

THE FUTURE OF TRANSPORT IN THE CONTEXT OF MEGAECONOMIC CHANGES

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ABSTRACT

Economists disagree as to what the world expects in future – a return to a more dynamic and relatively sustainable economic growth or a greater slowdown of the development as compared with the global crisis of 2008–2009. In any of these scenarios we can expect an increase in the role of transport. Firstly, it may occur by virtue of the law of accelerated growth of goods exchange. Secondly, it may appear due to the starting of «new commercial revolution», which is based on global trading networks and supply chains, which are converted into the main organizing force of the world economy. Transport aims to become a driving element in the global supply chains, to participate meaningfully in the formation of a new profile of the economy, including through the integration of transport and logistics systems and global trade networks in the system of global product distribution.

ENGLISH SUMMARY

Background. Nearly two centuries ago, the world entered the era of modern economic growth. This term was offered by Nobel Prize winner in Economics Simon Kuznets. He identified the following key characteristics of the era, which began (nominally) in the 1820s:

- high rate of growth of per capita product and population in developed countries;
- manifold growth of labor productivity and product yield per unit of input;
- high rates of structural transformation of the economy;
- rapid changes in the structures of society and its ideology;
- with increased capabilities of technologies, particularly in the areas of transport and communications, economically developed countries seek to extend their influence on the rest of the world, thus making it united;
- extension of modern economic growth is limited by the fact that the level of production in the countries, where 3/4 of the world population live, still does not correspond to the level determined by modern technology [1].

The main distinctive feature of the current economic era, according to this version, was a sharp acceleration of economic growth. If from the beginning of a new era world GDP grew at an average of only 0,1% per year, in the era of modern economic growth it grew by 2,25% [2, p. 131]. In this case, after the Second World War, the dynamics was even higher: in the period of 1950–1973 years it grew by 4,90% on average per year, 1973–2003 it grew by 3,17%.

In 2003–2007 world GDP grew by an average of 3,6% per year, then the global crisis led to a slowdown of its dynamics. In 2013, the growth rate was only 2,1%, i. e. after the acute phase of the global economic crisis pre-crisis growth has not recovered. The world economy has entered a period of slower growth and rising uncertainty [3].

Some economists believe that this is a temporary phenomenon, predicting the rise of the global economy on a new wave of large Kondratiev cycle (2018–2050) due to the growth of innovative activity [3]. Others claim that the economic slowdown is not a short-term phenomenon, but a new economic paradigm, and it will worsen in the long term [4].

In this regard, it is important to assess, firstly, the role of transport in the output of the economy on a stable and more dynamic growth, and secondly, the prospects for the development of transport in terms of lower long-term growth. This possibility cannot be excluded.

Objective. The objective of the author is to investigate transport as a driving element in global supply chains, formation of a new contour of economy, including through the integration of transport and logistics systems and global trade networks in the system of global product distribution.

Methods. The author uses general analysis, historical and statistical analysis, and comparison method.

Results. The role of transport in improving the dynamics of long-term economic development in the XXI century has been considered (in relation, first, to the railways) in [5, 6, 7, 8].

The core elements of a market economy are goods exchange processes, the material basis of which is constituted by communications systems. Revolution in communications has contributed to the development of commodity circulation and improvement of overall efficiency of the economy, but it also has promoted its «virtualization», which has become one of the causes of the global crisis. A turn is required to the growth of the real effectiveness based on performance [9], and it requires innovation in the motion of real values – goods, i. e., in the transport system.

Implementation of innovative transportation products, equipment, technologies and management processes will open up new opportunities for:

- efficiency growth of production, exchange and consumption of goods and services;
- leveling-off and harmonization of development of various regions of the world;
- solution of demographic problems and mitigation of disparities in the distribution and the standard of living of the population, including through a dramatic increase in space-time mobility;
- solution of environmental issues and minimization of risks to human health and safety;
- minimization of energy consumption per unit of transportation and conservation of non-renewable energy sources [8, p. 182].

All this will contribute to the stability and dynamism of economic development. But even a slowdown in the world economy, which is significant in pace and duration, will unlikely cause reduction of the dynamics of traffic to the same level.

This thesis is based on two grounds. The first one can be called the law of accelerated growth of goods exchange. It means that economic development is accompanied by a rapid increase in trade, which, in turn, is a prerequisite for economic growth, supports and encourages this growth.

Effectiveness of the law can be identified statistically. According to the estimates of the economic historian A. Maddison [2], in the era of modern economic growth, world GDP increased by about 60 times, and world trade increased by more than 1200 times! It should be noted that the rapid growth of trade is characteristic of not only the era of economic growth. In the previous era of merchant capitalism (1500–1820) the volume of world trade has increased by more than 20 times, while global GDP has increased less than by 3 times. Thus, in the long-term (more precisely, in the extended, super long term) periods of time, the growth of world trade and world production growth have an ordinal difference. Average annual growth rate of world trade exceeds the growth rate of world GDP by 2–3 times [2, p. 131].

Similar to any economic law, the law of accelerated growth of goods exchange acts as a general trend, but with





possible deviations during some periods of time. For example, in 1930s under the unprecedented economic crisis, growing protectionism and political tensions that eventually led to World War II, the volume of world trade fell by a half [10, p. 522], i. e. to a much greater extent than the total world production fell. But these examples show only that the deviation from the trend of accelerated growth of trade is a serious violation of economic progress (and not only) of life, which requires overcoming and return to a normal development pathway.

No coincidence is that one of the major economists and social thinkers of the XX century, the Nobel laureate F. A. Hayek said: «... above all I put free trade throughout the world» [10, p. 533].

Of course, the statistical basis of the law of accelerated growth of goods exchange is not enough. We need also a meaningful, essential rationale. Before turning to it, we pay attention to interesting (and moreover well-known) facts. In any country, exporting cars (net exporter), cars of many foreign firms are sold. In any country, exporting wine, a variety of foreign wines is sold. And such examples can be found on most goods. Of course, this phenomenon is a sign of economic globalization, but it goes back to antiquity. So, as a result of archeological excavations on the Greek island of Thera (Santorini), formerly one of the centers of the Minoan civilization, it was found that in the XVII century BC 85% of ceramics were of local production, and 15% of pottery were imported, and not just from Crete or other neighboring islands, but also from mainland Greece, Asia Minor, Syria¹.

There is every reason to assume that even at that time in the course of trade, not only they imported the goods, which were not produced there or could not be produced in sufficient quantities (as grain in Greece), but also products that provided a more diverse and refined satisfaction of a rising effective demand (just as it is now, «Mercedes» are exported to Japan, and «Toyota» are exported to Germany, although each of these countries, in principle, can fully meet the domestic demand for cars).

Such trade flows (which in case of a centrally planned economy would be considered irrational) make it possible not only to meet the demand of high quality in terms of range, they contribute to the overall growth of economic efficiency. After all, it is not effective to promote in a region, even with a significant size of population, the production of the entire possible range of goods which, in principle, are produced there in sufficient quantities. It is more effective to organize the exchange of goods, focusing on those SKUs (Stock Keeping Unit), which provide a comparative advantage (e. g., due to manufacturing practice, or, on the contrary, due to innovative solutions) by exporting part of locally manufactured SKUs, and by importing some other SKUs. That is, the law of comparative advantage, formulated by David Ricardo [11], is shown not only in relation to the production of certain goods, but also of individual SKUs.

Moreover, it is not only disadvantageous, but it is simply impossible to produce the entire range in a region at each time point. In other regions, there are always new varieties of goods (by class, model), which can be produced by local manufacturers only after some time, during which there will be again (perhaps in other regions) other varieties. It is unreal to copy every novelty instantly, and after some time it is irrational. It is better to look for and implement own innovative solutions, focused on the global market. After all it is problematic even to keep the domestic market, without going beyond it [12]. Thus, local production does not limit the exchange of goods. Growth of goods exchange is potentially limitless, and thus the growth in demand for transport services is potentially infinite.

¹ According to information, presented at The Museum of Prehistoric Thera.

The second reason for a more dynamic growth in transport services in comparison with the volume of commodity production can be seen in the increasing role of commercial capital and the emergence of global supply chains [12]. According to the concept of a new commercial revolution, global trade networks no longer play a passive role of distribution channels, but they tackle the role of the main organizers of the world economy from the major manufacturers [13].

Let's recall that the industrial revolution, which gave rise to an era of modern economic growth, was preceded by the era of mercantile capitalism. The development of trade, the growth of commercial capital paved the way for the development of industrial capital.

History repeats at a new turn of the spiral of social and economic development: the commercial capital turns into an organizing force of the global economy, which determines where and what will be produced. At the same time modern mercantile capital along with trade flows promotes production: local production should be integrated into the global supply chain to be competitive [12].

What conclusions can be drawn?

Firstly, if we follow the analogy with the era of mercantile capitalism, we can expect that the growth rate of trade (directly affecting the intensity of traffic flows) will be significantly higher than the dynamics of gross output. In the era of mercantile capitalism, the average annual growth rate of world trade was three times higher than the dynamics of global GDP, while in the second half of XX – beginning of XXI century, the ratio was less than two times [2, p. 131]. Increase in rate of growth of world trade relative to the dynamics of production will mean that even if there is a long-term decline in economic growth, the demand for transport and logistics services will continue to grow rapidly, not only quantitatively but also qualitatively.

Secondly, the development of transport should focus not only and not so much on the producers themselves, as on global trade flows, global supply chains. Moreover, the transport must become an active part of these chains; participate in the formation of the new contours of the world economy, including the geographic distribution of the productive forces.

Under the new conditions the role of logistics operators will increase, and especially of operators of general distribution. This operator is a central element of the logistics transport -distribution system, designed to provide in a competitive environment a response not only of transport, but also of the production sector to the demands of the market [14, p. 123].

The culmination of enhancing of the role of transport and logistics in the global economy may be the integration of transport and logistics systems and global trade networks and supply chains in global product distribution system.

System of global goods movement should ensure effective interaction of all parts of the production, distribution and consumption of goods, of not just specific producers and consumers, but integrated supply and demand. Schematic diagram of this system is presented in [15].

Real integration of supply and demand, providing their physical balancing with economical delivery of goods from specific points of production to specific points of consumption, will require a creation of transport services' bank or, more precisely, transport capacities' bank (because a transport service is inseparable from a process of transportation).

Transport capacities' bank should cover all modes of transport and provide an opportunity to deliver goods following «door-to-door» term between any two points. It will be a global transport and logistics system, providing the delivery of goods for given communications, using the most efficient routes or delivery schemes.

The system of global goods movement is designed to provide a stable distribution (within the existing global demand) for sellers and sustainable procurement for consumers while reducing transaction costs.

In the same manner as the system of financial banks accumulates free cash flows and provides them in the form of loans to those who have the need for money, the system of global goods movement should accumulate the supply of goods and by means of the flexible use of transport capacities, combined in the logistic systems, meet the demand.

In other words, buyers and sellers will interact with each other and with transportation and logistics companies not directly but through the system of global goods movement. Naturally, we should have some, maybe even a lot of, systems of global goods movement (it's the task of world market to determine their number). On the one hand, they will compete with each other, and on the other hand, they will probably specialize in certain product categories.

Availability of systems for the global goods movement, of course, does not cancel direct links between producers, consumers and transport companies. Each market entity in each case will determine what is more profitable: to carry out sales or purchases with the help of the system of global goods movement, or to look for more convenient counterparties.

Keywords: megaeconomy, modern economic growth, the law of accelerated growth of goods exchange, transport, logistics, global product distribution system.

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The role of the state in this case is the development of transport infrastructure (which is a prerequisite to enhance the returns on private investment [16, p.9]), as well as the creation of institutional conditions for attracting private investment in infrastructure and maintenance of an effective transport and logistics activities, including cross-border traffic. In this regard, it is important to provide a simple and quick procedure of crossing borders, of customs clearance.

Conclusion. Thus, with all the ambiguousness of occurring megaeconomic changes and the present uncertainty it can be concluded that the role of transport and logistics in the world economy should grow qualitatively, becoming more active, largely determining its development.

This is necessary both to increase the pace and sustainability of the global economy in the foreseeable future, as well as in case if the world expects a relatively long period of slowdown of economic dynamics – to prepare for the establishment of a new era of economic growth in the long term.

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