



ANALYSIS OF LOGISTIC EFFICIENCY

Stefan Kazakov

KONSTANTIN PRES LAVSKI UNIVERSITY OF SHUMEN, SHUMEN 9712, 115

UNIVERSITETSKA STR.

E-mail: kazakov@shu.bg

ABSTRACT: *Improving the efficiency of logistics is the basis of economic growth and business competitiveness. Politicians around the world recognize that the logistics sector is one of their main pillars of development. Countries that are a source of trade influence in Europe, such as the Netherlands, as well as developing countries such as Vietnam or Indonesia, see seamless and sustainable logistics as a driver of growth and integration with global value chains.*

KEYWORDS: *Analysis, logistic, efficiency, transport*

1. Introduction

In fact, inefficient logistics increases trade costs and reduces the potential for global integration. It is a huge burden for developing countries trying to compete in the world market. Since 2007, the Logistics Performance Index (LPI) has informed the debate on the role of logistics for growth and the importance of policies to support it in areas such as infrastructure, service delivery, and cross-border trade facilitation.

2. The role of logistics in achieving sustainable economic growth

The results of Connecting to Compete 2014 show Germany as the country with the best indicators of the logistics sector with an LPI score of 4.12 and Somalia as the country with the worst indicators in the sector with 1.77 LPI (on a scale from 1 to 5). Germany as a whole shows the best indicators in the period 2007-2014(Fig 1.):

| Икономика | 2014 LPI | | | 2012 LPI | | | 2010 LPI | | |
|----------------|----------|----------|--------------------------|----------|----------|--------------------------|----------|----------|--------------------------|
| | Позиция | Резултат | % от най-добрят резултат | Позиция | Резултат | % от най-добрят резултат | Позиция | Резултат | % от най-добрят резултат |
| Германия | 1 | 4.12 | 100.0 | 4 | 4.03 | 97.0 | 1 | 4.11 | 100.0 |
| Холандия | 2 | 4.05 | 97.6 | 5 | 4.02 | 96.7 | 4 | 4.07 | 98.5 |
| Белгия | 3 | 4.04 | 97.5 | 7 | 3.98 | 95.3 | 9 | 3.94 | 94.5 |
| Великобритания | 4 | 4.01 | 96.6 | 10 | 3.90 | 92.7 | 8 | 3.95 | 94.9 |
| Сингапур | 5 | 4.00 | 96.2 | 1 | 4.13 | 100.0 | 2 | 4.09 | 99.2 |
| Швеция | 6 | 3.96 | 94.9 | 13 | 3.85 | 91.2 | 3 | 4.08 | 98.8 |
| Норвегия | 7 | 3.96 | 94.8 | 22 | 3.68 | 85.9 | 10 | 3.93 | 94.2 |
| Люксембург | 8 | 3.95 | 94.4 | 15 | 3.82 | 90.3 | 5 | 3.98 | 95.7 |
| САЩ | 9 | 3.92 | 93.5 | 9 | 3.93 | 93.7 | 15 | 3.86 | 91.7 |
| Япония | 10 | 3.91 | 93.4 | 8 | 3.93 | 93.8 | 7 | 3.97 | 95.2 |

Fig. 1. The ten countries with the highest logistics efficiency

The surveys conducted in 2007, 2010, 2012, and 2014 synthesize the summary that there is an approximation of the results in the Index of Logistics Services between countries that were at lower levels on this indicator and show significant growth and countries that show high efficiency in the logistics sector and do not show much growth(Fig 2.).

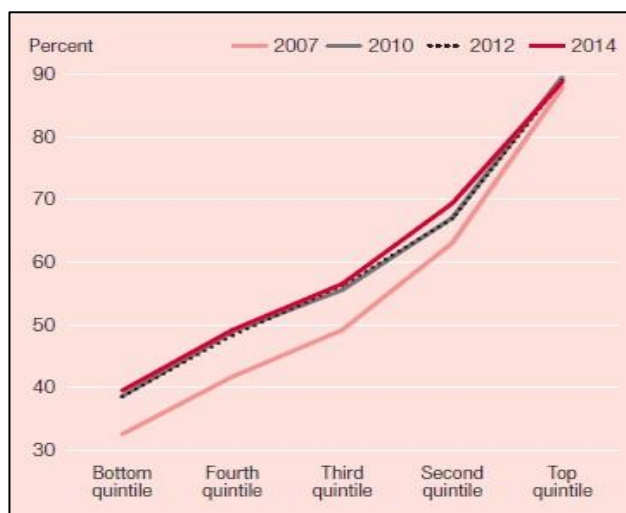


Fig.2 Results of LPI for 2007, 2010 2012 and 2014 as a percentage of the highest LPI relative to the quintile of LPI

The modest convergence since 2007 has been explained by the supposed improvement in trade-supporting infrastructure in low- and middle-income countries and, to a lesser extent, in their logistics services and customs and border

management. This improvement demonstrates the success of developing countries in reducing the gap between transport infrastructure and high-income countries.

"Logistics is at the heart of the European single market and is essential for the daily lives of companies and people. European logistics policy supports an environment in which transport companies and operators can grow their business efficiently, continue to grow and innovate in order to keep Europe globally competitive." ¹ As reflected in Commissioner Callas' report, the importance of efficient logistics is already widely accepted by politicians around the world. Trade moves within and across private operators. The efficiency of these supply chains - the efficiency of logistics - is what the Logistics Index (LPI) and its components measure. This efficiency depends to a large extent on environmental policy, measures of individual countries or regional economic groups on infrastructure development, regulation and development of services or facilitation of trade through easier border procedures contribute significantly to the efficiency of logistics.

Unlike in 2007, when the World Bank began monitoring the effectiveness of logistics, today the problem is not related to the poor information of citizens and private sector leaders, but to the design and implementation of policies that will allow countries to connect in common logistics network and compete globally. The Trade Facilitation Agreement of December 2013 of the World Trade Organization (WTO), signed in Bali, Indonesia, is a testament to this consensus on the need to provide some guidelines for crucial policies. But countries that are constantly improving their productivity in the logistics sector can develop reforms and investments consistently in a broader economic perspective. Improving logistics increases the competitiveness of intensive logistics sectors, such as the production of components that join the chain of multinational value chains. Other countries may wish to develop logistics as an activity that is entirely related to transport connectivity and geographical advantage.

Take, for example, Greece, a country that is just beginning to emerge from a painful crisis, reaching its peak of efficiency in the logistics sector in 2014. The government and the private sector decide to reform the logistics sector boldly, using the country's strategic location as a starting point. In Europe from the east and south: Piraeus (the port of Athens) is the first deep-sea European port in Asia through the Suez Canal. The port has been overhauled and there has been a jump in productivity through a public-private partnership with COSCO, China's largest integrated navigation company. The government has taken steps to harmonize

service regulation with Western Europe and increase the efficiency of the railway corridor to Austria and Germany.

International business is in a period of rapid transformation. Trends towards globalization, integrated logistics and the development of information and communication technologies (ICT) are transforming the global trade model and, consequently, physical trade flows. Such restructuring contributes to economic growth, better allocation of resources and greater freedom of choice for consumers, as well as increased competition.

In order to be internationally competitive, companies organize strategic global networks that can provide an effective and high-quality response to demand from any segment of the global market. The efficient and comprehensive organization of these activities is often linked to global logistics and supply chain management (SCM), and it has become the basis of global competitiveness.

Global logistics networks serve as a 'blood system' for the respective global value chains, where the different components in the logistics network serve different functions in an organizationally unified way. Therefore, in order to create an area as a key element in global logistics networks, it is necessary to create a vision of how to position the region strategically within the context of common global logistics networks. To achieve this goal, governments, both individually and collectively, will need to develop and implement systematic policies to realize a vision for logistics. The essence of this global logistics competence also applies to the private sector. At the same time, in the midst of growing environmental concerns, effective physical logistics is no longer dependent on sustainable development goals. Global logistics competence now requires various considerations in a much broader perspective, including the need for environmentally friendly, green logistics. In order to establish more efficient and environmentally friendly logistics networks in the 21st century, joint research is needed to understand the current state of logistics systems in different regions and to identify region-specific problems. In these studies, progress in logistics needs to be assessed, not only in terms of industrial or national competitiveness, but also in terms of global social optimization, taking into account consumers, shippers, logistics services and government perspectives. Therefore, a vision is needed for the desired global logistics networks based on global interests and a common framework in the individual regions. Specific policies and guidelines for governments and private enterprises need to be expanded, which will make it possible to identify areas of development that will ultimately lead to the realization of the vision.

3. Need for sustainable transport

In the midst of growing concerns about sustainability, transport systems pose a range of environmental problems. This is especially true for road transport, which is increasing its share of transport compared to other modes. These problems include noise and air pollution caused by congestion and increased CO₂ and other vehicle emissions. In particular, heavy goods vehicles used in freight transport are considered to be a major source of these problems. Concerns about the environment and safety are the main motives for regulation and legislation affecting freight transport. These concerns are putting pressure on heavy goods vehicles to be eliminated from the road. In response to this need, most OECD countries face the challenge of developing socio-economic reforms aimed at striking a balance between environmental requirements and economic growth conditions compatible with sustainable development goals.

The trend towards sustainable development will have a significant impact on the design and operation of logistics systems. In order to achieve a balance between the globalization of economic activities and the development of environmentally friendly global logistics networks, various approaches are discussed and explored, starting with the construction of better hardware facilities to develop information structures to reorganize logistics operations in order to make them more resilient. Also, the introduction of new concepts and technologies for logistics operations can contribute to achieving sustainability. Typical examples are the introduction of advanced dispatching and consolidated supply systems to reduce traffic and costs (including external factors), and the development of transport systems to support the recycling of waste products.

4. Conclusion

As a result of the considered issues, the following general findings and recommendations can be made:

- Trends in globalization and logistics are in the process of transforming transport activities. The new strategic goals of logistics will constantly change the nature and culture of operations in enterprises. Governments will have to respond to these changes. The strategic advantage of logistics is likely to be most pronounced in terms of improving coordination and planning, which will lead to profits and transport efficiency. However, it is important for governments to fully understand the concepts of logistics and to stimulate economic competitiveness in order to achieve positive economic development. At the same time, governments need to reduce negative impacts so as to achieve a more balanced

approach to economic growth, including sustainable development;

- At present, governments' ability to promote global logistics systems is hampered by internal institutional and organizational constraints, as well as a lack of knowledge about logistics trends and the consequences of their policy actions. In many cases, freight transport policy reflects modal thinking, without paying due attention to the need for integrated freight transport management, as required by transport operators;

- In order to increase competitiveness by promoting the opportunities provided by logistics and also achieving sustainable development, governments need to develop an integrated policy framework to achieve broader socio-economic goals. The scope of policy issues affecting the efficiency and sustainability of global logistics systems is wide and falls outside the jurisdiction of narrowly focused government agencies that are only committed to improving the efficiency of the transport sector. As transport and logistics are interlinked with international trade, international finance, sustainable economic development, global climate change and regional and local issues, the policy framework needs to be seen in a much broader context and coordinated at international level;

- Although there is already a sense of urgency on the international stage of sustainable mobility, it is essential that policy instruments to achieve compatibility between logistics development and sustainability are clearly articulated. Therefore, governments need to increase the capacity for developed transport logistics in order to contribute to the sustainable development of transport, in the context of the growing globalization of economic activity;

- In developed and developing countries, the available financial instruments of governments for infrastructure development are still not flexible, widespread, or transparent enough to cover and meet current needs. The potential for innovative funding arrangements, including in the public-private partnership sector, needs to be explored;

- Logistics and the development of ICT require changes in the demand for improved skills. Training and qualification systems are needed to respond to this development. The development of human resources in support of the freight industry must be seen in the responsibility of both the public and private sectors. As skills levels vary from country to country, developing countries may need help to set up training courses;

- Intensive cooperation between private corporations, governments and

international organizations is essential to achieve efficient global logistics systems. Governments need to prepare for a framework for the development of advanced global logistics systems that address important cross-border issues, such as customs clearance processes, deregulation and the development and maintenance of intermodal transport technologies. Therefore, it is recommended that governments cooperate and integrate their policies at the global level, such as: harmonization of regulations, streamlining of ICT-based operations in customs clearance systems, standardization of new technologies to promote seamless operations compatible with systems. for training and qualification, promoting an extensive exchange of information between all parties concerned.

References:

- [1]. Kallas, Siim. 2012. “Using Freight to Help European Transport Move to a Sustainable Future.” Speech presented at the launch of the Green Freight Europe Initiative, Brussels, March 27.
- [2]. World Bank. 2013. Improving Trade and Transport for Landlocked Developing Countries. World Bank Contributions to Implementing the Almaty Programme of Action—A Report Preparing the Ten-Year Comprehensive Review. Washington, DC.
- [3]. World Economic Forum. 2013. Enabling Trade: Valuing Growth Opportunities. Geneva.
- [4]. Arvis, Jean-François, Monica Alina Mustra, Lauri Ojala, Ben Shepherd, and Daniel Saslavsky. 2010. Connecting to Compete 2010: Trade Logistics in the Global Economy. Washington, DC: World Bank.
- [5]. OECD (2002), Benchmarking Intermodal Freight Transport, OECD, Paris.