

# EVALUATION OF TURKEY BASED ON LOGISTIC PERFORMANCE INDEX OF OTHER COUNTRIES EXPORTING GOODS AND SERVICES TO MAJOR EXPORT COUNTRIES OF TURKEY

**Öğr. Gör. Dr. Bige Küçükefe<sup>1</sup>**

Tekirdağ Namık Kemal University  
M.Ereğlisi MYO  
Accounting and Tax Applications Department  
bkucukefe@gmail.com

**Ar.Gör. Dr. Pınar Gürol**

Piri Reis University  
Faculty of Economics and Administrative Sciences  
International Logistics and Transportation  
Department  
pinargurol@gmail.com

## Abstract

The Logistic Performance index is an essential factor for Turkey to increase the share of export, to maintain its market and also enlarge market share in the global trade volume. Turkey should create a difference compared to the other countries, in its services and goods, and even the accessibility of this goods, and services. In this context, innovations, and improvements in logistics activities can effect to create competitive advantage. Logistics Performance Index (LPI), which is firstly improved in 2007 by World Trade Bank, measures the counties logistics performances in specific criteria. In this study, it is aimed to identify the priority points which can help to enlarge Turkey's market share according to other countries (which are also exporting goods and services to Turkey's top exporting countries) LPI.

**Keywords:** Logistics Performance Index, Foreign Trade

## 1- Introduction

In a globalization age, it is even more challenging to gain a competitive advantage in all sectors. Logistics services become an essential part of learning strategic competitive power. Continuous improvement in production processes, market globalization, and increased competition enforced effective management of supply and distribution channels.

In the 21st century, production regions in the world are in a significant change and transformation. World merchandise trade volume is expected to grow 4.4% in 2018. After the collapse of the USSR, accelerating economic growth and development have observed in East Asia. For example, it is expected that energy exporters such as Kazakhstan and Turkmenistan will have higher rates of growth in parallel to China's increasing demand. This situation changed the balances in the world economy and made this region a center of production at the beginning of the 21st century. Thus, the gravity center of trade and manufacturing moved toward the east.

The rise of Asian countries attracted the attention of other countries, particularly developed ones. Eurasian countries have appeared as ensuring sustainable economic growth by developing the trade relations; production industry concentrated around the southeastern parts of China have shifted towards the western parts of the country (Xinjiang). European countries decided to expand their transport networks which facilitate trade relations. Countries and companies seek a direct route to link Asia and Europe. In line with these strategies, Asia-Europe transport corridor projects have been created.

Some of these projects are; The Trans-European Transport Networks (TEN-T), Pan-European Corridors (PEC), Modern Silk Road, Europe-Caucasia-Asia Transport Corridor (TRACECA)

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<sup>1</sup> Corresponding author

Central Asia Regional Economic Cooperation (CAREC). Also trade powerhouses in Europe like the Netherlands or in developing countries like Vietnam or Indonesia see seamless and sustainable logistics as an engine of growth and of integration with global value chains. International trade and logistics are two critical factors which substantially affect countries' GDP growth rate, wealth and each other as well. In today's global business environment logistics services become an essential part of gaining a strategic competitive advantage. Improving logistics performance is at the core of the economic growth and competitiveness agenda. Policymakers globally recognize the logistics sector as one of their key pillars for development. Although logistics is performed mainly by private operators, it has become a public policy concern of national governments and regional and international organizations. In a changing world, Turkey should give due consideration to logistics. In this study, it is aimed to identify the priority points which can help to enlarge Turkey's market share according to other countries (which are also exporting goods and services to Turkey's top exporting countries) LPI.

## 2- An Overview of the Logistic Performance Index

LPI scores countries on how efficiently they move goods across and within borders. With this point of view, LPI is a valuable tool that provides numerical comparisons across 160 countries. LP index allows countries to identify challenges and advantages in the logistics sector. LP index also helps countries to improve their performance on trade logistics.

World Bank has produced an LPI index every two or three years since 2007 with the most recent data in 2018. The LPI measures the on-the-ground efficiency of trade supply chains, or logistics performance.

- Customs and border agencies' capability of the clearance process (for example speed, simplicity, and predictability of formalities).
- The quality of trade- and transport-related infrastructure (ports, railroads, roads, information technology).
- The ease of arranging competitively priced international shipments.
- The competence and quality of logistics services (transport operators, customs brokers).
- The ability to track and trace consignments.
- The frequency with which shipments reach the consignee within the scheduled or expected delivery time (Arvis, J-F. et al, 2018)

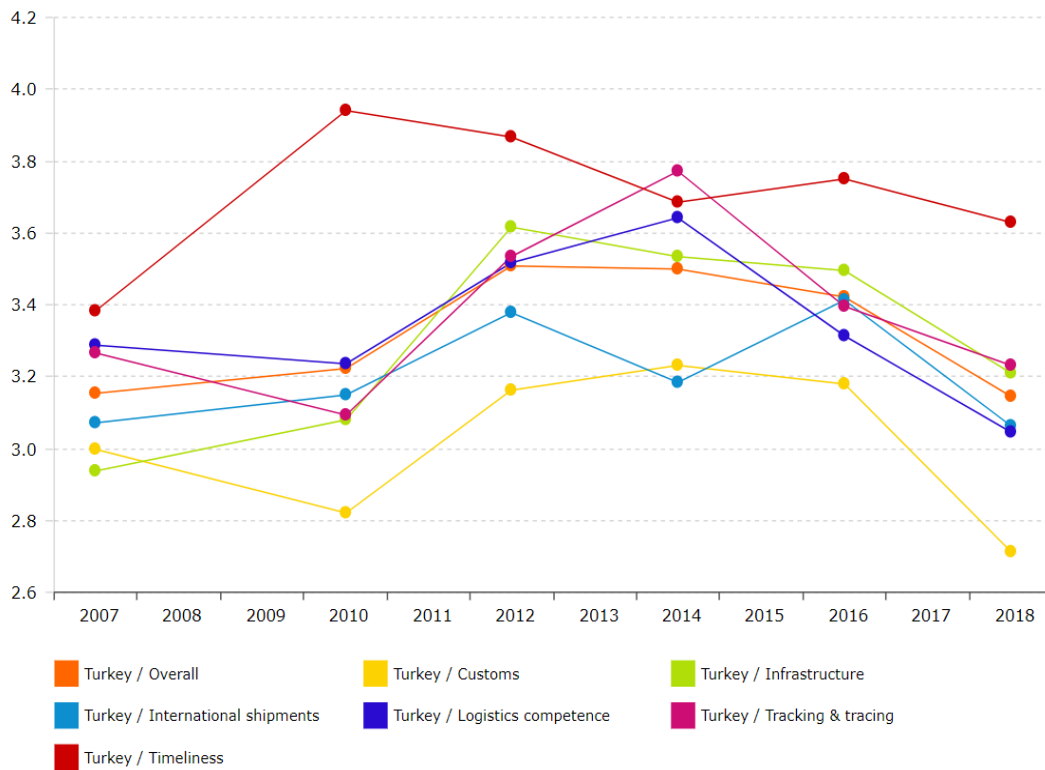
In the literature, several studies have been conducted about countries' LPI ranks and effects on trade. For example, Varbanova (2017) investigates LPI and incentives for logistics performance improvement in Bulgaria. Kabak, Ekici and Ülengin (2016) aim to analyse the relationship between logistics performance and exports. Guner and Coskun (2012) compare economic, social factors on countries' and logistics performances. Min and Kim (2010) suggests a new index called 'Green LPI' that combines LP index and environmental development index.

Generally, high-income countries occupied high ranks in overall countries. For example, the top ten rankings in 2018 are from Europe, Japan, and Singapore. Germany is at the top, scoring 4.20. The 160th country for LPI is Afghanistan with a score of 3.97.

### 3- An Analysis of Turkey Based On Logistic Performance Index

LPI is an essential factor for Turkey to increase the share of export, to maintain its market and to enlarge market share in the global trade volume. Turkey should create a difference compared to the other countries, in its services and goods, and also the accessibility of this goods, and services. In this context, innovations, and improvements in logistics activities can effect to create competitive advantage. Turkey's World Bank Logistics Performance Indicator 2018 score rank is 47 among 160 countries, with an overall score of 3.15 on a scale from one to five. Figure 1 displays Turkey's total LPI score and LPI's components in 2018.

**Fig.1 Turkey's Logistic Performance Index**

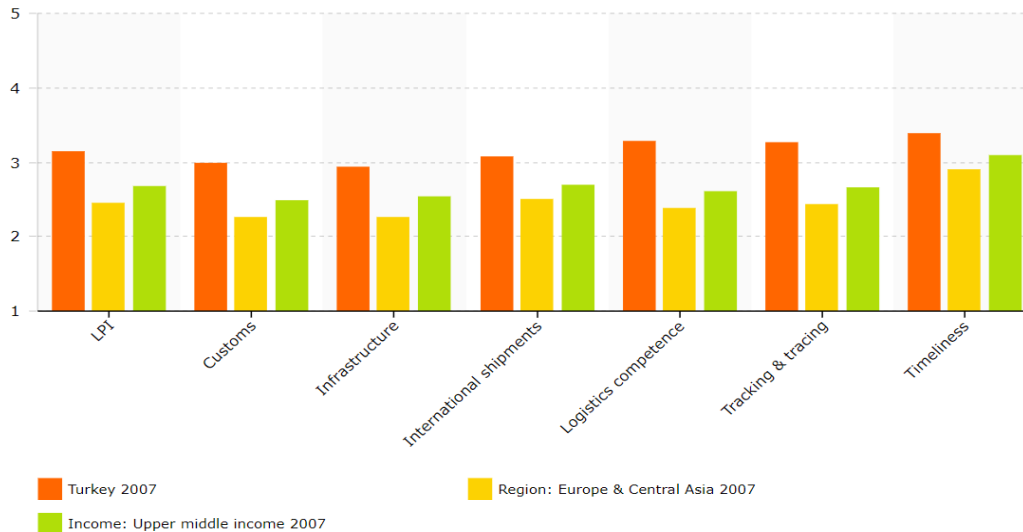


The timeliness of the delivery generally measures the reliability of the supply chains. Timeliness scores had been improved until 2010 as the other LPI components of Turkey experienced a decline. In 2018 timeliness has a highest score in the LPI components. Conversely customs is the lowest component.

**Table.1- Turkey's LPI and regional comparison between 2007-2018**

Year	Country	LPI Rank	LPI Score
2007	Turkey	34	3,15
	Income: Upper middle income		2,68
	Region: Europe & Central Asia		2,46
2012	Turkey	27	3,51
	Income: Upper middle income		2,84
	Region: Europe & Central Asia		2,71
2014	Turkey	30	3,50
	Income: Upper middle income		2,82
	Region: Europe & Central Asia		2,76
2018	Turkey		3,24
	Income: Upper middle income	47	3,15
	Region: Europe & Central Asia		2,76

LPI index allows finding critical differences between the different type of income countries and different regions, providing an analysis of customs procedures, logistics costs and the quality of the logistic infrastructures. Table-1 indicates that the gap between Turkey and Upper middle-income countries narrowed over the years. Turkey ranked 35 in 2007 and fell to 47 in 2018; conversely middle-income and Europe-Central Asia LPI performances were rising. The highest rank 27 was in 2012 for Turkey.

**Fig. 2- Turkey and other countries' 2007 LPI index**

**Fig. 3- Turkey and other countries' 2018 LPI index**

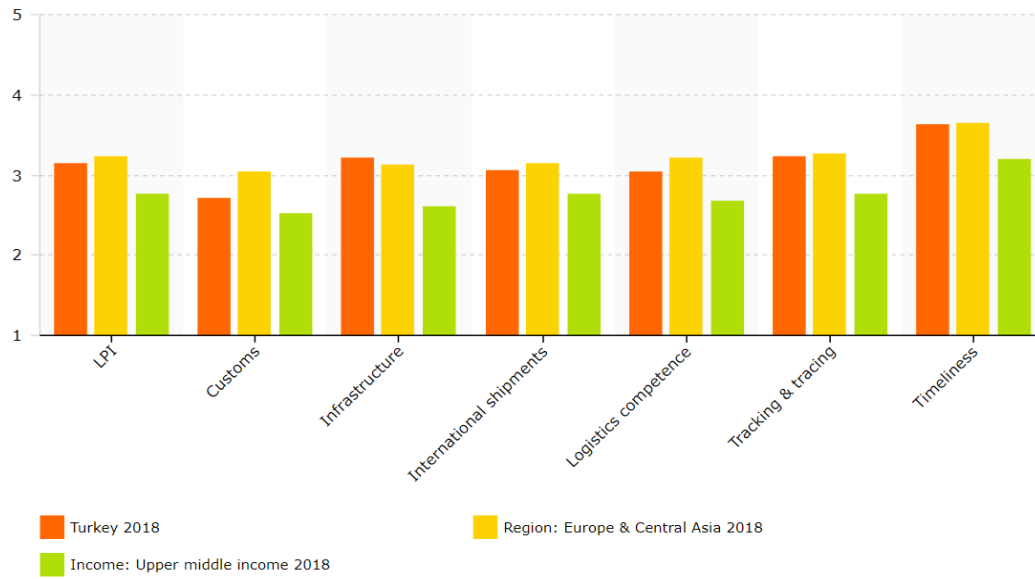
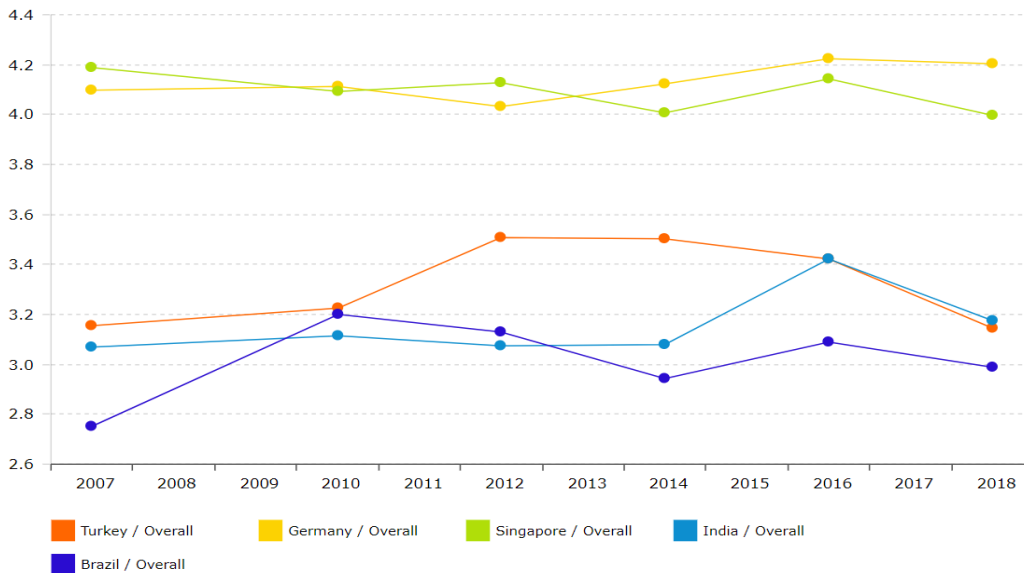


Figure 2 and 3 indicate the change in the LPI components. We can see a slight improvement in timeliness and infrastructure components. But especially Europe-Central Asia has made significant progress in every logistic area.

**Fig. 4- The comparison between Turkey and Germany, Singapore, India and Brazil's LPI index's**



According to the World Bank Trade Logistics in the Global Economy Report (2018), Germany and Singapore occupied high LP indexes. The most important advantages of these two countries in logistics are sustainability and resilience. In a global world, these two features with supply chain reliability are more important than speed. Brazil and India are two of the Brics countries and resemble much more to Turkey as economic structure. Although LP index was differentiated between the years of 2010 and 2015, LP indices have converged in the following years.

## Conclusion

Logistics has a significant role in recent years. Logistics costs and quality are the determinants of competition in international trade. LP index allows countries to identify challenges and advantages in the logistics sector. At the same time, LPI is a valuable tool that provides numerical comparisons across countries. With the help of the LP index we can examine logistic sector in Turkey. We can see clearly, timeliness is the most competitive component of LPI and the gap between Turkey and Upper middle-income countries narrowed over the years. Turkey ranked 35 in 2007 and fell to 47 in 2018; conversely middle-income and Europe-Central Asia LPI performances were rising. The highest rank 27 was in 2012 for Turkey.

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