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Constraints in Access to Strategic Shipping Passages and their Impact on Canals‘ Authorities and the Affected Economies

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Abstract:

Purpose*: The aim of the research is to assess the direct and indirect effects of disruptions caused by various constraints in access to strategically most important for the world shipping transit passages, i.e. the Suez and Panama Canals. The economic, financial and social consequences concern not only global shipping operators, shippers and other logistics companies, but olso canals managing and administering entities and the economies directly affected by the effects of the crisis.*
Design/Methodology/Approach: *To conduct this data-driven research, there were applied: 1. critical literature analysis, 2 Data mining and analysis, 3. Factor analysis and 4. comparative analysis.*
Findings: *Long lasted constraints in access to chokepoints, strategic for global shipping and trade generated numerous negative effects for many sectors of the global economy. Apart from the significant surge in shipping operating costs as a result of necessary rerouting and consequently, increase in greenhouse gas emissions, they caused severe supply chain disruptions such as port congestions, increase in delivery time and costs what resulted in serious decline in the logistical efficiency of handling sea trade volumes. Growing transport and logistics cost were passed on to shippers and consumers of goods transported by sea, stimulating inflationary presse in many countries. Moreover, the was a significant drop in revenues and earnings of the Suez Canal managing entity, affecting the Egyptian economy and limiting budgetary incoms and the dynamic of GDP's growth. Howeverhowever, in the case of the Panama Canal, such effects did not occur.*
Practical Implications: *The disruptions in the transit functions of the Suez and Panama Canals that have occurred since 2023, indicate that the maritime business sector managed the risk and crisis better than its global regulatory sphere. The last one was unable to ensure safe navigation or even ease main negative effect. Therefore, the global transport regulatory system should be more supportive in solving current perturbations of this nature.*
Originality/Value: *The research has demonstrated that the global strategic maritime infrastructure facilities are particularly vulnerable to all geopolitical conflicts and natural disasters and susceptible to strong disturbances that generate huge disruptions within all links of the global supply chains, affecting numerous negative effects in the global economy.*

Keywords: *Strategic shipping passages' disruptions, canals' managing and operating entities, crisis management by affected economies, economic and social global effects.*

JEL classification: *D81, N75, N77, R40.*

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1. Introduction

The free and undisturbed accessibility to the main shipping transit passages, such as Suez and Panama Canals or Strait of Hormuz are undispensible for smooth and effective development of the global trade goods and performing efficient in logistics terms operations by shipping. However, it was significantly limited in recent few years.

The strategic sea passages were affected by huge diruptions in performing their transit functions, caused by natural disasters, such as El Nino in Panama or geopolitical tensions and regional military conflicts (the Suez Canal, Strait of Hormuz), what generated serious navigational perturbances for vessels passing these sea rutes. They have caused first, significant transport and logistics perturbances for shipowners, shippers and forwarders and later on, they were further transfererd on other links of the global supply chains (Grzelakowski, 2026).

Constraints in access to key shipping transit crossings generated shockwaves through both regional and global supply chains, posing new, unpredictable long lasting burdensome and complex challenges for majority of the world's economies and their communities. These challenges were accompanied by a significant surge in costs, both direct and indirect, and an increase in losses (Pole Star Global, 2024). They turned out to be particularly severe for final recipients of investment and consumer goods delivered by sea, which resulted in increased inflationary pressure in many countries around the world (UNCTAD, 2024 b).

And last but not least, to the category of the serious results of such disruptions belong the cost effects which affect the managers and administrations of the main ocean infrastructure facilities. They have been struggling not only with the significant surge in operating and maintenance costs of their assets but also with plummeting revenues at the same time.

Consequently, countries in whose territory these facilities are located., i.e. predominantly Egipt, incure financial losses in form of lesser budgetary incoms, a decline in revenues from the export of canal services, and a reduction in the positive balance of services, which ultimately translates into GDP's growth dynamics (Elshazly, 2024, UNCTAD, 2026).

The subject and research problem defined in this way, provide the basis for determining the purpose of the research, which is to assess the direct and indirect effects of disruptions caused by various constraints in access to the Suez and Panama Canals in the period 2023-2025 and in the first half of 2026.

However, the economic and financial consequences concern mainly canals administering and managing entities as well as the economies directly affected by the effects of the crisis that in fact destabilised the global supply chains to the detriment of the world economy.

Furthemore, the study based on credible international sources and data, points out of numerous wider economic consequences caused by long lasted operational disfunctions of the chokepoints for global shipping, which have been inccured by final consumers of goods carried by sea (UNCTAD, 2024 a).

2. Literature Review and Research Methodology

Aiming at the meeting the set research objective and assessing properly economic and financial consequences for canals' managing and administering entities as well as the economies directly affected by the effects of the crisis that arose as a result of long lasting turbulences affected both Suez and Panama Canals, there were used a number of both quantitative and qualitative research methods and techniques.

As a part of the methodological triangulation formula, there were applied such methods and technoques as: critical literature analysis, factor analysis (FA) and mining of data obtained from many reports and studies issued by leading domestic and international organizations as well as institutes focusing on global economic as well as transport and logistics issues concerning the subject under scrutiny. The market and comparative analysis has been imposed, too.

Examining the reasons and economic, financial and social conequences of the relatively long lasted disruptions and turbulences which have affected both Suez and Panama Canals as key, strategically most important global sea corridors, it was necessary to use available and trustworthy sources and databases of leading international organizations such as UNCTAD, WTO, EC as well as International Chamber of Shipping.

Moreover, very useful and inspiring were the annual reports and financial statements of Suez and Panama Canals authorities as well as official documents of the Egyptian and Panamanian governements concerning this issues. Transport, logistics and maritime information portals and platform such as: UN COMTRADE database on international trade, IMO portal MDA (Maritime Domain Awareness, CBS' ShippingWatch News, Upply Platform (Inteligent Transport Management) and maritime portal GospodarkaMorska.pl), turned out to be very useful sources of data and information.

Moreover, several expert opinions, published on portals and websites of such institutions as: Baker McKenzie, Clarksons Research, Container News, Container xChange and Xeneta were sorouly analysed. They facilitated access to various types of documents relating to the researched issue and expert opinions on this issue that were carried out by research instituts at that time.

Farther, a thorough analysis of several publications on selected aspects of the issue under study was also carried out (Kaminski, 2025, Hansa, 2024-2025, Grzelakowski, 2026, Larkin, 2026, Hartley, 2026 and Kramek, 2025). They allowed for a deeper insight into the numerous direct and indirect consequences of existing turbulences and the directions of action necessary to limit the negative effects that arose for the canals administering bodies and the national economies affected by these kind of disruptions.

3. Operational, Economic and Financial Effects of the Suez Canal's Limited Accessibility: An Analytical Approach

The Suez Canal plays a strategic role as crucial trade and transport route between Europe and Asia, handling roughly 10% to 12% of global maritime trade, enabling simultaneously, ship operators to avoide having to take a longer route around Africa, i.e. via the Cape of Good Hope. As a result, the journey distance from the Arabian Sea to London may be shortened by ca. 8,851 km (5,500 miles), generating significant time and operating costs' savings for all supply chain participants.

Otherwise, due to necessary rerouting via the Cape of Good Hope route, the sailing duration between Far East –N.W.Europe increases usually by 10 to 14 days, depending on the ship's speed. Moreover, the longer distances caused by rerouting imply a 70% increase in GHG emissions for a round trip from Singapore to Northern Europe, as well as a 40-60% increase in average fuel costs (UNCTAD, 2026).

In the period 2019-2023, the number of ships transiting the Suez Canal increased systematically, and at the peak period after the pandemic in 2023, 26,000 vessels passed through the canal. The intensity of ship traffic monthly in the Suez Canal and in the region was very high (Polstar Global, 2024). However, due to ongoing military operations in the Red Sea region and frequent attacks on ships passing through Suez Canal since November 2023, the number of ships transiting via canal began to gradually decrease, and after 11-12 month it hit rock bottom in 2024. It plummeted by more than 50% (Euronews, 2025).

This means that in the worst year ever, i.e. 2024, only 25-35 ships per day passed through the canal, compared to an average of 75-80 before November 2023. As the result, the Suez Canal operated below normal capacity, i.e. at around 70 per cent below average tonnage transit levels in 2023. The table below presents detailed data on this issue.

Table 1. *Number and net tonnage of ships transited the Suez Canal and cargo traffic by direction (1000 Ton) in the period 2022-2025*

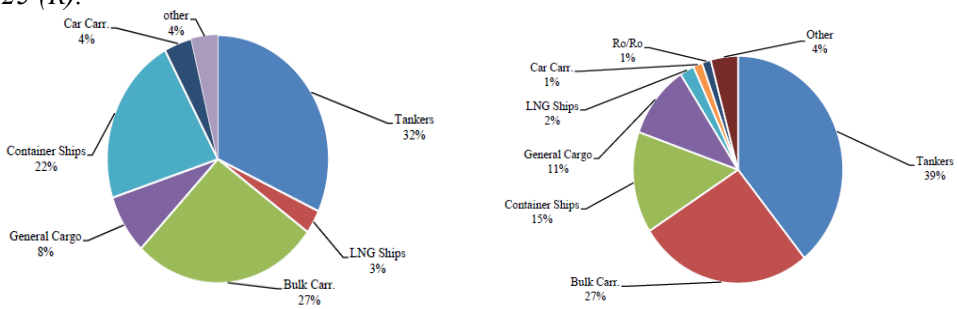
Year	Number of vessels		Net Ton (1000)		Cargo ton by direction			%
	Total	Daily Avg.	Total	Daily Avg.	North-South	%	South-North	%
2022	23,851	65.3	1,409,880	3,862.7	621,370	1.5	556,060	16.6
2023	26,434	72.4	1,568,257	4,296.6	750,424	20.9	572,309	2,9
2024	13,213	36.1	524,527	1,433.1	335,838	-55.4	121,965	-78.7
2025	12,758	35.0	522,084	1,430.4	317,581	-5.4	146,859	20.4

Source: *(SCA, 2023, 2025, 2026, SCA, 2025; Pole Star Global, 2024.)*

The data in Table 1 indicate the scale of the decline in the number of vessels transiting the Suez Canal starting in 2024. They also reflect significant fluctuations in the directional structure of cargo transport through the Suez Canal, specifically in the South-North but also to lesser extent in the North-South flows, which were particularly evident in 2024. It signaled undoubtedly the growing role of alternative transport corridors at that time, such as the New Silk Road.

However, the structure of the tonnage using the Suez Canal did not change significantly over the period under review; tankers, dry bulk carriers, and container ships remained dominant, and these three vessel types continued to transit the canal in 2025. The quantitative structure of tonnage in the Suez Canal in 2023 and 2025 is shown in Figure 1.

Figure 1. *Share NO of Vessels transiting the Suez Canal by ship type in 2023 and 2025 (R).*



Source: *(SCA 2023 and 2025).*

As shown in Figure 1, the tonnage structure was dominated by tankers, followed by bulk carriers and container ships. Their combined share of total transits stood at 81% in 2023, but due to disruptions, fell to 72% in 2025, as these were large vessels most vulnerable to attacks by Houthi militants. This means that during the period of major disruptions in the Suez Canal, the capacity structure of the tonnage transiting this strategic maritime corridor changed significantly (Pole Star Global, 2024).

It was a shift that undoubtedly has a substantial impact on the fiscal effects of the canal operator, given that transit fees depend primarily on the type, size (tonnage), and weight of the vessel (EFM, 2025, ICS, 2022). Large ships typically pay between

$300,000 and $700,000+ per transit, while ultra-large container ships or tankers can exceed $1 million once surcharges are added (Bruno, 2026).

Moreover, the Suez Canal Authority (SCA) also charges extra fees for pilotage, towing, and mooring services. Hence, SCA's and finally Egypt's annual revenue from the Suez Canal which normally based on global shipping stability and its gradual growth, fluctuated heavily in recent years (SCA, 2025). However, typically the SC generated between $4 bn and $10 bn per year, being the country's primary sources of foreign currency and its economic growth (SCA, 2026).

The breakdown of the Suez Canal Authority recent yearly revenues in the period 2022-2025 is presented in Table 2. The presented data show how dramatically geopolitical events as well as accompanying them trade and other economic tensions, and in the end, disruptions of global supply chains affect generated by the Suez Canal Egypt's earnings (HANSA, 2025).

Table 2. *Annual* ***r****evenues trends and its volatility in fiscal/calender year 2021-2025*

Fiscal / Calendar Year	Annual Revenue (USD)	Key Context
2025/2026	$4.67 bn	Easing regional tensions and partial return of major carriers.
2024	$3.9 bn	Lowest point; 50% drop in vessel traffic due to Red Sea securi disruptions.
2022/2023	$9.4 – $10.25 bn	All-time historic record before shipping diversions began.
2021/2022	$7.0 bn	Post-pandemic trade recovery and toll adjustments.

Note: **Caption: In calender year 2021 the SC's earnings amounted to $ 6.33 bn and in 2022 $ 7.93 bn.*
Source*: (HANSA, 2025; Elshazly, 2024; Hartley, 2026; SCA, 2026; SCA, 2025).*

In calender year 2023, revenues from the Suez Canal had reached 9.4 bn (EGP 463.45 bn). However, in fiscal year 2022/2023, despite disruptions caused by the COVID-19 pandemic and ongoing war in Ukraine, the revenues hit a record-breaking $ 10,25 bn, i.e., ever reached level (Table1).

Subsequently, since October 2023, due to the attacks by the Yemeni Houthis, which caused diverting the ships by the major shipping companies around Africa and the Cape of Good Hope, the Suez Canal's income has fallen dramatically and amounted to merely $ 3,9 bn in 2024 calendar year. This means that in 2024 alone, Egypt reportedly lost $ 7,0 bn in revenue, earning up to 60% less than in 2023 (Kamiński, 2026).

In subsequent fiscal year, due to the ongoing war in the Middle East, Egypt's revenues from the Suez Canal reached only slightly uptick (by ca. $0.8 bn), which effectively meant a continuing downward trend relative to the 2021/2022 level (Hartley, 2026). In fact they plummeted in relation to the prior expectations and Egypt has lost around $10 billion since the beginning of the crisis (Hansa, 2026).

Such a strong decrease in revenues generated by the Suez Canal, which constitute one of the main pillars of Egypt's economy, being at the same time one of the most important sources of foreign currency for Egypt, especially US dollars, impacted significantly countrie's GDP growth as well as its balance of payments and the level of budgetary revenues (Elshazly, 2024).

According to the SCA's data, from 2019 to 2024, the Canal generated $ 40 bn in revenue for Egypt's economy contributing approximately 2% to 3% directly to Egypt's GDP) under normal economic conditions. However, its broader economic impact, including foreign currency earnings, logistics, and tax revenues, plays a much larger role for Egipt's economy (Suez Canal, 2026). The combined contributions from the SC's trade, manufacturing, and telecommunications drive nearly half of the nation's annual economic growth, placing the total contribution of this global industrial, transport and logistics hub closer to 5% of GNP (SCA, 2025).

In analyses of this kind, one must take into account that the SC as a global industrial & logistics hub generates beyond direct tolls, additional, indirect economic and financial benefits for the economy. For Egypt developed, expanded and operates the Suez Canal Economic Zone (SCZone), which brings in hundreds of ml of dollars in industrial manufacturing and logistics investments annually.

So, thanks to the direct and indirect the SC's bounded benefits, the services sector generates ca. 51.5% of Egypt's GDP. Though, Egypt developed, expanded and operates the Suez Canal Economic Zone (SCZone), which brings in hundreds of ml of dollars in industrial manufacturing and logistics investments annually. So, thanks to the direct and indirect SC's bounded benefits, the whole services sector generates ca. 51.5% of Egypt's GDP (SCA 2025, Suez S.A. 2026).

However, the operations of the Suez Canal, along with the directly related and accompanying logistical and industrial activities, as well as the revenues generated for the canal operator and the Egyptian economy, are highly vulnerable to geopolitical turbulence. A breakdown of the SCA's recent yearly revenues shows how dramatically geopolitical events impact Egypt's earnings.

In 2025/2026 fiscal year $4.67 billion. revenue ($4.67 bn) rebounded by 23% from the previous year's low as shipping traffic gradually stabilized and some vessels returned to the waterway (Hartley, 2026; Suez S.A. 2026). As a result, tax receipts linked to the canal reached 55.6 bn Egyptian pounds (EP) in the first half of fiscal

year 2025/26, and the surrounding Suez Canal Economic Zone generated EP 15.9 bn in revenues (SCA, 2026).

Despite recent disruptions, the canal handles roughly 10% to 12% of global maritime trade. As conditions normalize, short and medium-term projections by the International Monetary Fund (IMF) and the Egyptian government estimate that as regional stabilization continues and major shipping lines return, annual revenue will climb back up to roughly $8 bn for the 2026/2027 fiscal year and reach $10 bn by 2027/2028 , scaling back up to $11.9 bn by the late 2020s (SCA, 2026).

On this basis, it can be estimated that on this basis, it can be estimated that in the end of 2020s goods with a total value of ca. 25% may be moving through this seaway annually (SCA, 2026; Suez S.A. 2026).

It should be mentioned, however, that in 2023 ca. 19% of global trade transited via this passage and these figures were reduced on average by over 60% in 2024. This indicates the level of uncertainty accompanying the actual operation of such a facility within the global economy amidst geopolitical tensions.

4. Operational, Economic and Financial Effects of the Panama Canal's Perturbances: An analytical Approach

The Panama Canal (PC) as a strategic choke point for global shipping is 82 km long and currently handels ca. 3.5-5.8% of the world maritime trade. It connects the Atlantic and Pacific Oceans, shortening the distance between two ports, i.e. Cristobal (Atlantic) and Balboa (Pacific) by ca. 13,000 km.

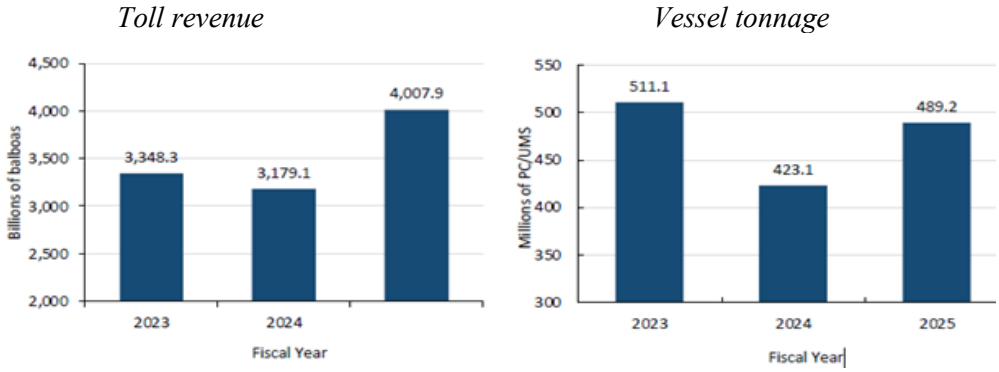
The PC is managed by the state-owned company, the Panama Canal Authority (PCA). The Canal connects 180 routes in 170 countries, through 1,920 ports worldwide. Its total workforce was 9,014 employees in 2025 (PCA, 2026).

Its daily maximum capacity is around 36 to 40 transits. However, during the El Niño event in 2023, it was grappled with an intense drought. As water levels in the canal plummeted, shipping capacity was severely constrained and in a critical period daily transits were temporarily reduced even to 22.

Furthemore, ships had to sail with a maximum draft that was 12% below normal levels. A reduction of over 53% in the number of ships passing through the Panama Canal due to exceptionally low water levels has created a huge queue of ships waiting to cross from Pacific to the Atlantic (Kramek, 2025; Skhuro, 2025).

The vessel tonnage transitited the Panama Canal and generated toll revenue by the PCA in the period 2023-2025 presents Figure 2.

Figure 2. *Vessel tonnage and toll revenue gathered by the PCA in the years 2020-2025*



Source: (*PCA, 2025; PCA, 2026)*

At the end of the 2025 fiscal year, the PC recorded 489.2 ml PC/UMS[2] tons, an increase of 66.1 ml tons, equivalent to 15.6% more than 2024. Toll revenues totaled B[3]/.4,007.9 ml, representing an increase of 26.07%. Revenues from transit fees were therefore 167% higher than the growth in vessel tonnage passed the Canal (PCA, 2025). Such extra financial result was achieved due to implementation by the PCA in 2025 a special program called the Long-Term Slot Allocation (LoTSA), designed for Neopanamax vessels.

LoTSA empowers customers to secure transit slots in advance through a transparent sealed-bid auction system. This approach allows clients to plan long-term operations with confidence, reduce exposure to market volatility, and optimize their logistics strategies. Between January 5 and September 30, 2025, 900 slots were billed, totalling B/.251 ml, with an average of B/.278 thousand per slot (PCA, 2025).

LoTSA was a new, modified and more transparent version of a preference system—already in use in 2023—for operators who, seeking to reduce the high costs associated with waiting in line for transit through the CP, were willing to pay additional fees to bypass the queue.

For it was then, as early as August 2023, when water levels in the PC dropped dramatically and as many as 200 ships have been stuck in traffic jams on both sides of the canal (in September, there were 130), due to the growing congestion caused by restrictions imposed by PCA in number of ship transits per day, a special financial system was introduced (UNCTAD, 2024 c; UNCTAD, 2024d).

[2]*Panama Canal Universal Measurement System (PC/UMS) is a measurement unit employed by the Panama Canal to account for the cargo volume passing through the interoceanic route.*

[3]*The average exchange rate of the Panamanian balboa (B) against the USD remained stable in 2025, hovering near a 1:1 parity with minor market fluctuations of a fraction of a percent.*

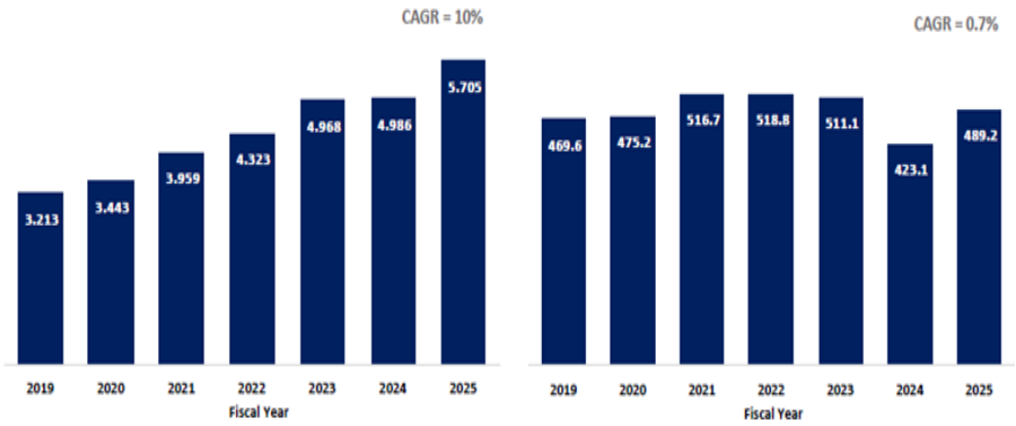
It allowed for a partial reduction in the queue of waiting vessels whose operators were determined to pay an additional extra fee to the PCA. As a result, container ships passed through the canal virtually without queuing, as they paid a special surcharge to skip the line.

The standard cost of transiting the PC was $60,000. On the official exchange, prices for bypassing the queue reached around $800,000, accounted for around $2.4 ml on September 1, 2023, and then returning to $700,000-800,000 after September 23. On the one hand, they represented an extra revenue for the canal operator, while on the other, they entailed significant additional costs for ship operators, shippers and forwarders and as logistics costs of the global supply chain had a significant disruptive effect on it (UNCTAD, 2025).

As a result of such pro-fiscal actions taken by the PCA, since fiscal year 2019, revenues have grown at a compound annual growth rate (CAGR) of 10.0%, while the volume of tonnage handled has increased only by 0.7% (Figure 3).

Throughout fiscal year 2025, the PCl operated under stable conditions, despite an international context marked by uncertainty and volatility, primarily driven by tariff fluctuations and geopolitical tensions. This performance reaffirms Panama's ability to reliably and efficiently manage one of this world's maritime route.

Figure 3. *Total revenue (in bn of Balboas) and total tonnage (in ml PC/UMS) 2019-2025I*

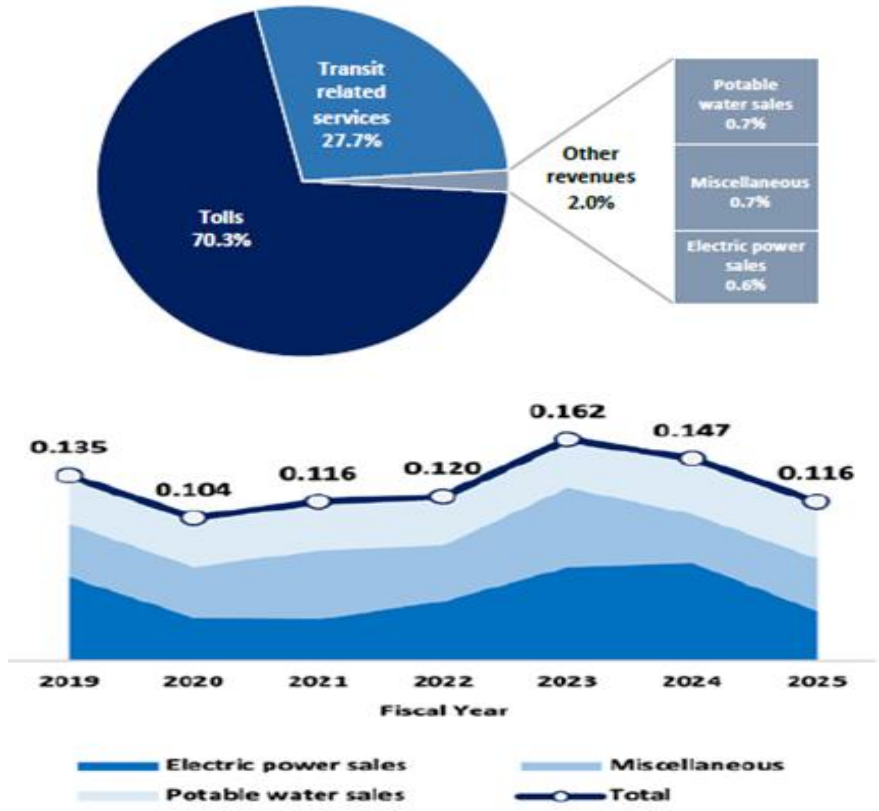


[1] Panama Canal Universal Measurement System (PC/UMS) is a measurement unit employed by the Panama Canal to account for the cargo volume passing through the interoceanic route.

Source: *(PCA 2021; PCA 2023; PCA 2025).*

To better recognise the structure of main and other accompanying PCA's activities sources of revenue, Figure 4 presents the basic data obtained from the canal manager's report.

Figure 4. *Revenue distribution in 2025 and other revenues (in bn of Balboas) gained by the PCA in the years 2019-2025*



Source: *(PCA 2023; PCA 2025).*

During fy year 2025, the PC reported total expenses of B/.2.026 bn (+ 7.8%) and achieved a net profit of B/.4.093 bn (+ 19.0%). These results reaffirm the PCA's robust financial standing and its strategic focus on future investments. Simultaneously, the PCA transferred in fy 2025 to the Panamanian State B/.2.965 bn in direct contributions to the National Treasury, raising the total to B/.31.232 bn since the Canal's delivered to Panama's NT over 25 years ago (PCA, 2025).

Apart from the direct contributions, the PCA provides indirect support to the Panamanian State through the fulfillment of tax and social obligations related to its workforce. In fiy 2025, these contributions amounted to B/.259 ml (PCA, 2025).

By the end of fy 2025, the PCA's total contribution to the national economy, including both direct and indirect contributions, amounted to B/.4.241 bn (PCA 2026). Within this amount, the indirect share totalled B/.1.017 bn to the national economy and consisted of net salary payments to employees totaling B/.582 ml,

local purchases of goods and services, reaching B/.435 ml (Suez S.A. 2026; Newsroom Panama, 2025; Grzelakowski, 2026).

Taking into account the various types of financial transfers made from the PCA to the Panamanian state treasury, it can be stated that in fy 2025, estimated PC direct contributions were 3.4% in relation to the GDP. Including the indirect contributions and the expenses in the local economy, the total direct and indirect contributions represent an estimated 4.9% of the Panamanian GDP.

If, on the other hand, we take into account the s.c. multiplying effect on these contributions en identified that there is a multiplying effect on these contributions, it can be estimated that there is an additional 1.4% for fy 2025. Therefore, the PC's total contribution accounts for an estimated 6.3% of the GDP (PCA, 2026).

5. Research Results and Discussion

The long lasting disruptions affecting Suez and Panama Canals have strained key global supply chains, driving up direct and indirect costs of the ship operators. All of them have caused significant increase in their overall operational costs, pressed to heighten freight rates with the aim to transfer them in total or partially on shippers as well aas other parties involved in logistics operations within the global supply chains and finally on consumers of goods carried by sea (Grzelakowski, 2026; De Ricqles, 2026).

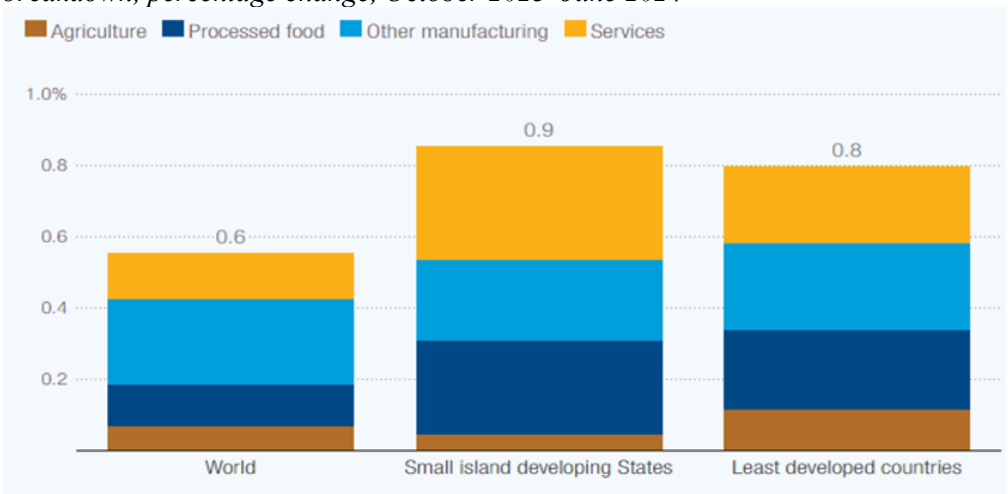
The surge of freight rates in critical period of ongoing disruptions accounted even for over 100%—300% in some shipping routes, driving up seriously transport and logicstics costs within the global supply chains, as well as initiating threat of inflation and serious risks of increases of consumers prices in many countries.

And so, the crisis in the Red Sea caused an increase in spot container freight rates, mainly in 2024 with partial relief by year-end. What is characteristic, container spot freight rates (based on SCFI) recorded their peak around midyear 2024 at levels not seen since the COVID-19 disruptions (Pol Star Global, 2024; UNCTAD, 2026).

As a result, such kind of disruptions hit hardly not only Egtiptian economy and to less ectend Panamanian one but also severely affected many other less developed countries vulnerable to any form of distortions and economic shocks, occured within global environment. For they resulted in a significant rise in the prices of consumer and investment goods, and, consequently, in mounting inflationary pressure evident across individual economies.

Based on data compiled by UNCTAD, Figure 5 illustrates the effects of disruptions in the Panama and Suez Canals, which led to an increase in freight rates and, consequently, to inflation across two most vulnerable groups of economies operating within the global system.

Figure 5. *Impact of freight rate increases on the consumer price index and its breakdown, percentage change, October 2023–June 2024*



Source: *(UNCTAD, 2024 b; UNCTAD, 2025; UNCTAD, 2026).*

The presented data indicate that vulnerable economies were hit hardest. Small island developing states (SIDS) and least developed countries (LDCs) are in fact bearing the brunt of these disruptions. It was assumed that if the reason of increase in container freight rates observed between October 2023 and June 2024 were to continue until the end of 2025, global consumer prices could rise by 0.6% by late 2025. Consequently, SIDS would be the hardest hit, potentially facing a 0.9% increase, with processed food prices rising by 1.3%.

These vulnerable economies, which rely heavily on shipping for essential imports, have seen their maritime connectivity decline by 9% over the past decade, leaving them ten times less connected to global shipping networks compared to non-SIDS countries (UNCTAD, 2025).

These are complex, contemporary challenges facing not only individual nations but also the regulators of global trade (WTO) and maritime shipping (IMO), as well as their respective industry associations (ICS, WCA, ECSA, BIMCO), entities tasked with establishing a global order within the spheres of global trade and transport. Addressing these issues should also involve the cooperation of other UN organizations and the support of the world's leading economies (Grzelakowski, 2026, UNCTAD, 2026).

6. Conclusions

The research has demonstrated that the global strategic maritime infrastructure facilities are particularly vulnerable to all geopolitical conflicts and natural disasters and susceptible to strong disturbances that generate huge disruptions within all links

of the global supply chains and eventually, numerous negative effects in the global economy. Long lasted constraints in access to the Suez and Panama Canals, generated numerous consequences for many sectors of the global economy.

Apart from the significant surge in shipping operating costs as a result of necessary rerouting and consequently, increase in greenhouse gas emissions, they caused severe supply chain disruptions such as port congestions, increase in delivery time and costs what resulted in serious decline in the logistical efficiency of handling sea trade volumes.

Growing transport and logistics cost were passed on to shippers and consumers of goods transported by sea, stimulating inflationary presse in many countries. This was felt particularly acutely by the small island developing states and the least developed countries, being heavily dependent on the export and import of goods by sea.

Moreover, the was a significant drop in revenues and earnings of the Suez Canal managing entity. It affected strongly the Egyptian economy, limiting its budgetary incoms and the dynamic of GDP's growth.

However, in the case of the Panama Canal, such effects did not occur. This stemmed both from market conditions, where the demand for the PCA services far exceeded the capacity to meet it, and from the adoption of a different crisis management model. In financial terms, the Panama Canal has reduced operating costs, achieving at the same time high revenues and generated significant benefits for the national economy.

The conducted analysis of the economic, social, and logistical consequences of constraints and restrictions on free access to both most imported chokepoints points also clearly that the maritime business sector managed the risk and crisis better than its global regulatory sphere.

The last one was unable to ensure safe navigation or even ease main negative effects. Therefore, the global transport regulatory system should be more supportive in solving current disturbances of this nature, occured within the global logistics area.

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