

THE TRANSPORTATION SAFETY AND SECURITY – POSSIBLE ANCHORS OF PROSPERITY IN THE AGE OF GLOBALISATION

CHIRIAC Claudiu*, ZAVERA Ioana-Coralia, MURARIU Răzvan, HURDUZEU Gheorghe

The Bucharest University of Economic Studies, Faculty of International Business and Economics, Romania

chiriacclaudiu14@stud.ase.ro

zaveraioanacoralia@yahoo.com

murariu@avocatmurariurazvan.ro

gheorghe.hurduzeu@rei.ase.ro

Abstract: *If growth and economic development so far occupied the first place in the concerns of national economies, global phenomena and the new economy have led to the focus on preoccupations to two other concepts, well-being, and prosperity, which consider a multitude of indicators more or less quantifiable. The Gross Domestic Product, as well as the average income of the population, can provide information on the level of development. The Legatum Prosperity Index has among its variables the safety and security component, which, as the index shows, transmits information on the level of prosperity. A hypothesis considered is that the transportation sector has an important role to play in generating prosperity, so it is worth analyzing the average revenue, passenger numbers of one of the safest transportation modes according to EU transport figures - Statistical pocketbook 2018 – the rail transportation – in the Central and Eastern European countries. Therefore, there is a possibility of a correlation between the variables in order to explain a small part of the phenomenon of prosperity from the perspective of safety and security, an indicator that should be included when talking about the quality of life.*

Keywords: *prosperity; transportation infrastructure; safety and security; quality of life.*

JEL Classification: *R10; F52; F60.*

1. Introduction

The development degree of the society could be defined by comparing the economic, political and social conditions. There are outcomes that take a look at quantitative and qualitative aspects in terms of human capital (i.e. income and education) and physical capital, such as infrastructure (i.e. various networks of utilities, transportation, telecommunication etc.). If until now public policy documents focused only to physical capital, new trends are stressing the importance of the human capital and its influence over the evolution of the society. One issue raised by Čadil et al. (2014) is the problem of over-education in hand with unsuitable education structure that seems to be the most important problems of human capital in EU today. Galor and Omer (2004) also mention that there can be no "confrontation" between physical and human capital, as there is a permanent interaction between the two for economic development to be more than a

* Corresponding Author: Claudiu CHIRIAC

quantitative evolution of the indicators. The infrastructure cannot be efficient without operations and maintenance carried out by human factors, while economic activities cannot be deployed without being fostered by the infrastructure. But equally important for ensuring prosperity are both safety and security for citizens. A stable and secure environment requires both for the mobility of people and for attracting investment and supporting economic growth. One interesting finding is in a paper published by Benhabib and Spiegel (1994) according to which a country which lies below the 'leader nation' in technology but possesses a higher human capital stock, will catch up and overtake the leader in a finite time period. Growth performance of any country is dependent on government policies to allocate resources for different purposes, consumption and investment, Siddiqui (2008) also states. Some of the attributes of prosperity are safe living conditions and personal safety. Thus, the transportation sector, a part of an economy, is also a common tool for development, especially in a global economy where opportunities have increased with the mobility of people, goods, and information. As Caballé and Santos (1993) underline, the interaction among the technology of human capital accumulation and agents' preferences will determine endogenously the economy's rate of growth.

2. A Bilateral Relationship: Transportation-Economy

There is a cyclical relationship between transportation and economy because the physical capacity to move the goods from one side to another has to be done at the optimal costs to further encourage this type of mobility. This actually means to draft the routes in a certain way that will enable extensive or new interactions in the economic sector. It is also important to enhance the performance over time, especially reliability, but also to reduce the loss or different damages, which will lead to better use of transportation in the case of goods and passengers that will be carried swift and with fewer or no delays. A huge impact concerns the economy of scale in all the stages of the goods (production, distribution, and consumption), that will lead to wider market access.

Measuring the return on investments in various transportation projects aims at highlighting the direct benefits of users and the economic impact due to cost reduction. Transportation plays an important role in the economy, especially in changing economies, and investment is seen as a driver of development. The impact is reflected in economic growth, export facilitation, job creation and economies of scale. Transportation investments, particularly those related to transit, encourage the formation of clusters and agglomerations in many ways. For example, in large metropolitan areas, the pace of growth is slowing down because of car journeys in a limited space. Planning efficiently can avoid constraints and encourage the formation of clusters, allowing more to get closer to high-density developments. Moreover, investment in transportation also encourages the creation of clusters by bringing together various entities, contributing to improved productivity. Last but not least, efficient transportation reduces travel time between suburbs, where part of the workforce and areas in the city center live.

When there is an improvement in transportation conditions (travel time reduction, infrastructure improvement), accessibility for people and companies to jobs, services, goods and activities increases, which increases productivity. It also improves the delivery time of the goods (it will reach the destination faster,

increasing the number of daily trips, improving efficiency). An increase in worker and business productivity can increase the productivity of the metropolitan area. Another contribution brought by improving transportation is the increase in available labor. It may be due to the construction of a new rail transit line that allows employees to reach previously inaccessible jobs. At the same time, access to job options also increases and the attractiveness of the area is also increased. Millennials pay increased attention to mobility and transit areas, so they represent a critical workforce. New options and investments in transportation infrastructure are also a factor in the business sector. Multimodal facilities open new markets for companies looking for locations capable of meeting transportation needs. According to Eurostat, the highest numbers of passengers transported by rail in the EU in 2017 are in Germany, the UK, and France with almost 3 Bn., 2 Bn. and 1.5 Bn. passengers transported while countries such as Romania and Bulgaria transported in the same year almost 70 M and 20M respectively, as presented below. That is a huge discrepancy, mostly if we are also considering the population density of each country in Table 1.

Table 1: The number of passengers transported by rail and population density in the EU, 2017

Country	Thousands of passengers transported by rail	Population Density (persons / km ²)
Germany	2,831,443	234
United Kingdom	1,757,359	272.4
France	1,277,479	105.5
...
Romania	69,056	83.6
Bulgaria	21,195	64.3

Source: Eurostat

The fixtures presented in Table 1 are not accidental as the first three countries in the top started to increase the using of railways at least since 2002, while countries from Eastern Europe were neglecting this mode of transport. In the case of clusters, access to suppliers and customers becomes easier and faster for materials, which has a positive impact on freight logistics and delivery schedules. This reduces transportation and inventory costs while increasing productivity and profitability. Companies can expand their market access and customer base, which increases their competitiveness. Improving access to markets, goods, services, employment, housing, healthcare, and education, reducing relocation costs, projects can help increase productivity and development. If the benefits of time economy are essential, the traditional method of measuring seconds becomes inadequate. It is necessary to quantify the gains obtained as a result of the improvement of transit (Dowell, 2017). In any case, transportation is a necessary vector, but not enough to overcome the obstacles to economic development.

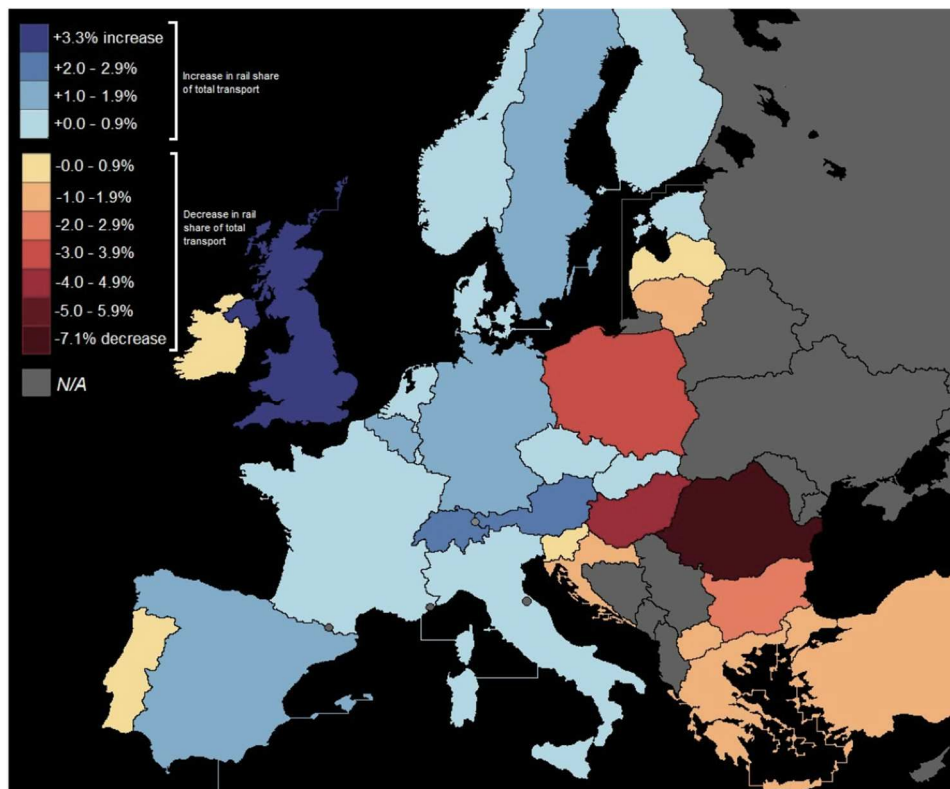


Figure 1: Change in rail as a mode of transport, 2002 - 2014
 Source: Eurostat

3. Safety and Security, a Pillar for Prosperity

Phenomena such as technological advancement and globalization have led to changes in economic development. If GDP was considered to be the main indicator of growth and economic development, today's concerns for more rigorous analysis determine the focus on both indicators of quality of life and aspects of people's choices.

The Legatum Prosperity Index offers an insight into how prosperity fluctuates across the world and is concerned with the safety and security analysis, one of the 9 pillars on which prosperity is based, followed a downward trend globally (Stroud, 2018). Under the umbrella of the Safety and Security pillar, there are variables such as national security, personal safety, and security of living conditions.

National security refers to ways in which people are protected from conflict and violence (e.g. riots, torture, disappearances, and political prison). Personal safety is intended to respect the security of the property and of the person (theft, homicide, and security when walking unaccompanied). Security for living conditions considers safety and secure day-to-day living (providing housing and food, but also a secure living environment and infrastructure). As it can be observed in Figure 2, Norway scored the highest place in the ranking, taking into consideration safety and security pillar of the Legatum Prosperity Index while Iraq can be considered the most

insecure country in the world from the perspective of the same pillar. With a score of 80.98, Norway is the first even when considering the aggregate of all 9 pillars: economic quality, business environment, governance, education, health, safety and security, personal freedom, social capital, and natural environment. In the lower part of the ranking even if Iraq has the lowest score when it comes to safety and security pillar, the average indicator places Afghanistan on the last position with an inglorious 36.92. From a broad perspective, one can observe that Europe has 7 countries in top 10, sharing the leaderboard with the Asian continent while Africa becomes predominant in the very bottom rows of the standings.

SCORE	COUNTRY	SCORE	COUNTRY
80.98	Norway	42.47	Iraq
72.79	Japan	36.92	Afghanistan
73.73	Singapore	39.44	Central African Republic
72.93	Hong Kong	41.65	Democratic Republic of Congo
78.95	Ireland	50.10	Nigeria
74.10	Malta	39.49	Yemen
78.99	Netherlands	41.52	Sudan
76.64	Austria	50.45	Venezuela
79.33	Denmark	48.90	Libya
78.47	Iceland	61.32	Philippines

Figure 2: The Legatum Prosperity Index in 2018, Safety and Security pillar (highest ranked countries in the left side with green, lowest ranked countries on the right side with red)

Source: Legatum Institute

4. Conclusion

A possible correlation between the transportation sector and prosperity is that as a state you cannot become prosperous without a well-organized network of transportation. And this also has a consequence when speaking of the quality of life of the endogenous citizens. While at EU level rail transportation has been overlooked by most of the countries in favor of the air or road transportation, Germany, UK and France focused on enhancing this type of transport, two examples in this regard being the development of magnetic levitation high-speed trains by Germany and the building of Eurotunnel by UK and France. Romer (1990) captures very well this idea by stating that “human capital levels directly influence the rate of domestically produced technological innovation”. Nelson and Phelps (1966) also state that the “human capital stock affects the speed of adoption of technology from abroad”, so the human capital fosters physical capital.

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