



EMIGRATION, FACTOR OF INFLUENCING THE ACTIVITY OF RESEARCH, TECHNOLOGICAL DEVELOPMENT AND INNOVATION

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Abstract Popular since the dawn of human civilization, people's migration is a social, economic and political phenomenon that cannot be overlooked. Whereas it is present in any society regardless of the social, political and economic issues on which it defines. On the basis of the economic and social development, migration gets spread at a certain dimension which may become at a given moment extremely dangerous, particularly when the control instruments of the state are rendered invalid.

Key words:

Emigrant, technology, innovation, scientific research

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1. Introduction

As a general rule, emigration means the movement of a person or groups of persons to some richer countries or countries that offer certain advantages in addition to what these emigrants are currently offered in their own country. The policy in the field of immigration, which is applied by each government, is aimed at supporting the development of the country. In this context it is not to be neglected any absorption effort of emigrants by the autochthonous population. In many cases, the language, customs, religion and tradition of an emigrant or group of emigrants are lost.

This phenomenon of emigration, at a certain point when the conditions get difficult to be controlled, becomes harmful, both for those who lose their own citizens, and for those who get it. Moreover, if the level of their professional training is low, the whole mass of emigrants becomes a burden for host country. Whether the immigrants have a strong educational background which offers them the possibility of integration and involvement in the normal socio-economic activities of the host country, then it is much better.

At some point, this phenomenon prevents numerous peoples from expressing their creative force due to the economic losses that they generate and which lead irreversibly to certain gaps regarding the socio-economic development.

For this reason, countries with a high standard of living, in order to avoid unpleasant phenomena caused by a poor quality of emigrants, operate a rigorous selection based on the level of their training. According to The

Institute for Scientific Research in Labour and Social Protection, the emigration phenomenon in Romania is extremely unpleasant as, for example, in the period 1989-1994, by the official emigration of 232 thousand persons, Romania registered a loss estimated at 1,000 billion lei; that is approximately 5% of the GDP of 1993. The amount represents losses of investments made in human capital through the forms of education which the emigrants have attended, the losses of the state budget and of the welfare budget as a result of unpaid taxes and contributions. There have not been taken into account losses caused by the innovation and productive potential of these persons on the basis of the level of qualification and training. Thus, it is difficult to stop or to slow down the phenomenon of low development in Romania.

Approaching again the problem of global emigration as a factor of influence related to the international transfer of technology, we can say that by high demographic increase, particularly in poor countries, there will be unforeseeable circumstances difficult to keep under control. The tough reality of the emigration phenomenon is extremely complex and it involves a lot of approaches, designed to avoid the destructive 'explosion' of what is known to be 'the bomb' of emigration. Leaving aside the ethnic aspect of the problem, in which certain groups of the population are subject to the pressure of forced assimilation, which, as seen in present, has led to many conflicts in the world and, mainly, in Europe.

2. Emigration is a factor influencing the international technology transfer

I will try to highlight the phenomenon of emigration only from the point of view of this phenomenon capable of generating economic and social offsets in the countries experiencing this phenomenon. The process of economic growth is based inclusively on the factor of emigration. Depending on the quality of the emigrant, one can speak of loss more or less significant of the state in relation with the professional possibilities of an emigrant.

The efforts made by any state to use properly and efficiently the natural resources are linked to human resources, and any technology, no matter that it is achieved in the country or imported, requires a certain professional training from the part of the user.

The impact of the host country technology on the emigrant might bring about total changes regarding the emigrant's way of thinking and working.

In this situation, there usually are more professional types of emigrants: *the emigrant with high professional training, creator and user of technology and the emigrant who is a user of technologies*. In this line of thought, we did not take into account the emigrant without qualification or with a single low vocational qualification, since it is not a "part" of the issues approached in this paper. The later one cannot be part of the phenomenon of the international technology transfer.

Eliminating the gaps and restoring a relative level of economic development are goals of the national and international policies which are applied by the state itself for its human resource and its concern for developing a research-development system able to produce viable technologies in order to contribute effectively to the achievement of national income, therefore PROGRESS. In addition, the co-operation between states regardless of their level of development should be such as to ensure that flow of information is able to promote a transfer of technology aimed at modernizing economic structures of the countries involved in these forms of cooperation.

The economically developed countries must consider their technological potential in regard of supporting resourcefully, financially and technologically the developing countries. Amplifying the economic gaps through huge increase of the technological potential of other countries may generate complex phenomena, harming for all the parts involved.

It is illusory to believe something else. For this reason, the policy that a developed country must adopt in relation with another undeveloped or developing country is to achieve their aim by: giving preferential treatments when offering credits, applying more favourable economic and trade policies, as well as

granting certain forms of cooperation which may contribute by transferred technologies to the promotion of natural treasures of the low-developed or developing countries.

The average income per capita cannot increase only subject to the conditions in which the labour force is qualified and able to handle new technologies.

Any transfer (internal and/or international) of technology may not be thought out apart from professional qualification of those who will use these technologies.

Illiteracy, famine -sometimes chronic-, lack of medical assistance, external debt which presses for years country budget, are symptoms of an economy at the brink of bankruptcy.

There is only one solution of this depression, in which the co-ordinates of everyday life are those above presented, shall be provided by means of a vigorous policy regarding the international transfer of technology and professional quality. Countries that are faced with an acute shortage of specialized advisers are usually those in which economic situation is precarious. The emigration of these categories of people, the so-called "brain - drain" is a reality. *The practice in the field to encourage the emigration of experts shall be carried out as a rule by big companies and monopolies in developed countries from the economic point of view.* Overtaking such specialists in whom the investment of knowledge belongs to the state that formed them is business for the firm which uses the emigrant labour force without investing in it. And the losses are charged to the country from where the labour force emigrated.

It can be said that the technical-scientific offsets are both effect and cause regarding the economic offsets.

The lack of the policy regarding the development of the science and technology, leads to longer lag time unlike the industrialized countries, and the already trained experts prefer a large-scale professional involvement and good materials in the country that can provide these benefits. On the other hand, irrespective of financial possibilities on the country concerned, the international technology transfer becomes inadequate or very least effectively in relation to its possibilities of recovery of such technologies. *Economic sluggishness may be wound up inclusively through the transfer of technology*, but this must be desirable on both sides: the country applying for it and the one which is required. The economically and socially advanced countries can contribute to enhancing the overall absorption capacity of the world market and, therefore, to stimulate assisting recovery of their economies only under the conditions in which it is desired to both sides wider cooperation in the field of the international transfer of technologies and control on immigration. The international flows of *technology transfer* must be present with greater intensity between industrial

developed countries and the developing countries. Such a flow implies also an informational one well-coordinated and oriented in accordance with the capacity level of the population of the country to which it is oriented.

The immoral aspect of such a technology transfer (national and/ or international) must be avoided in order to not transform it into an instrument of economic pressure or hidden domination of an industrially developed country.

Sometimes, the requirements imposed by the technologies provider, are difficult for the beneficiary to develop. They may be related to the distribution of profits, total or partial limitation of the right to export the products obtained with the new capacities, as well as the import of spare parts, materials, sub-assemblies of these technologies and others.

Also, it is the instrument of pressure used by the supplier of technology that is considered as well as the financing system located under the supervision of a bank or banking groups of industrially developed countries, which may require the technology buyer the source for the purchase of materials and equipment necessary for the implementation of the technology purchased. The subtlety of the pressure instruments, in the case of the international transfer of technology may acquire other forms. Giving reasons such as the lack of the staff's training in the country which uses the purchased technology, the supplier shall require by contract the employment of the management personnel and experts. In this way the exporter of technology is able to ensure the monitoring of production. Most of the times this contractual clause is not justified because that particular country has experts in the field, with a richer experience than those imposed by the technologies exporting firm.

Some other times, the terms are grounded on the reality facts regarding the level of experts' skills which are to ensure the implementation of technology and the fact that those who know for sure the performances of this technology and could be useful for the importer country, no longer live here.

Quite often, among the experts imposed by the technology supplier there have been emigrants employed by the provider. These terms and constraints may be more tightening, such as the situation in which the beneficiary of technology is forced to accept the elimination of importing from competitive companies or even blocked to perform similar activities of research or technological design and execution. The aspect regarding the practices of some important limitations by the very high costs of technology should not be neglected. In this way, the country that is to acquire the technologies meant to grant its progress and economic development, either makes a considerable financial

effort, with misty implications in future development of its economic development, or gives it up. That's why, the own efforts as well as the practice of well- built system of material incentive material may balance the emigration in the human resources field and may dissolve any difficulty regarding the manipulation of the acquired techniques and the lack of adjustment of the technological systems got through transfer, to the specific characteristics and conditions required by the beneficiaries of these technologies.

We note that emigration can be either a positive element or a negative one in terms of international transfer of technology which generates from one situation to another, advantages and disadvantages. Generally, the economic development of a country, particularly the developing countries, is approached in relation with the analysis of the big issued of the contemporary world. Apart from the different opinions more or less objective or subjective, is that the international transfer of technology is done in accordance with the technical level of the country involved and the degree of the skills mastered by the experts involved in the process of implementation of the acquired technologies. If these elements are not related to each other, the adjustments that are to be done and that requires high level of expenses, must be done without any terms to avoid crisis situations both between the supplier and the beneficiary, and at the level of the beneficiary country. As a rule, the developing countries benefiting from new technologies, a mass production, rather than a niche one is needed.

The country benefiting from cutting edge technology may afford in the context of well thought economic policies, to create innovative enterprises of great productivity with products meeting global requirements. By achieving a balanced export in the foreign trade balance, there can be granted funds for new technologies and subsequently, the capacity to prepare other phases of social and economic development. For this purpose, there is necessary to have an international policy that should eliminate: *the terms of monopole of the international flow of technology and the context favouring the emigration of the highly qualified experts from the developing countries.*

To solve these issues, the international communities should be held responsible so that any country could benefit from the technology transfer. *Generally, any correct negotiation favours both parts taking part in the dialogue.* It is also the international transfer of technology with two partners that can be prosperous for both parts.

Presently, at the international level, people are facing some potential demographical unbalances that generate crisis when assimilating and manipulating technologies. This fact may lead to the incapacity of

certain countries to solve the main life problems. It's not a cheap slogan when certain countries urge other countries to support the revival of the developing countries and help them with the issues existing in different fields such as education, research, medical and social services, technology assimilation and others. In this way not only the phenomenon of emigration is kept under control but the degradation of the planet is avoided, too. *So, emigration is an element that influences the international transfer of technology, and the ecology is a factor that is to be placed between the two concepts- emigration and international transfer of technology.* As a result, all the countries of the world should know these aspects and act accordingly so that people may enjoy prosperity and welfare.

The level of the standard of living is also grounded on the technological one. Thus, at the second reunion of UNCTAD, held in Paris, on the 4th of September 1990, Benitto Craxi stated that *„the big problems that create unbalances on Earth are : wars, poverty, debt of the Third World and the ecological degradation of the environment”*. *At those mentioned by the political man, I would like to add the lack of the national and international transfer of technologies, capable to lead to social, political, ecological and demographical inequity.*

That is the reason for which, the inflows of information related to technology and individuals (mainly the one regarding the highly skilled emigrants), must be free, however under the control of a well thought regulation system so that all harming phenomena or chaos might be avoided. In supporting the economic development of a country, one should take into account the 'explosive' potential of the emigration in these countries particularly when the country is deprived of a comprehensive policy in the field of international technology transfer.

The worst prejudices that can be done to a country with a big record of emigrants come from the part of the highly skilled emigrants who either create and use technology or just use it.

Deepening the economic gaps by increasing the technological potential of certain countries may generate complex phenomena, also harmful at the global level: *“Brain- drain stands for one of the main and important trend of emigration of highly skilled people, being mainly characterized through its orientation from developing countries to developed countries. This process increases the number of experts in the developed countries which contributes to the looping gap and more obvious dependency of the developing countries on the developed ones”*².

So, *„the multinational companies make from grabbing foreign intelligence a real art”*³. For this reason, the policy that an economically developed country must adopt towards another undeveloped or developing country is to achieve their aim by: *preferential treatment when offering credits, the application of more favourable policies regarding trade and economy, the granting of certain forms of cooperation which may contribute by technologies transfer to the promotion of natural resources of less developed or developing countries.*

Average income per capita cannot increase only subject to the conditions in which the labour force is qualified and to be able to handle new technologies. *Any international transfer of technology may not be thought out professional qualification of those who will use these technologies.* Current capitalism represented by national corporations, imposes an aggressive policy of subordination and control of the economy of nations. In this way, these countries become colonies, whereas the notion of democracy includes among others, also the control of their own people on cost savings. So, there are generated the premises of 'the leakage of competence' ("brain drain „or "the theft of brilliant minds").

Subsequently, the practices of the multinational companies, more and more refined and attractive for experts and highly qualified people harm considerably the national interests of many peoples and stand for a serious break of principles and ethics in terms of international relations, a flagrant interference in the domestic affairs of many peoples.

Overtaking these experts for whose educational background their own country state paid is a business for the company that uses them without investing in their educational profile. The losses are recorded in the country from where the experts emigrated. Thus, the phenomenon of « skill drain» *“has got spread– through the interdependency of the national economies within the capitalist system, through the universal character of the science – the movement of labour force at the global level ... In this context, the migration of the labour force, comprising science people, has recorded high percentage”*⁴.

3. Conclusions

The policy of promoting the international transfer of technology and professional qualification stands for the best solution to get the economic developed of a country restored. The countries confronting with such

¹ Preti, L. (1993). *Imigrația în Europa*, Tehnica Publishing House, Bucharest, p. 36

² Ștefănescu, P. (1982). *Brain-drain-exodul creierelor*, Politică Publishing House, Bucharest, pp. 81-82

³ Hladchi, P.B. (1985). *Spionajul economic – arma concurenței capitaliste*, Politică Publishing House, Bucharest, p.58

⁴ Lepădatu, D. (1983). *Aspecte ale unei „societăți ciudate”*, Editura Politică, București, pp. 98-99

labour shortage are usually the ones with a significant degree of poverty.

Migration is a complex phenomenon caused by many factors such as political, economic, social and technological, and it refers to moving a persons or groups of persons to certain richer countries or to countries that offer advantages in addition to what these emigrants are currently offered in their own country. This phenomenon, at a given moment deprives many peoples of the possibility of their creative workforce due to the economic losses which they record and which inevitably means gaps in the economic development. For example, India loses every year almost 10% of graduates at the University of Medicine and Pharmacy, which are migrating in France, Great Britain, the United States and Germany. This phenomenon could be called "*inverted technology transfer*"⁵. Consequently, small countries transfer part of a scientific and technical capital to the developed industrial countries. In this way, the gap is getting deeper technologically and economically, as well as *the brain drain* he is more pronounced and economic offsets.

The causes of the increasing drain are complex, and the phenomenon is controverted, which implies that some analysts consider it to be a positive and progressive phenomenon which facilitates the spread of knowledge between people contributing directly to the progress of humankind in different phases of development.

Brain drain may be considered indeed positive when he balances certain economic systems, reducing their entropic status. Economic and social development of the country in general, and in particular to developing countries, shall be made on the basis of cooperation, collaboration and understanding of big problems of contemporary world. Informer may be considered to be a negative element, for the fact that the preparation prospective specialists shall be made by the participation of members of society, with taxes and duties to be paid ordinary people. The specialist once formed, You need to and contributing to the development of society and the well-being citizens, by salary civilization represented by their achievements in the field of science, art, technology, art, culture, etc. , by these specialists emigration society losing both investment made in their training, As well as the addition to salary civilization on which it might prejudice of the country where the bike.

"...it is the unequal structure of the international technological labour division that tends to produce brain drain which, in its turn, generates the unequal structure.

*The brain drain strengthens and perpetuates the technological dependency of the developing countries – a consequence more important than the income transfer generated by this drain*⁶.

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