

A 'Bigger' World to Sail

Impact of Rising Freight Rates on Global Grain & Oilseed Trade

RaboResearch Food & Agribusiness

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Summary: The Impact of rising freight rates on G&O trade

Freight



The dry bulk balance sheet is tightening.

Dry bulk time charter rates are forecast to increase between 10% and 20% YOY in 2018 and 2019, following an increase of 62% so far in 2017.



Bunker fuel costs are expected to increase in 2018 and 2019, on the back of an elevated crude oil price forecast (as per World Bank).

Margins



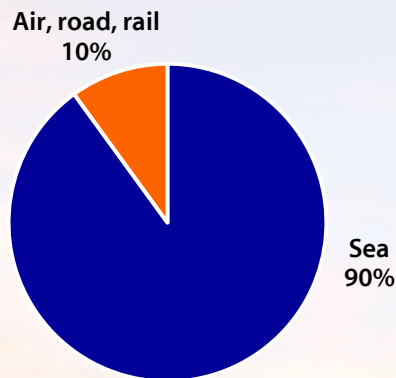
Changing time charter rates and bunker fuel costs will impact G&O trade as well as the costs—and potentially the margins—of G&O exporters and importers.

Export countries closer to destination markets will have an advantage over more distant countries.

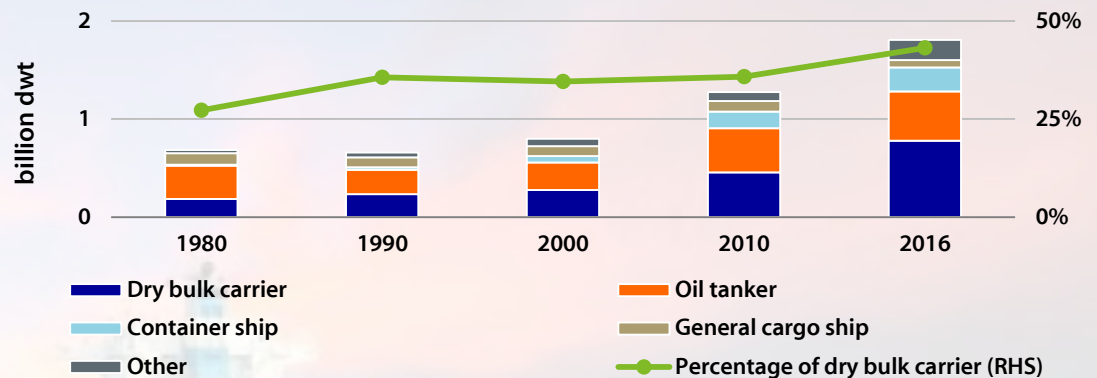
Ocean transportation is the heart of global trade

Dry bulk carriers command 43.1% market share of total world fleet capacity

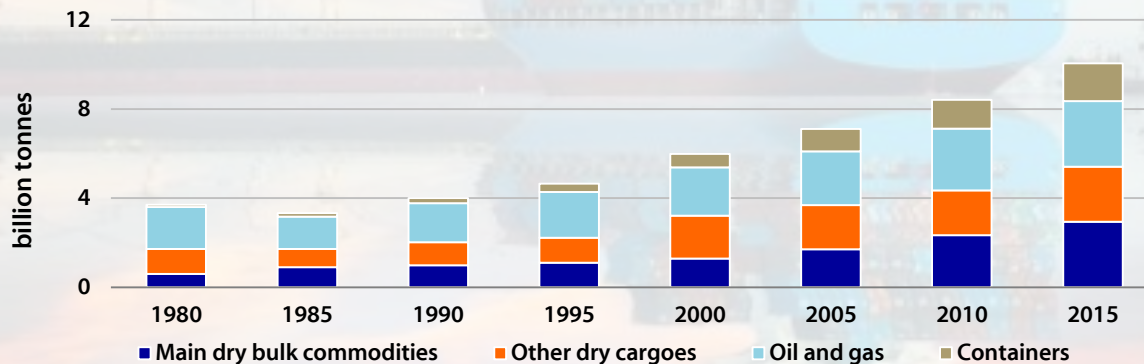
More than 90% of international trade of goods* is carried by sea.



Total world fleet capacity trebled since 1980 to 1.8bn dwt in 2016. Dry bulk carriers are the largest vessel category, with 43.1% market share in 2016.



Total international seaborne trade also trebled since 1980 to 10.0bn tonnes in 2015, including a fivefold increase of dry bulk cargoes to 2.9bn tonnes.



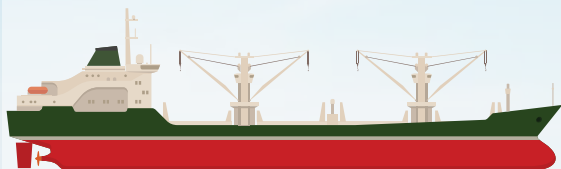
More than 90% of international trade of goods* is carried by sea:

- Dry bulk cargo is the largest type of cargo carried in international seaborne trade. Dry bulk carriers are the largest vessel type available worldwide in terms of capacity, accounting for a 43.1% share.
- Dry bulk carriers are typically categorised into four main vessel types based on their capacity: Capesize, Panamax, Handymax, and Handysize.

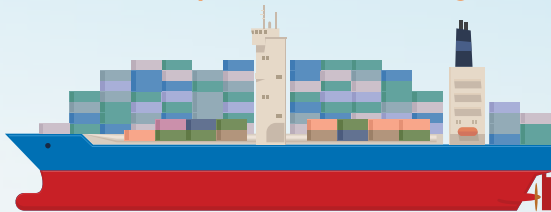
The dry bulk sector

G&O trade is mainly carried by Panamax, Handymax, and Handysize

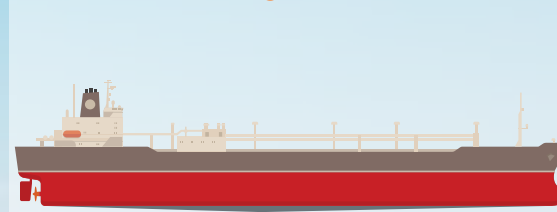
Bulk carriers for dry bulk commodities



Containership for containerised goods



Tankers for oil, gas, and chemicals



Bulk carrier ship types

Dry bulk carrier with cranes



Handysize
25,000-39,999 dwt

Handymax
40,000-64,999 dwt

Dry bulk carrier without cranes



Panamax & Post-Panamax
65,000-119,999 dwt

Capesize
120,000+ dwt

Versatility*

More versatile



Less versatile

Commodities carried

Metals

- Ores & concentrates
- Alumina
- Bauxite

Energy

- Coal/Coke
- Petcoke

Minerals

- Salt
- Sand & gypsum

Agricultural Products

- Grains
- Fertiliser
- Sugar

Construction Materials

- Logs & forest products
- Cement & clinker
- Steel & scrap

Other bulks

Major Bulks

- Iron Ore
- Coal
- Grains

*Versatility refers to type of cargoes that dry bulk carriers can carry and port facilities where dry bulk carriers can load or discharge.

Source: Pacific Basin, Rabobank 2017



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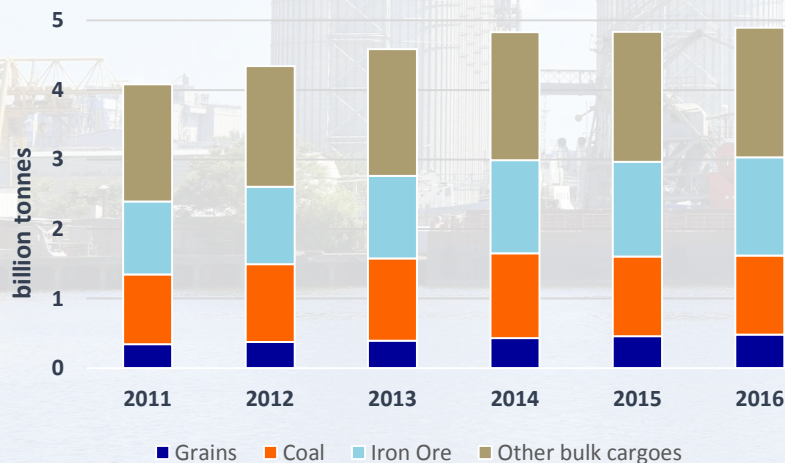
G&O is the third largest dry bulk cargo...

accounting for 480m tonnes or 9.8% of 2016 global dry bulk trade, only iron ore and coal represent greater shares of dry bulk cargoes

Global grain & oilseed trade:

- Global G&O* exports (all mode of transportation) in 2017/18 are forecast at 550m tonnes, up 57% in the past decade. For more detailed trade flows. See [Rabobank's 2016 G&O Trade Map and the accompanying report 'Grow with the Flow'](#).
- G&O* accounts for 9.8% of total dry bulk carrier cargoes of 4.9bn tonnes in 2016, but is still outranked by iron ore and coal, which account for 28.8% and 23.3% of total dry bulk cargoes, respectively.
- G&O* shows the strongest percentage of volume growth (39.1%) of all three major dry bulk cargoes between 2011 to 2016, outpacing the volume growth of both iron ore (34.0%) and coal (13.9%).

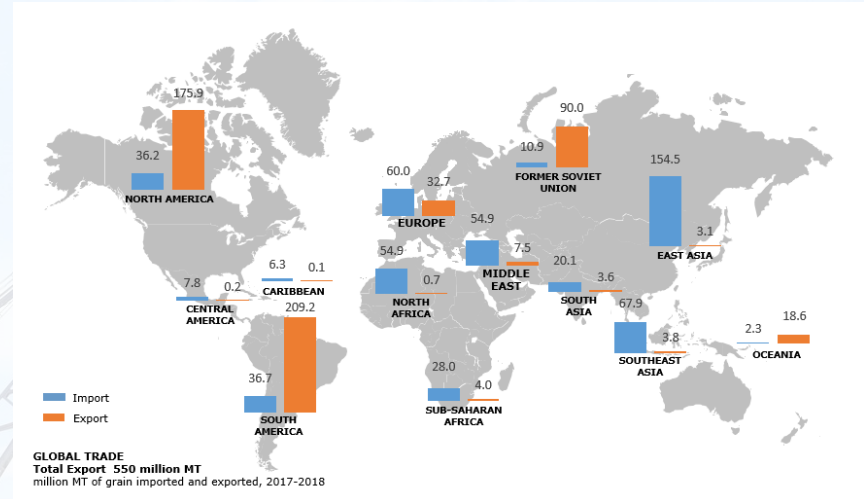
Dry bulk carriers' G&O* cargoes increased by 39.1% since 2011 to 480m tonnes in 2016



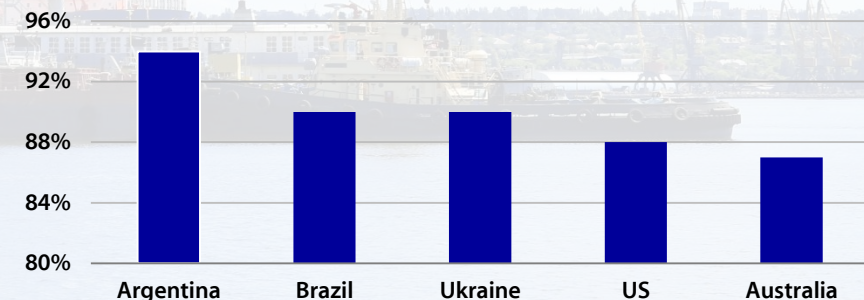
Sources: USDA, Clarksons, Rabobank 2017

*Dry bulk G&O cargoes comprise corn, wheat, soybeans, and soymeal

Asian countries are net importers of G&O, and rely heavily on dry bulk carriers to supply G&O products from major export regions



Share of G&O* exports from major suppliers transported by dry bulk carriers, 2016





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Dry bulk freight rates have been on the rise since early 2016...

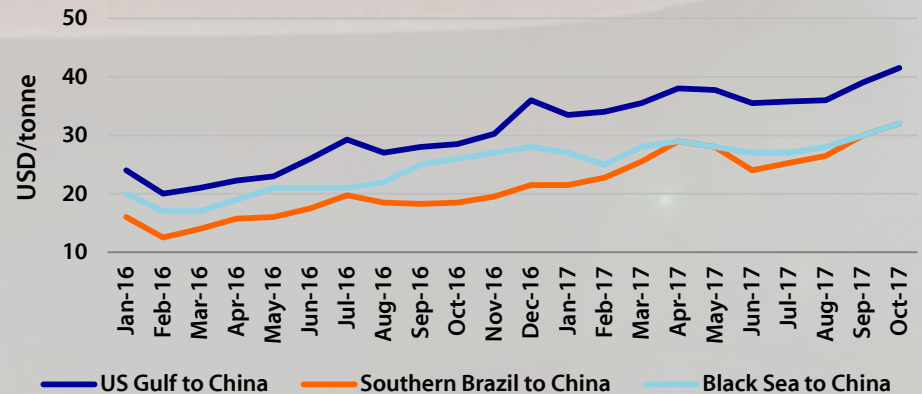
due to slight tightening of supply and demand for dry bulk vessels



Global dry bulk freight rates rising since 2016:

- Global dry bulk daily vessel charter rates, which are represented by the Baltic Dry Index, had been on a downward trend since reaching a high in mid-2008.
- But the Baltic Dry Index has trebled since early 2016, as supply and demand factors for dry bulk vessels have tightened slightly following a massive oversupply situation.

Grain freight rates have increased more than 50% since early 2016



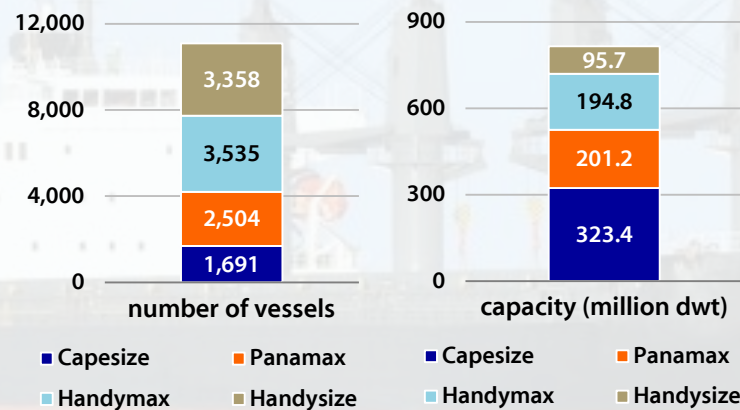
Current dry bulk fleet profile is young...

as most old vessels were scrapped in the past few years

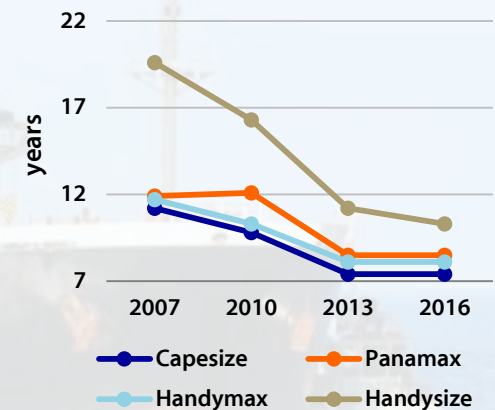
Dry bulk fleet profile:

- Capesize represents 39.7% of total dry bulk fleet capacity, while Panamax, Handymax, and Handysize represent 24.7%, 23.9%, and 11.7%, respectively.
- The profile of the current dry bulk fleet is young, with 73% of total capacity younger than 10 years old.
- The average age of the current dry bulk fleet profile is 8.9 years, as compared to 15.1 years in 2007.

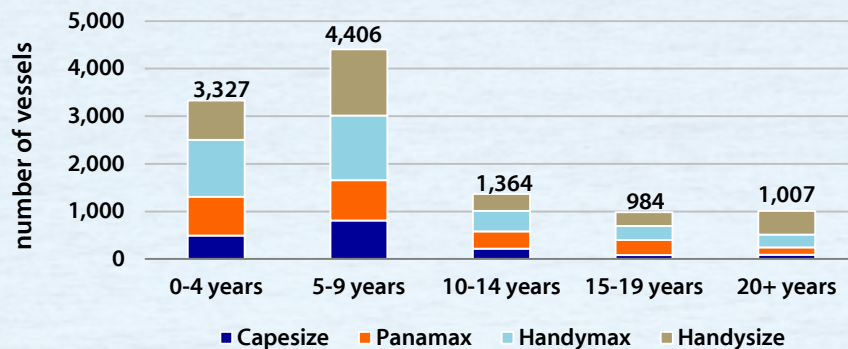
Dry bulk carrier number and capacity in August 2017: Capesize is the smallest category in terms of total number of dry bulk carriers, but the biggest capacity-wise.



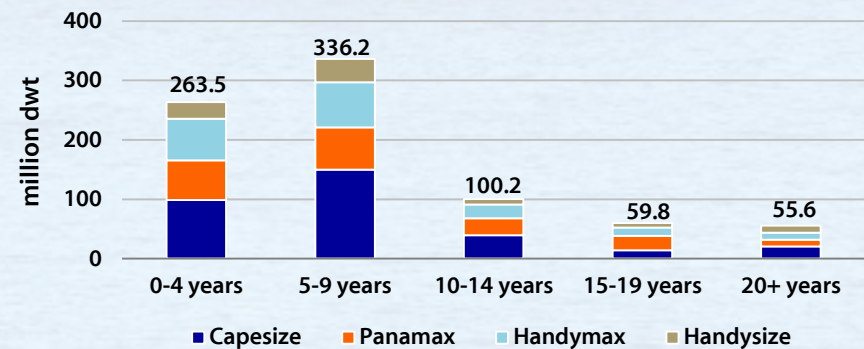
Most old vessels were scrapped when low freight rates prevailed, so the current dry bulk fleet profile is young.



Number of dry bulk carrier vessels in August 2017: Handymax represents 32.9% of vessels under 10 years old



Dry bulk carrier capacity in August 2017: Capesize represents 41.5% of vessels under 10 years old



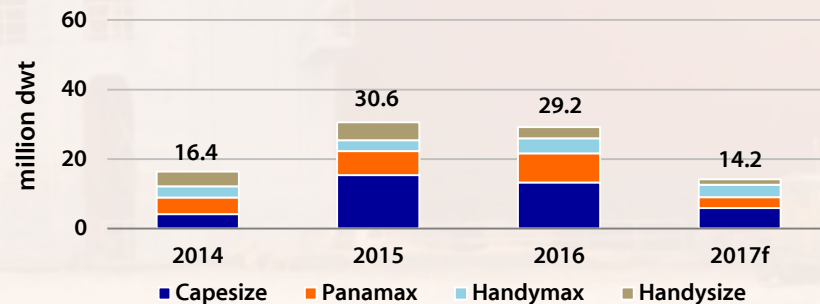
Slower dry bulk vessel supply growth in 2018-2019...

will further tighten the balance sheet and support freight rates

Slower dry bulk vessel supply growth is expected in the next two years:

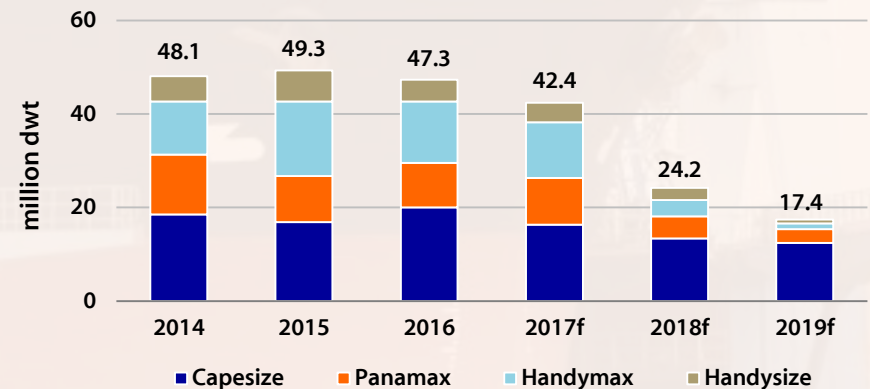
- 90.4m dwt, or 11% of the dry bulk capacity in 2017, was scrapped between 2014 to 2017, which represents 11.9% of total dry bulk capacity in 2014.
- At the same time, 187.1m dwt of dry bulk capacity was added in terms of new buildings, representing 22.7% of total dry bulk capacity in 2017.
- The current orderbook shows that there will be 41.6m dwt additional dry bulk capacity in 2018-2019, representing 5.1% of the 2017 dry bulk capacity.
- Due to the current dry bulk fleet's young profile, the potential to scrap more vessels in 2018-19 is low, with current forecasts at 16.82m dwt.
- Total dry bulk capacity is forecast to increase to 838.6m dwt in 2018 and 846.1m dwt in 2019, representing YOY growth of 2.1% and 0.9%, respectively.

76.2m dwt of dry bulk carriers were scrapped between 2014 and 2016. Total scrapping for 2017 is forecast to be lower at 14.2m dwt, as most old carriers have already been scrapped.

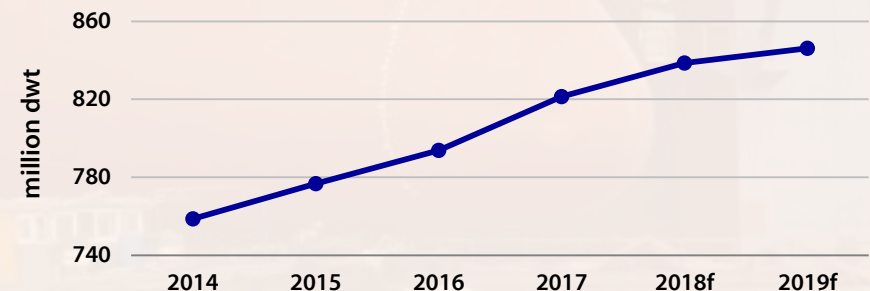


Sources: Clarksons, Rabobank 2017

Low freight rate environment in recent years reduced vessel owners' interest in ordering new vessels. The current orderbook shows that new building deliveries for 2018 will be down 43% YOY and another 28% YOY in 2019.



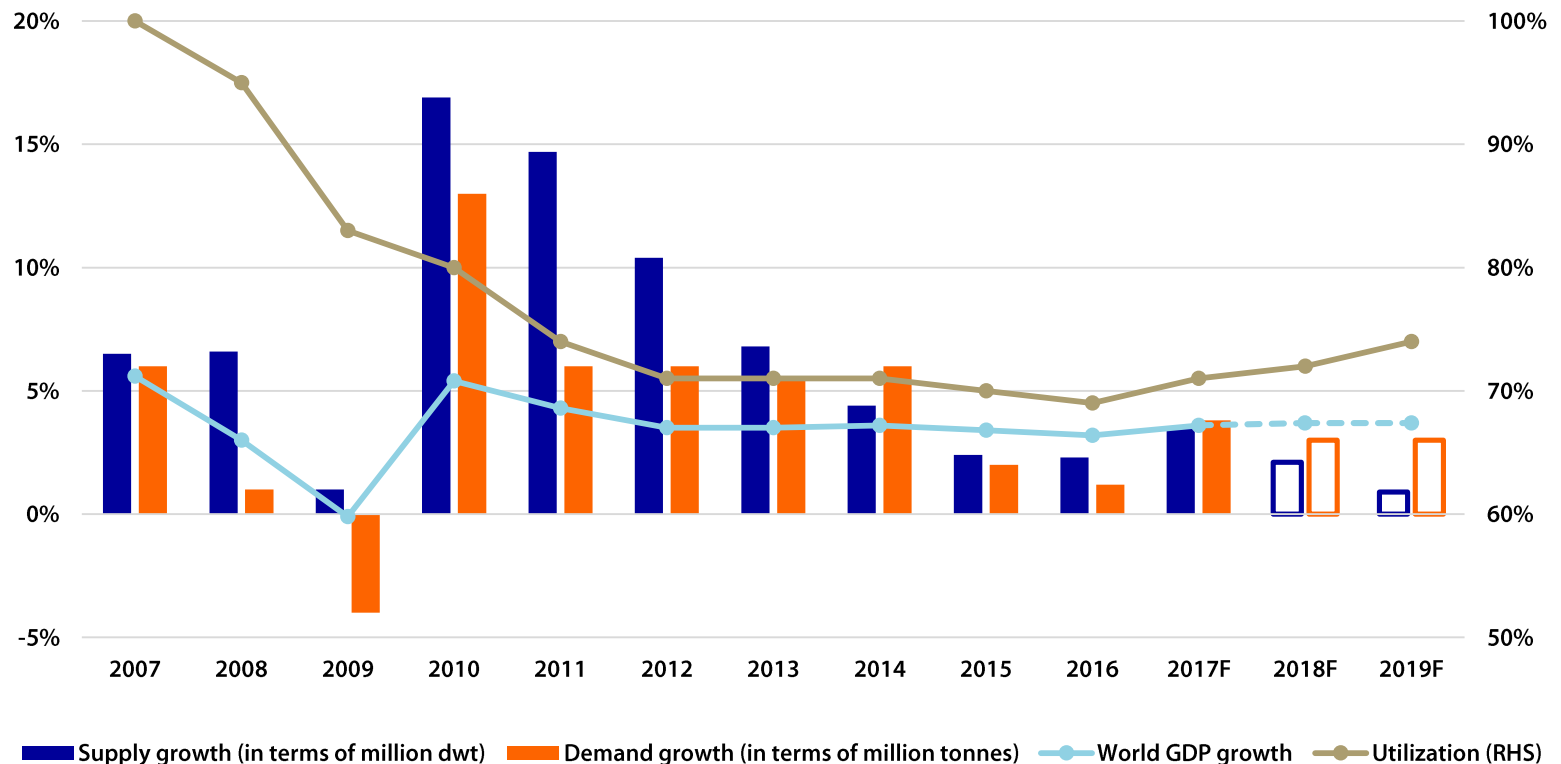
Total dry bulk capacity supply growth is forecast to increase by 2.1% in 2018 and 0.9% in 2019



Dry bulk market recovery is underway...

which will impact the G&O trade and different key exporters' competitiveness

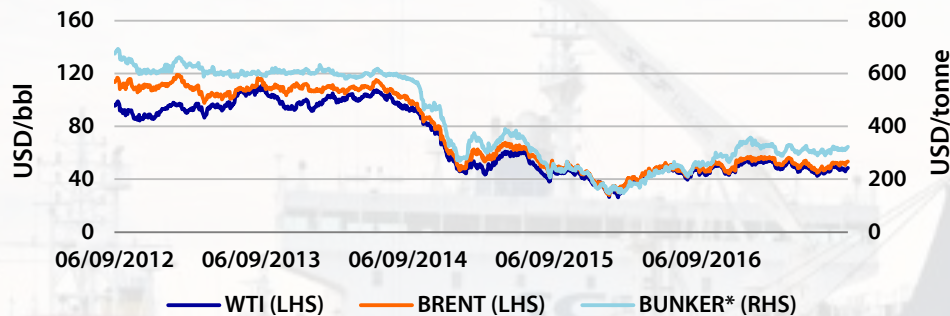
With a stable outlook for world GDP growth, total demand for dry bulk capacity is forecast to increase 3% in both 2018 and 2019, thus surpassing growth in the total supply of dry bulk capacity, itself forecast at 2.1% in 2018 and 0.9% in 2019. The dry bulk utilisation rate is therefore forecast to increase to 74% in 2019, compared to 69% in 2016. A higher dry bulk utilisation rate will support daily vessel charter rates. We expect time charter rates to increase between 10% and 20% YOY in 2018 and 2019.



Freight rates are expected to become more expensive in the coming years...

due to increasing time charter rates and bunker fuel costs

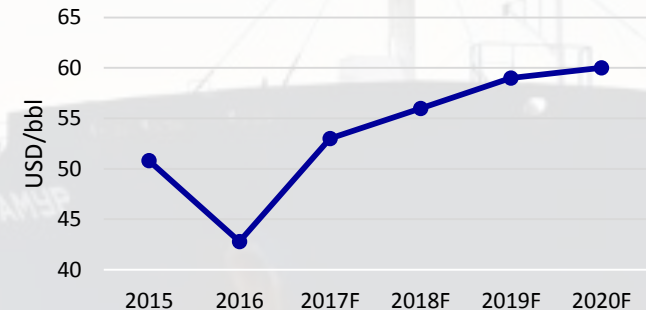
Similar to movement in crude oil prices, bunker fuel prices have dropped by 78% since the high of late September 2012, reaching their lowest level in February 2016 at USD 147/tonne. Since then, bunker fuel prices have more than doubled, reaching USD 348.5/tonne in October 2017.



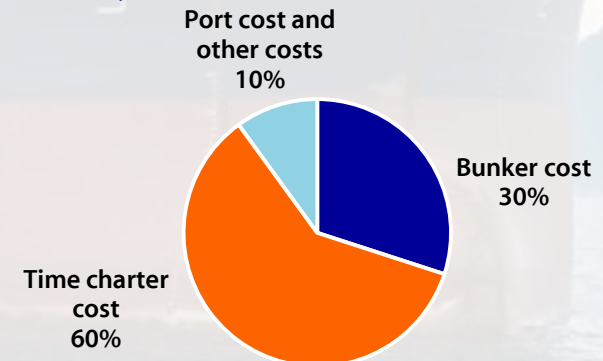
The bunker fuel price is expected to stay strong in 2018 and 2019 on the back of elevated crude oil price forecasts (as per World Bank).

- The bunker fuel price is closely correlated to the crude oil price. The correlation between Nymex and Brent crude oil prices with the IFO380 bunker fuel price in Singapore, on average, is 97% and 99%, respectively.
- High bunker fuel price will continue to support freight rates. Over the last five years, bunker fuel costs have represented between 20% and 30% of total freight costs, on average.
- Increased time charter rates will have a more pronounced effect on freight costs than bunker fuel prices because time charter accounts for a greater proportion of freight costs (~60%).
- The implementation of IMO's 2020 global sulphur limit could potentially increase bunker fuel costs further.

The World Bank forecasts that average crude oil prices* in 2018 and 2019 to be above the past levels.



On average, bunker fuel costs have represented between 20% and 30% of total freight costs over the last five years.

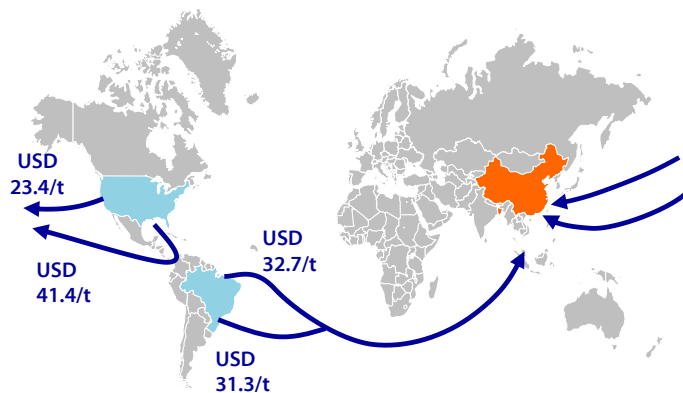


The higher the freight, the 'bigger' the world

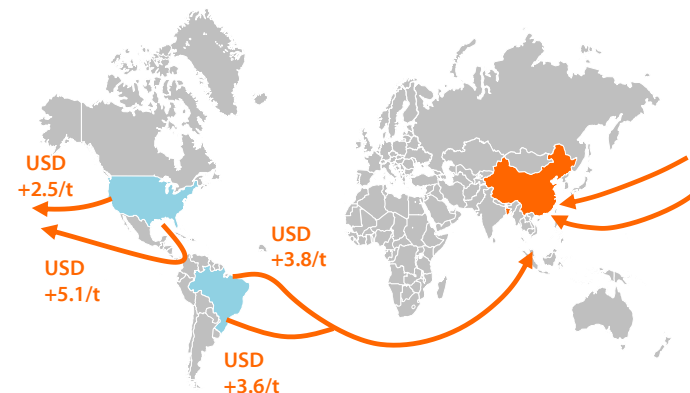
Simulation* result: G&O importers' costs—and potentially margins—will be affected by higher freight rates

- Increasing freight rates will drive up the landed cost of G&O in importing countries. In Rabobank's simulation cases below, freight rates from Southern Brazil to China show increases of between 11.4% and 62.4%. (The difference in freight rate increments between G&O exporters is in proportion to the difference between their distance to destination).
- The G&O importer's margin will be negatively affected as higher landed cost will translate to higher 'cost of goods sold'.

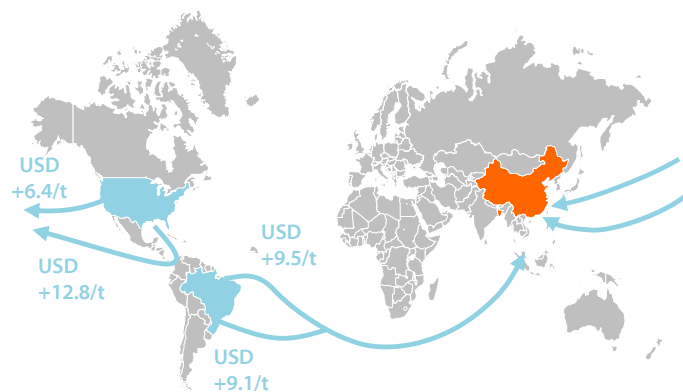
Base case: The world of today's freight (27 Oct 2017)



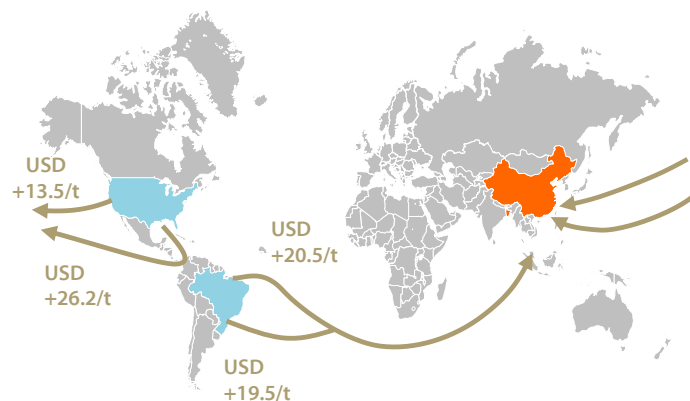
Case 1: WTI at USD 58 (+10.5%) & time charter rate +20%



Case 2: WTI at USD 60 (+14.2%) & time charter rate +50%



Case 3: WTI at USD 70 (+33.3%) & doubling of time charter rate



Sources: Rabobank 2017

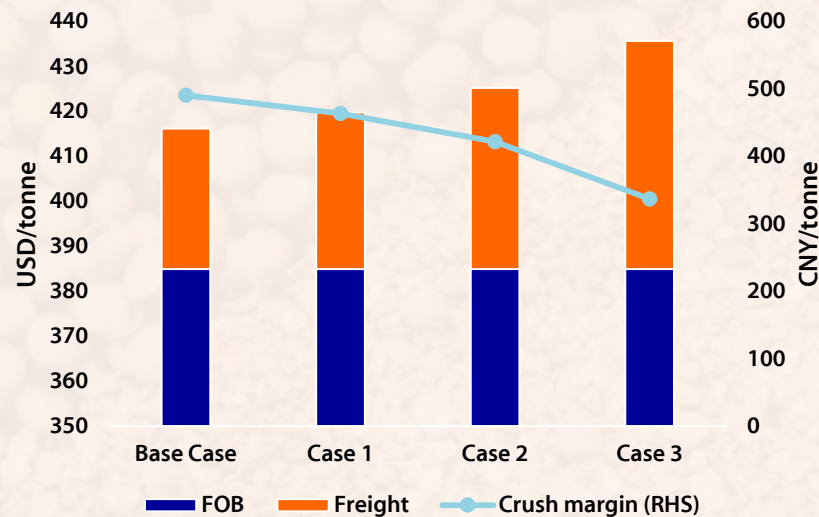
*Simulation for soybean export to China (55,000 tonnes to 60,000 tonnes) from US Gulf, US West Coast, and Southern Brazil; FX rates are unchanged in these simulation cases.

Importers' margins will be hit too...

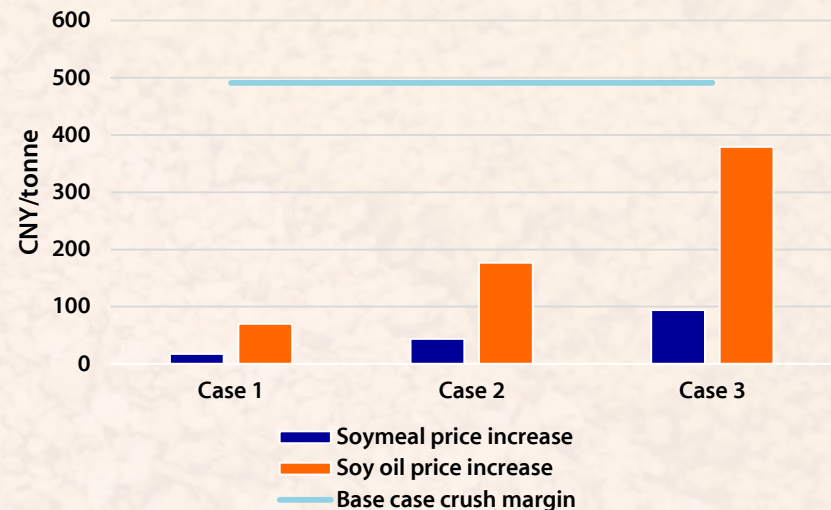
if the increase in landed cost price cannot be passed on to the customer

- In Rabobank's simulation* cases below, the landed cost of Brazilian soybeans in China will increase between 0.8% to 4.7% as freight rates increase. As a result, soybean processors' margins will be reduced between 5.1% to 31.3% as long as prices for the finished products—soymeal and soy oil—cannot be increased.
- In order to maintain the same crush margins, the Chinese domestic soymeal price will need to increase between 0.6% to 3.0% and the Chinese domestic soy oil price will need to increase between 1.1% to 6.2%.

As the Chinese landed cost of Brazilian soybeans increases, domestic crush margins decrease by 5.1% to 31.3%, compared to base case in Rabobank's simulation, Case 1 to Case 3.



In order to maintain the same crush margins as the base case, the Chinese soymeal price will need to increase between 0.6% to 3.0%, while Chinese soy oil price will need to increase by 1.1% to 6.2% in simulation cases 1-3.



Base case: The world of today's freight (27 Oct 2017); Chinese domestic soy oil price at CNY 6,150/tonne; Chinese domestic soymeal price at CNY 3,120/tonne;
Case 1: WTI at USD 58 & time charter rate +20%; Case 2: WTI at USD 60 & time charter rate +50% ; Case 3: WTI at USD 70 & doubling of time charter rate

Nearer G&O exporters less affected by freight hikes

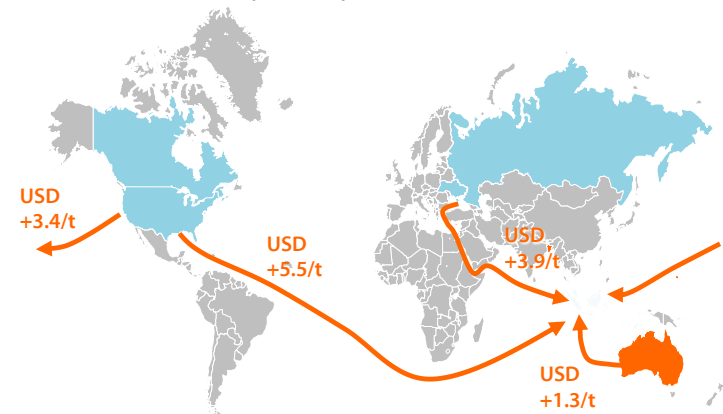
Simulation* result: Australian exporters benefit in SEA sales

- G&O exporters who are closer to their destinations will be less affected by increasing freight rates. In Rabobank's simulation cases below, freight rates from Australia to Indonesia show increases of between 10.2% and 48.6%. Freight rates from Black Sea to Indonesia show increases of between 12.8% and 60.9%.
- The G&O importer's margin will be negatively affected as higher landed cost will translate to higher 'cost of goods sold'.

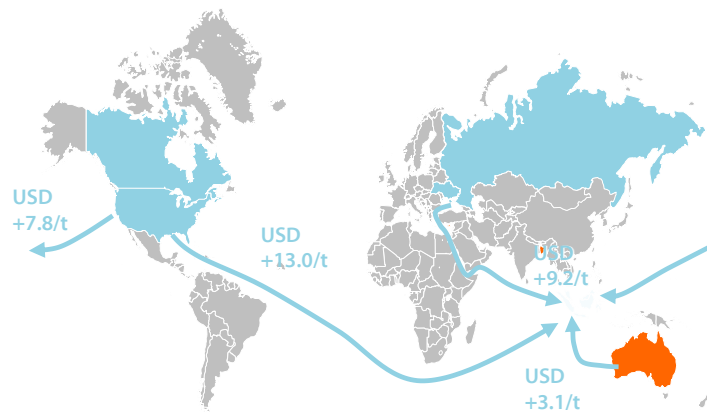
Base case: The world of today's freight (27 Oct 2017)



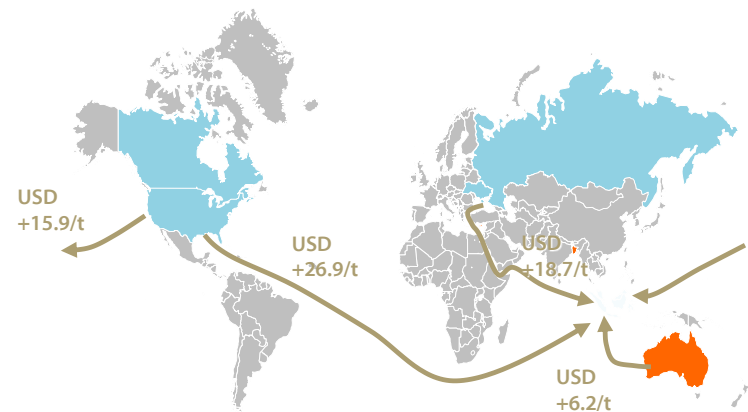
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Sources: Rabobank 2017

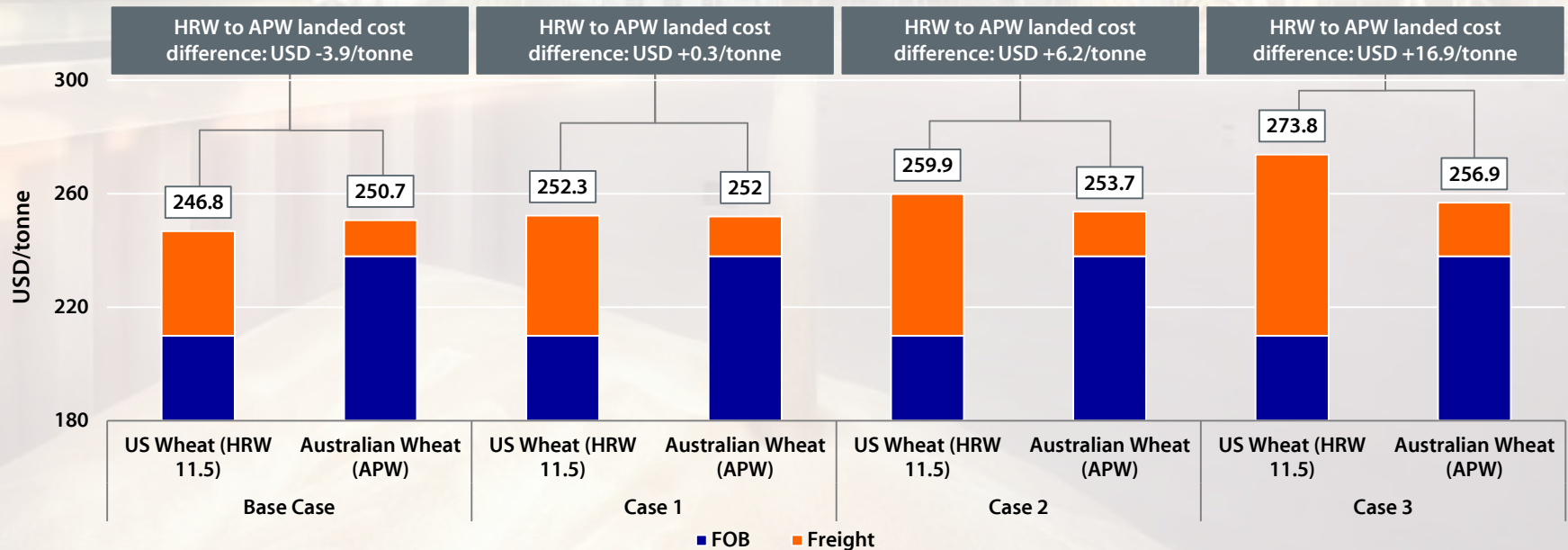
*Simulation for wheat export to Indonesia (60,000 tonnes) from US Gulf, Canada West Coast, Black Sea, and Australia; FX rates are unchanged in these simulation cases.

Exporters' margins will be negatively affected

Those located farther from their destination will have their competitiveness reduced more

- Increasing freight rates will reduce the competitiveness of G&O exporters located farther from their destination, compared to nearer G&O exporters. In Rabobank's simulation* base case below, the landed cost of US wheat to Indonesia is 1.6% cheaper compared to Australian wheat. However, this competitive edge will lessen as freight rates increase. In Rabobank's simulation cases 1 through 3, the landed cost of US wheat in Indonesia will be 0.1% to 6.5% more expensive.
- G&O exporters at a greater distance from their destination will need to reduce their 'G&O purchasing costs, supply chain costs and margins' to trim their FOB price so they can compete with nearer G&O exporters.

As freight rates increase, landed cost of US wheat in Indonesia will be 0.1% to 6.5% more expensive, causing it to lose its competitive advantage.



Base case: The world of today's freight (27 Oct 2017); Case 1: WTI at USD 58 & time charter rate +20%; Case 2: WTI at USD 60 & time charter rate +50%; Case 3: WTI at USD 70 & doubling of time charter rate

Source: Rabobank 2017

*Simulation for wheat export to Indonesia (60,000 tonnes) from US Gulf, Canada West Coast, Black Sea, and Australia; FX rates are unchanged in these simulation cases.

Strategic options for G&O players to preserve margins in rising freight rate environment



Appropriate shipping strategy

- G&O exporters/importers should choose shipping strategies such as 'Contract of Affreightment (COA)', 'Time charter', or 'Spot', appropriate to their business requirements.
- For some companies, investing in dry bulk carriers may be an option if they have the right set-up. These companies need to implement a suitable bunker hedging policy.



Improving supply chain efficiency

- G&O exporters/importers could improve or preserve their margins by continuing to invest/improve throughout the supply chain. This would reduce the base cost of exporting/importing G&O.
- Efficient supply chains will help to prevent/reduce laytime and demurrage costs. Laytime and demurrage costs are typically charged per running day.



Appropriate origination and procurement strategy

- G&O exporters/importers should develop fitting origination/procurement strategies to reduce the base cost of exporting/importing G&O.
- Potential for G&O exporters/importers to investigate other origins for supply to save on costs.

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for Food

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