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Present-day topics

# BRAIN DRAIN AND COMPETITIVE ADVANTAGE IN THE CONTEXT OF GLOBALIZATION

**Abstract**

*Technological innovation, lower and lower costs of transport and communication, and enlargement of trade and financial interdependence of countries have helped to mitigate the borders of nation states and more free and cheaper movements of goods, money, people. Thus, economic actors such as multinationals are forced, in order to survive on the market, to expand their activities beyond the national borders, a trend that is now supported by the migration of individuals who possess superior knowledge and training.*

*Moreover, in the context of the new economy, power is held by those who own information, acquisition, possession and appropriate use of knowledge being the cornerstone of this new type of economy. In this economic ecosystem have emerged "cognitive domains" in which ideas are worth billions, while products cost less.*

**Keywords:** *brain drain, migration, competitive advantage, knowledge, human capital*

## 1. Introduction

Due to the undeniable advantages[3] globalization has, in recent decades, all the countries of the world, have recourse to a new form of competition between themselves, namely the creation of the most favorable conditions for attracting foreign capital, which contributes to serious competitiveness gaps in the global and European context. Even the European Commission President, Jose Durao Barroso, launched a new initiative: the idea of creating a "Europe of opportunities" in order to make Europe a more attractive place to invest and work, through promoting knowledge, learning and innovation for development. As much, the European Union besides the four freedoms of labor, goods, capital and services, it can configure a fifth one: "freedom of knowledge" (Janez Potočnik, The European Commissioner for Science and Research). Michael Porter similarly believes that the higher the capital, the crucial the geographical advantages become, because the balance is tipped in the favor of intellectual capital (people[4], innovations) which entails the financial capital (often being a crisis factor), and these are outlined only if the country offers a better life.

Currently, the world economic system is shaped by two poles: the rich and powerful countries which appear in the role of "globalizing" and poor and week countries (with a relatively low level of economic development), which have the role of "globalized", without being a trend of diminishing the income lag between these two centers of power[5].

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[3] However, dealing with globalization involves dissolving authority at a high level of socio-political organization, encourages the loss of different nations' cultural and historical features and creates mass culture (moral globalization).

[4] People are naturally endowed with abilities and they invest time and resources to acquire new skills, knowledge, professional qualifications, thus in training and human capital development, because they can be compensated higher for their possession.

[5] Although globalization should equalize the price of production factors so that workers income are equalized

In this context, migration is the business card of some countries, countries that are convicted of having a debtor/supplier role of cheap labor and "outsider" in the use of human potential.

## 2. The causal relationship between migration and development

The positive feedback effects of migration on the donor country take the form of:

- rising the welfare of the migrant families through remittances (money, goods, technologies),
- increasing skills (knowledge and new skills learned abroad) as a result of returning migrants,
- increasing accessibility to education and health services,
- telecommunications, tourism and banking development,
- inflow of foreign exchange in this way maintaining the exchange rate of the national currency,
- savings and investment augmentation through remittances.

The returning migrants could make the initial loss of the country of origin to be more than offset by the diffusion of the new skills that the migrants were able to acquire abroad. Thereby returning migrants can be seen as a potential source of growth for the source country of immigrants. (Domingues Dos Santos, Postel Vinay, 2003)

The reason for this reality is justified by the fact that migrants learn from the work done in a more efficient and advanced technology - which develops professional skills – and gain from a positive externality - "learning by doing", so that skills and professional competences will be more enhanced than their initial level of education.

In a pessimistic note, those who return may be those who have failed or for which the initial expectations regarding wage and working conditions were not met, the so-called - "mistaken migrants" by Duleep (1994).

The disadvantages induced by migration include:

- loss of human capital (it was proposed the introduction of a special tax, Bhagwati brain drain tax, with the purpose to compensate the poor countries and developing ones for their human capital loss, a tax equal to after tax costs of the budget for education / training and other social services provided for an emigrant), loss of qualification,
- economic damages (a decrease of the GDP by reducing employment potential, a loss of exports, a reduction of productivity and competitiveness, a tax burden increase, a growth of imports, a pressure generation on pensions and social security, an income inequality rise),
- demographic processes worsening: aging,
- social minuses in donor countries: breaking up of families, loss of nation's genofund.

In a stylized frame in terms of the destination country, migration entails the costs of social and medical assistance and the benefits of economic prosperity: immigrants provide low-cost labor (accept lower wages, harsh working conditions including no working timetable, no compensation for additional work, lack of social payments and have higher labor productivity), and this leads to revenues rise for employers and reduced costs for consumers, cultural diversity amplification, immigrants' standards of living progress.

## 3. Migration externalities

Migration obviously involves a series of externalities. Firstly, skilled migrants are tax payers and their departure, therefore, is a tax loss for those left behind (fiscal externality).

Secondly, skilled labor and unskilled labor complement each other in production, and in a context of shortage of skilled labor and unskilled labor abundance, as in developing countries,

skilled labor migration could have a negative impact on the productivity of unskilled labor and their wages, and could lead to a greater inequality in the country of origin.

Thirdly, if we think that an economy where human capital is the engine of growth and educational decisions give rise to externalities both within generations and between generations (Lucas, 2002), brain drain migration will negatively affect the source country's current economic performance and its growth prospects.

Fourthly, as demonstrated in the new economic geography (Klenow and Rodriguez-Clare, 2005) skilled labor is the key to attracting foreign direct investment and stimulates research and development (technological externalities). At the same time, skilled migrants continue to affect the economy of their home country after they leave, either through remittances, return migration, or participation in business networks and scientific ones.

Remittances can lead to so-called "migration syndrome" that spurs people to emigrate, because remittances are considered to be a financial support for human and social capital development, but also for savings and investment increasing.

Since money is fungible and education has a high income elasticity, it may be that remittances have a significant positive impact on educational training by increasing the proportion of people who opt for education (especially children belonging to migrant households).

## 4. Brain drain

The current wave of economic globalization has provided the opportunity for human capital to agglomerate where it is already abundant (Easterly and Levine, 2001) and best rewarded, for example, in the more advanced countries.

This trend was reinforced by the progressive introduction of selective immigration policies in many OECD countries since the 1980s. What began as an effort to increase the quality of immigrants in countries such as Australia or Canada has developed into an international competition to attract highly educated and skilled persons - "brain drain". In Romanian the term "brain drain" is associated with "brain exodus" and means the international transfer of resources, in the form of human capital. In the non academic literature, the term can be used in a narrow sense, and refers to the migration of engineers, doctors, scientists and other highly skilled professionals or with university training. They possess a significant amount of knowledge in their professional working field, being specialists.

By the instrumentality of their employees, companies, industries and countries use knowledge to achieve a superior economic performance by full potential earnings capitalization of the transformations generated by digital technologies and Internet (Lester's approach), or by creating economic value (Clarke, Rollo,) respectively improving the operational effectiveness, organization's efficiency and profitability. (Ferguson).

Moreover, professionals - who own names that are substituted with a "brand": accountant, engineer, lawyer or physician – consent to continuing professional development in order to be updated with the latest developments in their fields. This is consistent with the theory of cognitive components (Sternberg, 1984) which argues that there are two complementary processes of intelligence, automation and reaction / new receptivity. As novelty passes into "obsolete" and the answer to new becomes automated, the portions of intelligence released is able to process news, and thus the cycle is self-sustaining.

According to the economists at the Institute for Strategy and Competitiveness from Harvard Business School, competitiveness is compulsory defined by increasing productivity and, in this sense, the macroeconomic, political, legal and social framework create only the prerequisites or the "ground" (Friedrich von Hazek) for competitiveness, following that the

startup of the game on "the football field, to be given those who own the capability of making use of the premises created - continuous innovation". European leaders in innovation, with an level of investment in research and development above the average - Sweden, Denmark, Germany and Finland - are among the countries with significant numbers of skilled immigrants.

The irony of nowadays' migration is that many people who migrate legally from poor countries to rich countries are those that the third world countries should the least afford to lose, those skilled and with higher education. Although some studies have shown that migration has reached more than 10% of the population with tertiary education from the labor force of the exporting country.

Since most of these migrants move on a permanent basis, this whimsical brain drain is not only a waste of valuable human resources but could prove to be a serious constraint on future economic progress of the Third World nations (Todaro, 1996).

In the same context, some studies on brain drain argued that unlike foreign direct investment, where the gain factor from the international movement is divided by the two countries, the developed countries gain due to the cost of those left behind in the less developed countries. The international mobility of skilled workers was seen as a zero-sum game, and most political debates in the 1970s focused on levying a "tax on brains" (later called "Bhagwati tax") that could compensate the source countries for the losses incurred as a result of the brain drain. Furthermore, international inequality enhancement is a social consequence of the brain drain, the rich become richer, on the poor countries' expense.

According to this argument, the widespread migration of the educated workers from the developing countries tends to decrease in the long term the income levels and the growth rates for developing countries. (Richard Adams, 2003). Even the pioneering work of Grubel and Scott (1966) gave attention to the fact that a country should not "lose from highly qualified individuals emigration."

The series of changes on the supply side (e.g. skills influenced by technological progress, human capital agglomeration effects) that contribute positively to self-selection among migrants and quality-selective immigration policies on the demand side favor brain drain.

Docquier and Marfouk (2006) have published the emigration rates by level of education for 195 countries in 2000 and 174 countries in 1990. Comparing the total rates and those for skilled emigrants in 1990 and 2000 for each region, income group (using the 4 groups classification of the World Bank) and country's size (for countries with populations over 25 million, between 10 and 25 million, between 2,5 and 10 million, less than 2,5 million) it was showed that the average migration rates fall sharply with the size of the country, which is surprising given that the small countries tend to be more open to trade and migration.

Regarding income groups, the highest rates are observed for middle-income countries, where people have both the incentives and the means to emigrate. High-income countries that have fewer incentives to emigrate and the low-income countries (where liquidity constraints are more stringent and / or the transferability of human capital is problematic) display the lowest rates. Hence, the brain drain is strong in the small countries, such as Pacific and Caribbean's islands, where emigration rates are above 80%.

By contrast, Eastern Europe and South America have relatively low levels of brain drain. It is also worth noting that India, China, Brazil are among the countries least affected, in relative terms, despite their significant contribution to the total stock of skilled migrants worldwide.

According to Michel Beine, Frédéric Docquier, Hillel Rapoport (2003), most countries which combine low levels of human capital with low rates of skilled workers migration seem to be positively affected by the brain drain. By contrast, the brain drain appears to have

negative growth effects in countries where the migration rate of the highly educated is above 20% and / or where the proportion of those with higher education is above 5%.

Education is a prerequisite for migration, and congruent to Stark, Helmenstein, and Prskawetz (1997, 1998), the motivation to acquire skills and domestic enrollment can be strengthened and encouraged by the prospect of migration. Along these lines, the behavior of the potential migrants before leaving the country demonstrates not only the problem of incentives to acquire education, but it can likewise causes workers to train more (Beine 2001), especially because uneducated people have limited access to legal international migration.

International migrants tend to be better educated than the general population of their country of origin. However, in terms of a home country real brain drain, international migration does not seem to have a very high proportion of the best educated (tertiary).

Even Miyagiwa (1991) stated that skilled workers emigration will significantly affect other skilled workers (those who do not migrate), who used to benefit more from the scale externality associated with a large stock of skills and knowledge of the pre-brain drain. This is explained by the fact that groups of workers own a collective intelligence, or co-intelligence, a term proposed by Wolpert and Tumer, with the purpose to explain the synergy that occurs in the community, or the non-summative but rather the integrative actions undertaken by the group.

In addition, within an organization, knowledge is accomplished in spiral (Nonaka and Tacheuchi). The spiral starts from the individual that has some knowledge, a certain capacity of observation, understanding and interpretation. By communicating with team members, socializing, he outsources knowledge. On the other hand, he receive from the team experience- acquires knowledge directly from others through sharing experiences with the help of observation, imitation (internalization). As a result of this exchange, difficult to point directly, the knowledge of organization enhances. Between 70% and 90% of the intelligence needed by a company is possessed by employees who collect huge amounts of information through relationships with suppliers, customers and other contacts (Groom and Fred, 2001). However, knowledge is "crystallized" at high levels within the organization, moving from individual to group, next to organization and last to inter-organizations (human capital mobility between different subsidiaries of a multinational).

There is simultaneously the opinion that the largest share of the relatively poor countries' migrants is unskilled. In this case, larger flows of skilled migrants would lead to an increase in the average skill level of those left at home.

## 5. Discussion and conclusion

Globalization and turbulent business environment have inevitably led to competition exaltation, especially in the imbued markets of products and services. As well through globalization and the productive forces and capital movements' development it was spotlighted the phenomenon of population mobility/migration which acts bilaterally: satisfies the objective needs of production and contributes to the professional skills and welfare growth.

Globalization is seen as a "flow" which is widening in the planetary economy, entailing on each organization, country the delineation of an optimal strategy for survival. Companies have responded to this new type of force, through the transition from the static operational industrial age management to a dynamic management, by developing their ability to compete and penetrate new markets. The emphasis is not placed on the profit maximization, but on achieving the competitive advantage: the ability to create, transfer, use and protect knowledge, which is realized through those capable workers - "knowledge workers" (Drucker, 1950) - who use the knowledge organization in pursuit of intangible products. In like manner

Peter Drucker said that the traditional factors of production (land, labor and capital) are surpassed by knowledge, the only relevant source today. Knowledge means "high quality power", as it is very versatile, it intensifies in a considerably amount the strength and richness, is effective and makes the wealth of a country to depend on it. (Alvin Toffler) Investments in knowledge lead to an improvement of productivity and efficiency, but the correlations between them are not linear because the processing of knowledge is by its nature a strongly nonlinear process. (Brătianu 2006).

A present situation feature is the rising migration of intellectuals, elites (those with high education and high professional qualification, "knowledge carriers"). Paul Hirst and Grahame Thompson described the migrants as "highly qualified professionals", "the club-class" (Hirst and Thompson) "the learned castes" (Philip Bobbitt) or "the creative class" (Richard Florida). The small countries or the developing ones lose a significant proportion of qualified people – "brain drain"- the developed countries importing the share lost by them. The estimated migration of qualified workers is six times more than that of those unskilled. Many developed countries stimulate skilled migrant professionals hiring for economic reasons (savings due to lower training costs involved by the local experts, immediate positive influence on the employer's results, already qualified and experienced employees). Further, foreign countries' employers are not always well informed in time about the skills level of the migrant workers (because they do not share the same cultural background and language as the source country, they lack the framework for assessing the foreign workers productive qualities and skills) so often the immigrants will earn a salary which reflects the average productivity of an immigrant and not a salary that reflects their actual productivity, according to the knowledge disseminated and involved in their work.

Traditional perception of brain drain, often seen as a kind of decay through which the rich countries extract the most valuable human resources from the poor countries has no empirical justification at an aggregated level of data.

Considering the opportunities, incentives and information in itself it can be said that brain drain has a dual function: either result in a brain gain for the destination country or as a possible gain for human resource, favoring its development, so it is beneficial for the home country economies, especially when the migrants return. In addition, the migration can be valuable from a social perspective as a result of a transmigration phenomenon: a transfer of cultural, ethnic, technological and political values but also knowledge[6] as ideas, practices and social capital between the destination countries and the origin countries. These are constituted as a counterweight to the monetary macro level.

In conclusion, the skilled migrants can signify a competitive advantage either for the source country (donating, exporting) or the destination country (receiving, importing).

But as Michael Porter ascertained, the creation and development of competitive advantages is a very localized process. Any specific institutional factor a nation has, matters. Therefore, globalization does not diminish, on the contrary, increases the role in promoting the nation's competitiveness, according to the phrase "think globally - act locally".

The new economics of brain drain has led to the creation of what might be called public knowledge. When a country loses human capital, as a result of its migration with the purpose to achieve a higher remuneration, as a fear of losing a greater proportion of those qualified and a reduction of the performance of those who still remain, the Government may enforce social and financial penalties. But this strategy is not optimal. If the human capital importing country would stipulate selective stricter policies on migration and on the number of immigrants, those willing to migrate would be stimulated to train and learn more to excel and

[6] Lakoff and Johnson (2003) demonstrated that in order to conceptualize and better understand the knowledge, people often use metaphors and / or analogies.

be received by that country. As a result, competition may be an incentive for acquiring knowledge and public knowledge will enhance quality and human capital development, which will be represented by those remaining (given that only a limited number of people will be received by the destination country). The likelihood of migration can be an effective management tool for refining the performance and the quality of human capital.

Intellectual capital is the currency of the new millennium; it is the economic resource difficult to identify, evaluate and replicate it because is intangible. It is the requisite for a sustainable competitive advantage and a long-term development.

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