

Annual Report

# Valencia Containerised Freight Index

Balance of the year 2020



Fotografía: @fran\_broch

As in previous years, this report aims to analyse in detail the factors than explain the performance of export freights, measured using the Valencia Containerised Freight Index (VCFI) in 2020. The year, which began with the threat of an economic slowdown and doubts surrounding the entry into force of the IMO 2020 standard on maritime transport, took a dramatic turn in March, with the global outbreak of the COVID-19 pandemic. The world changed radically. Throughout this report, we will explore the effects of the pandemic and the measures adopted by the Governments on the international economy and the different responses adopted by countries, with the common objective of recovering activity and minimising the destruction of employment and the productive fabric. It will include a specific review of the maritime transport sector and the effects of measures like the restrictions on movement, disruption of global value chains and the unequal performance of demand, among others, on the different stakeholders in the market.

The report also includes a special focus on the specific case of Valenciaport, attempting to contextualise the performance of VCFI with the performance of port traffic and the dynamics of the export sector of its hinterland. In addition to the general performance of the index, it will analyse freights in the Valenciaport's three principal markets; the United States and Canada, the Far East and the Western Mediterranean. This displays the performance of freights per area beyond the general VCFI, detailing the specifics of each trade route it connects with, the economic dynamics of these market, their activity in the international panorama and, this year, the effects and capacity of the response to the pandemic which, without doubt marked the year 2020.





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## Macroeconomic Environment

# 2020: AN UNPRECEDENTED YEAR AND A LEGACY OF UNKNOWNNS

### Introduction

The global economy was not in a particularly favourable position in the period prior to the outbreak of the global crisis caused by the SARS-CoV-2 virus. In fact, 2019 saw the slowdown of the expansionary cycle that began after the Great Recession of 2008-2009, which saw mediocre average growth (3.4% annually) despite the exceptional and ongoing monetary stimulus of monetary stimulus of Central Banks, especially in the West, as unsustainable over the medium to long term the continued growth of global indebtedness. The geopolitical environment, with tensions and uncertainties arising from severe differences between the United States and China (the principal but by no means the only rivalry between economic spaces) and the most evidence economic expressions of which were the increase in protectionism and the weakening of investment, does little to help economic growth or resolve the structural problems of the global economy, from the effects of climate change to the consequences of the ageing populations on economic growth and the sustainability of the Welfare State.

The scenario forecast for the year 2020 was by no means a rosy one, with global growth rate bordering on a mild recession linked to lower global production growth rates of 2.5% to 3% and a widespread slowdown, assuming no major disruptions. Certainly, the events of January/February 2020 on were not included in any forecast.

### The pandemic and its immediate consequences

The response to the rapid spread of an illness caused by a coronavirus, first as an epidemic, soon a pandemic, emerging from China's Hubei province, along with the implementation of increasingly stricter measures to curb the spread of the virus causing the problem, would transform, for the worse and at an astonishing pace, the global economic situation.

**Figure 1** shows the successive adverse shocks of this negative transformation. The first, that of supply (1), arises from the shutdown of activity in a significant part of China. As the "factory of the world" which significantly reduces production not only of consumer goods but more importantly, also intermediate components and goods, threatening to paralyse production in many parts of the world faced with the limited availability of stock in modern supply chains, configured on the "Just in Time" principle with minimum levels of stock to deal with any significant rupture in supplies.

First there was demand shock (2) particularly but not only in the West, arising from the progressive spread of COVID-19, which forced authorities to cancel major events bringing together large crowds, and to limit and then prohibit international travel (and in certain regions domestic travel) and restricting movement, especially for leisure and not just large crowds. Fear saw consumption levels fall as a precaution.





A second supply shock, first in Europe but progressively extended on a global scale was to follow. The same fall in demand and, above all, the decisions, of the different governments to paralyse much of the productive activity, with varying strictness depending on the country, leading to the collapse of production, both manufacturing and of services, except in those cases linked to the production and manufacture of essential goods and activities in response to the health crisis. On this point, the sinking of financial market increase the grave nature of the situation.

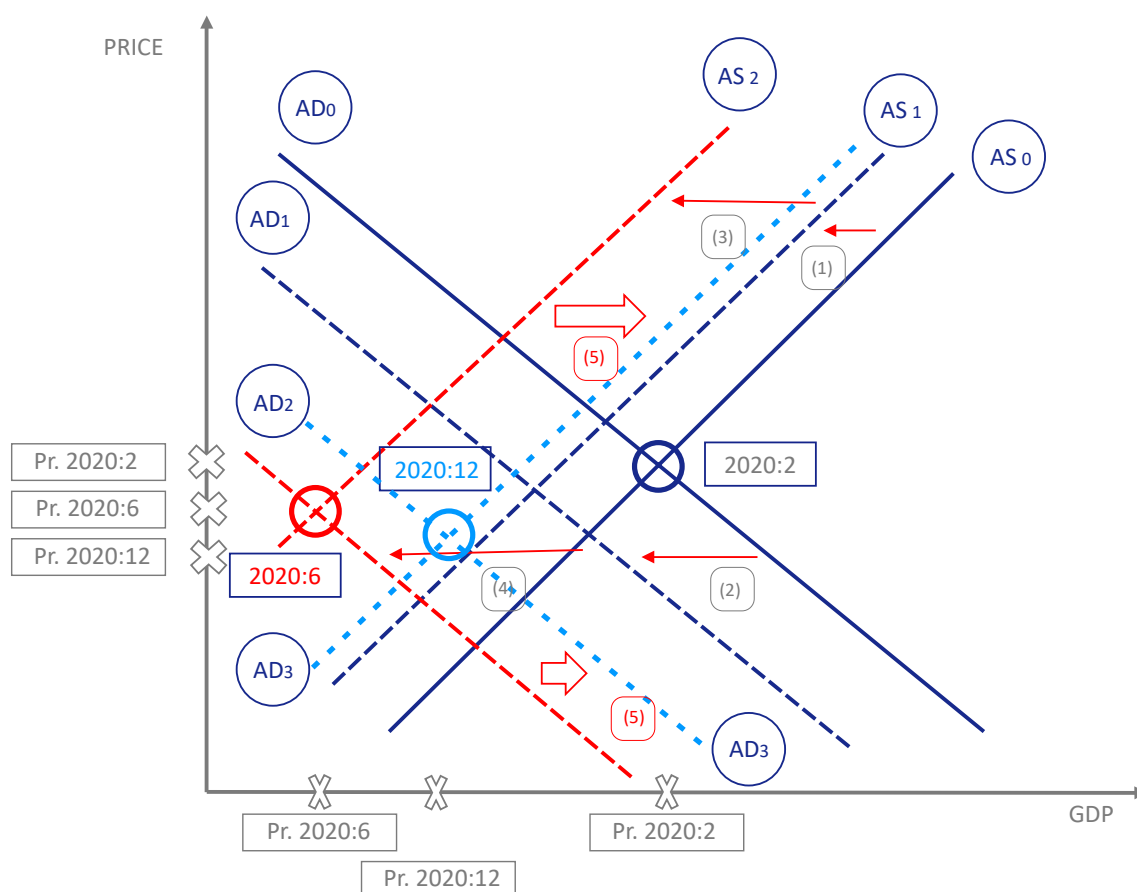
Finally, almost simultaneous to this supply shock, there was a second global demand shock. Hundreds of millions of workers and millions of companies of all

sizes, around the globe, saw their sources of income substantially reduced, if not completely wiped out, by the succession of blows described above. Private consumer spending, private investment, production activity and exports (see Figure 2) collapsed suddenly and heavily.

After these four successive shocks in just a few short months, the world faced a disaster unprecedented in peacetime, which the International Monetary Fund termed “the Great Lockdown”.

Figure 1|

Graphical representation of the successive shocks in 2020

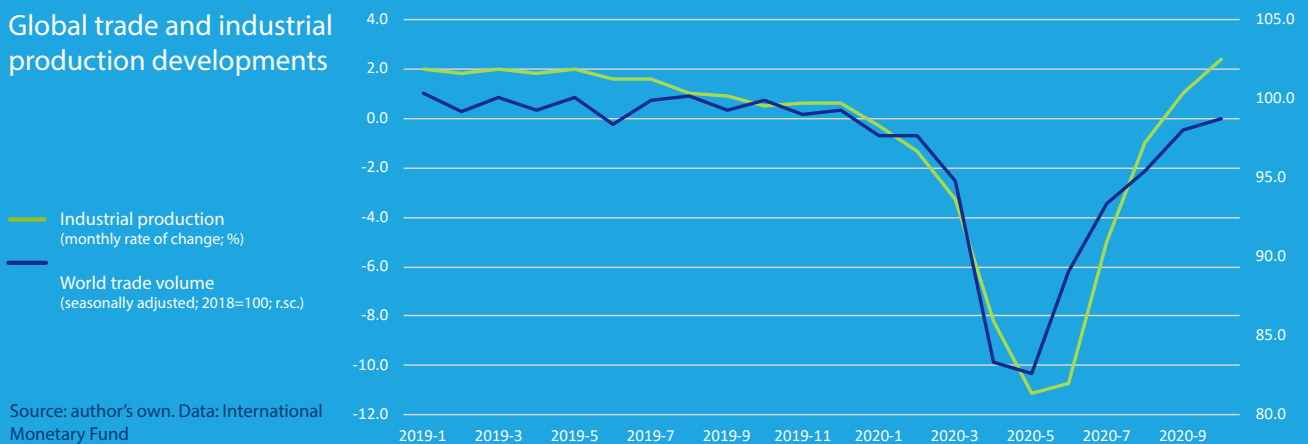


Source: author's own



Figure 2|

## Global trade and industrial production developments



## The response to the pandemic and the global economic rebound

- In the face of the debates and discrepancies that emerged regarding the most appropriate response to unprecedented crisis (for example The Great Recession), the magnitude of the COVID-19 crisis, its global nature and the “absence of blame” attributable to specific countries groups, this time, multilateral institutions and governments (with few exceptions) very soon reach relative agreement on the need for an energetic response. It should be underlined that this (relative) consensus in the economic sphere was much broader than any healthcare consensus in 2020. Nonetheless, in the European Union, the confluence of positions, especially in relation the objectives and nature of the European funds (loans or non-refundable funding) arose later than was desirable.
- In any case, authorities and Government perceive the need to stimulate aggregate demand through public spending (the last component after the aforementioned collapse in consumption, investment and exports, largely as a result of the decisions of these Governments to curb the pandemic). In parallel, they adopt decisions to first arrest and later then reverse the fall in global demand. For its part, the financing of Government measures must have an immediate guarantor, this role played by Central Banks, in developed countries and China, more timidly, for the potential reputational costs in emerging and developing countries.

All of these public sector actions, which are backed by the automatic resumption of private activity once restrictions are eased, are the counterpoint to the adverse shocks, and displayed in Figure 1 with expansionary movement of the aggregate supply and

demand curves (5). This recovery was clearly felt in the third quarter of 2020, although this was seriously hampered towards the end of the year and the first quarter of 2021 by successive waves of the virus.

- To protect the income of citizens most affects, especially those losing their jobs, whether employed or self-employed. Awareness that, even in the most developed countries, there are groups beyond the labour market (outside it or operating in the black economy), and to extend this protection to all citizens in economic difficulties.
- The preservation of employment. The forecast that the crisis, although enormous in magnitude, should be relatively short, which would allow, for the most part, the recovery of activity levels and employment much sooner than in previous recessions, led to the application of employment preservation schemes.
- The sustaining of companies. Aware that in addition to the adverse consequences of economic processes themselves, most productive sectors are hobbled by the restriction justified on health grounds, the authorities adopted measures to support companies, from the suspension of tax payments to direct financing by central banks (and certain Governments). A special emphasis is dedicated to ensuring, insofar as possible, that credit flows with some degree of normality, to viable countries through public backing or a high percentage (or the totality) of loans provided by the banking system.
- To avoid contagion of the crisis in the banking system. The guarantee of credits granted to companies, the provision on virtually unlimited liquidity by Central Banks at almost null or even negative rates and the relaxing of macro prudential requirements that are the key to the public effort to prevent the contagion from the real economy to the



banking sector and to guarantee that this would be a pillar of the recovery.

Table 1 shows an assessment of these actions, for the principal macroeconomic policies and in different relevant dimensions. This assessment is focussed on developed countries, in which they have been established to a much greater extent. In the rest of the world, the profile of the measures has been similar, but the magnitude much greater, because the crisis has been, at least in the early months, less serious, whether because there is possibility (institutional and/or resources) of implementing them, or both.

Five are the dimensions incorporated in Table 1. The need for a rapid response, to attempt to balance the pace at which the crisis evolved, the need for international coordination, in the face of a global recession, the need for the right mechanisms and the effectiveness of measures are evident aspects to consider, although they are not always easy to assess when we are in the process of developing these policies. Finally, there is the added importance of the correct timing measures. Although pertinent in response to the crisis, excessive prolongation over time can involve severe risks that might end up outweighing their benefits, albeit not immediately but when the economic situation is normalised.

In relation to the magnitude of the measures adopted, the sustaining of the global economy in the face of the pandemic and the acceleration of the rebound as it is tackled medically, required unprecedented action, and actions take should be understood in this context.

In relation to monetary policy, cuts to historic minimums (virtually zero in the West) have been accompanied by

the expansion of Central Bank balance sheets to the tune of 12 billion dollars, encompassing the acquisition of public and private assets and extensions of liquidity to the banking system, privileged terms and rates, to guarantee the sustainability of credit<sup>1</sup>.

Contrary to what occurred after the Great Recession, and albeit with some delay with respect to monetary actions in 2020, fiscal policy has also been shown to be intensively expansive (and so it will remain for at least the year 2021), sustaining the global economy with close to 14 billion dollars, approximately 55% in direct aid (additional spending and income not received or deferred) and the rest in the form of measures to support liquidity (loans, asset purchase, capital injections and assumptions of debt)<sup>2</sup>.

For their part, in the macroprudential sphere, regulators released tens of billions of dollars upon the easing or abolition of compliance with restrictions geared towards bank liquidity and solvency in light of the last financial crisis.

In addition to all of the above, we must add the absence, in general, of more or less direct intervention in currency markets to manipulate currency value (seeking the devaluation of same and the resulting increase of exports), which did take place, unfortunately, in the period after the outbreak of the Great Recession.

One might conclude that the macroeconomic policies, albeit with certain doubts, delays and/or imprecisions, have been a key factor in the recovery of supply and demand (5 in Figure 1, or clearly perceived in the rebound of trade and manufacturing production in Figure 2).

Table 1|

Policy	Speed Of Response	International Coordination	Adequate Mechanisms	Term Well Defined	Effectiveness
Monetary					
Fiscal					
Exchange	In general, exchange rate manipulation tending to foster exports is avoided.				
Macroprudential					

Note: The darker/lighter tones indicate a more/less favourable assessment of policies articulated in each of the five dimensions assessed.

<sup>1</sup> A high percentage of all the figures referred to, in monetary, fiscal and macroprudential measures above 90% of the total magnitude, correspond to developed countries.

<sup>2</sup> The figures are taken from the information provided by the International Monetary Fund and the typology of allocations.



## Where are we?

To development of highly effective vaccines against COVID-19, in a singularly rapid process that represents a great scientific success and the general roll-out of the vaccination process, rather less satisfactory but which is happening nonetheless, should accelerate further the recovery of supply and, above all, aggregate demand.

The point to which we are led, therefore, by both the devastating initial crisis and the intense process of recovery, supported by the actions of economic policy and the aforementioned scientific success (although this has been hampered by second waves and variants of the initial virus, with the resulting restrictive measures on economic activity to attempt to contain them), can be observed in Figure 3. It shows the evolution of GDP, in real terms and for a selection of countries/economic spaces from the end 2019 and including forecasts for up to 2021<sup>3</sup>.

In general terms, the global economy will have recovered to 1.8% above the starting point at the end of 2019. But it should not be forgotten that, even if this full recovery is realised, the downward trend in global GDP

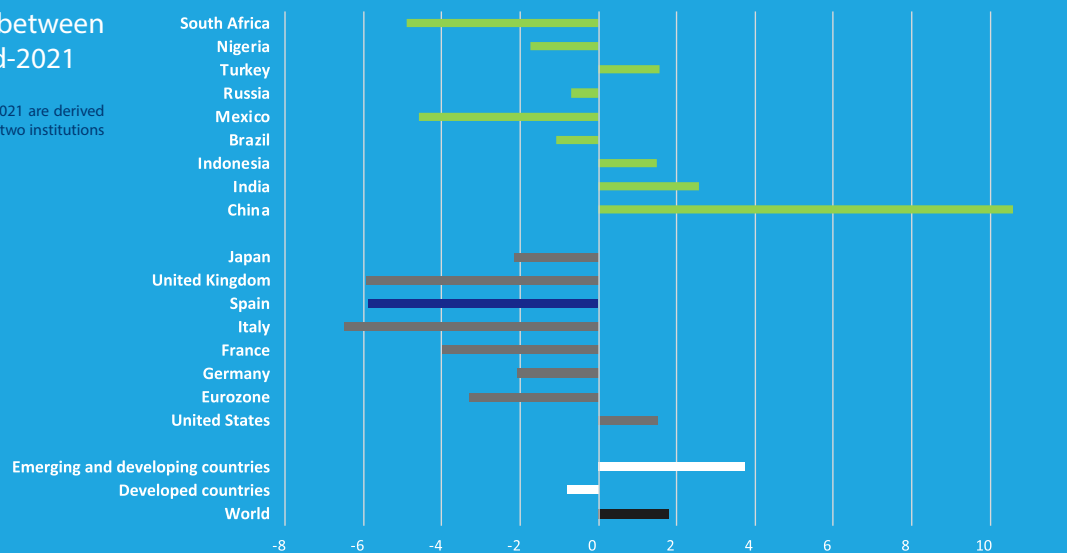
before the pandemic, that is, the difference between forecast growth and effective growth<sup>4</sup> as a result of the health crises, can be calculated at around seven billion dollars (at 2019 prices).

Certainly, the differences between countries are quite notable. While the emerging world, driven by Asian growth<sup>5</sup>, particularly China, would see their level of activity by late 2021 almost 4% above that of the two previous years. The West will need at least one quarter of 2022 to recover to the level of real GDP of late 2019. Although developed countries in North America and Oceania will get there before this date, European countries like Spain, Italy and the United Kingdom will likely have to wait until 2023. The emerging world doesn't escape either, with concerning data for some important countries, from South Africa to Mexico, as reflected in Figure 3. The negative impact of the crisis in certain developing countries, which have much fewer resources for their response, may last longer if a viable plan is not articulated and sufficiently backed by the multilateral institutions and groups like the G-20. This is a black mark on the management of the pandemic, and is worthy of more detailed reflection beyond the scope of this text.

Figure 3|

### Real GDP growth between end-2019 and end-2021 (cumulative %)

(The growth rates for the year 2021 are derived from the estimates made by the two institutions cited above).



Source: author's own Data; International Monetary Fund; Organization for Economic Cooperation and Development

<sup>3</sup> The latest forecasts of the IMF (January 2021) are used in the calculation or, in its absence, those of the OECD (December 2020).

<sup>4</sup> The author considers the IMF forecasts, which are those used here, to have been rather optimistic even before the outbreak of the pandemic but this would be a minor factor of deviation.

<sup>5</sup> It would be safe to say that Asia, in general terms is the continent that has best responded to the pandemic, probably, at least in part, thanks to its experience in dealing with previous similar episodes, clearly seen not only in their economic data but also in the numbers of lives lost.



## The challenges of the future

Overcoming the health crisis (and the adverse determining factors in the economic sphere) constitutes the priority for all the countries, institutions and groups affected. But the pandemic requires other questions to be answered to, some new, some pre-existing, with which we would like to close these reflections. These include, but are by no means limited to, the following (and the list could go on):

### How is it possible to maintain macroeconomic policies like today's?

Despite the virtually null cost of long-term financing, which is required to sustain the extreme fiscal expansion of 2020 (continuing into 2021), there is understandable debate on the merits of reducing the extremely high levels of public debt, unprecedented in peacetime. Of course, the reason for this easy financing is the massive intervention of Central Banks, accumulating and maintaining a growing percentage of the live debt of their States. But this coverage has its own risks, as we will discuss.

It is crucial that the reversal of the fiscal policy doesn't happen until the recovery has reached cruising speed, not before the second half of 2022, but it is no less important that that it does turn away from the current predominance of current spending on structural investment programmes that reinforces lethargic progress on productivity and economic growth in the West in the medium and long term. More on this shortly.

On the other hand, while the benefits of monetary action for the latest recovery, and especially for exiting the pandemic, are almost unanimously accepted, over time, the potential costs of these extremely expansive measures (return of inflation of goods and services, financial and property bubbles, increase of income an especially wealth inequality; punishment for prudent saving; sustaining unviable companies, risk of Central Banks becoming subservient to the need of governments to maintain financing costs at a minimum, etc..) are increasingly greater.

If we don't want the materialisation of these risks to lead to a new crisis of great proportions, monetary policy must be relieved of its role in sustaining growth. For that, even though it is recommended to maintain the current monetary policy until we are in a position to enjoy a solid recovery (that is, up to 2022), a fiscal policy that stimulates productive investment and the structural reforms pending in many countries must begin as soon as possible to offer that relief.

### How long should support for companies and employees be maintained?

As indicated previously, sustaining companies and jobs affected by the succession of supply and demand shocks that have defined the crisis was essential and has proven crucial to avoiding economic disaster. But that does not imply that these supports should be maintained on a generalised and continued basis. Distinguishing between companies with a future and other, unviable ones, is becoming increasingly important. It is striking that, in line with the data from the IMF, during the pandemic the number of business bankruptcies in the thirteen largest economies has been lower than not just previous crises but than in the years prior to the crisis (years of expansion).

Let's not forget that in addition to the squandering of public money, sustaining "zombie companies" also brings increased risk for the financial sector (continuing to inappropriately extend credit through public support, ultimately having to assume greater losses), as an impediment to the necessary dynamic of sectoral replacement in economies and a barrier of entry to new companies with innovative ideas and projects in the same sector. Costs, therefore, are important.

Certainly, ceasing to maintain unviable projects doesn't mean letting those involved collapse just like that. Which brings us to the next issue.

### What is the path to a solid recovery?

The crisis caused by COVID-19 should allow, in contrast with all long-term costs, to make progress in response to structural problems that have conditioned economic growth, especially but not just in the West over recent decades. For example, a growing deficit in investment effort, both public and private, which is a hindrance to growth. Along with that, the extreme - and dangerous - dependence of cheap money and growing debt as the only means of sustaining growth could be mitigated. Greater advances in GDP could allow for a progressive reduction of the existing generalised fiscal imbalance. All of this should be compatible with the recovery of activity of groups chronically damaged by the crisis.

Therefore, the line to follow is marked by programmes such as the "Next Generation EU", extensively supported (although in the European case, subsequent additional plans would probably be necessary), destined essentially to investing in important strategic areas (physical and technological infrastructure, digitalisation, "green economy", support for SMEs and workers to adapt to the new context of globalisation, new technologies and





forms working, etc.). These types of global programmes, detailed in well oriented and duly audited projects (it's not just about spending public money), take advantage of the possibility of financing at minimum costs and even over the long term transform the nature and the depth of economic growth.

### Towards new Global Value Chains?

The initial threat of the pandemic for the continuation of the production processes of large companies with Global Supply Chains (GSCs) distributed around the globe, but with a heavy reliance on China, initiated an intense debate on the convenience and even the need to change these GSCs. When it was perceived that the West lacked productive capacity even in sectors of strategic importance for the health of their citizens, the debate became a clamour, with proposals for widespread and immediate relocation of activities.

Over time, a more balanced vision emerged of what might and/or should reverse this process of dislocation and global segmentation of production processes. In this respect, we can point to a number of conclusions:

- Firstly, costs, key to the spread of GSCs, will lose absolute their pre-eminence, but not all importance. Efficiency (productivity/costs ratio) will not be jettisoned as a key factor in locating activities. Changing processes developed for decades would bring very considerable difficulties not just in terms of costs but also availability of resources, especially in certain sectors. Relocation will have the objective of reducing "potential bottle necks" rather than replacing current points of production.
- For the overoptimistic, this reassessment of GSCs does not necessarily nor generally imply a "reshoring", or the return of these activities that are relocated. Economic spaces (South-East Asia, Eastern Europe) with good infrastructure, availability of physical, human and technological capital for massive production, adequate legal systems and good conditions for foreign capital, will be the great beneficiaries of these limited changes to GSCs.
- There are some specific sectors that will see a marked increase in investment and, as a result, productivity in western countries in the coming years to drastically reduce the current reliance on other countries (Asia in particular and especially China). These sectors include the life sciences, advanced technology and even, in the primary sector, rare earths.

## Final reflection

Is COVID-19 the start of the "Era of Pandemics", to use the term recently employed by the President of the European Commission, Ursula von der Leyen?

In reality, this is the fifth epidemic linked to a virus in animals and transmissible to humans, to a greater or lesser extent, in the first decades of the 21st century. Aside from the need to adopt measures in different areas of the economy to limit any repeat of these episodes, another conclusion that should be reached for the future after 2020 is that communication, coordination and joined-up action on an international scale are essential to tackling global problems. For one reason or another, these combined efforts have been

seen to a lesser extent and at a slower pace than would be desirable. This is replicated in the economic sphere, and as has been noted, for example in the case of aid for developing countries, fall far short.

Where this coordination has taken place (see the science sector and the development of vaccines), results have been much more favourable. The best legacy of the crisis would be for us to speak not of the "era of pandemics" but of an "era of international cooperation." Is there much cause for optimism in this respect?





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### Maritime Economy:

# GLOBAL TRENDS IN THE MARITIME AND PORT ECONOMY IN 2020

## General Analysis

For the first few weeks of 2020, the interest of the maritime sector was focussed on the effects of the entry into force of the standard IMO 2020 on the sulphur content of fuel on operating costs of vessels and the competitiveness of the maritime sector. Considerable uncertainty remains surrounding the efficiency of scrubbers and the availability of very low sulphur fuel oil (VLSFO), whose prices were reaching record levels at that time. Faced with reducing CO2 emissions, the European Commission has put forward, in the context of its Green Deal strategy, the inclusion of shipping in the EU Emission Trading Scheme (EU ETS), before the slow pace of progress on the IMO agenda, opening the debate between the convenience of multilateral action in these types of measures faced with the need for urgent action. In terms of the short-term measures of the IMO for the reduction of CO2 measures, it now seems that the reductions to speed could - in the short term - be the only viable solution. However, this debate has evolved, not without considerable controversy, at the behest of countries that export perishable or time-sensitive products. Their argument goes that the increase in transit times due to slower navigation, would negatively impact the value of their exports (for example, fruit or dairy products) and the deterioration of quality could lead to a shift in favour of air transport. In this respect, given the increase in speeds from the reference year of 2008 (24 knots), the reductions in speeds necessary to reach the objectives of short-term measures and, therefore it is unlikely to lead to a deterioration of products or a change of mode.

However, 2020 will go down in history as the year of COVID-19. With the declaration of an international pandemic by the World Health Organization (WHO) on 11 March 2020, the social and economic consequences of the illnesses that spread across the world with the rapid propagation of the virus and, to a great extent, took a stop forward towards a still unknown new normality. This refers to aspects such as working from home and the effect of travel businesses, education and eCommerce, trends which are here to stay. The economic effects of COVID have been explained in detail in the previous section of this report.

Moreover, as has been analysed in that section, it must be noted that the economic difficulties of COVID-19 were not systemic but the result of an unforeseen extreme shock. I hope that as the vaccination roll out progresses, as seems will be the case at the time of writing, the global economy will not just return to the levels of activity seen before the pandemic, but very probably exceed those levels. Evidence of this is that China is already back on the upward path, with notable growth of 6.5% in the fourth quarter of 2020. Along with that, the country's overall annual growth rate stands at 2.3%, correcting a contraction of 6.8%<sup>6</sup> in the first quarter of 2020. With respect to international trade, shipping experienced a fall of 4.1%, according to UNCTAD<sup>7</sup>, but many analysts (including the author of this article and Clarksons) are forecasting a good year in 2021, with trade exceeding the levels of 2019, reaching 12 billion tons, or annual growth of 4.2%: According to Clarkson Research Services, since October 2020 a total of 147 container ships have been commissioned (most

<sup>6</sup> Source: China's Bureau of Statistics, published 18 January 2021.

<sup>7</sup> Source: UNCTAD Review of Maritime Transport, 2020. 12 November 2020



of these in the larger size categories), in comparison with 40 vessels commissioned in the period in the period January to September<sup>8</sup>. The current portfolio of orders therefore exceeds 360 vessels, or 12% of installed capacity for an impressive level of gross capital formation and a leadership on the part of an industry that is quite competitive when it comes to adjusting supply based on demand<sup>9</sup>. In parallel, container manufacturers in China are struggling to meet the very high demand for containers, a shortage of which at global level is pushing freight prices and shipping costs up (see below).

In the maritime transport sector, the COVID-19 crisis had a profound impact. The two areas of maritime transport most affected were those relating to personal mobility and cross-border movement; the passenger ferry and the cruise sectors. In terms of the former, in many EU Member States, Short Sea Shipping (SSS) ferry services are of great importance in two aspects: a) they provide connections to remote areas (for example, small inhabited islands), that is they fulfil have public service obligations and, therefore, are subsidised by the State in question; and b) they alleviate pressure on a congested road transport network, thus reducing negative environmental externalities. SSS is also at the service of one of the European Union's priority policies, the motorways of the sea and their role not only in relieving road transport, but also connecting the Union (trans-European transport networks or TENs) with third countries, especially those in North Africa. It is evident, therefore, that the effects of COVID-19 on these sectors (ferries and SSS) are extensive and likely irreversible, taking into account the high transaction costs involved in changing modes in the case of SSS, and the scan success in Europe when it comes to alleviating the pressures on its motorways. Dry and liquid bulk shipping is also facing a reduction in demand and the difficulties that leaves. As a result of Chinese demand for raw materials (for example, iron) dry bulk shipping is expected to perform well in 2021, but the same cannot be said for liquid bulk shipping, a sector plagued with chronic overcapacity problems in the context of falling interest in fossil fuels.

However, one of the sectors that has obtained good results in 2020, with great profits in general, is container shipping. According to *Alphaliner*, half the 10 large container shipping companies increased operating margins by more than 15% in the third quarter of 2020<sup>10</sup>. For example, the market leader reported pre-tax earnings of 2.7 billion dollars for the last three months of 2020. In the second week of December 2020

alone, Drewry<sup>11</sup> reported a weekly change in its World Container Index (DCWI) of 23% (793 dollars), or 4,244 dollars for a 40-foot container. This was 166.6% higher than for the same period in 2019. On 31 December, the DCWI reached 4,359 dollars, climbing to 5,221 dollars in the first week of 2021 (an increase of 185% year on year). That same week, annual changes in freight prices reported in the DCWI for 40-foot containers increased by: 212% on Shanghai-Genoa (8,380 dollars); 282% on Shanghai-Rotterdam (8,882 dollars); 148% on Shanghai-New York (6,385 dollars); and 134% on Shanghai-Los Angeles (4,194 dollars). Meanwhile, the New York-Rotterdam transatlantic route saw an increase of 31% (690 dollars), while Rotterdam-New York fell by 14% (2,185 dollars).

Of course, with the outbreak of the pandemic, both global production and international trade fell. Naturally, this was related to the blockade of China and the closure of many production facilities and corresponding closures in Europe and North America which substantially reduced demand for Chinese imports. The closure of China also led to serious interruptions to global supply chains, demonstrating once again the important role China play as the engine of global industrial production.

Many of the principal ports, responsible for a high percentage of import/export traffic, saw container traffic fall in the first half of 2020. Notable examples include Rotterdam (-7%), Shanghai (-6.8%), Los Angeles (-17.1%), Hamburg (-14.7%), Le Havre (-29%), Barcelona (-20.5%) and Valencia (-9.1%). Only four large ports saw their volumes increase: Gioia Tauro (+52.5%), Tangier Med (+22%), Port Said-SCCT (+23.5%) and Antwerp (+0.4%)<sup>12</sup>.

Container shipping came under pressure to align supply with demand in the second half of 2020. This was done with the "removal" of shipping capacity (20-30%) on the principal commercial routes, something which came to be known as blank sailings. In October 2020, blank sailings for the year reached a figure of 515. As a result, port calls were cancelled; the frequency, connections and quality of the service fell; the size of calls, naturally, increased; and the tonnage deposited also rose, reaching record levels in the first half of 2020, climbing to 11.6% of the installed container fleet in May. Shipping companies also adopted additional measures, such as slower speeds and longer routes (for example, sailing via the Cape of Good Hope rather than the Suez Canal<sup>13</sup>).

<sup>8</sup> Source: Splash247.com "boxship-ordering-accelerates", 8 March 2021

<sup>9</sup> Fusillo and Haralambides (2020) 'Do carrier expectations indicate industry structure in container shipping? An econometric analysis'. Journal of Shipping and Trade, 5:2., doi:10.1186/s41072-019-0057-2

<sup>10</sup> Alphaliner Monthly Monitor, November 2020 (<https://twitter.com/Alphaliner/status/1334070858072141825>)

<sup>11</sup> Drewry Shipping Consultants, World Container Index: detailed assessment, 17 December 2020

<sup>12</sup> Source: based on data collected by the Port Authority of Valencia.

<sup>13</sup> Container journeys via the Suez Canal fell 32% year-on-year in May 2020, to stand at a historic minimum of 330 sailings



## Recovery of demand and challenges facing ports

The spectacular reactivation of transport in the second half of 2020 immediately translated into greater demand for port services, with many ports registering record volumes of traffic in September, October and November 2020. To a certain extent, the increase in demand was due to the replenishment of stocks on a large scale, which took place in North America in the third quarter of 2020, and subsequently in Europe in the fourth quarter of 2020. As evidence of that, the port of Los Angeles, registered an historic increase in performance of almost 50% in the second semester of 2020, and the week before Christmas saw the port manage 94% more than in the same week the previous year.

The port networks and the transport networks were not prepared for such a rapid transition of demand and, as a result, supply chains suffered a shortage of equipment (containers), lorry drivers and manpower on piers; the latter due to quarantines and restrictions on movements of personnel due to COVID-19. The result was a major congestion problem and delays in delivery terms. At the time of drafting this report, there were thirty container ships anchored in the San Pedro Bay complex, awaiting berthing at the container terminals of Los Angeles and Long Beach (LALB). The congestion at Long Beach was so severe that vessels were sent to unload containers at Oakland, some 600 kilometres further north. However, as vessels are stowed based on the rotation of vessels, these decisions are a nightmare for planning stowing, and worsen the problem rather than solve it.

One important parameter that can partly explain the “pressure” on the general system and the resulting spike in freight prices (see graph) is the serious shortage of containers. One of the factors that might explain

the phenomenon is that the drop in international trade only occurred in the first half, with a sharp fall of 12% in April-May. However, this trend was reversed in spectacular fashion in the second half. The system was incapable of adjusting rapidly enough to new demand, with containers left, if not abandoned, in the wrong places. As had been said, many of these had been used in H1 to ship medical supplies to Africa and Latin America. In parallel, given the great demand for containers in Asia and the price that shippers would pay for them, transporters returned the empty containers as soon as possible, without offering Western exporters the capacity they needed.

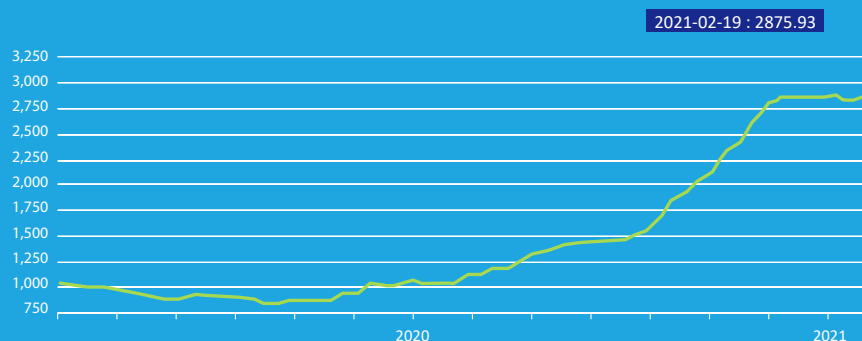
## Increase in size of calls

Another parameter that places pressure on ports was the size of calls, with the aim of compensating for blank sailings and the reduction in frequencies. I have often shown the diseconomies of scale in the ports as a result of the larger vessels (or the larger sizes of port calls<sup>14</sup>). In short, here, and with the danger of oversimplifying, it could be said that handling time for a container that arrives on a large ship is, on average, higher than the same container on smaller vessel. Even in the case of larger vessels, adding additional automatic stacking cranes, say five or size, makes little technical or economic sense. Today, the efficiency of handling at piers has less to do with the number of cranes working on a ship and more to do with the availability of cranes capable of reaching row 24 and beyond. The trend is heading in that direction, as for increasing the size of containers ships, the width of bays is a bigger issue than the length of rows. Finally, the competition between neighbouring ports and the need for green ports aggravate the terminal management headache

Figure 4|

### Performance of SCFI freights in 2019-2020

Source: Shanghai Container Freight Index, 2019–2021 (Feb)



<sup>14</sup> Haralambides (2017) 'Globalization, public sector reform, and the role of ports in international supply chains', *Maritime Economics & Logistics*, 19(1), 1-51, and Haralambides (2019) 'Gigantism in container shipping, ports and global logistics: a time-lapse into the future', *Maritime Economics & Logistics*, 21(1), pp. 1-60.





in terms of the size of calls. The most urgent aspects that must be tackled on a joint basis, most of the time, are (among many others): minimising congestion at ports; minimising times at ports (possibly together with dry ports inland and the modernisation of customs services); minimising the relocation and movement of containers, with the aim of minimising contaminating emissions to the atmosphere; synchronising the slot systems with the availability of port equipment; assigning berths with the aim of minimising movement of equipment and emissions and incentivising “double transaction” lorry movements within the terminal, etc.

## Free trade and globalisation

The contraction in global trade began before well the outbreak of the COVID-19 pandemic. In fact, this trend emerged during the economic collapse of 2009. Since then, trade has fallen to half of previous levels. The GDP multiplier, a metric often used to relate a country's income to its imports in containers, has also fallen by half, falling from 2.2 in the early 2000s to 1.3 at present<sup>15</sup>. However, the 2009 crisis was just a drop in the water in

the West, which was already almost full (in Europe at least) with serious concerns regarding the ramifications of cheap consumerism. Many economists spoke about such concerns and they manifested themselves in 2016 with the election of Donald Trump as president in the United States, his trade battles with China and his inward-looking, isolationist policies and his retreat from the multilateral systems of trade relations. Within this confrontation between United States and China, the latter was quick to declare to the world “if the US wants to take a step back on the global chess board, China would be more than willing to take up the baton”. But that's not all. China also saw the problems of consumerism in Western world satisfied and well fed and changed its “orientation”, shifting from supply of assets for the development of infrastructure around the world, including ports. This was how the One Belt One Road (OBOR or BRI) plan emerged; China's master plan, accompanied by a declaration of China to the world: “... the BRI aims to replace “distancing” (see isolationism) with exchange between different civilisations; replacing confrontation with mutual learning; and replace the sense of superiority with coexistence; [the BRI] aims to foster mutual understanding mutual respect and mutual trust between different countries and peoples”. From this perspective, the BRI is considered a road to world peace.”

## 2021 Outlook: Summary And Conclusions

As has been commented, the economic difficulties of COVID-19 were not systemic, as was the case with economic crisis of 2008, but the result of an unforeseen external shock. That's why I hope that with significant progress in the vaccination roll out, as seems will be the case at the time of writing, the global economy will not just return to pre-COVID-19 levels of activity but very probably exceed those levels. Evidence of this is that China is already back on an upward path, with notable growth of 6.5% in the fourth quarter of 2020. In terms of international seaborne trade, despite a fall of 4.1% in 2020, I foresee a good year, with trade outstripping 2019 levels, reaching 12,000 million tons for annual growth of 4.2%. This forecast is shared by container shipping companies. If we observe their shipbuilding programme: since October 2020 a total of 147 cargo ships have been commissioned (most of these in the larger size categories), in comparison with 40 vessels commissioned in the period in the period January to

September. The current portfolio of orders therefore exceeds 360 vessels, or 12% of installed capacity for an impressive level of gross capital formation and an indicator of leadership on the part of an industry that is quite well-placed when it comes to adjusting supply based on demand. In parallel, Chinese container manufacturers have endeavoured to tackle the high demand for containers, the considerable shortage of which at global level is forcing freights and transport costs upward.

Dry and wet bulk transport is also facing a reduction in demand and the difficulties that leaves. As a result of Chinese demand for raw materials (for example, iron) dry bulk shipping is expected to perform well in 2021, but the same cannot be said for bulk liquid, a sector plague with chronic overcapacity problems in the context of falling interest in fossil fuels. Ferries and SSS will also recover, with the help of specific funds.

<sup>15</sup> Calculations based on figures from the International Monetary Fund (FMI) and Boston Consulting Group



The same is unlikely to occur with the cruise sector, but the structure of the industry in this case is such that the return to profitability is a question of time, as soon as consumer trust is recovered, which I expect to happen around September 2020.

It remains to be seen if a return to multilateralism is still possible. Joe Biden, recently elected president of the United States, has committed to reversing the introversion and isolationism of Trump and to reintroduce the country to the world scene as the key player it has always been. The appointment of Ngozi Okonjo-Iweala at the head of the beleaguered World Trade Organization (WTO), an organisation almost finished off by unilateralism, was a step in this direction.



# 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, DAL Grimaldi, Grupo Raminatrans, K Line, 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, obtaining the weighted average of average 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
<b>WESTERN MEDITERRANEAN</b>	Casablanca (MA), El Djazair (DZ), Tunis (TN)
<b>ATLANTIC EUROPE</b>	Felixstowe (GB), Hamburg (DE), Antwerp (BE)
<b>EASTERN MEDITERRANEAN</b>	Alexandria (EG) Ashdod (IL) Piraeus (GR) Istanbul (TR)
<b>FAR EAST</b>	Shanghai (CN), Hong Kong (HK), Port Kelang (MY), Singapore (SG), Busan (KR), Tokyo (JP), Kaohsiung (TW), Bangkok (TH), Ho Chi Minh (VN)
<b>MIDDLE EAST</b>	Jeddah (SA), Jebel Ali (AE)
<b>ATLANTIC USA-CANADA</b>	New York (US), Montreal (CA), Houston (US), Miami (US)
<b>CENTRAL AMERICA AND THE CARIBBEAN</b>	Veracruz (MX), Cartagena (CO) Altamira (MX), Caucedo (DO)
<b>ATLANTIC LATIN AMERICA</b>	Santos (BR), Buenos Aires (AR)
<b>AFRICA WEST COAST</b>	Luanda (AO), Bata (GQ), Dakar (SN)
<b>AFRICA EAST COAST</b>	Durban (ZA), Port Elizabeth (ZA)
<b>PACIFIC LATIN AMERICA</b>	Callao (PE), San Antonio (CL)
<b>INDIAN SUBCONTINENT</b>	Nhava Sheva (IN), Kandla (IN)
<b>BALTIC COUNTRIES</b>	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 calculation of the index is materialised from the following formula:

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

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

whereas:

$f_j$  = average freight for Port j

$t_{ij}$  = freight reported by panellist i for Puerto j

$n$  = number of panellists for Port j

$k_j$  = weighting factor for Port j

In the first place, the average freight is calculated per port ( $f_j$ ) based on the data received for that port by 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 show index number, the VCFI. This is the statistical measure that contains the evolution of a period for a specific magnitude. In this case freights, for a base reference period. The base of the composite index will be 1,000 points and the base of the period coincides with publication, that is January 2018.

This index aims to provide an index reference in 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 transporters, 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 transporters as a tool to predict the evolution of freights with their target markets, which is a determining element of their operating costs.

On the other hand, it will also be useful for operators to offer these services by constituting a benchmarking element for the performance of freights on the market and their own.

As a result, the VCFI favours the functioning of a more transparent market and better information available through decision making, resulting in a more efficient market.





# VCFI: PERFORMANCE OF FREIGHTS IN 2020

While the effects of the COVID-19 crisis the shipping industry have been significant, it is also true that there were numerous immediate challenges faced at the start of the year: the entry into force of IMO 2020 on the sulphur content of marine fuel and the slowdown in international trade. In relation to the latter, both the modest growth of many advanced economies and the protectionism and trade wars between the United States and China and the effects on third countries are behind the weak trade growth since the second half of 2018 (from 4.5% in 2018 to 0.9% in 2019). However, COVID-19 has been a triggering factor for global production and value chains, the productive structures of the countries and trade.

Therefore, faced with a challenging starting situation in 2020, COVID-19 has also been an enormous shock for the container shipping industry and ports at a global level. Lockdowns and the slowdown in economic activity have led to adjustments between supply and demand over the course of the year and high levels of port congestion, which has led to significant increases in freight levels globally, as included in different freight indexes and explained in the introduction to this report.

This way, as shown in Figure 5, After a period of stagnation throughout much of 2019, the latter part of the year saw an increase in freight levels which has

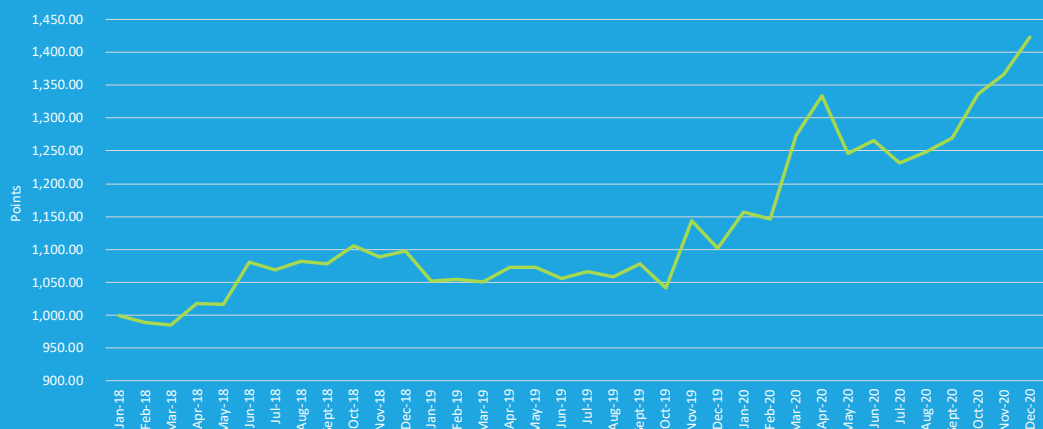
continued throughout much of 2020, although for a different reason. In late 2019, the index already began to anticipate the effects of the entry into force of new IMO 2020 legislation, which was expected to bring an important change to the shipping market, thus increasing concern for the impact of the performance of freights. However, that effect was ultimately eclipsed by COVID-19 with the trajectory of freights in 2020 marked by the evolution of the illness around the world and its effects on the dynamics of economies, production capacity and the commercial capacity of countries.

Two differentiated periods can be distinguished in the Index for 2020. The first half of the year saw high volatility in freights marked by the slowdown and in some cases the shutdown of economic and productive activity together with a reduction in international trade and the resulting imbalance in capacity supplied. On the other hand, the second part of the year saw intense growth of freights caused largely by growth of trade through shipping the effects on ports and the shipping market.

Below, we analyse the principal variables that have influenced the behaviour of freight prices at global level and also nationally and regionally in the VCFI.

Figure 5]

Monthly evolution points VCFI, 2018 - 2020



Source: Author's own



## Global Analysis: Maritime Transport Network

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. While the detail of the macroeconomic analysis can be consulted at the start of this document, along with the Economic Environment reports published quarterly together with the VCFI, detailed below are some of the principal environmental indicators that, to a greater or lesser extent, explain the performance of freights for the year 2020.

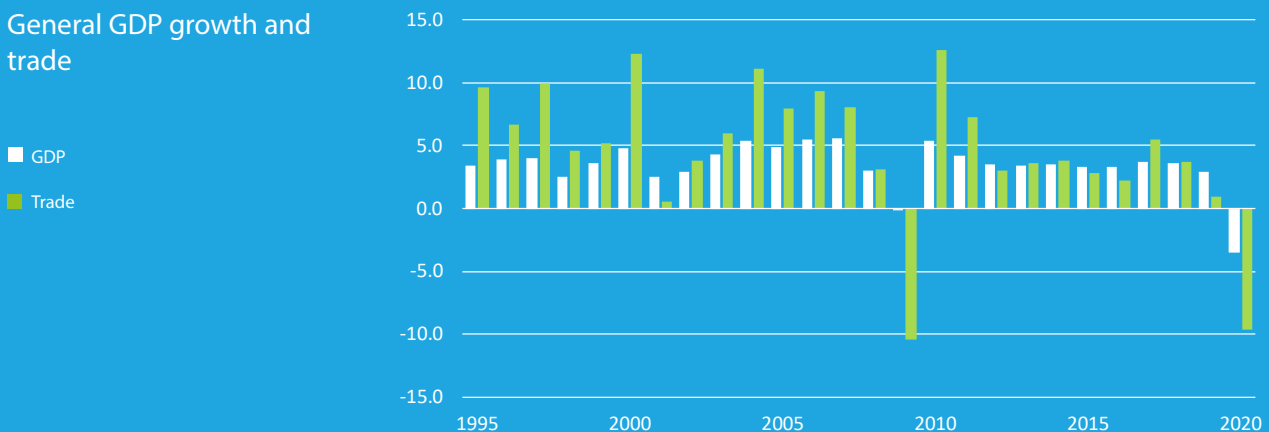
In this regard, and as we have been explaining, 2020 was utterly determined by the course of the pandemic arising from the COVID-19 crisis and its effects from the start of the pandemic on the Asian continent and

subsequent spread throughout the rest of the world. In accordance with the International Monetary Fund (IMF), and as can be observed in Figure 6, the evolution of GDP saw an abrupt contraction, exceeding that of the recession of 2009, constituting the worst economic contraction since the Second World War.

The fall in GDP has been attributed to the different health restrictions imposed to contain the virus, and the considerable uncertainty at global level (Figure 7) which have led to a fall in the different components of GDP such as private consumption, investment and net exports. It is worth making special mention of the retail sector, the first affected by perimeter closures of areas and restrictions on movement imposed as a result of the health emergency.

Figure 6|

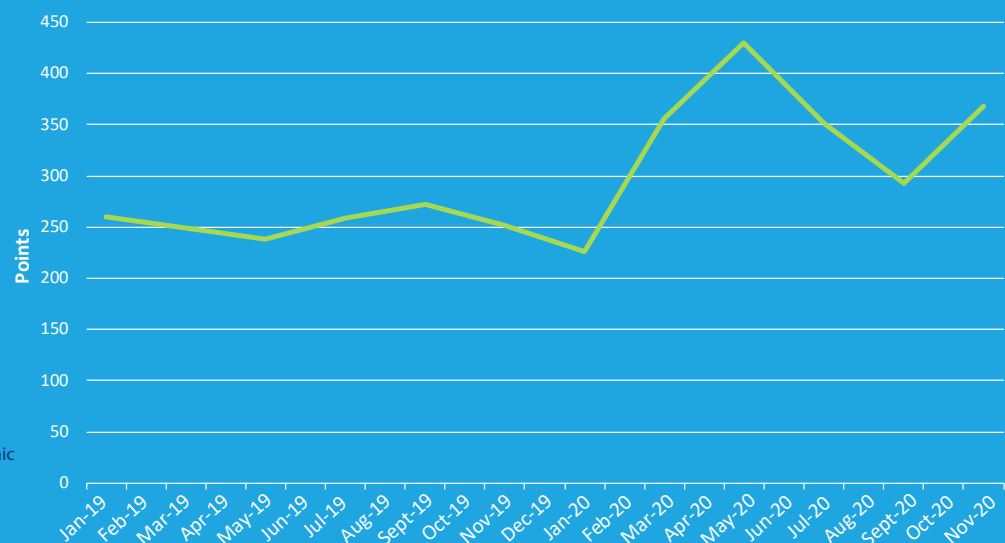
### General GDP growth and trade



Source: Author's own (Data; IMF)

Figure 7|

### Trajectory of Global Uncertainty Index



Source: Author's own (Data: Economic Policy Uncertainty)



That situation has also had different effects on the world due to the uneven speed in the spread of the virus and the different, varying measures adopted by each particular government. Therefore, distinguishing between groups of economies, according to the IMF's latest World Economic Outlook, global GDP recorded negative growth of -3.5% for 2020, more devastating in advanced economies (-4.9%) than for emerging and developing economies (-2.4%). What's more, within the group of advanced economies, the Euro Zone was especially affected (-7.2%), and most notably the values for Spain (-11.1%), Italy (-9.2%) and France (-9%) and also the United Kingdom (-10%).

One variable that correlates closely with GDP growth is the international trade of goods and services. In the IMF's last annual estimate, in 2020, trade plummeted 9.6%, with performance uneven throughout the year (Figure 6). According to data from the World Trade Organization (WTO), while the first half of the year saw a 2.1% drop in trade flows, that plummeted to 12.7% in cargo volume and 21% in monetary value in the second half of the year, revealing the effects of the spread of the virus throughout the rest of the world. The industrial production index has performed quite similarly, with very different trends between the first and second half of the year (Figure 8).

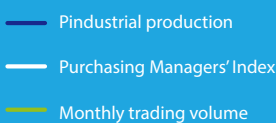
As a consequence of the significant drop in trade and, as a result, in demand for goods to be transported, the global volume of port traffic has suffered heavily, as shown in the RWI/ISL (Figure 9), showing unequal performance throughout the year. As is common on the container market, the start of the Chinese New Year celebrations is an important date on the shipping calendar for the effect on the transport sector and the port traffic of the reduction of economic activity in China, as seen in 2018, 2019 and 2020. However, this past year, that impact was even greater than in previous years and lasted longer due to the extension of the Chinese New Year holidays proposed by the authorities with the aim of exerting greater control of the spread of the virus to the rest of the country. Together with this, as the virus spreads to new countries around the world, measures are adopted by the competent authorities who, in many cases, opted for strict lockdown, with people confined to their homes, translating into a slowdown of economic, productive and commercial activity affecting the volume of goods at ports during the first and second quarters of the year.

That reduction in international trade led to a shock in the shipping market, generating a major imbalance between supply and demand for capacity that requires a rapid and effective response to those adjustments. In

Figure 8|

### Monthly trajectory of trade, industrial production index and new orders of company managers

(Trade based on 2018= 10, right axis).



Source: IMF.

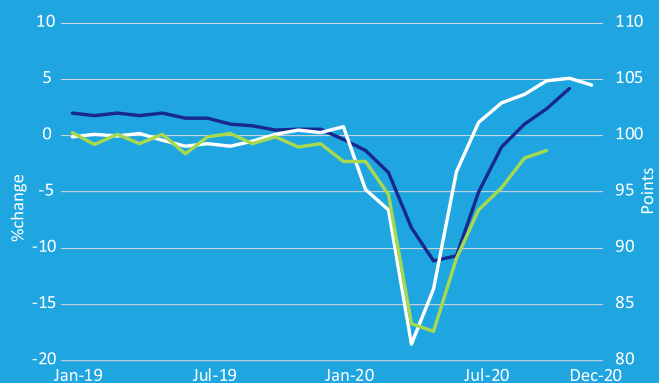
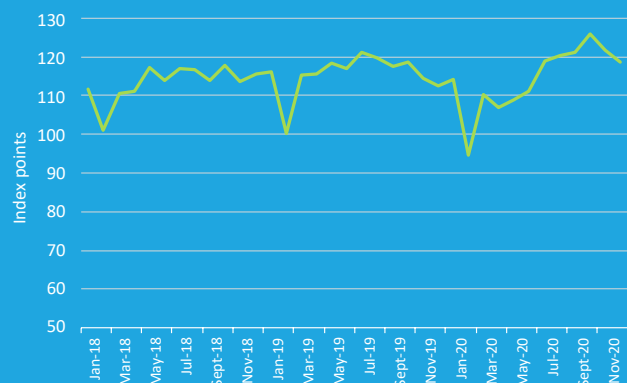


Figure 9|

### Evolution of port traffic in TEUs, 2018 - 2020

Source: Author's own. (Data: RWI/ISL)



the first instance, and with the aim of rebalancing the market and avoiding a sharp fall in freights, the strategy of shipping operators was to focus on reducing the supply of capacity of containers through an increase in the number of blank sailings and the temporary cancellation of shipping services. According to the data from Sea-Intelligence, in the second half of the year, blank sailings rose to represent more than 3.5% of the total container capacity on the market, the highest such figure for any quarter in the last four years.

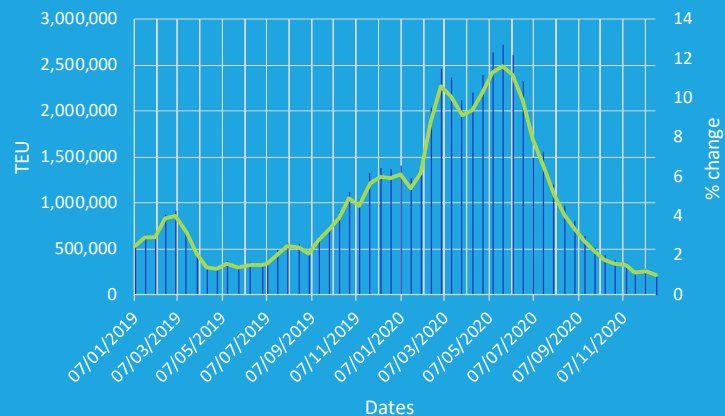
In effect, just as has been advanced in the maritime context, the higher number of blank sailings, the temporary suspension of services and the lower number of vessels at sea led to situation whereby, according to the UNCTAD, port calls around the world fell by 8.5% in mid-June 2020, compared to the previous year. However, in early August with the recovery of demand

already under way, the differential in the number of scales contracted 3% with respect to the same month in 2019. When calls were analysed by geographic area in early August, there were great similarities between them. So, according to the UNCTAD, while North America and Europe saw calls at their ports fall by 16.3% and 13.2% compared to levels in 2019 for the same month, South-East Asia maintained similar levels (calls fell by just 0.5%) and China and Hong King saw an increase of 4.1%.

As a result of the measures cited above, the idle fleet saw intense growth during the first half of the year (Figure 10). The high positive correlation between that variable and the number of blank sailings lead to both variables moving in the same direction. So, according to *Alphaliner*, in the first six months of 2020, idle fleet levels were higher than during the previous year, a

Figure 10|

Trajectory of idle fleet in the market 2019-2020.



Source: Author's own. (Data: Alphaliner)

2019 characterised by the installation of scrubbers and the lower existing demand at that time. The apex was reached on 27 May 2020, when the number of TEUs classified as idle fleet exceeded 2.71 million TEUs, representing 11.6% of the total active fleet.

Faced with that scenario, the fluctuation in freights is one of the principal consequences of the oscillations in the supply and demand dynamic of capacity on the principal container trade routes. After the outbreak of the pandemic and the subsequent spread to the rest of the world in March, freight levels initially contracted due to the market environment, beset by excess supply and weak demand. However, once the imbalance was corrected to a certain extent, together with surcharges

for logistical congestion problems in some ports during the pandemic, the result was strong growth in freights from May on.

This upward trend continued in the second half of 2020 and the strong increase in global freights was intensified further, reaching maximum historic levels on some of the principal container routes, an effect also shown in the VCFI.

One of the key factors from July was the recovery of international trade, especially in the period between August and November, reaching unusual levels for this time of year and far above those of the previous





years. This push in international trade in tons in the third quarter of the year was 11.6% with respect to the previous year, according to the data published by WTO. The reasons behind this sudden resumption of demand for container shipping are multiple: the boost from the economic recovery, industrial production and trade, the strong increase in demand for hygiene products and higher spending on manufactured goods faced with the difficulty of consuming leisure services, such as travel. In fact, according to Alphaliner, during this period the levels of demand for container shipping have been the highest in history.

As a result of this rapid and unexpected increase in demand for capacity on the shipping market after the holiday period, the pressure on freights grew intensely until the end of the year. Despite the fact that said increase could be caused, to a great extent by the supply of capacity and blank sailings during the worst months of the pandemic, it is true that as demand recovered to a certain degree, the number of blank sailings began to progressively fall. Shipping companies managed to put capacity back on the market and the idle fleet began a sharp fall from June on, as illustrated in Figure 10 (idle fleet).

By way of example, according to data from Alphaliner, while in late December 2019 the idle fleet was 264 vessels, accumulating a total of 1,369,186 TEUs, in the same period of 2020 that figure fell to 64 vessels and 229,587 TEUs, which constitutes an inactive fleet 83.2% smaller than the previous year. In effect, this was noted on some of the principal container routes, which saw the supply of capacity recover as demand grew. For example, in late June 2020, when we began to get a glimpse of the effects of a timid start to the recovery of trade, the capacity on offer on the Far East-North America route began to show signs of recovery and by that point was only down 5.3% in respect of the same

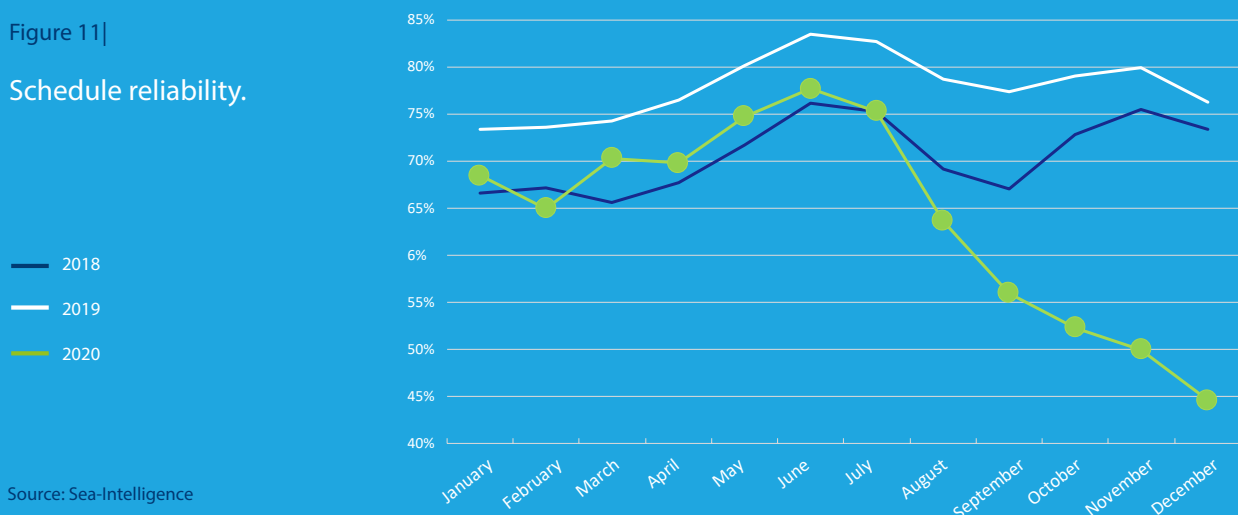
period last year. On the contrary, the route connecting Asia and Europe was down 17.1% of capacity compared to 2019 in late June. The situation was quite different in November however, when capacity on the Far East-North America route had grown 16.7% compared to the same period the previous year and, for its part, the Asia-Europe route continued with capacity 0.4% lower than that corresponding to the previous year but approaching the level seen prior to the pandemic.

Despite the fact that it might seem that supply has not been sufficient to cover the demand on the market, it is true that the use of vessels is at maximum level in most segments of the shipping market and the idle fleet in the last section of the year was positioned at around 1%. However, Alphaliner points out that lower growth of the global container fleet, in respect of previous years, may have been influenced by the lower number of ships delivered. So, in 2020 the fleet grew 2.9%, which is the lowest rate since 2016, with capacity rising from 23.2 million TEUs in 2019 to 23.9 million in 2020.

Nevertheless, despite efforts to increase capacity, supply shortage has been the dominant trend in the market during the final section of 2020. In fact, the lack of availability of empty containers has become a significant problem for shipping operators, ports and transporters. While, during the second quarter, demand suffered a significant drop, requiring storage of containers at strategic and economic locations, from that moment, demand for equipment grew sharply. As a result, there was an imbalance in the market, forcing spot rates up. According to the European Shippers' Council, this phenomenon can be explained by the fact that empty containers were being repositioned in places with the highest charge rates and not where they were really needed. The magnitude of the problem was such that shipping operators rejected orders due to the lack of capacity that, according to the Spanish Shippers'

Figure 11|

### Schedule reliability.



Source: Sea-Intelligence



Association, represented 35% to 45% of the bookings made, pushing prices and surcharges even higher. The difficulties of booking space on vessels, finding empty containers and the congestion of some ports led to low reliability of schedules (Figure 11), far lower than the years prior to the global calculation for the year, noting a significant decrease from July 2020. The lowest rate was obtained in December, which indicates a reliability of shipping schedules of less than 45%. As a result, delays also reached levels far above previous years, reaching a maximum in December 2020 at almost 6 days after scheduled date, according to data provided by *Sea-Intelligence*.

Moreover, beyond the factors determining the shipping market, another factor that has impacted on freights is the evolution of oil prices and the main bunkering fuels (Figure 12). With the entry into force of the IMO 2020, it was expected that this would be the key element determining the future of freights in the year 2020, but ultimately it was relegated to a secondary level. Despite that, as has occurred with the other variables cited above, their growing evolution over the course of the year has also led to the progressive increase of pressure on shipping costs and, ultimately, impacting on freights. So, while the year started with a sharp increase driving pressure in the first half of the year on the balance sheet of the shipping companies, the second half saw a gradual increase that, despite not recovering the levels of prices lost during the worst months of the pandemic, the growing trend saw levels approach those seen prior to the outbreak of COVID-19. So, while the average price of IFO fuel stood at 400 dollars per ton in 2019 and VLSFO at 576 dollars, in 2020 those prices fell to 266 and 365 dollars respectively.

As already indicated, the imbalances in the shipping market, together with other factors indicated above, have led to historic growth in the overall levels of freights, an effect illustrated in the principal indices such as the SFCI and the VCFI in a more regional

context. For example, according to Alphaliner, in late December 2019, the average price of freights in the SCFI stood at 811 dollars per container, while in 2020 that figure reached 2,783 dollars, an increase of 243.2%. On the contrary, if we take the average price for the full year into account, the 2019 figure was 959 dollars per containers, rising to 1,254 dollars (30.8% higher), showing once again the contrast between the first and second half of the year. In the case of VCFI, between January and December 2020, general freights grew 26.68%, with considerable variations in performance between the three areas studied by the VCFI.

## Regional Analysis: The case of Valenciaport

In the national context, the trajectory of import and export traffic of Valenciaport is determined by the dynamism of the Spanish economy and, especially, the industries that form part of the hinterland of Valencia.

After the COVID-19 crisis, the Spanish economy closed the year 2020 with the worst economic recession since the Civil War, with a fall in GDP of approximately 11%, breaking the run of six consecutive years of growth. GDP has performed unevenly over the course of the year, as the second and third wave of the pandemic have had economic effects just as serious as the first, when the decision was taken to impose a strict lockdown and the closure of most non-essential activity. According to data from Eurostat, the Spanish economy fell 5.3% in the first quarter with respect to the previous period, with negative growth of 17.9% in the second, culminating with increases of 16.4% and 0.4% in the third and fourth quarters, respectively.

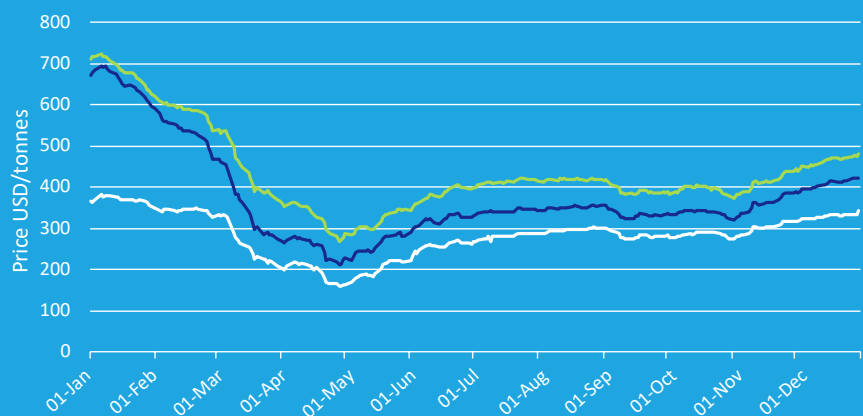
In terms of industrial production, one clear example of the effects of the pandemic can be observed in Figure 13, which shows the Industrial Production Index (IPI) throughout 2020. That indicator measures the

Figure 12]

Evolution of bunkering price at 20 major ports of the world

— IFO380  
— MGO  
— VLSFO

Source: Author's own (Data; Ship&Bunker).



quarterly trajectory of productive activity by industrial areas, excluding construction. It shows a clear fall in industrial production in China in the first instance and, subsequently, in the United States and Spain, which with the emergence of the pandemic, suffered an unprecedented collapse but whose recovery has been different over the course of the year, especially during the second quarter of 2020.

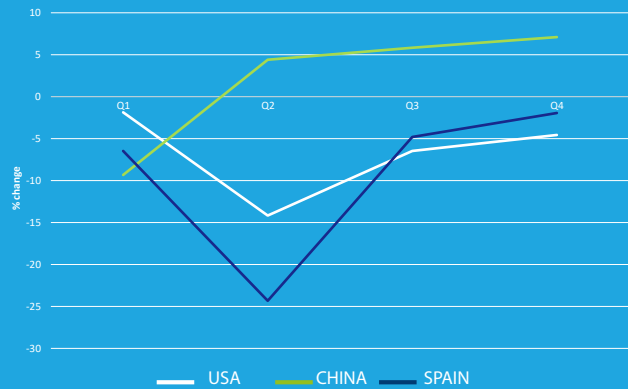
In terms of international trade, the evolution of imports and exports of goods in Spain reveals a major reduction of 19.79%, 15.76% in 2020, as one of the worst effected components of GDP (Figure 14). Despite these data, Valenciaport has managed to maintain the volume of port traffic at levels similar to last year and exceed five million TEUs, specifically 5,428 million TEUs, just 0.21% lower than 2019. When we analyse exports of full containers from Valencia, we see unequal performance over the course of the year (Figure 15).

If we compare the freights contained in the VCFI with export of full containers from Valenciaport, we observe a similar trend for some months of the year: the initial fall in traffic also coincides with a fall in freights for the period March-May. However, from that moment, while freights began to grow again to the end of the year, traffic displayed greater volatility of the course of subsequent months. That's why it's necessary to highlight the fact that, this year especially, the VCFI is impacted largely by global factors cited in the previous section, as in some periods, Valenciaport has also suffered the consequences of the shortage of containers, the temporary suspension of shipping services and the difficulties exporting to certain countries due to congestion at ports, resulting in significant surcharges on freights.

Beyond the general performance of the VCFI, when we analyse freights by area through the different sub-indices, we find major variations depending largely on the idiosyncrasies of each country and the dynamism of the economy as well as the port system and the characteristics of the commercial container routes connecting both countries. With this in mind, we analyse the three principal areas for Valenciaport: The Far East, Western Mediterranean and the United States and Canada (Figure 16).

Figure 13|

### Trajectory of Industrial Production Index (IPI) of Spain, China and United States, 2020



Source: Author's own (Data: INE, Federal Reserve, National Bureau of Statistics of China).

Figure 14|

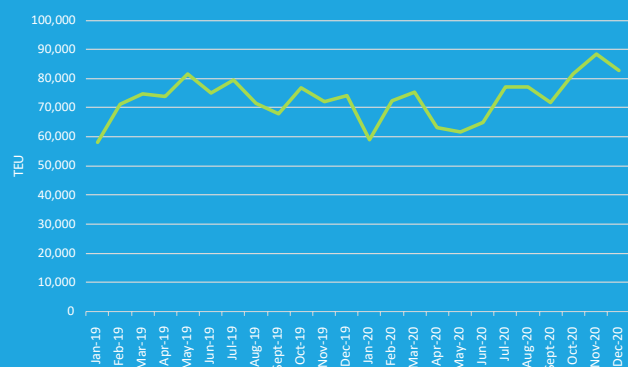
### Imports and exports of goods, percentage annual change



Source: Author's own. (Data: IMF)

Figure 15|

### Exports in full TEUs from Valenciaport, 2019-2020



Source: Author's own. (Data: Port Authority of Valencia)



Figure 16 clearly shows a very different trajectory for each of these areas. In terms of economic and trade dynamics, all the countries studied have been affected by the outbreak of the pandemic to a greater or lesser extent and the growth rates for imports and exports show the consequences of less activity, as seen in Table 1, Table 2 and Table 3 with the principal economic variables for each area.

On the one hand, we observe a strong growth trend for freights throughout 2020. Shipping prices with this area have seen accumulated growth of 176.34% since the start of the series in January 2018, reaching growth records month after month since August for five consecutive months of growth. As the graph shows, March saw the highest growth, 42.42% in respect of the previous month, responding to the climate in which Chinese ports were operating, dominated by high levels of congestions due to the accumulation of containers not removed by importers, leading to surcharges on freights shipped to China. From August, the shortage of containers and difficulty booking space on vessels lead to continued growth in freights up to December. It is also worth highlighting the fact that export growth traffic of full TEUs from Valenciaport with China (Valencia's principal trading partner in the region) over the course of 2020 was 17.7%, resulting in greater pressure on shipping prices.

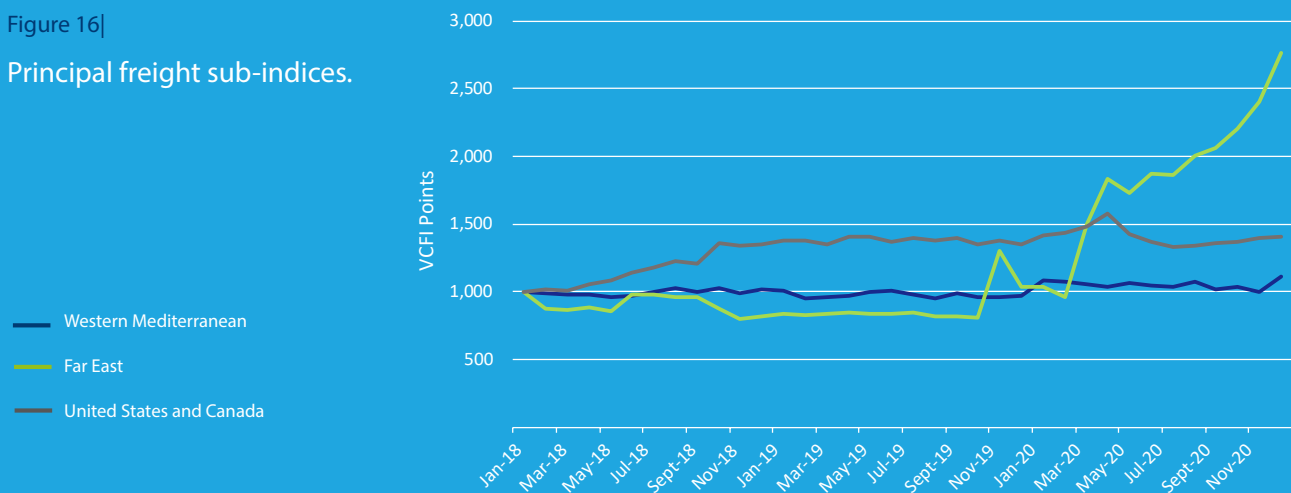
On the other hand, the United States and Canada have seen growth in freights slow for much of this year, reversing the growth trend which began in mid-2019 and continued to May 2020 when it was arrested with a fall of 9.9%. Since August, freights have accumulated

five consecutive months of moderate growth (less than 2%), but which have allowed for the recovery of part of the May's losses. It must be noted that, in line with the general trend, in the final stretch of the year, the shortage of containers and the difficulty reserving slots on vessels has had a significant impact on the ports of southern California, where congestion has increased intensely and import chains were saturated, leading to significant surcharges on freights. We must also add that exports from Valenciaport rose 2.1% in 2020 compared to 2019, with higher demand concentrated in the final months of the years, exceeding monthly levels of the previous year.

Finally, with respect to the Western Mediterranean, this is one of the areas experiencing the most volatility over the course of 2020, with increases one month followed by falls the following month, practically cancelling each other out. December saw the highest rate of growth (11.68%) and the accumulated rate from the start of the series in January 2018 stands at 11.61%. In terms of demand, exports from Valenciaport have risen 14.2% in 2020 with respect to the previous year. This strong growth is primarily due to exports to Morocco, which have risen 34.2%, while exports to Algeria fell by 4.8%.

Therefore, beyond the intricacies of each area, in general, all have experienced a decrease after the outbreak of the pandemic and growth in the subsequent months that, albeit at a different intensity, was concentrated in the final months of the year. The trajectory of freight reflects the COVID-19 outbreak of and the immediate effects on the economies of developed and developing countries. Also reflected are the consequences arising

Figure 16|  
Principal freight sub-indices.



Source: Author's own.





from the reduction of international trade and the effect on the shipping market, global production chains and ports all around the world. Elements cited here will be key to determining the trajectory of freight in 2021, depending on the degree of uncertainty surrounding the evolution of the pandemic and the effects that may have on economic activity, trade, logistics and transport.

Table 2 |

## Far East: key economic variables in 2020, annual change

	China	Hong Kong	Singapore	South Korea	Japan	Vietnam	Thailand	Taiwan	Malaysia
Economic growth (% annual change at constant prices)	1.85	-7.47	-6.00	-1.88	-5.27	1.60	-7.15	0.048	-6.00
Evolution of exports of goods (% change)	0.438	-5.80	-6.85	-6.44	-11.59	--	-8.72	-1.50	-10.22
Evolution of imports of goods (% change)	3.95	-9.15	-2.11	-2.60	-8.32	-0.88	-16.32	-3.56	-7.53

Source: IMF

Table 3 |

## United States and Canada: key economic variables in 2020, annual change

	USA	Canada
Economic growth (annual % change at constant prices)	-4.27	-7.14
Evolution of exports of goods (% change)	-10.61	-10.42
Evolution of imports of goods (% change)	-9.58	-11.92

Source: IMF

Table 4 |

## Western Mediterranean: key economic variables in 2020, annual change

	Morocco	Tunisia	Algeria
Economic growth (annual % change at constant prices)	-6.97	-7.04	-5.46
Evolution of exports of goods (% change)	-26.80	-18.00	-2.50
Evolution of imports of goods (% change)	-16.07	-20.00	-2.68

Source: IMF





Edited in March 2021 by:



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