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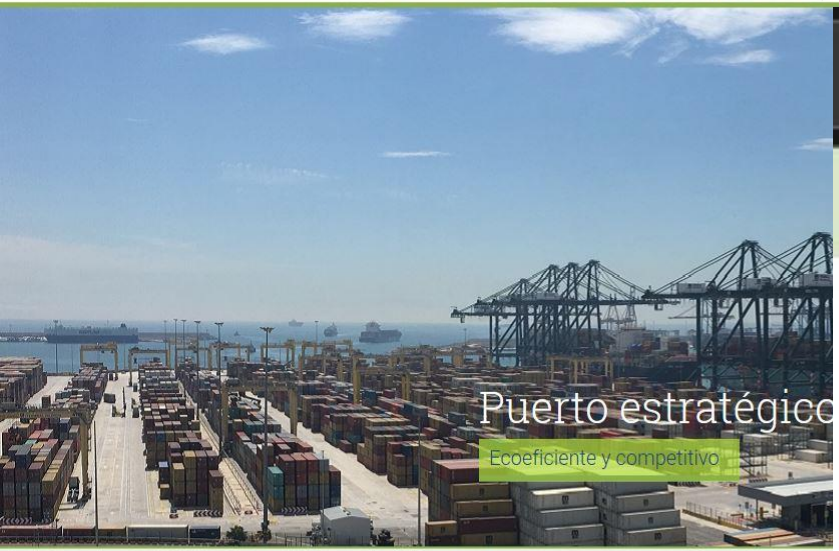


Lo último

La discriminación de Valencia en los corredores europeos llega al Parlamento Europeo

La eurodiputada, Inmaculada Rodríguez-Piñero critica la discriminación del Puerto de Valencia y reclama explicaciones por las razones técnicas que llevaron a no incorporar a Valencia en los corredores Mediterráneo-Atlántico y Cantábrico-Mediterráneo. La representante española en el Parlamento Europeo anuncia enmiendas para corregir la discriminación de Valencia en la red prioritaria Transeuropea de transportes. Inmaculada Rodríguez-Piñero, eurodiputada por el PSOE y...

1. Introduction
2. Why a new index?
3. Why Valencia?
4. Methodology
5. Conclusions

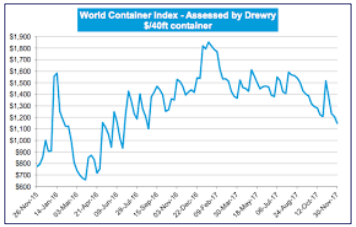
1. Introduction

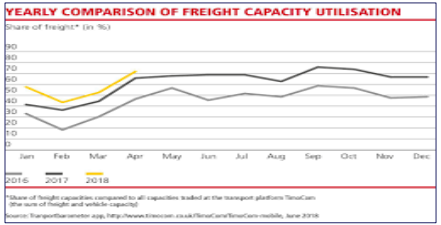
Introduction

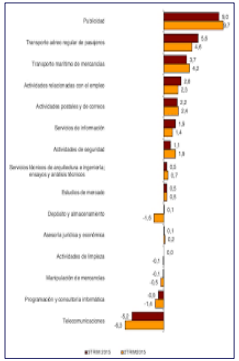
What is an index?

An **index** is a statistical measure that shows us the level and the percentage of variation of a variable over a period of time, taking a set point in the past, which serves as the basis for establishing comparisons, as reference (Collis and Jussey, 2009[1]).

There are an infinite number of indices. Over the past few decades various indices focused on container traffic have appeared as a result of the growth of its importance in global maritime traffic.





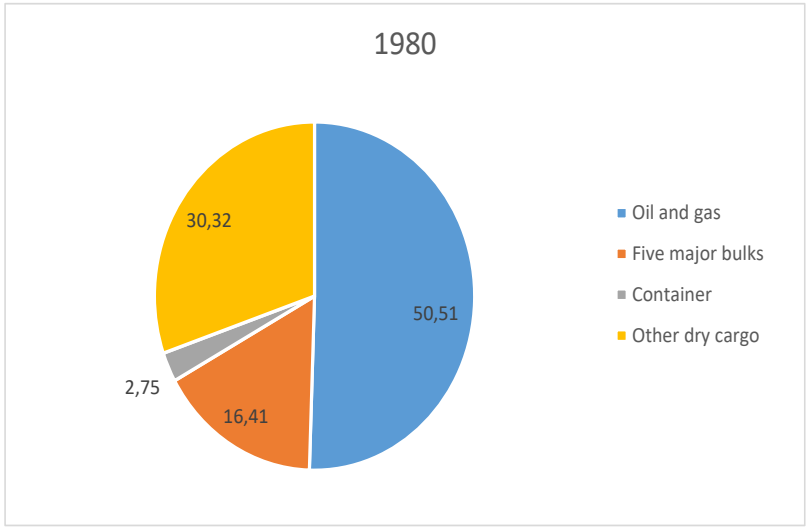


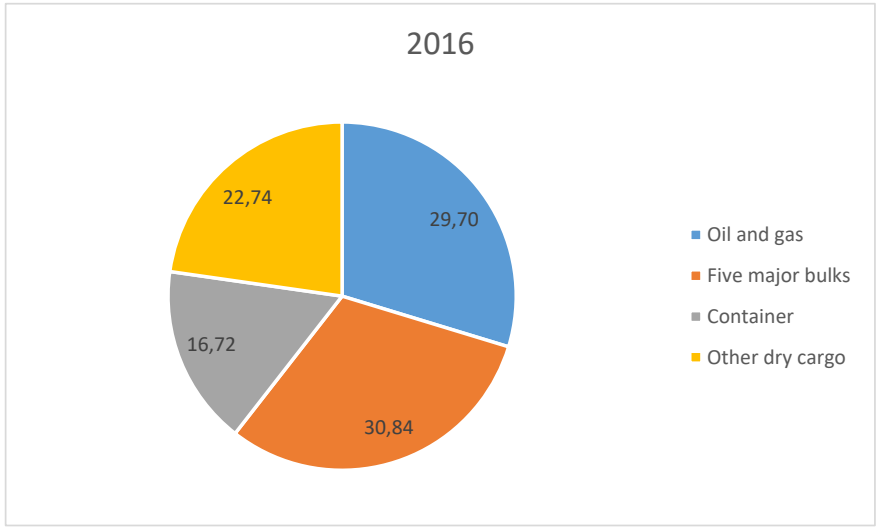
[1] Collis, J. y Hussey, R. 2009. Business Research: A Practical Guide for Undergraduate and Posgraduate Students. Basingstoke: Palgrave-Macmillan.

Introduction

What is an index?

Evolution of the relative importance of different types of merchandise in maritime traffic





Indices used in maritime transport can be classified in a variety of ways[2]:

1. By the source of data used:

- **Qualitative data:** when the data are provided by a group of experts or a panel that periodically responds to questionnaires (European Freight Forwarding Index).
- **Quantitative data:** when the index is built considering the primary data of the sector concerned (Baltic Dry Index).

2 Karamperidis, S., Jackson, E. y Mangan, J. 2013. "The use of índices in the maritime transpor sector", Maritime Policy & Management, 40:4, 339-350
Cullinane, Kevin (ed.). 2010. International Handbook of Maritime Economics, Edward Elgar, Cheltenham. UK

2. **By the way that they fit into the evolution of the economic cycle:**

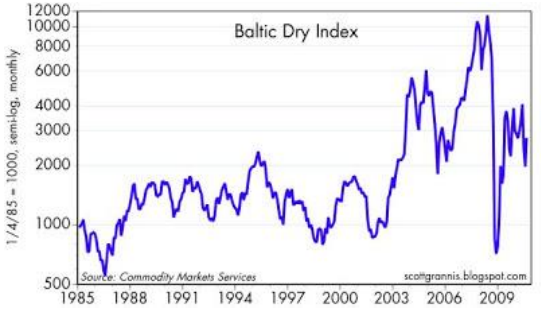
- **Leading indicators:** indices that are ahead of the cycle (European Freight Forwarding Index).
- **Lagging indicators:** show the change after it has occurred in the economy (Harpex Index).
- **Coincident indicators:** those that move and change according to the evolution of the cycle (BDI or Shanghai Containerized Freight Index).

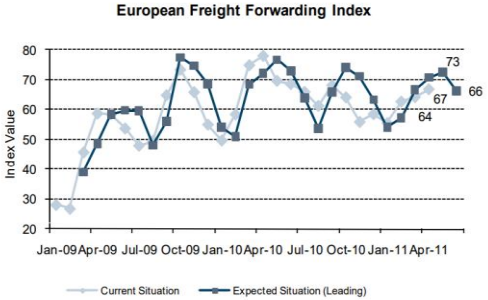
3. By the type of goods transported:

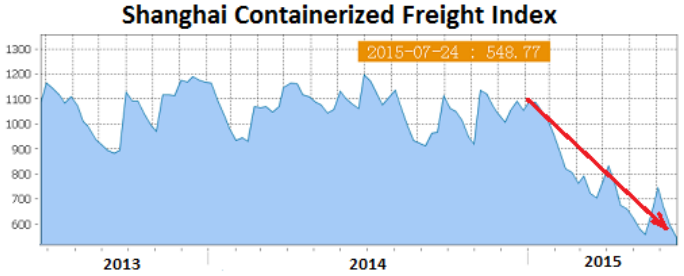
- **indices for transport of bulk, Dry Bulk Freight Index.** For example, the Baltic Dry Index.
- **indices to analyse freight rates in oil and refined products, Tanker Freight Index**, such as the Baltic Exchange Tanker Index (Dirty Tankers for crude oil and Clean Tankers for refined petroleum products and chemicals).
- **indices for containers** such as those developed by Shanghai Shipping Exchange since 1996 (SCFI), or those published by Drewry Maritime Research since 2006 (WCI), or the Leibniz Institute for Economic Research since 2012, or those developed by UNCTAD itself, to mention some of the most cited in research.

Introduction
Types of index

Of the 109 indices studied by researchers only 18 are the most frequently cited in the 10 most significant journals of the maritime sector taken as a reference in this work[3].







[3] Karamperidis, S., Jackson, E. y Mangan, J. 2013. "The use of índices in the maritime transpor sector", Maritime Policy & Management, 40:4, 339-350

Introduction
The aim of indices

The main aim of all these indices is to try to interpret the evolution of the market and anticipate the decisions to be taken by market operators as far as possible.

The freight market has always shown significant volatility, more or less pronounced according to the type of goods transported, accompanying the global economic cycles.

Historically[4] the cycles in the maritime transport market present three different trends:

1. Long cycles (between 10 and 12 years).
2. Short cycles (4 and 5 years).
3. Those that include the seasonality of the market (Chinese new year).

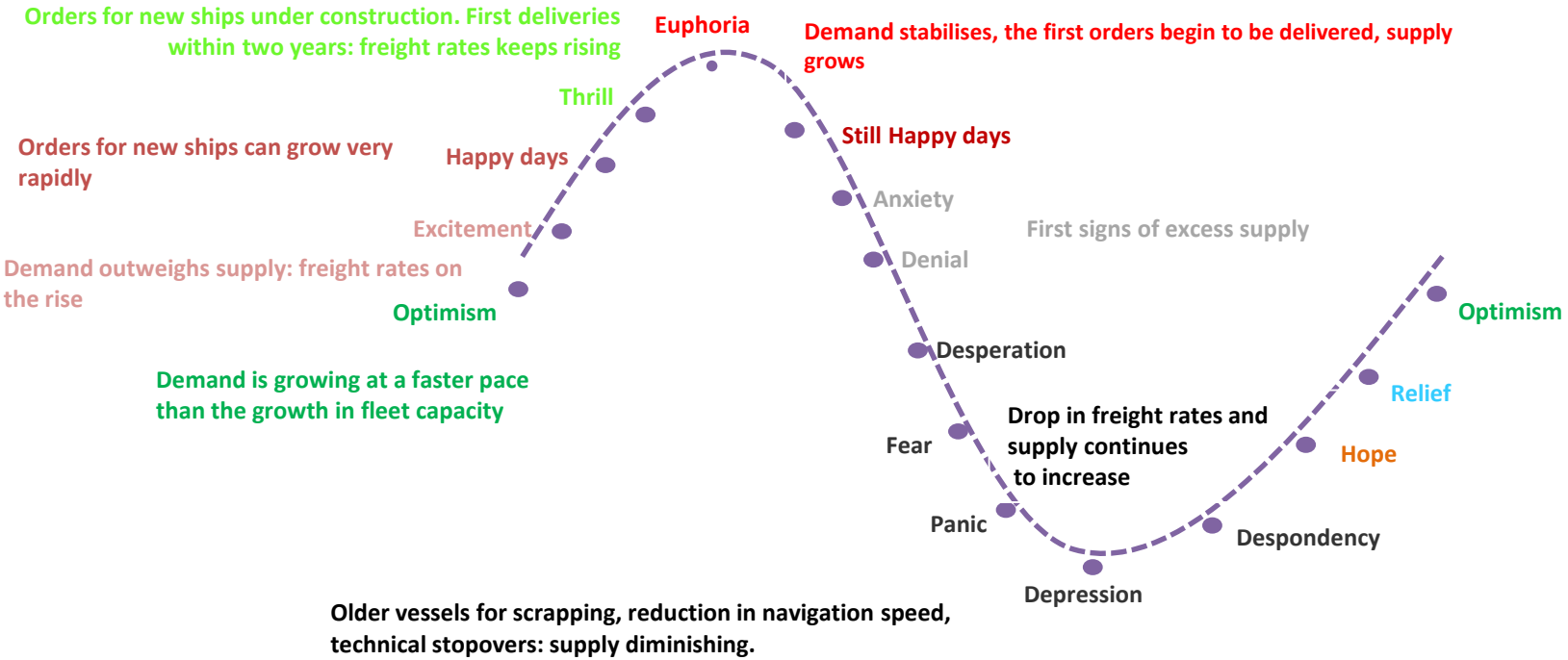
However, all analysts observe a considerable shortening of these cycles, especially since the crisis of 2008.

[4] Stopford, M. 2009. Maritime Economics (Third Edition). Abingdon, Routledge
Stopford, M. 2017. Splash247.Com, 4th December 2017
Mowafy, A., Notteboom, T. 2013. "Indexing Container Freight Rates: To Step Toward a Market Pricing Stability Mechanism".
Yifei, Z., Dalí, Z. and Yanagita, T. 2018. "Container liner freight index based on data from e-booking platforms". Maritime Policy & Management.

Introduction

The aim of indices

Market cycle-ogy – Sector cycle phases



Source: DNV-JL ©2016 Jakub Walenkiewicz

Introduction

Which variables influence the evolution of freight rates?

Freight rates depend on the evolution of the supply and demand of load capacity.

1. While demand is related to factors exogenous to the sector (the behaviour of the global economy).
2. Supply is linked to endogenous elements to the sector (the strategy of the shipping companies with respect to the capacity and the size of the ships).

Introduction

Which variables influence the evolution of freight rates?

Exogenous variables:

1. GDP growth.
2. Evolution of trade.
3. The price of crude oil.
4. The imposition of environmental measures.
5. The evolution of technology…

Endogenous variables :

1. Demand for new ships in the medium and long term.
2. Reduction of costs associated with the size.
3. The reduction in costs linked to technological developments.
4. Vertical and/or horizontal integration strategies in the sector.
5. Destruction of obsolete production capacity.

Introduction

Which variables influence the evolution of freight rates?

The “vicious cycle of container traffic”

Over the last decades, since the appearance of the container (1956) container traffic has been submitted to constant economic cycles that have been associated with:

- Increase in ship size
- Growing efficiency
- Reduction in unit costs
- Which are translated to freight rates.
- Fall in freight rates in nominal and real terms.
- Greater cash-flow needs to maintain pace of investment.
- Need to have an increasingly large market share.
- Considerable competitiveness, agreements between shipping companies, bankruptcies and mergers.

The key is knowing what was the driver for this vicious cycle:

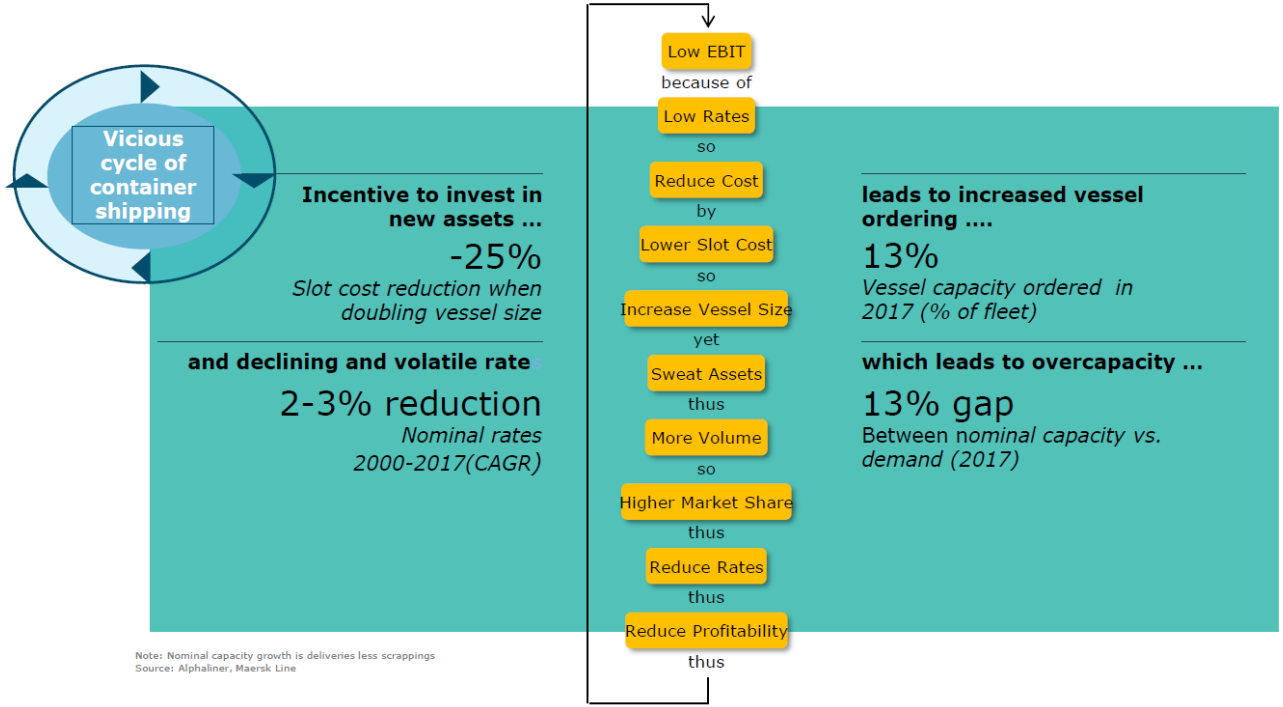
- While Maersk believes that it is related to a fall in benefits.
- In my opinion the origin lies in technical progress.

Introduction

Which variables influence the evolution of freight rates?

Your promise. Delivered.

Incentive to invest in new and larger vessels leads to long term trend of declining rates



Note: Nominal capacity growth is deliveries less scrappings
Source: Alphaliner, Maersk Line

Hansen, Marcos. 2018. "Shipping Trends & The Future Of Shipping", Maersk Line

Introduction

Which variables influence the evolution of freight rates?

Economies of scale

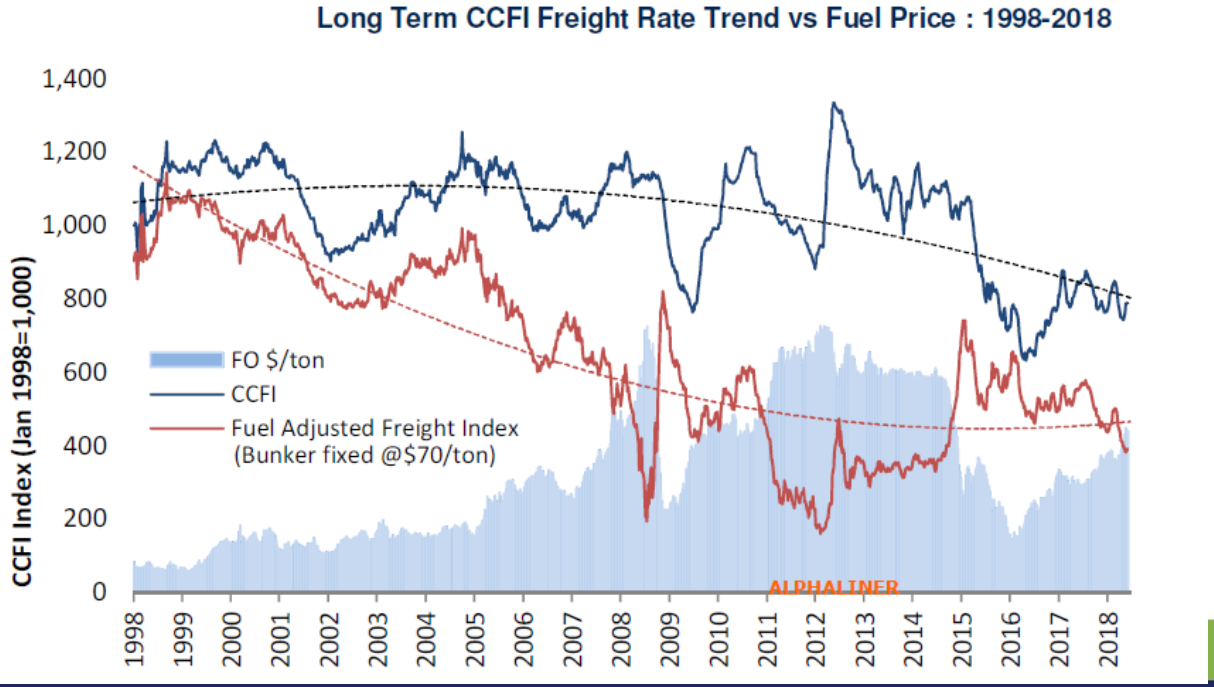
Pressure to incorporate other more evolved and competitive assets

- Technical progress associated with new assets
- Cost reduction
- Increase in ship size
- Increased capacity
- Greater competitiveness
- Increased importance in the market
- Excess capacity
- Freight rate war: freight rates fall
- Benefits, profitability and cash flow fall

Introduction

Which variables influence the evolution of freight rates?

While average nominal freight rates, as measured by the CCFI index, have fallen by over 20% since the beginning of 1998, the real container freight rates, after accounting for changes in the price of bunker, have fallen by more than 50% in the last 20 years.



Source: Alphaliner Volumen 2018, número 23

Introduction

Which variables influence the evolution of freight rates?

Of this set of variables we will select five to analyse their impact in the economic cycle of maritime transport:

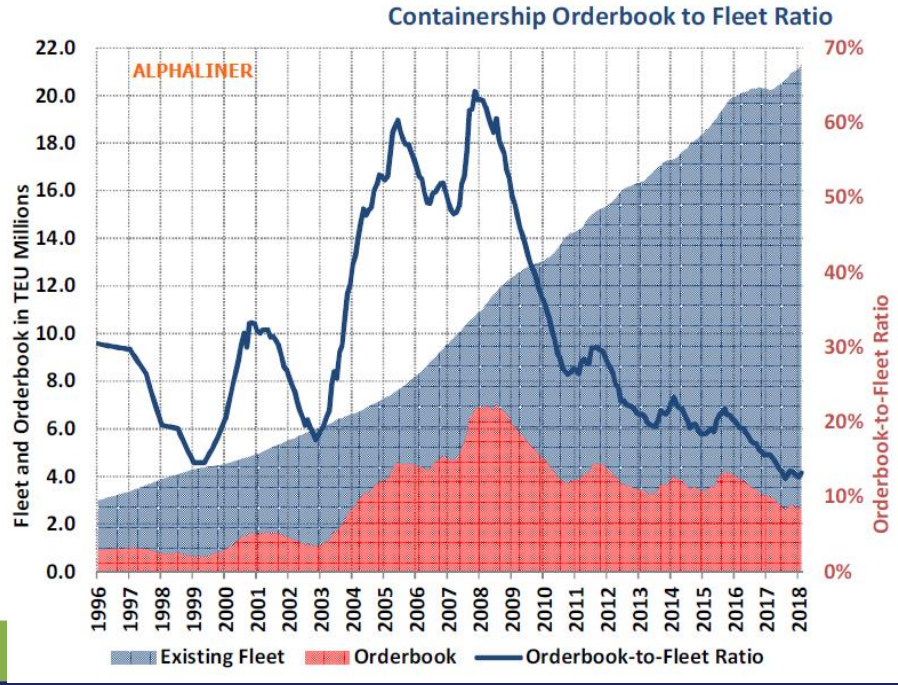
1. The GDP growth rate of the G-20
2. The evolution of the demand for container traffic (in TEUs)
3. The evolution of the price of oil (dollars per barrel)
4. The total capacity of the fleet of containerships (in thousands of TEUs)
5. The idle capacity of the fleet (in TEUs)

We will use the SCFI (Shanghai Containerized Freight Index) as a reference.

Introduction

Which variables influence the evolution of freight rates?

Determinants of the SCFI: Supply
Evolution of fleet capacity of containerships



Average orderbook
23%
1996-1999

Average orderbook
31%
2000-2003

Average orderbook
55%
2004-2007

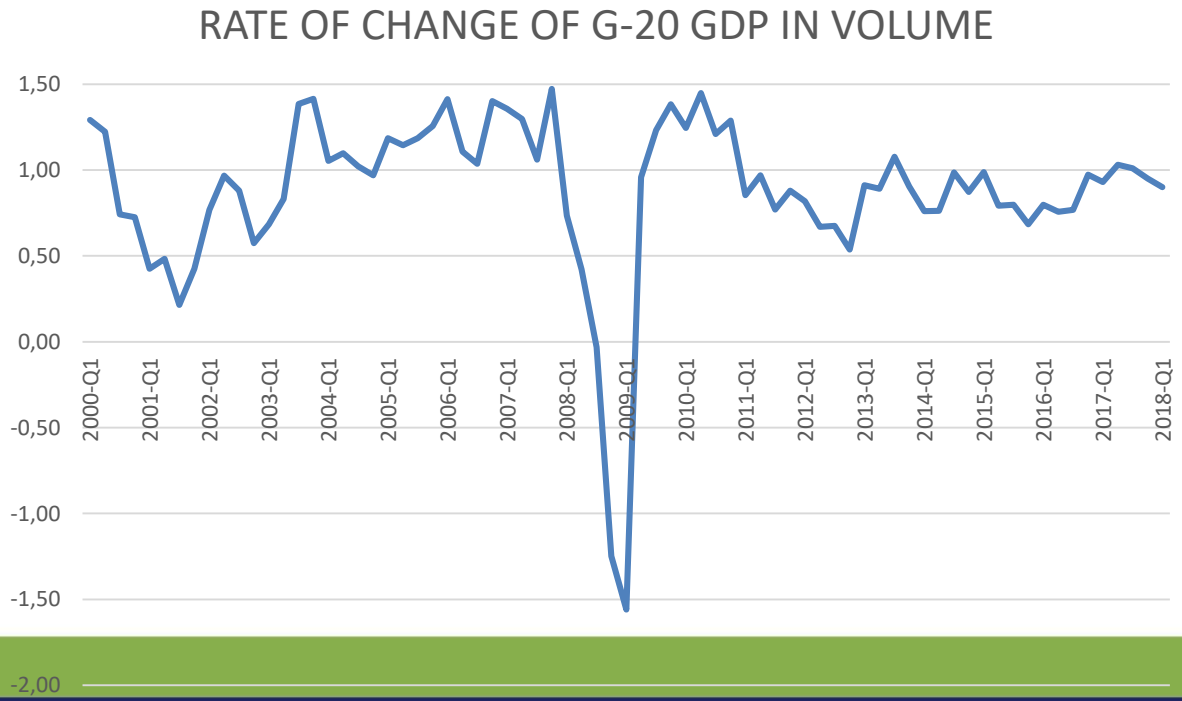
Average orderbook
23%
2010-2018

Source: Alphaliner 2018

Introduction

Which variables influence the evolution of freight rates?

Determinants of the SCFI: Demand
Growth of GDP G-20 2009-2017(% change)



G20 – Rate growth of GDP in volume for the period, compared with the previous period

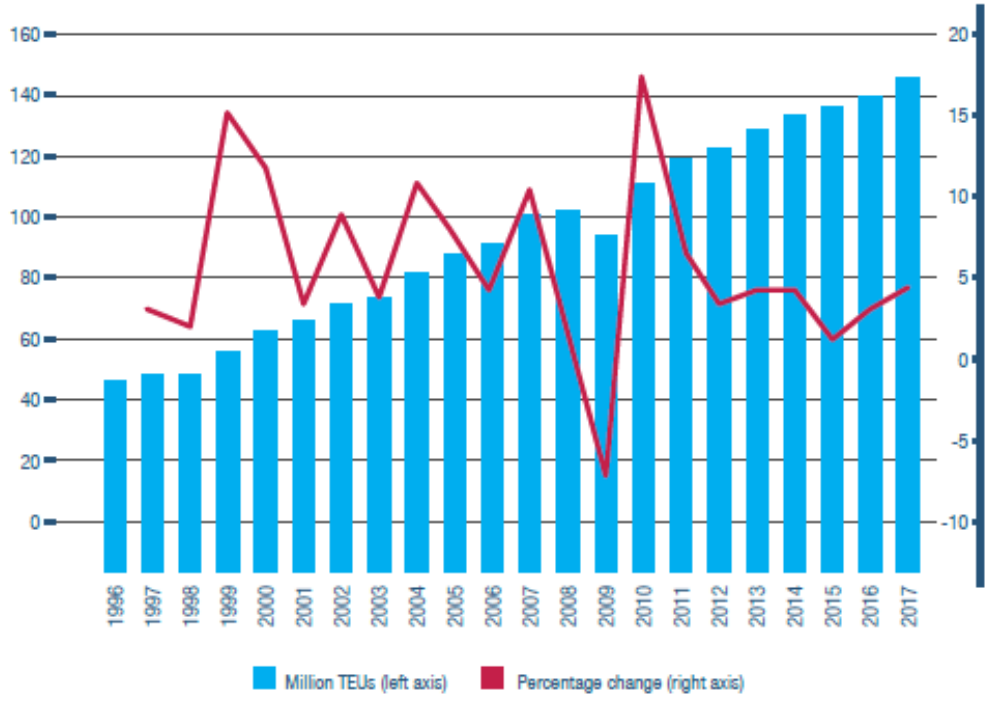
Average annual mean growth rate 2009-2017 0.8%

Source: OECD

Introduction

Which variables influence the evolution of freight rates?

Determinants of the SCFI: Demand
International Maritime Container Trade, 1996-2017 (TEUs and % change)



Average cumulative annual growth rate 1996 - 2008
6.7%

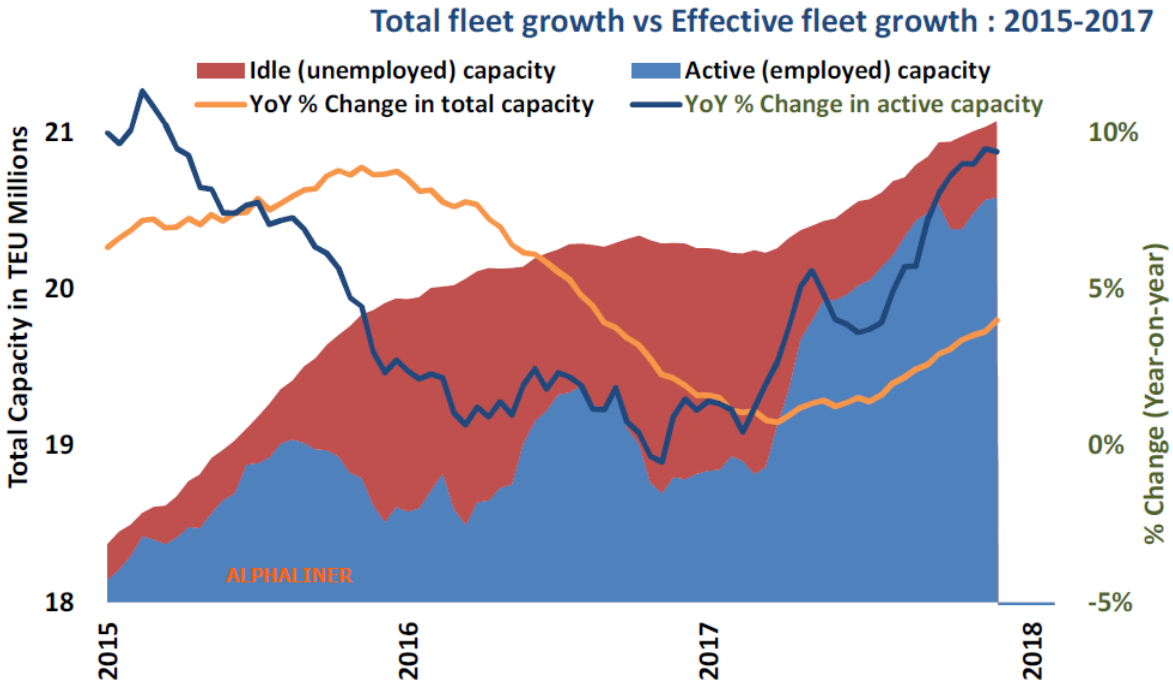
Average cumulative annual growth rate 2009-2017
5.3%

Source: UNCTAD, Review of Maritime Transport 2017

Introduction

Which variables influence the evolution of freight rates?

Determinants of the SCFI: Supply
Evolution of fleet capacity of containerships



Nominal fleet capacity of containerships
2017
3.9%

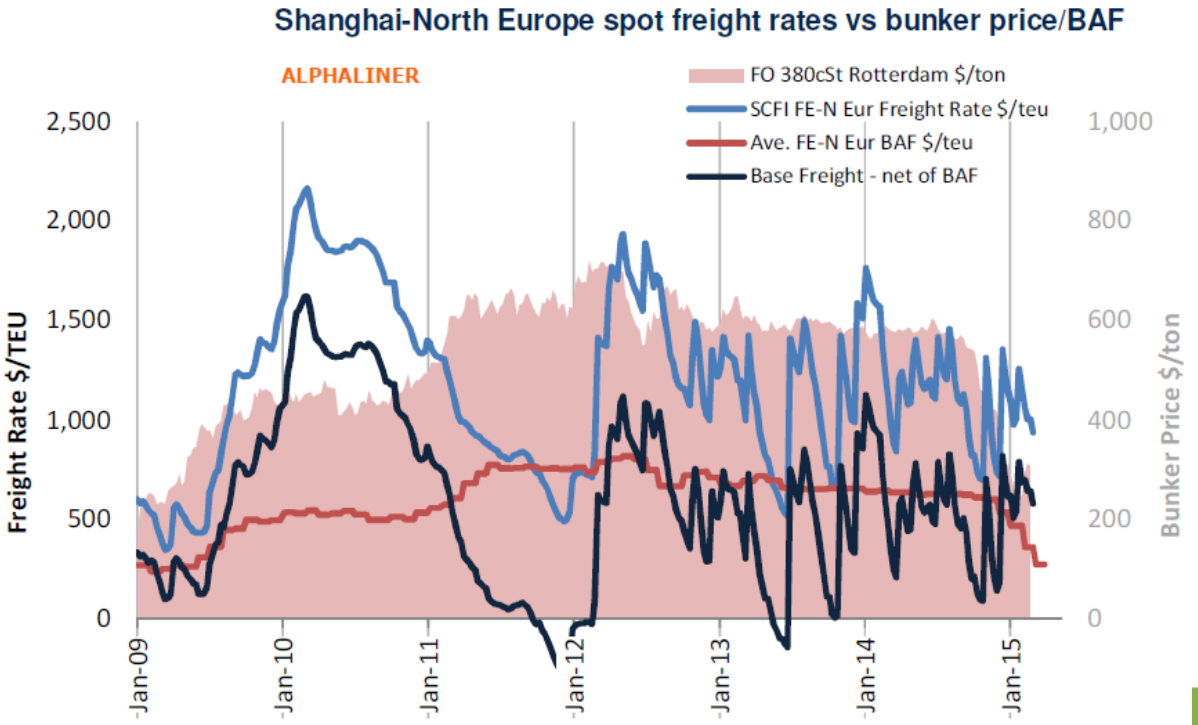
Actual capacity growth
2017
9.5%

Source: Alphaliner 2018

Introduction

Which variables influence the evolution of freight rates?

Determinants of the SCFI: The Price of Oil → Bunkering Costs → BAF



Introduction

Which variables influence the evolution of freight rates?

Determinants of the SCFI: The Price of Oil → Bunkering Costs → BAF

Table 5.2 FORECAST ESTIMATED AVERAGE UNIT RATE, EAST-WEST CONTAINER MARKET* ($ PER TEU)

Year	East-West supply/demand index	% Change	Weighted East-West freight rate including fuel charges	% Change
2013	104.2	3.4%	820	-5.0%
2014	110.0	5.6%	791	-3.6%
2015	103.5	-5.9%	653	-17.4%
2016**	102.7	-0.7%	558	-14.6%
2017**	102.0	-0.8%	615	10.3%
Year	**Estimated East/West Average Fuel Surcharge**	**% Change**	**Weighted East/West Freight Rate Excluding Fuel Charges**	**% Change**
2013	194	-5.0%	626	-5.0%
2014	183	-5.7%	608	-2.9%
2015	122	-33.1%	531	-12.7%
2016**	107	-13.0%	451	-15.0%
2017**	115	7.8%	500	10.9%

** Weighted average of two-way Transpacific, Europe-Far East and Transatlantic trades, inclusive of THCs and intermodal rates where appropriate, covering both spot and contract markets*

*** Full-year projection*

Note : Unit rate and fuel surcharge estimates have been rebased

Source: Drewry Maritime Research

Introduction

Which variables influence the evolution of freight rates?

Determinants of the SCFI

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	741.26***	524.36***	812.91***	1044.28***	442.55***	971.21***
Oil price	5.61***	5.77***	5.112***	4.866***	5.365***	4.047***
GDP					11755.71***	15665.244***
Fleet capacity	-0.008		-0.013***	-0.006		-0.026***
Seaborne traffic demand in TEUs	-0.001			-0.002		
Idle capacity in TEUs		-0,044	-0,090	-0,131	0,013	
Adjusted Determination Coefficient	0.449	0.440	0.457	0.459	0.443	0.515
Standard Regression Error	183.95	185.52	182.62	182.38	188.91	176.28
Number of observations	108	108	108	108	36	36

Note: *, **, *** Significant at 10%, 5% and 1% respectively

Determinants of the SCFI

The variables that presented the best results are:

1. The GDP growth rate of the G-20.
2. The evolution of the price of oil (dollars per barrel).
3. The total capacity of the fleet of containerships (in thousands of TEUs).

Introduction

Which variables influence the evolution of freight rates?

Determinants of the SCFI

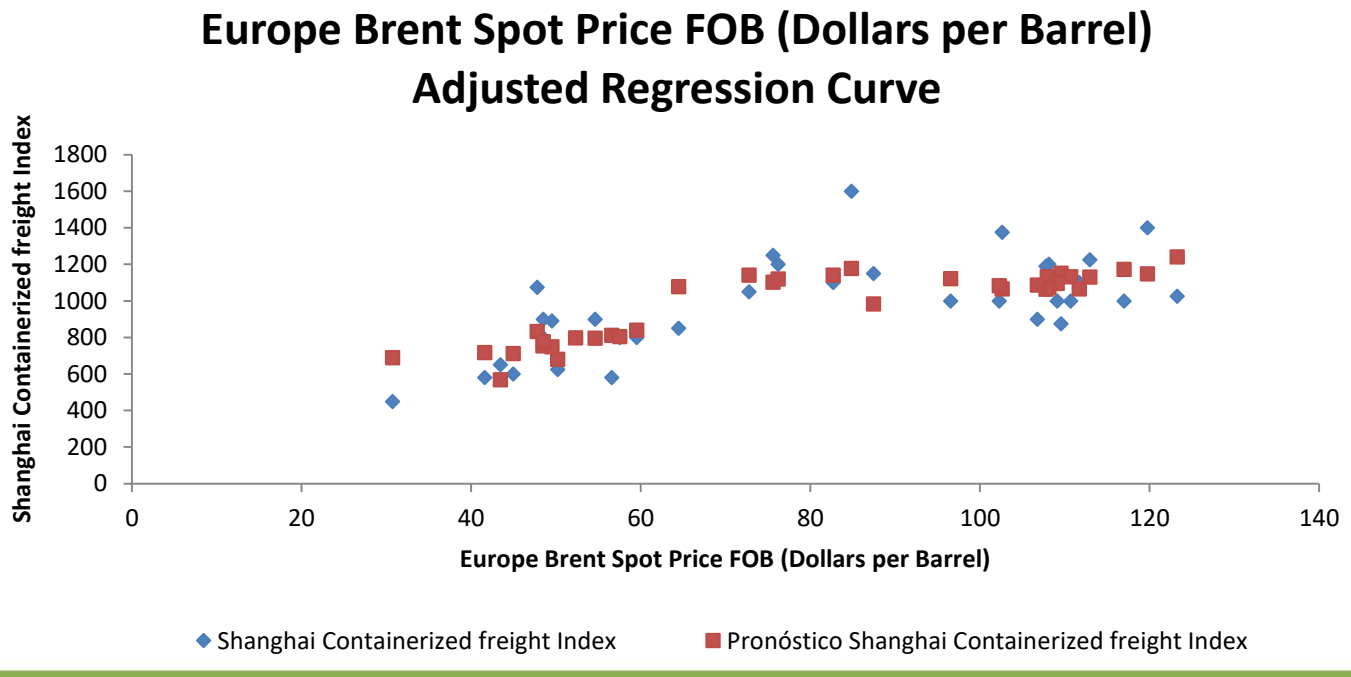
$$SCFI = \alpha_0 + \alpha_1 OP + \alpha_2 GDP + \alpha_3 FC + \mu$$

VARIABLE	DESCRIPTION	EXPECTED SIGN	ESTIMATED SIGN
OP Oil price	Europe Brent Spot Price FOB (Dollars per Barrel)	+	+
GDP growth	% gross domestic product growth rate for G20 countries – Growth quarterly rate in volume compared to previous quarter Source: OECD data	+	+
FC Fleet capacity	Total containership fleet capacity in '000s TEUs	-	-

Introduction

Which variables influence the evolution of freight rates?

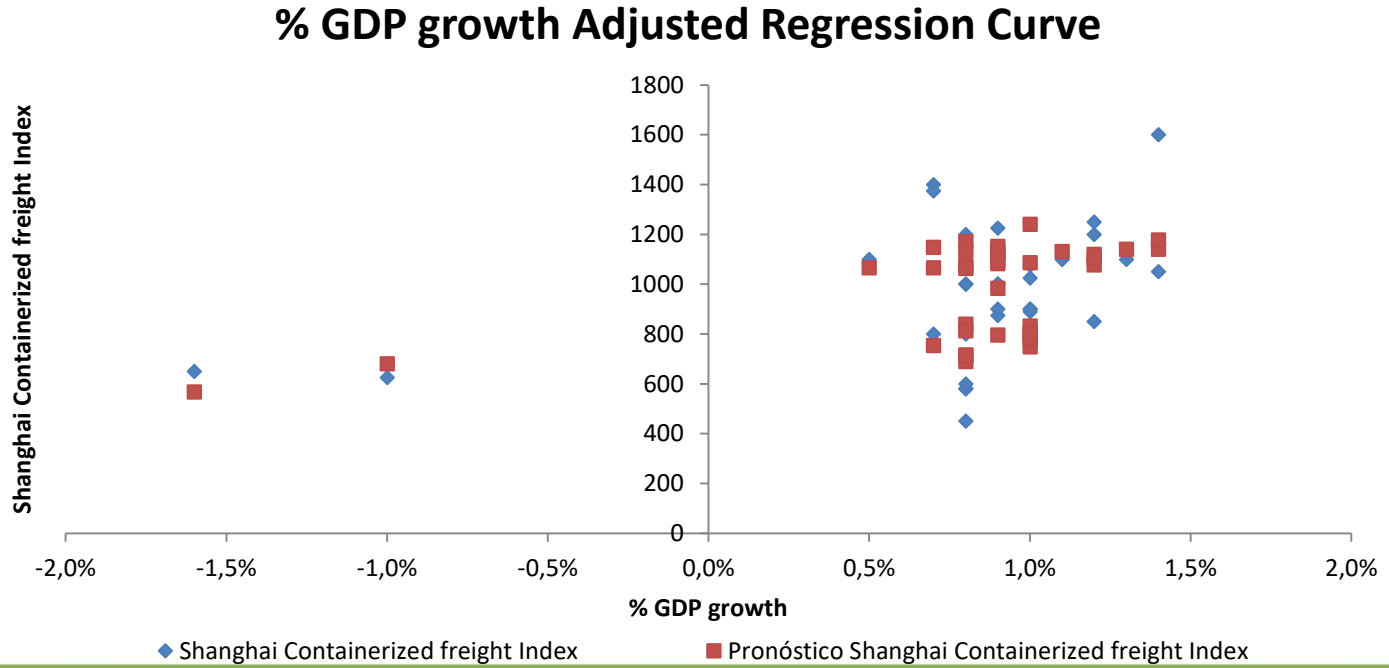
Determinants of the SCFI



Introduction

Which variables influence the evolution of freight rates?

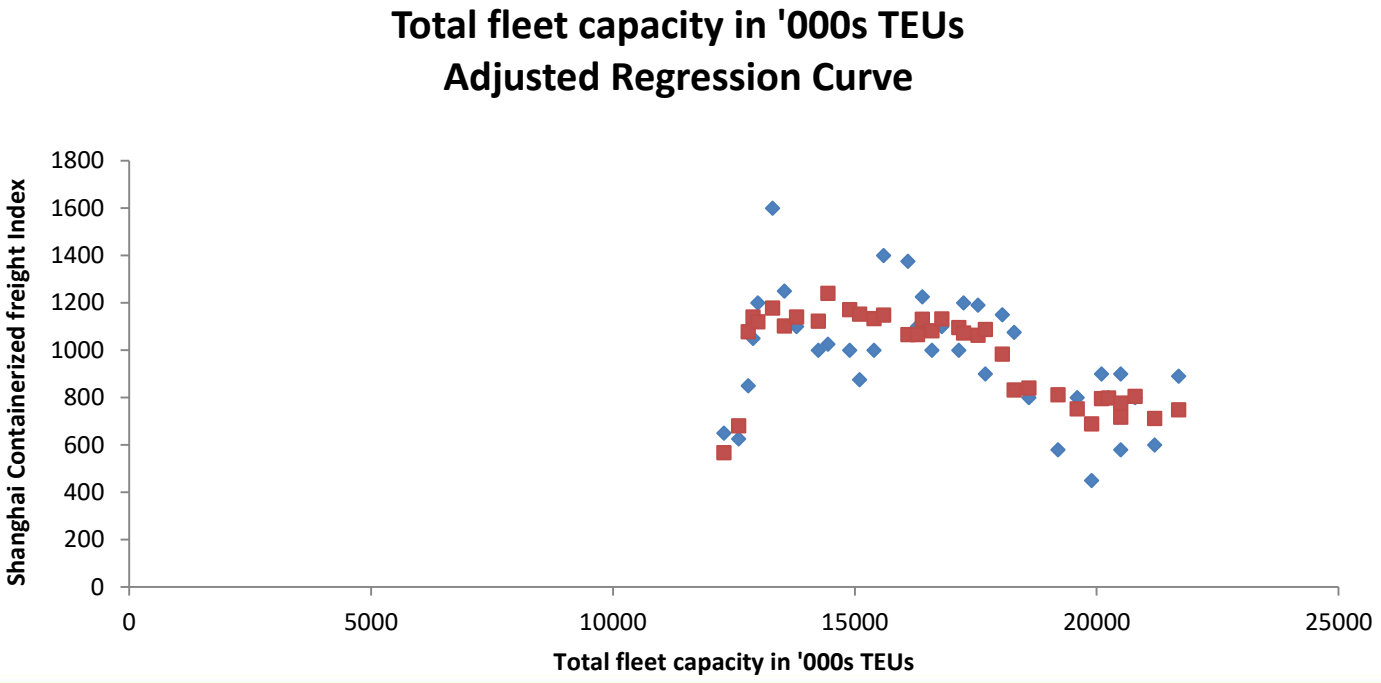
Determinants of the SCFI



Introduction

Which variables influence the evolution of freight rates?

Determinants of the SCFI



Introduction

Which variables influence the evolution of freight rates?

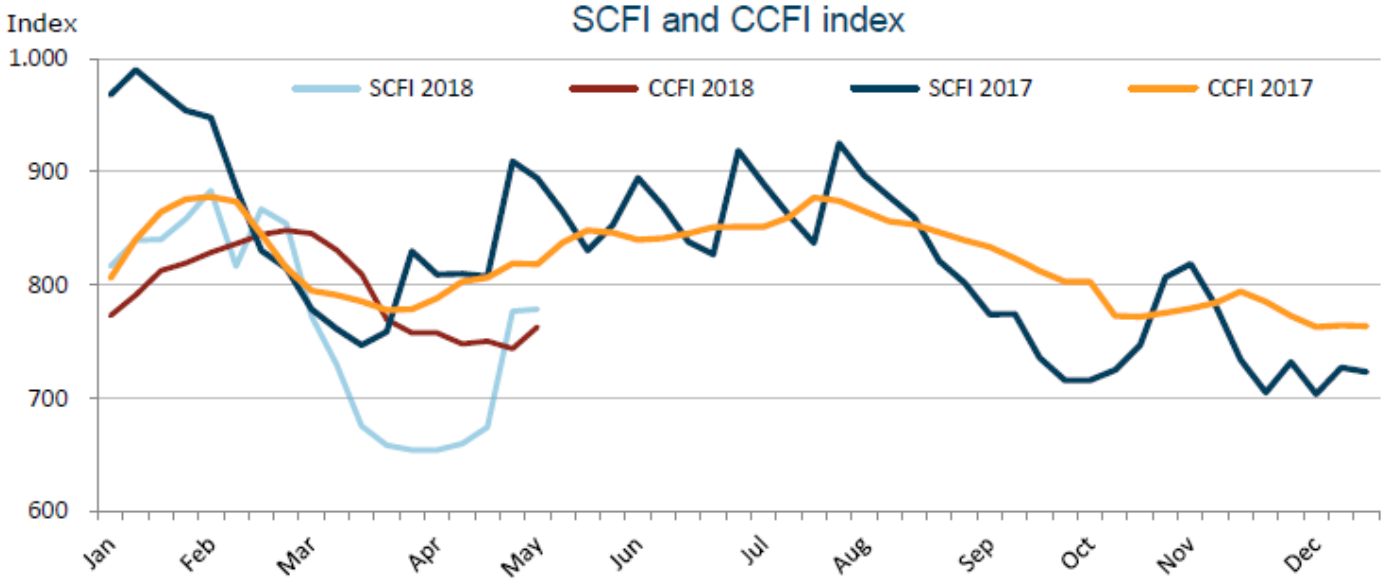
Forecasting

GDP growth	Oil Price	Fleet capacity		SCFI
0%	65	21.5 million TEUs	→	**659.9**
1%	75	22 million TEUs	→	**843.6**
2%	100	23 million TEUs	→	**1074.7**
-2%	150	25 million TEUs	→	**394.7**

Introduction

Which variables influence the evolution of freight rates?

The fact that these indices act as a barometer means that they are used extensively not only in research, but also by sector companies in their predictive analysis of the market or explanatory analysis of the past and present behaviour of their income statements.



Source: Hansen, Marcos. 2018. "Shipping Trends & The Future Of Shipping", Maersk line

Introduction

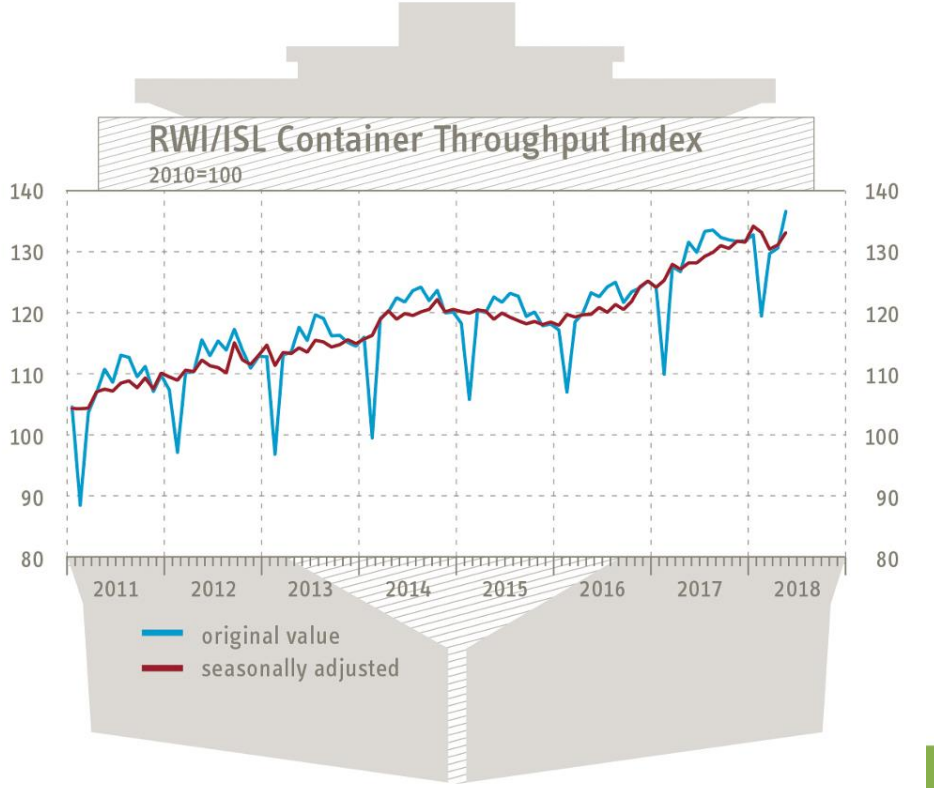
Which variables influence the evolution of freight rates?

Or to explain their own evolution and the health of the world economy (RWI/ISL Container Throughput Index). As the Leibniz Institute for Economic Research and the Institute of Shipping Economics and Logistics explain, there is a very strong correlation between the evolution of container traffic and world trade and this in turn is closely linked to the behaviour of global GDP.

Therefore, studying the traffic of 88 selected ports that handle 60% of container traffic globally, two/three weeks from the end of the month it is possible to observe the evolution of port activity and extrapolate it to the behaviour of global economy

Introduction

Which variables influence the evolution of freight rates?

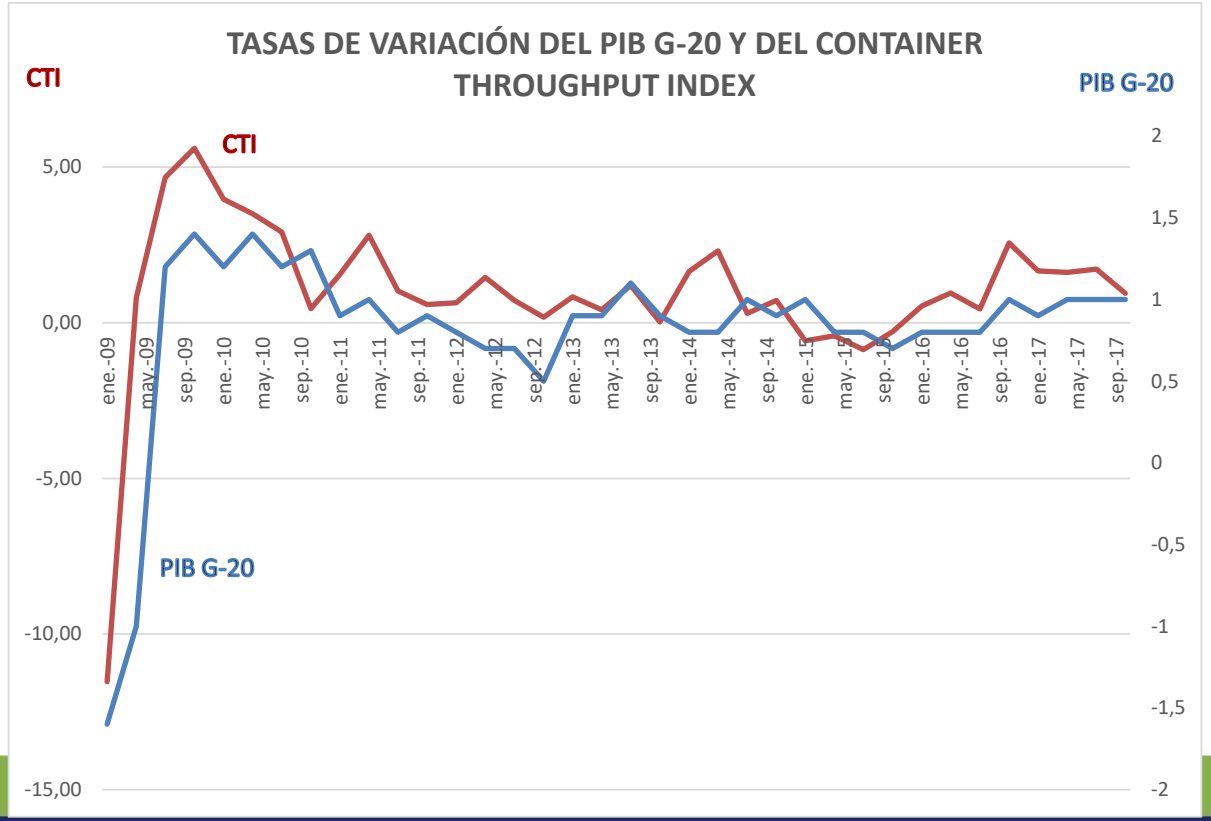


RWI/ISL computations based on data provided by 88 ports. May 2018: flash estimate.

https://www.isl.org/en/containerindex/may-2018

Introduction

Which variables influence the evolution of freight rates?



Source: UNCTAD and RWI/ISL data

2. Why a new index?

Why a new index?

1. Spain is an export power. Last year it handled 2,868,120 cargo laden TEUs, which represents 1.4% of global cargo exports (205M) and there is no indicator showing the evolution of freight rates.
2. The Western Mediterranean represents 3.8% of global traffic and we are also not aware of the existence of an indicator for the evolution of cargo (export) freight rates in this area.
3. For this reason, and given the similarity of freight prices, this index will likely become the main indicator in the Mediterranean for this type of traffic, taking into account the similarity of freight prices.

3. Why Valencia?

Why Valencia?

Valenciaport's position: Container traffic ports world ranking 2017

Rank		Port Name	2017 Mteu	2016 Mteu
1	(1)	Shanghai	40.23	37.13
2	(2)	Singapore	33.67	30.90
3	(3)	Shenzhen	25.21	23.98
4	(4)	Ningbo	24.61	21.57
5	(5)	Hong Kong	20.76	19.81
6	(6)	Busan	20.47	19.46
7	(7)	Guangzhou	20.37	18.86
8	(8)	Qingdao	18.30	18.01
9	(9)	Los Angeles/Long Beach	16.89	15.63
10	(10)	Dubai	15.37	14.77
11	(11)	Tianjin	15.07	14.52
12	(13)	Rotterdam	13.73	12.39
13	(12)	Port Kelang	11.98	13.17
14	(15)	Antwerp	10.45	10.04
15	(16)	Xiamen	10.38	9.61
16	(14)	Kaohsiung	10.27	10.46
17	(17)	Dalian	9.70	9.58
18	(18)	Hamburg	8.86	8.93
19	(19)	Tanjung Pelepas	8.38	8.28
20	(20)	Laem Chabang	7.78	7.23
21	(21)	New York/New Jersey	6.71	6.25
22	(22)	Yingkou	6.28	6.09
23	(23)	Colombo	6.21	5.73
24	(26)	Jakarta	6.07	5.51
25	(24)	Ho Chi Minh City	5.94	5.64
26	(25)	Suzhou	5.88	5.63
27	(27)	Bremerhaven	5.51	5.49
28	(29)	Tokyo	5.05 est	4.73
29	(30)	Valencia	4.83	4.73
30	(32)	Manila	4.82	4.52
31	(31)	Lianyungang	4.72	4.69
32	(33)	Nhava Sheva	4.71	4.52
33	(35)	Haiphong	4.45	4.10
34	(28)	Algeciras	4.39	4.76
35	(34)	Jeddah	4.15	4.20
36	(38)	Piraeus	4.15	3.74
37	(37)	Felixstowe	4.05 est	4.02
38	(39)	Savannah	4.05	3.64
39	(43)	Mundra	3.98	3.32
40	(42)	Salalah	3.95	3.33
41	(40)	Santos	3.85	3.56
42	(36)	Khor Fakkan	3.80 est	4.03
43	(41)	Surabaya	3.50 est	3.35
44	(47)	Tanger Med	3.31	2.96
45	(48)	Vancouver (BC)	3.25	2.93
46	(46)	Rizhao	3.22	3.01
47	(44)	Marsaxlokk	3.15	3.08
48	(52)	Ambarli	3.12	2.78
49	(55)	Incheon	3.04	2.68
50	(54)	Fuzhou	3.01	2.68
51	(69)	Barcelona	3.01	2.24
52	(45)	Port Said	3.00 est	3.05
53	(53)	Yokohama	2.93	2.78
54	(50)	Kobe	2.91	2.80
55	(49)	Balboa	2.91	2.83
56	(62)	Le Havre	2.88	2.52
57	(57)	Norfolk	2.84	2.66
58	(61)	Manzanillo	2.83	2.58
59	(58)	Melbourne	2.80	2.65
60	(56)	Nagoya	2.78	2.66
61	(60)	Yantai	2.70	2.60
62	(59)	Durban	2.70	2.62
63	(67)	Genoa	2.62	2.30
64	(73)	Shahid Rajaee	2.61	2.11
65	(65)	Chittagong	2.57	2.35
66	(66)	Cartagena	2.56	2.35
67	(64)	Sydney	2.53	2.36
68	(72)	Houston	2.46	2.18
69	(51)	Gioia Tauro	2.45	2.80
70	(77)	Cai Mep	2.44	1.99
71	(63)	Oakland	2.42	2.37
72	(71)	Osaka	2.30 est	2.22
73	(86)	Zhuhai	2.27	1.65
74	(70)	Tacoma	2.25 est	2.22
75	(74)	Callao	2.25	2.05
76	(78)	Karachi	2.24 est	1.99
77	(68)	Kwangyang	2.22	2.25
78	(76)	Charleston	2.18	2.00
79	(75)	Southampton	2.04 est	2.04
80	(80)	Tangshan	2.01	1.93
81	(79)	Bangkok	1.95	1.95
82	(85)	St Petersburg	1.92	1.75
83	(82)	Manzanillo	1.88	1.83
84	(81)	Dandong	1.86	1.92
85	(83)	Guayaquil	1.85 est	1.82
86	(103)	Qinzhou	1.77	1.37
87	(98)	King Abdullah Port	1.70	1.40
88	(91)	Sines	1.67	1.51
89	(88)	Taichung	1.66	1.54
90	(99)	Haikou	1.64	1.40
91	(89)	Khalifa Port	1.60 est	1.53
92	(84)	Dammam	1.58	1.78
93	(105)	Gdansk	1.58	1.30
94	(93)	Taipei	1.56	1.48
95	(87)	Kingston	1.56 est	1.57
96	(97)	Mersin	1.55	1.41
97	(92)	London	1.55 est	1.50
98	(90)	Chennai	1.54	1.52
99	(94)	Montreal	1.54	1.45
100	(95)	Ashdod	1.53	1.44

Source: ALPHALINER 21.03.2018 to 27.03.2018

Why Valencia?

Leading Port in the Mediterranean

Top EUROPEAN Container Port

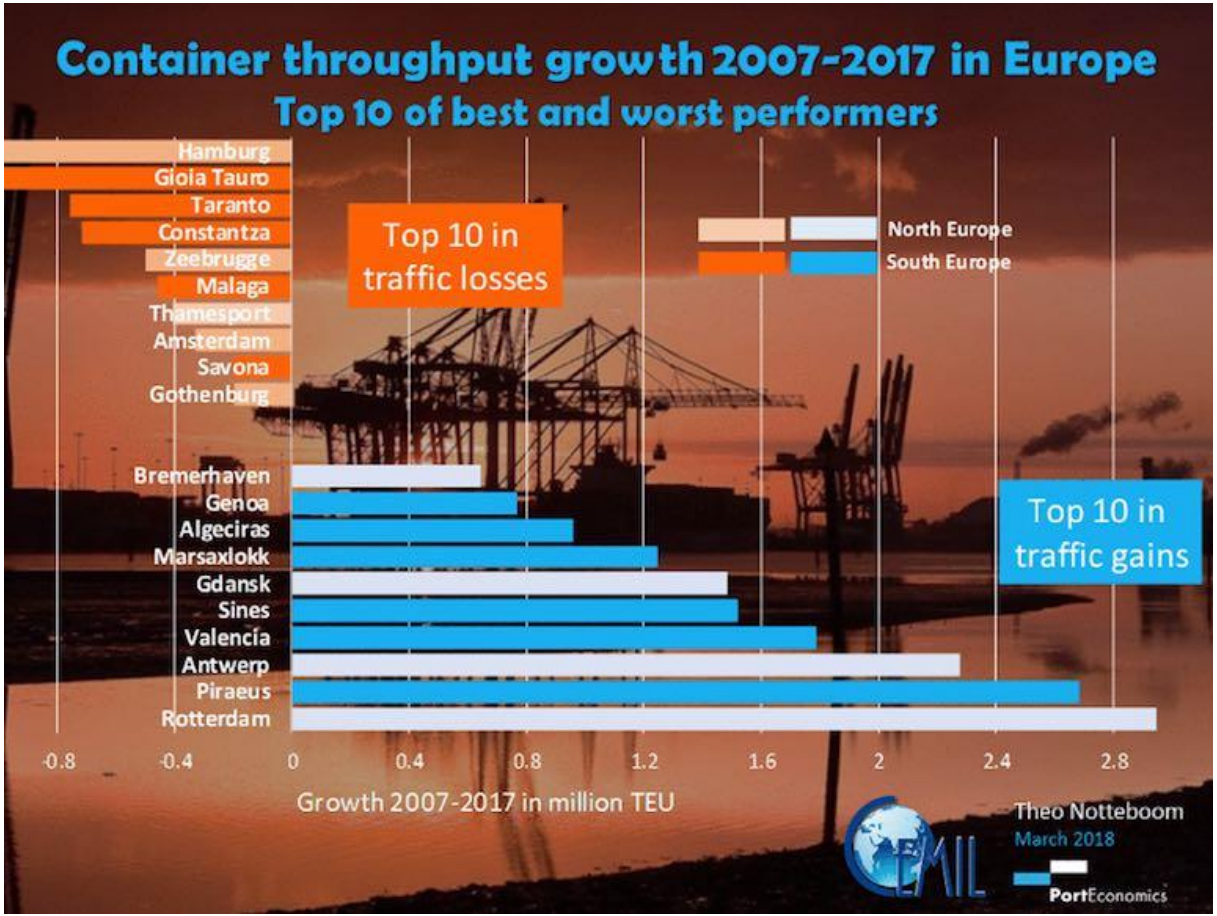
Rank	Port Name	Country	2017 Mteu	2007 Mteu
1	Rotterdam	Netherlands	13.73	10.79
2	Antwerp	Belgium	10.45	8.17
3	Hamburg	Germany	8.86	9.90
4	Bremerhaven	Germany	5.51	4.89
5	Valencia	Spain	4.83	3.04
6	Algeciras	Spain	4.39	3.41
7	Piraeus	Greece	4.15	1.37
8	Barcelona	Spain	3.01	2.61
9	Le Havre	France	2.88	2.60
10	Genoa	Italy	2.62	1.85

Top MEDITERRANEAN Container Port

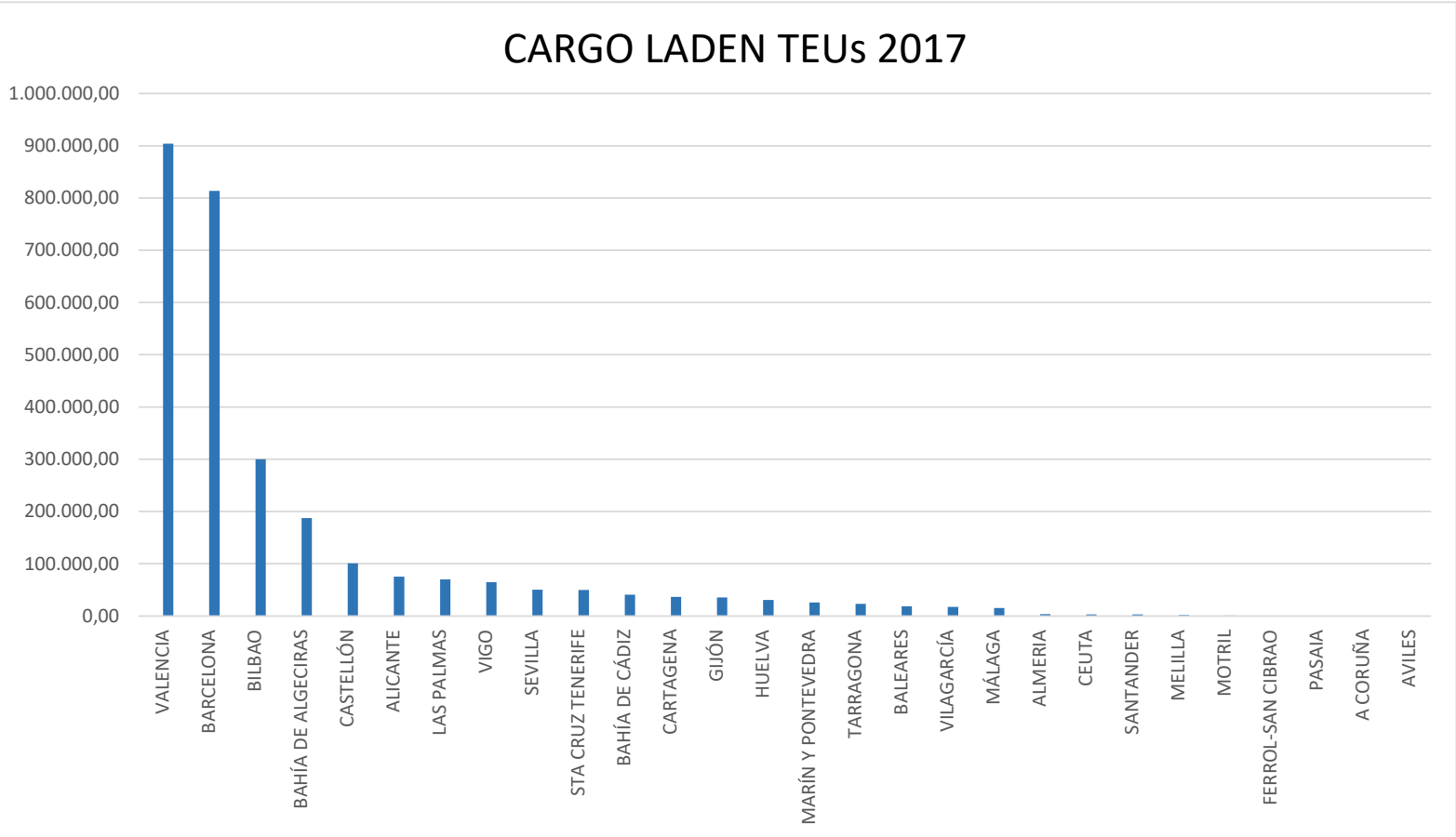
Rank	Port Name	Country	2017 Mteu	2007 Mteu
1	Valencia	Spain	4.83	3.04
2	Algeciras	Spain	4.39	3.41
3	Piraeus	Greece	4.15	1.37
4	Tangier Med	Morocco	3.31	
5	Marsaxlokk	Malta	3.15	1.88
6	Barcelona	Spain	3.01	2.61
7	Port Said	Egypt	3.00	2.76
8	Genoa	Italy	2.62	1.85
9	Gioia Tauro	Italy	2.45	3.44
10	Mersin	Turkey	1.55	0.78
11	La Spezia	Italy	1.47	1.18
12	Fos Marseille	France	1.36	1.00

Source: ALPHALINER 21.03.2018 to 27.03.2018 y Containerisation International Yearbook

Why Valencia?



Why Valencia?



The top export port in Spain

Source: Puertos del Estado

4. Methodology

Methodology

The **VCFI** (Valencia Containerised Freight Index) aims to provide guidance on the evolution of export freight from the Port of Valencia and be the reference for certain routes from the Mediterranean.

The **VCFI** uses very similar methodology to the Shanghai Containerized Freight Index (SCFI).

The index reflects the evolution of the market rates for the export of full containers by sea from Valenciaport on a monthly basis.

Methodology

A work system has been defined based on the following principles:

1. Commitment to the provision and the quality of the data.
2. Statistical confidentiality and methodological rigour.
3. Timeliness and punctuality in their dissemination.
4. The **VCFI** will be audited annually, in order to ensure statistical confidentiality, the accuracy of the information published and faithful monitoring of the approved methodology.

Methodology

Characteristics of the VCFI

1. It is a quantitative index that enables the objective measurement and comparison of the data relating to sea freight rates from the Port of Valencia.
2. It is created based on information obtained from primary data sources (twelve top level panelists that operate in the port of Valencia, including freight forwarders and shipping companies).
3. Monthly frequency, with data from the fleet rates of the month ending.
4. The composite index is calculated with the individual monthly data on the export freight rates for each of the ports, obtaining the average freight rates for each port.
5. Taking into account that the freight rates of certain sea routes are negotiated in dollars, the exchange rates published monthly by the European Central Bank will be used for conversion to the euro.
6. The type of container under consideration is the standard container with dry general cargo. Size 20'.

Methodology

Characteristics of the VCFI

7. The rate provided by the panelists includes the ocean freight spot rate and the following surcharges:
   7.1 Bunker Adjustment Factor (BAF)/ Fuel Adjustment Factor (FAF)/ Low Sulphur Surcharge (LSS).
   7.2 Emergency Bunker Surcharge（EBS）/ Emergency Bunker Additional（EBA).
   7.3 Currency Adjustment Factor(CAF)/ Yen Appreciation Surcharge (YAS)
   7.4 Peak Season Surcharge(PSS).
   7.5 War Risk Surcharge(WRS).
   7.6 Port Congestion Surcharge (PCS).
   7.7 Suez Canal transit Fee/Surcharge (SCS)/ Suez Canal Fee (SCF) / Panama Transit Fee (PTF)/ Panama Canal Charge (PCC).

8. The **VCFI** consists of an aggregate composite index. In the future, it will be broken down into the 13 geographic areas that correspond to the main traffic corridors from Valencia.

Methodology

Characteristics of the VCFI

Geographic area VCFI	Reference ports
WESTERN MEDITERRANEAN	Casablanca (MA), El Djazair (DZ), Tunisia (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 City (VN)
MIDDLE EAST	Jeddah (SA), Jebel Ali (AE)
USA - ATLANTIC CANADA	New York (US), Montreal (CA), Houston (US), Miami (US)
CENTRAL AMERICA AND CARIBBEAN	Veracruz (MX), Cartagena (CO) Altamira (MX), Caucedo (OJ)
ATLANTIC LATIN AMERICA	Santos (BR), Buenos Aires (AR)
WEST AFRICA	Luanda (AO), Bata (GQ), Dakar (SN)
AFRICA EAST COAST	Durban (ZA), Port Elisabeth (ZA)
PACIFIC LATIN AMERICA	Callao (PE), San Antonio (CL)
INDIAN SUBCONTINENT	Nhava Sheva (IN), Kandla (IN)
BALTIC COUNTRIES	Saint Petersburg (RU), Helsinki (FI)

9. Within these 13 geographic areas, 42 ports have been selected that represent 60% of the export container traffic from Valenciaport and whose rates will serve as a reference for calculating the index.

Methodology

Characteristics of the VCFI

10. The index only reflects the freight rates applied to cargo containers, which correspond to exports.

11. The spot maritime freight rates and their surcharges are those applied by the shipping companies without considering *service contracts.*

Methodology

Characteristics of the VCFI

Panelists

These are the pioneering companies, but you are all invited to collaborate in the index.

Methodology

Formula for calculating the VCFI

The index is calculated according to the following formula:

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

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

Where:

Fj = average fleet rate for Port j

t_ij = fleet rate informed by the panelist l for Port j

N = number of panelists for Port j

k_j = weighting factor for Port k

M = number of ports

Methodology

Formula for calculating the VCFI

First, the average freight rate per port (fj) is calculated based on the data received for this port from the panelists.

Second, a weighting factor is applied to the average freight rate according to the weight of the port within Valenciaport's traffic, resulting in the final index.

We opted to show the evolution of the index not in absolute values, but to present it in the form of an index, the VCFI. The basis of the composite index will be 1,000 points and the base of the period will coincide with the beginning of the publication, that is to say, January 2018.

Methodology

Formula for calculating the VCFI

This index aims to be a reference index in the Western Mediterranean, as is the Shanghai Containerised Freight Index for the Asia area.

It will be published on the second Friday of each month at 12:00 CET (CEST when applicable) on the web pages of the Port Authority of Valencia and the Valenciaport Foundation.

- **Lanzamiento del Índice**
- **Fecha publicación del índice** (Segundo viernes de mes)*

*Al ser festivo el segundo viernes de octubre, la publicación se traslada al lunes siguiente.

Methodology

42 destination ports
13 geographic areas

Panel

8 Shipping companies

4 Freight forwarders

176 Data

Spot Rates
FCL 20”
FAK, all in

EUROS
Purchase freight rate for freight forwarders
Sale freight rate for shipping companies

VCFI: January 2018 (Base = 1,000)
June 2018

Phase 1
Global Index

Phase 2
Global Index
Indices by Areas

Conclusions

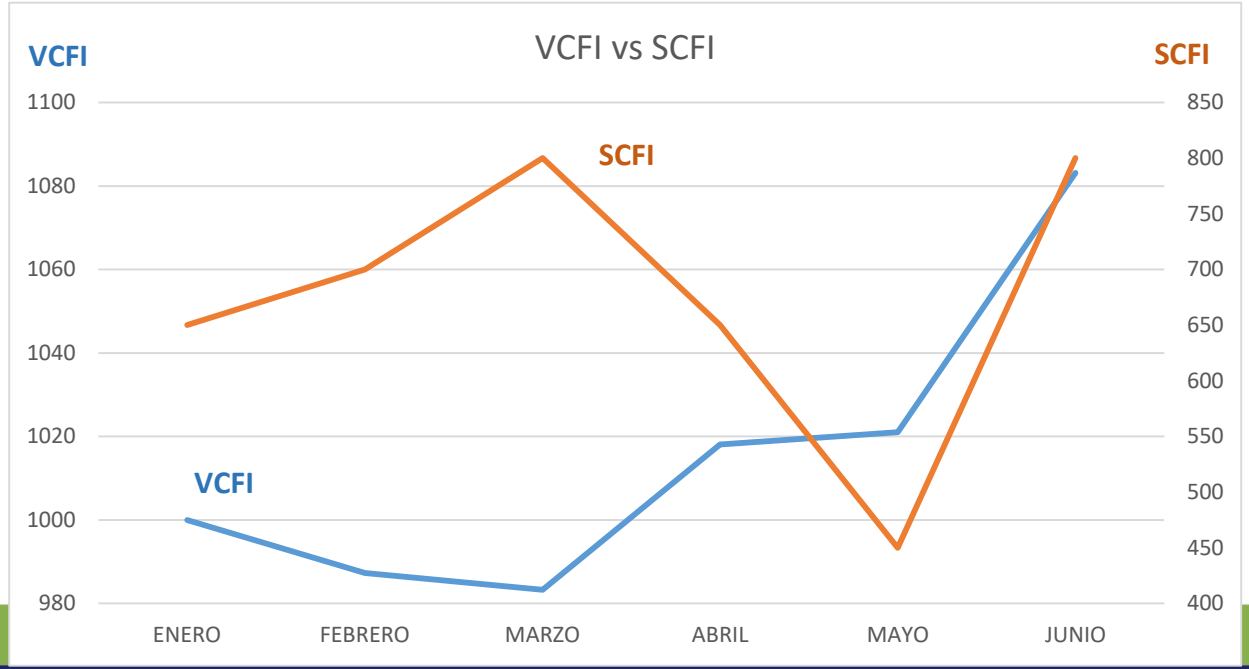
The **VCFI** provides information that allows us to monitor the **trends** of the export freight market

It provides **transparency** to the Market

It facilitates access to market information for **SMEs** operating in the spot market

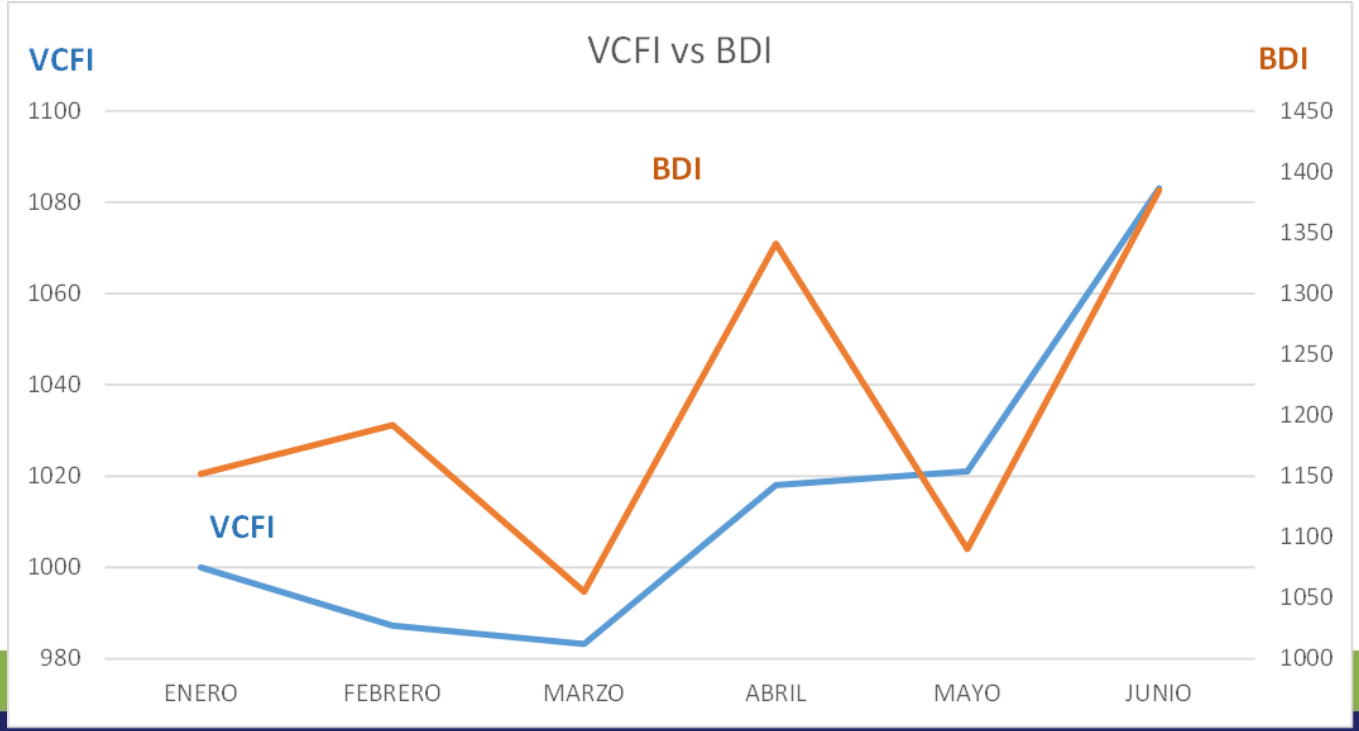
Methodology

The graph allows us to compare the evolution of freight rates at the Port of Shanghai and the Port of Valencia. Although six observations contribute little, it can be clearly seen that there is lower volatility in the VCFI with respect to the SCFI.



Methodology

This graph compares the evolution of freight rates in the Port of Valencia with those of the Baltic Dry Index, although their methodology is different. However, it allows us to view the trends in both cases.



5. Conclusions

Conclusions

1. The **VCFI** provides valuable information on a key factor for defining port competitiveness, such as freight rates.
2. The **VCFI** provides the port community with information that was confidential until now. This exercise in transparency will help the various users of the port to make better decisions.
3. It will be helpful for shippers because they will have a composite index that will mark the market trend, on a key cost element in their export operations.
4. The **VCFI** will serve as a barometer of the health of the market for the major trade routes from Valencia.
5. It will also be useful for operators that offer such services, providing a benchmark for the evolution of their own freight rates and those on the market.
6. As a result, the **VCFI** will promote the operation of a more transparent market and one that has better information available for decision-making, resulting in a more efficient market.

Conclusions

Benefits for users

Shipping companies

Benchmarking with market trends

Information for budgets and decision-making

Shippers

Increased market knowledge

Information on the trend of transport prices

Freight forwarders

Increased transparency in client negotiation

Benchmarking with market trends

Contract indexation

Analysts

Availability of historical information on freight rate evolution, with the possibility of forecasting current and future market trends