

Intellectual Security as the Leading Factor of Economic Development

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Abstract. Our paper discusses the problem of intellectual security within the concept of economic development represented by the regional development. We argue that in today's complex world, intellectual security is becoming the leading factor of economic development.

The paper discusses such issues as human capital, innovations, as well as intellectual potential. Moreover, we focus on the issue of intellectual security as a type of state security and contemplate on the problems of cyber security and cyber threats as those targeted against the individuals and often resulting in personal data breaches of the personnel.

Our paper also mentions the trends in intellectual security in the Russian Federation. Specifically, we look into the problem of brain drain from Russia, specifically the migration of leading highly qualified researchers and scientists abroad. We discuss the impact of migration in general and intellectual migration in particular on the regional economic growth and development. Our results clearly show that the effects of the outflow of intellectual capital on economic development are fundamentally versatile and that under favorable economic and political conditions intellectual migration might play a positive role in the development of regions of origin and countries.

1 Introduction

Openness to globalization alone will sooner or later foster economic growth: integration, as economists say, is a necessary but not sufficient condition for economic growth (Taylor et al. 2016). For globalization to function, a country must not be confronted with problems that occur in many developing countries, from corrupt political layers to poor infrastructures to macroeconomic instabilities (Abbas 2016; Vinogradova et al. 2019). Technologies that facilitate communication and trade have slowed down the power of some despots around the world, but in a globalized world government are winning at a crucial juncture, namely the definition and enforcement of rules on contracts and ownership meaning rights.

Building on our understanding of the relationships between globalization, social identity and collaboration, one can argue that participation in global networks can have both direct and indirect effects on cooperation (Schilling 2015). Thence, one can classify all effects that occur independently of the restructuring of global social identity as direct effects of individual participation in global networks. Increased participation in global networks can increase the amount of information and knowledge about people living outside of local and national communities (Jenkins et al. 2016). Building on our understanding of the relationships between globalization, social identity and collaboration, we argue that participation in global networks can have both direct and indirect effects on cooperation. Moreover, it is possible to classify all effects that occur independently of the restructuring of global social identity as direct effects of individual participation in global networks.

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Although civil, political, economic, social and cultural rights are indivisible, global hunger and poverty challenge our priorities. It is a challenge that addresses our concern to lift the poor and the marginalized among us. In a time of globalization, poverty is defined as a person's inability to exploit global and market opportunities that are supposed to boom and skyrocket.

2 Intellectual security and regional development

Intellectual security does not come cheap. Lots of efforts should be made by the national governments. From securing important national security goods in the United States and abroad to personal protection for high-ranking U.S. citizens (Lundberg and Willis 2016). Overseas government officials, economic and social designs and delivers discrete and proactive solutions to detect and deter the full range of threats. Their integrated solutions include mobile and installation security, safety, intelligence and atmosphere, comprehensive threat and vulnerability analysis, community involvement, and technical security through advanced safety technology recommendations, installation, delivery, operation, and maintenance. Improving border security is a must. One will secure the national borders through the construction of a border wall, the use of multi-layer defenses and advanced technologies, the deployment of additional personnel and other measures. The U.S. government works with foreign partners to deter, detect and disrupt suspected people in good time before entering the U.S (Becker 2018).

The U.S. government is improving the verification of potential immigrants, refugees and other foreign visitors to identify those who could pose a risk to national security or public safety. It often sets higher security standards to ensure that dangerous people do not enter the U.S. and improve our collection and analysis of information to identify those who may already be within our borders. Even if the exercise of national security depends on good governance and the rule of law, there is a danger that the notion of national security will become a pretext for suppressing unfavorable political and social views. For example, in the U.S., the controversial USA Patriot Act of 2001 and Edward Snowden's disclosure in 2013 that the National Security Agency collects personal information to the public have drawn public attention to these issues (Stoycheff 2016).

Another issue is cyberterrorism and other cyber aspects of national security are dealt with by a small number of competent bodies within the security and intelligence system and require a separate approach (Dunn Cavely and Wenger 2019). This includes the use of all the necessary elements that result from this strategy. Cyber security areas are analyzed in relation to the general objectives of the strategy to identify the specific objectives for improvement in each area and the actions needed to achieve the objectives of the strategy. The specific objectives as well as the actions further developed in the action plan for the implementation of the strategy will be defined in terms of the defined sectors of society and the impact of cybersecurity on each sector, but also in terms of forms of mutual cooperation and stakeholder coordination in cybersecurity. Due to the rapid environmental changes in the Arctic, the Arctic Council expects to take a more active role in managing future risks and to ensure that facilities and staff can withstand these changes. The development of Arctic shipping and recovery is likely to increase the need for rescue operations. Other federal, state, local, tribal, and Allied nations are also involved in responding to various disasters because of their geographic proximity and capabilities. Additional analysis, such as a 2016 report to the Congress on Strategies for Protecting National Security Interests in the Arctic, provides insight into the perceptions of the limitations and projected challenges in this remote region. In particular, supporters of climate change advocacy call for the creation of the Center for Climate Security and the reopening of Medea, a program in which intelligence and civilian scientists worked together to better understand the impact of environmental change (Lamy 2016). The program gave scientists access to a wealth of classified information, including observation satellites, sensors, and marine and tidal data from submarine submarines. Scientists should better track and document climate change around the world and allowed closer collaboration with national safety agencies.

3 Competitiveness and knowledge society

The postindustrial knowledge society, in which the majority of employees work in the service sector (Asonitou 2015). In times of globalization and market integration, the latter must have access to information and skills. Key success factors include knowledge, information and intellectual capital, quality: work, processes and products. Therefore, the work or work must include more and more elements of learning. The organization of the knowledge-based economy will increase its capacity to contribute to the creation of added value and its own future (Cieslik et al. 2016).

In this respect, the knowledge society represents a new paradigm for future development and is closely linked to sustainable development. For this reason, the sustainability paradigm of the knowledge society is a potential framework for the development of human society leading to social cohesion, economic competitiveness

and stability, resource use and economic development, and the protection of biodiversity and the ecosystem (Shuval-Sergeeva et al. 2017).

In the knowledge society, the traditional concept of productivity faces both old and new challenges. The motivation for measuring productivity was to understand the causes and evolution of economic growth and prosperity. However, the knowledge society also reveals productivity problems that are theoretically and empirically difficult and central and which require careful consideration. An important question in the knowledge society is how information and communication technologies (ICT) affect growth and productivity. Over the last few decades, discussions on the information society and the knowledge-based economy have highlighted the growing importance of information for economic growth. In this case, accelerated investment in ICT could increase economic growth and productivity. A strengthened society empowers its members to realize their potential and achieve greater prosperity as a community. Investment in human capital, for example, is fundamental to economic growth and development. In this context, the competitiveness of countries is the basis for economic growth and, ultimately, for further development. The old notion of universities, integrated into national innovation systems and derived mainly from thinkers of economic evolution, has been undermined by the increasing interconnectedness of nations and universities as a result of the global flow of technologies, people, finances, languages and economics, transmission of ideas and data in real time (Lopez-Leyva and Rhoades 2016). In order to reduce the potential impact of each country's size, the effect is normalized by population. Higher education not only contributes to the improvement of innovation processes but is also a key factor in increasing the competitiveness of developed economies (Guerrero et al. 2016; Galaso and Kovářik 2018). Analyzing different countries, the same author concludes that higher education is certainly a mere service to society and a competitive factor for the industry. The studies on educational economics, the innovation economy and the general knowledge and information economy have increased considerably. It is apparent that some forces have promoted university participation in the economy and, consequently, regional competitiveness.

4 Migration and regional development

The discussion on migration and regional development typically begins with an introduction to the main theories of international migration, which refer to the process of international population movement. The description of these theories was essential for understanding the evolution of migration, but also for analyzing the economic consequences of emigration (Jandova 2012). Thence, a summary of key contributions to migration and development has to be presented, focusing on studies that analyze the economic impact of remittances to regions of origin.

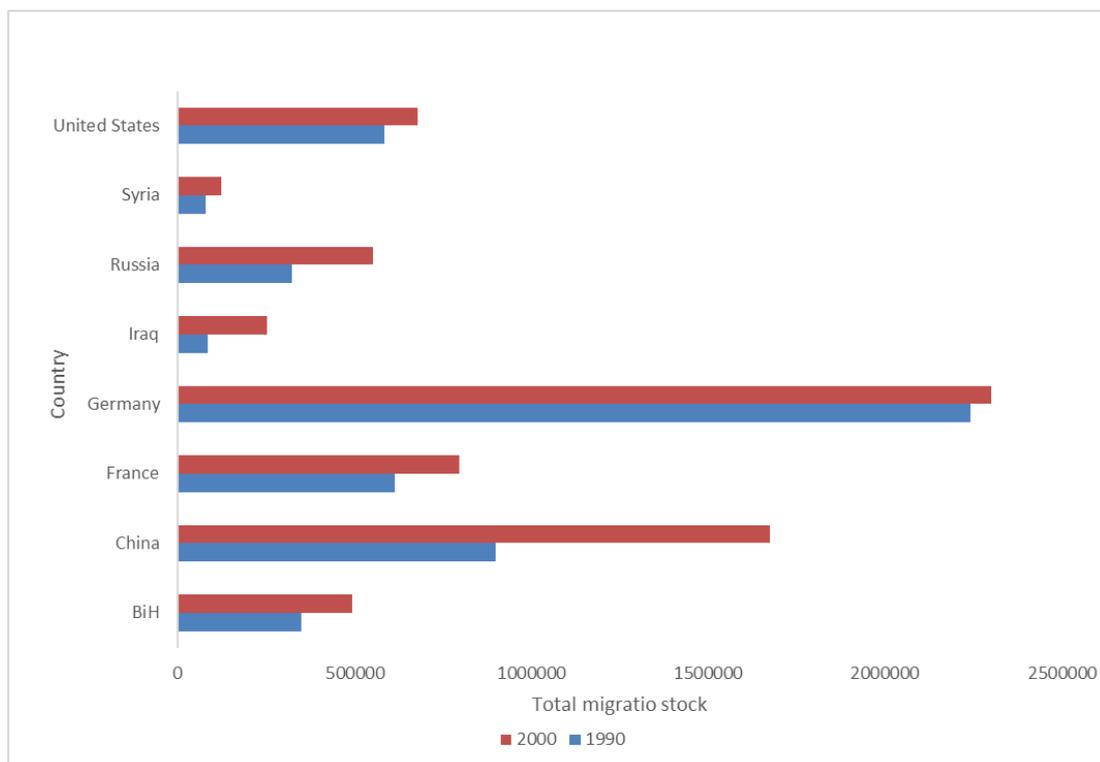


Fig. 1. Total migration stock in the selected countries in 1990-2000
Source: World Bank (2013)

Outward migration is in the rise in the world due to many reasons. Figure 1 above shows the total migration stock in the selected countries in 1990-2000. One can note an overall increase indicating the rise in outward migration and perhaps the growing brain drain.

In general, more developed societies and economies are more mobile than less mobile (Skeldon 2016). On the other hand, a further impoverishment of the region of origin should lead to more migration. Empirical research has emerged in the 1980s and 1990s indicating that the effects of migration on development are fundamentally heterogeneous, and that migration, under favorable economic and political conditions, has played a positive role in the development of regions of origin and countries.

Effects of regional integration on the processes of international labor migration might be very important. Despite different levels of integration, all regional organizations have concluded separate agreements to liberalize the free movement of certain categories of workers (Strielkowski et al. 2016). Our research demonstrates that the key factor in increasing the number of migrants is economic growth in a host region. On the other hand, the increase in the degree of integration has a positive effect on the immigration of immigrants, although this relationship is not strong. The main driver of potential immigration affecting the labor market and the economy of a host country is the effectiveness of migration policy. The systems based on migration scores increase both the absolute number of highly qualified migrants and the relative proportion of higher-skilled workers in the overall migration structure.

It might be that immigration not only creates investment opportunities, but that migrants can influence the host countries in many ways, such as the settlement of remote areas, increasing return on investment and wages across the economy. In contrast, when analyzing the impact of migration to U.S. states, it is clear that state-level migration in the long run entails higher output per worker from increased investment and specialization effects (Wright and Ellis 2019). The locals usually take on different tasks, leading to efficiency gains through specialization. In addition, rural features such as migration networks and migration experience have a significant positive impact on migration decisions. Households in villages with large migration networks and migrant experience are more likely to have migrants in both temporary and permanent migration alternatives.

Our findings support the economic theory that greater wealth owners and wealthier households holding potential migrants on the ground have more value and conclude that perceived migration returns should help overcome production constraints. In contrast, under-poverty households and those with the highest unemployment rates are more likely to have both types of migrants, indicating that initial job losses and other migration-related costs for poor households have not been a problem since migration has long been an essential option to maximize the household income of poor farmers.

5 Russian brain drain

A brain drain that is going on in many countries around the world may not be an indication of increasing instability (Orazbayev 2017). One of the main drivers of revolutionary forms of democratic regime transformation, according to contemporary social science, is the lack of adequate social mobility for middle-class youth, which is often evident in authoritarian countries with higher rising tertiary education. They also tend to ignore political implications that go beyond instability, possibly caused by the regime's poor socio-economic performance.

When it comes to the case of Russia, one can see an enormous brain drain with a large increase especially in high skilled professions from 1990 to 2000 (see Figure 2). This is especially apparent in the case of female population.

The explanations why this is happening might include many economic and political theories. For example, the theory of revolution went beyond simple and sometimes erroneous explanations such as low GDP, economic decline, high inequality, corruption and political repression. The shift of traditionally skilled labor from one industry to another (Fursov et al. 2018; or Strielkowski et al. 2019). As with other people's migration, the social environment is often seen as the main reason for this population shift. On an individual level, family influences (e.g. relatives living abroad) as well as personal preferences, career aspirations, and other motivational factors can be taken into account. Organizational issues matter too. The flight of talented, creative, and highly skilled employees of large companies when employees find the direction and leadership of the company unstable or stagnant, and therefore unable to keep up with their personal and professional aspirations. The flight of talented, creative and highly skilled employees of large companies occurs when employees see the direction and leadership of the company as unstable or stagnant and therefore unable to keep up with their personal and professional aspirations.

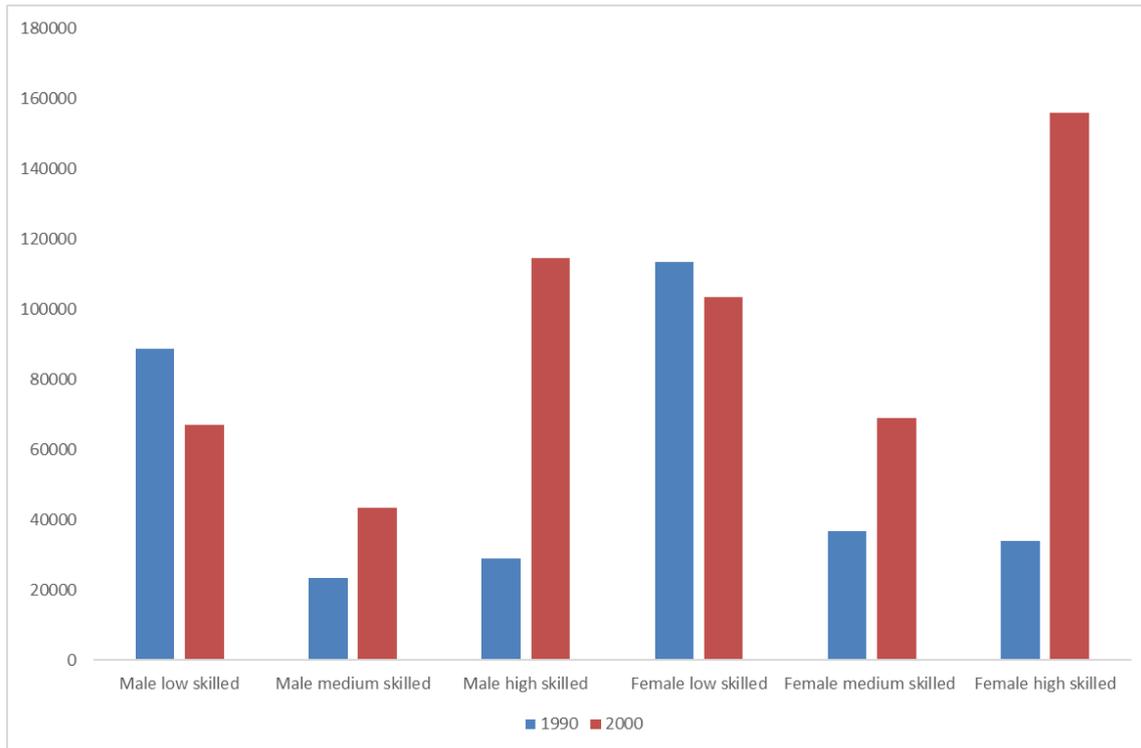


Fig. 2. Russian brain drain in 1990-2000
Source: World Bank (2013)

Geographically, the flight of highly qualified individuals and graduates from their residential area. The Russian society has lost interest in the scientific field, and professions in this field are less valued and poorly compensated. The results of a survey among professors and researchers at Moscow universities show that the decline in the reputation of the intellectual workforce and low wages are the main drivers of migration. For example, the salary of doctors in Russia is at the same level as that of secretaries and janitors.

Similar to capital flight from Russia, the brain drain is significant and symptomatic. Just as the country has become unattractive to investors, it has also become unattractive to economists. Legislators are not only blocking the political and expert areas in Russia, but also the economic sector.

All these factors might explain the increasing trends of brain drain, especially when it comes to qualified specialists, from Russia to other countries. This is a negative trend that needs to be reversed and taken care of by the stakeholders and policy makers.

4 Conclusions

Overall, it is clear that intellectual security is important for every country, since it means developed human potential and human capital that is safe and protected by laws and other norms. One can say that intellectual security is a leading factor in any national economy.

However, as it stems from our research, sometimes this intellectual security is threatened by various demographic and economic processes, most notably outward migration and the so-called “brain drain”. Some countries are more affected than the others. This often happens due to poverty, political pressure and other political issues, as well as a whole array of other factors.

In general, the concept of poverty had neither positive nor negative effects on the attitudes themselves, but distracted attention from the topic of instability, as it permeated personal priorities. These priorities were shared by the entire community and consisted of stable employment, the need for basic infrastructure and services, and security concerns related to increasing community violence. This is important for the regional development and its outcomes.

It becomes obvious that intellectual security should be fostered and supported by the governments through various incentives and other forms of support. Conditions should be created for people to remain in their home countries and measures should be made to stop brain drain. All in all, brain drain means lots of negative outcomes and implications and thence should be tackled and stopped.

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