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THE MARITIME Economist

CONNECTING ACADEMIA AND PROFESSIONALS

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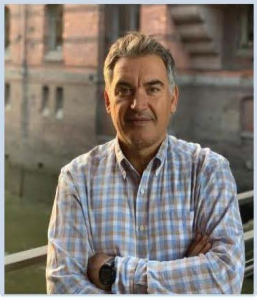

Thanos Pallis
President of IAME

The 10th issue of The Maritime Economist (ME MAG) is published as the International Association of Maritime Economists (IAME) proudly celebrates its 30th birthday. Since 1992, the members of this genuinely global family of scholars and professionals interested in maritime economics and related themes are advancing research and knowledge in all aspects of the maritime world, shipping, ports, supply chains, and the many facets of the blue economy.

Today, maritime trade is facing yet another transformation. The search for economic competitiveness by all maritime industries takes place in a vastly and speedily changing context. All shipping markets are subjects of frequent fundamental restructurings implied by impressive technological and data-sharing advancements, sustainability-related environmental and social questions, and legislative reformulations. The consequential and emerging challenges, opportunities, and risks are too many. Scholarly research with both conceptual and practical implications becomes more essential than ever and IAME membership leads such research contributions. The Association is officially linked to the two leading academic journals in the field, namely Maritime Policy and Management (MPM) and Maritime Economics & Logistics (MEL). Both journals continue to publish rigorously researched articles in all facets of the maritime world, improving all quality metrics associated with quality scientific journals. These publications, along with the many others that IAME members publish in quality academic outputs, confirm how valuable the study of IAME is for the maritime world. They also demonstrate the commitment to further expanding the horizons and the thematic of these studies.

The 10th issue of ME MAG coincides with the opening of the IAME 2022 Annual Conference in Busan, Korea – the platform for disseminating and osmosis ideas and setting foundations for research collaboration. Given the symbiosis with the pandemic, the Korean Maritime Institute and the Shanghai International Shipping Institute have not only prepared an exciting event, but also secured a hybrid format facilitating all those colleagues that will not be able to join us physically. The tireless efforts and time of all those involved in the organization of the conference are commendable in all respects. Members can be proud that, under challenging times imposed by the pandemic, IAME has managed not to cancel or postpone any of its annual conferences, while offering members the capacity to attend the respective meetings remotely. We all wish that conditions will allow all members to be present at the following year's annual conference in Los Angeles, USA.

Beyond the latest in maritime research, the Busan IAME 2022 Conference program includes the 8th Triennial PhD Competition 2019-2022 for the best doctoral thesis in maritime economics, organised by MEL, and the 19th annual meeting of the Port Performance Research Network (PPRN). However, this richness would have been incomplete without the most needed interaction between academia and the industry. Maritime economists focus on the study of the most international business of all. Thus, it is not surprising that IAME has always prioritized such interactions aiming for meaningful and valuable research that facilitates the sustainable

Message from the President

development of the global maritime economy. ME MAG is an initiative that offers the platform for such interactions. The current issue of the IAME e-magazine provides another combination of exciting articles and viewpoints by professionals and scholars. By providing new insights, revealing recent research findings, and giving worthy inputs on accelerating transitions in the maritime world, the 10th issue of ME MAG offers a rich and exciting compilation of excellent articles.

The publication of the 10th issue of ME MAG coincides with the election of a new IAME leadership – a new President and Council for 2022-2024 will be announced at the IAME 2022 Annual Conference in Busan, Korea. With the term of the current editorial team concluding, it will be the new leadership to select the new one. Herewith, however, I need to thank the current editorial team, especially Adolf K.Y. Ng, Editor-in-Chief, for contributing to the revival of ME MAG. The inaugural editorial team, led by Okan Duru, provided the seeds. Adolf K.Y. Ng and each involved in the editorial team enhanced the foundations for turning ME MAG into an essential reading that matters to all working, studying, and researching shipping, ports, and maritime industries. Contributing to ME MAG is one of the best ways to test your ideas and read the best of others.

Allow me to conclude with a personal note. I will soon pass the torch to the next IAME President. For four exciting years, I had the privilege to serve as the President of a professional association with a great past, a special present, and even more significant potential. I want to thank each IAME member who provided me with such an opportunity. The pandemic-generated resilience test challenged IAME as all associations worldwide, and it continues to do so. Yet IAME celebrates its 30th birthday offering valuable services to all those interested in maritime studies and research. I am confident that the best for IAME and our profession are yet to come.

Enjoy the reading of your magazine!

Message from the Editor

Adolf K.Y.Ng
Editor-in-Chief

Welcome to the 10th issue of The Maritime Economist (ME-MAG), an initiative of the International Association of Maritime Economists (IAME). As the person who has witnessed the release of every single past issue in an editorial capacity, I am excited to see that ME MAG has continuously served as an active platform for merging academic studies with practice in the past eight years.

In this issue, we are very glad to have Mr. Armando Sepulveda (Chartered Shipbroker and Director at Alfa Victor Sierra Ltd. (London)) sharing his views on the past, current, and future development of shipbroking. In addition, the issue covers a wide range of topics of substantial interests, including the rising issue of port statistics, port connectivity and shipping networks, time-variant interdependence across bunker fuel and shipping freight markets, and shipping alliance and port development over the COVID-19 pandemic. In celebrating the release of the 10th issue, we have launched a new section Maritime Features that introduces the history and development of specific maritime sub-sectors to our readers, starting with Mr. Raymond Wong (Emeritus Chairman of the Institute of Seatransport)'s introduction on Average Adjusters.

By the time this issue is released, the editorial team has also completed its current term. As the Editor-in-Chief, I want to thank all the co-editors, the administrative editor, and members of the editorial board for their strenuous efforts in enhancing the quality of ME MAG. Also, I want to thank the IAME President, Thanos Pallis, the Executive Members, Council Members, and of course, all the contributors and readers for their unreserved support to ME MAG in the past years. Last but not least, expecting a new editorial team, as well as a new IAME President and Council, I would like to send my wishes to ME MAG and IAME and wish them every success in the future.

Thank you.

IAME

INTERNATIONAL ASSOCIATION *of* MARITIME ECONOMISTS

The leading society on Maritime Economics and Business Management

The MARITIME ECONOMIST (ME-MAG) is the official magazine of the International Association of Maritime Economists (IAME) (www.mar-economists.org). Its aims to create an active platform for merging academic studies with practice. It serves as a promotion stand for scholars, policymakers, and industrial practitioners in the industry.
In this way, it motivates and encourages both IAME and non-IAME members to express their studies in plain language in line with the interests of policymakers and practitioners. Also, it encourages experts in the maritime industry to share knowledge and experiences about emerging topics, challenging issues, and rising problems.

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CONTENTS

INFocus

Port Statistics: The Rise of a New Era for Open Data?

Dong Yang, Xiwen Bai, Venus Lun

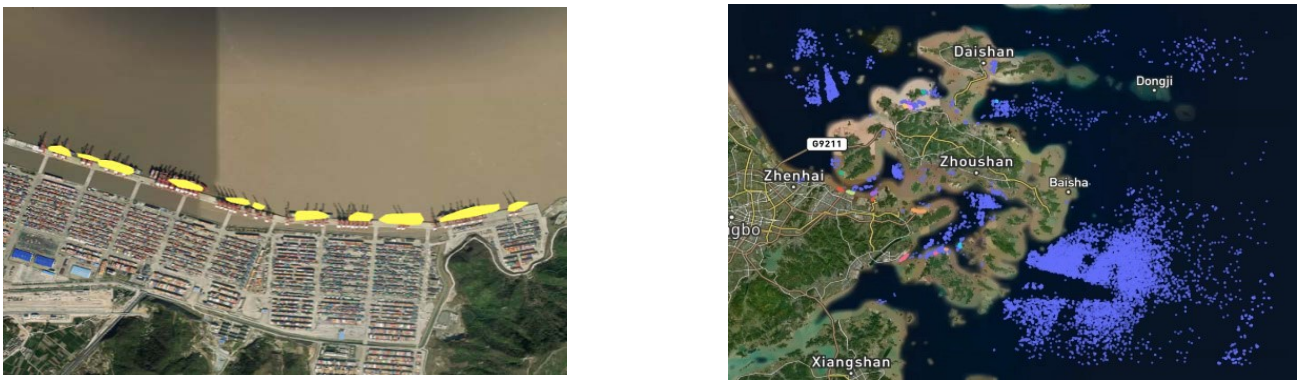
Practitioners and scholars in the maritime sector have suffered from data availability for a long time. Conventionally, in the public domain, port statistics refers to official data released by port authorities or shipping companies; they are usually delayed, heterogeneous in terms of reporting methodology or reporting format, and most importantly, not easily accessible. With the Automatic Identification System (AIS), it becomes possible to produce port statistics at higher frequencies and on a global level in an alternative way. In the previous two years, *we* have developed various techniques to build a global-scale port monitoring platform covering three sets of key indicators on port performance: throughput, congestion, and connectivity. This platform generates indicators for global ports and at high frequencies. It does not only require fewer inputs and save running time but can be generalized to accommodate ports of different geographical and economic characteristics. Of course, accuracy should be enforced.

We first developed an iterative multi-attribute clustering algorithm to automatically identify berth and anchorage areas, and it can be applied globally. Tracking a ship within the layout of a port thus becomes possible, i.e., berthing, mooring, and movement. Based on this, *we* estimate high-frequency throughput, congestion level, and global connectivity index. In the following, *we* briefly introduce the construction of the platform.

Automatic berth and anchorage area identification Ports around the world have vastly different shapes of anchorages and berths. Portraying port zones is crucial for shipping traffic analysis in ports. Existing research rely on nautical charts, while the nautical chart suffers from some drawbacks, such as static and seldomly updated, hard to collect globally and sometimes cannot reflect the dynamics of ship movement, to name but a *few. We* propose a creative, spatial clustering algorithm leveraging both AIS data and domain knowledge (e.g., the sequential of ship mooring and the heading of ships during mooring) based on the difference in the density of mooring points. This technique consists of two layers of clustering, effectively eliminating noises; more specifically, iteration in the second layer functions as an innovative approach to parameter setting. In the first layer, *we* derive the trajectories of ships at a particular port from AIS data. The Density-Based Spatial Clustering of Applications with Noise (DBSCAN) is used to remove noises and cluster all the mooring points of each ship that has been filtered by speed. The first layer DBSCAN can identify mooring area but is insufficient to distinguish between berthing and anchorage areas. As ship density in the berthing area is much higher than at anchorage, in

in the second layer, we employ DBSCAN again to distinguish the two. The points identified in the clusters are considered as the berthing area while noises represent the anchorage area. Parameter setting in a clustering algorithm may lead to huge variations in accuracy. The result of DBSCAN strongly depends on initial parameters, especially, the radius of a neighborhood concerning given points and the minimum number of points to form a dense region. Setting them for every port is a formidable amount of work. It is necessary to find a generalized setting for the two parameters. Here, we run iterations of DBSCAN to minimize the gradient until the algorithm converges to a predetermined threshold.

Furthermore, the non-spatial values (e.g.,headings, timestamps) in AIS provide additional information that is useful in distinguishing between different berths. In this study, we further add a rule-based algorithm based on domain knowledge, such the heading of ship in berth and anchorage are different, ships will never overlap in one berth to further improve the identification. Figure 1 shows the algorithm being applied to Ningbo-Zhoushan Port, China, chosen for its complicated layout of terminal and anchorage areas. Our algorithm is proved to be accurate in distinguishing the berthing and anchorage areas.



(a) The terminals and anchorages

(b) Berths in Yuandong port zone

Figure 1. Berth and anchorage identification of Ningbo-Zhoushan Port. Figure provided by author(s).

Port throughput estimation

Container throughput refers to the quantity of both loaded and unloaded containers at a port complex in a given period. With available ship data, we calculate it by multiplying the berthing duration of a ship with the handling efficiency (turnover rate) at its berthing terminal; daily estimation thus becomes possible. Berthing duration is calculated by analyzing the ship trajectory in the berthing area. The berthing areas of global port are extracted from our previous berth identification algorithm. A tough challenge is to determine the turnover rate of a given terminal. A few studies proposed a quay cranes (QC)-operation-based method to calculate the turnover time, in which the number, handling speed, and working time of cranes need to be known (Chen et al., 2015). This method does not apply to many ports because such data is not easily

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accessible. In our study, we assume ports are in full utilization and calculate the turnover rate for every ship size in a given port with input berthing time and its previous throughput. With the real-time berthing time derived from AIS, we can estimate the throughput of each port at a high-frequency level. Our estimated throughputs of some top container ports in 2019 can achieve roughly 95% accuracy (Figure 2). Notably, the handling efficiency is determined by multiple factors, for example, port facility, weather, working hours of a port, and time effect.In the future, we plan to develop image recognition and machine learning algorithms to collect information and study the association relationship between outputs, namely historical efficiency (can be derived from our platform), and inputs (port facility, economic development level, weather, etc.) so as to further improve accuracy.

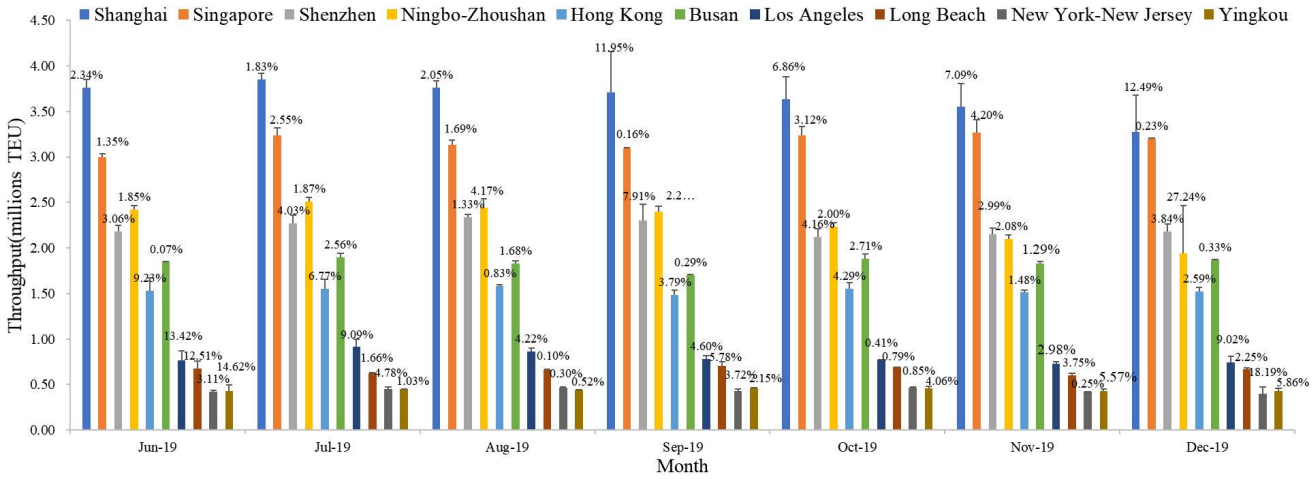

Figure 2 The estimation of monthly throughputs for 7 major container ports in 2019
Figure provided by author(s).

Port congestion threatens

The effectiveness and sustainability of the global supply chain. It does not only stagnate cargo flows, but also triggers ripple effects across in the transport network. The congestion level of a port is one of the key indicators that affects a port's competitiveness and attracts shipping companies to call. Port congestion happens when ships arrive at a port, they cannot load or unload immediately, instead, having to queue up at an anchorage area and waiting for their turn to berth at the terminal. Waiting time at anchorage is broadly accepted as a congestion measure. In our study, we define two congestion indicators: (1) the ratio of ships which moor at anchorage before berthing at the terminal over the total ship visits at a port, and (2) the average waiting time of a ship at the anchorage before it berths at the terminal. With the location information of anchorage and berthing areas of each port, the two indicators can be calculated based on the ship trajectories within the anchorage and berthing areas identified. Figure 3 illustrates our estimation of average waiting for the world's 20 major container ports in 2020.

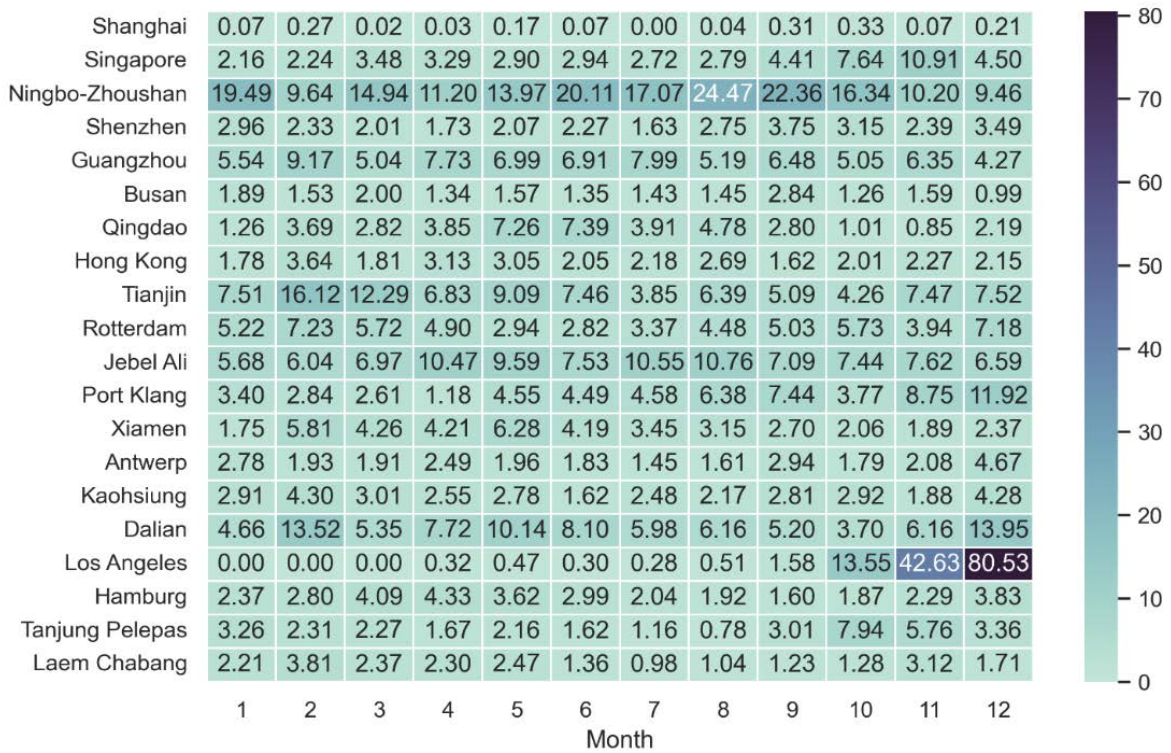

Figure 3. The average waiting time of 20 major container ports in 2020. Figure provided by author(s).

Port connectivity estimation

The container port connectivity reflects one region's access to the world markets. Both local authorities and shipping practitioners attach great importance to the measurement of container port connectivity. Many inter-governmental organizations (e.g., UNCTAD) and enterprises (e.g., Drewry Shipping Consultants) publish their report on port connectivity regularly. Building upon their work, we create a new connectivity index which can reflect not only the ports' traffic volume and route diversity but also its network properties.

AIS data enables us to calculate the required network factors. We take four steps to calculate the connectivity indicators. First, we extract the shipping trajectory and trip length of each ship from AIS; previously generated port throughput is also an input. Second, based on trajectories and trip lengths, we calculate the number of ship visits to a port, the number of connected countries, and the strategic importance of a port in the global shipping network. Strategic importance is represented by the possibility of a port to attract long-haul (e.g., inter-continental voyage) ships with the highest load factor. Third, we construct the global liner shipping network basing on all the trajectories and use it to calculate three network indicators: degree centrality (number of connected peers of a port); closeness centrality (average number of midway ports on direct liner services); betweenness centrality (frequency that

a port lies on the direct liner services between any other two ports). Fourth, we standardize all the indicators and calculate the total score. Principle Component Analysis, which reflects the relationship of many indicators, can be an option. Figure 4 shows the port connectivity of illustrative ports in 2020. We can see that, although some port, such as Hong Kong (China), Antwerp (Belgium), Los Angeles (US), and Tanjung Pelepas (Malaysia) have relatively fewer throughputs, they rank high in our system because of better network characteristics.

We believe this project can improve the port datatransparency and standardization, and hence generates good research value in improving port performance. High-frequency port statistics are highly valued by the industry but very costly to access. For example, it took Lam et al. (2011) two years just to construct a database to study the dynamics of port connectivity and inter-port relationship, while Tovar et al. (2015) stated that obtaining the required data was the most challenging part of their research on port connectivity. These problems can now be addressed by our platform that makes high-frequency indicators available for a wide range of users. It will save substantial financial and labor resources and encourage more academic and practical outputs.

Port	Vessel Visits	Connected Countries	Degree Centrality	Betweenness Centrality	Closeness Centrality	Strategic Importance
Shanghai, China	1206	56	0.0612	0.0709	0.3344	4.4502
Singapore	1327	80	0.0633	0.0535	0.3676	4.2433
Shenzhen, China	950	67	0.0496	0.0677	0.2608	4.0067
Ningbo-Zhoushan, China	868	53	0.0426	0.0477	0.3482	4.4332
Busan, South Korea	697	28	0.0362	0.0796	0.1696	4.4233
Hong Kong, S.A.R, China	1073	54	0.056	0.0824	0.2339	4.0629
Qingdao, China	528	33	0.0272	0.0368	0.3271	4.1238
Tianjin, China	281	22	0.0137	0.0218	0.2889	4.2404
Jebel Ali, Dubai, United Arab Emirates	366	55	0.0177	0.0112	0.3018	4.1025
Rotterdam, The Netherlands	550	61	0.0289	0.0399	0.2024	4.2863
Port Klang, Malaysia	628	56	0.0316	0.0325	0.3277	4.2126
Antwerp, Belgium	390	75	0.0197	0.0191	0.3747	4.4863
Kaohsiung, Taiwan, China	704	41	0.0362	0.0583	0.2567	4.4121
Xiamen, China	301	27	0.0161	0.0313	0.2659	4.3469
Dalian, China	213	19	0.0109	0.0227	0.2342	3.9768
Los Angeles, U.S.A	86	19	0.0035	0.0018	0.5919	4.206
Tanjung Pelepas, Malaysia	415	61	0.0209	0.0205	0.3531	4.7835
Hamburg, Germany	286	53	0.0151	0.0222	0.2721	4.4747
Long Beach, U.S.A.	76	26	0.0032	0.0021	0.4858	4.5753
Keihin Ports, Japan	462	31	0.0229	0.0354	0.2855	4.0922
Tanjung Priok, Jakarta, Indonesia	311	26	0.0149	0.0118	0.3868	4.1365
New York-New Jersey, U.S.A.	162	50	0.0076	0.0064	0.5103	4.0552
Colombo, Sri Lanka	317	46	0.0147	0.0056	0.455	4.0416
Ho Chi Minh City, Vietnam	415	20	0.0214	0.0314	0.3044	4.1107
Bremen/Bremerhaven, Germany	216	49	0.0109	0.017	0.2519	4.4909
Hanshin Port, Japan	406	23	0.0214	0.0389	0.2193	4.2438
Manila, Philippines	212	16	0.0105	0.012	0.3366	4.045

Figure 4. Port connectivity of illustrative major ports in 2020. Figure provided by author(s).

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INFocus

Shipping Alliances and Container Port Development Over the COVID-19 Pandemic

Laurent Fedi, Olivier Faury, Patrick Rigot-muller, Nicolas Montier

The 2008-2009 financial crisis demonstrated the strong relationships between container flows and international trade. While 2008-2009 worldwide crisis severely impacted economies and shipping on the long run, the COVID 19 pandemic has showed different patterns such as a decrease in production and consumption in the first half of 2020. As an external shock where states have been 'pyromaniac firemen' as they set up stringent containment measures and intensively combatted the epidemic at the same time, container shipping lines have shown resilience especially in comparison with the 2008-2009 Great Recession (Notteboom et al., 2021).

Organized in strategic alliances such as 2M, THE Alliance, and Ocean Alliance that bring together the ten top ocean carriers representing more than 90% of the total container fleet capacity, shipping lines benefit from different cooperative contracts (e.g., VSA, SCA) that enable them to rationalize, combine, optimize all means of transport and port terminals through efficient operational centers and interoperable IT systems.

Fedi et al (2022) aimed to analyze the way shipping alliances impacted the development of container ports in Mediterranean Sea and Northern Range during the COVID-19 scourge. To do so, we firstly evaluated the key provisions of cooperative contracts shaping alliances. Secondly, we looked at the evolution of the container port hierarchy between 2018 and 2020. We collected the number and size of containerships, related port calls and calculated total containership capacity deployed within 45 Mediterranean and Northern European ports handling at least 1 million TEUs per year over 2018, 2019, and 2020.

As a result, one observes that ocean carriers have learnt the lessons from the 2008-2009 crisis. Thanks to a great freedom of actions allowed by their cooperative contracts and efficient joint capacity management, the alliance members rapidly adapted their routes, services, and redesigned their fleet deployment. They mainly positioned large container ships of 20,000 TEUs (i.e., ULCSs) and Panamax (-5,000 TEUs). Nevertheless, these new strategies had direct effects on port activities and transport users, in particular shippers that faced a high rate of blank sailings in the first half of 2020. As for ports, they globally experienced fewer vessel calls whereas they managed ships with larger volume per call. However, even though most ports encountered a fall of their container traffic (Figures 1 and 2 –

–intra-traffic included), one notices contrasting situations depending on the concerned ports. Indeed, some held up relatively well and others downgraded. In addition, the largest ports showed a greater resilience compared to mid-size or smallest ones.

Furthermore, we cannot affirm that COVID-19 has 'revolutionized' container port hierarchy on both sides of Europe between 2018 and 2020, while it is noteworthy that some consolidations occurred among the leading ports. Concerning the Hamburg-Le Havre port range in 2020, Rotterdam kept its leadership with more than 14 million TEUS followed by Antwerp (12 million TEUs) and Hamburg (8.5 million TEUs). The 'Port of Antwerp-Bruges' entity, resulting from the merger of Antwerp and Zeebrugge, could challenge Rotterdam in the medium term. Furthermore, French and English ports particularly suffered with a significant volume drop. Concerning the Mediterranean Range for 2020, Piraeus confirmed its 4th position (5.4 million TEUs) while Valencia (5th) and Algeciras (6th) slightly declined. With 5.8 million TEUs, Tanger-Med significantly grew and has become a major hub in the Mediterranean area.

To conclude, our results are in line with other preliminary analyses (e.g., Notteboom et al., 2021). Moreover, the COVID-19 pandemic has highlighted two opposite patterns: the strategic alliances' strengths and shortcomings. By efficiently adjusting their transport capacity and reconfiguring their fleet deployment, they have demonstrated a positive resilience to this exceptional event. On the contrary, by unilaterally imposing their strategies, they have impacted ports and transport users. At the time of writing, shippers are still facing shortage of containers, record sea freight rates and port congestion in many countries. Even though shipping alliances are not responsible for all issues, a plea in favor of a different level playing field would be necessary and coordinated responses from competition authorities would be welcome, as recommended by UNCTAD (2021). The Federal Maritime Commission in the U.S. has initiated some investigations and findings would come soon with likely collateral effects in Asia or Europe.

Acknowledgments

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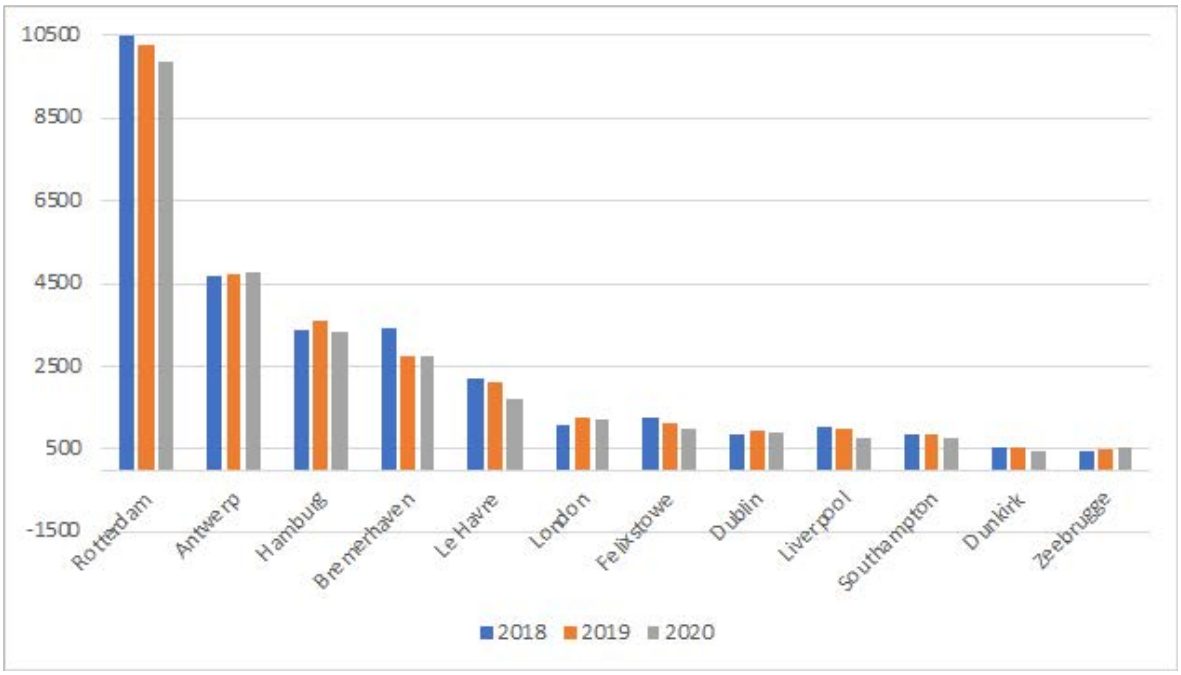

Figure 1. Northern Range port ranking from 2018 to 2020
Source: Authors (2021)

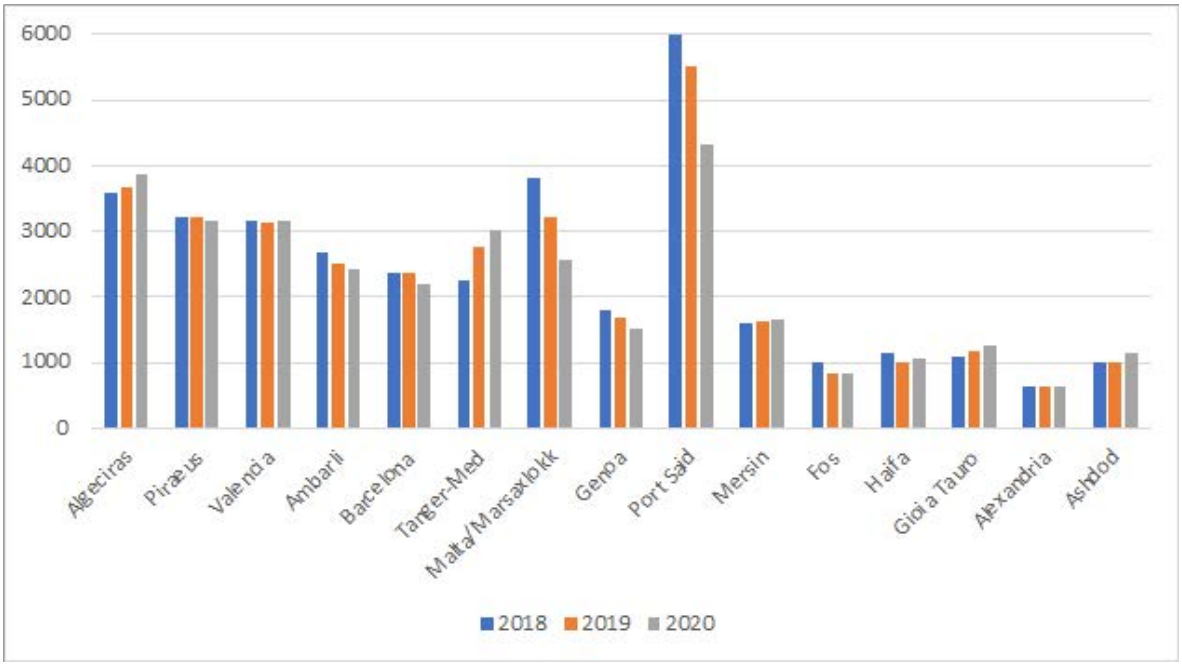

Figure 2. Mediterranean Sea port ranking from 2018 to 2020
Source: Authors (2021)

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InPlain

Time-Variant Interdependence across Bunker Fuel Markets and Shipping Freight Markets

Xiao-Xia Li, Tsz-Leung Yip

Ocean transport carries 80% of the global commodity trade by volume (UNCTAD, 2009). In seaborne transport, bunker fuel has been increasingly used to power the vessels' engines for propulsion since the 1950s. The global bunker fuel market had a high trading value of $97,203 million in 2016, and it is expected to grow with a compound annual growth rate (CAGR) of 9.6%, reaching $142,489 million in 2023. As Notteboom and Vernimmen (2009) stated, container vessels sailing at slow speed of 20 knots from 25 knots incur a bunker cost, nearly 50% from 60% of the total ship costs. Even though at the slow steaming, bunker cost still constitutes a large proportion of operating costs. Ronen (2011) pointed out that bunker cost occupies about 75% of the operating cost of a large containership at bunker fuel price of 500 USD/ton. Fuel expenses for sea transportation are impacted by the increasing bunker price globally Therefore, as the necessary fuel consumptions of ocean transport, the cost of bunker fuel covers major part of transport costs, directly impacting on earnings and profitability of running a ship, a shipping company, and market participants.

Global bunker fuel markets are not isolated from each other. Sourced from crude oil, the prices of global bunker fuel are commonly susceptible to the fluctuations of crude oil price (Shi et al., 2013),making fluctuations in global bunker prices a common trend. Additionally, international trade and goods transport make bunker markets over the globe to be closely connected. When there exists international trade and goods transport between ports, ships operating intimately connects the two ports , and then bunker price fluctuations in either port would affect that in the other port. It implies that regional market participants and stakeholders are exposed to the risks of global bunker prices fluctuations, including shipowners, charterers, traders, physical bunker suppliers, and financial institutions.

Furthermore, bunker prices are tightly correlated with transport service price (freight rate) (Notteboom and Vernimmen 2009; Yin, Luo, and Fan 2017). When the demand of transport service increases (decreases), the supply of bunker fuel remains stable but the demand of bunker fuel climbs (falls), which makes the price of bunker fuel increases (decreases) accordingly. Thus, this exposes bunker market participants and shipping companies to the risk from the freight rate market. Additionally, Tao and Green (2012) proposed that the volatility spillover hypothesis could explain the information flow between spot and futures market, and a shock in either market would rise volatility and volatility-persistence in both markets. Thus, it

is interesting to identify the degree of interdependence between the bunker spot and futures market in terms of volatility spillovers.

This data set of this research includes monthly prices of bunker fuel in 13 ports (Figure 1a), of four shipping freight rate indices (Figure 1b) and of one bunker futures (Figure 1c). The empirical findings of this research are summarized as follows. First, an absolute volatility transmitter to other markets is found to be existed in each region and across regions, by examining static and dynamic volatility spillovers among bunker markets in Asian, European, American regions and across regions. Specifically, Singapore, Rotterdam, and Houston are the net transmitters of spillovers to other markets in Asian, European, and American regions, respectively. Furthermore, Singapore is still the leader in the three stated markets, as shown in Figure 2. Thus, all bunker traders, shipping carriers and participants in global bunker markets need to pay more attention on the situation in the Singapore market. Also, the volatility spillover effects are of great significance for stakeholders and investors in bunker markets to manage risk exposures. When there is a shock to bunker price in the Singapore market, bunker prices of other bunker markets would be affected. The time-varying cross-market interdependences increase aggregate risk exposures. Those risk exposures could be incorporated into bunker derivatives pricing model to improve hedging performance. Second, shocks to the Singapore bunker market significantly contributes to the forecast error variance of shipping freight markets, and the magnitude varies over the sub-segments of shipping freight markets. The volatility transmission from the Singapore bunker market to shipping clean tanker market is higher than that to others. Third, it provides the evidence of unidirectional interdependence between bunker spot and futures market in Singapore, which is affected by important economic events, such as the global financial crisis (2007-2008) and historical oil shocks. Surprisingly, the volatility is mainly transmitted from bunker spot market to bunker futures market, which is opposite with most financial markets. This illustrates that bunker spot and futures markets cannot adjust similarly in response to the same market-wide news, and bunker futures market is not equally informative as bunker spot markets.

This research fills the gap in the previous studies regarding the magnitude and direction of volatility spillovers among multiple bunker spot markets. Furthermore, freight markets and bunker futures market are incorporated into exploring volatility spillovers across bunker, making risk measures more accurate. Additionally, the empirical dynamic results disclose the interesting information in volatility spillovers over time and confirm that the identified spillovers are time- and event-specific. Hence, it is supposed that market participants and stakeholders should adjust their hedging strategies in response to crucial events in particular markets, such as the global financial crisis and the COVID-19 pandemic, to manage risks linked with their operational and economic activities.

The findings of this research have important implications for shipowners, charterers, bunker traders, investors, and regulators. Specifically, the dynamic volatility spillovers among bunker markets are associated with the fluctuations in other bunker markets. The time-variant interdependence across different markets also influences significantly aggregate risk exposures for bunker markets. Put it differently, the risk exposures for bunker market source from the other bunker markets, freight

markets and bunker futures markets. Considering the spillover effects from various markets volatility, market participants could have a more comprehensive understanding of risk dissemination across markets and improve risk hedging accordingly. In addition, the Singapore market acts as a leading bunker market to transmit volatility to other bunker markets and Singapore futures market. Therefore, traders could utilize the fluctuations in Singapore market to foresee the volatilities in other bunker markets, shipping freight markets, and bunker futures markets. Also, the research is helpful to improve the predicted ability of the volatilities among bunker markets, freight markets and futures market. Risk hedgers could improve their portfolios to be more efficient according to aggregate risk exposure. For policymakers, they could monitor the fluctuations in the Singapore market against potential risks to stabilize local markets.

Remark

The full manuscript of this abridged version can be accessed at Xiao-Xia Li and Tsz Leung Yip (2022). Dynamic interdependence and volatility spillovers across bunker fuel markets and shipping freight markets. Maritime Policy and Management.
DOI: 10.1080/03088839.2021.2005265

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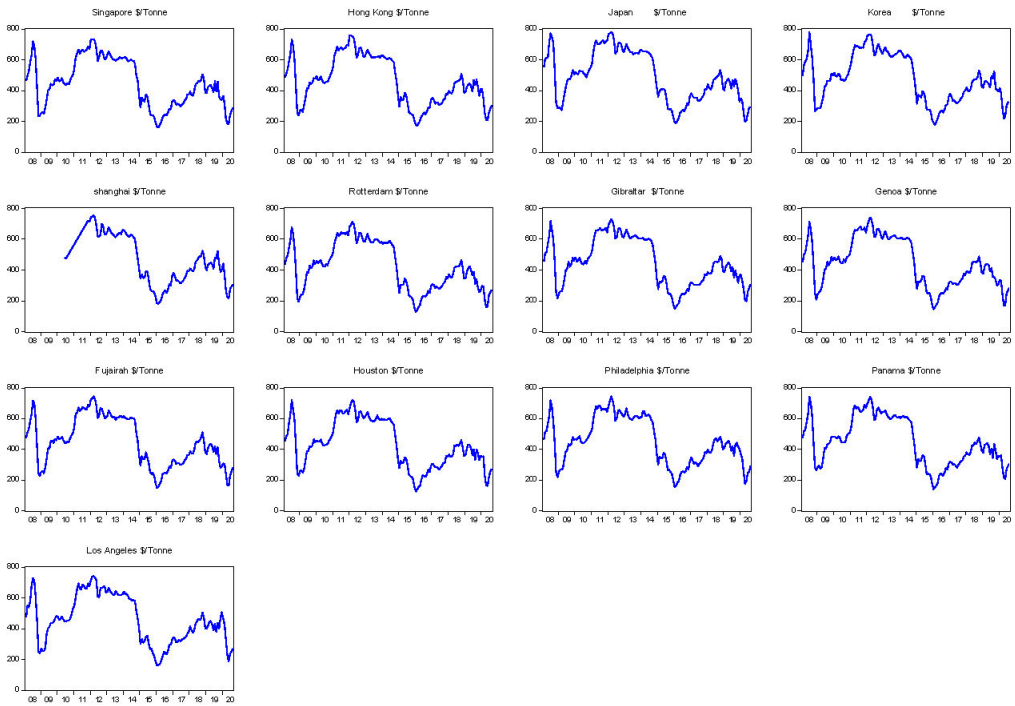
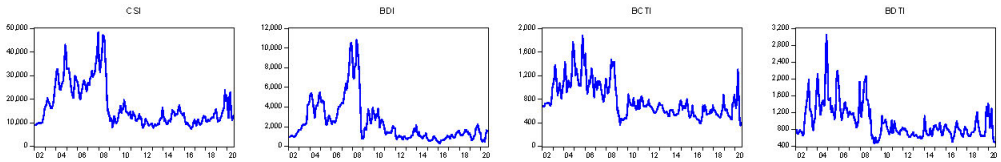


(a)



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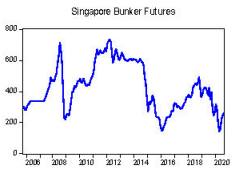

(c)

Figure 1. Figure (a) shows the monthly path of bunker prices in 13 ports, Figure (b) shows the indices of shipping freight rates, and Figure (c) shows the Singapore bunker futures. Note: CSI denotes ClarkSea Index; BDI denotes Baltic Dry Index; BCTI denotes Baltic Clean Tanker Index; BDTI denotes Baltic Dirty Tanker Index. Figure provided by author(s).

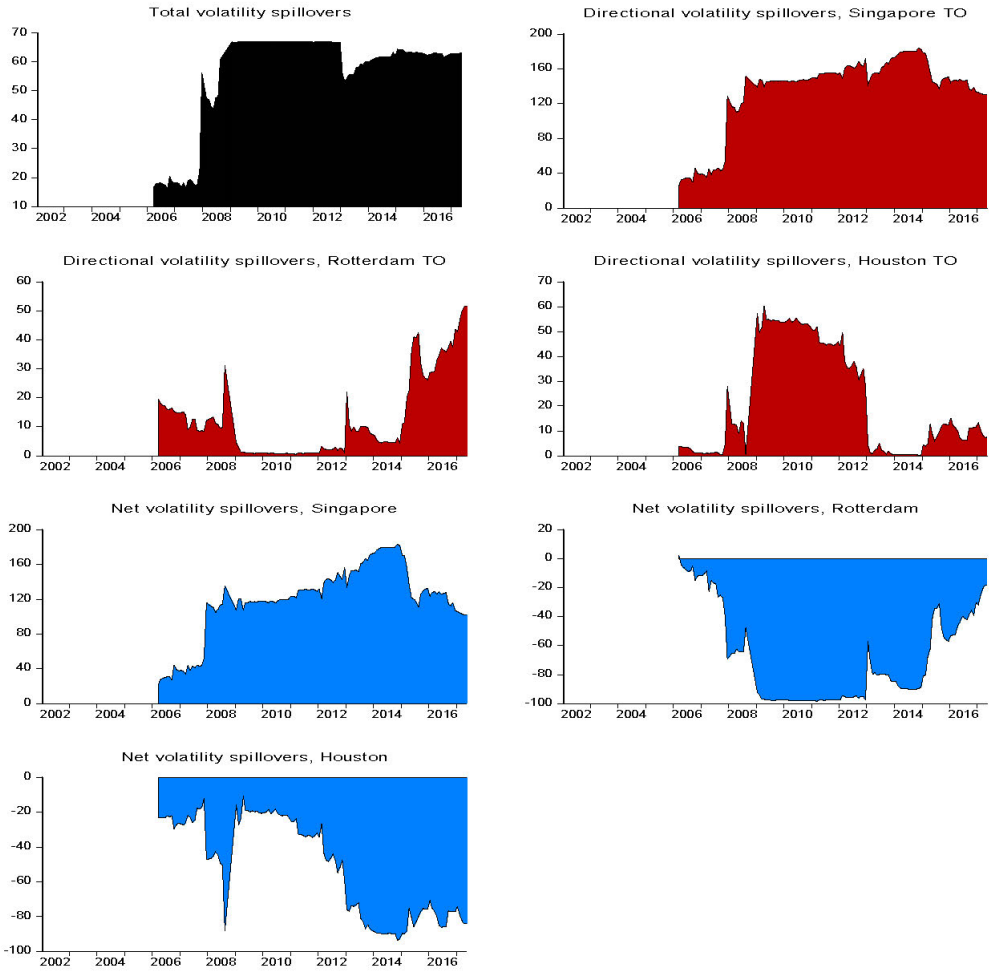

Figure 2 The total, directional, and net spillover indices among the three leading bunker markets - Singapore, Rotterdam and Houston. Figure provided by author(s).

InPlain

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InPlain

Structures of Port Connectivity, Competition, and Shipping Networks

Qing Liu

Introduction

In our recently published study (see Remark), we focused on 29 major European container ports that have direct liner services with China and evaluate their centrality based on their connections with China and connections within the intra-European networks. For that purpose, we collected 323 intra-European liner services with 241 European ports and 27 liner services between Greater China and Europe with 29 European ports and 12 Chinese ports in 2019.

Index measures

Based on previous research, we proposed centrality indices should essentially measure a container port's strategic position from three dimensions:

- how many ports are directly connected with it (degree centrality)
- how closely/quickly it is connected with other ports in the network (closeness centrality)
- how inevitable its position is within the network (betweenness centrality)

Also, we design our indices to be service based, so that the commonly accepted critical factors for a port's connectivity level are considered, including the number of services, service capacity, service frequency, number of connected ports through direct services, and connection time. Therefore, service-based degree centrality for a port is defined as the number of nodes that it can reach directly within the service network without transfer. Service-based closeness centrality is measured as the total shortest transit time a particular port connects with all other ports within the network via liner services weighted by the connection capacity. The shortest path tree was calculated for each port using the Floyd Warshall algorithm (Floyd, 1962) to obtain the quickest transit time between each port pair. Finally, service-based betweenness centrality is measured as how often a particular port is located within the liner services in the network, weighted by the service capacity.

Key Findings

For each of the 29 ports, the three indices were calculated separately for the intra-Europe network (IEN) and China-connection network (CCN). The

two networks show different patterns for the port centrality measures (Figures 1 and 2).

The three largest European ports (the 'first-tier' ports)

The largest three European container ports are the most "centrally" positioned for CCN network (a transoceanic network) with both connection speed, connection capacity, and number of direct connections. In the IEN network, the largest ports have slower connections in comparison to their smaller peers, but they compensate for this shortcoming with higher connection volumes. Within the largest ports, the major port function (transshipment vs. hinterland) and relationship with China influence centrality scores. For example, Hamburg always ranked after Rotterdam and before Antwerp in the CCN, despite its throughput being smaller than that of Antwerp. Hamburg port has almost one-third of its throughput from/to China (Hamburg Port Authority, 2012) clearly indicates that its strong relationship with China has led to relatively higher rankings than its peers (i.e., Antwerp). As in the IEN, Hamburg as a major gateway (vs. a transfer hub) for direct inland markets has low ranking especially low in betweenness and degree, and even lower when capacity was considered, suggesting that it did not connect intensively with other European ports and was often not included in intra-European services.

Piraeus

However, the most interesting finding is the high and clearly outlined scores of the port of Piraeus. Although Piraeus had the fourth largest throughput value among European ports in 2019, handled only a bit more than half of the throughputs of Hamburg and much fewer than Rotterdam and Antwerp. Despite its much smaller handling capacity and cargo throughput than the first-tier ports), Piraeus had a position almost as "central" as them in the service network with China. It had the quickest direct connection with China, both with and without capacity considered. In the IEN network, Piraeus outperformed all the other major and secondary ports with or without capacity considerations. For example, its betweenness ranked the highest with or without capacity, meaning that it is the most frequently included in existing services in the network. However, in comparison, its degree and betweenness measures in CCN are relatively weak, or should be considered as 'normal', ranking below the first-tier ports just as expected. Especially, its betweenness is ranked fourth with or without capacity measures, indicating that compared to the first-tier ports, it is less frequently included in existing services connecting China with Europe.

Substantial Chinese influences?

It is noted that the port of Piraeus is the only major port entirely managed by a Chinese state-owned company in Europe since 2016, namely COSCO. COSCO's subsidiaries are the sole terminal operators at the port of Piraeus is probably a key reason for its strong connection with China, and consistent with the perception that it has been selected by COSCO as its strategic gateway port in Europe. In addition to improvement of terminal facilities thanks to the substantial investments by the China-led Belt and Road Initiatives (BRI), liner companies' direct ship calls and network structure changes are critical factors for its growth but have not yet been thoroughly investigated. However, such impacts are not comprehensive. Although Piraeus achieved strong closeness centrality in the CCN, we found that its betweenness centrality and degree centrality are considered 'normal', as not as

strong as the largest ports within the region. This indicates that the nature of the inter-continental shipping network largely remained intact, where the 'hub' status of the intercontinental Europe-China shipping network remained in the hands of the major ports along the Hamburg-Le Havre range.

Hence, to conclude, we argue that China's influence, led by the BRI programs on port investments in Europe, has played significant roles in the development of port capacity and competitiveness, but not comprehensively enough to cause fundamental shifts in the established China-Europe maritime transport system yet.

Remark

The detailed results of this study can be found in: Liu, Q., Yang, Y., Ke, L., and Ng, A.K.Y., 2022. Structures of port connectivity , competition , and shipping networks in Europe. Journal of Transport Geography 102, 103360. https://doi.org/10.1016/j.jtrangeo.2022.103360

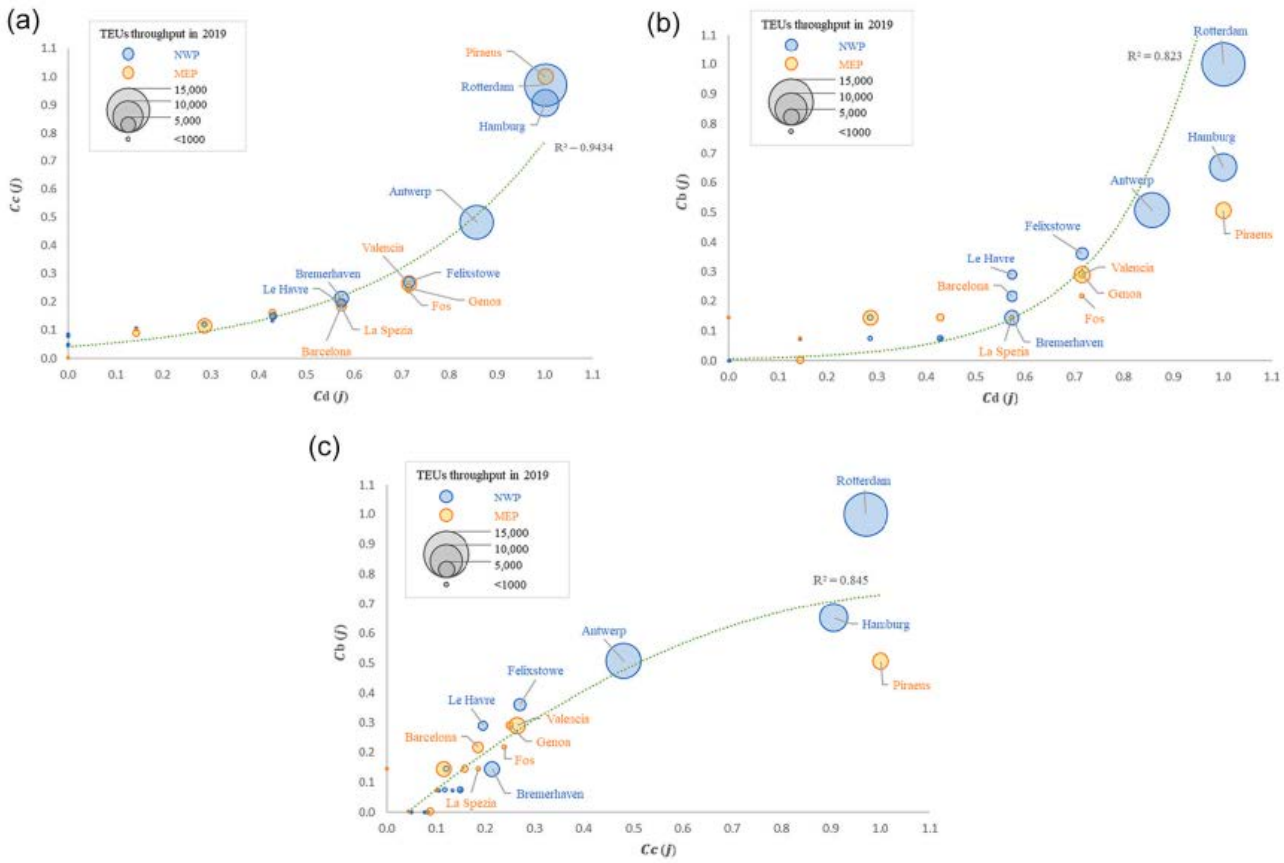

Figure 1. China Connection Index Cc vs Cd ($\alpha = 0$) . (b): China Connection Index Cb vs Cd ($\alpha = 0$) . (c): China Connection Index Cb vs Cc ($\alpha = 0$) . Figure provided by author(s).

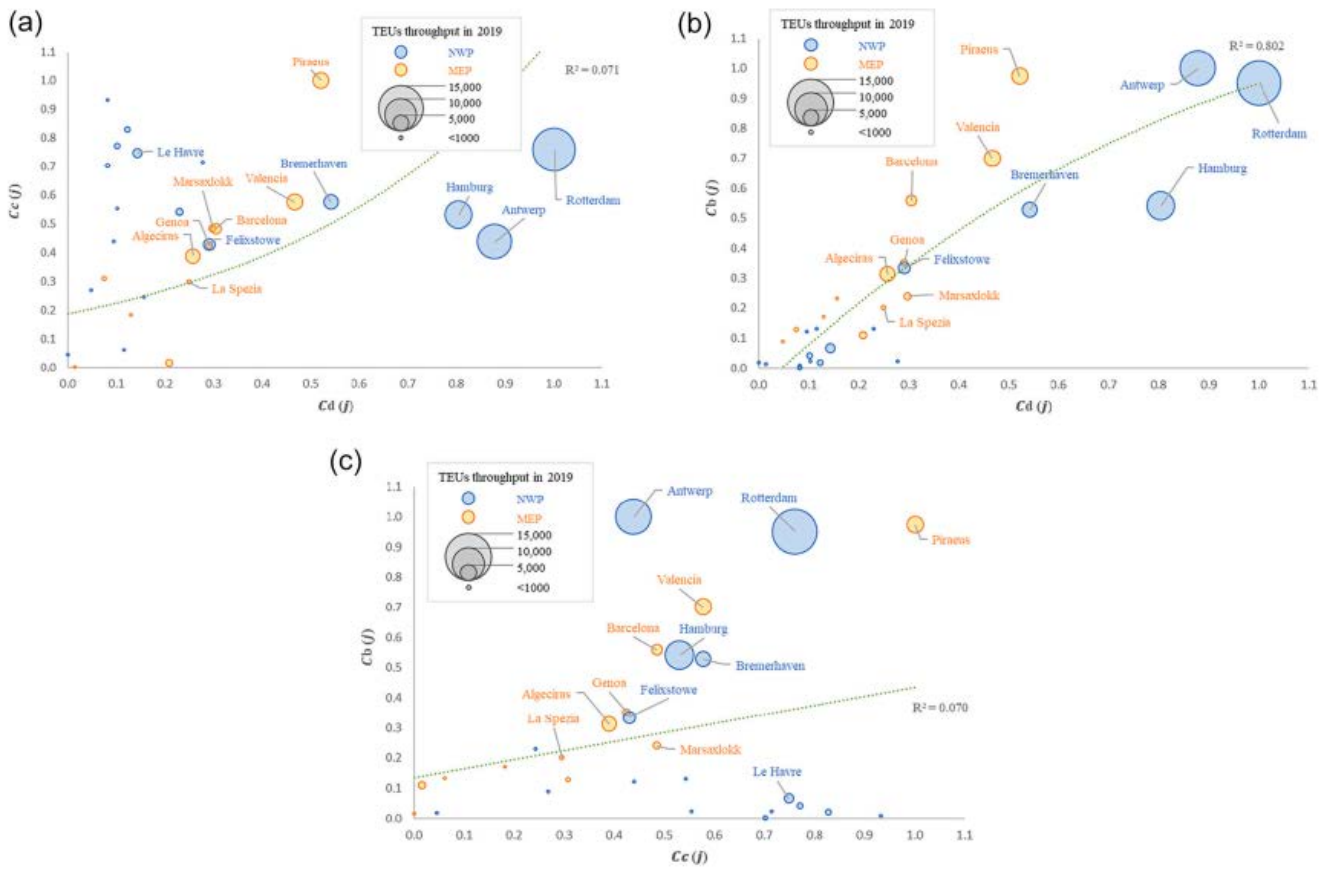

Figure 2. Intra-Europe Connection Index Cc vs Cd ($\alpha = 0$). (b): Intra-Europe Connection Index Cb vs Cd ($\alpha = 0$). (c): Intra-Europe Connection Index Cb vs Cc ($\alpha = 0$). Figure provided by author(s).

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Commentaries

Shipbrokers: Dealmaking Channels On Their Way to Extinction?

Armando Veras Sepúlveda

Arguably the most stereotyped participant in most industries, views about their necessity and helpfulness are oftentimes visceral, and understandably so. The participant alluded to is none other than the broker, and the maritime industry is no exception to what the previous sentence conjectures.

Definition. A shipbroker may be defined as an intermediary who facilitates transactions in respect of either merchant vessels or water transport agreements. The mediative character and the transaction-oriented nature of shipbrokers' mission are probably the visible attributes that prompt questions about their necessity and helpfulness, especially in an age of inexpensive, instant, and portable telecommunications. Brokerage is an unnecessary transaction cost, or so the (perhaps flawed) logic goes.

Photo provided by author(s)

Roles and objectives. Confidants, sources of sector-wide guidance, igniters of mercantile initiative, market reconnaissance scouts, judicious filters of actionable information, promoters, supply-demand matchmakers, agents of price discovery, balancers of bargaining power asymmetries, dealmakers, contractual execution monitors, custodians of commercial relationships, dispute preventers and, if things become litigious, witnesses – the roles a shipbroker may assume are manifold. Notwithstanding the wide spectrum of functions, they perform in pursuit of their principals' interests, brokers' perpetual objectives can be reduced plausibly to just one: mutually satisfactory commercial agreements. This numerical imbalance between functions and objectives, paired with the norm that shipbrokers' remuneration is contingent on the complete or partial fulfilment of the brokered agreement, leads many to oversimplify the value brokers bring to the table down to just intermediary dealmaking.

Having defined shipbrokers and outlined the functions they perform and the outcomes they procure, a key question arises:

What makes a good shipbroker? From competitive broking firms' perspective, it is straightforward and quantifiable: the best shipbrokers are the rainmakers; in other words, those who, consistently, best enable the firm to maximise its commission revenue. By contrast, from clients' vantage point, the best shipbrokers are those who best perform what they are requested or expected to perform. Granted, that is marvellously vague. However, what this signifies is that the criteria may be predominantly 'qualitative', criteria which varies meaningfully in function of any given client's modus operandi, in-house resources, relevant market segment, seniority, experience, personality, cultural traits, enquiry at hand, and its sense of urgency, amongst other variables. Despite the discrepant criteria by which broking houses and clients evaluate individual shipbrokers, there is a compelling overlap of brokers who are simultaneously held in high opinion by employers and clients alike, which leads to the proposition that shipbrokers who command the trust of a critical mass of desirable customers tend to be the same cohort who generate superior commission revenue to their firms.

Misalignment of incentives and conflicts of interest. Notwithstanding, broking firms' commercial imperative may oftentimes be misaligned or, possibly, at diametrical odds with client principals' best interests. Specifically, shipbroking houses' bottom lines may benefit from transactional celerity and volume at the expense of prudent thoroughness, incentive dynamic which tempts unscrupulous practitioners to resort to alarmist tactics for railroading impressionable clients into swift deals. In broking (mal)practice, an even more pernicious instance of disloyal, self-seeking exploitation of information asymmetries may consist in sacrificing the bargaining position of a trusting client on the altar of another—usually larger and more renowned—customer. These scenarios may well belong to the realm of what is known in economics as "the principal-agent problem".

Disintermediation. Reports of shipbroking's looming extinction are greatly exaggerated, at least in the foreseeable future. Each wave of technological advancement in telecommunications sparked disproportionate expectations of disintermediation. Developments suggest that previously prohibitive costs for storing, processing, and telecommunicating transactional data were not what kept shipbrokers

Commentaries

in demand for they represent far more than merely a dealmaking channel. Though, advancements in artificial intelligence (AI) and natural language processing represent a different breed of technological leap, one which might exert transformative effects on shipbrokers' professional practice like never before, yet a far cry from rendering human judgement irrelevant. AI may usher in an era where shipbroking firms are as relevant as ever and more capable of delivering bespoke services with drastically lower headcount, which would result in a more diverse marketplace and a level playing field. Disintermediation and automation prospects are most ominous in segments with maximum levels of contractual standardisation, high market concentration, and limited operational variability: the simpler and the more predictable the transaction, the lesser the need for an intermediary. By contrast, in maritime segments where many risk- and price-altering variables are subject to contractual negotiation and operational optimisation, counterparties will likely keep demanding the services of shipbrokers who—more than being mere negotiation channels—enhance their clients' thought and decision-making processes.

Fertile fields for academic research certainly lie in the area where information economics and organisational economics intersect: contract theory, agency theory, transaction cost theory, information asymmetry, principal-agent problem, moral hazard, signalling, screening and other actionable theoretical contributions germinated out of such intersection. Using said contributions as elements for constructing a lens with which to examine some of the misalignments and conflicts broached in the present article may yield practical insights that could promote enhanced market practices.

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Maritime Features

Average Adjusters

Raymond Wong

Nothing is 100% certain; nothing is 100% safe. Despite all safety precautions, marine casualties occur on a daily basis, which are often complex affairs – an example of the century being the giant 400-metre-long container ship EVER GIVEN with cargo on board zigzagging from one bank to the other, finally side sweeping and lodging sideways across the Suez Canal, blocking it for six days from 23 March 2021. Ironically, a year later a container ship from the same fleet, the 234-metre EVER FORWARD with cargo on board was stuck in the mud of Chesapeake Bay for five weeks from 13 March 2022!

Both casualties gave rise to various types of claims and Owners of the vessels respectively declared General Average and appointed Average Adjusters to draw up adjustments thereof seeking contributions from the Concerned in Cargo to the expenses and sacrifices incurred, including the costly refloating operations, allowed in accordance with the York-Antwerp Rules which are commonly provided in the contracts of carriage.

Average Adjuster adjusts averages – so what are averages? – these are losses or claims arising from maritime casualties – and what is adjusting? – it is the assessing and stating of those claims. So, in essence, an Average Adjuster adjusts marine claims – on hull & machinery insurance, general average and liability.

Average adjusting has been around for a very long time, dating back to Hellenistic Rhodes about 2,400 years ago. Without going back to those ancient times, Average Adjusters, within the maritime industry, belong to a unique and small profession. The first known professional average adjusters practiced in the City of London from about 1800, though there is record that Lord Justice Mansfield, in his celebrated judgment in the case of Lewis v. Rucker in 1761, refers to the fact that:

"I thought a good deal of the points, and endeavoured to get what assistance I could by conversing with some gentlemen of experience in adjustment."

In his address to the average adjusters in 1935, Mr. Justice Mackinnon said:

"Your profession is a singular one – not merely because the vast majority of your fellow-citizens have not the remotest idea what your duties are; but because, above any other profession that is not actually legal, you are required to have, and in fact possess, a very exact knowledge of a very special branch of the law."

The prerequisites of a qualified professional average adjuster are expertise, experience, and independence. With his established reputation of impartiality and background of knowledge, he offers a non-litigious, non-adversarial method for settling claims by acting as an impartial intermediary between the parties concerned. In this respect, the conventional average adjuster has a two-fold duty:

(a) To the assured and/or the claimants in general average – to see that the claim presented

is fully supported by the evidence, and that it is as complete as possible, i.e., that nothing is missed; and
(b) To the insurers and/or the general average contributing interests – not to submit, without making an appropriate note of reservation, any item of claim which cannot be supported either in law or in practice.

It should be noted that an average adjustment is not binding upon the parties concerned and it is open to the respective parties to disagree with the average adjuster's conclusion as to whether there is a claim in principle and/or to take issue with the average adjuster's treatment of the figures. However, it is true to say that a vast majority of claims go through as adjusted, the adjustment being accepted as correct settlement between the parties concerned.

The first formal association of the individual average adjusters took place in London in 1869 at the prompting of the underwriting members of Lloyd's and the Liverpool Underwriters Association. The aims of the Association were as follows:

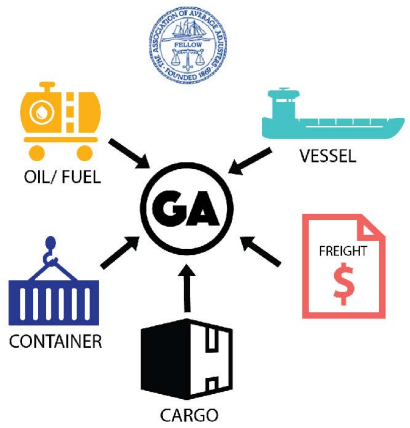

Figure provided by author(s)

➢ To promote professional standards and correct principles in the adjustment of marine claims by ensuring, through examination, that those entering into fellowship possess a high level of expertise.
➢ To achieve uniformity of practice among average adjusters by providing a forum for discussion and by establishing rules of practice where necessary.
➢ To ensure the independence and impartiality of its fellows by imposing a strict code of professional conduct.
➢ To provide service to the maritime community by establishing procedure by which advice on all aspects of marine claims may be obtained to facilitate their settlement.

The Association of Average Adjusters (www.average-adjusters.com) is the association to which all qualified average adjusters in Great Britain belong, but it has become an international organization, there being fellows and associates coming from a wide range of countries.

The functions of the average adjuster are principally the following:

➢ The adjustment of general average.
➢ The adjustment of claims on policies of insurance on any interest directly or indirectly exposed to maritime perils.
➢The preparation of statements of claim against third parties.
➢ The division of recoveries from third parties, or of proceeds of sale.
➢ The arbitration of disputes arising in relation to the above or associated matters.

Maritime Features

To summarize, the Association is a regulatory body, being charged with promoting and ensuring both the skills and objectivity of the average adjusters. Fellows of the Association are practicing average adjusters who, being expert in the law and practice of general average and marine insurance, and having qualified by examination of the Association, apply their expertise for the benefit of the maritime industry.

It is worth noting that the average adjuster may be appointed by any member of the maritime or marine insurance communities having an interest in the matter concerned and, irrespective of the identity of the party appointing him/her, he/she must always act impartially and independently. He/she may advise any party seeking his/her opinion on any matter within the area of his/her expertise, and assist in the collection of general average, salvage, or other security, and in effecting settlements under average adjustments, or otherwise as required.

It appears that the profession was first introduced to the Far East in the mid 1920s when Mr. William R.M. Stevens from London arrived in Shanghai and opened his office there. After the Second World War, Mr. Stevens left Shanghai for good and eventually set up the first average adjusting firm in Hong Kong in 1945, which ceased business in the late 1990s. Whilst Hong Kong was the average adjusting centre in Asia in the second half of the last century, with no fewer than five international firms setting up there, professional average adjusting facilities have emerged in most major ports in Asia following the overall growth in shipping and marine insurance in the East. Currently, there are two professional average adjusting firms in Hong Kong, namely, Richards Hogg Lindley and Asia Maritime Adjusting (HK).

Photo provided by author(s)

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Conference Report

International Workshop on Transport Economics 2022

Changmin Jiang

On April 23, 2022, the University of International Business and Economics (UIBE) China Center for Transport Economic Research (CCTER) was officially established. An online International Workshop on Transport Economics was held on 23 April 2022 as the opening ceremony of CCTER.

In the morning session, the presidents of three major international transport research organizations, Prof. Tae Hoon Oum of the World Conference on Transport Research Society (WCTRS), Prof. Anming Zhang of the Air Transport Research Society (ATRS), and Prof. Sergio Jara-Diaz of the International Transportation Economics Association (ITEA), gave talks regarding the development of different areas of transport research and CCTER's potential importance and relevance to the future of these areas.

In the first afternoon session, three leading figures in China's transport research community, Prof. Hai Yang from the Hong Kong University of Science and Technology, Prof. Haijun Huang from Beihang University, and Prof. Chaohe Rong from the Beijing Jiaotong University, delivered speeches to express their views towards the current state of transportation research in China and their best wishes towards the positive role CCTER will play in the future.

Finally, the second afternoon session saw Mr. Chris Pringle and Mr. Riadh Khelil, publishers of transport journals in Elsevier sharing data and insights regarding academic publications in transport research by Chinese scholars. They noted that the quantity and the quality of such publications have witnessed a very fast and healthy growth in recent years, and they believed that CCTER would lead the way when Chinese transport economics research reaches the next level.

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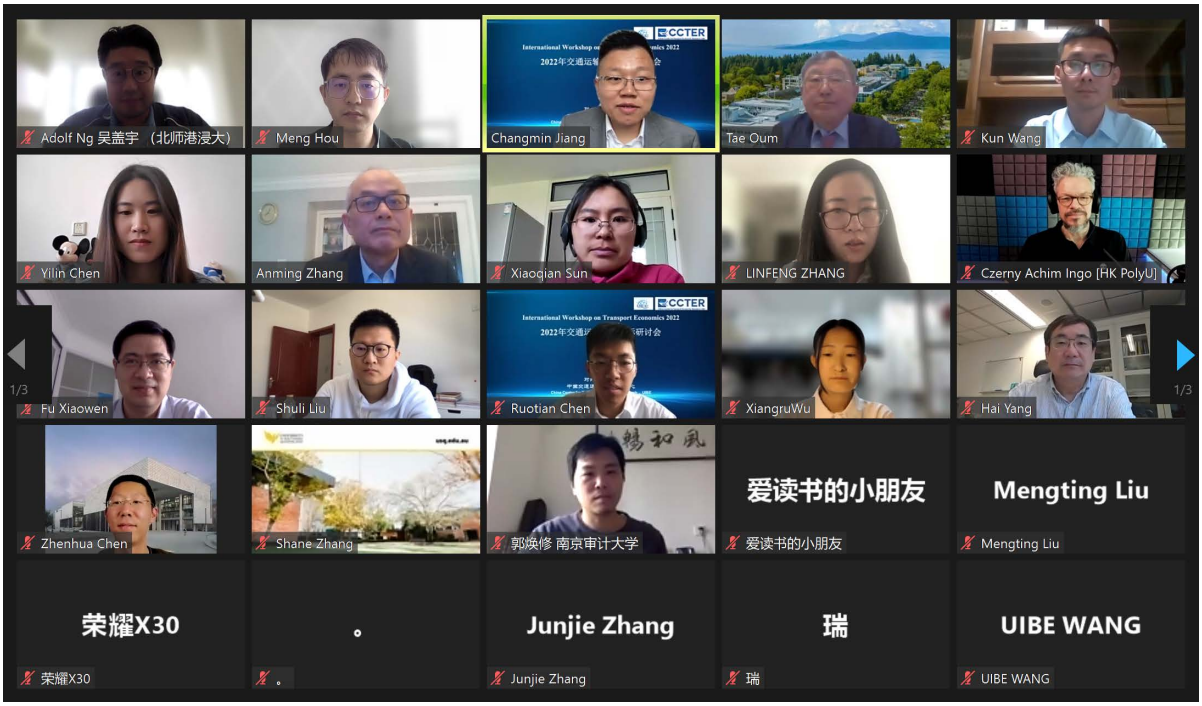

Congratulations on UIBE China Center for Transport Economics Research !!!

Session 1 Presentation by

© Prof. Tae Hoon Oum

Sauder School of Business, University of British Columbia
and
President, the WCTR Society

Organizational Blocks

China Center for Transport Economic Research (CCTER),UIBE

The University of International Business and Economics (UIBE)'s China Center for Transport Economic Research (CCTER) was officially established on 23 April 2022. UIBE has long been one of the top Chinese universities in the fields of Economics and Management. Also, it is a leading institute in transport research in China, especially in transport economics and policy. CCTER is financially supported by UIBE and a major national research grant of China.

Headed by Prof. Changmin Jiang, with Prof. Hangjun Yang and Dr. Kun Wang as key members, CCTER is dedicated to promoting the development of transport economics research, especially surrounding topics and problems with Chinese features and relevance. It strives to further promote the development of transport economic research in the context of China and also by Chinese scholars. CCTER members are renowned figures in the international transport research community and have published extensively in top-tier academic journals (e.g., Transportation Research Part B: Methodological, Transportation Research Part A: Policy and Practice), including topics on maritime transport. Also, it has external advisory board members from both transport agencies of Chinese governments and industries.

CCTER strives to actively organize activities that could contribute to raising the profile of transport economics research. For instance, in April 2022, the center has organized an online international workshop on transport economics celebrating its official opening (the official website of the conference). The leaders of CCTER strongly believe that the center would lead the way when

CCTER
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Organizational Blocks

Regional Maritime University

Founded in 1958, the Regional Maritime University (RMU) is West and Central Africa's institution of choice for maritime education and training. RMU was established as the Ghana Nautical College by the Government of the Republic of Ghana to train sea-going personnel, primarily for the national fleet, the Black Star Line Limited. In 1983, spearheaded by the Ministerial Conference of West and Central African States on Maritime Transport (MINCONMAR), now the Maritime Organization for West and Central Africa (MOWCA), the Ghana Nautical College was regionalized, and renamed the Regional Maritime Academy (RMA) for the benefit of the Anglophone members of MOWCA. Regionalisation was due the recognition that the development of human resource capacity for member states of MOWCA could be better achieved by pooling resources together. The formal inauguration of the RMA took place on Thursday 26th May 1983 with the Republics of Cameroon, The Gambia, Ghana, Liberia, and Sierra Leone as founding members. In 2007, 25 years after regionalisation, RMA was upgraded from an academy to a fully-fledged University. The Regional Maritime University (RMU) was launched on 25th October 2007 by Ghana's president at the time, John Kuffuor. The University is governed by a Board of Governors made up of five voting members (member states) and two non-voting members (the Secretary General of MOWCA and the Vice Chancellor).

The University is located at Nungua in the Ledzokuku Krowor District, of Accra, the capital city of Ghana. The campus is considerably remote from the hustle and bustle of the city and has a calm and peaceful environment conducive for teaching and learning. The RMU campus is a coastal property located along the Atlantic Ocean and about 30 km from the Kotoka International Airport and 5 minutes' drive from the Port of Tema. Port activities from West Africa's largest container terminal, the Meridian Port Services (MPS) Terminal can be seen directly from vantage points in the University. The strategic position of RMU to the Port of Tema and the Tema Drydock provides the opportunity for practical interactions regarding in port and shipping administration and operations, fisheries, and dry dock repair.

Although a modern maritime institution, RMU has continued to embark on direct professional and vocational training to ensure the continuous supply of qualified manpower for the merchant and fishing fleets within the West and Central African sub-region and beyond. The University also expanded its programme offerings and currently runs 4

diplomas, 11 bachelors, and 6 master's degree programmes; paying particular attention to providing the required knowledge and skills required by the maritime and allied industries. These programmes are run under the University's two faculties and 8 departments and centres. The faculties are the Faculty of Maritime Studies and the Faculty of Engineering and Applied Sciences. The Faculty of Maritime Studies is responsible for four departments, including the Departments of Transport, Nautical Studies, Business Studies and the Maritime Safety and Security Centre. The Faculty of Engineering and Applied Sciences is responsible for the Departments of Marine Engineering, Marine Electricals & Electronics, ICT, and the Vocational Skills Centre. All postgraduate courses in the University are administered by the School of Graduate Studies. The aims of RMU's programmes are:

- To provide comprehensive and liberal education and training to always meet technological changes within the industry.
- ·To prepare seafarers to assume higher responsibilities within the industry, beyond the level of Shipboard management.
- To develop the capacity for conducting research and providing consultancy services in support of the maritime and allied industries.
- To equip personnel who man the maritime and allied industries that support international trade.

Total student number is approximately 1,600 for regular and weekend students with an average of 16,000 students passing through the University each year to undertake short/professional and upgrading courses.

RMU has invested in several training and research facilities, training, and research facilities to support its mission. They include Computer Laboratories; Bridge Simulator; Full Mission Engine Room Simulator; State of the Art Welding, Mechanical and Fabrication Workshop; Oil and Gas Facilities (Well Control Simulator, Process Operation Simulator, Crane Simulator and a Drill Fluids Laboratory); Electrical

Laboratory, Electronic Laboratory, Hydraulic Laboratory, Technical Preparation Laboratory, Maritime Safety and Security Centre for basic and advanced safety training, Engineering Laboratory, Radar and ARPA Laboratory, GMDSS Laboratory, Refrigeration and Air-conditioning Laboratory, Engineering Workshop, Diesel Workshop, Control Laboratory, Mechanical Laboratory, Planetarium, International Standard Training Pool for swimming and survival techniques, Fire training facility, Auditorium suitable for conferences and similar activities, Parade Ground for cadet drills and parades, Specialized Library, Research Library, Documentation Centre for photocopying, binding of documents, etc. and an Internet Café for cadets and non-cadets. RMU also has several social and sporting facilities including Tennis Courts, Basketball Court, Volleyball Pitch, Football Park, Gymnasium, and students' centre. The University has a medical centre where health service is provided for both students and staff by RMU's qualified on-campus medical team.

In the execution of its mandate, RMU has established numerous collaborations and exchanges with foreign and local partners. They include Bernard Schulte Ship Management, American Bureau of Shipping, Seaweld

Engineering (Ghana) Ltd., MODEC, DEME Dredging, TechnipFMC Ghana, Swire Pacific, REDAVIA GmbH Solar, Shanghai Maritime University, Celebrity Cruises, Hoegh LNG, Ghana Maritime Authority, Ghana Shippers' Authority, Ghana Ports and Harbours Authority, Charkin Maritime & Offshore Safety Centre, SMTC Malaysia, Rigworld Training Centre and others. The University continues to engage with its partners to provide world class maritime education and training for the modern maritime professional.

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Photo by Regional Maritime University

ME MAG

Your Intellectual guide
for maritime knowledge

THE**MARITIME**
Economist

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Submission Guidelines

Contribute to The Maritime Economist

ME-MAG is the official magazine of the International Association of Maritime Economists (IAME). Its aims to create an active platform for merging academic studies with practice. It serves as a promotion stand for scholars, policymakers, and industrial practitioners in the industry. In this way, it motivates and encourages both IAME and non-IAME members to express their studies in plain language in line with the interests of policymakers and practitioners. Also, it encourages experts in the maritime industry to share knowledge and experiences about emerging topics, challenging issues, and rising problems.

1. GENERAL GUIDELINES

We are interested in (but not limited to) the following topics:

- Economics of maritime transportation
- Port governance, competition, utilization, and other related issues
- Management, leadership, and strategies in the maritime sector
- Arctic shipping and development
- Maritime policy and governance
- Climate change adaptation and resilience in the maritime sector
- Sustainability and environmental issues in the maritime sector
- Maritime geography and spatial analysis
- Behavioral science, marketing, and human factors
- Risk and business continuity management in the maritime sector
- Intermodal transportation, logistics, and global supply chains
- Safety related issues in the maritime industry
- Finance, asset management, and investments
- Digitalization in shipping
- New technology development in maritime industry
- Cruise and ferry economics and management

All submissions to different sections by scholars, policymakers, practitioners, and other maritime stakeholders will be considered. Authors should keep in mind that ME-MAG is not only published for scholars but to the larger society of the maritime industry and policymakers. Readers may not have a background on the presented topic and so authors should present the the contents in a language and style that is clear to practitioners. Also, authors should consider the perspective of professionals, practitioners, policymakers, and other stakeholders who have general knowledge of the maritime industry but limited knowledge on the intended specific topic. We encourage narrative style, storytelling, metaphorical expressions, and other methods of non-fictional authorship. All the articles should be written in plain language, excluding jargons and using limited number of technical terms with brief and simple descriptions. There are no geographical restrictions to topics.

ME-MAG is divided into InFocus, InPlain, Organizational Blocks, Commentaries, and Conference Reports sections. Authors should submit their article to the Editor-in-Chief for further consideration by e-mail:

memag2020@gmail.com

In the submission e-mail, authors should state clearly that a) which ME-MAG section their article should be published (if accepted) and b) their article is free from plagiarism. Please refer to section 2 for more details on section specific guidelines. Authors who are unsure about the proper section may send an e-mail to us for consultation prior to submission.

2. SECTION SPECIFIC GUIDELINES

2.1 InFocus

This section is dedicated to industry professionals for presenting innovative solutions, created knowledge, and R&D results in practice. Authors should refrain from telling success stories and focus on the drivers and requirements for successful results. This section promotes research activities at non-academic institutions and encourages authors to present research achievements as well as core concepts and created knowledge. Authors should present some evidences for supporting arguments.

- Not more than 2,000 words per article.

2.2 InPlain

This section is dedicated to academic research performed by scholars and/or professionals in maritime research. Scholars can briefly present a research which will be published shortly in an academic journal or an already

published one. In such a case, author should refrain from using the same text and should re-write in ME-MAG's concept of easy-to-read and concise style. It should be a kind of executive summary of the upcoming/published academic paper.

- Not more than 2,000 words per article.

2.3 Commentaries

This section is dedicated to draw attention to critical problems in the maritime industry and academic research. It should be in op-ed format that provide comments on particular 'hot' topics in the maritime industry. Authors can submit a short article dealing with the problem and draw attention of readers to that challenging topic.

- Not more than 700 words per article.

2.4 Organizational Blocks

This section is dedicated to the introduction of maritime organizations (e.g., professional maritime organization, maritime department in a university, etc.). For this section, authors are encouraged to first discuss with the editorial team before making a submission.

- Not more than 500 words per article.

2.5 Conference Reports

This section is dedicated to articles that report a maritime-related conference. For this section, authors are encouraged to first discuss with the editorial team before making a submission.

- Not more than 500 words per article.

3. ARTICLE FORMAT

Your manuscript should be in single-column format, double-spaced, and with line numbers with Times New Roman 12 simple. Please keep the layout of the text as simple as possible. Submitted manuscript should have been 'spell checked', 'grammar checked', and free from plagiarism. Finally, authors should acknowledge the organization(s), individual(s), and/or funding source(s) in supporting their study, if applicable.

3.1 Figures, Tables, and Photos

Authors are welcomed to contribute figures, tables, and photos. However, they must have full ownership or ensure that they have full right to use them (i.e., a written permission from the owner) in ME-MAG. All figures, tables and photos should be numbered and have an appropriate caption (e.g., Table 1-, Figure 1-).

3.2 References

Authors must ensure that all non-original sources are cited and referenced in the manuscript and reference list, respectively. Use APA citation style for references. A maximum of five (5) references is allowed.

3.2 Name, Title, Affiliation, and Biography

The submitted article must include the name, title, affiliation(s), and a 50-100 words biography of each author. Please state clearly a) the order of the authors, b) the corresponding author (for multiple authorships) and the contact details of the corresponding author.

While not compulsory, authors can send their self-portraited photos to be included in the article (not more than 1 MB).

3. PUBLICATIONS

Articles will be published on ME-MAG's website (www.me-mag.org) after the editor has reviewed and accepted the article. While without guarantee, we try our best to make a decision within one month after receiving the submission.

International Association of Maritime Economists

The International Association of Maritime Economists (IAME) was founded in 1992. What initially started as a small venture has since then developed into a truly international association.

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