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The Importance of Air Cargo Transportation for Country Economies

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Abstract: Air cargo alone accounts for approximately 1% of world trade and 35% of world trade with its cargo volume. This situation shows that air cargo transportation is necessary for the fast and safe transportation of valuable cargo. In fact, competitiveness in the global economy depends on speed, trust and the ability to offer high-quality products at affordable prices worldwide. In addition, air cargo transportation is a sector that facilitates trade, creates employment and contributes to global economic development. The main purpose of this study is to determine and evaluate the effects of air cargo transportation on country economies. In this context, the development process of air cargo transportation is discussed in terms of its historical, institutional and economic development. In addition, the airports used, which are elements of air cargo transportation, were also examined. Finally, in line with the findings obtained from the literature reviewed, the effects of air cargo transportation on the country's economies were determined and evaluated. As a result, air cargo transportation has an important place in global trade.

Keywords: Air Transportation, Country Development, Impact

JEL Classification: O5

1. Introduction

The world is constantly undergoing change, which makes the creation of its economy necessary. In this process, factors such as the cultural changes brought about by urbanization and technological innovations are continually differentiating the needs of individuals. This situation has also affected global trade, leading to the removal of commercial borders between countries and a significant increase in global competition. In this competitive environment, countries' efforts to establish a presence in the global market have brought new approaches. At the forefront of these efforts are logistics activities, which ensure that the goods and services people need are delivered at the right place, at the right time, and under the appropriate conditions. Therefore, success

in logistics activities will also lead to success in international trade. In this context, the importance of logistics activities and the logistics sector is increasing every day and becoming an indispensable driving force in global trade.

Today, products designed in any geographic region of the world are produced in different regions and demanded from other parts of the world. For this reason, the "speed" factor, which is crucial in the operation of logistics, has become one of the prerequisites for competing in global trade.

Each transportation mode used in the transportation of products involved in global trade has its own advantages and disadvantages. However, depending on the seriousness and urgency of the requested product, air cargo transportation stands out due to its advantages in time, location, and security. Air cargo transportation, which is free from many limitations affecting other modes of transport, allows perishable and high-value goods to be transported quickly and securely over long distances. Despite its high costs, demand for air cargo is increasing due to its importance in the global supply chain.

Since ancient times, humans have sought to fly like birds, and after succeeding in this, they began to use air travel first in wars and then in trade. The most modern form of logistics, air transportation, began to be used for passenger transportation in commercial activities. The use of air cargo transportation lagged behind. Initially, goods were transported alongside passengers. However, with the technological developments in the aircraft manufacturing industry, the production of passenger aircraft with cargo holds and cargo-only aircraft became possible. This allowed the growing demand for air cargo transportation to be addressed.

In today's logistics environment, businesses that can quickly deliver their products have a competitive advantage in the global market. In this sense, the importance of providing fast and secure services in global trade is increasing every day, and air cargo transportation is helping businesses achieve these goals. As a result, the share of air cargo in the products transported in international trade is growing. Success in this area will enable countries to achieve success in foreign trade as well.

This study is of vital importance as it examines the development process of air cargo transportation, which has the potential to influence global trade but is still considered to be underdeveloped. In this context, air cargo transportation, which is a service production, has been examined in historical processes, with a focus on the close relationship between aircraft, airports, and air cargo companies, and an effort has been

made to provide a perspective. Based on these examinations, the study explores the impact of rapidly globalizing air cargo transportation on national economies.

2. Conceptual Framework

2.1. The Concept of Air Cargo Transportation

One of the most widely accepted definitions of transportation is provided by Black (2003:3), who describes it as the movement of people and goods from one place to another. However, Hensher (2004:309) emphasized that this definition is incomplete unless information is added, as it would be impossible to manage, support, and expand the movement of goods and people without it. Indeed, with accurate information, it becomes possible to save time, manage inventory, and make choices between supply chains. On the other hand, Kasilingam (1998:157), who examines transportation in terms of the production-consumption relationship, states that the connection between production, storage, and consumption can only be established through transportation. Therefore, the main definitions of transportation highlight the benefits of time and space (Çancı & Erdal, 2013:5).

The term "cargo" is generally defined in the *Transportation and Logistics Dictionary* prepared by Lowe (2002:33) as a word primarily used instead of freight in the shipping and air transportation sectors. However, today, this term is interpreted differently from the goods transported under postal services or international postal agreements and separate from the baggage carried by passengers. In short, baggage that is transported with a bill of lading and without a companion is defined as cargo (Öktem, 1992:9). In a broad sense, the term "air cargo" refers to air freight, mail, and other parcels sent for any purpose. In a narrower sense, anything in the cargo compartment of a passenger aircraft, other than the passenger's luggage, is considered air cargo. In other words, because passenger baggage is considered part of the passenger's belongings, it is not included in this definition (O'Connor, 2000:271). Based on the definitions made so far, air cargo transportation, in line with ICAO (International Civil Aviation Organization) and IATA (International Air Transport Association) regulations, and considering country-specific and carrier restrictions, can be defined as the transportation of goods (excluding mail and baggage) that involves packaging, labeling, the proper preparation of documents, and shipment by air (Turşucu, 1995:38). ICAO and IATA are two international organizations working to standardize aviation rules, independent of international agreements and national legal regulations (IATA, 2021).

As a submarket of air transportation, air cargo transportation enables goods with low volume and weight but high value to reach their destination faster and more securely compared to other modes of transportation. This is an important feature in terms of competition. Furthermore, Taneja (2003:139-140) suggests that air transportation, which is preferred initially due to its speed, reliability, and advantages in transporting fragile/perishable products, is increasingly preferred due to greater logistics support. Today, rapidly changing consumer expectations demonstrate that air transportation minimizes transportation costs and reduces distribution costs. In this context, air cargo transportation, which is relatively newer compared to other transportation modes, is becoming more favored by actors in the global trade market, and its development is accelerating. The rapidly growing demand for the sector, along with advances in technology, has enabled the production of aircraft used for air cargo transportation. As a result, it has begun to play an important role in international trade.

2.2. The Economic Development of Air Transportation

Although air cargo transportation is more expensive compared to other transportation systems, rapid advancements in aircraft technology, the production of large-capacity, fuel-efficient, low-noise, and low-emission aircraft, along with the growth of global trade, have positioned air cargo as a significant market. To understand the economic development of air cargo transportation, it would be useful to examine the volume of cargo transported, the fleets created to carry them, and the revenue distribution (Acemoglu, Johnson & Robinson, 2012).

In the 1930s and 1940s, air transportation, which began as mail transportation, continued to evolve and eventually became one of the most important sources of income for airlines. As international trade grew, air transportation also developed. Companies gradually shifted their focus from mail transportation to passenger and cargo transportation. O'Connor (2000:58) notes that between 1961 and 1971, the freight tonne-kilometres (FTK) carried by U.S. scheduled airlines increased fivefold, while passenger traffic grew only threefold (Wensveen, 2007:325).

The liberalization of air cargo transportation in the U.S. in 1977 triggered rapid changes in the sector. After this, the Open Skies Agreements between the U.S. and the Netherlands (1992), U.S. and Canada (2006), EU-US (2007, revised in 2010), and ASEAN-China (2010) facilitated global airline alliances (International Transport Forum, 2019:16). With the liberalization regulations in the U.S. civil aviation sector, the European Single Aviation Market (1997) was implemented among EU member countries, and airline privatizations were encouraged. Meanwhile, in the Asia-Pacific region, by the end of the

1990s, increasing per capita income and the development of inter-regional trade expanded the air cargo market. By 1997, the U.S. Federal Aviation Administration (FAA) also removed restrictions on routes, prices, and aircraft types for all domestic cargo carriers. This allowed air cargo carriers to freely determine their pricing, service markets, and aircraft types. Along with this, the development of air cargo transportation increased with the introduction of Just-in-Time (JIT) production in the U.S. and worldwide. On the other hand, liberalization led to a more commercial structure for the sector, while also significantly improving service quality, efficiency, and scope.

Today, the air cargo transportation market has become a global market, encompassing all regional markets and concerns worldwide. The development of global air cargo traffic between 1989 and 2019 is shown in Figure 1. When examined, it is observed that the sector achieved a significant annual growth rate of 5.8% during the 1989-1999 period. However, the growth slowed in the years that followed, particularly due to the impact of the 1997 Asian Crisis, and even included the year 1998. Between 1999 and 2009, the growth rate of the sector slowed down further. During this period, while there was a slight decline between 2000 and 2001, the main downturn came from the impact of the 2008-2009 Global Financial Crisis. However, the average growth of 4.3% from 2009 to 2019 shows that the effects of the crisis were short-lived. Despite the negative developments over the last 30 years, air cargo traffic has continued to grow steadily, with an annual average growth rate of 4.1%.

According to projections, cargo aircraft, which have carried more than 50% of the world's air cargo traffic since 2009, are expected to maintain this capacity until 2039. Excluding mail products, all goods sent by air, including general cargo transportation, constitute the majority of global air cargo. This type of cargo accounts for 81% of global revenue tonne-kilometres (RTK) and plays a crucial role in global supply chains.

Looking globally, the first and foremost category of air cargo demand consists of time- and temperature-sensitive products, as well as perishable goods. The first category includes medical products, hazardous materials, and live animals, where transportation costs are insignificant and price elasticity is zero (Köprülü, 2019). In the coming years, due to increasing security measures, it is expected that bellyhold cargo will lose its price advantage, leading to a significant improvement in cargo aircraft transportation. It is projected that air cargo aircraft will grow by 4.5%, while bellyhold cargo will grow by 4.9%, with bellyhold cargo's market share increasing (Boeing, 2017).

In Asia, particularly in China, which has recently become the center of global manufacturing, air cargo growth rates are expected to be very high in the next two decades. The expected growth rate in China is 6.2%, while in Asia, it is 5% (Boeing, 2017). Along with this remarkable advantage in Asia, an interesting movement is also expected in the African market. In particular, oil-producing African countries (Angola, Equatorial Guinea, Chad) are expected to experience GDP growth of up to 15%. Similarly, countries like Mozambique, Ethiopia, and Tanzania are expected to see around 10% growth in agricultural products. Furthermore, as China's influence in Africa continues to grow, it is predicted that strong manufacturing industries under Chinese control will develop, leading to higher cargo transportation growth in some African countries over the next two decades.

The share of large aircraft (weighing 80 tonnes and above) is expected to increase from 14% to 26% over the next 20 years. For medium-sized aircraft, the share is expected to rise from 47% to 49%, while no decrease is expected for smaller aircraft weighing less than 30 tonnes. Parallel to the growth in aircraft volumes, it is expected that multimodal transport, such as air-train, air-truck, or air-ship combinations, will become more prominent. In areas with limited geographical conditions, smaller aircraft will continue to be important, and no decrease in smaller aircraft is expected in the coming years (Boeing, 2017).

2.3. The Relationship Between Air Cargo, Trade and GDP

Air cargo ensures that nations, regardless of their locations, are efficiently and reliably connected to distant markets and global supply chains. In this way, in the new era of fast-cycle logistics, countries with good air cargo connectivity have a competitive trade and production advantage over those without this capacity. As documented by Porter (1990) and others, competitive advantage is the foundation of economic development, which is typically measured in terms of gross domestic product (GDP), either collectively or per capita.

There is an established statistical relationship between air cargo volume levels and both GDP and GDP per capita. In the period from 1980 to 2000, for 95 countries, zero-degree correlations (not shown) reveal that knowing air cargo volume, with mutual causality considered, allows GDP and GDP per capita to be predicted with over 90% accuracy.

Although they are quite interdependent, air cargo tends to lead trade and GDP growth. For example, between 1992 and 2002 in the United States, GDP increased by 38%, trade value by 57%, and air cargo value by 83% (in constant 2000 dollars). In Hong Kong,

between 1992 and 2003, the value of air cargo tripled and increased much faster than other types of trade, pushing up Hong Kong's overall trade. Due to its faster growth, the share of air cargo in Hong Kong's total trade value rose from 17.7% in 1992 to 30.3% in 2003 (Hong Kong, 2004). When the percentage changes in air cargo, trade, and GDP values are plotted annually from 1992 to 2003, roughly parallel increases and decreases are observed. However, the growth in air cargo value is more pronounced during periods of rise (e.g., after the 1997–98 Asian financial crisis and the post-9/11 recovery) and tends to begin just before the growth in overall trade and GDP values (Gudmundsson, Cattaneo & Redondi, 2021).

When examining longer periods across many countries, it is evident that growth in trade has significantly outpaced GDP growth; similarly, air cargo growth has performed far above trade growth. Between 1980 and 2000, in an analysis of World Bank (2002) trade data, for 68 countries with 20 years of data, GDP grew by 72%, trade by 132%, and air cargo by 302%. Even in the highly cyclical aviation sector, when downturns occur, air cargo recovers faster than passenger traffic, as seen after the most recent downturns.

Based on these dynamics, air cargo is increasingly seen as an important indicator of the direction in which a nation's large economy will progress. This, combined with the crucial role air cargo plays in enhancing trade and supply chain competitiveness, has led policymakers worldwide to ask the following question:

Air cargo does not operate in isolation. Its economic impact may depend on a number of factors, including the country's overall logistics infrastructure and the broader commercial and political environment in which the air cargo industry operates (Doganis, 2001). In this regard, major international aviation organizations and trade forums such as the International Civil Aviation Organization (ICAO) and the Organization for Economic Cooperation and Development (OECD) routinely emphasize the importance of liberalizing aviation for economic development, customs reform, and reducing corruption. However, to date, there has been limited comparative statistical analysis documenting the impact of these factors, particularly regarding liberalization and customs procedures. Instead, evidence is often anecdotal or case-based, making it more difficult to make broad generalizations and rendering policy recommendations less compelling (ICAO, 2004).

High growth rates in developing countries have been possible because local air transport systems are not physically or institutionally restricted. In contrast, while U.S. traffic continues to grow overall, there are signs that further growth in individual nodes of the

U.S. air transport system is constrained. Specifically, despite increases in total system capacity through operational and infrastructure improvements, capacity increases at certain airports are often limited due to physical, environmental, and political constraints. In 2007, nearly 20% of total domestic flight time in the United States was wasted due to delays, with approximately half of these delays occurring on round-trip flights to and from the largest 35 airports. These airports are characterized solely by arrivals and departures at these locations (Schumer and Maloney, 2008).

New York airports have accounted for the largest share of delayed arrivals, with nearly 40% of gate arrivals delayed at La Guardia (LGA), Newark (EWR), and Kennedy (JFK) airports. These delays can have negative economic effects on regional economies, as they influence business location decisions for industries reliant on reliable access to air services, such as shipping agents, computer and electrical equipment industries, insurance, and commercial services. In fact, in areas where the system experiences constant delays and lacks reliability, alternative business and entertainment locations may become more attractive, leading to significant changes in regional employment and industrial composition.

2.3.1. Dubai, BAE

The United Arab Emirates (UAE) is a Middle Eastern economy that has demonstrated consistently high growth rates in the air transport sector over the past two decades. The high passenger growth rates were largely driven by the rapidly growing Emirates Airline and its hub at Dubai International Airport. In recent years, the airline has been aggressively expanding by growing its network and increasing the frequency of flights on established routes. Emirates competes with European and Asian carriers, particularly on long-haul routes connecting Europe to Asia and Australasia via its hub in Dubai (EIU, 2007).

To accommodate the growth of Emirates Airlines, Dubai Airport has undergone various expansion programs, including new runways and terminal constructions, as shown in Figure 9(a). In 2007, Dubai International Airport served 34 million passengers, becoming the fastest-growing airport in the world with a growth rate of 19%. With the opening of new passenger and cargo terminals in 2008, capacity was expected to increase to 75 million passengers per year. The airport's expansion is funded by the government. In addition to establishing itself as a passenger hub, the airport has also become an important cargo center. In 2007, Dubai Airport ranked as the 13th busiest airport in terms of cargo traffic, just behind Los Angeles International Airport, according to the Airports Council International. This ranking reflects Dubai's determination to establish

itself as a leading transfer hub, bolstered by significant infrastructure investments in its Cargo Mega Terminal and Flower Centre for handling time-sensitive, perishable goods.

Investment in airport infrastructure reflects the Emirates' goal of diversifying its economy away from oil exports. Other government initiatives include investments and incentives for supporting high-quality tourism and service-focused infrastructure. For example, in 2007, Dubai's two original free zones were home to over 3,000 companies, and Dubai Internet City and Dubai Media City were two new zones under development. Tourism infrastructure investments currently include the $3 billion Palm Islands and the $9.5 billion Dubailand entertainment complex (EIU, 2007). The government maintains a general commitment to liberal and free-market business policies to encourage foreign investment. The Global Competitiveness Report ranks the UAE 37th out of 131 countries in terms of competitiveness, with the U.S. holding the top spot at 1.26.

Socioeconomically, the UAE's economy heavily depends on foreign labor. In fact, UAE nationals make up only 15% of the population, while Indian and Pakistani male workers dominate the demographic structure (EIU, 2007).

2.3.2. Jamaica

Jamaica is an island economy in the Caribbean. The country's economy relies on imported consumer goods and raw materials, foreign exchange earnings from tourism, remittances, bauxite/aluminum and agricultural exports. The service sector dominates the Jamaican economy, accounting for more than 60% of the country's GDP and employment. The tourism industry, in particular, plays a central role in Jamaica's service sector, contributing 20% to the nation's GDP (Avcı, 2022).

In addition to tourism, remittances contribute up to 20% of the GDP, as at least one in four Jamaicans currently lives abroad. The government encourages economic diversification and promotes foreign investment in sectors that generate foreign exchange, create employment, and utilize local resources. However, the country's factor conditions have led to a weak international competitiveness ranking, which reduces its attractiveness for business investment. According to the Global Competitiveness Report, Jamaica is ranked 78th out of 131 countries in terms of competitiveness (Porter et al., 2007). This modest ranking is attributed to issues such as crime, inefficient government bureaucracy, and poor macroeconomic conditions that hinder investment. The government is also committed to public infrastructure investments. However, due to the high level of public debt, there is insufficient funding available for adequate social and infrastructure investments. As a result, while the government supports economic

diversification, the country's economic growth is currently heavily dependent on the development of the tourism industry. In fact, nearly 80% of those flying to the island cite entertainment as the main reason for their visit. Given the economy's heavy dependence on tourism, most air transport flows consist of leisure passengers, particularly from the United States, with U.S. citizens accounting for over 70% of all tourist arrivals. In addition to tourists, air travel is also essential for other purposes (EIU, 2007).

Because air transport is necessary for providing access to tourists, the government views air transport as a catalyst for economic growth and development. Without a national airline, Jamaica's tourism industry would be entirely dependent on foreign carriers. Therefore, the government currently operates a national carrier, Air Jamaica, which serves a total of 26 destinations, including London, Toronto, and the U.S. The country's major airports are Norman Manley International Airport in the capital, Kingston, and Sangster International Airport in Montego Bay, which is Jamaica's primary tourism destination. Figure 23 shows that Montego Bay's airport, which accounts for 60% of air travelers, has experienced moderate growth and increasing efforts in infrastructure improvement.

The Jamaican government supports the liberalization of air services, as long as the airline maintains a sustainable competitive position in its main markets and is not marginalized. For example, to promote the development of air transport, Jamaica has established a series of bilateral air service agreements with the U.S. In 1979 and again in 2002, Jamaica signed the Open Skies agreement, further liberalizing air services. However, compared to more liberal air services agreements between the U.S. and other tourism-dependent economies in the Caribbean, Jamaica's agreement is more protective (Patil and Deshmukh, 2018). For instance, the Jamaica-U.S. market has certain entry and fare restrictions. These restrictions have a negative impact on the further development of tourism flows between Jamaica and the U.S., as low-cost carriers tend to avoid specific city pairs between the U.S. and Jamaica, even while establishing routes between the U.S. and other Caribbean destinations (Başol, 2012).

2.3.3. Chinese

China is the world's largest country, with rapidly growing consumer demand and increased use of air transport (Figure 24). China has a government that is efficient and has a good physical infrastructure, and it is a top-down state that opened its economy to foreign investment in 1978. The Chinese government supports foreign investment and relies on good infrastructure and production for economic growth. In 2005, exports of goods and services accounted for 40% of the country's GDP. Due to underdeveloped

domestic capital markets, entrepreneurs are forced to rely on foreign capital, and the flow of capital from the diaspora plays a significant role in economic development. In addition to providing funding, the increasing capital has also led to a growing number of Chinese expatriates returning to their homeland. According to the Global Competitiveness Index, China ranks 34th among 131 countries (Porter et al., 2007). The report lists access to finance, inefficient government bureaucracy, corruption, and political instability as the most problematic factors for doing business in China. China's weak economic and political information distribution makes it difficult to find reliable data (Khanna, 2007).

Regulatory changes in China's air transport system reflect the broader economic reforms in the country. These reforms began in the late 1970s when the economy started moving from central planning toward a market economy. As part of these changes, the Civil Aviation Administration of China (CAAC) was separated from the Air Force and placed directly under the control of the State Council (Zhang & Round, 2008).

Since then, the government has encouraged liberalization, privatization, and consolidation to improve operational efficiency and profitability. In 1987, China began deregulating the air transport sector by separating the Civil Aviation Administration from direct management of airlines and airports, and further deregulation and privatization reforms continued in 1997. The Civil Aviation Authority promised full deregulation by 2010, but the government still controls airfares and requires approval for entry and exit on certain routes. To slow the rapid growth of traffic and reduce pressure on infrastructure and skilled labor supply, the government stopped issuing new airline licenses until 2010. However, research shows that domestic markets in China have effectively been liberalized. The government has adopted a more hands-off approach to price regulation, requiring pre-approval only on routes with high traffic volumes or those connecting the busiest airports (Zhang & Round, 2008).

China currently takes a cautious approach to liberalizing international services governed by bilateral air service agreements. The government imposes strict restrictions on international passenger and cargo flights and adopts a gradual approach to opening the aviation market. All cargo flights will benefit from open skies. In addition to limiting the number of airlines on international routes, as of 2006, only 30% of the country’s airspace was open to civil aviation, and the airspace is tightly controlled. This policy results in restrictive flight planning for both domestic and international air routes. According to the International Air Transport Association, these restrictions lead to delays and higher costs for airlines due to wasted time and fuel.

The growth in air traffic is putting pressure on existing aviation infrastructure, and the country is investing in new airports, runways, terminals, and surveillance infrastructure. China's airport infrastructure currently consists of 151 civil airports. The government plans to increase this number to 190 by the year 2020, with most of the new airports being regional. Infrastructure investment in China, including airport construction, is seen as a necessary condition for economic development and is therefore inherently preventive in nature. China is promoting the development of regional aviation, particularly through subsidies for small and medium-sized airports and airlines operating short-haul routes, helping to balance the airline sector away from major routes and eastern hubs (Perrett, 2008).

Reforms have been initiated to encourage private sector involvement in airport development. However, institutional reforms, particularly regarding information transparency, are still lagging and largely support larger political goals. Some of the recent airport investments have been prompted by the 2008 Olympic Games. For instance, the country's largest airport in Beijing opened a new terminal in February 2008, doubling its capacity to 76 million passengers (Yang, Tok & Su, 2008).

2.3.4. India

India has a growing economy, having undergone economic liberalization reforms in 1991. The country has a democratic yet inefficient government, weak infrastructure capacity, an institutional framework that supports information transparency and property rights, and a large pool of skilled university graduates who speak English. India's economy is based on services and information technology, with exports of goods and services contributing 23% to GDP. Remittances and investments from abroad, as well as foreign currency from migrant workers in the Middle East, also contribute to GDP. According to the Global Competitiveness Index, India ranks 48th among 131 countries (Porter et al., 2007).

The report lists the most problematic factors for doing business in India as inadequate infrastructure, inefficient government bureaucracy, restrictive labor regulations, and corruption. In contrast to China, which promotes foreign investment, India provides little support to foreign investors while encouraging domestic entrepreneurship and innovation (Khanna, 2007).

Despite the lower levels of support for foreign investors and infrastructure compared to China, India has been successful in developing niche technological clusters across the country. For example, India’s Software Technology Parks are high-tech clusters that

provide the necessary physical infrastructure, such as telecommunications, along with 100% foreign direct investment and tax incentives to promote the export development of computer software and other sectors. The availability of air services allows India to access markets, especially for information technology and foreign investors; it also enables remittances, knowledge, and investment flows from expatriates and migrant workers, while helping to develop both the domestic tourism sector and inbound tourism.

Until the early 1990s, India's aviation needs were served by two inefficient state-owned carriers. In 1988, the government began deregulating the sector by allowing private companies to operate domestic charter flights. By 1993, private operators held 30% of the domestic market share (Williams, 2002).

India's domestic traffic experienced unprecedented growth from 2003 onward following the entry of Air Deccan, the first low-cost carrier that made air travel accessible to the growing middle class. According to the Ministry of Finance's website, private airlines now account for about 60% of domestic passenger traffic. Some operational aspects of the sector are still regulated, including fuel hedging, staffing levels, outsourcing, and restrictions on foreign carriers investing in domestic airlines (Van De Vijver, Derudder and Witlox, 2014).

Most international services are governed by bilateral air service agreements. India is gradually opening up to foreign airlines and signing more flexible bilateral agreements with other countries. For example, according to the Ministry of Civil Aviation, in 2005 India signed 15 bilateral air service agreements, including an open skies agreement with the United States. India has had an open skies policy for air cargo since 1990.

The growth of India's aviation industry is constrained by overcrowded airports, strained airspace infrastructure, outdated ground services equipment, and a shortage of pilots and engineers. India has a poor track record of airport infrastructure investment, largely due to bureaucratic hurdles and delays in airport expansion (Subramanian, 2008).

The Airports Authority of India currently owns and operates all 125 airports in the country, including 11 designated international airports. To promote airport development, the government aims to attract private investment in aviation infrastructure. As a result of this strategy, India has been maintaining public-private partnerships to improve the airports in Delhi and Mumbai and to build new international airports in high-tech hubs such as Bangalore and Hyderabad.

3. Conclusion

In Türkiye, air cargo transportation has a higher growth rate compared to alternative modes of transport, and there are many indicators suggesting that Türkiye has enormous potential for the development of air cargo. Indicators of this potential include Türkiye sectoral depth and richness, the current development trajectory, its geographical location, the presence of an efficient logistics structure, significant logistics investments, and its status as one of the major regional hubs. Additionally, Türkiye ability to produce products that are compatible with air cargo transportation and its ownership of important international cargo ports and airports are also significant indicators. Based on these factors, it can be said that Türkiye a substantial development potential in the air cargo sector.

Another important factor that could steer the development of the air logistics sector is the free trade zones. Türkiye has 21 free trade zones that offer modern investment areas for firms aiming to engage in foreign trade. Proximity to these free zones could increase air cargo activities at nearby airports. Given that there are few free trade zones playing a significant role in international commercial activities, airports near these zones can be considered to have a crucial advantage in terms of international air cargo transportation.

In conclusion, air cargo transportation plays a significant role in global trade. Air cargo accounts for approximately 1% of global trade in terms of cargo volume, but it handles 35% of global trade value, which is worth 6 trillion USD (IATA). This demonstrates the necessity of air cargo transportation for the fast and secure movement of valuable goods. In fact, in the global economy, competitive power depends on speed, trust, and the ability to offer high-quality products worldwide at affordable prices. Air cargo transportation is a sector that facilitates trade, creates employment, and contributes to global economic development, and thus holds a privileged importance.

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