









Busan Metropolitan City

The Z/Yen Group is pleased to publish this supplement to GFCI 16. This supplement has been sponsored by the Busan Metropolitan City.

Busan, a major port city situated in the main route toward North America and Europe, is a strategic base for global logistics. With the pioneering of the North Pole sea route, the distances of the sea routes to Europe and North America have been shortened by 40% and 30%, respectively. This in turn has reduced logistics costs. Busan handles 75% of all container cargo coming in and out of Korea and more than 17 million Twenty-feet Equivalent Units of goods annually.

Regarded as a super port city, Busan has one of the top 5 container ports in the world, with goods transported to and from 500 ports in more than 100 countries, and has established itself as the logistics center of Northeast Asia. With the opening of 45 berths at the Busan New Port by 2020 and establishment of a logistics center in the hinterland with a high-tech system, the lead time will be minimized, and Busan will secure its place as the logistics hub of Northeast Asia and as a world-class port city.

Furthermore, Busan is the future starting point of transcontinental railways that will run from Korea through China and Russia, all the way to Europe.

The author of this report, Mark Yeandle, would like to thank the rest of the Financial Centre Futures team for their contributions with research and ideas.

Foreword

This year marks the first time Busan has been listed in the Global Financial Centres Index (GFCI), with the city ranking 27th in March (GFCI 15) and 28th in September (GFCI 16). It has been five years since Busan was designated as the specialised financial centre by the Korean government and it is surely no accident that the city has received such an excellent evaluation from the international community. This result is due to Busan's tireless efforts over the past five years, and recognises the hidden values of Busan being revealed to the world.

Busan, located in the southeast tip of the Korean peninsula with 3.5 million residents, is the largest port city in Korea. The city has long been a gateway for the exchange of people and goods between Korea and other countries. Located in the center of the Northeast Asia logistics hub that connects routes between North America, Europe, Oceans, and Continents, Busan currently enjoys the status of world's fifth largest container logistics port. Moreover, the position of Busan is significant as the starting point and a destination point of the Transcontinental Railways and the North Pole Route, so called the 21st century Silk Roads.

Busan is central to the economic bloc of the Southeast region of Korea, with its industrial share of manufacturing and services at 40% and 38% respectively. This accounts for 18% of the Korean economy, and forms a transnational economic bloc with Fukuoka in Japan. Busan offers a variety of quality urban infrastructures, spanning transportation, education, medical services, housing, leisure and cultural facilities, as well as an easily livable environment, with an oceanic climate and easily accessible nature, demonstrating social and cultural openness and acceptability. Based on these factors, exhibitions and conventions, tourism, video and movie production, fashion, and IT industries have all thrived in Busan.

The Korean government's efforts to foster the financial hub have been active, persistent and resolute. The government seeks complementary development by fostering Seoul as a comprehensive financial hub and Busan as a specialized financial hub for maritime finance and derivatives. Busan was chosen as a specialized hub thanks to its natural resources and the city's industrial development. Port logistics (the world's 5th largest), shipbuilding industry (the world's largest) and fish market (the largest in Northeast Asia) are all factors that led to the selection of Busan as the strategic maritime financial hub. The headquarters of the Korea Exchange that marked the world's largest exchange transactions of derivative products is located in Busan, which serves as the basis for the strategic adoption of the hub of derivatives.

Busan has been striving to foster a financial hub. The city has gathered maritime-related government institutions (the Dongsam district) and public financial organizations (the Munhyun district) into Busan, and provides a financial support system, including tax exemption and provision of subsidies, for financial organizations that establish in or move to the Busan's financial district. For the development of the derivatives market, the central government has improved the consistency with international standards of Korean capital market system and the city has also attracted CCP (Central Counterparties) of over-the-counter derivatives transactions and CERM (Carbon Emission Reduction Market).

Busan has successfully promoted the first stage of development in the construction of its financial hub and held the ceremony for the completion of stage one of the BIFC, a 63 story Tower last August. It will commence the second stage of development soon. About fifteen financial organizations are currently moving into the center. With the newly established Maritime Finance Center, an aggregation of the maritime finance departments of three major policy financial institutions (the Export-Import Bank of Korea, the Korea Development Bank, and the Korea Trade Insurance Corporation), as well as the newly established Korea Shipping Guarantee (provisional name) and the relocation of ship management companies into the center, Busan will create a maritime finance cluster worth about USD 60 billion (as of the end of 2013). This covers more than 90% of Korea's total maritime finance balance. On the strength of the maritime finance cluster's information, the city expects a steady but gradual increase of participation of domestic commercial banks and foreign banks in co-financing.

Since the global financial crisis, the world's shipping finance market has been challenged by structural change, such as increase in direct finance through bond and share issuance, alongside a decrease in bank loans. Moreover, the weight of financial hubs is transferring from Europe to Asia. Amid changes in this restructuring, nations of the world are in intense competition for strengthening their financial hub's competitiveness. Hence, it is meaningful that Z/Yen is publishing the supplement to GFCI 16 containing the development history and comparative analysis of the status of the world's shipping finance hubs. We hope that this supplement can aid in understanding Busan, which will become the main shipping finance hub in the near future.

Whang Sam-jin,

Samfinlohang

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The Maritime Sector

In recent decades the global economy has become increasingly integrated. There has been a strong growth in international trade, foreign direct investment and multinational companies. Multinationals locate their activities in the most attractive locations. This often means that raw materials are far away from where they are used and goods are produced far away from where they are consumed.

The need to get raw materials and finished goods around the world has led to a huge increase in the amount of international transport and almost 90% of all international transportation globally is now conducted by the international shipping industry. The 'maritime' sector however includes all ocean-based activities and their operations. As well as shipping & transportation, there are activities including the fishing industries, recreational crafts & activities, and tourism. The various organisations within the sector are engaged in the business of designing, constructing, manufacturing and supplying vessels as well as the methods to finance and insure them. The maritime sector is thus composed of organisations and activities including:

- maritime transportation;
- the naval industry (naval engineering and shipbuilding companies, and the component supply sector);
- commercial fishing and the aquaculture industry;
- the cruise and recreational sector;
- marine sports;
- commercial ports and marinas;
- marine energy sources;
- marine and ocean research and sciences;

- maritime training academies and training centres;
- organizations supporting the rights, safety and interests of seafarers and maritime professionals.

The maritime sector is of crucial importance to modern societies providing millions of jobs and creating employment and investment opportunities. In recent decades, the shipping and fishing industries have been growing in terms of both volume of trade and fishing capacity respectively. Currently over 55,000 merchant vessels, registered in over 150 countries are manned by over one million crew.

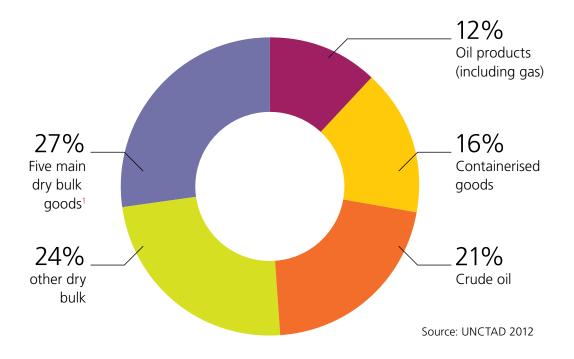
The cruise industry has increased in popularity worldwide, reaching a level of enormous significance to the global economy, with more and more cruises and recreational ships leaving from a large number and variety of ports around the world.

In excess of four million fishing vessels ply the oceans at any given moment, and a myriad of recreational vessels belonging to both businessmen and cruise companies satiate leisure seekers.

However it is shipping that creates the bulk of maritime activity. Goods are shipped as aggregates (wet or dry), oil and oil products (including natural gas). Sustained population and economic growth has led to significant global demand for energy and subsequently fossil fuels for combustion purposes. This has called for an increase in off-shore extraction. and exploration. Improvements in exploration, storage and transportation techniques have enabled large increases in fossil fuel supply, with the result that over 70 nations are now conducting offshore exploration exercises.

In addition, the recent increase in 'globalisation' has accompanied a rapid increase in 'containerisation'. Containerisation is a system of intermodal freight transport using containers that has significantly decreased the variable costs of transportation and fuel usage. The split between these forms of cargo is approximately:

It should be noted that containerised goods only account for 16% of cargo by weight but as containers largely carry finished products, the percentage by value is significantly higher. The huge growth of the maritime sector provides significant investment opportunities in both the private equity and insurance industries, but what exactly constitutes the rather generalised term "maritime finance"?



Maritime Finance

Marine finance includes all commercial activities of the marine industry such as the buying and selling of ships, developing/repairing technology, ship broking, marine insurance and legal payments. Marine investments can take the form of sale-leaseback transactions, direct equity in shipping companies or joint ventures to acquire, manage and sell ships.

The shipping industry has managed to maintain relatively stable and low variable costs. In 1950, it cost \$8.00 per ton to transport coal from the East Coast of America to Japan, compared to \$12.70 per ton in 1996. The stable and relatively low costs have proved to be very attractive to investors. However, the marine industry can be highly volatile, so maritime finance needs to account for this and there is therefore a strong emphasis on strong creditworthiness and healthy cash reserves. The shipping industry is very capital intensive. Container ships and tankers can cost \$125m to construct, some liquefied natural gas carrying vessels cost up to \$250m. These capital payments clearly dominate the cash flow of most shipping companies and their decisions revolve around this cashflow.

Bankers like predictable, stable and clearly defined finance structures which are things that some shipping companies find very hard to offer. In marine finance, revenues are volatile, assets are mobile and there is often a lack of transparency within audited information. Ship values can change by over 50% within a few months; investors can make or lose millions of dollars based on their decision making. The 'great asset play' of the 1980s saw ships that cost only a few million dollars to construct rise in value by up to 800%, making investors in shipping some of the world's wealthiest people.

Banks are the conventional financiers of the maritime industry. They generally require a detailed inventory of a firm seeking finance as well as substantial collateral, often a deposit of between 10% and 40% compared to the average of 6% to 8% paid on a housing mortgage.

If a marine company is denied funding by banks they often turn to marine money lenders. However repayment options with these lenders can be tricky and expensive. Unlike banks, money-lenders do not have their own prescribed set of rules and stipulations and there is plenty of scope for individual contract negotiations.

Private equity funds are becoming increasingly involved in the maritime industry. Over the last few years, private equity funds have transacted around \$6.4bn according to Marine Money International (MMI). There is a huge opportunity for those funds that are able to provide financing for the construction of vessels to borrowers who cannot obtain capital from the more orthodox and more tightly controlled credit markets.

The majority of investment in the shipping industry looks for high returns from short to medium term investments. Historically low vessel values during the slack market have created substantial opportunities to generate above market returns when the market climbs again.

Some of the largest shipping financiers include:

- Nordbank who predominately operate container ships (44% Germany, 28% Western Europe and 13% Asia/Pacific);
- DNB who operate worldwide with substantial bases in New York, London, Singapore, Oslo, Bergen, Shanghai and Athens;
- CIT specialise in vessel acquisition financing, sale and leaseback arrangements and debt restructuring;
- Cexim which usually have large availability of capital to lend to ship owners;
- DVB which has a loan portfolio of over \$9bn, invested mainly in tankers (43%) and bulk and container carriers (combined 38%).

The Role of Ports

It is interesting to note the history, development and location of ports. Ports are the crucial interface between land and sea. Historically, cities grew around ports and it is no coincidence that most of the great cities of the world have been built near the water. Proximity to water allowed cities to trade and to provide food and goods to the citizens. Maritime 'support' activities including maritime finance, tended to take place in close vicinity to ports.

Growth in global trade was averaged in excess of 5% per annum for the last twenty years. To support this rapid growth, global transportation has increased rapidly. The majority of the global trade growth has come from Asia and ports in Asia (particularly in China) have grown to accommodate the rapidly increasing demand.

These days some of the great and largest 'port' cities no longer host the largest ports. The Port of London used to be the largest port in the world but following the growth of cargo vessels and the introduction of 'containerisation', shipping activity in London is now limited. As ships get bigger, ports must get bigger and deeper, maritime related employment rises and activities become more versatile and varied to handle the different types of cargo.

Currently in very modern ports, ships make fleeting calls at highly automated terminals, sometimes only stopping for a few hours. Although activity is less obvious than in previous years, it is far more intense. Changes in cargo demand changes in the size, structure and location of the world's most important ports. The ports themselves have made the necessary investments and have become highly competitive. Ports within similar geographical locations are often locked in fierce competition to attract shipping companies and other maritime services including law and finance.

Hong Kong and Singapore compete for the largest share of TEU (Twenty-Foot Equivalent Unit cargo capacity) in Asia. Hamburg, Antwerp, Oslo and Bremen compete for market share in Europe. The availability of finance, investment and insurance in these areas play a key part in the competitive process.

Asia & the Pacific Ports

China is now home to many of the world's largest ports. China has a huge landmass which makes it challenging to transport goods far and wide in an efficient manner. The size of Asia as a whole, combined with the demand for raw materials and the volumes of production of finished goods, creates the need for a good distribution of large ports.

China now claims seven of the world's top ten ports (measured by overall cargo weight) including the world's largest port, the Port of Shanghai. Shanghai is a major metropolitan area with a population in excess of 15 million people.

Singapore is a tiny country compared to China but it is home to the world's second largest port. The Port of Singapore is a primary economic stimulus for the country of only five million people. Despite a relatively small population, the port of the 'city-state' of Singapore relies on the huge amount of imported natural resources which it refines and re-exports in a refined or manufactured form.

North American Ports

The United States also has a huge landmass and its size combined with the amount of production and demand for imported goods, creates the need for many large ports both on the East and West coasts.

According to the American Association of Port Authorities (AAPA), the largest port in the United States, by cargo weight, is the Port of South Louisiana. Also the largest port in the western hemisphere, the Port of South Louisiana sits on the mouth of the Mississippi River and incorporates both port cities of New Orleans and Baton Rouge, Louisiana. The significance of the port city of New Orleans made it the third largest United States city in 1840, behind New York and Baltimore, during the early growth of international and domestic shipping trade.

Today, the port cities of New Orleans and Baton Rouge are nowhere near the USA's most populated cities, unlike other countries whose port cities are often their larger metropolises.

The ports of Houston and New York City rank as the United States second and third largest ports, respectively. Houston and New York City also rank highly in term of population where Houston is the fourth largest city in the USA and New York City is the most populated city.

We can see that the amount of trade throughout ports does not necessarily relate to the size of the port cities. This is because port cities are often sprawling industrialized areas where manufacturing and transportation takes place. However, most port cities such as Houston, Texas, usually extend far away from their actual port's piers and into the hinterlands that they serve.

A portion of a large port city, near the docks, usually harbours the city's industrial or manufacturing area while business and service areas are located elsewhere in the city, usually in a 'business district'.

European Ports

Rotterdam is the Netherlands' second largest city with a population of just over one million. The port of Rotterdam was once the largest port in the world, but is now currently the third largest. It is at the heart of Europe's shipping system and serves as a hub for huge amounts of imports and exports to and from European hinterlands.

The port of Rotterdam's geographical access to the North Sea helps in the distribution of goods to countries far inland. In addition, the geographical characteristics of the port, especially the ocean depth, allow ships of almost any size to navigate easily.

The Port of Antwerp serves as Belgium's most populous city and as an economic hub to the whole country. The Port of Hamburg is the European Union's second largest port behind Rotterdam and Hamburg is the sixth most populated city in the European Union.

Together these three ports help move goods throughout the southern parts of the EU as well as Belgium, the Netherlands, France, and Germany.

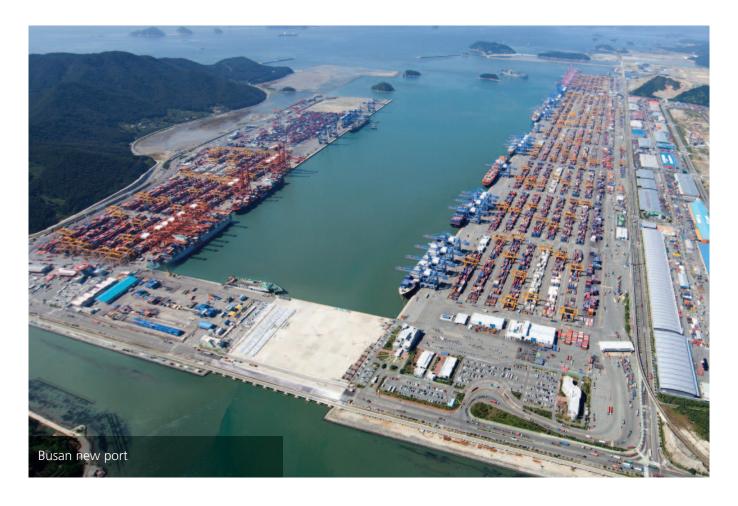
Other ports in Europe, including the Port of London, cannot provide facilities large enough to support the current size of most transport vessels because of its age and the depth of the water. Similarly, ports throughout Italy, Greece, and other old cities have trouble accommodating modern ships. Even if the larger modern ships could fit into the ports, there is widespread concern about the risk of damaging their historic coastlines.

The Largest Ports

There is a great deal of competition regarding the size of ports with different ports using different measures. Comparing the top ports by gross tonnage is not completely accurate as there are different definitions of a ton including measures of weight, volume and even revenue. However we can cut through some of this complexity by using the most common measures and making simplifying assumptions and calculations. Container throughput is often used as a proxy for the largest ports. Container movement as a percentage of overall tonnage is relatively modest, however containers largely carry finished manufactured items and thus the value of the shipments considerably outweighs shipments of aggregates or oil.

The table on the facing page shows the top 50 ports in the world by tonnage of goods that pass through them and also by TEU (twenty foot equivalent containers) both with 2012 figures².

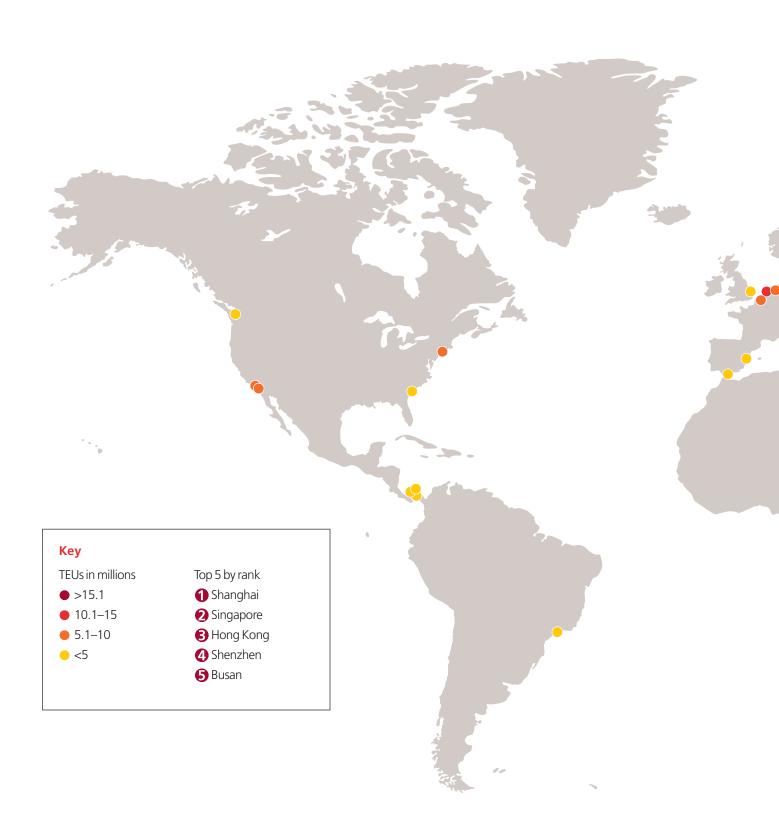
As can be expected, many of the largest ports appear in both lists. What is immediately apparent is the heavy density of the largest ports in Asia. The top eight ports are all Asian and 14 of the top 20 are also located there. This is particularly apparent if they are mapped:



2 Agência Nacional de Transportes Aquaviários - ANTAQ(Brazil), Institute of Shipping Economics & Logistics, Containerisation International Yearbook 2012; U.S. Army Corps of Engineers' Waterborne Commerce Statistics Center, Secretariat of Communications and Transport (Mexico), Waterborne Transport Institute (China); AAPA Surveys; various port internet sites. /

Ports ranked by container tonnage								
Rank	Port	Country	Tons 000s					
1	Shanghai	China	590,439					
2	Singapore	Singapore	531,176					
3	Tianjin	China	459,941					
4	Rotterdam	Netherlands	434,551					
5	Guangzhou	China	431,000					
6	Qingdao	China	372,000					
7	Ningbo	China	348,911					
8	Qinhuangdao	China	284,600					
9	Busan	South Korea	281,513					
10	Hong Kong	China	277,444					
11	Port Hedland	Australia	246,672					
12	South Louisiana	USA	223,633					
13	Houston	USA	215,731					
14	Dalian	China	211,065					
15	Shenzhen	China	205,475					
16	Port Kelang	Malasyia	193,726					
17	Antwerp	Belgium	187,151					
18	Nagoya	Japan	186,305					
19	Dampier	Australia	171,844					
20	Ulsan	South Korea	163,181					
21	Inchon	South Korea	151,462					
22	Chiba	Japan	149,661					
23	Xiamen	China	140,900					
24	Dubai	UAE	137,770					
25	Tubarao	Brazil	136,572					
26	Hamburg	Germany	132,216					
27	Newcastle	Australia	129,283					
28	Itaqui	Brazil	128,875					
29	New York / New Jersey	USA	126,257					
30	Vancouver	Canada	122,499					
31	Yokohama	Japan	121,326					
32	Yantian	China	118,091					
33	Kaohsiung	Taiwan	114,806					
34	Tanjung	Pelepas	112,739					
35	Kwangyang	South Korea	102,844					
36	Kitakyushu	Japan	99,979					
37	Sepetiba (Rio de Janeiro)	Brazil	97,725					
38	Santos	Brazil	94,563					
39	Amsterdam	The Netherlands	92,887					
40	Osaka	Japan	88,095					
41	Marseilles	France	88,072					
42	Kobe	Japan	87,017					
43	Richards Bay	South Africa	86,374					
44	Gladstone	Australia	83,790					
45	Tokyo	Japan	83,358					
46		Point	82,854					
47	Hay Point Novorossisk	Russia	81,050					
48	Bremen/Bremerhaven		80,585					
48		Germany	*					
	Algeciras	Pussia	76,884					
50	Primorsk	Russia	75,125					

Ports ranked by container throughput								
Rank	Port	Country	TEUs					
1	Shanghai	China	31,739,000					
2	Singapore	Singapore	29,937,700					
3	Hong Kong	China	24,384,000					
4	Shenzhen	China	22,570,800					
5	Busan	South Korea	16,163,842					
6	Ningbo	China	14,719,200					
7	Guangzhou	China	14,260,400					
8	Qingdao	China	13,020,100					
9	Dubai	UAE	12,617,595					
10	Rotterdam	Netherlands	11,876,920					
11	Tianjin	China	11,587,600					
12	Kaohsiung	Taiwan	9,636,289					
13	Port Kelang	Malaysia	9,435,408					
14	Hamburg	Germany	9,014,165					
15	Antwerp	Belgium	8,664,243					
16	Los Angeles	USA	7,940,511					
17	Tanjung	Malaysia	7,302,461					
18	Xiamen	China	6,454,200					
19	Dalian	China	6,400,300					
20	Long Beach	USA	6,061,091					
21	Bremen/Bremerhaven	Germany	5,915,487					
22	Laem Chabang	Thailand	5,731,063					
23	Tanjung	Indonesia	5,617,562					
24	New York / New Jersey	USA	5,503,485					
25	Tokyo	Japan	4,416,119					
26	Valencia	Spain	4,327,371					
27	Jawaharlal Nehru	India	4,307,622					
28	Jeddah	Saudi Arabia	4,010,448					
29	Colombo	Sri Lanka	3,651,963					
30	Algeciras La Linea	Spain	3,608,301					
31	Manila	Philippines	3,342,200					
32	Felixstowe	UK	3,248,592					
33	Khor Fakkan	UAE	3,234,101					
34	Balboa	Panama	3,232,265					
35	Mina Raysut	Oman	3,200,000					
36	Saigon New Port	Vietnam	3,071,777					
37	Yokohama	Japan	2,992,517					
38	Santos	Brazil	2,985,922					
39	Savannah	USA	2,944,678					
40	Bandar Abbas	Iran	2,752,460					
41	Kobe	Japan	2,725,304					
42	Durban	South Africa	2,712,975					
43	Said Port (East Port)	Egypt	2,617,043					
44	Vancouver	Canada	2,507,032					
45	Nagoya	Japan	2,471,821					
46	Melbourne	Australia	2,467,967					
47	Manzanillo	Panama	2,391,066					
48	Colon	Panama	2,390,976					
49	St. Petersburg	Russia	2,365,174					
50	Marsaxlokk	Malta	2,360,000					
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Shanghai is the undisputed largest port in the world. It is a sea and a river port with five separate handling areas that cope with about 30m TEUs per annum. It serves as a gateway port for the Yangtze River. The port and its thriving metropolis have mutually benefited to create a rapidly expanding amount of capital, goods, and services. While this is a feat in itself, the Port of Shanghai should be equally congratulated for supplying the developed hinterlands of China with access to economic trade.

Singapore used to be the largest port but is now second behind Shanghai. It handles approximately 20% of all global cargo containers and nearly 50% of the global crude oil supply.

Hong Kong is ranked third. A natural harbour situated in the South China Sea, it has been key to the economic development of the city. It handles over 24m TEUs per annum.

Shenzhen is fourth in the list and is located in the Southern region of the Pearl River Delta in China's Guangdong province, adjacent to Hong Kong. It is the economic hinterland for Hong Kong trade with the Mainland and also one of the most important ports in terms of China's international trade. The port is home to 39 shipping companies who have launched 131 international container routes.

Busan ranks fifth by container throughput and is the second city of South Korea. Busan is located at the South Eastern tip of the Korean peninsula. The Port of Busan is a little over 110 nautical miles east-southeast of the Port of Kitakyushu in Japan. The port is situated on the estuary of Nakdong river and forms a major gateway between Eurasia and the Pacific. There is constant development within Busan and new ports are coming on stream regularly. Busan aims to become the North East Asian hub for transhipments.



Financial Centres

Z/Yen publishes the Global Financial Centres Index³ every six months. This index ranks the most competitive financial centres. The most successful financial centres are often located in successful cities. Part of being a global financial centre is not just having banks, finance houses and financial institutions but also having a 'cluster' of support services such as lawyers, accountants, consultants etc. all of which are necessary for maritime finance. Respondents to the GFCI questionnaire are

asked to name any significant centres that they believe are not listed in the index. Once five respondents or more have mentioned a centre it is added to the GFCI questionnaire. We can therefore be fairly safe in the assumption that the GFCI is a comprehensive list of financial centres.

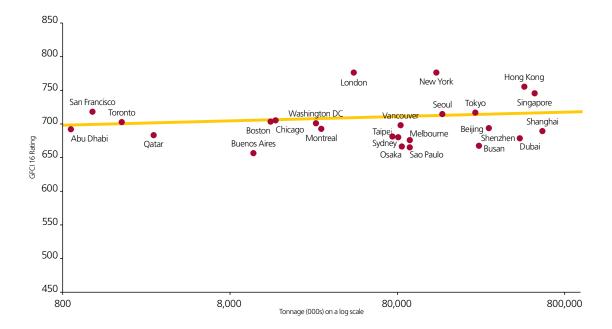
GFCI 16 shows the top 30 financial centres (out of 83 in the index) as:

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Zurich 7 717 5 730 ▼ 2 ▼ 13 Seoul 8 715 7 718 ▼ 1 ▼ 3 Boston 9 705 8 715 ▼ 1 ▼ 10 Washington DC 10 704 13 706 ▲ 3 ▼ 2 Toronto 11 703 14 705 ▲ 3 ▼ 2 Chicago 12 702 15 704 ▲ 3 ▼ 2 Geneva 13 701 9 713 ▼ 4 ▼ 12 Vancouver 14 700 17 698 ▲ 3 ▲ 2 Luxembourg 15 697 12 707 ▼ 3 ▼ 10 Frankfurt 16 695 11 709 ▼ 5 ▼ 14 Dubai 17 694 29 684 ▲ 12 ▲ 10 Montreal 18 693 16 699 ▼ 2 € 6 Abu Dhabi 19 692 32 678 ▲ 13 ▲ 14 S	San Francisco	5	719	10	711	A 5	A 8	
Seoul 8 715 7 718 ▼ 1 ▼ 3 Boston 9 705 8 715 ▼ 1 ▼ 10 Washington DC 10 704 13 706 ♠ 3 ▼ 2 Toronto 11 703 14 705 ♠ 3 ▼ 2 Chicago 12 702 15 704 ♠ 3 ▼ 2 Geneva 13 701 9 713 ▼ 4 ▼ 12 Vancouver 14 700 17 698 ♠ 3 ♠ 2 Luxembourg 15 697 12 707 ▼ 3 ▼ 10 Frankfurt 16 695 11 709 ▼ 5 ▼ 14 Dubai 17 694 29 684 ♠ 12 ♠ 10 Montreal 18 693 16 699 ▼ 2 ♠ 6 Abu Dhabi 19 692 32 678 ♠ 13 ♠ 14 Shanghai 20 690 20 695 - ▼ 5	Tokyo	6	718	6	722	-	▼ 4	
Boston 9 705 8 715 ▼ 1 ▼ 10 Washington DC 10 704 13 706 ♠ 3 ▼ 2 Toronto 11 703 14 705 ♠ 3 ▼ 2 Chicago 12 702 15 704 ♠ 3 ▼ 2 Geneva 13 701 9 713 ▼ 4 ▼ 12 Vancouver 14 700 17 698 ♠ 3 ♠ 2 Luxembourg 15 697 12 707 ▼ 3 ▼ 10 Frankfurt 16 695 11 709 ▼ 5 ▼ 14 Dubai 17 694 29 684 ♠ 12 ♠ 10 Montreal 18 693 16 699 ▼ 2 ♠ 6 Abu Dhabi 19 692 32 678 ♠ 13 ♠ 14 Shanghai 20 690 20 695 - ▼ 5 Riyadh 21 685 31 682 ♠ 10 ♠ 3	Zurich	7	717	5	730	▼ 2	▼ 13	
Washington DC 10 704 13 706 ▲ 3 ▼ 2 Toronto 11 703 14 705 ▲ 3 ▼ 2 Chicago 12 702 15 704 ▲ 3 ▼ 2 Geneva 13 701 9 713 ▼ 4 ▼ 12 Vancouver 14 700 17 698 ▲ 3 ▲ 2 Luxembourg 15 697 12 707 ▼ 3 ▼ 10 Frankfurt 16 695 11 709 ▼ 5 ▼ 14 Dubai 17 694 29 684 ▲ 12 ▲ 10 Montreal 18 693 16 699 ▼ 2 ▼ 6 Abu Dhabi 19 692 32 678 ▲ 13 ▲ 14 Shanghai 20 690 20 695 - ▼ 5 Riyadh 21 685 31 682 ▲ 10 ▲ 3 Sydney 23 682 23 690 - ▼ 8 <	Seoul	8	715	7	718	▼ 1	▼ 3	
Toronto 11 703 14 705 ▲ 3 ▼ 2 Chicago 12 702 15 704 ▲ 3 ▼ 2 Geneva 13 701 9 713 ▼ 4 ▼ 12 Vancouver 14 700 17 698 ▲ 3 ▲ 2 Luxembourg 15 697 12 707 ▼ 3 ▼ 10 Frankfurt 16 695 11 709 ▼ 5 ▼ 14 Dubai 17 694 29 684 ▲ 12 ▲ 10 Montreal 18 693 16 699 ▼ 2 ▼ 6 Abu Dhabi 19 692 32 678 ▲ 13 ▲ 14 Shanghai 20 690 20 695 - ▼ 5 Riyadh 21 685 31 682 ▲ 10 ▲ 3 Qatar 22 684 26 687 ▲ 4 ▼ 3	Boston	9	705	8	715	▼ 1	▼ 10	
Chicago 12 702 15 704 ▲ 3 ▼ 2 Geneva 13 701 9 713 ▼ 4 ▼ 12 Vancouver 14 700 17 698 ▲ 3 ▲ 2 Luxembourg 15 697 12 707 ▼ 3 ▼ 10 Frankfurt 16 695 11 709 ▼ 5 ▼ 14 Dubai 17 694 29 684 ▲ 12 ▲ 10 Montreal 18 693 16 699 ▼ 2 ▼ 6 Abu Dhabi 19 692 32 678 ▲ 13 ▲ 14 Shanghai 20 690 20 695 - ▼ 5 Riyadh 21 685 31 682 ▲ 10 ▲ 3 Qatar 22 684 26 687 ▲ 4 ▼ 3 Sydney 23 682 23 690 - ▼ 8 Melbourne 24 681 37 670 ▲ 13 ▲ 11 S	Washington DC	10	704	13	706	A 3	▼ 2	
Geneva 13 701 9 713 ▼ 4 ▼ 12 Vancouver 14 700 17 698 ▲ 3 ▲ 2 Luxembourg 15 697 12 707 ▼ 3 ▼ 10 Frankfurt 16 695 11 709 ▼ 5 ▼ 14 Dubai 17 694 29 684 ▲ 12 ▲ 10 Montreal 18 693 16 699 ▼ 2 ▼ 6 Abu Dhabi 19 692 32 678 ▲ 13 ▲ 14 Shanghai 20 690 20 695 - ▼ 5 Riyadh 21 685 31 682 ▲ 10 ▲ 3 Qatar 22 684 26 687 ▲ 4 ▼ 3 Sydney 23 682 23 690 - ▼ 8 Melbourne 24 681 37 670 ▲ 13 ▲ 11 Shenzhen 25 680 18 697 ▼ 7 ▼ 17 <td< td=""><td>Toronto</td><td>11</td><td>703</td><td>14</td><td>705</td><td>A 3</td><td>▼ 2</td></td<>	Toronto	11	703	14	705	A 3	▼ 2	
Vancouver 14 700 17 698 ▲ 3 ▲ 2 Luxembourg 15 697 12 707 ▼ 3 ▼ 10 Frankfurt 16 695 11 709 ▼ 5 ▼ 14 Dubai 17 694 29 684 ▲ 12 ▲ 10 Montreal 18 693 16 699 ▼ 2 ▼ 6 Abu Dhabi 19 692 32 678 ▲ 13 ▲ 14 Shanghai 20 690 20 695 - ▼ 5 Riyadh 21 685 31 682 ▲ 10 ▲ 3 Qatar 22 684 26 687 ▲ 4 ▼ 3 Sydney 23 682 23 690 - ▼ 8 Melbourne 24 681 37 670 ▲ 13 ▲ 11 Shenzhen 25 680 18 697 ▼ 7 ▼ 17 Calgary 26 678 22 691 ▼ 4 ▼ 13 <	Chicago	12	702	15	704	A 3	▼ 2	
Luxembourg 15 697 12 707 ▼ 3 ▼ 10 Frankfurt 16 695 11 709 ▼ 5 ▼ 14 Dubai 17 694 29 684 ▲ 12 ▲ 10 Montreal 18 693 16 699 ▼ 2 ▼ 6 Abu Dhabi 19 692 32 678 ▲ 13 ▲ 14 Shanghai 20 690 20 695 - ▼ 5 Riyadh 21 685 31 682 ▲ 10 ▲ 3 Qatar 22 684 26 687 ▲ 4 ▼ 3 Sydney 23 682 23 690 - ▼ 8 Melbourne 24 681 37 670 ▲ 13 ▲ 11 Shenzhen 25 680 18 697 ▼ 7 ▼ 17 Calgary 26 678 22 691 ▼ 4 ▼ 13 Taipei 27 677 55 636 ▲ 28 ▲ 41 <t< td=""><td>Geneva</td><td>13</td><td>701</td><td>9</td><td>713</td><td>▼ 4</td><td>▼ 12</td></t<>	Geneva	13	701	9	713	▼ 4	▼ 12	
Frankfurt 16 695 11 709 ▼ 5 ▼ 14 Dubai 17 694 29 684 ▲ 12 ▲ 10 Montreal 18 693 16 699 ▼ 2 ▼ 6 Abu Dhabi 19 692 32 678 ▲ 13 ▲ 14 Shanghai 20 690 20 695 - ▼ 5 Riyadh 21 685 31 682 ▲ 10 ▲ 3 Qatar 22 684 26 687 ▲ 4 ▼ 3 Sydney 23 682 23 690 - ▼ 8 Melbourne 24 681 37 670 ▲ 13 ▲ 11 Shenzhen 25 680 18 697 ▼ 7 ▼ 17 Calgary 26 678 22 691 ▼ 4 ▼ 13 Taipei 27 677 55 636 ▲ 28 ▲ 41 Busan 28 676 27 686 ▼ 1 ▼ 10 Mon	Vancouver	14	700	17	698	A 3	A 2	
Dubai 17 694 29 684 ▲ 12 ▲ 10 Montreal 18 693 16 699 ♥ 2 ♥ 6 Abu Dhabi 19 692 32 678 ▲ 13 ▲ 14 Shanghai 20 690 20 695 - ♥ 5 Riyadh 21 685 31 682 ▲ 10 ▲ 3 Qatar 22 684 26 687 ▲ 4 ▼ 3 Sydney 23 682 23 690 - ▼ 8 Melbourne 24 681 37 670 ▲ 13 ▲ 11 Shenzhen 25 680 18 697 ▼ 7 ▼ 17 Calgary 26 678 22 691 ▼ 4 ▼ 13 Taipei 27 677 55 636 ▲ 28 ▲ 41 Busan 28 676 27 686 ▼ 1 ▼ 10 Monaco 29 674 24 689 ▼ 5 ▼ 15	Luxembourg	15	697	12	707	▼ 3	▼ 10	
Montreal 18 693 16 699 ▼ 2 ▼ 6 Abu Dhabi 19 692 32 678 ▲ 13 ▲ 14 Shanghai 20 690 20 695 - ▼ 5 Riyadh 21 685 31 682 ▲ 10 ▲ 3 Qatar 22 684 26 687 ▲ 4 ▼ 3 Sydney 23 682 23 690 - ▼ 8 Melbourne 24 681 37 670 ▲ 13 ▲ 11 Shenzhen 25 680 18 697 ▼ 7 ▼ 17 Calgary 26 678 22 691 ▼ 4 ▼ 13 Taipei 27 677 55 636 ▲ 28 ▲ 41 Busan 28 676 27 686 ▼ 1 ▼ 10 Monaco 29 674 24 689 ▼ 5 ▼ 15	Frankfurt	16	695	11	709	▼ 5	▼ 14	
Abu Dhabi 19 692 32 678 ▲ 13 ▲ 14 Shanghai 20 690 20 695 - ▼ 5 Riyadh 21 685 31 682 ▲ 10 ▲ 3 Qatar 22 684 26 687 ▲ 4 ▼ 3 Sydney 23 682 23 690 - ▼ 8 Melbourne 24 681 37 670 ▲ 13 ▲ 11 Shenzhen 25 680 18 697 ▼ 7 ▼ 17 Calgary 26 678 22 691 ▼ 4 ▼ 13 Taipei 27 677 55 636 ▲ 28 ▲ 41 Busan 28 676 27 686 ▼ 1 ▼ 10 Monaco 29 674 24 689 ▼ 5 ▼ 15	Dubai	17	694	29	684	1 2	1 0	
Shanghai 20 690 20 695 - ▼ 5 Riyadh 21 685 31 682 ▲ 10 ▲ 3 Qatar 22 684 26 687 ▲ 4 ▼ 3 Sydney 23 682 23 690 - ▼ 8 Melbourne 24 681 37 670 ▲ 13 ▲ 11 Shanzhen 25 680 18 697 ▼ 7 ▼ 17 Calgary 26 678 22 691 ▼ 4 ▼ 13 Taipei 27 677 55 636 ▲ 28 ▲ 41 Busan 28 676 27 686 ▼ 1 ▼ 10 Monaco 29 674 24 689 ▼ 5 ▼ 15	Montreal	18	693	16	699	▼ 2	▼ 6	
Riyadh 21 685 31 682 ▲ 10 ▲ 3 Qatar 22 684 26 687 ▲ 4 ▼ 3 Sydney 23 682 23 690 - ▼ 8 Melbourne 24 681 37 670 ▲ 13 ▲ 11 Shenzhen 25 680 18 697 ▼ 7 ▼ 17 Calgary 26 678 22 691 ▼ 4 ▼ 13 Taipei 27 677 55 636 ▲ 28 ▲ 41 Busan 28 676 27 686 ▼ 1 ▼ 10 Monaco 29 674 24 689 ▼ 5 ▼ 15	Abu Dhabi	19	692	32	678	1 3	1 4	
Qatar 22 684 26 687 ▲ 4 ▼ 3 Sydney 23 682 23 690 - ▼ 8 Melbourne 24 681 37 670 ▲ 13 ▲ 11 Shenzhen 25 680 18 697 ▼ 7 ▼ 17 Calgary 26 678 22 691 ▼ 4 ▼ 13 Taipei 27 677 55 636 ▲ 28 ▲ 41 Busan 28 676 27 686 ▼ 1 ▼ 10 Monaco 29 674 24 689 ▼ 5 ▼ 15	Shanghai	20	690	20	695	-	▼ 5	
Sydney 23 682 23 690 - ▼ 8 Melbourne 24 681 37 670 ▲ 13 ▲ 11 Shenzhen 25 680 18 697 ▼ 7 ▼ 17 Calgary 26 678 22 691 ▼ 4 ▼ 13 Taipei 27 677 55 636 ▲ 28 ▲ 41 Busan 28 676 27 686 ▼ 1 ▼ 10 Monaco 29 674 24 689 ▼ 5 ▼ 15	Riyadh	21	685	31	682	1 0	A 3	
Melbourne 24 681 37 670 ▲ 13 ▲ 11 Shenzhen 25 680 18 697 ▼ 7 ▼ 17 Calgary 26 678 22 691 ▼ 4 ▼ 13 Taipei 27 677 55 636 ▲ 28 ▲ 41 Busan 28 676 27 686 ▼ 1 ▼ 10 Monaco 29 674 24 689 ▼ 5 ▼ 15	Qatar	22	684	26	687	A 4	▼ 3	
Shenzhen 25 680 18 697 ▼ 7 ▼ 17 Calgary 26 678 22 691 ▼ 4 ▼ 13 Taipei 27 677 55 636 ▲ 28 ▲ 41 Busan 28 676 27 686 ▼ 1 ▼ 10 Monaco 29 674 24 689 ▼ 5 ▼ 15	Sydney	23	682	23	690	-	▼ 8	
Calgary 26 678 22 691 ▼ 4 ▼ 13 Taipei 27 677 55 636 ▲ 28 ▲ 41 Busan 28 676 27 686 ▼ 1 ▼ 10 Monaco 29 674 24 689 ▼ 5 ▼ 15	Melbourne	24	681	37	670	1 3	1 1	
Taipei 27 677 55 636 ▲ 28 ▲ 41 Busan 28 676 27 686 ▼ 1 ▼ 10 Monaco 29 674 24 689 ▼ 5 ▼ 15	Shenzhen	25	680	18	697	▼ 7	▼ 17	
Busan 28 676 27 686 ▼ 1 ▼ 10 Monaco 29 674 24 689 ▼ 5 ▼ 15	Calgary	26	678	22	691	▼ 4	▼ 13	
Monaco 29 674 24 689 ▼ 5 ▼ 15	Taipei	27	677	55	636	2 8	4 1	
	Busan	28	676	27	686	▼ 1	▼ 10	
Vienna 30 673 19 696 ▼11 ▼23	Monaco	29	674	24	689	▼ 5	▼ 15	
	Vienna	30	673	19	696	▼11	▼ 23	

³ http://www.longfinance.net/programmes/financial-centre-futures/fcf-qfci.html

Shown below are the top financial centres (which have sea ports⁴) with their GFCI 16 rating plotted against the tonnage handled by their port:

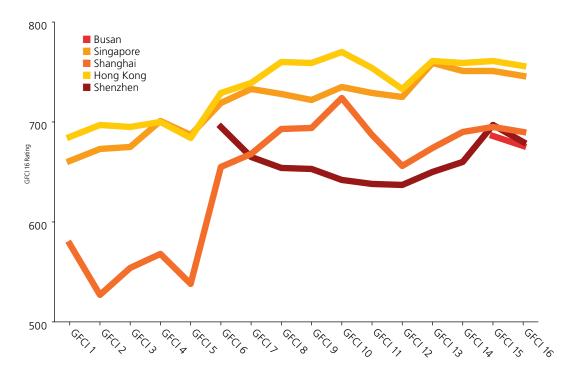
The chart is plotted with tonnage on the horizontal scale where a log scale is used. The GFCI 16 rating is on the vertical scale and a regression 'line of best fit' is added. The top four financial centres (London, New York, Hong Kong and Singapore) are well above the line of best fit – their financial services activities outweighing their port based activities. This plot shows again the dominance of the Asian ports by tonnage.





4 therefore excluding centres like Zurich, Geneva, Luxembourg, Frankfurt, Riyadh, Calgary, Vienna and Paris.





All of the top five ports are in a city that has a recognised financial centre. All these centres are strong in maritime finance and this must give these maritime centres a great advantage.

Hong Kong and Singapore are both very well developed as cities, ports and financial centres and are truly world leading maritime centres. Shanghai, Shenzhen and Busan have yet to attain the status of the 'big two' but have all the fundamentals in place. Shenzhen enjoys close proximity to Hong Kong and the two cities work closely together.

Busan is a large metropolis, ideally situated in a position for ships going East or West with particularly good access to the pacific routes. Busan benefits from the financial might of Seoul as well as the resolve of the Korean leaders and policymakers to ensure success.

In conclusion, global trade has grown rapidly and all signs are that this long term trend will continue, despite the current constraints such as the uncertainty in the Middle East. If global trade continues to grow then global shipping will continue to thrive. The pace of growth has been highest in Asia and this also seems likely to continue. Maritime activity in Asia will therefore continue to grow and the five leading ports which are also leading maritime finance centres seem well placed to benefit from this progress.







Long Finance

Established in 2007 by Z/Yen Group in conjunction with Gresham College and the City of London Corporation, the Long Finance initiative began with a conundrum – "when would we know our financial system is working?" Long Finance aims to "improve society's understanding and use of finance over the long term" in contrast to the short-termism that defines today's financial and economic views.

Long Finance publishes papers under the Financial Centre Futures series to initiate discussion on the changing landscape of global finance. Financial Centre Futures consists of indepth research as well as the popular Global Financial Centres Index (GFCI). Long Finance has initiated two other publication series: Eternal Brevities and Finance Shorts. Long Finance is a community which can be explored and joined at www.longfinance.net.

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