health workers, then, constitute the most significant group of migrants from the point of view of both developing and developed countries. The flow of doctors from developing to developed countries is limited primarily to movements into the U.S., the U.K. and Canada, with minor flows to a few other countries. It must not be imagined that the countries into which the doctors are migrating are receiving them with enthusiasm: in fact they are acceptable only because they are meeting an existing demand for a greater number of doctors (or nurses, etc.) than the recipient countries have been able (or willing) to meet from their own resources. The most important question that arises with regard to this migration is why the Third World continues to supply medical doctors and other health workers to meet the needs of a few western industrialized countries, thereby depriving themselves of significant numbers of their own scarce health workers.

Perhaps because the medical brain drain is most often discussed by members of the medical profession the stock "solutions" offered for the problem appear to be directed primarily toward costly improvements in the training and working conditions of the potential migrants. It is the contention here that it is just such improvements that have created in the past, and are encouraging now, the basic conditions that have led in the first place to international medical migrations; that is, they widen further the gap between effective economic demand for medical skills and the cost of utilizing these still more expensively trained and paid medical practitioners. In fact, the international migration of doctors is primarily the result—as well as a measure—of the mal-training and related malutilization of medical manpower, and graduates in particular. In the broader sense this is equally true in the case of the U.K. or India.

Medical migration is a reasonable response to national and international inequalities in the distribution of income. Like other workers, doctors sell their wares in the market place. In fact the present national and international distribution of the stock of doctors and the flows of additional medical graduates are closely correlated to the overall pattern of income distribution within and between countries. The distribution of doctors not only reflects income inequalities, but is in itself a part of that inequality. It is a stark truth that medical skills are not distributed in keeping with need—as shown by morbidity and mortality indices—but rather in accordance with the workings of the market place in a world of sharp income equalities. The same conditions that encourage a concentration of medical skills in the metropoli-

tan areas of Third World countries assure the international movements of these same skills.

Given the poverty of most of the population of developing countries, a health care system which is either part of, or oriented to the private sector and those with money incomes will become virtually irrelevant (in any positive sense) to at least one of the "two nations" which comprise each underdeveloped country. The permanent migration of high-level medical manpower arises from the production of personnel to meet the health care requirements of both nations: the one which can pay for the services of medical doctors and the one which cannot. It has even been argued by those who accept the market place as the final arbiter of who shall or shall not enjoy the benefit of medical care that there is, in fact, no "brain drain" of professional manpower, but rather only an "overflow" relative to effective economic demand.

The picture, then, is something as follows:

(a) Traditional medical education is based on the values and requirements ("standards") of those with sufficient income to purchase private medical care: at the same time the "native practitioners", who are the only ones able to meet the effective economic demand of those with very small (or no) money income, are labelled as quacks and either barred from practice outright or forced to operate without benefit of state support either for facilities or training. On the same basis there is opposition, usually successful, to the production of medical assistants and other types of alternatives to the graduate medical practitioner.

(b) Based upon a desire to change existing national doctor-population ratios that are very different from those to be found in industrialized countries there is increasing pressure for the training of greater numbers of doctors; additional medical graduates then lead to the demand for post-graduate specializations and large urban, especially teaching hospitals as places of employment; these in turn lead to more graduates and specialists. There is then little left for basic rural primary care services or even for basic pharmaceutical products, especially at the "periphery", as doctors' salaries and other related specialized requirements take up an ever increasing proportion of very limited health sector resources. The privileged position won by the doctors encourages the entire process until there is an oversupply relative to the employment aspirations of the graduates and they emigrate, if they can. Meanwhile, the bulk of the population remains without benefit not only of doctors' services, but of any type of health worker at all.

(c) An important element in all of this is the growing demand for higher education for the children of an expanding middle class. At the same time these same middle classes provide the major markets for doctors' services. However, there cannot be doctor-(middle class) family ratios that are low enough to prevent oversupply relative to effective economic demand. The very expensive training costs of medical doctors (which are so high just because they are trained in keeping with private sector "standards" and traditions) means that most of the population cannot possibly afford the expectations/requirements of the medical graduates. Therefore, there is an "overflow"

of these graduates to those parts of the world where demand is greater than the current supply of doctors, most notably North America. (The movement to Britain has been largely a replacement of those Britons who have already emigrated.) The very possibility of lucrative overseas employment, in turn, encourages the output of still greater numbers of medical graduates having no prospect of employment in their home countries. Even now, in some countries at least, medical graduates are consciously being produced for the international market.

The market for doctors of the type currently being trained is extremely limited in the context of most Third World countries. Although a more equitable distribution of income would probably lead to a greater overall demand for the services of medical practitioners (including those of a nongraduate variety) it might also lead, in the short run anyway, to a decline in demand for those services being produced by highly specialized graduates and an increase in emigration of such people. In practice this would depend upon the rate at which income redistribution and the consequent demand for different types of medical practitioners was to proceed, the volume of output of graduates from the medical schools, adjustments in medical school curricula, government policies with regard to the control of intending emigrants, and the level of international demand for the potential emigrés. The precise balance of such factors could only be found in the context of specific countries. In any event, it is broadly the case that so long as doctors are trained in keeping with private sector traditions and the requirements of a very limited urban middle class, just so long will there be an "overflow" from those countries with a small demand for such training to those with a greater (unmet) demand for such skills.

In Asia it is possible to see most of the distortions that arise from overproduction of the wrong type of medical practitioner. This overproduction has led to the massive migration of medical graduates from such countries as India, Pakistan, Sri Lanka and the Philippines. In response to this situation Sri Lanka has curtailed medical school output and India ended expansion of intake, but Pakistan and Bangladesh are in the process of doubling intake into medical schools, at least partly to make up for emigration. In some Indian states the glut of doctors demands that virtually all health planning be centred around the need to employ these high-status professionals, thus further distorting the health delivery system. In the Philippines the output of doctors is very much related to the American market for the product. In almost all countries the relative or absolute oversupply of medical graduates having an almost totally hospital oriented training is adding to the pressures for the construction of still more urban hospitals rather than higher priority rural facilities.

In a number of countries extensive emigration is coupled with inflows from other countries. Thus Caribbean Commonwealth doctors emigrate to North America and Nigerian and Ghanaian medical graduates find employment in the U.K., while their governments recruit replacements from countries such as India and Sri Lanka. There are also movements from smaller and poorer countries to larger and richer ones

within given regions, e.g. the Caribbean Commonwealth or West Africa.

The training of doctors, with respect to both numbers and curriculum "standards", is based upon the assumption that health care delivery systems must be based upon the availability of professionals with up to 20 years of basic schooling and medical education, which then can become the basis for many more years of specialist training. These assumptions are held in spite of the well established and publicised fact that in all countries of the world the vast bulk of illness and mortality does not require the attention of highly-trained practitioners of the medical sciences. Of course, this situation is particularly clear in countries characterized by levels of infant mortality of anywhere between 50 and 200 per 1000 live births. The type of training under discussion also reinforces the desire for urban/hospital/private medical practice to the detriment of rural/health centre/public health work.

The number of highly-trained medical practitioners (registered doctors) planned for production is generally based upon some sort of doctor-population ratio. Such ratios not only do not consider the basic disease pattern of a country, and thus the need for doctors, but also ignore the possibilities for medical graduates to fulfil their employment expectations and the consequent effects upon their distribution and functions. In fact, the planned output of doctors is generally not even related to the availability of other types of health workers. Thus the illogical situation arises of there being more doctors in employment in many countries than there are nurses or other categories of key paramedical and auxiliary staff. In some parts of the world there can be found doctors in rural clinics without either supporting staff or the possibility of doing immunizations or providing a drug, at least partly because health ministry budgets have been so badly distorted by the need to provide salaries for expensively trained doctors (and in some cases registered nurses).

Most international migration occurs when the economic demand for general or specialist doctors' services in a particular country has been saturated (although in certain instances the situation has been reached in which students are trained specifically with the intention of emigrating). At present urban demand is great enough to support about as many doctors in the capital city of many a developing country as can be found in a large European or American city. However, effective rural demand cannot support more than a handful of conventional doctors per million of the population. The only way to change that rural ratio is to change the level of demand and so make it possible for doctors (or nongraduate medical practitioners) to find employment in the rural areas or small towns of their own countries rather than abroad. (It must be added that effective economic demand need not be stimulated only through financial payments to doctors, in the form either of fees or salaries, but through the provision of a number of other employment incentives.)

On their arrival in North America or the U.K. doctors and nurses from the Third World mostly take up low-status employment in the less desirable hospitals. In fact without the presence of tens of thousands

of doctors from the less developed countries the hospital systems of the U.S. and U.K. could not continue to function. The dependence of these countries on foreign medical graduates is a reflection of deficiencies in their own training programmes, and/or systems for delivering health care.

The unmet demand for medical doctors has been most marked in the U.S. This situation has arisen because, primarily as a result of pressure from the organized medical profession, intake and output from U.S. medical schools had been held more or less constant from the end of the Second World War to the late 1960s. In the interim U.S. demand for doctors had become so great that by 1973 there were over 12,000 *new* medical registrations in that country of foreign medical graduates (55 per cent of the total of all new registrations [16]). In that same year of almost 16,700 licentiates representing additions to *unrestricted* medical practice in the U.S. over 7400 (44.5 per cent) were graduates of foreign medical schools. Well over three-quarters of these graduates were from developing countries. One U.S. study [17] found that of all foreign educated doctors in the country in 1963 almost 84 per cent were still there in 1971. Of those who had come to the U.S. nominally for temporary training 74 per cent were still resident in the country at the end of the eight-year period. Estimates for the U.K. indicate that in the years preceding 1973 and 1974 the gross annual inflow of doctors into the country came to about 3000, with the net gain by the U.K. being about 1000 per annum. In 1973 and 1974, the gross inflow is estimated to have been 2000 and the net gain 700. The year 1975 may have seen a balanced inflow and outflow of about 1000 in each direction.

The policies of key industrial countries concerning the immigration of (especially) Third World doctors are being reshaped in keeping with very substantial increases in output from their medical schools. In the U.S. medical school intake has almost doubled over the past decade and will provide an output by 1980 of approximately 15,000 per annum. In Britain medical school intake has increased by about 50 per cent over the past decade and will have almost doubled by 1980 to provide an output of over 4000 graduates per annum. Canadian output had doubled by 1976 from its 1963 base of around 800. In Australia the 500 medical school graduates of 1962 will have increased to over 1200 by 1980, and in New Zealand output will have almost tripled from 110 to 320 during the years 1972–1981. Taken together, medical school output in the four wealthy Commonwealth countries will have increased by around 150 per cent between the early 1960s and 1980.

Although it may be some years before it will become possible for medical employers in countries such as the U.S. or the U.K. to find citizen replacements for all the foreign-born doctors already in their countries not yet in protected types of employment, e.g. junior hospital doctors, current output from their medical schools should be sufficient to reduce rather quickly the intake of additional immigrant doctors. In fact, as a result of increases in output coupled with growing concern over many aspects of the medical brain drain, Britain, Canada and Australia have already taken major steps to limit medical immig-

ration. Although similar new initiatives have not yet been undertaken in the case of the U.S. based upon the current state of discussion in that country, there is reason to anticipate the development of more restrictive medical immigration policies in the not too distant future. It is worth noting that the reduction or end of medical migration to Canada and Australia and possibly the U.S. will also mean a sharp reduction in British medical emigration and thus that country's dependence on doctors from abroad.

As a result of new immigration policies on the part of the industrialized countries it is likely that over the next five to ten years medical migration from the less developed to the industrialized countries will have been reduced very substantially, perhaps to a very few indeed! This fact seems not yet to be sufficiently appreciated and apparently in some countries at least there is discussion/planning for increased medical school output based upon the expectation of continued doctor migration. This discussion takes the form of acceptance of medical migration as a continuing fact of life and sometimes even proposes payments to donor countries by recipient countries for the "lost" doctors who, presumably, then would be trained even more closely in keeping with the needs of the receiving industrialised countries. To expand medical schools on the basis of expected continued migration would be a grave error and could only perpetuate the continued production of an inappropriate type of graduate. The situation has gone so far, in some countries at least, that it almost appears as if migration has become a necessary fact of life to justify the continuing (over) production of inappropriately trained medical graduates. Actually much of the ambivalence of Third World countries over the brain drain issue is to be found here. On the one hand there is the desire to continue with the output of increasing numbers of "internationally acceptable" medical graduates, and on the other, the inability to either meet the expectations or be able to utilize very many such graduates.

In almost all developing countries medical education is said to be based on the dual principles of "having medical education match the country's needs" and "raising standards to keep up with the most modern developments". Of course, these "most modern developments" are determined by contemporary practice in London or New York, and consequently are mostly unrelated to the problems and possibilities of developing countries. Although the highest of *relevant* standards must always be aimed at, if it is the case that the standards by which medical education is actually measured are not relevant to, say, India or Ghana then it is highly unlikely that the "raising" of those standards will increase the quality of medical care available to most Indians or Ghanaians. In the conflict between "relevant" medical education and higher "standards" it is invariably the relevance that loses out, to a significant degree because of the fears of medical professionals of being "cut off" from the greater world of medicine as it is practiced in the richer countries.

It is likely that an end to medical migration from poorer to richer countries is likely to occur more because of increasing production and proper utilization of medical graduates by (particularly) the U.S.

Canada and the U.K. rather than from any other single factor. The question then will be whether or not Third World doctors will be willing to accept work in the smaller towns of their countries (if not the countryside itself) in the absence of international alternatives or whether they will leave medical practice entirely. The basic problems connected with the brain drain of medical doctors are unlikely to be solved as long as countries continue to (over) produce inappropriate types of medical graduates. If medical doctors continue to be trained by poor countries to fill nonexistent teaching hospital/consultant type posts, it will be inevitable that at least some of them will (attempt to) emigrate to richer countries that have been unable to meet from their own resources the demand for those services. If we begin with a situation in which some parts of the world are rich enough to support a high level of economic demand for medical services while others cannot, and then allow free market forces to determine the allocation of scarce medical resources, inevitably doctors as presently trained and utilised will (attempt to) move in the direction of the richer regions of the world.

International medical movements are particularly harmful in the ways in which they help to distort the educational and health care systems of developing countries. Given the nature of these systems, the medical brain drain is not by itself a problem: either jobs do not exist for those who emigrate or else health workers will not take those that are available. It follows that the return home of the emigrants is not by itself a good thing. Data on returned doctors [18] show that they do not work outside the urban areas, and many leave the public sector altogether in favour of private practice. Even the further emigration of those who have already been "programmed" by their education to join the ranks of the migrants need not be considered a very serious problem. What does matter is that countries which are losing their graduates learn from their experience and act upon it. The international movements discussed here are the logical extension of the kinds of health care systems to be seen in most developing countries. So long as health care is primarily available within the traditions and context of the market place it is inevitable for any oversupply of doctors (relative to economic demand in any particular national context) to overflow into the world market, and the very existence of this world market will prevent the market mechanism from bringing the supply of doctors into line with demand. Even in the U.K., where health care is largely free at point of delivery, the oversupply of specialists relative to specialist (consultant) demand as determined by the National Health Service, coupled with buoyant North American demand for specialist services, is making for continued medical emigration.

The question of international medical migration is of interest not so much in itself, but because of what it reveals about the nature of particular health care systems and the socio-political structures in which they operate. If everything else were to stay much the same the reduction of medical emigration would probably make no difference at all to the welfare of most of the population of countries such as India or Jamaica. In the same vein, the solution to the

problems raised by these international movements are not to be found within the movements themselves but in necessary changes within the framework of specific national health care systems and, of course, the social, political and class structures in which they exist.

#### POLICY RECOMMENDATIONS

Most of the usual policy prescriptions on brain drain are derived from the neoclassical framework of analysis. Within this framework the archetypical prescription is that nothing should be done about it since the gains from "brain drain" on a world scale outweigh the losses, even though these are not equitably distributed between countries. It has been argued that such complacency is unjustified on the grounds both of the internal logic of the economic theory on which it is based and of its neglect of more fundamental issues.

If it is accepted that there is a problem but an orthodox view of its causes is still taken, then the solution implied by neoclassical analysis is that of change in monetary rewards and working conditions. A typical statement of this position is that of Baldwin [19], summarizing the recommendations of the 1970 Education and World Affairs (EWA) Committee of which he was a member: "The EWA viewpoint amounts to saying that professional men the world over have much the same requirements for job satisfaction and, unless the traditional cultures and pay scales of many brain-losing countries (developed and less developed alike) can adapt to these requirements, then, in Kenneth Boulding's phrase, 'high-level manpower with get-up-and-go will get up and go'". Similar recommendations, if less forthrightly expressed, can be found in countless national and international reports on brain drain, including for instance that of a committee of the Sri Lanka Cabinet [20] and the Colombo Plan Bureau [21].

The problem with such recommendations, even in their own terms, is that the changes in monetary and non-monetary rewards necessary to stop the brain drain may be much larger than is practically conceivable [22]. A similar point might be made about changes in standards of working conditions. Moreover, to try to pay international transfer earnings to the internationally mobile (particularly since other groups of top salary earners would plausibly claim "comparability" with them) would not only reduce the numbers that could be absorbed at home but would also make domestic income distribution even less equal [23].

The difficulty of meeting international (i.e. rich country) wage and other employment standards may be one reason why policy prescribers and governments often resort to emigration controls and bonding schemes intended to control potential emigrants. Controls over passports and foreign exchange obviously can be an effective means of preventing people from leaving a country where the will and capacity to operate them efficiently exists. Bonding schemes may be less effective in this respect, only postponing the date on which people leave rather than preventing their leaving and inviting ingenuity in evading bonds on the part of those trained at home and bond breaking by those trained overseas [24].

Moreover a problem with both controls and bonding schemes is that those retained by these methods are likely to be frustrated, demoralized and conservative, forming a particular obstacle to programmes of reform such as those discussed below. However, it is also possible for such groups later to become radical dissenters from the "system".

Still within the neoclassical framework another policy prescription might be to reduce the salary gap and incentive to migrate by effectively lowering the rewards of migrant professionals at their destination rather than raising their rewards at home. This in effect is what the recent "Bhagwati income tax" proposal amounts to [25].

A tax, which could be progressive or proportional, would be collected from immigrant less-developed country (LDC) professionals by the tax authorities of the host developed country (DC) over a limited period and eventually handed over under United Nations auspices to the government of the country of origin. The impact of such a scheme would obviously depend on the elasticity of response to the tax. If, as preliminary calculations [26] suggest, tax rates would have to be unacceptably punitive for the tax to have more than a marginal effect on the number of migrants, the scheme would be little different in effect from straight government-to-government compensation (as recommended, e.g. by UNCTAD [27] or, for that matter, from the contracts actually signed for the "export" of professional manpower from LDCs (e.g. Filipino nurses to Austria and South Korean nurses and aides to West Germany, Switzerland and Japan). Such schemes amount in effect to an acceptance of the debilitating structural consequences of integration into the international market for professional skills, already described above. This applies particularly strongly to the export contracts, which institutionalize a continuing distortion of training and education systems and salary structures in the country of origin. Vigorous pressure by Third World governments under UNCTAD auspices for compensation for "brain drain" must of course continue, but compensation cannot be seen as a "solution" for the problems involved.

So far the discussion has been concerned with the policy implications arising from the standard neoclassical framework of analysis and had found such policy measures to be as unsatisfactory as the framework on which they are based. If on the other hand an alternative framework of analysis (already discussed) which regards "brain drain" as a reflection of integration into an international market in professional skills is adopted, then the only way of achieving a substantial impact on the drain (and on the more serious internal distortions that it reflects) is *withdrawal from that market*. This would involve substantial changes in educational policy aimed at training for internal needs rather than for external markets. As the authors of the United Nations Ecosoc report [28] point out, a "policy to train personnel to be functional in the environment of developing countries will have the direct effect of making them dis-functional for the developed countries and thus reduce their migration". It would also have wider implications, as will emerge.

Questions of political feasibility are obviously

raised by such a policy, but before confronting them it is important to be clear about the range of policy possibilities implied by a programme of withdrawal. The Commonwealth offers a unique forum for the discussion of mutually agreeable solutions to problems but it may be useful, to begin with, to distinguish between policy measures to be taken by LDC governments and those to be taken by DC governments.

*For LDC Commonwealth governments* a programme of withdrawal from the international market in professional skills would involve the following:

(a) An end to the use of DC (usually British) qualifications in local training institutions, in the few cases where this practice continues.

(b) An end to the sitting of foreign professional examinations in LDCs (particularly the U.S. ECFMG) and to advertisement and recruitment for posts in DCs (in this respect the operation of DC based correspondence college might also be looked into).

(c) Disaffiliation from DC-dominated international professional associations, which usually see the establishment of a common standard and inter-recognition of national qualifications as one of their aims, and exploration of the possibility of setting up associations of LDC professionals committed to greater relevance: obviously this would involve a critical re-examination of the role of Commonwealth professional associations. As Johnson and Caygill [29], show, most Commonwealth professional groupings are working towards the establishment of a common standard, with particularly tight systems of inter-recognition in the medical and architectural professions.

(d) The sending of students on more relevant and thus probably "less negotiable" overseas courses, in cases where the training was not currently available at home, and preferably on relevant courses in other LDCs.

(e) The development of local courses and qualifications which were both highly suitable to the needs of the indigenous economy and therefore probably less acceptable to DC employers and training institutions. In the case of the medical profession the principles on which such redesigning would be based are fairly clear. In the case of production based professions (e.g. engineering, accountancy) the task of changing the content and balance of training might be more difficult, but even a change in length of courses and title of qualifications would affect negotiability—and the process would be reinforced by the other policy measures. To gain support for this policy the cost to the nation of an individual's (inappropriate) higher education should be well advertized.

(f) The development of new centres of higher education and training on a regional LDC basis as an alternative to DC training in cases where skills are too specialized and/or needed in too small quantities to justify providing training at home.

(g) The use of a national language as the medium of instruction in courses and textbooks, an important aid to insulation as in the cases of Japan and China.

(h) Changes on the demand side, i.e. in the structure of rewards and in job content. The opportunity, offered by withdrawal from the international market,



would be taken to bring the structure of rewards (and associated private rates of return on different types of training) into line with social priorities, since there is little point in trying to reform education and training in the face of contrary pulls from the market. At the same time a redefinition in job content, again in line with social priorities, would be needed, parallel to the educational reforms already discussed.

(i) The use of scholarships policy, foreign exchange and passport controls to discourage overseas study for the acquisition of negotiable qualifications. This might be reinforced by making local/relevant post-graduate training and experience preconditions for government employment.

(j) Recognition of the wider implications of such a programme. For instance, in the case of production-based professions changes in job content would probably imply changes in technology, which may not be possible without changes in the nature of products, and these changes in turn may be dependent on changes in the structure of consumer demand and thus income distribution and social structure. Moreover, because multinational corporations bring the international market for managerial skills to the doorstep of many Third World countries, representing a second form of integration into the international market, they would have to be dealt with if the full benefits of withdrawal to the local wage and salary structure were to be obtained [30]. In other words, when all the interdependences are taken into account withdrawal begins to look somewhat comprehensive.

(k) The restriction of the output of professionals by LDCs to the number that can be absorbed at home, even at the risk of some shortages in the short run [31]. This would be an attempt to break the dynamic, circular interconnection between excess supply in LDCs and excess demand in DCs. The knowledge on the part of DC authorities that the supply of "excess" Third World professionals is likely to dry up would be a powerful impetus towards DC self-sufficiency. And, as already emphasized, withdrawal from the international market in skills would itself reduce the pressure of demand for places in LDC training institutions, thus easing the task of reducing intake into and output from these institutions.

Of course it is one thing to set out the logical implications of the objective of ending "brain drain" and the internal distortions associated with it, and quite another to recommend these measures as an immediately implementable programme in all countries. Members of the affected professions in most cases would feel bound to oppose such a policy. Moreover, government decision takers themselves might well be unwilling to dismantle a structure which yields them substantial benefits of one kind or another. A prerequisite of implementation of a programme of withdrawal would be the existence of a government willing to transcend such narrow material interests and capable of either gaining the cooperation of the established professions or bypassing them. As far as short-term strategy is concerned, in most countries it might well be better to avoid confrontation with the established professions, allowing their members to come and go freely without trying to force (or bribe) them to stay at home. The use of special incentives and controls to retain the internationally mobile may

reduce net outflow in the short run, but could strengthen the opposition to a longer term solution. Initial concentration on the more positive elements in the programme, such as the establishment of new training centres, might also be strategically advisable.

For DC Commonwealth governments a programme of withdrawal, or disintegration of the international market in professional skills, would imply the following:

(a) Cooperation with LDC governments in the phasing out of the use of DC qualifications and in the withdrawal of DC examinations, recruiting teams and advertisements from LDCs.

(b) In consultation with LDC governments the withholding of recognition by DC authorities of LDC qualifications and the control of LDC entrants to training courses in DCs. A decision such as that recently made by the U.K. General Medical Council to withhold recognition of Indian medical qualifications (if it were made in consultation and not unilaterally as was the case) would be welcomed by LDC governments, in the context of a programme of withdrawal, rather than deplored as an affront to national dignity.

(c) A sympathetic attitude towards the reshaping of international professional associations, particularly those of the Commonwealth, along the lines suggested above.

(d) A change of emphasis in the provision of technical assistance awards towards third-country training, particularly for courses in other LDCs, but also allowing for the possibility of attending more relevant and less negotiable courses in other DCs. The aim would be for an accelerated reduction in the number of LDC trainees in developed countries, again in consultation with LDC governments.

(e) Technical assistance for the redefinition of job content in LDC professions in line with social priorities, and for the development of the alternative curricula, syllabi and structures implied by this redefinition; also for assistance with manpower planning directed towards creating a closer match between the output of LDC professional manpower and absorption capacity.

(f) As a major part of the educational assistance programme, support for the development of the new regional centers of relevant higher education and training. This would include finance for the necessary feasibility studies and surveys of past experience in such cooperation, as well as for the current capital and recurrent costs of the institutions.

(g) If requested and if feasible, assistance for the development of courses and textbooks in non-"international" languages.

(h) Also, if requested, assistance with studies of the problems involved in bringing the structure of effective demand into line with the social priorities reflected in the redesign of job content, etc.

(i) Continued progress towards self-sufficiency in the DCs' markets for professionals. The problem in the past has lain in the awareness by DC authorities of the advantages (in cost terms anyway) of importing professionals rather than training their own. It seems that professional associations in DCs are now beginning to become aware of the implications for their own material interests of this process and hence aban-

doing traditional policies of restricting their own numbers as well as pressing for a reduction in reliance on immigrants. DC authorities, in consultation with their LDC counterparts in the Commonwealth, should continue to accede to this pressure and resist the temptation to draw on the still large reserve army of Third World professionals. In keeping with this policy closer monitoring of the flows of LDC professionals into and out of DCs would be required.

The implications of the above programme have been spelled out separately for LDC and DC governments, but it goes without saying that, within the Commonwealth, the most effective mode of implementation would be through mutual consultation and agreement between the governments of the less and more developed countries. Moreover, it is recognised that the very implementability of a programme of withdrawal and the optimum strategy for such implementation will vary from country to country. As such, it would be useful to study under different circumstances the possibilities and potential effects of the implementation of the recommended strategy of withdrawal. Rather than continue with general "brain-drain" studies, which would imply that too little is as yet known about the phenomenon even to be able to propose a strategy of action, research on particular professional groups should be conducted in specific countries with a view towards testing the applicability of the framework put forward in this report. In practice, the best way to give specific form to the general policy recommendations suggested in this report is to study and plan for their application in the case of a particular professional group (or groups) under specific national conditions. For many of the reasons indicated earlier, doctors constitute a particularly interesting group for study. Commonwealth governments should be asked to express potential interest in such studies. Appropriate funding is likely to be available from any one of a number of bilateral and multilateral sources.

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