

# Chapter 20

## The Concept of Logistics Performance in International Trade Framework: An Empirical Evaluation of Logistics Performance Index

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### **ABSTRACT**

*An increased need for international logistics has emerged with a higher degree of globalization. The quality of logistics services determines the degree of a country's involvement in global trade. In this chapter, the concept of logistics performance in the international trade context is discussed, then the measurement problems of logistics performance are discussed. The links between logistics, trade, and growth are evaluated theoretically. Policymakers and researchers have been widely using Logistics Performance Index (LPI) developed by the World Bank. LPI provides a general information of logistics costs, customs processes, and the quality of the necessary infrastructure for transportation for each country. In this chapter, the definition, the methodology, and the aspects of the indicator LPI, its content and components, and the relations between LPI and some economic factors such as growth and foreign trade, are elaborated. The econometric modelling methods are used to analyze the relations between LPI and economic factors.*

### **INTRODUCTION**

Trade among countries has been growing over the last decades, which was headed by the globalization process. Before the globalization, regional competition was the prevalent economic concerns for countries. With the arising of globalization, countries all over the world has become the real actors of this economic game. Accordingly, the importance of logistics in international trade has been increased. The

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need for a logistics performance measuring system was then generated since logistics has become one of the main elements of the economic performances of the countries (Martí et. al., 2014; Razzaque, 1997). There has been increasing trend in global logistics even if there are some disparities between developed countries and developing countries. As global changes in demand, industry and related issues has forced governmental interventions and regulations to promote competitiveness of countries in international trade, logistics which is a core working field of trade came forward prominently.

As a country improves its external competitiveness, it will find an opportunity to attain more foreign resources supporting the sustainability of its economic growth and thus enhancing the welfare. Therefore, it is obvious that a functional logistics system stimulating competitiveness has a promoting effect on economic competence. On the contrary, the logistics system running in an inefficient way can generate adverse effects for business by raising the costs; thus, the inefficient logistics structure may cause undesirable consequences for the international and domestic integration. This situation may deteriorate the external conditions of the developing countries that are striving to compete in international arena. Hence, it can be undoubtedly asserted that the degree of competitiveness and the level of economic development of a country are greatly affected by its logistics performance.

In this chapter, first, the concept of logistics performance in the international trade context will be discussed, and then the measurement problems of logistics performance from the same perspective will be handled. Besides, the links between logistics, trade, and growth are to be evaluated theoretically. The definition, the methodology and the aspects of the indicator Logistics Performance Index presented by the World Bank, its content and components, the relations between LPI and some economic factors such as growth, foreign trade, competitiveness are all to be elaborated. Furthermore, the econometric modelling techniques will be used to analyze the relations between LPI and the economic factors.

## **LITERATURE REVIEW**

An increased need for international freight transportation and thus international logistics has emerged with a higher degree of globalization. The efficiency of moving goods across and within borders is directly related to logistics. The participating manners of countries in international marketplace has been shaped by their performance in this area. It can be said that the pillars of global trade are logistics since the supply chains are being diversified globally. The quality of logistics services determines the degree of a country's involvement in global trade. The influential countries in today's international trade are the ones who have managed to impose significant logistics-related reforms. While developing countries have made notable progress in this field in recent years, their logistics performances are comparatively inadequate. The lack of substantial reforms in some countries has been claimed as the sources of the differences in logistics performances between high and low-income countries. Moreover, logistics performances of countries are significantly related to economic growth and competitiveness in global trade. Countries having inefficient logistics services are likely to be exposed to higher costs of doing business. This situation implies financial barriers to the efficient integration of the countries with international value chains. Additionally, the case of higher costs is likely to reduce the potential competitiveness of the countries in global marketplace.

The exchanging and trading goods physically across borders and moving them within borders are sustained by a network of services is called logistics. Specifically, the services such as warehousing, brokerage, express delivery, critical infrastructure services are defined within this network. Besides,

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