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The "Brain Drain" from Developing Countries – an Enduring Problem

For several decades there has been a migration of highly qualified workers from developing to industrial countries. What are the causes of this "brain drain", which many regard as a subsidy from the poor to the rich? What consequences does it have for the countries concerned? Are there effective ways of curbing it?

The "brain drain" of highly qualified workers from developing countries in the South to industrial countries in the North hardly existed until the 1960s; before then, the South-North flow involved mainly manual workers and poorly qualified service personnel, who for the most part were encouraged to migrate under government-organised schemes and who complemented the highly qualified workforce in the industrial countries. The migration of professional and academically qualified staff, by contrast, occurred primarily between industrial countries and reached its peak immediately after the two world wars, when a large number of well trained workers and academic and professional specialists emigrated to North America from the economically weak countries of Europe. This migration was generally accepted, as it accorded with the expectations of economic theory that in an integrated international labour market migration would equalise excess supply and demand in different locations and that both economies would benefit.

Since the sixties, however, qualified workers have also been emigrating from many Third World countries to find work in the industrial countries of the North, and have often remained there for the rest of their lives. This has been fiercely criticised, especially by the governments of the Third World countries concerned; not only did the migration of qualified workers appear to be a form of "reverse technology transfer" that deprived the less developed countries of a crucial and desperately needed factor for growth and development,[1] it was also no longer accepted to be the result of the worldwide operation of the mechanism equalising supply and demand in the market for qualified workers but seen as the consequence of unfair competition from the powerful industrial countries – and especially the USA – at the expense of the weak developing countries.[2]

Professionally and academically qualified workers are still migrating from country to country, and in growing numbers as a result of the increasing globalisation of economic relationships, in the sense of the global interdependence of production, consumption and knowledge creation. Now, however, such migration is no longer due solely to optimising decisions by individuals seeking employment but increasingly also to the decisions of multinational corporations, which recruit experts in one country and combine them with other production factors elsewhere.

At first sight, the development of such worldwide employment systems for qualified workers can be seen as a chance that there will be an inflow of human capital into developing countries to compensate for their earlier losses.[3] Furthermore, increasing demand from multinationals for complementary domestic labour can be expected to stimulate national labour markets and the transfer of knowhow should intensify, to the benefit of poorly qualified domestic workers. In reality, however, this has not happened in most cases; as a rule, the multinationals' internal labour markets are largely insulated from the labour markets of the country in question. The multinationals' efforts to prevent unwanted technology transfer to competing companies and locations has meant that qualified domestic personnel have had little access so far to the "modern" activities they perform.

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[1] I.B. Logan: The Brain Drain of Professional, Technical and Kindred Workers from Developing Countries: Some Lessons from the Africa-US Flow of Professionals (1980-1989), in: International Migration, Vol. 30, 1992, pp. 289 ff.

[2] See D. C. Mudende: The Brain Drain and Developing Countries, in: R. Appleyard (ed.): The Impact of International Migration on Developing Countries, OECD, Paris 1989, pp. 183 ff.; see also H. Körner: Internationale Mobilität der Arbeit, Darmstadt 1990, pp. 188 f.

[3] See J. Salt and A. Findlay: International Migration of Highly-skilled Manpower: Theoretical and Developmental Issues, in: R. Appleyard (ed.), op. cit., pp. 159 ff.

This situation has revived criticism of the brain drain, which seemingly had been overcome as a result of the globalisation of labour markets. Representatives of African countries, in particular, complain not only that they have lost a large number of academically trained nationals to Western Europe and North America since the early eighties, but also that those who have stayed in their home countries are losing their jobs because of competition from foreign experts. It is estimated that in the mid-nineties between 80,000 and 100,000 qualified Africans were replaced by foreign experts, in addition to the 23,000 qualified workers that Africa loses annually to the industrial countries.[4]

Scale and Direction of the Brain Drain

Compared with the current scale of migration worldwide – a total of around 70-85 million people were classed as migrants in 1993 – the migration of qualified workers is hardly significant in numerical terms. However, since qualification is always a qualitative factor limiting growth and development even if it is not a mass phenomenon, it is worth sketching the scale and direction of the brain drain.

The most conspicuous flow is the migration of professionally and academically qualified workers from South and Central America to North America. Between 1960 and 1990 the USA and Canada together employed more than 1 million qualified immigrants from developing countries, the majority of them from Latin America and Asia.[5] The countries worst affected are obviously the closest neighbours in the Caribbean and Central America, which in this way lose a substantial part of their commercial middle class and university graduates to the North.[6] Within South America itself, there is substantial migration to Venezuela, Mexico, Argentina and Brazil from neighbouring countries, but professionally qualified workers and academics also migrate in appreciable numbers from Argentina and Columbia to the USA, and now also increasingly to Spain and Italy.[7]

In Asia, Japan and Australia have long attracted qualified immigrants from neighbouring regions. More recently, newly industrialised countries such as Singapore have also become the destinations for qualified migrants. It is reported, for example, that during the seventies the Philippines lost more than 10% of its qualified workers to the USA and the rapidly growing East Asian countries. At about the same time some 20% of the qualified population of Bangladesh emigrated.[8]

Africa appears to have been particularly hard hit by the emigration of qualified people. Part of this migration consists of academics, who have studied mainly in France, the United Kingdom and the USA and who emigrate again upon completion of their studies. In addition, a substantial proportion of professionally qualified workers migrate within Africa from poorer to more prosperous countries. For example, Nigeria in West Africa and Kenya in East Africa are magnets for such migrants.[9] Between 1985 and 1990 around 60,000 doctors, engineers and university staff are thought to have left Africa; since 1990 the figure is thought to have risen to as many as 20,000 a year. This phenomenon is particularly conspicuous in Ghana, where around one-third of all qualified workers have emigrated, and in the Sudan, where between one-third and one-half of all academically trained engineers have left. In North Africa, Egypt and Algeria have also been particularly badly affected by the emigration of professionally and academically qualified workers.[10]

Economic and Social Consequences

The assessment of the economic and social consequences of the emigration of qualified people from Third World countries depends first on the level at which the question is considered – that of individual migrants or that of the entire economic societies of the countries of origin or destination – and secondly whether it is considered from the viewpoint of the industrial countries or that of the developing countries.

At the level of the individual, it can be said unequivocally that emigration is the result of professional career planning by the potential migrants and that, if it is successful, on balance it brings them monetary and often also non-monetary benefits; if the decision to emigrate depends solely on the wishes of the migrant

[4] See J. D. N. Ogina: International Migration and the "Brain Drain" from Africa, in: Universiteit van Pretoria, ISSUP Bulletin, 1/97, pp. 1 ff.; A. Adepoju: Emigration Dynamics in Sub-Saharan Africa, Discussion Paper submitted at the 12th IOM Seminar on Migration, Geneva 1997.

[5] See United Nations Development Programme: Human Development Report 1992, Oxford 1992, p. 67; S. Diaz-Briquets: The Effects of International Migration on Latin America, in: D. G. Papademetriou and P. L. Martin (eds.): The Unsettled Relationship. Labor Migration and Economic Development, New York and London 1991, pp. 188 ff.

[6] See N. F. Lamarra: Human Resources, Development and Migration of Professionals in Latin America, in: International Migration, Vol. 30, 1992, pp. 328 f.

[7] See R. Appleyard: International Migration: Challenge for the Nineties, Geneva 1991, pp. 34 f.

[8] See Human Development Report 1992, op. cit., p. 57.

[9] See A. Adepoju: Binational Communities and Labor Circulation in Sub-Saharan Africa, in: D. G. Papademetriou and P. L. Martin (eds.), op. cit., pp. 45 ff.

[10] See Human Development Report 1992, op. cit., p. 57.

(and possibly his family) and if he acts rationally, he will decide to emigrate only if the expected benefits exceed the expected losses. As with intra-national migration, considerations of risk spreading and income stabilisation by diversifying employment opportunities also play a major role.[11] Over and above the purely economic factors, general social variables – ranging from the migrant's relative position on the social scale to the institutional and political situation in the domestic environment – naturally also have additional importance.[12] If it is assumed that the migration of qualified personnel is voluntary, as will generally be the case, emigration must be judged to be a profitable alternative for most qualified persons from Third World countries.

But, one might ask, are not professionally and academically qualified workers (and their families) who move to industrial countries on the basis of such considerations or remain there after completing their education not acting in a thoroughly selfish way, at least as far as the prosperity of their countries of origin is concerned?

The overwhelming opinion is that the emigration of professionals and academics from developing countries has certainly harmed the home countries in that the "reverse technology transfer" resulting from such migration entails high costs for the countries of origin that are not repaid by the industrial countries; according to the Research Bureau of the US Congress, at the beginning of the seventies the developing countries spent an average of about US$ 20,000 training each qualified migrant. As migration deprives the home countries of all benefit from that expenditure whereas the industrial countries are able to import the skills at no cost, the migration of qualified workers boils down to an indirect transfer of prosperity from the Third World to the First World.[13]

Even those who do not share such views[14] must acknowledge that the emigration of qualified workers from a developing country brings disadvantages for the population left behind, as it reduces the chances of productively deploying production factors complementary to human capital, such as manual labour and capital, and eliminates incomes that are the basis of domestic demand and taxation. Even if it is assumed that a large proportion of the qualified workers were unemployed in their home country, so that migration to another country helped reduce the oversupply of skills (the "brain overflow"), the objection must be raised that in the conditions prevailing in the developing country migration only perpetuates this imbalance in the labour market.[15] This is because emigration serves as a vent for surplus labour, alleviating the pressure to remove the structural rigidities which exist in many Third World countries and which cause labour market inflexibility. The latter means that a reduction in the emigration of qualified workers does not lead to an increase of competition and consequently to a reduction in nominal wages in this section of the labour market, as might be expected. The supply of qualified labour therefore remains excessive in relation to domestic possibilities of using it, creating a vicious circle in which the unemployment occurring among qualified workers "compels" further migration.

The migration of qualified workers therefore not only perpetuates the structural rigidities endemic in many Third World countries, it also leads to a loss of growth potential as a result of the loss of rationally thinking, innovative individuals prepared to take risks.[16] The scope for innovation in business, society and government in migrants' home countries in the South therefore stagnates and the countries' ability to introduce reforms remains low.[17] As a result, the "structural heterogeneity" typical of many Third World countries is cemented, not least as a result of the brain drain.

Subsidising of the Rich by the Poor

The prosperity of the industrial countries, by contrast, must on balance have been improved by the immigration of qualified workers; under static conditions, the positions of suppliers of both unskilled labour and capital improve if the professional and intellectual abilities of the immigrants are complementary to labour and capital. Viewed in dynamic terms, the migration of skilled workers complements precisely those factors of endogenous growth that are in short supply in growth economies. To that extent, the immigration policies of the USA, Canada, Australia

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[11] See O. Stark: The Migration of Labor, Cambridge, Mass., and Oxford 1991, especially pp. 39 ff. and 119 ff.

[12] See N. F. Lamarra, op. cit., pp. 323 ff.

[13] See J. D'Oliviera e Sousa: The Brain Drain Issue in International Negotiations, in: R. Appleyard (ed.), op. cit., pp. 202 f.; I. B. Logan, op. cit., pp. 296 ff.

[14] I. B. Logan, op. cit., pp. 298 ff.

[15] See J. N. Bhagwati: International Migration of the Highly Skilled: Economics, Ethics and Taxes, in: R. C. Feenstra (ed.): J. Bhagwati: International Factor Mobility. Essays in Economic Theory, Vol. 2, Cambridge, Mass., and London 1983, pp. 60 f.

[16] See C. W. Stahl: Overview: Economic Perspectives, in: R. Appleyard (ed.), op. cit., pp. 363 ff.

[17] See F. Haslinger and T. Ziesemer: Endogenous Growth and Distributional Conflicts, in: G. Köhler et al. (eds.): Questioning Development, Marburg 1966, pp. 227 ff.

and New Zealand have long encouraged inflows of immigrants with a good professional and academic training.

The welfare gains are therefore unequally divided between the two groups of countries involved, even if the prosperity of world society as a whole is increased by every form of factor mobility, including intellectual migration. The industrial countries' share of prosperity increases, while that of the migrants' countries of origin in the Third World declines. This may appear compatible with the law of the markets: in economics it is always the better equipped who improve their position and the less well equipped who slip back. From a moral standpoint, however, this situation seems scandalous, and the question arises as to how it could be remedied. Debates on this issue set out from the already quoted assertion that intellectual migration is ultimately a subsidisation of the rich by the poor: the latter invest resources in the training of human capital, while the former import the results of such training at (almost) zero cost.[18] Twenty years ago the Indian economist Jagdish Bhagwati therefore proposed that this subsidy should be offset by a migration tax, which would either be paid by qualified migrants themselves to their home countries or levied by the governments of the destination countries and transferred to the originating Third World countries.[19] Similar proposals were discussed during the seventies, mainly in the context of UNCTAD. Ever since then, however, the financial selfishness of the major industrial countries, in particular, has prevented the introduction of a "global tax system" designed along these lines.

This is not entirely to be regretted, however, for although such a system of intervention would perhaps have produced something closer to an equitable global distribution of welfare, it would have increased the regulation of the world economy and the associated verification costs and is unlikely to have succeeded in eliminating the causes of the brain drain.

Elimination of the Causes

The ability to move to industrial countries to work for relatively high wages gives qualified workers a rent by comparison with unqualified workers unable to do likewise; that rent is all the higher the greater the restrictions on access to the market for qualified workers in the country of origin and the greater the restrictions on immigration to the destination countries. Such rents increase still further if academic training, in particular, is generously subsidised by the governments of Third World countries without regard to costs and benefits.

The bans on emigration imposed by certain governments, such as those of Tanzania and Uganda, are no match for such incentives to emigrate because they are easy to circumvent. A better method is to tackle the labour market imperfections that create such conditions in the first place by reducing training subsidies, deregulating labour markets, paying wages according to productivity rather than status and increasing sectoral and regional mobility. In addition, reform of educational systems and an economically appropriate expansion of indigenous research and advisory facilities would appear to be needed.

Other shortcomings in the economic policy of Third World countries obviously also contribute to the emigration of qualified workers, such as lasting obstacles to domestic capital formation. In this regard, structural adjustment and reforms to improve the working of factor markets are indispensable if such incentives for qualified workers are to be reduced. Moreover, every effort to promote a peaceful settlement of conflicts in the developing countries concerned will undoubtedly reduce the inclination to emigrate. Evidence of the extent to which a policy of liberal reforms and adjustment to market forces can eliminate the causes of intellectual migration is cited in the World Development Report 1995,[20] which points out that after India's industrialisation policy had been liberalised Indian specialists returned home from the USA to work in the expanding centres of the hardware and software industries.

It can hardly be denied that such structural reforms, especially in the poorer countries of Africa, will be successful only if the industrial countries increase their efforts in the fields of development co-operation and trade policy.[21] It is true that the industrial countries are not solely responsible for intellectual migration, but they should do everything possible to improve the attractiveness of Third World countries for their qualified citizens, including promoting programmes to re-integrate qualified workers in their home countries.[22]

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[18] See D. G. Papademetriou and P. L. Martin: Labor Migration and Development: Research and Policy Issues, in: D. G. Papademetriou and P. L. Martin (eds.), op. cit., p. 16.

[19] See J. N. Bhagwati: The Economic Analysis of International Migration, in: R. C. Feenstra (ed.), op. cit., pp. 53 ff.

[20] See The World Bank: World Development Report 1995, Washington, D.C., 1995, p. 66.

[21] See S. S. Russell and M. S. Teitelbaum: International Migration and International Trade, World Bank Discussion Papers, No. 160, Washington, D.C., 1992, especially pp. 42 f.

[22] Regarding such programmes by the International Organisation for Migration, see the references in N. F. Lamarra, op. cit., pp. 319 ff., and J. D. N. Ogina, op. cit., pp. 8 ff.