Annual Report

Valencia Containerised Freight Index

Annual Summary 2023

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VCFI©

Valencia Containerised Freight Index

As in previous years, this report is drafted to examine the factors that have affected the Valencia Containerised Freight Index (VCFI) throughout the past year. 2023 saw the global economy face a series of challenges in the form of persistent supply chain disruption, inflationary pressure and monetary policy tightening. We also saw demand for international trade, and thus for shipping, experience moderate growth, with a marked deceleration in the second half of the year due to economic slowdown in several key regions. Therefore, along with other aspects analysed in this report, freight rates have shown a significant drop since the beginning of the year, regardless of the distinctive characteristics of each region.

The report concludes with a specific focus on Valenciaport, placing the evolution of the VCFI within the context of the port's traffic volumes and export activity in its hinterland. As well as examining the overall performance of the index, rate increases in three of Valenciaport's main markets are explored: United States and Canada, the Far East and the Western Mediterranean. We look at the performance of freight rates by region, reflecting the particular features of each trade route, the economic dynamism of these markets and their impact in global terms.

VCFI METHODOLOGY

Conceptually, the Valencia Containerised Freight Index (VCFI) is a quantitative index that allows us to measure and compare data relating to maritime freights from the port of Valencia. This index has been created based on information obtained from primary data sources, formed by twelve top level panellists who operate in the port of Valencia, including forwarding agents and shipping companies (Alonso Pricing, Arkas, Cosco Shipping, Cotunav, Grimaldi, Grupo Raminatrans, ONE, MSC, Savino del Bene, TIBA, White Line Shipping).

The composite index is calculated after receiving and checking monthly data on freight prices of exports for each of the ports, thus obtaining the weighted average of freight prices for each port.

The individual indexes are calculated based on the rates at 42 ports, which represent approximately 60% of the total export traffic of TEUs at Valenciaport in 2017, aggregating 13 geographic areas, as displayed in the table below.

VCFI geographic area	Reference ports
WESTERN MEDITERRANEAN	Casablanca (MA), El Djazair (DZ), Tunis (TN)
ATLANTIC EUROPE	Felixstowe (GB), Hamburg (DE), Antwerp (BE)
EASTERN MEDITERRANEAN	Alexandria (EG), Ashdod (IL), Piraeus (GR), Istanbul (TR)
FAR EAST	Shanghai (CN), Hong Kong (HK), Port Kelang (MY), Singapore (SG), Busan (KR), Tokyo (JP), Kaohsiung (TW), Bangkok (TH), Ho Chi Minh (VN)
MIDDLE EAST	Jeddah (SA), Jebel Ali (AE)
ATLANTIC USA CANADA	New York (US), Montreal (CA), Houston (US), Miami (US)
CENTRAL AMERICA AND THE CARIBBEAN	Veracruz (MX), Cartagena (CO), Altamira (MX), Caucedo (DO)
ATLANTIC LATIN AMERICA	Santos (BR), Buenos Aires (AR)
AFRICA WEST COAST	Luanda (AO), Bata (GQ), Dakar (SN)
AFRICA EAST COAST	Durban (ZA), Port Elizabeth (ZA)
PACIFIC LATIN AMERICA	Callao (PE), San Antonio (CL)
INDIAN SUBCONTINENT	Nhava Sheva (IN), Kandla (IN)
BALTIC COUNTRIES	Saint Petersburg (RU), Helsinki (FI)

To calculate the index, the individual data (latest data for current month) for the export freight prices (in dollars or euros per TEU) are collected monthly for each of the 42 ports considered. As freights on some maritime routes are negotiated in dollars, for conversion to euros, the exchange rates published monthly by the European Central Bank shall be used. The items included in the final freight prices from panellists are the following:

- Bunker Adjustment Factor (BAF)/ Fuel Adjustment Factor (FAF)/ Low Sulphur Surcharge (LSS)
- Emergency Bunker Surcharge (EBS)/ Emergency Bunker Additional (EBA)
- Currency Adjustment Factor(CAF)/ Yen Appreciation Surcharge (YAS)
- Peak Season Surcharge(PSS)
- War Risk Surcharge(WRS)
- Port Congestion Surcharge (PCS)
- Suez Canal transit Fee/Surcharge (SCS)/ Suez Canal Fee (SCF)/ Panama Transit Fee (PTF)/ Panama Canal Charge (PCC).

The index is calculated using the following formula:

$$f_j = \sum_{i=1}^{n} \frac{t_{ij}}{n}$$

$$VCFI = \sum_{j=1}^{m} k_j * f_j$$

where:

f_j = average freight for Port j

t_ij = freight reported by panellist I for Port j

n = number of panellists for Port j

k_j = weighting factor for Port j

First, the average freight level per port is calculated (f_j) from the data received for that port from all panellists. Secondly, a weighting factor is applied to the average freight based on the weighting of the port, resulting in the final index.

With the aim of representing the performance of freights over time, the decision was taken not to show absolute values but to present it in the form of an index number, the VCFI. This is the statistical measure that best covers the evolution of a specific variable, in this case freights, over a base reference period. The base of the composite index will be 1,000 points and the base of the period coincides with the first publication of the Index, that is, January 2018.

This index aims to provide an index of reference for the Western Mediterranean, much as the Shanghai Containerized Freight Index does for the Asia region. There will be monitoring of the pertinence and practical utility of the publication of the VCFI, analysing the new needs and priorities and developing new complementary statistical indicators.

The objective of VCFI is to provide value-added information on the key factor to defining port competitiveness, in the form of freight rates. The publication of the VCFI represents an important change in the sector by making information that until now was confidential, available to the port community. This exercise in transparency helps improve decision making for different port users.

On the one hand, this information will be useful for shipping companies, providing them with a composite index that will set the market trend. The VCFI will serve as a barometer for the health of the market by showing supply and demand for shipping for the principal trade routes from Valencia. This will serve shipping companies as a tool to predict the evolution of freights within their target markets, a determining factor for their operating costs.

It will also be useful for operators offering these services by serving as a benchmark for the performance of their freights and the market more generally.

As a result, the VCFI fosters a more transparent market and the availability of better information for decision making, resulting in a more efficient market.

VCFI: FREIGHT PERFORMANCE IN 2023

Over recent years, the shipping industry has witnessed a succession of events that have had a significant impact on freight rates, creating an environment of uncertainty in both the geopolitical and economic spheres globally. While historically freight performance tends to follow a predictable cycle, extraordinary events in recent years, such as the outbreak of the pandemic, have challenged any conventional prediction model, giving rise to new challenges and transformations in the shipping sector.

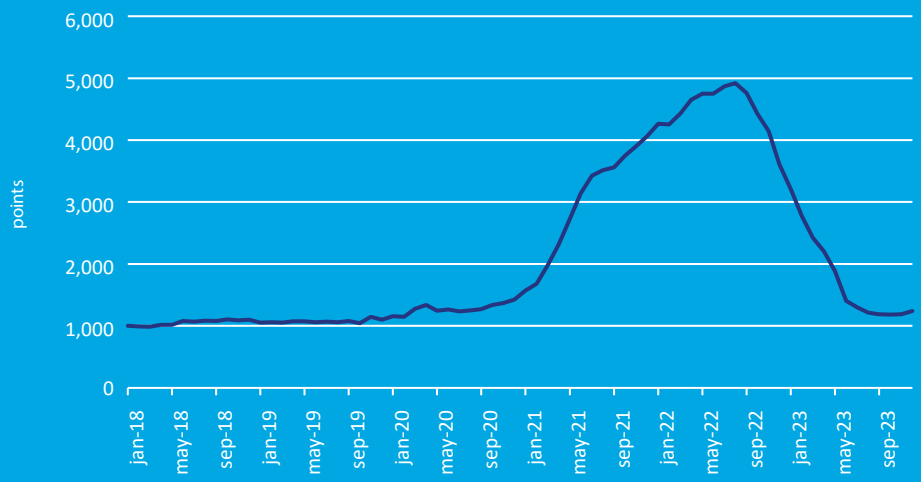
While freight rates peaked in the first half of 2022 due to the outbreak of the war in Ukraine, this trend was reversed in the third quarter of the same year (Figure 1). This was due to weakening demand for international trade and thus for shipping, generating a mismatch in supply and demand that resulted in a fall in freight rates in the second half of 2023. Late in 2023, attacks on ships in the Suez Canal by Yemen's Houthi militias highlighted the vulnerability of key shipping routes, leading to the implementation of contingency plans and alternative routes, although morecostly and resulting in delayed deliveries, thus reversing the upward trend in freight rates once again.

After six years of monitoring the VCFI, it is worth looking at the main stages of that evolution greater detail. Initially, the performance of the VCFI was stable, but by late 2019 it started to anticipate the effects of the new legislation IMO 2020. However, this change was overshadowed by the outbreak of the COVID-19 pandemic, which had a significant impact on freight rates in 2020. During the pandemic year, two distinct periods could be distinguished. In the first half of the year, there was strong volatility in freight rates due to the slowdown and even a standstill in economic and commercial activity, leading to an imbalance in the supply of capacity. In the second half of the year, freight rates grew strongly, partly driven by increased seaborne trade and the effects of the Ever Given obstruction of the Suez Canal.

As for the year 2022, two clearly defined stages are identified. The first was marked by the outbreak of war in Ukraine, which had an impact on energy and commodity prices, as well as on the global economy. During this phase, the VCFI reached its record level in the first half of the year, but from the third quarter onwards a fall in

Figure 1|

Monthly VCFI points 2018-2023



Source: Author's own

freight rates was observed, which continued until the end of the year. As introduced above, this downward trend has persisted through most of 2023, with the VCFI at levels similar to pre-pandemic levels. However, in the last part of the year, and specifically from November onwards, the VCFI has returned to its upward trend again due to the tensions in the Suez Canal caused by the Red Sea Crisis. At the end of 2023, the VCFI had reached a cumulative growth of 23.99%, standing at 1,239.93 points.

In a market as globalised as the maritime market, benchmarking the VCFI against the main market benchmarks allows the identification of common patterns of behaviour in the evolution of the different indices, compatible with market dynamics and related trade flows. For example, when comparing the VCFI with the Shanghai Containerised Freight Index (SCFI), which shows container freight rates from major Chinese ports, similar trends can be observed (Figure 2). In 2023, both indices show a downward trend, attributed to the weakening and shrinking demand for international trade and thus for global shipping.

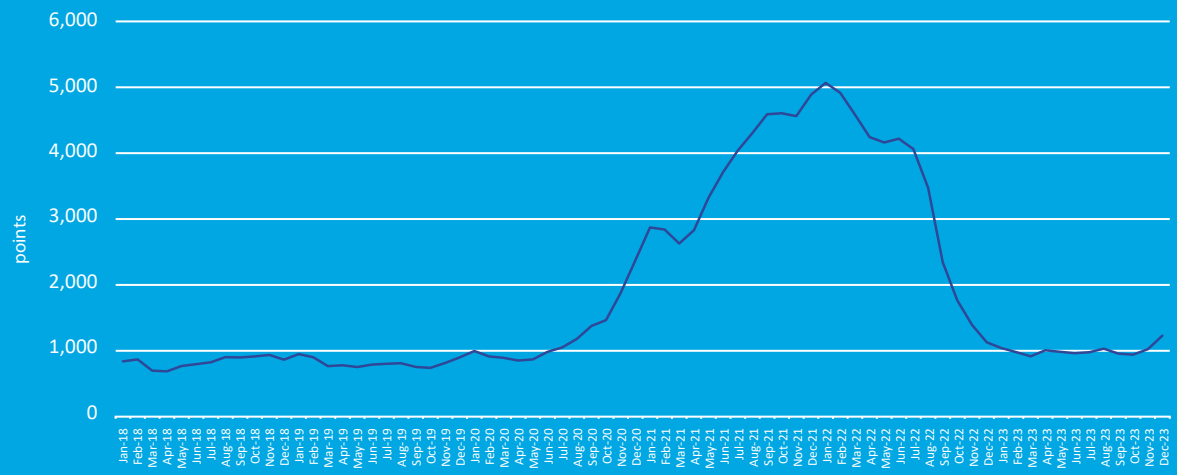
This decline in freight rates continued almost until the end of the year. However, this trend was reversed later in the year, especially after the outbreak of tensions in the Suez Canal.

Although the VCFI broadly follows the same trend as the SCFI, it is important to note the time lag between the two indices. This is because the SCFI captures freight rates on the main routes from where approximately 30% of the world's maritime traffic originates, mainly from China. On the other hand, the VCFI has a more diverse coverage, including main inter-oceanic routes, return routes and regional routes. As a result, the VCFI reflects the cascading effects of long routes and may experience freight price changes with a lag compared to the SCFI.

One of the main conditioning factors for the performance of freights is the functioning of the international economy as a whole, which sets the supply and demand conditions of capacity on the maritime transport market. The following is a summary of some of the main economic indicators that, to a greater or lesser extent, have conditioned the behaviour of freight prices in 2023.

Figure 2|

Monthly SCFI points
2018-2023



Source: Author's own based on Alphaliner data

GLOBAL ANALYSIS: THE SHIPPING MARKET

2023 has seen a turbulent economic environment, characterised by a series of disruptions that have put pressure on global economic stability. In the aftermath of the COVID-19 pandemic and the Russian invasion of Ukraine, the global economy continues to face a slow and uneven recovery process. Earlier this year, there was a pick-up in economic activity, driven largely by the gradual reopening of economies after pandemic-related closures. This momentum, combined with efforts to bring inflation down from the highs of the previous year, provided a glimmer of hope for global economic stability. This has led to a moderate economic recovery compared to previous periods. However, despite this progress, the global economy is still operating below its pre-pandemic trajectory.

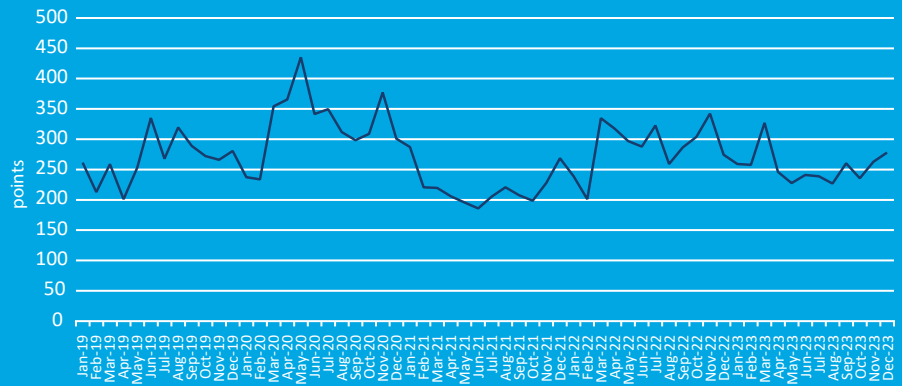
It is worth noting that several forces are acting as brakes on recovery. Some are rooted in the long-term consequences of the pandemic and the conflict in Ukraine. Others are of a more cyclical nature, such as the effects of monetary policy tightening to contain inflation, the gradual withdrawal of fiscal support in a context of high levels of indebtedness and extreme weather events that are increasingly impacting on economic activity. A number of disruptive events have directly impacted the economic outlook for the year under review, such as significant banking turmoil in the United States, including the collapse of Silicon Valley Bank, the technology sector's apex bank, in March 2023. Then, the Red Sea Crisis, which occurred on 7 October of the same year, generated new geopolitical tensions that have affected economic stability in the region. This has been compounded by a major energy crisis in Europe due to the cut-off of gas supplies from Russia, which has led to sharp increases in gas and electricity prices, causing a severe loss of real purchasing power in the region.

In this context, persistent uncertainty remains a key challenge. The level of economic uncertainty, monitored by the Economic Policy Uncertainty Index (EPU), summarises the monthly evolution of uncertainty surrounding the global political and economic situation. We can see that by 2023 the index has stabilised, reaching lower values than in the previous year. It remains below 2020 levels, after the outbreak of the COVID-19 health crisis, but is slightly above the 2021 levels (Figure 3). Uncertainty affects both economic and political decisions, and is heavily conditioned by global events and long-term trends such as wars, pandemics, financial crises and the responses of governments and financial institutions. As well as political tensions and uncertainty in relations between countries, affecting cooperation, trade agreements and global security.

It also highlights the moderation/notable decline of the price level, especially with respect to the previous year, but not enough to reach the ECB's 2% target, as proposed by the International Monetary Fund (IMF). In this regard, global inflation declined to 6.9% in 2023

Figure 3|

Global Uncertainty Index



Source: Authors' own based on data from Container Trade Statistics

from the previous year, as projected by the IMF, 1.8 basis points lower than in the same reading in 2022 (Figure 4). A steady reduction to 5.8% is foreseen for 2024. Financial markets generally maintained some stability, but there were moments of volatility, especially in response to geopolitical and economic events.

Risks to the outlook are more balanced due to the resolution of tensions over the US debt ceiling and decisive action by the Swiss and US authorities to contain financial turbulence. The crisis in China's real estate sector could deepen, with international repercussions, especially for commodity exporters. In the rest of the world, short-term inflation expectations have risen and could, combined with the tightness in labour markets, contribute to prolonging pressure on core inflation and the underlying need for higher-than-expected interest rates. Further climate related and/or geopolitical shocks, if they occur, could lead to further surges in food and energy prices.

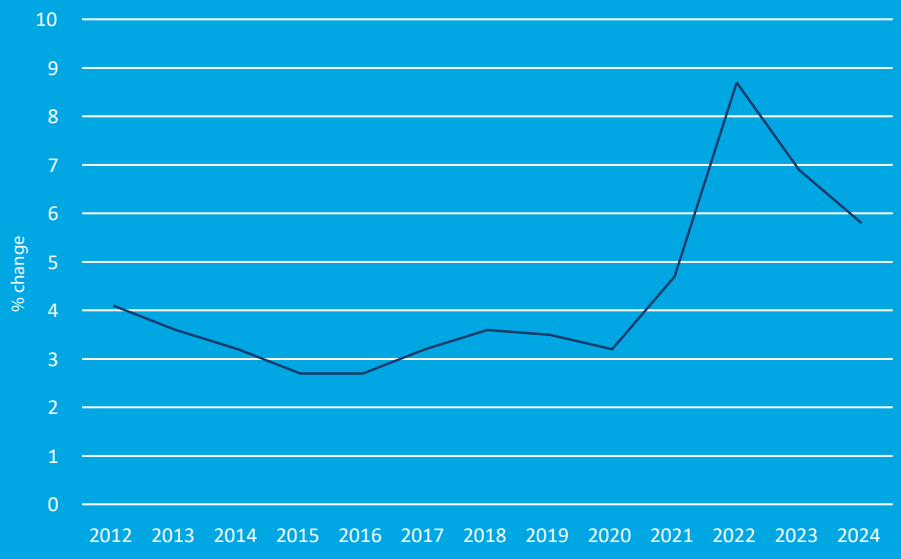
For their part, major central banks made a significant shift in strategy in their fight against inflation. Faced with this inflationary pressure, monetary authorities opted for a proactive tactic, implementing interest rate hikes as a pre-emptive measure. This decision reflects a shift towards tighter monetary policies aimed at containing price increases and preserving long-term economic stability. These decisions have been motivated mainly by the need to control inflation and maintain financial stability. The gradual increase in interest rates is a step towards the normalisation of monetary policies after years of extraordinary stimulus. While these measures may generate uncertainty in financial markets and have implications for sectors such as real estate and finance, they also reflect the capacity of economies to adapt to new realities.

All in all, there is no doubt that the economic outlook in 2023 has been extremely complex. According to the latest data compiled in the IMF's World Economic Outlook and shown in Figure 5, gross domestic product (GDP) fell 3% in 2023 for the global economy as a whole, a figure above the growth figure for the advanced economies (1.5%), which is down on the previous year (2.7% in 2022). But below the economic growth of emerging market and developing economies (4%) which has increased 0.1% over the previous year. In the same vein, and according to the latest update of the IMF's World Economic Outlook, projected global growth is also projected to decline by an estimated 2.9% by 2024. It is noteworthy, however, that at the beginning of the year the IMF was forecasting GDP growth of 3.4% and 2.9% respectively for the world economy as a whole for 2022 and 2023, which is 0.1% and 0.1% respectively lower than the IMF's latest update of economic projections.

Trade in goods and services, on the other hand, shows a high level of correlation with GDP growth. According to the latest annual estimate, prepared by the IMF, world trade grew by 1.8%, which corresponds to a GDP multiplier of 3.5 GDP points. We have noted a slower growth in both GDP and world trade for this

Figure 4|

Inflation rate, average consumer prices



Source: Author's own based on data obtained from the International Monetary Fund

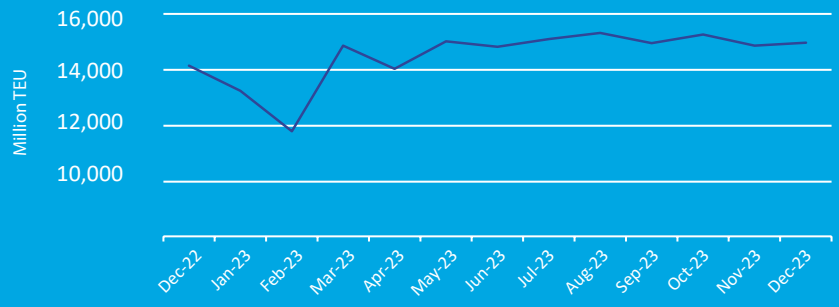
Figure 5|

General GDP growth and trade

Source: Authors' own based on data from the International Monetary Fund

Figure 6|

World container volume in TEU



Source: Authors' own based on data from Container Trade Statistics

past year. The continued high level of prices, including energy prices, coupled with a consequent loss of purchasing power of the population and the economic consequences of disruptive events during the year, such as supply shortages, logistical problems and geopolitical tensions, have slowed down world trade to the point of a significant economic downturn.

As a direct consequence of the slowdown in international trade and, consequently, in the demand for goods handled by sea, the overall volume of port traffic continued to decline up to February, when a recovery in container volumes started to be felt, from 11,839,371 TEU to 14,862,905 TEU, an increase of 26%. In the same month, with the Hamas attacks and the onset of the Red Sea Crisis, volumes decreased slightly, as reflected in the Container Trade Statistics data (Figure 6). Although the downward trend continued during the first part of the year, there has been something of a recovery since, with stability returning to container traffic from April.

Overall, the year 2023 was marked by a gradual but steady increase in container throughput compared to previous years. This growth is partly attributed to the economic recovery in many parts of the world, which boosted demand for manufactured goods and products. In addition, the expansion of e-commerce and the increasing integration of global supply chains also contributed to this increase in container transport.

However, this growth was not without challenges and fluctuations. Bottlenecks were observed in major ports and shipping routes due to congestion, delivery delays and container shortages. These logistical problems were exacerbated by supply chain disruptions, including the residual consequences of the Red Sea crisis earlier in the year.

Trade tensions between the world's major economies also had an impact on container traffic. Trade disputes and protectionist policies affected investor confidence and the stability of international trade, leading to uncertainty and volatility in commodity flows. Despite these challenges, there is no doubt that shipping remained a key pillar of world trade in 2023.

Analysis of Supply

On the capacity supply side, over the past year, the global fleet of container vessels in commercial idle status did not see the substantial growth expected from market conditions. Despite the addition of more than 2 million TEU of new capacity to the fleet, the combination of weak demand and declining freight rates did not significantly impact capacity utilisation, which, surprisingly, remained strong.

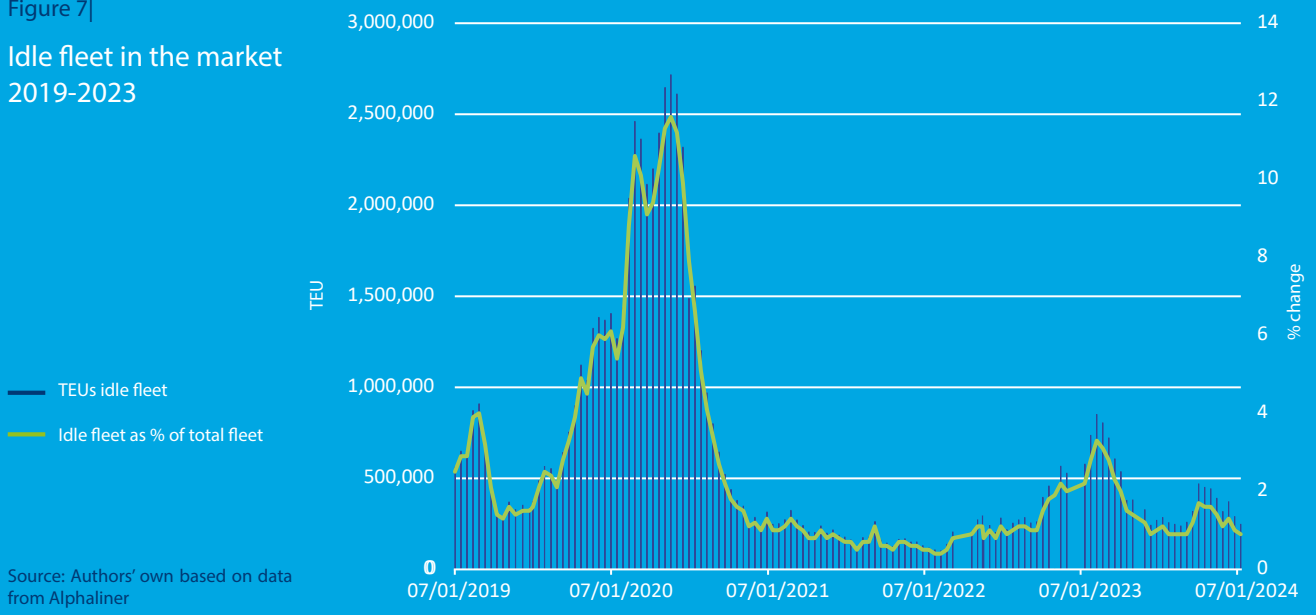
Specifically, in early 2023, with a slightly elevated level of idle commercial fleet, reaching up to 850,000 TEUs (equivalent to 3.3% of the total fleet) in February, carriers managed to get through the traditionally low period between Chinese New Year and the start of the peak summer season with no substantial reduction in the fleet. In October 2023, trading inactivity saw a modest increase, as several lines implemented voyage cancellations to avoid an excessive decrease in freight rates amid declining cargo volumes. The last quarter of the year was marked by unexpected global events, such as diversions from the Suez and Red Sea routes to the Cape of Good Hope, as well as droughts, which forced the Panama Canal to reduce passageways, resulting in longer waiting times and diversions in the maritime supply chain.

These disruptions put upward pressure on freight rates in the last quarter. While it remains uncertain whether these deviations will persist and continue to generate increased demand for ships in the longer term, the possibility is raised that, in the absence of similar disruptive events, vessel idleness could return later in 2024.

The scheduled delivery of 3 million TEU of new ships could potentially create a situation of overcapacity, even if measures like a further slowdown in ship speeds and an increase in scrapping are implemented. According to Alphaliner's bi-weekly reports, the global fleet of idle ships averages around 430,000 TEU in 2023, reflecting an increase of approximately 160,000 TEU compared to 2022 (Figure 7). Despite the year-on-year increase, this figure is considered relatively low in relation to the total world fleet, which is rapidly approaching 29 million TEUs.

Figure 7|

Idle fleet in the market 2019-2023



Source: Authors' own based on data from Alphaliner

To address overcapacity in the shipping industry, companies are considering measures such as reducing vessel speed, retiring older vessels and blank sailings. During the period 2021 and 2022, although more voyages were added to meet demand, supply chain problems caused congestion at the ports, resulting in cancellations despite increased capacity. Strategic "blank sailings" played a crucial role in keeping freight rates above breakeven. In 2023, blank sailings continued to stabilise rates and put upward pressure on certain routes, driven by growing demand and carriers' decisions. The steady expansion of shipping capacity is outstripping demand, putting pressure on already saturated corridors.

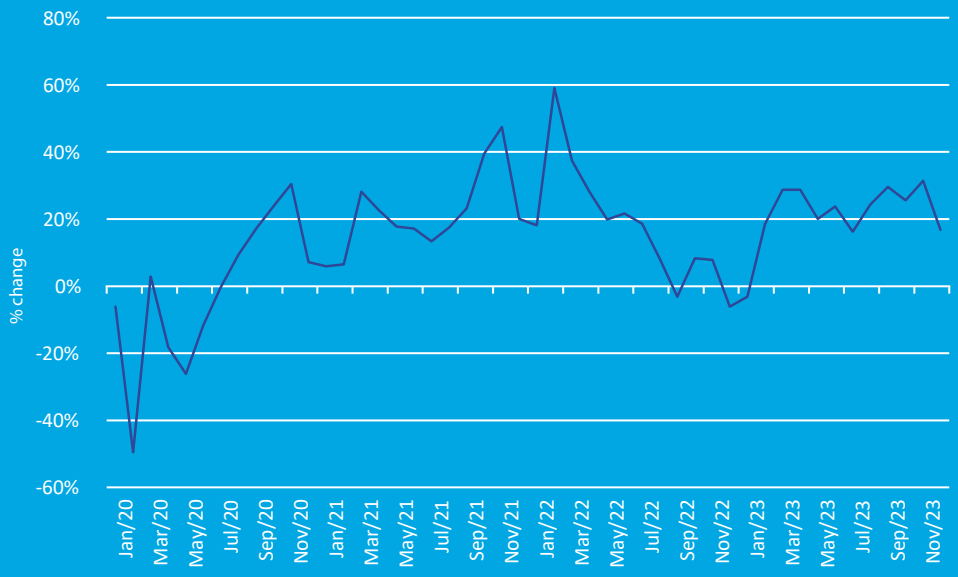
According to data provided by Sea Intelligence based on Container Trade Statistics (CTS) data, in the last months of 2023, the growth of empty containers was approximately 20%, highlighting the impact of trade imbalances on the need to redeploy empty containers. Although global TEUs increased by 2.5% compared to 2019, growth in TEU Miles was 4.2%, indicating an increase in the distance travelled by containers. This suggests a higher demand for the movement of empty containers compared to full containers, with growth significantly outpacing the rate of full containers. Figure 8 clearly shows this trend, evidencing the growth in the movement of empty containers in relation to 2019.

The crisis in the Red Sea, which began in late 2023, has created significant uncertainty in existing service networks, especially on routes from Asia to Europe. Data from Sea Intelligence's Trade Capacity Outlook report highlights the magnitude of the downturn compared to normal volatility and market disruptions in recent years. Figure 9 clearly shows key moments, such as Chinese New Year or Golden Week, where capacity reductions are in line with the decreases in demand associated with these holidays, which are considered normal market behaviour. It also highlights past events, such as the early impact of the pandemic and the "Ever Given" obstruction incident, which led to sudden capacity reductions.

The recent crisis will have a significant impact on a number of trade routes, with trade from the Far East to the east coast of North America being particularly problematic. The switch to the Suez Canal route, due to the drought in the Panama Canal, makes it unfeasible to return to the previous route. It also affects transit times on African routes, which will increase considerably. Additional vessels will be required to maintain weekly throughput, estimated at between 1.5 and 1.7 million TEU, representing 5.1 to 6.0 per cent of total world container ship capacity. Absorption of this additional capacity could imply greater navigation speeds.

Figure 8|

Growth of TEU*Empty Miles compared to 2019



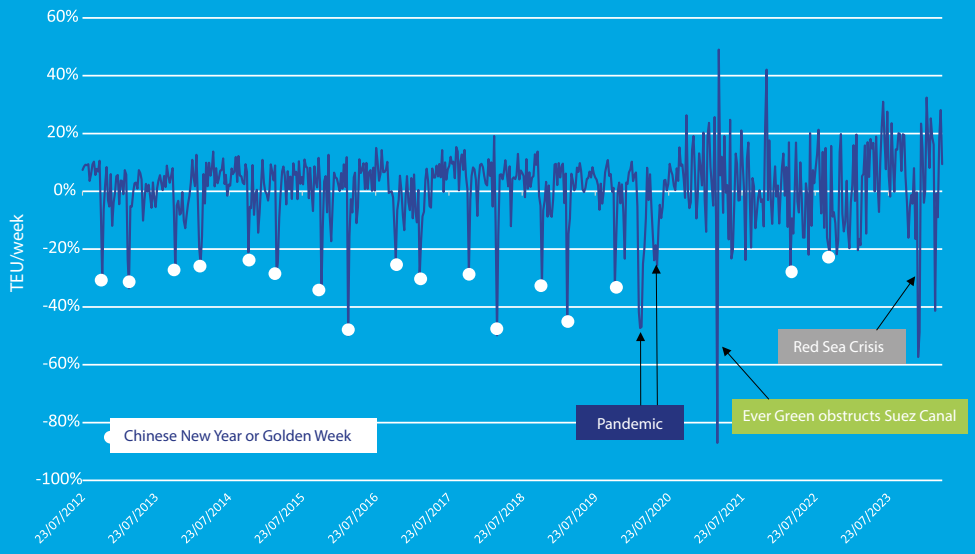
Source: Author's own based on data obtained from Container Trade Statistics

As for the main trade routes (Figure 10), there is notable growth in container shipping routes between the Far East and North America over the period 2018 to 2023. According to data provided by the consultancy Alphaliner, fleet capacity on these lines has increased by 19% in just five years. The average size of vessels operating between the Far East and North America has increased to 9,622 TEUs, compared to the 8,225 TEUs in 2018. In addition, growth of 18.54% was observed on maritime routes between Europe and North America, followed by an increase of 9.26% on routes between the Far East and Europe.

Looking ahead to 2024, it is important to consider the impact of the admission of shipping to the EU Emissions Trading Scheme (ETS), which will lead to significant changes in fuel strategies in Europe. This change will force shipping lines to weigh the benefits of acquiring carbon "allowances" against emission reductions. According to Alphaliner, data collected at the end of November indicates that at least 10.5 million TEU of capacity will be affected by this new regulation, representing more than 37 per cent of the container fleet. Most of this affected capacity is on the Far East-Europe route, with approximately 5.7 million TEUs operating.

Figure 9|

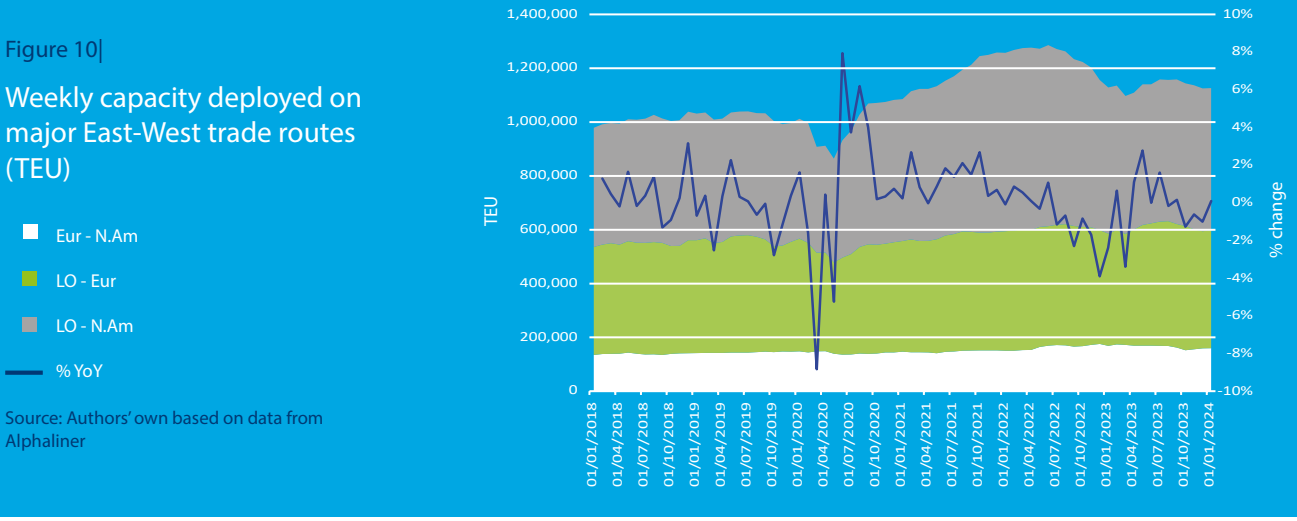
Weekly capacity deviation



Source: Authors' own based on data from Sea Intelligence

Figure 10|

Weekly capacity deployed on major East-West trade routes (TEU)



Source: Authors' own based on data from Alphaliner

An important factor resulting from the dynamics of supply and demand in maritime transport is the level of port congestion, due to the impact it can have on global supply chains. In 2022, the sector faced considerable challenges in terms of congestion and long waiting times for the release of goods at ports. However, by early 2023, improvement in congestion was evident, as shown in Figure 11. This improvement in congestion is largely attributed to low demand, as after more than two years of widespread port congestion, some normalisation has begun to take place. This is reflected in a decrease in tensions at the main international ports, as highlighted in the "Ports and Terminals Insight" report by the consultancy firm Drewry.

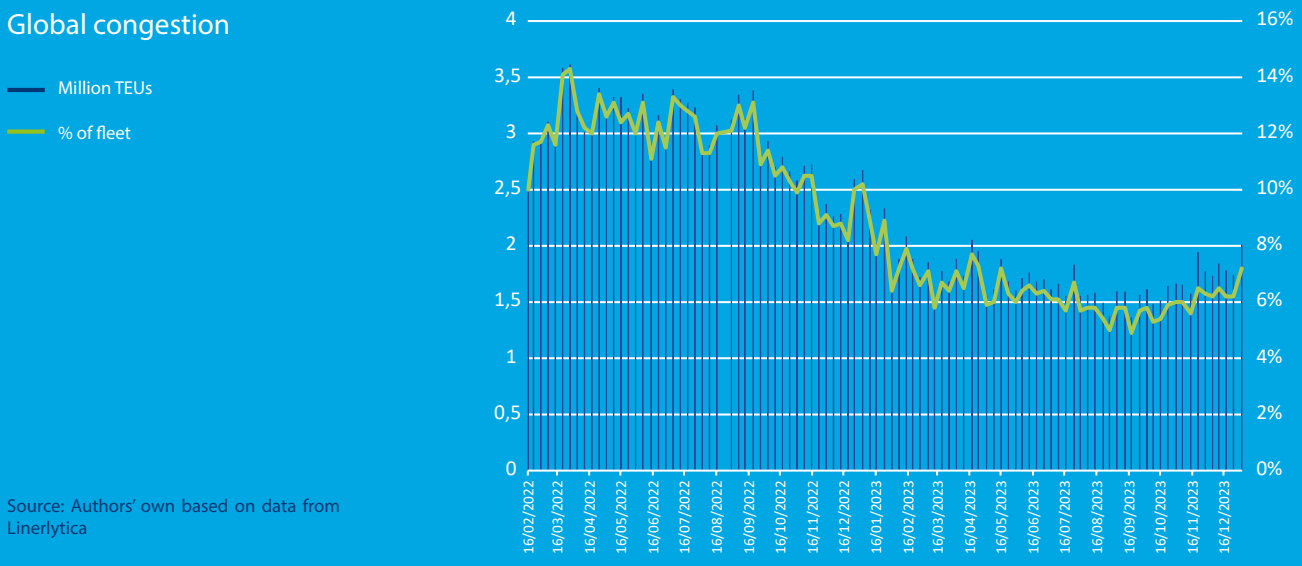
There is no doubt that, on the whole, progress has been made in freeing up congestion hotspots globally. While this is certainly encouraging news for supply chain efficiency, the threat of disruption remains a concern, as evidenced by the draft restrictions in the Panama Canal or the outbreak of conflict in the Red Sea. At the end of the year, a slight increase in global port congestion was observed, affecting approximately 5.4 per cent of the total fleet, with a capacity of 1.51 million TEUs, according to Linerlytica data, above mid-year weekly records.

As for congestion at US ports, restrictions on the use of the Panama Canal, exacerbated by drought, have had a significant impact on traffic flow. The reduction in the number of daily neo-panamax transit slots in the Panama Canal from 1 January 2023, together with the new transit charges announced by several shipping lines, are indicative of these challenges. Meanwhile, in northern Europe, container ports have effectively managed delays arising from the conflict in the Red Sea. There has been an increase in the diversion of ships from the Suez Canal to the Cape of Good Hope to avoid the conflict. As far as the Chinese ports are concerned, towards the end of the year, the port of Shanghai tops the list of the most congested, with more than 70 vessels waiting, followed by the port of Busan, with more than 30 vessels at anchor.

Considering that congestion levels ultimately determine the reliability of shipping schedules, the year 2023 showed a clear improvement in this aspect. Throughout the year, there were notable fluctuations in the reliability of timetables (Figure 12). The months of February, March and April saw significant increases in reliability, peaking in April at 64.2%, representing a remarkable year-on-year increase of almost 30 percentage points.

Figure 11|

Global congestion



Source: Authors' own based on data from Linerlytica

However, towards the end of the year, monthly declines were observed, most notably in June and December, in the latter case influenced by the Red Sea crisis. Despite this, the average delay for late arrivals fall throughout the year, indicating an overall improvement in the operational efficiency of shipping.

Another critical factor in any analysis of shipping prices is the price of fuel, because of its significant impact on the operating costs of shipping lines. Since April 2023, the fuel industry has faced supply cuts, both through OPEC measures and additional voluntary reductions in supply adopted by Saudi Arabia. These actions take place in a context where global fuel demand is at historic levels this could create additional pressures on consumers and pose a threat to the economic recovery.

According to data provided by Ship&Bunker on bunkering costs in the world's major ports (Figure 13), the average IFO 380 bunker fuel price has risen significantly. Compared to December the previous year, it has increased by 12.6%, reaching $508.63. Looking at its evolution over the year, an increase of 4.23% was recorded from January to May, followed by an increase of 3.18% from June to December.

On the other hand, the VLSFO has shown a decrease of 2.28% from $646.89 in December 2022 to $632.14 in December 2023. From January to May, it experienced a decrease of 14.87%, followed by an increase of 5.67% from May to December.

As for the MGO, the price has fallen 14.4% to $853.36 in December 2023 from $996.80 the previous year. From January to May, it fell by 26.06%, followed by an increase of 9.64% in the following months, the steepest increase among the three fuel types mentioned.

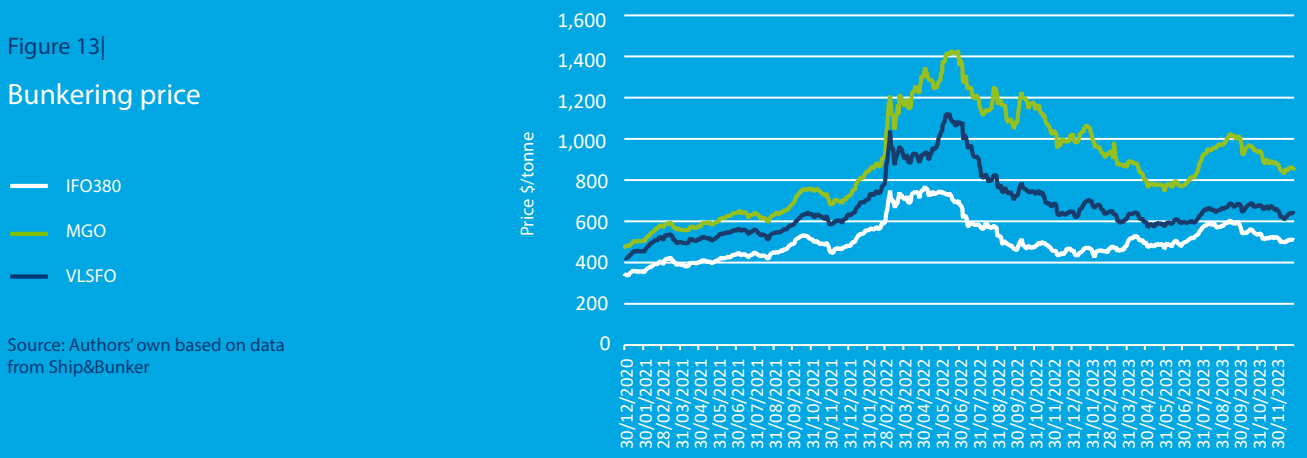
Figure 12|

Schedule reliability

Source: Authors' own based on data from Sea Intelligence

Figure 13|

Bunkering price



Source: Authors' own based on data from Ship&Bunker

Regional analysis: the case of Valenciaport

Following the analysis of the international dimension of the economy and trade how that translates into shipping markets, and how they undoubtedly have a major effect on the evolution of the VCFI, it is interesting to narrow the scope of the study by considering aspects of a more regional nature. In this regard, understanding the performance of the Spanish economy and, in particular, the industries that make up the exporting and importing fabric of Valenciaport's hinterland, as well as its foreland, is essential in order to contextualise the demand for transport and its effects on prices.

Firstly, and looking at the evolution of the Spanish economy during the year 2023, according to provisional data from the Spanish National Statistics Institute (INE), the Gross Domestic Product in volume terms grew by 2.5%. This figure represents a normalisation of the high growth recorded in the post-pandemic recovery period and substantially exceeds the forecasts of around 1.3% made at the beginning of the year. In quarterly terms, and after the slowdown in growth in the third quarter, GDP grew by 0.6% in the last quarter of the year, higher than expected, considering the complex international environment and the economic situation of some of Spain's main partners. In terms of its components, the largest contribution to growth came from domestic demand (1.7 percentage points), compared to 0.8 percentage points from the overseas sector. Indeed, the good performance of the labour market and the increases in workers' incomes have led to private consumption growth being the engine of growth, as opposed to stagnant investment, which is suffering the consequences of the economic context.

In terms of Autonomous Communities, and focusing on those of Valenciaport's natural hinterland, a pattern similar to that of Spain as a whole can be observed, where after the years of post-pandemic expansion, the growth rate nears pre-pandemic levels, with Murcia and Valencia those where growth is furthest from returning to pre-pandemic levels.

As was already the case in 2022, inflation has also been in the spotlight in 2023 (Figure 14). As can be seen in the graph, during 2023 and as a result of monetary tightening and fiscal measures to reduce the tax burden on certain products, inflation has followed a downward trend, although in the case of Spain, this trend slowed in the second half of the year and inflation remained stagnant at year-end at around 3% and for the first time in more than 14 months, above the Eurozone average, where the price adjustment has been more costly. At year-end, the core inflation rate, i.e. the headline index without the components considered more volatile such as unprocessed food and energy products, stood at 4% at the end of the year, well below the previous year's level, but still above the headline rates. With these trends in prices, high inflationary risk persists into 2024, which will affect the normalisation of interest rates and may therefore affect economic activity.

The modest performance of investment in the performance of Gross Domestic Product is reflected in the Industrial Production Index, which shows the volume of production of industry over time, excluding construction and, therefore, production of final goods that can be exported. According to INE data (Figure 15) and for the case

Table 1|

Real GDP growth by Autonomous Community. (% annual change)

Annual change (%)	Valencian Community	Aragón	Castilla-la Mancha	Madrid	Murcia
Average 2014-2019	2.6	1.9	1.9	3.3	3
2020	-10.9	-8.7	-7.7	-11	-9.1
2021	5.6	4.4	4.8	5.4	5
2022	5.5	5	4.3	5.7	5
2023 (Est)	2.2	2.3	2.0	3.0	2.1

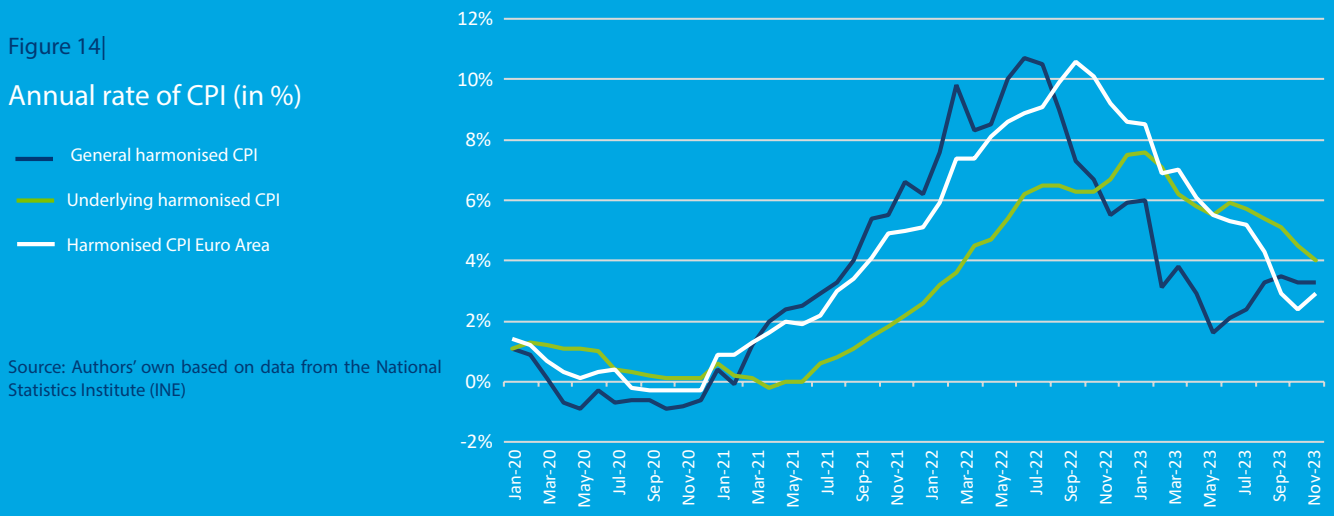
Source: Authors' own based on INE data and BBVA Research estimates for 2023

In 2023 for Spain as a whole, this index fell on average 4.2%, 1.8 percentage points below the previous year, which saw an increase of 2.4%. In addition, in December 2023, industrial production registered a change of -0.2% compared with the same month of the previous year, 1.1 percentage points lower than in November. In economic terms, the main provinces in Valenciaport's hinterland mostly saw decreases in 2023 compared to the previous year. Of particular note is the 18.8% drop in Murcia and the 9.7% decrease in the Valencian Community. In contrast, Aragón was the only one among the five provinces to register a slight increase compared to 2022, although it was only 0.3%.

Focusing on international trade in Spain, data from the Spanish Tax Administration Agency (AEAT) shows the value of Spanish exports in 2023 at 383.688 million, down 1.4% on the previous year. For their part, imports were worth 424.248 billion euros, down 7.2% of the value recorded in 2022. With import levels contracting more than exports, this translates into a very significant reduction of the trade deficit to 2.8% of GDP compared to 5.1% in the previous year. These data are conditioned both by variations in the volume of goods exchanged and the price thereof, so it is also worth analysing the data in tonnes, which will serve as an approximation for the demand for transport. In this regard, and as Figure 16 shows, in 2023, exports reached 173 million tons, down 2.7% from 2022. The fall-off in imports, meanwhile, was even greater, at 5.6%, which places them at a value of around 247 million tonnes.

Figure 14|

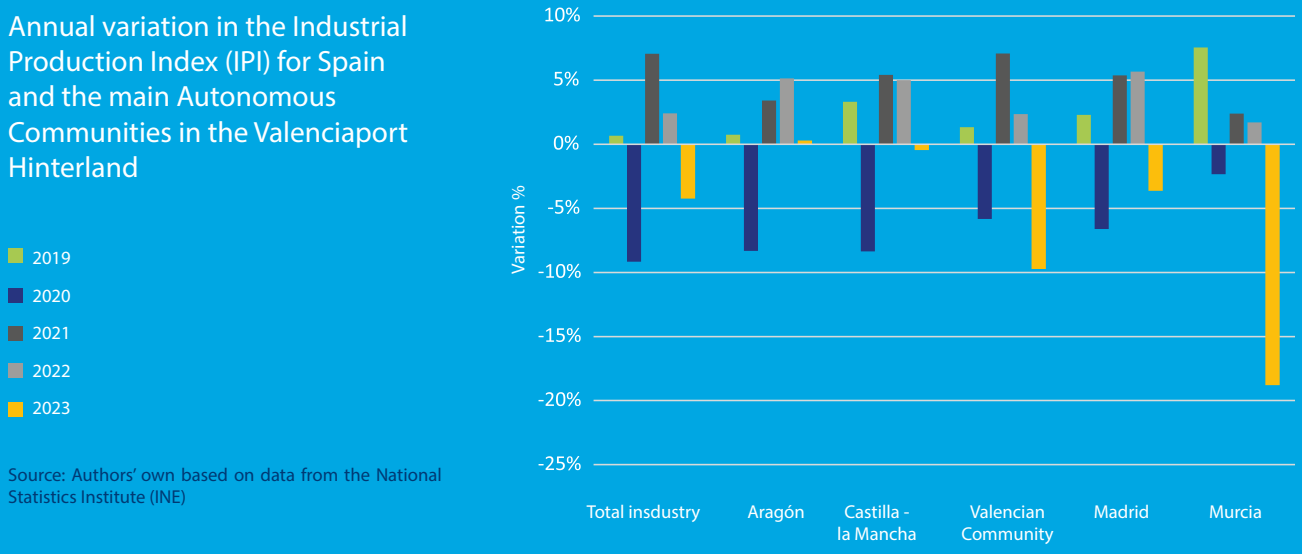
Annual rate of CPI (in %)



Source: Authors' own based on data from the National Statistics Institute (INE)

Figure 15|

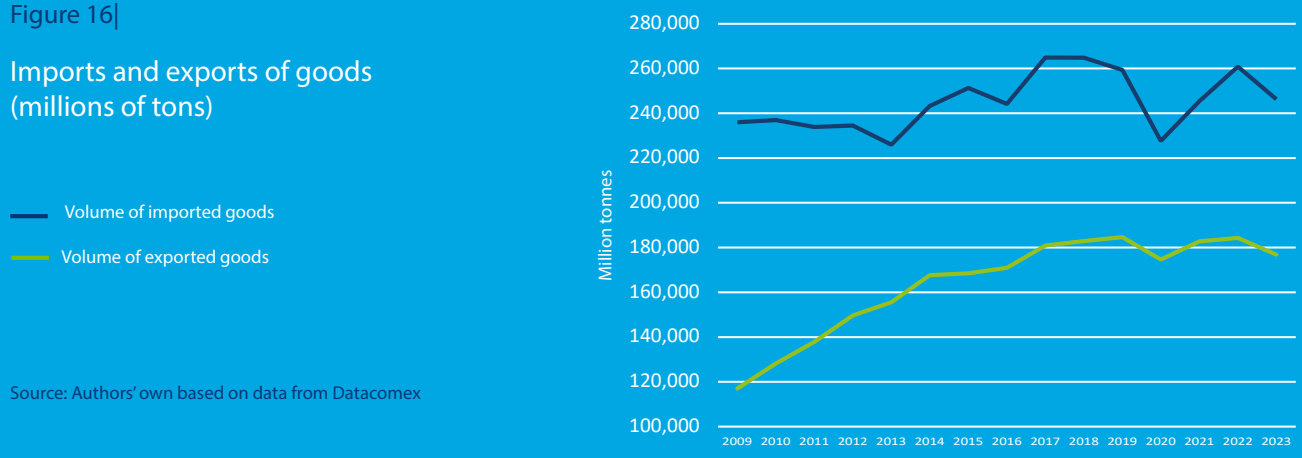
Annual variation in the Industrial Production Index (IPI) for Spain and the main Autonomous Communities in the Valenciaport Hinterland



Source: Authors' own based on data from the National Statistics Institute (INE)

Figure 16|

Imports and exports of goods (millions of tons)



Source: Authors' own based on data from Datacomex

With regard to the import and export of goods from the different autonomous communities in Valenciaport's natural hinterland, (Table 2) performance varies; while Aragon, Madrid and Murcia have increased their level of exports, Castilla La Mancha and, especially the Valencian Community, have seen exports fall. For imports, the fall is more widespread and only Aragón saw growth, with the automotive sector generating a very significant tractor effect for the foreign sector both in terms of exports of finished vehicles and in the supply of components.

We should also highlight the importance of maritime transport in the distribution of goods in the autonomous communities in the Valenciaport hinterland. Two representative graphs show the modal share of maritime transport for both exports and imports (Figure 17). It is noteworthy that communities such as the Valencian Community, Madrid and Murcia have a modal share of maritime transport for exports above 50%, and even higher for imports, without falling below 70%. This underlines the strategic importance of shipping to international trade in these regions.

Table 2|

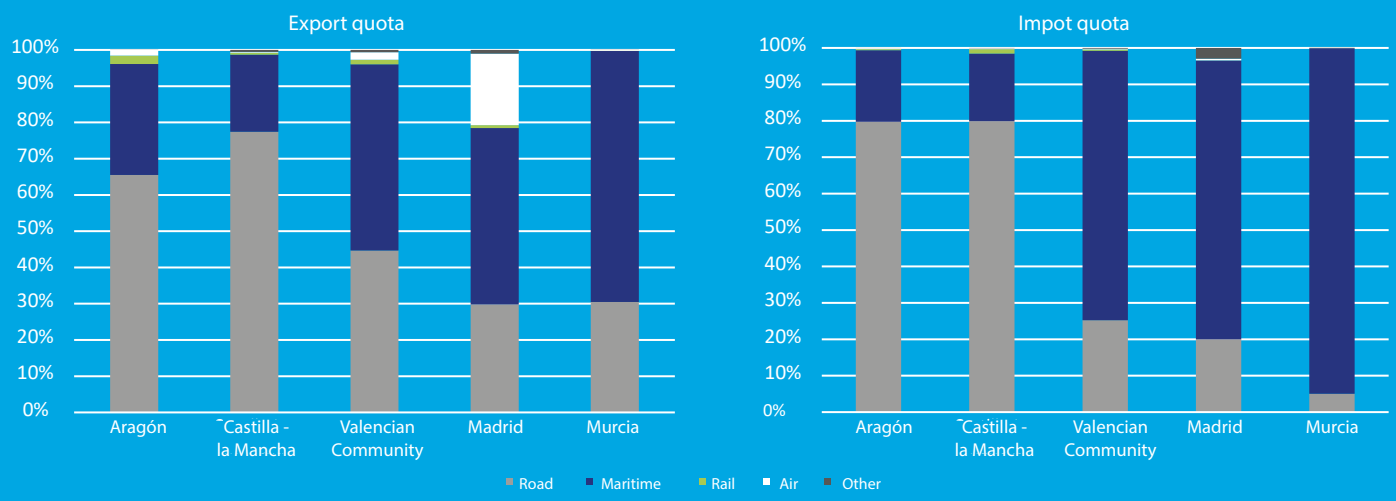
Volume of exports and imports by Autonomous Community. (millions of tons)

Annual Variation (%)		Valencian Copmmunity	Aragón	Castilla-la Mancha	Madrid	Murcia
Volume of exports	2019	25.0	5.2	4.3	10	13.2
	2020	24.1	5.3	4.1	9.9	12.9
	2021	25.9	5.9	4.8	11.4	10.9
	2022	24.6	5.7	4.5	11.7	10.9
	2023	21.4	5.9	4.1	13.7	12.1
Volume of imports	2019	25.1	4.7	2.4	15.6	24.1
	2020	22.7	4.7	2.4	23.9	22.0
	2021	26.7	4.9	2.9	26.9	19.4
	2022	26.6	4.7	3.2	33.4	24.4
	2023	19.4	5.5	3.3	29.9	23.9

Source: Authors' own based on data from Datacomex

Figure 17|

Volume of exports and imports by Autonomous Community. (millions of tons, 2023)



Source: Author's own based on data from Datacomex

Similarly, when analysing the development of the main macroeconomic aggregates of the main countries in Valenciaport's Foreland (Table 3), moderate economic growth rates are generally observed. One notable aspect is the significant increase in inflation rates, in some cases reaching over 8% in the last year. With regard to foreign trade, a decrease in the evolution of Algeria's exports (% of GDP) (-17.8%) stands out, mainly attributed to the suspension of the Friendship Treaty with Spain in 2022. In contrast, imports (% of GDP) from Algeria (14.3%) and Saudi Arabia (11%) increased were up from the previous year.

When examining all traffic at Valenciaport during 2023, the total volume recorded was over 77 million tonnes, down 2.77% compared to the previous year. Containerised cargo reached 4.8 million TEUs, reflecting a reduction of 5.05% compared to the previous year. In turn, and with regard to the numbers of full TEUs from Valenciaport (Figure 18), cargo movements stood at 870,031 TEUs, a decrease of 7.59%.

Table 3|

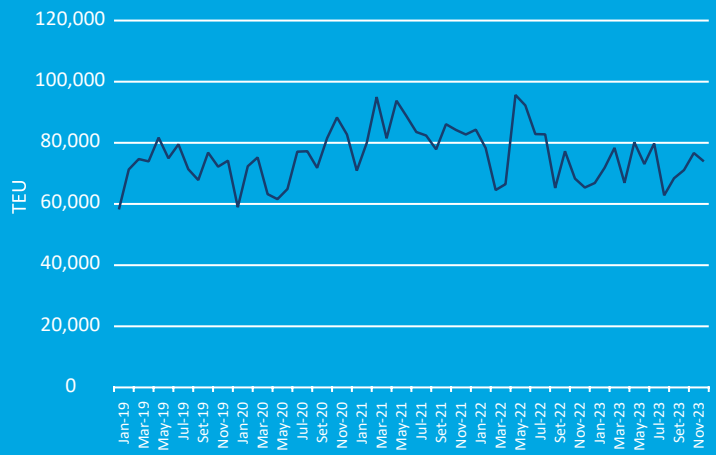
Principal macroeconomic aggregates of the Valenciaport Foreland (% change)

	Algeria	China	Italy	Morocco	Saudi Arabia	United Arab Emirates	United Kingdom	United States
GDP (annual % change)	3,835	5.01	0.673	2.385	0.762	3.384	0.48	2.085
CPI (annual % change)	8.955	0.658	5.986	6.302	2.473	3.115	7.656	4.084
Exports (% of GDP)	-17,755	-2.216	-0.035	-9.965	-3.491	2.551	-4.774	0.924
Imports (% of GDP)	14,345	-3.035	-1.783	-5.915	11.035	5.223	-4.758	-3.347

Source: Authors' own based on data from the International Monetary Fund

Figure 18|

Full TEUs from Valenciaport
2019-2023



Source: Authors' own based on data from the Port Authority of Valencia

Containerised exports show a global reach, with the United States, Spain, China, Mexico and Saudi Arabia as the top five export partners, together accounting for 39% of export destinations. Overall, container volumes have fallen compared to the previous year. That decline is particularly acute when it comes to cargo volumes to Saudi Arabia, the United States and China in the last year with falls of 29.37%, 19.56% and 14.16%, respectively (Table 4).

Table 4|

Export flow of the main export destinations in containerised cargo format (TEUs)

	2021	2022	2023	% of total	Var. 2022-2023
United States	145,953	143,216	115,197	13.24%	-19.56%
Spain	80,106	75,736	104,325	11.99%	37.75%
China	73,451	55,700	47,812	5.50%	-14.16%
Mexico	35,004	35,539	39,029	4.49%	9.82%
Saudi Arabia	48,683	48,403	34,188	3.93%	-29.37%
U.A.E.	38,449	36,902	33,440	3.84%	-9.38%
Morocco	32,019	25,759	23,180	2.66%	-10.01%
Canada	24,285	26,811	22,516	2.59%	-16.02%
India	25,774	23,003	20,654	2.37%	-10.21%
Turkey	19,359	20,361	19,886	2.29%	-2.33%
Brazil	20,811	21,585	19,125	2.20%	-11.40%
Dominican Republic	21,456	17,224	18,824	2.16%	9.29%
Rest	515,753	468,832	371,855	42.74%	-20.68%
Total	**1,081,103**	**999,071**	**870,031**	**100.00%**	**-12.92%**

Source: Authors' own based on data provided by the PAV

When analysing the freight rates of the different sub-indices, i.e. distinguishing between the Western Mediterranean, Far East and the US and Canada, a generalised decrease in freight levels is observed in all three regions, continuing the downward trend experienced in the second half of 2023. Despite this downward trend, Figure 19 shows some upward and downward spikes at different times and in different regions.

Looking at Far East region, a decline in freight rates can be observed throughout 2023, reflecting the economic downturn of the Chinese economy. Against this background, aggregate demand has weakened markedly in recent months, which has negatively affected the overall economic recovery. This economic slowdown in China is due to a number of factors, such as changes in global consumption patterns after the pandemic and declining demand for its products, driven by high energy prices, rising interest rates and sustained inflation, among other factors. Particularly noteworthy is the increase towards the end of the year, which is closely related to the attacks in the Red Sea and the resulting route diversions.

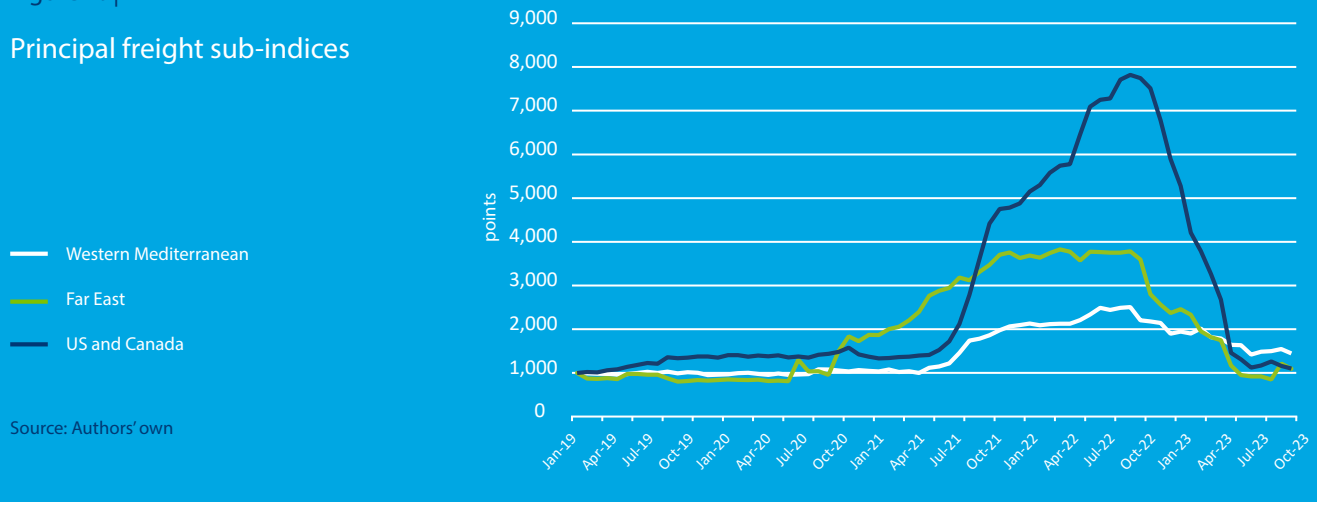
In this context, although the year started with the index at 2,456.53 points, by the end of 2023 it stood at 1,096.39 points. Notable among all the decreases were a decrease of -33.06% in June and 43.08% in November, followed by a decrease of 9.64% in December 2023. Overall, shipping prices to this area have experienced a growth of 9.6% since the start of the series in January 2018, which is considerably below the 2022 and 2021 closures, which were 137.20% (2,372.04 points) and 274.30% (3,742.98 points), respectively, and are approaching pre-pandemic levels. Before the outbreak of the pandemic, cumulative growth since the start of the series was 3.50%, with an index of 1,034.96 points. It is also important to highlight the evolution of full container shipments from Valenciaport to China, the port of Valencia's main trading partner in this region. Over the course of the year 2023, these shipments decreased by -14.16% compared to the previous year, reaching a total of 47,812 TEUs handled (both loaded and unloaded).

Regarding the performance of freight rates in the United States and Canada region, in 2023, one of the routes that has shown the greatest dynamics in recent times, generalised decreases are evident throughout the year. The 45.46% drop in the month of June is particularly noteworthy. It should also be noted here that towards the end of the year, in September and October, increases in freight rates of 4.22% and 7.98% respectively were recorded, followed by decreases of 8.20% and 5.13% in November and December. At the end of December, the index stood at 1099.93 points, with a cumulative growth of 9.99% since the beginning of the series.

This behaviour is in line with what was discussed earlier in this report, high levels of uncertainty and rising fuel prices, followed by a marked slowdown in demand levels, which has led to a normalisation in consumer purchasing patterns. In relation to the United States, which is the main country in the movement of cargo containers from Valenciaport, 2023 saw a total of 115,197 TEU shipped, which represents a fall of 19.56% compared to 2022, which closed with a total of 143,216 TEUs of cargo.

Figure 19|

Principal freight sub-indices



Source: Authors' own

Turning to the Western Mediterranean, a sub-index with more regional characteristics compared to the major shipping routes, it follows the same downward trend observed in the other two sub-indices. A generalised decrease was recorded for most months, reaching 13.20% in August, followed by increases of 4.64%, 0.94% and 3.41% in September, October and November, respectively. However, in December it experienced a drop of 6.49% to 1,447.90 points, with accumulated growth of 44.79% since the beginning of the series. It is interesting to note the difference with respect to the years 2022 and 2021, where the index closed at 1,897.94 and 2,117.26 points respectively, for cumulative growth figures of 89.79% and 111.73%. Although there remains some way to go, it is getting closer and closer to the values recorded in 2020 and 2019, with 1,116.11 and 970.92 points, respectively. The variation in the trajectory of the VCFI in this area for the year 2023 is mainly due to the overall situation marked by weakening demand levels.

On the demand side, a reduction of -10.01% on exports from Valenciaport to Morocco was observed, with a total of 23,180 TEUs, compared to the 25,759 TEUs in 2022. Exports to Algeria have fallen by -59.22% to 450 TEUs, compared to 9,749 TEUs the previous year. This drop is due to the decision taken by the Algerian government in mid-2022 to suspend the trade agreement with Spain, resulting in a significant reduction in trade flows between Valenciaport and Algeria.

A crucial factor in understanding the development of each region is the specifics of each country, and the dynamics of their economies, as well as the individual characteristics of each port system and the characteristics of the container trade routes connecting these countries. These elements have a direct impact on how the situation develop. In terms of economic and trade dynamics, the main economic variables for each region (reflected in Tables 5, 6 and 7) show a positive trend, both in economic growth and foreign trade. However, it is important to note the contraction in both the volume of exports from Asia (especially China, Hong Kong, Vietnam and Taiwan) as well as in imports (where China, Hong Kong, Vietnam and Japan stand out once again). These declines are influenced by the particular situation in the region, where business activity has been affected by the economic slowdown, as explained above. In the United States and Canada region, it is important to note the fall in imports of 3.35% and 0.89% respectively, due to the marked deceleration in demand levels. Turning to the Western Mediterranean, the fall in exports to Algeria, as well as in both export and import levels in Morocco, stand out, reductions that are related to economic factors, changes in global demand and the crisis in the Red Sea.

Therefore, beyond the distinctive characteristics of each region, the decline in freight price levels, which are increasingly approaching pre-pandemic levels, has served as a reliable indicator of the current economic and overall situation. In this context, after a 2022 marked by a slow deceleration of supply chain tensions, the bottlenecks are almost fully relieved in 2023. In an environment characterised by great uncertainty, both in geopolitical and economic terms at the international level, it is likely that more time will be needed to achieve a balance between supply and demand in shipping.

Table 5 |

Far East: principal economic variables in 2023 (annual change)

	China	Hong Kong	Singapore	Shouth Korea	Japan	Vietnam	Thailand	Taiwan	Malaysia
Economic growth (% annual change in price constant)	5.01	4,39	1.04	1.45	1.96	4.70	2.70	0.84	3.96
Exports (as a % del GDP)	-2.22	-9.26	4.35	2.53	1.05	-2.32	-2.72	3.63	0.70
Imports (as a % del GDP)	-3.04	-8.18	12.97	0.03	-2.27	-0.94	2.13	0.02	2.93

Source: Authors' own based on data from the International Monetary Fund (IMF)

Table 6 |

United States and Canada: principal economic variables in 2023 (annual change)

	US	Canada
Economic growth (% annual changes at constant prices)	2.09	1.29
Exports (% of GDP)	0.92	4.44
Imports (% of GDP)	-3.35	-0.89

Source: Authors' own based on data from the International Monetary Fund (IMF)

Table 7 |

Western Mediterranean: principal economic variables in 2023 (annual change)

	Morocco	Tunisia	Algeria
Economic growth (% annual change at constant prices)	2.4	1.3	3.8
Exports of goods (% change)	-9.97	7.00	-17.76
Imports of goods (% change)	-5.92	4.20	14.35

Source: Authors' own based on data from the International Monetary Fund (IMF)

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Valencia Containerised Freight Index

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