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After the deluge!

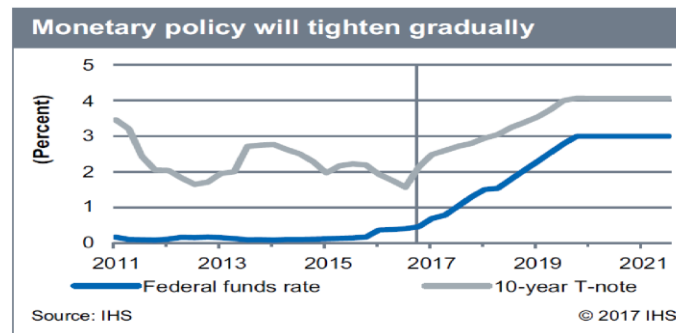
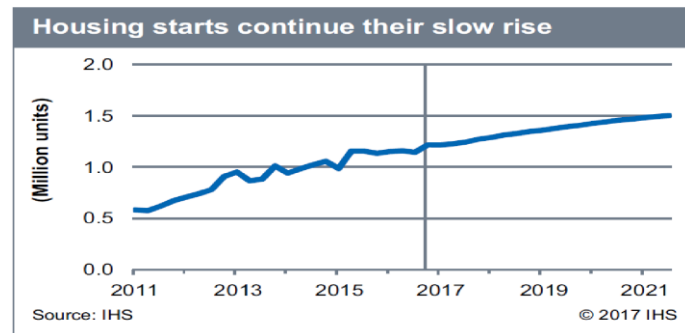
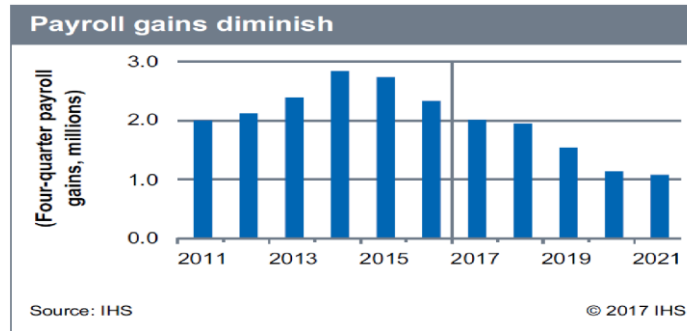
Where does the marine logistics industry go next?

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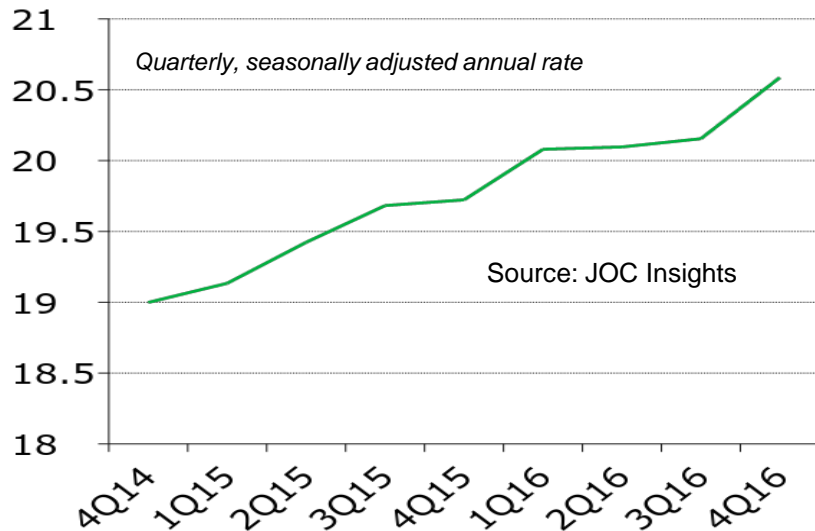
US economy enjoying multiple tailwinds at outset of 2017



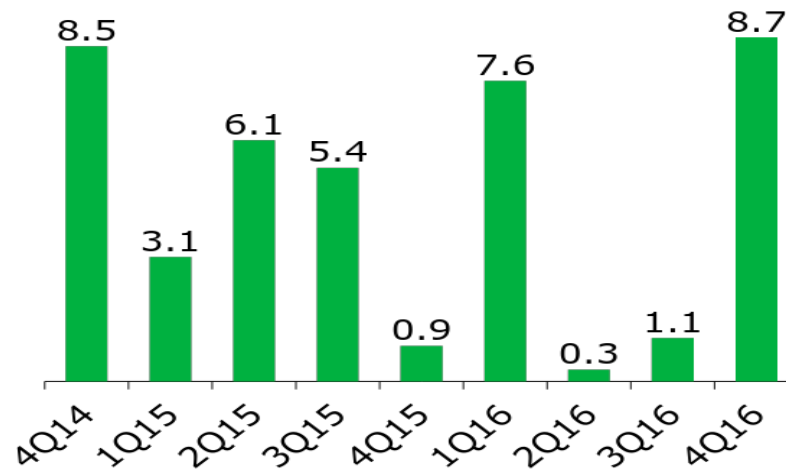
US imports kept uptrend not without facing headwinds

Weak demand, excessive inventories, Hanjin's collapse, disrupted 2016 imports

**US Containerized Imports,
in millions of TEUs**

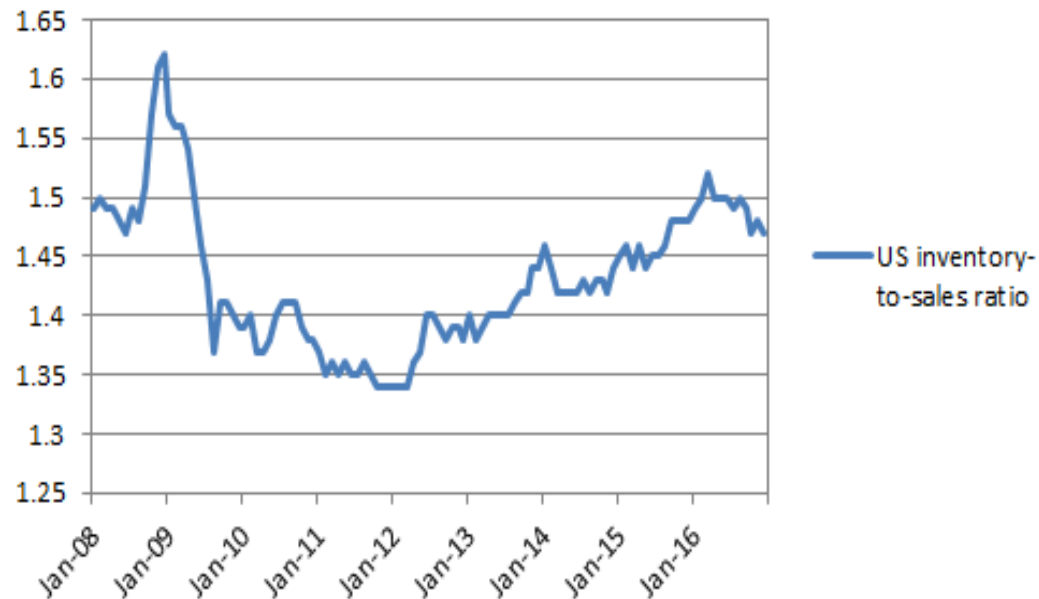


**US Containerized Imports
(Year-over-year percent
change)**



Higher US inventories a new normal

Seasonally adjusted US inventory-to-sales ratio, 2008-16



Source: US Census Bureau

- High retail inventories and inventory-to-sales ratios dampening freight growth on water, roads and rails. New normal in e-commerce world?
- “Sales are increasing at a good pace, but inventories are still growing,” -- Mario O. Moreno, a senior economist at IHS Maritime & Trade.
- The retail inventory-to-sales ratio slipped from 1.48 in November to 1.47 in December, while the wholesale ratio fell from 1.31 to 1.29 and the ratio for manufacturers dropped from 1.34 to 1.31. Collectively, those ratios and sales data signal a shifting from sluggish to swifter sales and shipping.

Consolidation as overcapacity squeezes carriers

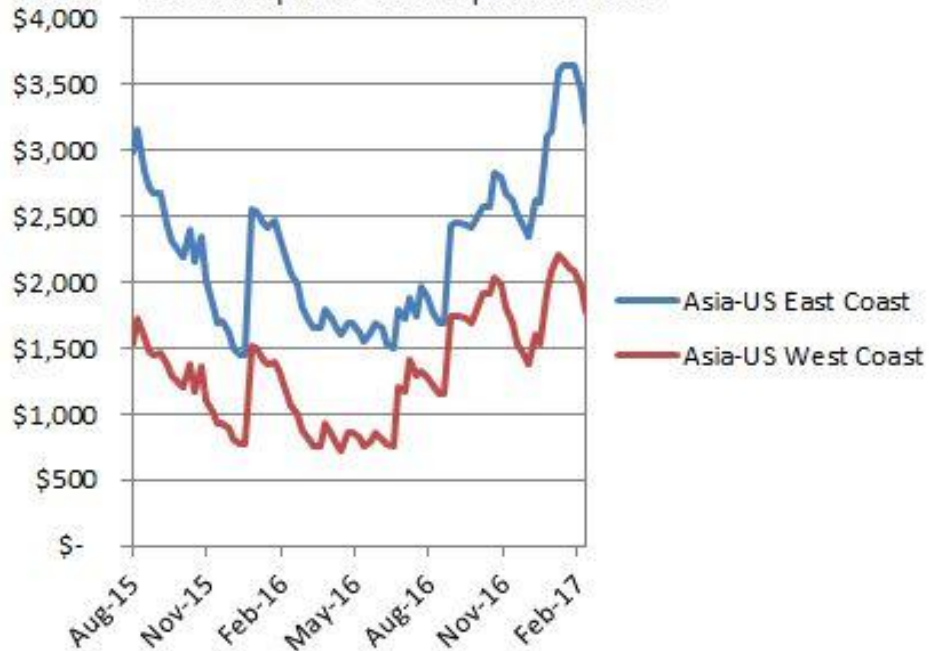
- China Cosco Shipping Corporation - Merger of China Cosco and China Shipping Container Lines (February 2016)
- CMA CGM acquired Neptune Orient Line (NOL) and its container shipping unit (2016)
- Maersk Line acquired Hamburg Süd (2016).
- Japanese three merged - Kawasaki Kisen Kaisha(K Line), Mitsui O.S.K. Lines (MOL), and Nippon Yusen Kabushiki Kaisha (NYK Line) (2016) (creating the 6th largest line in the world, with 7 percent of container volume)
- Hapag Lloyd and United Arab Shipping CO (2017)
- What others are rumored?
 - Yanginn Ming and Evergreen? Not likely due to partial state ownership

Hanjin Collapse – the government bailout that didn't happen

- Hanjin Shipping filed for bankruptcy protection Aug. 31, 2016, after months of trying to raise liquidity
- Hanjin accounted for 7 percent of Trans-pacific trade when it collapsed. It was the seventh largest carrier
- By 2016, Hanjin had accrued debt of more than \$5 billion
- Hanjin lost \$1.1 billion in 2009, the result of the financial crisis, which cost the industry losses of \$15 billion. Hanjin lost money 2011-2014 and in 2015 made \$6 million.
- April 2016, Hanjin hands control of operations to its largest creditor, the Korea Development Bank. Rumors of missed payments to suppliers in July 2016.
- Collapse left 500,000 containers, with goods worth \$14 billion stranded

Trans-Pacific spot rates spike

SCFI rate per 40-foot-equivalent unit



Source: Shanghai Shipping Exchange

- Carriers seek higher 2017-2018 contract rates, in the range of \$1,600 to \$1,800 per 40-foot-equivalent unit to the West Coast and about \$2,450 per FEU to the East Coast.
- New red line for service contracts: \$1,200 per FEU to West Coast and \$2,300 to East Coast. Some BCOs are crossing this line already, gaining rates of \$1,100 per FEU to West Coast and \$2,200 to East Coast.
- This year's bottom? BCOs reporting securing trans-Pac rates to the West Coast as low as \$900 per FEU.
- "We're in an industry that is prepared to act irrationally even if it makes no financial sense" -- Alphaliner's Tan Hua Joo said at TPM.
- "Both the shippers and the carriers understand that this is a different market and that to be able to secure space for 2017, customers will need to pay more. BCOs will always negotiate rates, but we see that rates will definitely be on the higher side. They are expecting to do well this year and they want to ensure that their supply chain is safe." -- APL chief executive Nicolas Sartini

Bigger ships on the way

- 78 percent of the 1.69 million TEUs of new ships slated for delivery in 2017 will be above 10,000 TEUs (Alphaliner)
- More than half of deliveries will be ships of 14,000 TEUs or above (Drewry)
- Additional capacity will reach 1.44 million TEUs, equivalent to a 3.4 percent net increase in the world fleet.
- Cascading – will affect smaller ports who can't easily handle bigger ships

What happened to overcapacity?

“Forwarders see liner profitability years away” – JOC.com 1/9/2017

“There is 7 percent more supply than demand globally and that is expected to grow further in the short term because there are a lot of ordered ships still to be delivered, especially the big ones ... The consensus of industry analysts is that overcapacity will grow in the next few years by seven to 14 percent, and this means the utilization of ships is below its peak capacity.”

Sanne Manders, chief operating officer of forwarder and trade platform Flexport
(Jan. 7, 2017)

“Many shippers were exposed to Hanjin and had containers stranded, and they understand that there are limits to low rates. It was a wake up call to customers that there is a limit to squeezing rates down and that there can be a negative consequences to it”

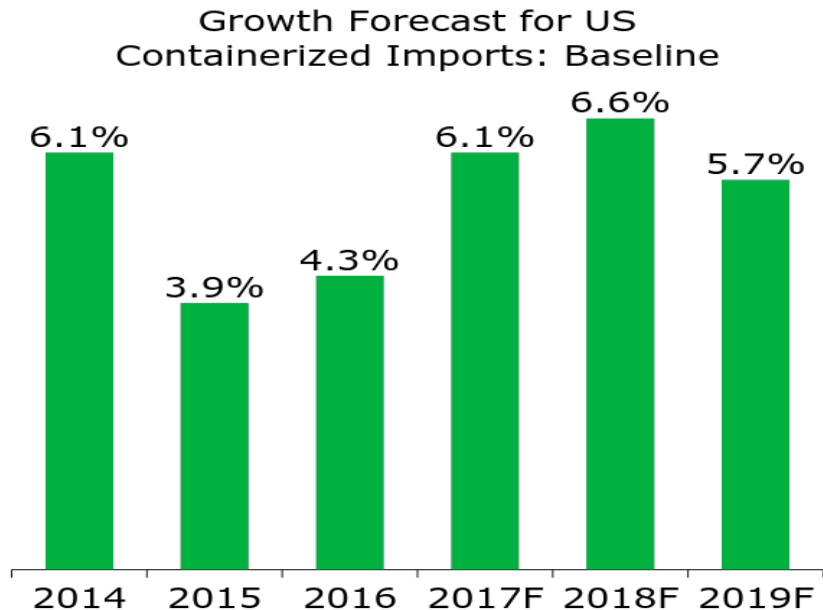
APL CEO Nicolas Sartini (Mar. 6, 2017)

Carrier losses continue to mount

- Yang Ming – lost \$493.6 million hit last year, double the year before loss
- Maersk Line - reported an annual loss of \$376 million for 2016
- Cosco Shipping Holdings, the container arm of China Cosco Container Group, lost \$1.4 billion in 2016.
- Hyundai Merchant Marine (HMM) - \$595 million net operating loss for 2016
- Wan Hai Lines - TWD1.14 billion (\$37.5 million) profit, albeit a far smaller gain than in 2015.

US imports forecast to continue growing in 2017

Main assumption: No trade wars and no serious policy mistakes

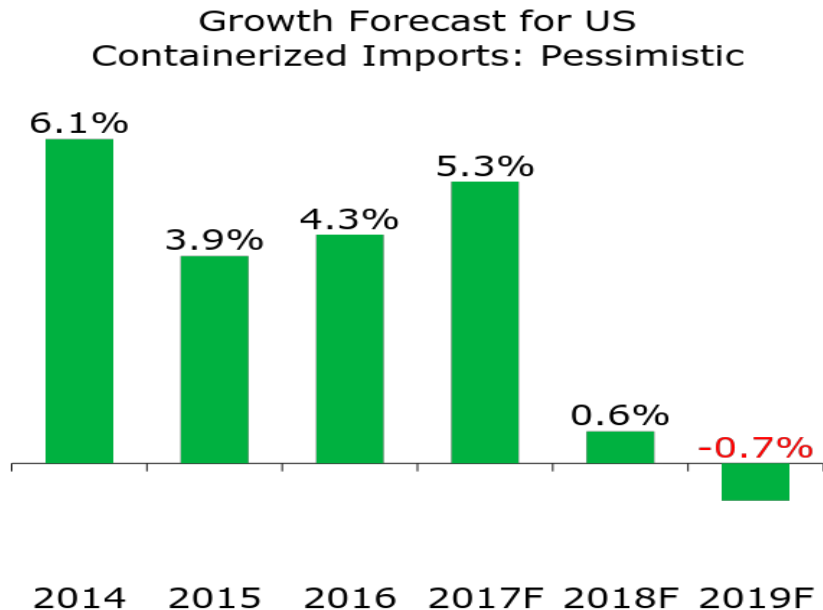


Source: JOC Container Shipping Outlook.

- US imports to expand 6% in 2017 and total 21.8M TEUs.
- US real GDP to rise 2.3% in 2017, up from 1.6% in 2016, led by solid growth in consumer spending.
- Existing home sales to increase from 5.4M in 2016 to 5.5M in 2017.
- The US dollar going higher through the first half of 2018.

Pessimistic scenario: US imports stall and fall in 2018-2019

Main assumption: Strained trade relations trigger US recession (25% prob.)



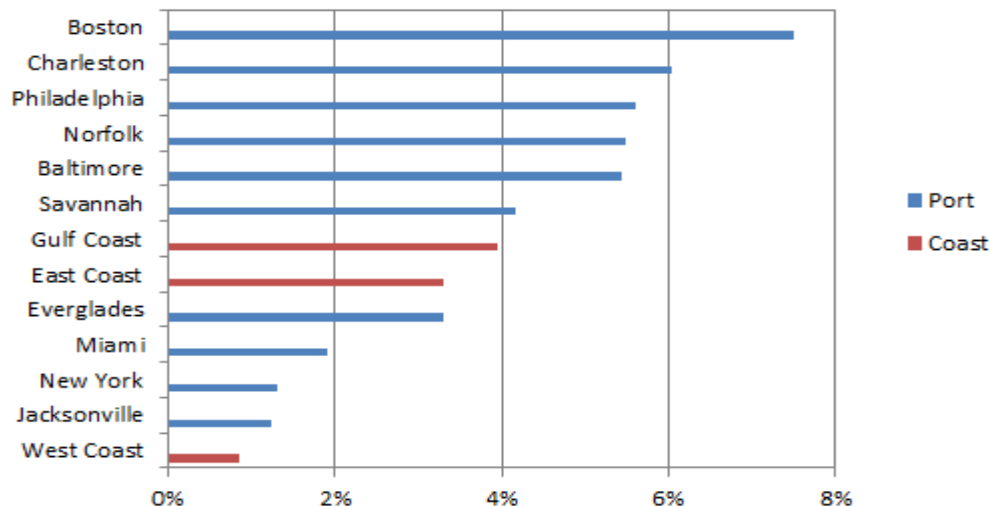
Source: JOC Container Shipping Outlook.

- US imports to expand 5.3% in 2017 and total 21.7M TEUs.
- US real GDP to rise only 1.6% in 2017, unchanged from 2016, down 0.6% in 2018, and up 1.0% in 2019.
- Existing home sales decline from 5.4M in 2016 to 5.3M in 2017.
- The US dollar up 6.9% on average in 2017 over prior year.

US West Coast steadily losing Asia import market share

US East Coast growth strongest at unexpected gateways

Compound annual growth rate, 2010-2016



- Despite shippers' talk of switching routing to the East Coast, coastal shares static.
- California's three container ports will spend hundreds of millions of dollars in 2017 on capital projects and will further refine their cargo-handling processes.
- Savannah, Charleston and Jacksonville are expanding intermodal rail reach to attract discretionary cargo.
- The Port of New York and New Jersey's share of the East Coast container market has slipped to less than one-third in recent years

Source: IHS Markit/PIERS

Old & New Alliances *(with market percent share)*

G6 Alliance 24% (all routes)

Nippon Yusen Kaisha (NYK)
 Mitsui OSK Lines (MOL)
 APL
 Hapag-Lloyd
 Hyundai Merchant Marine
 Orient Overseas Container Line

O3 (Ocean Three Alliance) 21%

CMA CGM
 China Shipping Container Lines
 United Arab Shipping Co.

CKHYE 24%

Cosco Container Lines Co.
 Evergreen Marine Corp Taiwan Ltd.
 K" Line
 Yang Ming
 Hanjin Shipping
 Evergreen Line

2M 15%

Maersk
 MSC



The Alliance 34% (trans-pac)

Japan's Kawasaki Kisen Kaisha Ltd.,
 Mitsui OSK Lines Ltd.,
 Nippon Yusen KK,
 South Korea's Hanjin Shipping Co.
 Taiwan's Yang Ming Marine Transport Corp.,
 Hapag-Lloyd AG

Ocean Alliance 40%

CMA CGM
 COSCO
 Evergreen Line
 OOCL

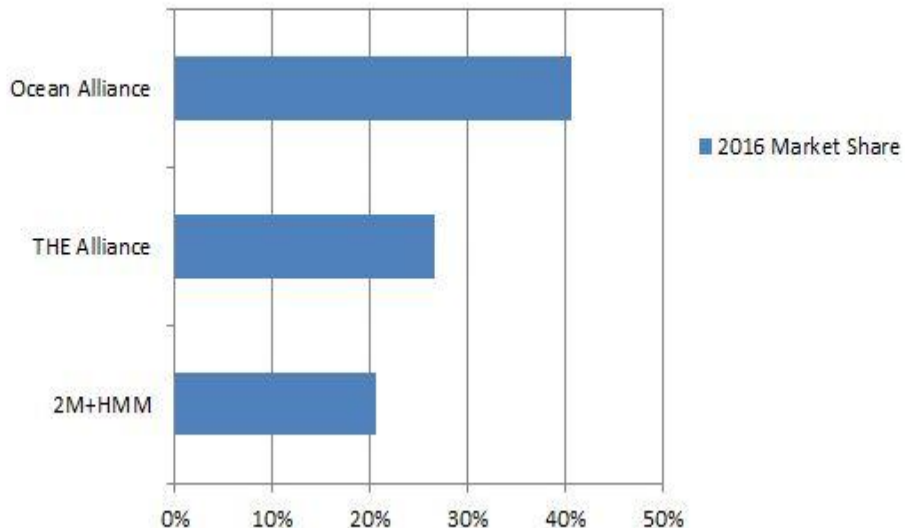
2M 20%

Maersk
 MSC
 (HMM – cooperation agreement)

Micro Trends: New alliances

Ocean Alliance leads in US imports from Asia

Combined 2016 market share of US imports from Asia of new alliance members



Source: IHS Markit/PIERS

- New alliances set sail April 1, with shippers hoping lessons have been learned to avoid a G6-type rollout and failsaves to avoid next Hanjin in place.
- Out of ashes of Hanjin, SM Line to offer trans-Pacific service deploying five 6,500-TEU ships. “As a late comer, we will face some difficulty in fully participating in [beneficial cargo owner] bids that have already started but given our competitive service offering, we do expect to have some success in bid participation and securing agreements,” -- Ki Hyun Kwon, chief executive of container liner business at SM Line.
- Wan Hai, Pacific International Lines, Zim Integrated Shipping Services, and SM crowding into trans-Pacific allows shippers and NVOs to diversify beyond three alliances.
- Growing concern that alliances engage in a bruising and financially devastating fight for market share.
- Otto at K&N on carrier service levels. They just completed a global survey with 3k-plus participants. “Very little” difference between best and worst. “They’re all more or less the same when it comes to service, unfortunately.”

Impact of the new alliances

- The first time that global vessel-sharing alliances will begin operations on the same day
- Ships stop at fewer ports – because ships are bigger
- Ships stop at more ports – more cargo makes it more worthwhile (Baltimore)
- Fewer – but larger – transshipment hubs as lines optimize networks and minimize costs (higher fuel costs, fewer hubs)
- 50 percent of the routes to be offered by the Ocean and THE alliance will change from direct to transshipment (Cargosmart)
- Networks show a reduction in the number of port-to-port combinations on Asia-Europe and trans-Pacific trades.

Impact of the new alliances - Cargosmart

- nearly 70 percent of the alliances' direct routes will be operated by one alliance, 2M that will control 31 percent of the direct routes being offered.
- The Ocean and THE alliances will gain two additional ports on Asia-Europe while losing five ports on the trans-Pacific.
- Services from the three alliances using the Suez Canal will decline by 7 percent. But the percentage of services using the Panama Canal will remain the same (more than 50 percent be operated by the Ocean Alliance).
- A total of 60 percent of the new alliance routes on Asia-Europe will have shorter transit times, and half of those on the trans-Pacific. Many transits on Asia-Europe and trans-Pacific voyages will be two to three days faster on average, according to the CargoSmart data.

Impact of the new alliances – Cargosmart (2)/SeaIntel

- Across all three alliances, the Asia-Europe trade will have net 50 new port pairs while the trans-Pacific will have 120 port pairs less than the old alliances.
- Largest proportional loss of connectivity: 78 port-pairs lost on Northeast Asia-Mediterranean (SeaIntel) is the sub-trade that will see the largest loss of connectivity
- 22 port-pairs lost on Southeast Asia-Mediterranean sub-trade
- 150 direct port-pairs lost on Trans-Pacific trade
- Concerns about chaos, reliability, disruption
- . “There is little differentiation in price and service offering by carriers. Shippers are seeing less choice and less competition. We all need to be worried about that” - Chris

Welsh, sec. general of Global Shippers’ Council

Impact of the new alliances – Cargosmart (2)

Shipping Alliances Comparison at Top US Ports – Before and After April 1, 2017

US Ports	Number of Alliance Services			Number of Deployed Vessels			Average Vessel Capacity (TEUs)		
	Before	After	Changes from Before	Before	After	Changes from Before	Before	After	Changes from Before
Los Angeles	11	14	Increased by 3	206	185	Decreased by 21	8,500	9,400	Increased by 900
Long Beach	13	9	Decreased by 4	182	167	Decreased by 15	9,000	8,500	Decreased by 500
New York & New Jersey	21	17	Decreased by 4	215	146	Decreased by 69	7,800	8,300	Increased by 500
Savannah	23	18	Decreased by 5	246	203	Decreased by 43	7,500	8,100	Increased by 600
Seattle	6	7	Increased by 1	119	67	Decreased by 52	7,600	8,300	Increased by 700
Tacoma	4	4	No Change	90	46	Decreased by 44	7,300	6,600	Decreased by 700
Norfolk	24	18	Decreased by 6	239	175	Decreased by 64	7,900	8,700	Increased by 800
Oakland	16	17	Increased by 1	240	201	Decreased by 39	8,600	8,900	Increased by 300
Houston	5	7	Increased by 2	42	55	Increased by 13	5,000	5,100	Increased by 100
Charleston	21	13	Decreased by 8	205	141	Decreased by 64	7,500	7,600	Increased by 100
Miami	8	9	Increased by 1	81	98	Increased by 17	5,800	6,400	Increased by 600

Figure: 2M, CKYHE, G6, and O3 services before April 1, 2017 compared to the 2M, OCEAN and THE services after April 1, 2017. The services are based on alliances' and carriers' proforma schedules available through March 15, 2017.

Source: CargoSmart

West Coast Impact

- 2M Alliance - five weekly services in Los Angeles and Long Beach
- “Opting for scale over sailing frequency,” with most of the ships of 10,000- to 15,000-TEU capacity. (Steven Rothberg, partner in Mercator International)
- Container exchanges of 10,000 or greater during each vessel call, requires an aggressive marshalling of labor, equipment, truck and rail capacity each week.
- More challenging than having twice as many vessel calls each week
- Mid-2016 2M cut the number of direct port calls across their Asia-North Europe network to eliminate overlapping port pairs

What will the changes mean for ports?



Semi-automation at GCT, Bayonne

- **Big ships:** Will they make fewer stops, bring more cargo to NY-NJ?
 - Are the terminals ready to handle bigger volumes?
- **Panama Canal:** Will it bring new business?
- **Alliances:** How will they affect NY-NJs cargo flow?
- **Discretionary cargo:** Can the port boost rail cargo to Midwest?
- **Congestion:** How to improve turn times
 - appointment system – how effective will it be?
 - chassis pool – how soon will it happen?
 - extended gate hours – are they needed? Are they possible?

Cumulative Impact

“Moving from 18 ocean carriers to 10, further consolidated into just three alliances, means larger ships, less competition operationally, fewer sailings for exporters to select from, and more stress on terminals and labor”

Peter Friedmann, executive director of the Agriculture and Commodities Transportation Coalition, Jan. 1, 2017

When all is said and done!

After the dust has settled, as it inevitably will, and probably in short order, what will the shipper face in 2017 and beyond? Has the industry transformed in a way that will accrue to the benefit of the customer? Or, as has been the case over the past several years, were carrier decisions to merge, acquire, or restructure akin to the decisions to build mega-ships or slow steam their vessels, that is, primarily for their own benefit, with little regard for the needs of the customer? Is there any chance of value creation extending to the customer?

In the near term, the answer has to be no.

Peter Tirschwell Jan 1, 2017



IHS Markit™

Questions?

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