

INVESTMENT IN PORTS: THEIR ROLE IN SUPPORTING LOGISTICS CORRIDORS AND ENHANCING COMPETITIVENESS – THE CASE OF EGYPT

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1. ABSTRACT:

Global trade dynamics are increasingly shaped by the development of ports and their integration into major logistics corridors. As vessel sizes continue to grow and shipping lines consolidate, the role of strategic maritime ports becomes essential in ensuring efficiency, competitiveness, and connectivity across international supply chains. Egypt, with its unique location and its control of the Suez Canal, is exceptionally positioned to serve as a global logistics hub. This study adopts a descriptive analytical approach based on secondary data from national sources and international databases. It examines the role of investments in five major Egyptian ports (East Port Said, Sokhna, Damietta, Alexandria, and Abu Qir) in supporting logistics corridors and enhancing national competitiveness. Given the ongoing development of logistics corridors in Egypt and the absence of standardized national corridor performance indicators, the analysis relies on proxy measures such as container throughput growth, engagement of global shipping lines, and selected international logistics performance indices. The findings indicate that port investments have contributed to increased container handling capacity, stronger integration with global liner networks, and improvements in selected international performance rankings. The paper concludes with recommendations aimed at maximizing the benefits of port investments through integrated corridor development, governance reforms, and strategic marketing of Egypt as a global logistics hub.

2. INTRODUCTION

Maritime transport plays a fundamental role in facilitating international trade [1], with ports serving as the primary gateways for the movement of goods and integration into global supply chains. The function of ports has to include their role as strategic nodes within logistics corridors. These corridors, which connect production centers with consumer markets through efficient multimodal transport networks, determine the competitiveness of both ports and the countries that host them. The emergence of mega vessels, coupled with the consolidation of global shipping alliances, has increased the importance of hub ports that are capable of accommodating evolving shipping trends. Such ports require advanced infrastructure, deep-water berths, modern handling equipment, and seamless connections to inland transport systems. Consequently, investment in port development is no longer viewed in isolation but as part of a wider strategy to strengthen logistics corridors and enhance national competitiveness.

Egypt represents a distinctive case in this context. Strategic location and controlling the Suez Canal one of the world's most significant maritime corridors. Egypt holds a great advantage in positioning itself as a global logistics hub. Ongoing mega ports projects specially East Port Said, Sokhna, Damietta, Alexandria, and Abou-Qir reflect a national

strategy to leverage this geographic advantage through large-scale port development and integration with logistics corridors.

This paper examines how investments in Egypt's key seaports contribute to enhancing logistics efficiency and national competitiveness. It analyzes the influence of these developments on container handling volumes, the participation of leading global shipping lines, and Egypt's performance in major international logistics indices. The paper concludes with policy-oriented recommendations aimed at optimizing the outcomes of port expansion projects and positioning Egypt as a pivotal hub within global logistics networks.

3. CONCEPTUAL FRAMEWORK

This study adopts a conceptual framework that links port investments to logistics corridor efficiency and national competitiveness. Investment in ports acts as the primary drivers. These enhance operational performance at ports, which in turn improve logistics corridor efficiency through higher throughput, reduced turnaround time, and increased shipping line connectivity. Improved corridor performance ultimately strengthens national competitiveness, reflected in global indices such as LPI, LSCI, CPPI and Lloyd's List.

4. RESEARCH METHODOLOGY

This research adopts a descriptive analytical approach based on secondary data analysis. Data were collected from official national sources, including annual reports of the Ministry of Transport, as well as international databases such as the World Bank, UNCTAD, and Lloyd's List. The study focuses on five major Egyptian ports, selected based on their role within national logistics corridors, container throughput volumes, and engagement with global shipping lines. Trends in container throughput, shipping line concentration, and international logistics performance indicators were examined to assess the role of port investments in supporting logistics corridors and enhancing national competitiveness.

Given the ongoing development of logistics corridors in Egypt including road networks, rail connections, and dry ports the study does not apply a direct quantitative assessment linking specific port investments to measurable corridor performance indicators. At present, no official or standardized national indicators are publicly available to measure logistics corridor performance in Egypt. Accordingly, the analysis adopts an indicator-based and conceptual framework, using port throughput growth, shipping line engagement, and international logistics performance indices as proxy measures to reflect the expected impact of port investments on logistics corridor performance.

5. STRATEGIC ROLE OF PORTS IN THE MARITIME TRANSPORT SYSTEM

Investing in ports is assuming a central role in sustaining global trade flows and strengthening competitiveness. Around 80% of the world's trade volume is currently moved by sea [2], Making seaports indispensable nodes in the international supply chain. Over time, ports have transformed from their traditional function of simply receiving ships focused on loading, unloading, storage, and cargo movement into complex clusters that integrate spatial and functional activities linked directly or indirectly to maritime transport [3]. In many cases, ports have evolved into strategic centers for trade facilitation, storage, distribution, and as industrial clusters supporting the blue economy. Over the last three decades, containerization becoming the backbone of ocean shipping, leading significant increases in throughput in ports worldwide. While some historically leading ports have expanded at a modest pace, others once minor players have experienced rapid and substantial growth. Cargo handled by ports are typically divided into two main categories: hinterland cargo and transshipment cargo. The hinterland refers to inland areas beyond the port that house industries, distributors, and commercial facilities. Transshipment, on the other hand, describes the transfer of containers

between ocean vessels, where the port acts as an intermediate hub before the cargo reaches its final destination. The concept of a "hub port" originally derives from the airline industry, where the hub-and-spoke model became the standard for routing aircraft, passengers, and cargo. Applied to seaports, a hub port functions in a similar way by serving as a central node for transshipment, redistributing containers to other ports via feeder services. In this sense, hub ports can be defined as strategic zones of activity that act as gateways for trade and industry, connecting maritime routes with inland transport networks and facilitating the wider economic system [4].

5.1 The Interconnection between Port Investments and Logistics Corridors

The concept of logistics corridors has become central to supporting economic growth, as modern economies rely on efficient and sustainable transport systems. Corridors are frequently promoted as development instruments that create fast and reliable connections between origins and destinations across borders. They serve as pathways that facilitate trade, strengthen transport links, and enhance regional and international connectivity. From a spatial perspective, a corridor represents a geographical link that connects two or more nodes such as ports, cities, or industrial zones through integrated transport infrastructure and the flow of goods across different modes of transport. These nodes often function as economic hubs where cargo is handled, processed, stored, or redistributed [5].

The significance of ports stems from their multifunctional and multimodal nature, which enables them to expand their range of services and respond effectively to diverse market needs. As a result, ports together with logistics centers have evolved into core components of modern transportation systems [6]. In this context, ports play a pivotal role as both starting and ending points of logistics corridors. Strategic investments in ports contribute directly to the efficiency of these corridors by ensuring smooth cargo movement, modern handling facilities, and integration with hinterland networks. Logistics, therefore, serves as the backbone of global trade, enabling the seamless movement of raw materials, components, and finished products thus improving the competitiveness. Efficient logistics systems:

- Enhance international trade by minimizing transportation cost and shortening delivery time.
- Enhance supply chain reliability by ensuring timely access to inputs for manufacturers and goods for consumers.
- Attract foreign direct investment by providing companies with reliable gateways for trade and distribution [7].

Logistics corridors are not only critical for optimizing port performance but also for transforming supply chains into more resilient and competitive systems [8]. Investing in logistics corridors by modernizing ports, enhancing multimodal linkages, and developing advanced logistics infrastructure yields substantial long-term advantages. These benefits manifest in greater supply chain efficiency, lower transport expenses, and enhanced competitiveness across regional and international markets [7].

6. HUB PORTS AND CONTAINER TERMINALS

6.1 Specifications of hub ports and container terminals in context of changing ship sizes

Over the past quarter-century, the global container shipping industry has witnessed a consistent shift toward deploying increasingly larger vessels. The emergence of Ultra Large Container Vessels (ULCVs) stands out as a defining feature of this evolution, Shipping lines have pursued vessel upsizing primarily to leverage economies of scale, which allow them to reduce the average transportation cost per TEU. Between 1996 and 2021, the average nominal capacity of container ships expanded by approximately

185%, rising from about 1,500 TEUs to more than 4,300 TEUs per vessel. The continual search for cost efficiency and higher productivity has therefore been the main force behind the widespread adoption of ULCVs [9]. Port developments continue throughout the world at an uneven pace spurred on by national needs to import and export and a chance to seize a share of growing world seaborne trade through trans-shipment opportunities. The following sections are a brief overview of hub ports characteristics and Specifications of the container terminal which can serve ULCVs.

6.2 Characteristics of Hub ports

The hub ports should be located as close as possible to the main shipping route, lower tariffs, high productivity, depths suitable for modern ships, high throughput, available capacity, ability to extend and high connectivity [10].

6.3 Specifications of the container terminal

To efficiently handle Ultra Large Container vessels (ULCVs), container terminals must be equipped with advanced physical and operational capabilities. The terminal infrastructure should allow vessels with a length of around 400 meters, a beam close to 61.5 meters, and a draft capacity reaching approximately 16.5 meters. This requires at least deep-water berths of about 17 meters and quay lengths extending to 1,000 meters to accommodate simultaneous vessel operations. The terminal yard must have a minimum depth of 500 meters, and an estimated 25–30 hectares of operational area are necessary for handling 1 million TEUs annually. An outreach suitable for vessels carrying up to 24 container rows across. For onshore handling, an expanded fleet of transport vehicles, automated guided vehicles (AGVs), high-reach stackers capable of stacking up to seven containers high, rail-mounted gantry cranes, and straddle carriers is required to support yard operations and maintain efficiency. Advanced IT infrastructure plays a key role in managing real-time data and ensuring seamless coordination of large-scale container movements. Additionally, this operational complexity calls for a workforce with higher technical skills, particularly in crane operation, automated systems, and logistics software, while also creating indirect job opportunities within associated industries [11].

7. EGYPT'S PORT DEVELOPMENT AND ITS IMPACT ON LOGISTICS CORRIDORS AND GLOBAL COMPETITIVENESS

7.1 Egypt's strategic location and the Suez Canal

Egypt's strategic location at the intersection of three continents, together with its 3,000 km coastline along both the Mediterranean and the Red Sea, has long established it as a maritime nation. This advantageous position has strengthened its global connections since ancient times and placed the country at the heart of international logistics networks, maintaining a pivotal role in world trade since the early phases of its civilization [12].

Why Egypt's Location Matters:

- Gateway to three continents: Egypt provides direct access to African, Asian, and European markets, enhancing its role as a trade and logistics hub.
- Proximity to major markets: Its location places it close to fast-growing consumer and industrial markets in the Middle East, Africa, and East and Southern Europe.
- Control of the Suez Canal the most vital maritime corridor: oversees the shortest maritime link between Europe and Asia, through which around 10% of global trade passes [13].

With the increasing seaborne trade, Suez Canal offers significant opportunities in the container transportation between Far East and European trade areas [14]. Located at one of the world's most strategic crossroads, the Suez Canal serves as a vital maritime

corridor it provides direct access to major global markets and production centers across the three continents. Thanks to its high operational efficiency and competitive transit costs, the Canal has become an indispensable artery of international trade, enabling shorter routes that reduce sailing distances, fuel consumption, and overall transportation expenses. Its strategic significance continues to shape global shipping patterns and reinforces Egypt's position as a central hub in the world economy [15].

7.2 Egypt's efforts to transform into a global logistics hub

In recent years, Egypt has been working to maximize the economic return from all its resource by attracting foreign investments, with the maritime transport and ports sector standing at the forefront as one of the country's key sources of foreign currency. It is worth noting that Egypt possesses all the fundamentals that qualify it to become a global trade hub, as its ports have the potential to transform into major international gateways that foster the development of foreign trade, transit trade, and logistics services [16]. In line with the focus on leveraging Egypt's unique geographical location on both the Red and Mediterranean Seas, along with the Suez Canal as the world's most vital maritime corridor, and through partnerships with major global operators and leading shipping lines, the primary objective is to transform Egypt into a regional hub for transport, logistics, and transit trade.

Egypt is implementing a set of strategic objectives across several axes. The first of these focused on creating integrated international development logistics corridors to connect production areas (industrial, agricultural, mining, and service) with seaports through fast and secure transport modes, passing through dry ports and integrated logistics zones. The strategy encompasses several key logistics corridors, namely the Al-Arish/Taba Corridor, the Ain Sokhna/Alexandria Corridor, the Cairo/Alexandria Corridor, the Tanta/Mansoura/Damietta Corridor, the Gargoub/Salloum Corridor, the Cairo/Aswan/Abu Simbel Corridor, and the Safaga/Qena/Abu Tartour Corridor, all designed to strengthen connectivity between production areas and maritime gateways [17].

7.3 Egypt's port development as a catalyst for logistics corridor efficiency

Egypt is undertaking extensive efforts to develop its seaports, recognizing their critical role in the success of logistics corridors. The national plan includes the addition of new berths with a total length of 67 km and depths ranging between 18–22 meters, primarily in the Red Sea ports of Berenice, Safaga, Sokhna, Adabiya, and Nuweiba, as well as the Mediterranean ports of Arish, Port Said, Damietta, Abu Qir, Alexandria, and Gargoub.

With these developments, the total quay length in Egyptian seaports is expected to reach 100 km, enabling an annual handling capacity of 400 million tons instead of the current 185 million tons, and 40 million TEUs instead of 15.6 million TEUs. This includes an additional 10 million TEUs of transshipment cargo and the capacity to accommodate 30,000 mega vessels annually. The expansion also involves the construction of 15 km of breakwaters and the deepening of navigation channels to ensure efficient access for larger vessels [18, p. 31].

7.4 Ongoing port development projects with a focus on container terminals in Egypt

Egypt's maritime sector stands at a pivotal moment, witnessing substantial foreign direct investments in both new and existing container terminals, aimed at expanding capacity and strengthening the nation's competitiveness in global trade [19]. In this context, a number of projects have been completed and are being implemented in Egyptian ports [20]:

Alexandria Port: is one of Egypt's most important ports and serves as a key pillar for the success of both the Sokhna/Alexandria Corridor and the Cairo/Alexandria Corridor, positioning it as a vital gateway for trade and logistics connectivity. The "Tahya Misr"

multipurpose terminal has been established with a draft of 17 meters, a total quay length of 2.5 km, and an area of 560,000 m², providing an annual handling capacity of 1.5 million TEUs. A new container terminal is under construction at Berth 100 in Dekheila Port, with a draft of 18 meters, a total quay length of 1.200 km, and an area of 840,000 m², providing an annual handling capacity of 1.5 million TEUs.

Damietta Port: is considered one of Egypt's main ports, as well as part of the integrated Tanta/El-Mansoura/Damietta logistics corridor, aiming to position the port as a global hub for transit trade within the state's plan to establish Egypt as a leading center for trade and logistics. The "Tahya Misr 1" container terminal project is one of the most prominent national projects currently Construction of the Terminal with a draft of 18 meters, a total quay length of 2 km, a back yard area of 922,000 square meters and a capacity of 3.5 million TEUs, where the basic infrastructure has been completed and handed over to the operator, and the superstructure works are currently underway. The terminal is operated by Damietta Alliance Container Terminals, a global consortium that includes Eurogate (Germany), Contship Italia, and Hapag-Lloyd, reinforcing the port's position as an integrated logistics hub and a competitive regional destination in the maritime transport sector.

Sokhna Port: forming part of the Sokhna/Alexandria Corridor, is undergoing major development works aimed at transforming it into the most important hub port on the Red Sea. Among the key projects is the construction of the Hutchison Container Terminal, featuring 2,600 meters of quay length, a total area of 1.6 million square meters, and an annual handling capacity of 3.5 million TEUs. The terminal's basic infrastructure has been completed and handed over to the operator, while the superstructure is currently under development, making it a fully automated terminal once operational

Port Said Port: is uniquely positioned directly on the international trade route with a deviation factor of zero, making it the largest container port in Egypt. The port is currently undergoing an ambitious development and expansion plan, with container throughput at East Port Said expected to witness a significant global leap. This is driven by A.P. Moller-Maersk Group's initiative to develop the Suez Canal Container Terminal and operate a new 955-meter container berth adjacent to the existing quay.

Abu Qir Port: A new container terminal has been established, featuring a 1.2 km quay length, a draft of 17 meters, and a design capacity of 2 million TEUs. The operation of the terminal has been awarded to the Chinese company Hutchison Ports. Strategically located within the city of Alexandria, Abu Qir Port constitutes an integral component of both Sokhna/Alexandria Corridor and the Cairo/Alexandria Corridor.

7.5 Key strategic partnerships for container terminals in Egypt

Strategic partnerships have been established with leading global container terminal operators and major international shipping lines to ensure the frequent calls of a larger number of world-class vessels at Egyptian ports. These partnerships aim to maximize port operational capacity and expand transshipment trade, as outlined below [18.p.108]:

Alexandria and Dekheila Ports: Both ports host container terminals operated by Hutchison Ports (HPH). In Alexandria Port (Tahya Misr multipurpose terminal): Operated by CMA Terminals in alliance with EGMPT, serving CMA CGM. In Dekheila Port (Berth 100): Operated by Hutchison Ports (HPH) in partnership with MSC shipping line.

Damietta Port (Tahya Misr 1 Terminal): Operated by EUROGATE, in partnership with Hapag-Lloyd.

Sokhna Port (New Container Terminal): Operated by CMA Terminals, in partnership with CMA CGM, COSCO shipping line, and DP World.

East Port Said: Operated by A.P. Moller Terminals in partnership with COSCO holding a 20% equity stake in the terminal, reinforcing its role as a major transshipment hub on the Mediterranean.

Abu Qir Port (Container Terminal): Operated by Hutchison Ports (HPH) in partnership with Evergreen.

7.6 Egypt's competitive advantages as a hub for modern logistics zones

- **Strategic Location:** Egypt lies at the crossroads of three continents Asia, Africa, and Europe and is connected to global markets through an extensive network of seaports and airports.
- **Skilled Workforce:** Availability of qualified and trained professionals in logistics, management, marketing, and accounting, supported by growing investments in education and research in this field.
- **National Strategic Vision:** A clear roadmap to position Egypt as a global logistics hub, highlighted by mega-projects such as the New Suez Canal, the integrated Suez Canal Economic Zone, and the establishment of new logistics zones across the country.
- **World-Class Port Standards:** All the aforementioned ports and container terminals are developed in line with global studies and meet the essential specifications required for leading transshipment and logistics hubs.

8. EVALUATING THE IMPACT OF PORT INVESTMENTS ON EGYPT'S GLOBAL COMPETITIVENESS

Investments in port infrastructure and container terminals significantly enhance Egypt's position in global supply chains by increasing handling capacity, improving efficiency, attracting major shipping lines, and strengthening the country's role as a leading logistics and transshipment hub.

To assess the impact of port investments on Egypt's competitiveness as a global logistics hub, this study examines the development of container throughput in Egyptian ports from 2019 to 2024, the presence of major global shipping lines in Egyptian ports, as well as Egypt's position and performance in international indices.

8.1 Development of container throughput in Egyptian ports (2019–2024)

Container throughput in Egyptian ports witnessed consecutive growth during the period 2019–2024, except for the year 2021, as illustrated in the table below.

Table 1: Throughput in Egyptian Ports (2019–2024)

| year | Throughput | Change ratio |
|------|------------|--------------|
| 2019 | 7,246,000 | |
| 2020 | 7,564,000 | 4.4 % |
| 2021 | 7,226,000 | (-4.5%) |
| 2022 | 7,647,000 | 5.8% |
| 2023 | 8,372,000 | 9.5% |
| 2024 | 8,941,000 | 6.8% |

Source: Author's own compilation based on primary data collection

In 2019, Egyptian ports handled 7.2 million TEUs. Despite the outbreak of the COVID-19 pandemic and the global lockdowns in 2020, container throughput recorded a growth rate of 4.4%. This was followed by a decline of 4.5% in 2021. However, the sector quickly recovered, achieving consecutive growth rates of 5.8%, 9.5%, and 6.8% in 2022, 2023, and 2024, respectively, compared to the preceding year. The year 2024 marked the highest container throughput in Egyptian ports, reaching 8.9 million TEUs. Average productivity recorded 24.8 thousand TEUs per day in 2024 the highest daily average between 2019 and 2024 compared to 20.1 thousand TEUs per day in 2021, which represented the lowest daily average in the same period. This growth not only reflects improved container terminal productivity in Egypt but also demonstrates the enhanced capacity of Egyptian ports to accommodate larger volumes of container

vessels, reduce turnaround times, and strengthen their role in global supply chains [18, P.111-113].

8.2 Engagement of global shipping lines with Egyptian ports

Egyptian ports have established strong connections with some of the world’s most prominent shipping lines. In fact, nearly 70% of the container throughput at Egyptian ports in 2024 was handled by only five major shipping lines, ranked as follows: APM-MAERSK (2nd largest global shipping line) ranked first, handling approximately 3.6 million TEUs, representing 40.2% of total container throughput at Egyptian ports. Mediterranean Shipping Line (MSC) (1st largest global shipping line) followed, with about 1.1 million TEUs handled (12.6% of the total). CMA-CGM CGM (3rd largest global shipping line) ranked third, handling 647.3 thousand TEUs (7.2%). Hapag-Lloyd (5th largest global shipping line) came fourth, handling 491.2 thousand TEUs (5.5%), while Ocean Network Express_ONE (6th largest global shipping line) ranked fifth, handling 294.3 thousand TEUs (3.3% of total throughput at Egyptian ports). [18, P.161-164].

These shipping lines rank among the world’s most influential carriers in terms of global market share with over 60.5% of total global container capacity, and the close integration of Egypt’s container traffic with these lines reflects their strategic importance. Furthermore, the establishment of strategic partnerships with shipping lines enhances the international competitiveness of Egyptian ports. Such collaborations ensure a higher frequency of vessel calls, expand transshipment activities, and significantly increase port handling capacities. In addition, these partnerships strengthen the integration between Egyptian ports and international logistics corridors, collectively contributing to improving Egypt’s standing in key international benchmarks and performance indices.

8.3 Egypt and the Logistics Performance Index (LPI)

The Logistics Performance Index (LPI) captures multiple factors influencing the efficiency of logistics systems. The insights derived from the index are particularly valuable for developing countries, as they provide guidance on adopting effective policies and tools to enhance logistics performance and competitiveness. [21].

The tool indicates that improvements in logistics performance enhance the integration of countries in world trade. This part discusses Egypt’s performance and ranking in the World Bank’s (LPI), reflecting the country’s efficiency in customs, infrastructure, international shipments, logistics competence, tracking and tracing, and timeliness.

Table 2: Evolution of Egypt’s Ranking in the Logistics Performance Index (2010–2023)

| year | Ranking |
|------|---------|
| 2010 | 97 |
| 2012 | 57 |
| 2014 | 62 |
| 2016 | 49 |
| 2018 | 67 |
| 2023 | 57 |

Source: Author’s own compilation based on primary data collection

Egypt’s ranking in the Logistics Performance Index has improved significantly. After declining to the 67th position globally in 2018, Egypt advanced to the 57th position out of 139 countries in 2023.

Egypt has made notable progress in the efficiency of customs clearance, advancing from 77th to 59th place globally an improvement of 18 positions thereby moving towards overcoming one of the key obstacles to logistics performance.

Egypt advanced significantly in the indicator of ease of arranging competitive shipment prices, moving up 30 positions to rank 43rd globally in 2023 compared to 73rd in 2018,

which strengthens the competitiveness of Egyptian ports. Egypt succeeded in advancing to 55th place globally in 2023 in the Infrastructure Development indicator, up from 58th in 2018. This progress reflects Egypt's significant efforts to enhance its transport and trade infrastructure (ports, railways, roads, and ICT), connect it with regional networks, address major traffic bottlenecks on highways, and construct a large number of bridges and tunnels in recent years. These developments have been further supported by linking development areas to seaports through fast and safe transport modes, dry ports, and integrated logistics zones. Egypt dropped two positions in the Logistics Quality and Competence indicator, ranking 65th in 2023 compared to 63rd in 2018. This slight decline is largely attributed to the ongoing modernization and development efforts across Egypt's logistics sectors, which have caused a temporary reduction in the quality of certain services, in addition to the intense global competition as most countries strive to enhance their logistics services. Egypt achieved a remarkable leap in the Timeliness indicator, advancing 39 positions to rank 35th globally in 2023 compared to 73rd in 2018. This represents the most significant improvement among the logistics performance components, highlighting Egypt's strong progress in ensuring shipments are delivered on time. Egypt ranked 72nd globally in the Tracking and Tracing indicator in 2023, improving by 7 positions from 79th in 2018 [22, 23]. This progress reflects Egypt's response to digitalization and its efforts to adopt modern technologies aimed at securing transport modes and cargo.

8.4 Egypt and the liner shipping connectivity index (LSCI)

Egypt recorded positive growth during the first three quarters of 2025, achieving an annual growth rate of 4.7% in the first quarter, 10.8% in the second quarter, and 17.3% in the third quarter. This marks a notable improvement compared to the first three quarters of 2024 [24]. Such performance enhances Egypt's competitiveness in global trade and reflects the impact of continued investments in port infrastructure, logistics facilities, and the successful attraction of major international shipping lines.

8.5 Egypt and the container port performance index (CPPI)

The Container Port Performance Index (CPPI) is a global benchmark developed by the World Bank and S&P Global to measure the efficiency and effectiveness of container ports worldwide. It evaluates ports based on operational performance, including vessel turnaround time, handling capacity, and overall service quality.

Egyptian ports have gained a strong presence in the global rankings. The 2025 edition of the Container Port Performance Index (CPPI) highlighted Port Said, which was ranked 3rd worldwide in port performance for the year 2024. In addition, Damietta Port was ranked 10th among the fastest improving ports between 2023 and 2024 [25], reflecting Egypt's ongoing efforts to enhance efficiency and competitiveness in its maritime sector.

8.6 Egypt and the One Hundred Container Ports Index

Egyptian ports continue to demonstrate their global presence through the Lloyd's List One Hundred Container Ports 2025 Index. In this edition, Port Said secured the 53rd position, while Alexandria Port was ranked 90th, reflecting Egypt's growing role in global container trade [26]. Looking ahead, further Egyptian ports such as Sokhna and Damietta are expected to enter the index as their ongoing expansions and developments come into operation, reinforcing Egypt's position as a key logistics hub.

9. CONCLUSIONS

- (1) The findings from the results and discussion highlight the critical need for sustained investment in port infrastructure as a key enabler of efficient logistics corridors and enhanced global competitiveness. Ports today are not only gateways for trade but

also pivotal nodes within global supply chains that drive economic integration and regional development. Strategic investment in modern port facilities and intermodal connectivity contributes directly to improving logistics performance, reducing costs, and fostering sustainable trade growth.

- (2) The research also demonstrates that the alignment of port development strategies with national logistics and trade objectives maximizes the overall economic impact of such investments. Collaboration with global terminal operators and shipping lines enhances operational efficiency, increases cargo throughput, and attracts further investment.
- (3) The case of Egypt provides a clear example of how targeted port investments can transform a country's position in global logistics networks. Egypt's recent mega projects such as those in East Port Said, Sokhna, Alexandria, Damietta, and Abou-Qir have strengthened its role as a key node on global maritime routes. These initiatives have led to measurable improvements in Egypt's performance in international indices such as the Logistics Performance Index (LPI), the Liner Shipping Connectivity Index (LSCI), and the Container Port Performance Index.
- (4) Ultimately, the study confirms that investing in hub ports and logistics corridors yields significant economic and strategic benefits. The Egyptian experience illustrates the transformative potential of such investments in positioning nations as global logistics hubs.

10. RECOMMENDATIONS

Ports expansion should be aligned with logistics corridor development to enhance multimodal connectivity with dry ports and logistics zones. Egypt should sustain efforts to attract global shipping lines, strengthen its role as a regional logistics hub leveraging the Suez Canal, and continuously develop human capital through specialized training in port and logistics management. In parallel, regular monitoring of international performance indices is essential to assess competitiveness and guide improvements. Finally, all Egyptian ports, their economic zones, and logistics centers should be unified under a single authority or ministry to establish coherent policies and regulations. This authority would also centralize port data, ensuring integration and preventing conflicts or competition.

11. DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES:

During the preparation of this work, the author used ChatGPT (Free version by OpenAI) in order to assist in language editing and improving clarity. After using this tool, the author reviewed and edited the content as necessary and take full responsibility for the content of the publication.

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