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INTERNATIONAL MIGRATION AND BRAIN CIRCULATION

Abstract. Many developed countries suffer the economic consequences of a growth- and wealth-limiting demographic gap, which they only can fill with immigration. Immigrants must be capable to be integrated into the receiving economy based on age and skills. However, emigration of elites raises in the home-countries the complex problem of "Brain Drain" (loss of human capital), which is offset by a "Brain Gain" in the destination country due to immigration. Recent research shows, that within the framework of a liberal migration policy there can be a "Brain Circulation" that has advantages for all countries involved.

Keywords: demographic gap, digitization, elite migration, factor market integration, global information society, labour mobility, migration policy

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Introduction. International Migration is essential for old industrialized Countries like Germany. 83.2 million people were living in Germany at the end of 2020. Since the German unification, Germany's population had largely grown, with the exception of 1998 and the period from 2003 to 2010. This population growth resulted exclusively from positive net migration. Population would have been shrinking since 1972, as more people have died than were born every year since then. Without migration the population would be extremely overaged, and its working part would have shrunk also extremely. The consequence would be a considerable limitation of the economic growth potential and social welfare. This development threatens almost all established industrial countries. We use Germany as an example.

66.4% of all immigrants in 2019 came from European countries. 51.1% of them from EU-member states and 15.3% from other European countries. The labour migration out of third-countries had also continuously increased. 64,219 people entered the country in 2019 who had a residence permit for a Gainful employment. This means a further increase of 5.5% compared to the previous year (2018: 60,857). 61.3% of these migrants came to Germany for a qualified or highly qualified job, including Holders of an EU Blue Card, internally transferred workers (ICT), researchers and self-employed persons. The majority of them are qualified immigrants which are needed to close the demographic gap!

The main countries of origin of this migrants are the Western and Southern Balkans (Bosnia-Herzegovina, Serbia, Montenegro, Kosovo, North Macedonia and Albania), the

United States, Turkey and India. Immigration to Germany is dominated by European immigrants.

While the immigration of foreigners has been widely debated, the emigration of Germans from Germany hardly attracts attention. But it also reaches a considerable extent [Ette, Sauer 2010]. According to the migration report of the federal government in the period from 2015 to 2019 1.062.737 German citizens emigrated and only 726,950 German citizens returned to Germany.

The Bundesamt für Migration und Flüchtlinge (BAMF) presented study results with regard to the qualification level of Germans who were leaving. Around three quarters of them had a university degree. In the population that is only a quarter. There is a disproportionately large number of emigrants with a master's or doctorate degree, while people with a high school or lower school leaving certificate are underrepresented [BAMF 2019].

The most important destination countries for German emigrants in 2019 were Switzerland (16,340), Austria (11,904), the US (9782), the UK (6766) and Spain (6479). German returnees mainly came from Switzerland (10,5239), the US (9498), Austria (6631), the UK (6385) and Turkey (5620) [BAMF, 2019].

As we can see, the German immigration is dominated by relatively good skilled Europeans. But the emigration from Germany is dominated by young and highly qualified Germans. This migration weakens Germanys potentials enormously. Therefore, German policy must attach considerable importance to the migration problem.

Since most of the industrialized countries are confronted with similar demographic and economic problems, the aspects of immigration and emigration are examined in more detail below.

Brain Drain and Brain Gain revisited. Immigration countries, such as the USA or Canada, have extensive experience in attracting trained and highly qualified migrants. These have made a significant contribution to their economic success. Migration policy in these countries has therefore created relatively clear regulations and laws for the recruitment and reception of skilled immigrants. In this context “Brain Drain” and “Brain Gain” processes have been discussed intensively.

Brain Drain means the home country of the emigrants would lose parts of its intelligent population (human capital) in favour of the immigration country. Emerging and developing countries [Hunger, 2003] but also countries in the transformation process from a planned economy to an open market economy [destatis, 2021] have been increasingly identified as the most important countries of origin of emigrants.

There are two views of the phenomenon. First the loss of human capital in the home countries of migrants which may reduce its perspectives of economic growth and welfare gains. A certain education of the migrants (e.g. certain language skills) is a prerequisite for successful migration and the individual decision to do so. Uneducated people usually only migrate in extreme emergencies (e.g. armed conflicts). Therefore, the normal international migration is dominated by skilled individuals. We are focusing on this group.

Second the Brain Drain also reduces economic problems. Workers who could not have been used in the domestic production process find employment abroad. Thus the national labour market is relieved and social problems are reduced. Therefore, in

the short term such a migration may be good for both sides. But in the long term it may hinder economic development in the home countries of the migrants.

In the European transformation countries, the enormous emigration in the first years indeed reduced the growing social problems and helped to avoid a much bigger social crisis. There are currently around three million people with a migration background from the former USSR living in Germany [BAMF, 2019]. In the long term, the loss of human capital results in a significant reduction of the restructuring potential which caused additional problems.

Brain Gain focuses on the increase in human capital through immigration. Therefore, immigration in the destination countries is mostly seen as a gain. This gain is evident in many ways for host countries, when the immigrants are highly qualified. They do not need additional training and they generate tax income from the beginning. In addition, the highly qualified migrants may bring technical knowledge and know-how, which increases the innovation potential. Proof of this are the company foundations in California. Between 1995 and 1998. Around 20% of the companies located there were founded by Asian immigrants [Hunger, 2003].

However, a successful migration policy needs a climate of welcome for the qualified migrants. This is expressed in immigration-friendly laws, a corresponding jurisprudence and an existing willingness to accept immigrants in the population. These prerequisites were largely absent in post-war Germany as they are absent actually in countries like Hungary and some other European countries. The comparison between traditional immigration countries like Canada or the USA and countries like Germany or Hungary shows that Canada and the USA benefit from immigration, but the latter do not because of their insufficient national immigration policy.

In Germany attempts were made to recruit qualified specialists with the green card introduced in 2000. But less than 15,000 Indian computer specialists could be recruited. Germany was unsuccessful, because the German rules were too restrictive. Below others they forgot to give also the partners of the working immigrants the permission to work, ignoring that highly qualified people usually have partners who are also highly qualified. This typical ignorance may be seen as one aspect of the "German Disease" which is proved actually in the political handling of the "Covid Crisis". Furthermore, in Germany such migrants are often referred to in the media as "economic refugees" and this term has a negative connotation which reduces the willingness of German people to welcome immigrants.

These examples show the importance of legal regulations and the acceptance by the local population in the receiving country for the success of an immigration policy. They also make clear the importance of prevailing prejudices.

Brain Drain and Brain Gain can be seen as two aspects of the global migration of skilled labour. Both may have positive and negative impacts of the economic perspectives of the countries involved. But the modern opportunities for mobility of labour and net-based global communication have changed the framework of the world economy. Global possibilities to travel and the new transparency of the information society created a "global village". The upcoming digitization will push the interregional and international migration of people on a new level [Lang, 2018].

Brain Circulation and elite migration. Actual approaches no longer view migration of highly qualified people as a self-contained process in which the sending countries

only make losses for their social and economic development. Especially the migration of highly qualified workers is seen as a circular process which brings also the home countries of the migrants benefits from the migration process. Already developed emerging countries such as India or countries in the process of transformation like Bulgaria can earn long run benefits from their emigrants. In a way they are examples for a so called "Brain Circulation Process".

This concept regards emigration not as a permanent state but as a limited period of time. The emigrates, work and study or live in the host country, but return to their home country after their stay. During their stay they gather international experiences and know-how which can be used in the home country. The concept thus extracts the positive aspects of Brain Drain and Brain Gain. The length of stay is not specified and can last from several months to years. It is only important that they return to their country of origin so that one can speak of circular migration.

A good example for this process is India. In the 20th century, India was the country that has by far generated the most emigrants. In the 1990s, the worldwide Indian foreign population was estimated at 20-25 million people.

The beginning of the elite migration. Traditionally Indians emigrated to Great Britain. In the 1960s the focus of Indian emigrants shifted from Great Britain to the USA. This development was promoted by the "Immigration and Nationality Act" which led to a liberalization of family policy and thus to an improvement in the integration of immigrants. In particular, the new constitution of the "Immigration Act of 1990" has intensified the wave of emigration of Indian IT-specialists [USCIS, 2021] to the USA and to European countries. One reason for this was the booming IT-industry and the associated shortage of skilled workers in the USA and Europe since 1980.

The statistics shows further examples. Since 1990 over 750,000 emigrants left Bulgaria for the European Union. The number does not include the students and the illegals. As estimated 1.5 million Bulgarians live abroad, which is about 15% of the total population. Relatively this percentage is much more harmful for the Bulgarian economy than for the Indian economy. The educated elite of this emigrants went to Canada and the USA. But also a relatively great group came to Germany because of the traditional good relations between Bulgaria and Germany. Many of them knew the language and the mentality because of their studies in the former GDR. Knowledge of language and mentality is an important basic factor to organize economic relations, science and business.

In India the overproduction of mainly scientific elites arose as part of the self-reliance strategy in the 1970s [Venkatachalam, 2021]. With this self-reliance strategy, some developing countries tried to decouple themselves from the world market dominated by the West and thus counteract the effects of the Brain Drain.

The emigration of elites at that time was a logical consequence of the lack of opportunities to work in their own country. The high annual emigration of computer-specialists out of India in that period is much discussed because India's IT- sector was of elementary importance for the Indian economy. The IT-sector was the only branch of the economy that is internationally competitive. But at that time it was too small. The industry expanded not fast enough.

A similar but different situation existed in the Eastern European transformation countries after the break down of the Eastern Block. Bulgaria was the IT-specialist in the COMECON (Council for Mutual Economic Assistance) and lost that market nearly

completely. However, their elites were not adequately adapted to western requirements due to the regulatory system and the different technical standards especially in the IT. The collapsing industries also destroyed jobs and forced many specialists to emigration (see above) [Gankova-Ivanova, 2015].

The future of the elite migration. Migration of highly qualified people today is circular migration (Brain Circulation) from which emerging and transforming countries can benefit significantly. India is a good example. When there was an overproduction of IT-specialists without the emigration there would have been too few jobs anyway. Therefore, the Indian government let the IT-specialists leave the country.

At the beginning of the 1990s, the Indian government changed its economic policy away from the self-reliance strategy towards an open market economy. In addition, the IT-industry was recognized and declared as a primary sector of the Indian economy through special funding.

Information Technology in India is an industry consisting of two major components IT-services and business process outsourcing (BPO). The revenues are set to grow by 2.3 per cent to $194 billion in 2020-21 and the exports will go up by 1.9 per cent to $150 billion [NASSCOM, 2021]. This is the actual prediction of NASSCOM which is the premier trade body and chamber of commerce of the Tech-Industry in India and comprises over 2800 member companies including both Indian and multinational organisations that have a presence in India. It spans across the entire spectrum of the industry from start-ups to multinationals and from products to services, Global Service Centres to Engineering firms.

All this is based on modern India's vision to become a leading digital economy globally. NASSCOM focuses on accelerating the pace of transformation of the industry to emerge as the preferred enablers for global digital transformation. In fact, since the beginning of the 1990s, many of the emigrated Indians have migrated back and are participating in the successful development of the Indian IT-sector.

Although India is still an emerging country, but more than 400,000 new jobs have been created in the IT-industry in recent years and the actual forecasts predict an exponential development. The booming IT-economy even had a spill-over effect on other branches of the economy such as the banking sector and areas such as the Indian state apparatus. The Indian IT-industry has thus become an important instrument for the economic and social development of the entire country [Financial Express, 2021].

The Indian IT-industry has a big comparative advantage in international competition. This means, that the combination of low labour costs and a high Skill level of employees is simply more attractive for foreign companies, as wage costs are around a quarter of the US or European level. India has become an attractive and interesting place for foreign direct investment.

As we see, the Brain Circulation and the associated return of former immigrants, is based on economic and political factors. They brought liberalization, tax exemptions and a development boost in the country's technical infrastructure and education system to the Indian software industry. A further effect of Brain Circulation is the fact that numerous emigrants returned as entrepreneurs [Hunger, 2003].

International companies like AXA Group Operations, a subsidiary of the French AXA Group, uses IT-specialists in its branch in Bangalore/India. The majority of the employees

have acquired qualifications through long-term stays abroad, which they now use as service providers for the global company after returning to the Indian environment.

All this was only possible based on a liberal migration policy, facilitation of foreign direct investment and the acceptance of open markets. In the European Union this belongs to the constitutional rights. In the international sphere it needs international contracts and corresponding national laws and trust.

Today at the beginning of the era of global Digitization [Lang, 2019] knowledge and basics of technology can be transferred through increasingly net-based communication from the immigrants to their country of origin. This allows an intensive fruitful communication from the beginning of the stay in the host country. A physical return is possible and easy today, but not necessary.

Conclusions. The concepts of Brain Drain and Brain Gain are apparently only elements of a Brain Circulation that can develop positively for all partners.

The key to the advantages for all participating countries is the mobility of skilled people, the openness of the national education systems and the labour markets. In the long run, the experiences of early-stage emigrants through their return can be very useful for their home countries.

Especially the International mobility of highly qualified people will be the key factor to promote growth and prosperity. But it needs appropriate framework conditions and funding measures.

This presupposes the freedom to international migration, the right to take up work, to study, to research and to free commercial activity.

If the inevitable rules, regulations and laws are optimally designed, they can pave the way to a more efficient and powerful global economy.

In a way, Brain Circulation is the real side of international factor market integration which increases the welfare for all participating economies [Lang, 2018]. The "Global Village" of the future, caused by the digitization, the global information society and high mobility of the acting people can push development of the World Economy to a higher level.

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