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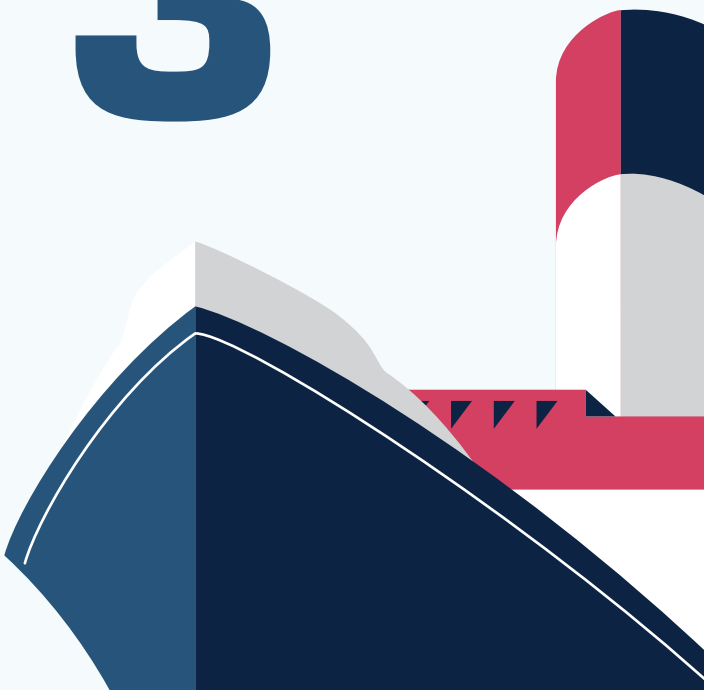


FREIGHT RATES AND MARITIME TRANSPORT COSTS

As in 2015, the shipping industry faced continued challenges in most segments in 2016, owing to the persistent mismatch between supply capacity and demand. With global demand for seaborne trade remaining uncertain, freight rates continued to be determined by the way supply capacity management was being handled.

This chapter covers the development of freight rates and transport costs in 2016 and early 2017, describing relevant developments in maritime markets, namely supply and demand in container ships, dry bulk carriers and tankers. It highlights significant events leading to major freight rate fluctuations, discusses recent industry trends and gives a selective outlook on future developments of freight markets. In particular, the chapter explores the recent trend towards consolidation that developed in the container ship market, both in the form of new mergers and acquisitions, as well as through the emergence of mega liner shipping alliances and their implication on the market.

Container freight rates have been very low, and competition on various trade routes has intensified. Market fundamentals in container shipping improved for the first time since 2011, mainly as a result of a contraction in supply growth. The dry bulk sector continued to struggle with existing overcapacity and weak growth in demand, which led to sharp declines in freight rates. Freight rates in all tanker segments went down from the high level of 2015, but were not far from the five-year average across most segments.

With regard to total international transport costs, UNCTAD estimates that in 2016 a country spent on average about 15 per cent of the value of its imports on international transport and insurance. Smaller and structurally vulnerable economies pay significantly more, reaching an average of 22 per cent for small island developing States, 19 per cent for landlocked developing countries, and 21 per cent average for the least developed countries. Lower efficiency in ports, inadequate infrastructure, diseconomies of scale and less competitive transport markets are some of the key factors that underpin the persistent transport cost burden in many developing countries.

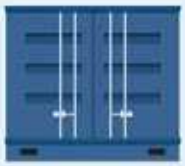
FREIGHT RATES AND MARITIME TRANSPORT COSTS

2016 and early 2017

SUPPLY CAPACITY

GLOBAL DEMAND FOR SEABORNE TRADE

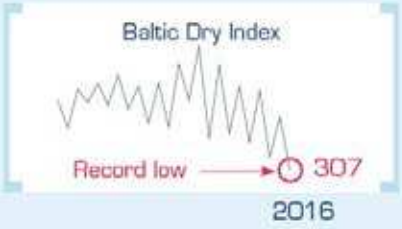
CONTAINER freight rates



Container spot freight rates weak and unstable throughout 2016

- Record lows in the first part of the year and more positive trends in the second half of the year

DRY BULK freight rates



Dry bulk freight rates struggled with overcapacity and weak demand

- Rates sharp declines in freight

TANKER freight rates

Tanker freight rates went down from the high level of 2015

- But were not far from the five-year average across most segments

TRANSPORT COSTS

Developing countries, in particular small island developing States and the least developed countries, face relatively higher transport costs

A. CONTAINER FREIGHT RATES

1. Major trends

2016 was a challenging year for the container ship sector, although market fundamentals balance improved for the first time since 2011, with growth in demand outpacing that of supply. As illustrated in figure 3.1, the overall market demand growth rate for containers shipping grew by 3 per cent in 2016, slightly better than the 2 per cent annual growth in 2015. In contrast, container supply capacity went up by 1 percent, compared with 8 percent in 2015. This improvement was mainly prompted by a substantial slowdown in fleet growth and a more positive trend in demand, namely in the second half of the year.

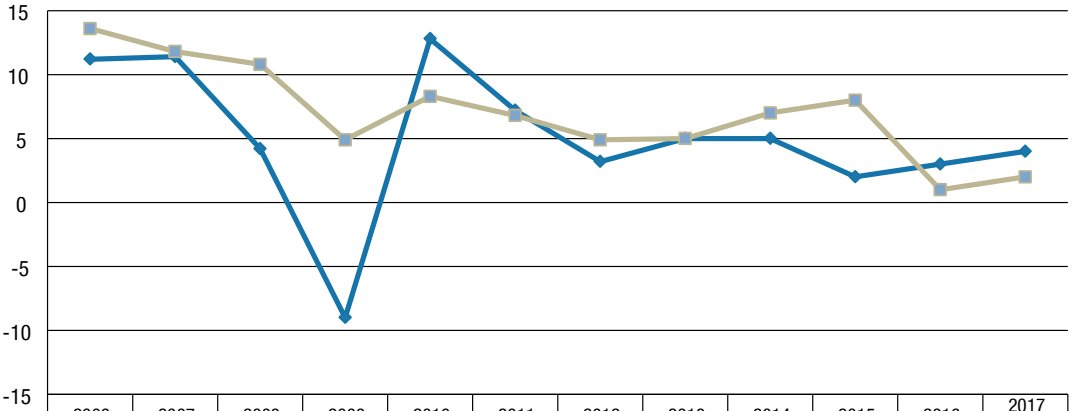
The supply–demand balance was supported by a deep contraction in supply capacity, which was principally driven by a drop in deliveries totaling less than 904,000 TEUs – almost half, compared with the 1.7 million deliveries in 2015, and a high level of container ship demolition activities – especially of Panamax ships – that more than tripled in 2016, compared with 2015, reaching a high record of about 0.7 million TEUs. Idle capacity was also high, at 7 per cent at the end of 2016 (Clarksons Research, 2017a).

On the other hand, increase in demand was mainly steered by improvements in mainlane trade routes, mainly the Far East–Europe trade route (about 1 per cent), which had experienced low levels in 2015, and a good expansion on intra-Asian trade routes (about 5 per cent), which was boosted by positive trends in the Chinese economy. However, the improvement in the supply and demand fundamentals was not sufficient to generate better market conditions and improve freight rates. Overall, growth in demand was limited by a continuous slowdown in world economic growth and a weak commodity price environment, and the level of surplus capacity remained high from excess built up over recent years.

The freight rates market remained under pressure, and carriers struggled to recover operating costs on certain trade routes. Container spot freight rates were generally low and unstable throughout 2016, witnessing record declines in the first part of the year and more positive trends in the second half. The momentum gained in the second half of 2016 was mainly driven by measures taken by shipping lines to manage supply side through network optimization, scrapping and more careful vessels deployment around the peak season (Baltic and International Maritime Council, 2017a).

As shown in table 3.1, average spot freight rates on most trade routes were negative, with some exceptions. Freight rates for Far East–Northern Europe trade routes improved slightly, with an annual average increase of about 8 percent in 2016 ($683 per TEU, compared with $629 per TEU in 2015), yet still below $1,000 per TEU. Annual average spot freight rates from the Far East to Mediterranean ports in Europe declined by 8 percent ($676 per TEU in 2016, compared with $739 per TEU in 2015), plunging as low as $200 per TEU in March 2016. The overly supplied market, combined with slow demand growth, namely slow exports from China, contributed to these low levels.

Figure 3.1. Growth of demand and supply in container shipping, 2006–2017 (Percentage)



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017 (estimates)
Demand	11.2	11.4	4.2	-9.0	12.8	7.2	3.2	5.0	5.0	2.0	3.0	4.0
Supply	13.6	11.8	10.8	4.9	8.3	6.8	4.9	5.0	7.0	8.0	1.0	2.0

Source: UNCTAD secretariat calculations, based on data from Clarksons Research, Container Intelligence Monthly, various issues.
Notes: Supply data refer to total capacity of the container-carrying fleet, including multipurpose and other vessels with some container-carrying capacity. Demand growth is based on million TEU lifts. Data for 2017 are projected figures.

Table 3.1. Container freight market and rates, 2009–2016

Freight markets	2009	2010	2011	2012	2013	2014	2015	2016
Trans-Pacific	(Dollars per 40-foot equivalent unit)							
Shanghai–United States West Coast	1 372	2 308	1 667	2 287	2 033	1 970	1 506	1 279
Percentage change		68.2	-27.8	37.2	-11.1	-3.1	-23.6	-15.1
Shanghai– United States East Coast	2 367	3 499	3 008	3 416	3 290	3 720	3 182	2 102
Percentage change		47.8	-14.0	13.56	-3.7	13.07	-14.5	-33.9
Far East–Europe	(Dollars per 20-foot equivalent unit)							
Shanghai–Northern Europe	1 395	1 789	881	1 353	1 084	1 161	629	683
Percentage change		28.2	-50.8	53.6	-19.9	7.10	-45.8	8.6
Shanghai–Mediterranean	1 397	1 739	973	1 336	1 151	1 253	739	676
Percentage change		24.5	-44.1	37.3	-13.9	8.9	-41.0	-8.6
North–South	(Dollars per 20-foot equivalent unit)							
Shanghai–South America (Santos)	2 429	2 236	1 483	1 771	1 380	1 103	455	1 644
Percentage change		-8.0	-33.7	19.4	-22.1	-20.1	-58.7	261.3
Shanghai–Australia/New Zealand (Melbourne)	1 500	1 189	772	925	818	678	492	533
Percentage change		-20.7	-35.1	19.8	-11.6	-17.1	-27.4	8.3
Shanghai–West Africa (Lagos)	2 247	2 305	1 908	2 092	1 927	1 838	1 449	1 181
Percentage change		2.6	-17.2	9.64	-7.9	-4.6	-21.2	-18.5
Shanghai–South Africa (Durban)	1 495	1 481	991	1 047	805	760	693	584
Percentage change		-0.96	-33.1	5.7	-23.1	-5.6	-8.8	-15.7
Intra-Asian	(Dollars per 20-foot equivalent unit)							
Shanghai–South-East Asia (Singapore)		318	210	256	231	233	187	70
Percentage change			-34.0	21.8	-9.7	0.9	-19.7	-62.6
Shanghai–East Japan		316	337	345	346	273	146	185
Percentage change			6.7	2.4	0.3	-21.1	-46.5	26.7
Shanghai–Republic of Korea		193	198	183	197	187	160	104
Percentage change			2.6	-7.6	7.7	-5.1	-14.4	-35.0
Shanghai–Hong Kong (China)		116	155	131	85	65	56	55
Percentage change			33.6	-15.5	-35.1	-23.5	-13.8	-1.8
Shanghai–Persian Gulf (Dubai)	639	922	838	981	771	820	525	399
Percentage change		44.33	-9.1	17.1	-21.4	6.4	-36.0	-24.0

Source: Clarksons Research, Container Intelligence Monthly, various issues.
Note: Data based on yearly averages.

Transpacific freight rates remained weak, for instance, the Shanghai–United States East Coast annual rates averaged at $2,102 per 40-foot equivalent unit (FEU) in 2016, 34 per cent below the full year 2015 average ($3,182 per FEU), and the Shanghai–United States West Coast annual rate was estimated at an average of $1,279 per FEU in 2016, 15 per cent less than in 2015. This decline was mainly due to poor supply side management by operators in face of weak volume growth (Baltic and International Maritime Council, 2017b).

Freight rates from Shanghai to Singapore and the Republic of Korea fell further from the low levels of 2015. They fell to an annual average of $70 per TEU for the Shanghai-to-Singapore leg, compared with $187 per TEU in 2015, a decrease of 63 per cent. Rates for transporting freight from Shanghai to the Republic of Korea slid to $104 per TEU, a decrease of 35 per cent, compared with 2015.

North–South freight rates were also disadvantaged due to imbalanced oversupply of capacity and weak trade volumes into sub-Saharan Africa and South America driven by low commodity prices and their impact on commodity-exporting developing economies (Clarksons Research, 2016). However, freight rates on the Shanghai–South America (Santos, Brazil) trade route rose considerably, with an average annual increase of 261 percent. The drive up in rates was mainly prompted by carriers' dramatically cutting capacity on the route in line with the reduction in demand (JOC.com, 2016a).

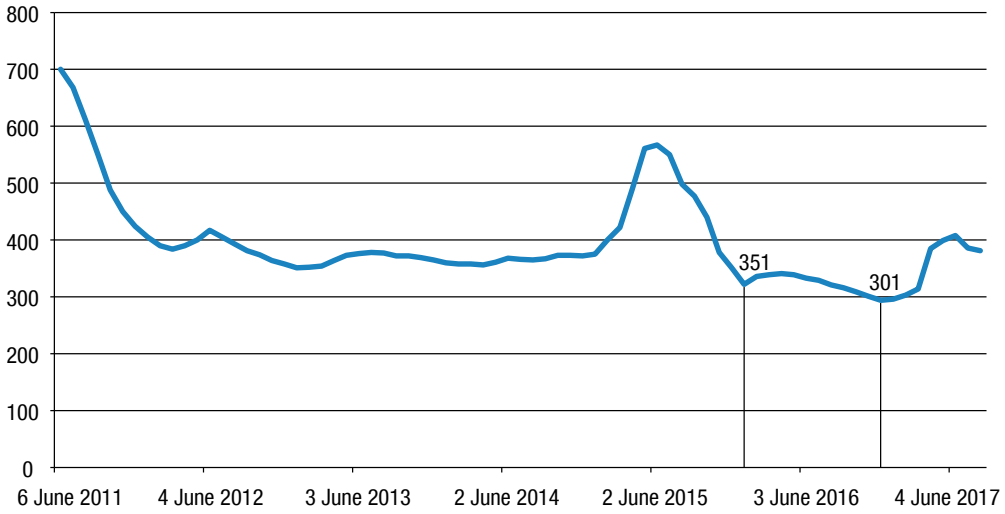
In their effort to manage supply-side capacity, carriers continued implementing strategies such as scrapping, idling of vessels and slow steaming. The cascading of container capacity also remained a key characteristic of the sector, though on some routes, opportunities to cascade vessels were limited due to lack of demand, as in the case of North–South trade. Meanwhile, opportunities to deploy large ships of a capacity of 8,000–12,000 TEUs on the Trans-Pacific route increased, due to the cascading of these units from the Far East–Europe route replaced by mega ships, and the new opportunities of deploying larger vessels on Asia–United States East Coast routes via the new Panama Canal locks (Clarksons Research, 2017b). In the future, cascading of larger ships into the Far East–United States East Coast route, including ships of 14,000 TEUs and above, will be possible with the ongoing enhancements of United States East Coast ports to handle the larger New Panamax vessels.

Charter market vessel earnings remained low throughout 2016, affected by the low market demand and overcapacity of ships for charter. As illustrated in figure 3.2, charter rates dropped to an average of 325 points in 2016, compared with 360 in 2015, evidence of the total mismatch between demand and supply. Charter rates across all vessel sizes continued to be affected, particularly in the former Panamax segment (4,000–5,000 TEUs), which was squeezed out by the flow of large vessels (8,000–10,000 TEUs) into the Asia–United States trade route, following the expansion of the Panama Canal. Moreover, the effect of cascading created some disorder throughout the year among the smaller sizes (3,000 TEUs and above).

Although larger container ships have been deployed on the intraregional trade routes, this trend appears to have slowed significantly due to constraints of infrastructure, volume and other factors that limited redeployment (Clarksons Research, 2017a). The idling of container ships remained high at an average 1.27 million TEUs in 2016, a substantial increase over 0.55 million TEUs in 2015 (Barry Rogliano Salles, 2017). Rates improved during the first quarter of 2017, especially those of the Old Panamax segment. This increase was partly due to strong container demand since the fourth quarter of 2016 and the advent of new alliances, which forced carriers to charter vessels to help fill gaps as their networks took shape (JOC.com, 2017). Whether this revival of the charter market reflects a fundamentally stronger demand for vessels or a temporary effect caused by the reshuffle of alliance networks remained to be seen (Danish Ship Finance, 2017).

The first quarter of 2017 saw some improvement in the container ship market. Both the freight and charter markets showed positive trends, partly supported by improved demand trends and limited fleet growth. The container ship charter market also started to see some improvement in March 2017, having remained at historically low levels throughout 2016 and early 2017 (Clarksons Research, 2017c.)

Figure 3.2. New ConTex index, 2011–2016



Source: UNCTAD secretariat, based on data from the New ConTex index produced by the Hamburg Shipbrokers Association. See http://www.vhss.de (accessed 20 September 2017).

Note: The New ConTex is based on assessments of the current day charter rates of six selected container ship types, which are representative of their size categories: Type 1,100 TEUs and Type 1,700 TEUs with a charter period of one year, and Types 2,500, 2,700, 3,500 and 4,250 TEUs with a charter period of two years.

2. Global container shipping carriers in financial distress

The year 2016 was one of the most challenging for carriers as they struggled to cope with persistent financial pressure caused by extensive overcapacity and poor market conditions. Despite the implementation of organizational and cost-adjustment measures by industry players aimed at mitigating risks and reducing expenses, global container shipping carriers continued to experience financial distress and rising operating losses, estimated collectively at $3.5 billion in 2016 (Drewry, 2017). A few carriers reported positive operating results, namely Hapag-Lloyd, with operating profits of $140 million, compared with $407 million in 2015 (Hapag-Lloyd, 2016). CMA CGM also reported operating profits of about $29 million in 2016, a sharp decrease from the $911 million earned by the company in 2015.[1] Maersk Line, on the other hand, reported operating losses of $376 million in 2016. (Maersk, 2016). Hong Kong (China) carrier Orient Overseas Container Line also reported operating losses of $185 million in 2016[2] (box 3.1).

Box 3.1 Operating profits and losses of selected shipping lines, 2015 and 2016

China Ocean Shipping (Group) Company

Net losses of the company amounted to RMB 9.9 billion ($1.45 billion) in 2016, its weakest annual performance since 2005, owing to persistently low freight rates and restructuring costs. Revenue growth generated from the container shipping business segment of the company was lower than growth in container shipping volumes, and the increase in revenue was less than the increase in costs.

In 2015, the company made net profits of RMB 283 million ($41.7 million).

In the last quarter of 2016, the company expects to realize operating profits (earnings before interest and taxes) of about RMB 700 million ($10.3 million), not including losses from the disposal of vessels.

CMA CGM

The company's net losses amounted to $325 million in 2016, compared with $567 million in profits in 2015. The loss rose to $452 million, including the contribution of Singapore-based Neptune Orient Lines, the parent of American President Lines, which it acquired in June 2016.

Operating profits (earnings before interest and taxes) fell from $911 million in 2015 to $29 million in 2016.

Transport volumes showed 20.4 per cent growth to 15.6 million TEUs, driven by the acquisition of Neptune Orient Lines, which consolidated the ranking of CMA CGM as the world's third largest carrier after Maersk Line and Mediterranean Shipping Company.

The average freight rate per TEU increased by 13.6 per cent for the full year, over 2015.

Revenue grew 1.9 per cent to $16 billion; excluding the share of Neptune Orient Lines, it fell 14.7 per cent from $15.7 billion to $13.4 billion.

Average unit cost: The group deployed its global operating efficiency plan named "Agility" that had led to a 5 per cent reduction of average unit costs in 2016, compared with 2015, excluding the effect of fuel price fluctuation. The company maintains its target to cut costs by $1 billion through December 2017.

Hapag-Lloyd

Operating profits (earnings before interest and taxes) of the company amounted to $140 million in 2016 (2015 financial year: $407 million).

Transport volume increased by 2.7 per cent to 7.6 million TEUs, driven primarily by growth on intra-Asian and Europe–Mediterranean–Africa–Oceania trade routes.

The average freight rate was $1,036 per TEU for the 2016 financial year, a decline of 15 per cent, compared with the prior year period.

Revenue decreased by $1.3 billion (less 13 per cent) in 2016 to $8,546 million.

Transport expenses per unit decreased by 15 per cent to $925 per TEU, mainly due to the implementation of cost-saving and synergy programmes, as well as lower bunker consumption and prices.

Maersk Line

Operating losses (earnings before interest and taxes) of the company amounted to $376 million in 2016.

Revenue was $20.7 billion, 13 per cent lower than in 2015 ($23.7 billion).

The average freight rate was at $1,795 per FEU, a decline of 19 per cent, compared with 2015.

Volumes grew by 9.4 per cent to 10.42 million FEUs. Volumes increased across all trade routes; the biggest contributors were the backhaul of the East–West trade route and the headhaul of the North–South trade route.

Transport unit costs decreased by 13 per cent. The unit cost benefited from improved fleet utilization, lower bunker prices and cost efficiencies.

Source: Annual reports and website of various companies, 2016; Reuters, 2017.

3. Container shipping: Focusing on consolidation in 2016

With a persistent overly supplied market and low freight market rates that placed carriers in prolonged financial distress, a major development that shaped the container shipping industry in 2016 was greater consolidation. Following the emergence of mega vessels, the industry witnessed the advent of mega alliances and new mergers and acquisitions in 2016.

Mergers and acquisitions

In 2016, a wave of consolidations was prompted by large mergers and acquisitions in the shipping industry. The industry, which comprised 20 large-scale international carriers, only numbered 17 by the end of 2016. This was the result of the acquisition of American President Lines by CMA CGM and the merger of China Shipping Container Lines and China Ocean Shipping (Group) Company, as well as the exit of Hanjin Shipping in September 2016 (Danish Ship Finance, 2016).

As of January 2017, these 17 carriers collectively controlled 81.2 per cent of the global liner capacity, compared with 83.7 per cent controlled by the 20 main carriers a year earlier.[3] The number will go down further with a new series of acquisitions concluded in 2017: the Maersk–Hamburg Süd sale and purchase agreement;[4] the Hapag-Lloyd and United Arab Shipping Company merger; and a new joint venture, Ocean Network Express, launched by

the three largest Japanese lines – Nippon Yusen Kabushiki Kaisha, Mitsui Osaka Shosen Kaisha Lines and Kawasaki Kisen Kaisha (K-Line). Operations of the new company are scheduled to begin in 2018.[5]

Mega alliances

In addition to mergers and acquisitions, shipping lines have undergone a transformation by reshuffling existing alliances and creating new ones. The top 10 carriers joined forces in three global alliances, down from four at the beginning of the year. Two new alliances, the Ocean Alliance and "The" Alliance were formed, in addition to the 2M Alliance.

The three alliances, which include the top 10 container shipping lines plus K-Line – the fourteenth largest container shipping line in the world – collectively control 77 percent of global container ship capacity (Baltic and International Maritime Council, 2017c), leaving a 23 percent market share for the world's other container shipping lines. The three alliances also control as much as 92 percent of all East–West trade. The Ocean Alliance will be the dominant player on the East–West routes, with about 34 per cent of total capacity deployed on these trade routes, followed by the 2M Alliance, with a share of 33 per cent, and "The" Alliance, 26 per cent (MDS Transmodal, 2017).

Box 3.2. Shipping alliances

2M Alliance	Ocean Alliance	"The" Alliance
Maersk (with Hamburg Süd) and Mediterranean Shipping Company	CMA CGM, Evergreen, China Ocean Shipping (Group) Company, and Orient Overseas Container Line	Hapag-Lloyd (with United Arab Shipping Company), Ocean Network Express (K-Line, Nippon Yusen Kabushiki Kaisha, Mitsui Osaka Soshen Kaisha Lines) and Yang Ming
Controls 37 per cent of the global shipping market	Controls 33 per cent of the global shipping market	Controls 21 per cent of the global shipping market

Source: JOC.com, 2016b.

Such alliances have become increasingly important in the global shipping industry, as carriers are seeking to improve utilization of capacity associated with larger vessels and to reduce operational costs by sharing vessels and capacity, for example.

Increasing consolidation among carriers may bring some order in a market that would benefit from a better management of supply and improved efficiency and synergies among carriers. This in turn would improve industry growth through the pooling of cargo, improved economies of scale, reduced operating costs and larger margins. Carriers could also see the benefit of such cooperation by sharing resources, including port calls and networks and developing new services. For example, sharing vessels would allow member carriers to operate without having to increase the number of ships. The advantage is that these shipping lines can also offer more services together than what they can generally offer alone, as a single shipping loop can tie up a vessel for weeks.[6] However, ports, including trans-shipment ports where competition is high and market shares are volatile, may be negatively affected in cases where deployment strategies by the alliances and the stringent requirements of ultralarge container ships result in increased preference for more direct connections. Some ports could be left out, while others may lose their market share.

Shippers could also derive some benefits in this consolidation that would lead to a more stable and healthier industry and result in less fluctuation in freight rates, better pricing because of economies of scale, and more efficient and extensive services offered by carriers including hinterland transport operations. (McKinsey and Company, 2017) Stronger partnerships among shipping lines could also provide for further prevention measures to protect the industry and shippers. That was the case for instance with "The" Alliance that set up an emergency fund for its members to tap into in the event of bankruptcy. The money from this fund will be used to provide a smooth operational flow and prevent supply chain disruption should a member be in financial distress. More specifically, it protects customers' cargo and ensures that goods reach their port of destination without having to confront similar problems experienced by Hanjin when it filed for bankruptcy. At that time, Hanjin had ordered its container-loaded vessels not to dock for fear of vessel seizure; at the same time, ports decided not to allow Hanjin vessels to dock for fear that the company would not pay the corresponding fees, leaving thousands of TEUs in cargo at sea.[7]

However, such a degree of consolidation may bring certain risks. For example, shipping lines may exert market power, limit supply and raise prices in the long run and once the industry reaches stability. As noted in the *Review of Maritime Transport 2016*, the growing concentration of the market has increased the risk that fair competition may become distorted and result in an oligopolistic market structure with potential impacts on the market, freight rates and shippers. Therefore, regulators will need to be watching closely future development of these alliances to ensure fair