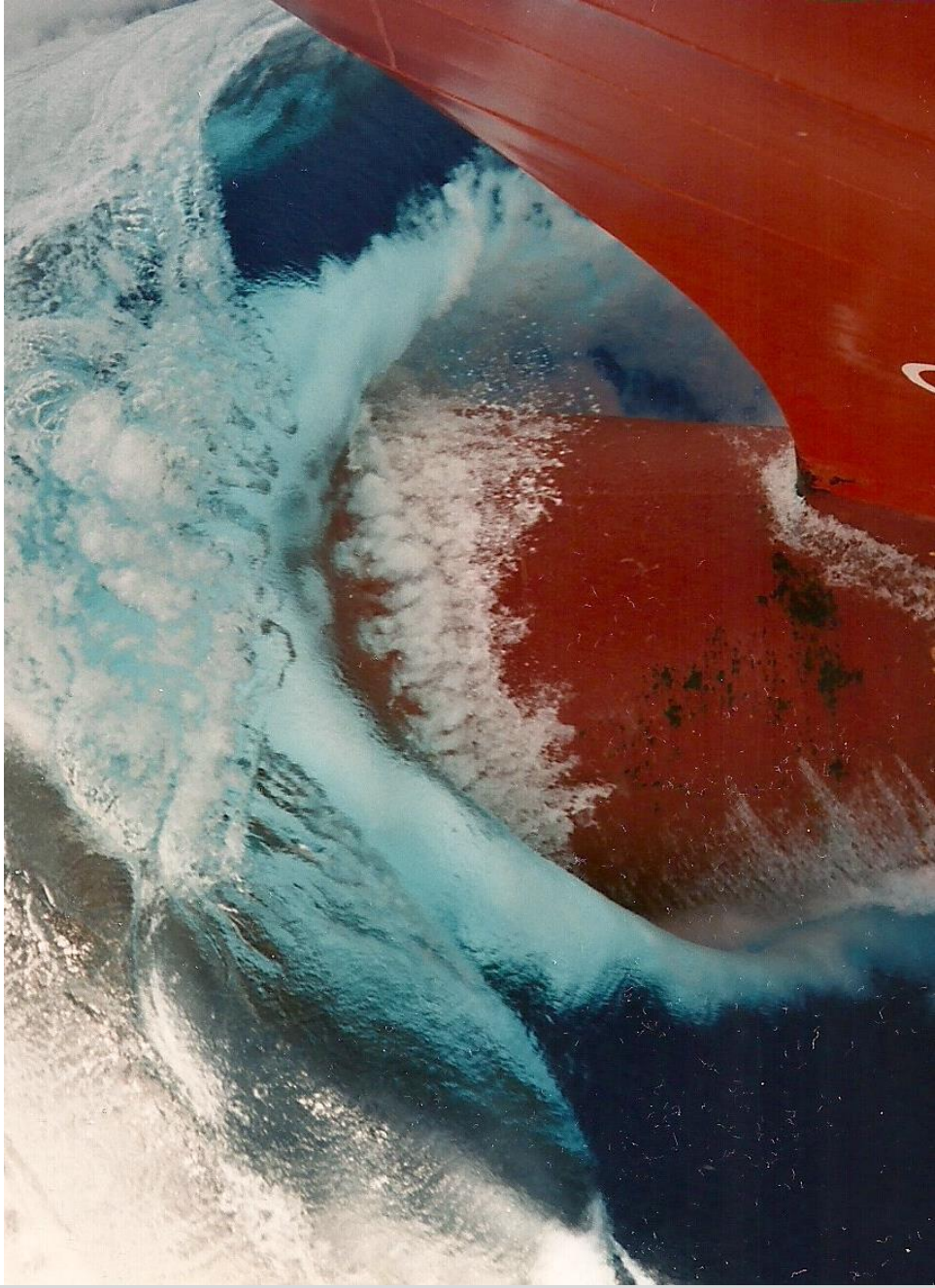
Dry bulk market outlook

Eighth City of London Biennial Meeting

IMO, November 17th 2016

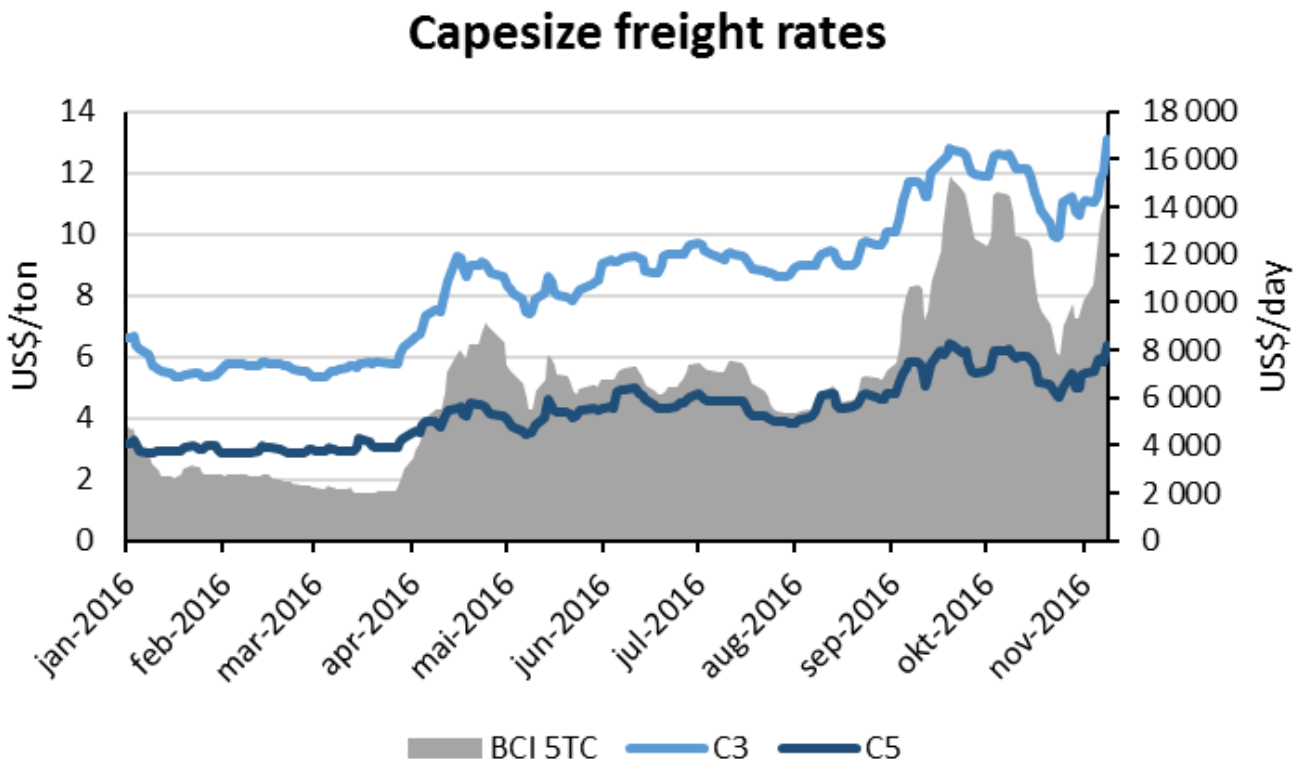


Lorentzen & Stemoco

Executive Summary

- **China's economic stimulus package has shifted the dry bulk shipping market into a higher gear.** Fearing a fall-out in US and EU export markets, the Chinese government has unveiled a push for domestic manufacturing, particularly involved in infrastructure projects and real estate. The result has been an increase in demand for steel, and importantly dry bulk feedstock such as iron ore and metallurgical coal.
- Steelmaking commodity prices for iron ore and met coal have surged, starting to justify Chinese domestic production and possibly dampening the surge in imports from overseas producers in servicing the revived steel industry.
- **For the first time in history, imports of iron ore will surpass 1 billion tons into China on an annual basis**, meeting the increased demand and the shutdown in Chinese mining. By comparison, stocks of iron ore in China only account for less than a month's consumption, indicating that the imports are going directly to the blast furnaces. Higher exports, at increased commodity prices, are a boon to overseas mining companies Vale, Rio Tinto and BHP Billiton.
- **Coal is also coming in greater demand, driven by a government target to cut production**, spurring prices and drawing down on stocks. Imports have excelled expectations, possibly ending at 250 million tons, returning China as the largest coal importer over India.
- **While the dry bulk market is growing at a healthy 3% clip, the supply growth is less than 2% meaning that the tonnage balance is tightening and idle vessels are pulled back into the active market. Stronger spot freight rates and the prospect of a firming upcoming year have raised timecharter rates to US$ 9,500/day for 11-13 month duration contracts, approaching cash break-even costs.**
- **Second-hand prices have surged significantly in the course of the year, particularly for geared bulk carriers built in Japan**

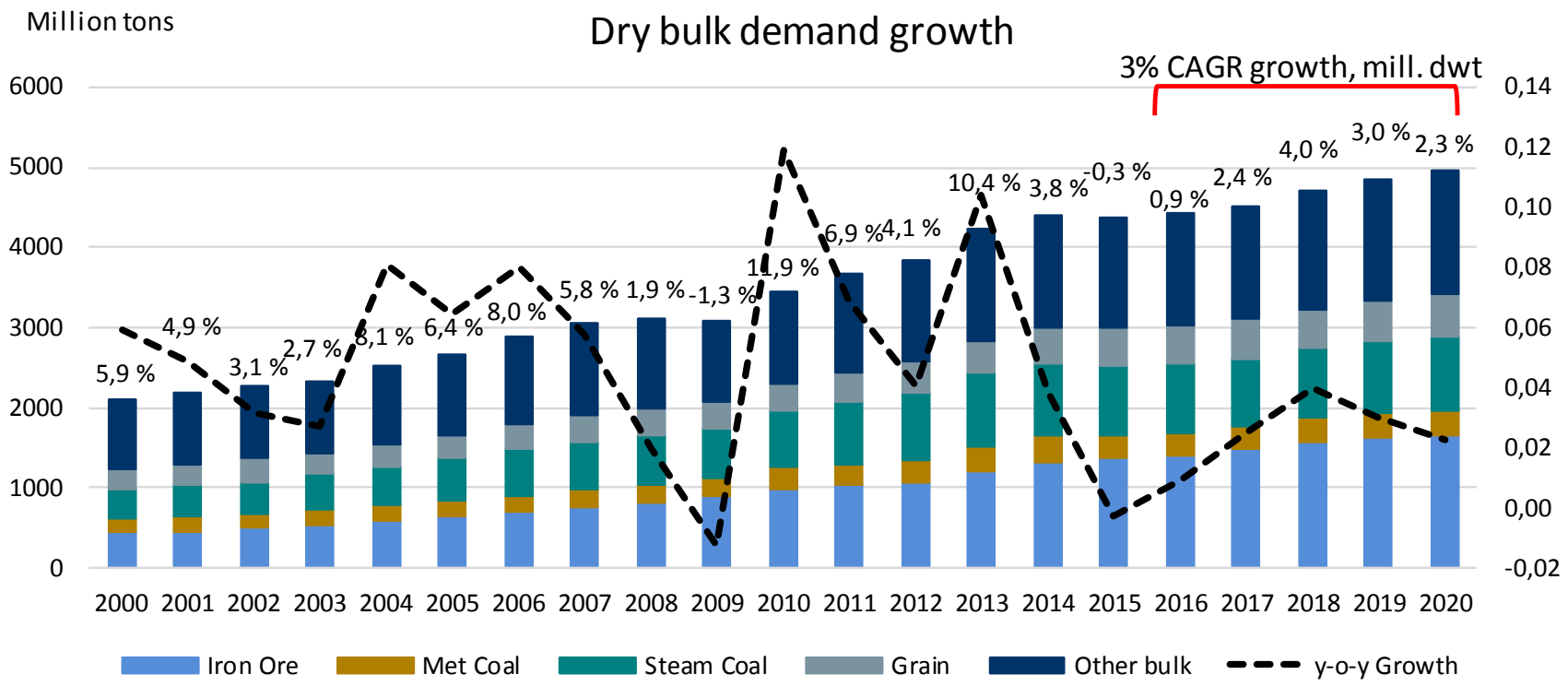
Capesize freight rates are surging to all-year-high



- **Capesize freight rates are starting to cover shipowners' cash break-even costs, including financing**
- Freight rates have spiralled into November 2016, driven by more activity out of Brasil and West Australia to China, causing shipowners to generate over US$ 16,000/day.
- Can the firming market sustain, or is it just temporary?

Source: Baltic Exchange

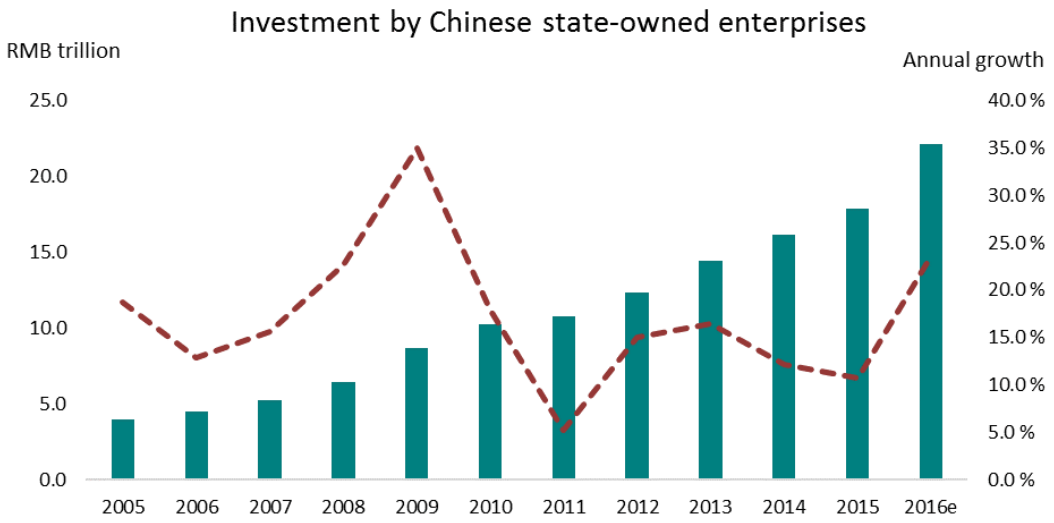
Demand – Accelerated growth into 2017



- **We expect the dry bulk market to grow by 3% until 2020 on a CAGR-basis, measured by mill. dwt**
- The Chinese government is stimulating the economy with fiscal measures reminiscent of the 2008 package, aimed at supporting ailing manufactures, in the wake of failing export markets. Higher demand for steel will drive overseas requirements for iron ore and metallurgical coal, as domestic supplies are pressured. India will also be an important contributing growth factor

Source: MSI, National Bureau of Statistics

Chinese state-owned enterprises stepping up investments

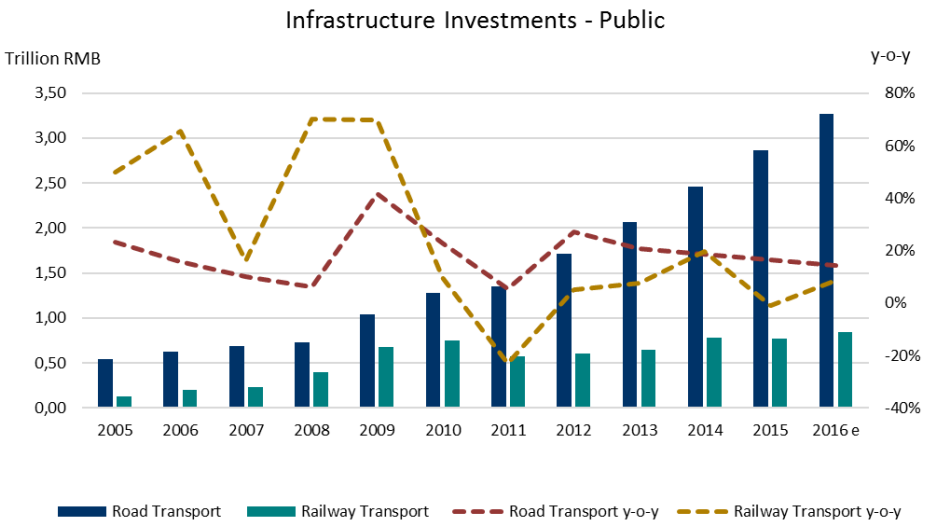


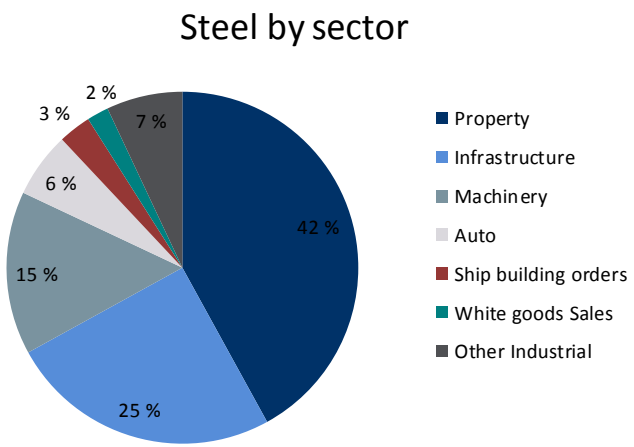
- The Chinese stimulus package, unveiled in Q1 2016, is expected to account for 5-7% of Chinese GDP, meaning up to 5 trillion RMB
- Chinese authorities are currently stepping up efforts to revive economic growth, fearing a fallout in the second biggest trade partner, EU
- State-owned enterprises are stepping up investments at the strongest pace since 2008-'09, running at almost 25% increase compared to last year

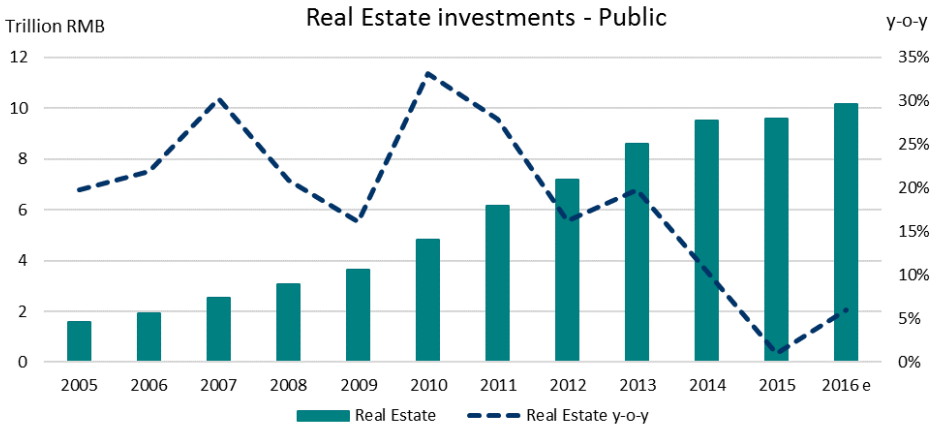
Source: National Bureau of Statistics, China

Chinese stimulus package targeting infrastructure, real estate

- Infrastructure investments are high on the agenda; Spending on roads and railways is up by 15% and 9%, respectively, during the first nine months of 2016 compared to last year
- Public investment on real estate is also being revived, growing by 6% year-to-date
- The investments are highly steel-intensive, impacting positively on demand for steel







Source: Lorentzen & Stemoco Research/ National Bureau of Statistics, China

Steel prices starting to find support again

- Steel prices have increased by more than 70% since the start of the year, and driven mills to maintain high production
- Chinese steel production gone up every month since March 2016, compared with a year ago. In October, steel production was up by 4% y-o-y
- The government is aiming to shut down capacity between 100 and 150 million tons, of a total of 1.1 bn tons.
- The Chinese government has said it wants to consolidate the steel industry, and the move by Baosteel to acquire Wuhan Steel would realize such plans. Magang Group could be a third member of the proposed southern group.
- Shougang and Hebei could form a northern group; if so, the northern group is likely to be larger than the southern group by 16 million tons

Rank and name	Output (mill mt)	% Change
1. Hebei Iron & Steel Group	47.45	1.3
2. Baosteel Group	34.94	-2.6
3. Jiangsu Shagang Group	34.21	-3.2
4. Ansteel Group	31.58	-8.1
5. Shougang Group	28.55	-7.2
6. Wuhan Iron & Steel Group	25.78	-6.6
7. Shandong Iron & Steel Group	21.69	-7.1
8. Magang (Group) Holding Co	**18.82**	**-0.4**
9. Bohai Steel Group	16.27	-11.9
10. Beijing Jianlong Heavy Industry Group	15.14	-0.8

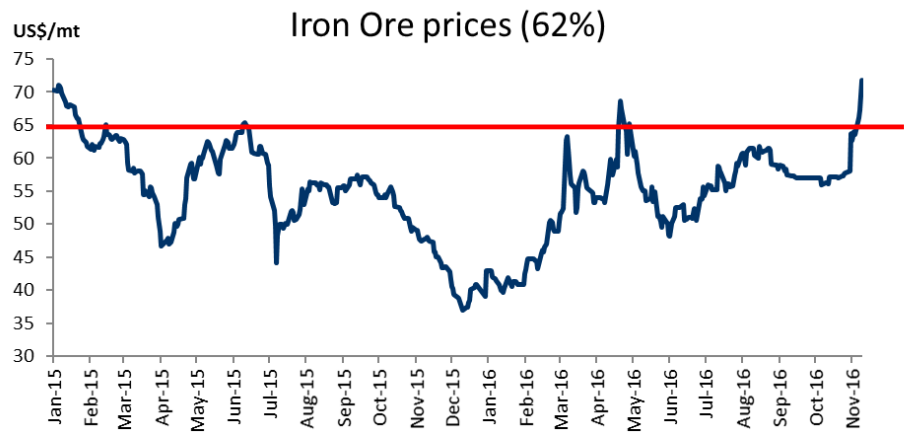
Could be a third member of the proposed southern group

Driven mills to maintain high production

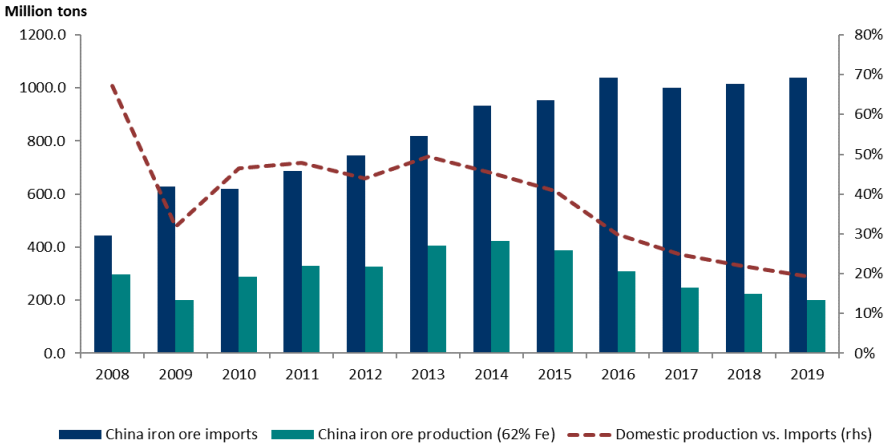
Source: MSI, Barchart, World Steel, Platts

Iron ore imports will exceed 1 bn tons this year

- Chinese steel prices have given mills more cash to restock inventories, although stocks of iron ore in port are under one month's consumption
- Iron ore prices surging above domestic miners' cash break-even costs of US$ 65-70 per ton, will lead to a rebound in Chinese iron ore production, dampening the surge in imports
- Imports of iron ore into China have increased by 9% so far this year to 843.8 million tons by October, and expected to total 1038 million tons this year



	2015	2016	2017	2018	2019
Steel Production	845.4	854	862	879	879
Steel Production Blast Furnace	769	768	754	747	747
Iron ore needed	1308	1306	1282	1270	1270
Domestic iron ore production	388	310	248	223	201
Import iron ore	953	1038	1034	1047	1069
Port Inventories 31. Dec	93				
Stock buildup/drawdown	30	42			

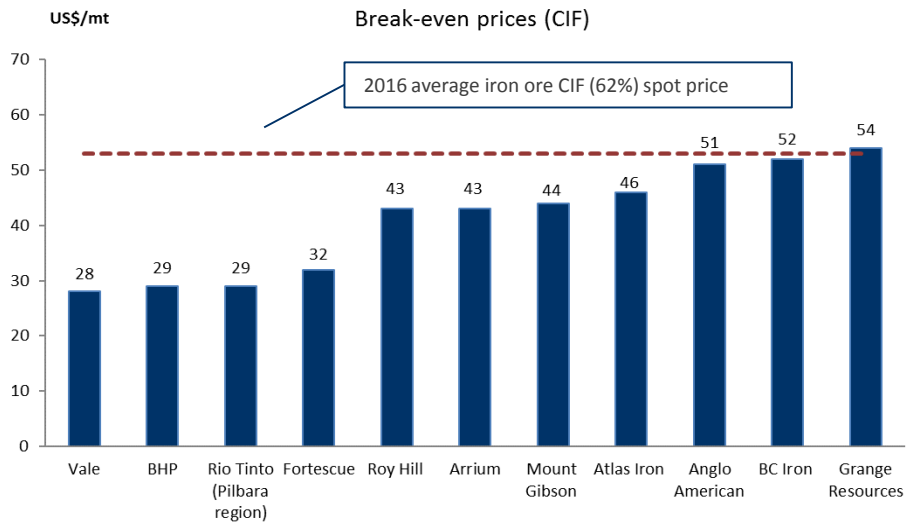


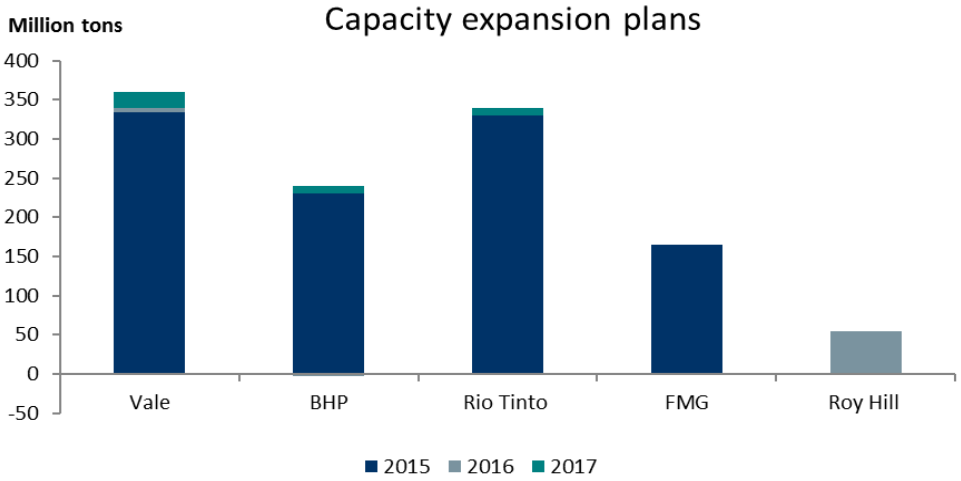
Iron ore prices to stabilize around US$50/t

Source: Barchart, L&S Shanghai

Most miners are selling iron ore with profit again

- Australia and Brazil are increasing their share of the Chinese market, now accounting for 85% of all iron ore imports to China
- Both Australia and Brazil are expected to continue winning market share in China, primarily at the expense of India
- Most overseas miners are producing with profit on today's iron ore spot price, currently being in the high US$50/t
- Higher prices will be undermined by more supply coming in 2H 2016 from Rio Tinto, BHP Billiton and Vale, pressuring high-cost producers in China

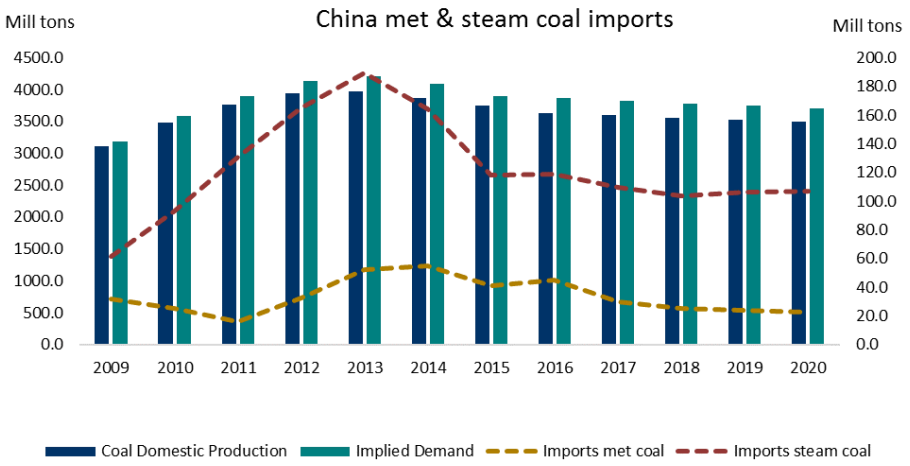


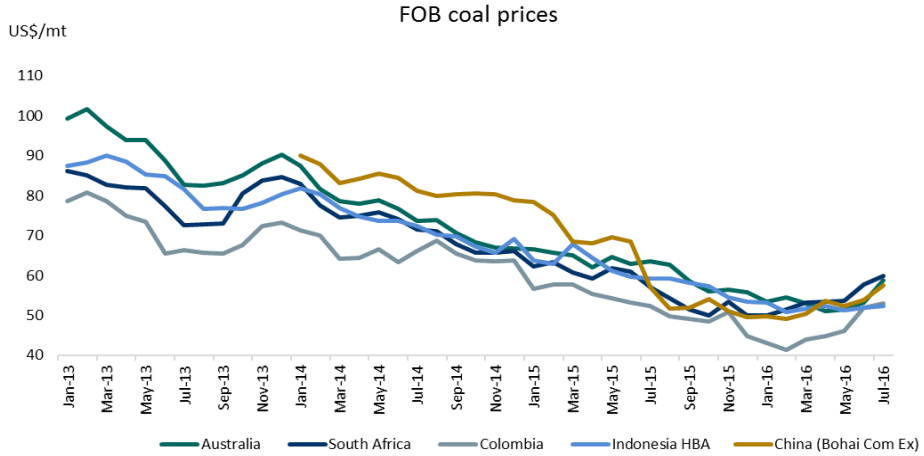


Source: Vale, Rio Tinto, BHP

China coal imports rising on reduced domestic supply

- Imports of thermal, met and lignite coal for the first ten months of 2016 ended at 201.9 million tons, up 18.5% y-o-y
- The government has targeted closing down 280 million tons of mining capacity in 2016, leading prices to surge and inventories to fall to critically low levels. Steel mills and power plants have thus been compelled to import from overseas mines
- However, Beijing has allowed coal producers to ramp up production again, possibly dampening the rush in imports by year-end



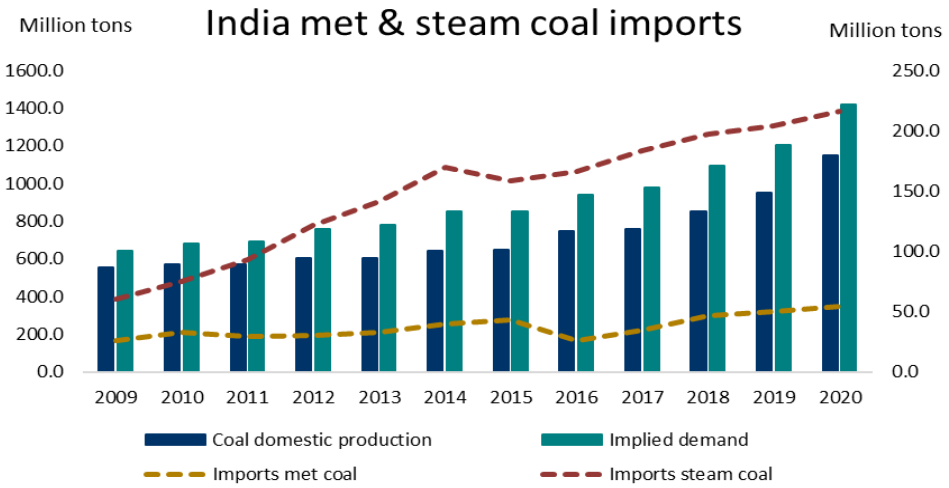


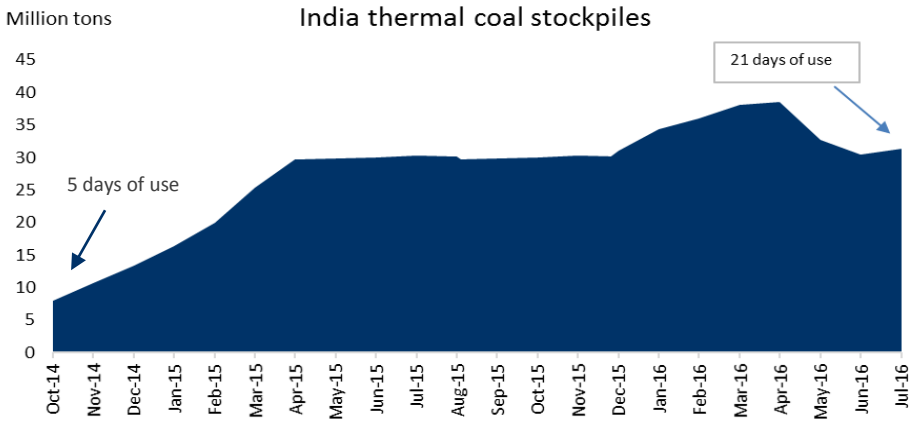
Supply reduction measures have limited production by 10%

Source: BP, MSI

Indian coal imports have disappointed

- Coal imports to India fell 13.7% in October to 15.6 million tons
- Higher international prices and built-up stocks are dampening import fervor into India. Coal India has ramped up production significantly, helping to reduce the import bill
- The price of South African standard steam coal with 6000 Kcal/kg NAR calorific value has risen by 30% From July 1st to September 30th, while met coal prices have more than doubled over the period





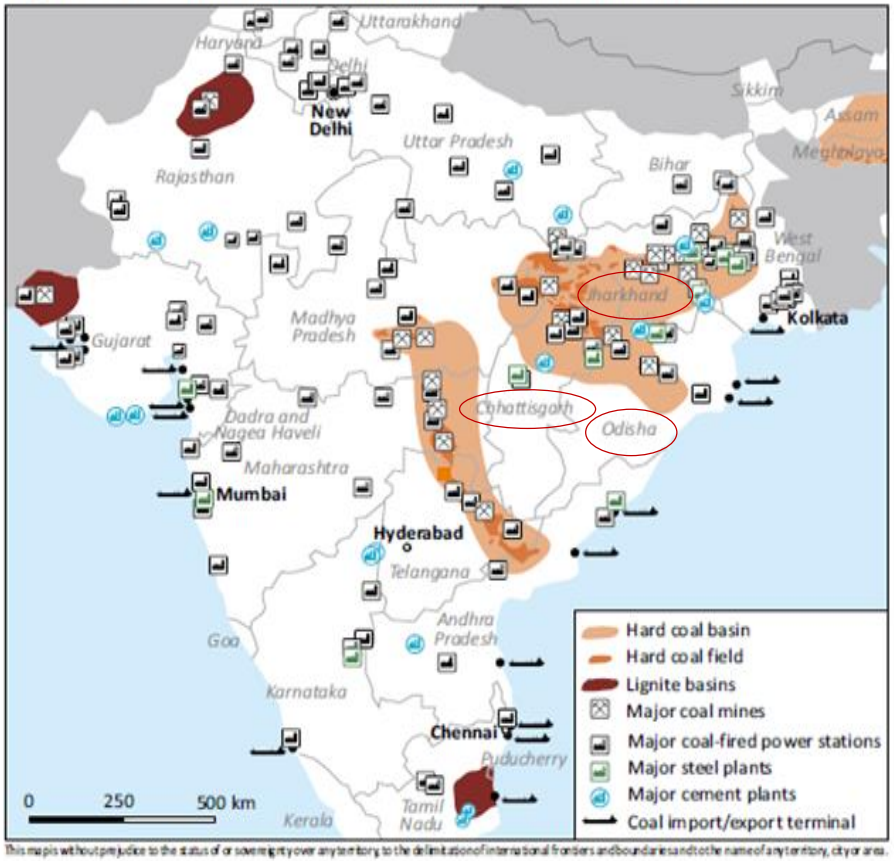
Higher international prices and increased domestic production working to reduce imports

Source: MSI, CEA.nic.in

Logistical bottlenecks maintaining still-high Indian imports

- The geographical mismatch between location of producers and consumers in addition to bottlenecks in transport infrastructure have contributed to past coal shortages
- Many plants are located across the country, closer to power demand hubs in order to save on the cost of electricity network expansion and to enhance power system reliability.
- Indian railways are now operating at full capacity, and delays are hampering output growth at several mines already
- CIL has now planned for construction of three major railway infrastructure projects in Jharkhand, Odisha and Chhattisgarh
- The growth in low-energy coal production is putting pressure on the transportation sector, as it has to handle even higher volumes of the product of which generates "less" energy.

Figure 3.7 ▷ Main coal-mining areas and coal infrastructure in India

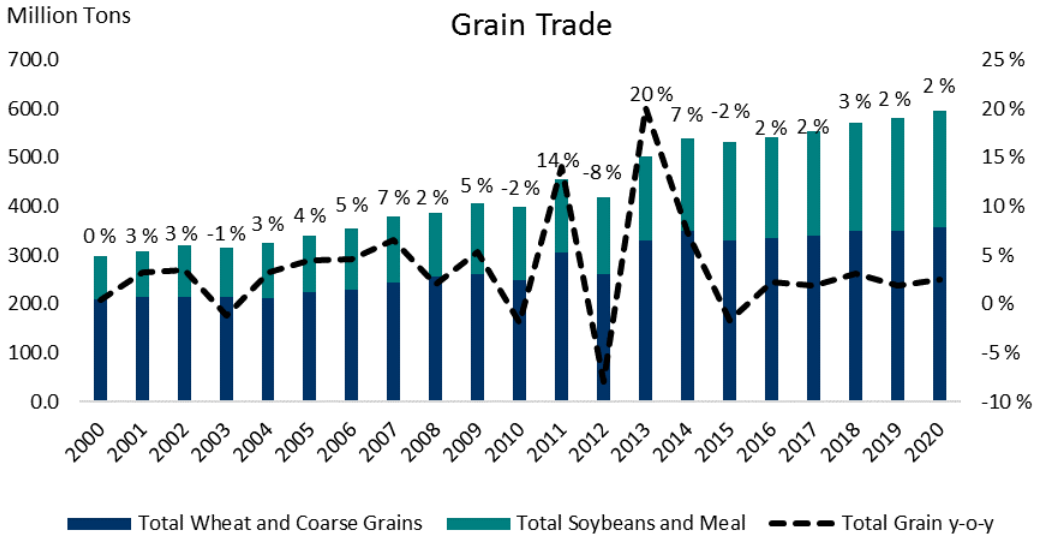


This map is without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

Source: IEA

Grain trade driven by US exports into Q4 2016

- US export estimates have risen thanks to other major suppliers showing poorer yields.
- Russia is forecast to be the world's largest wheat exporter. Increased exportable supplies and flat domestic demand enables Russia to export 30 million ton of wheat in 2016/17.
- The EU sees a 7 million reduction in wheat exports for 2016/17 on rain in key growing regions, France in particular which expects lowest yields in 30 years
- Chinese soybean imports up almost 10% y-o-y 1H16 ending at 38.6 million tons
- Continued strong demand for soybean products will result in another season of tightening stocks worldwide
- US Soybean exports of 51 million tons in 2015/16 and 53 million tons in 2016/17

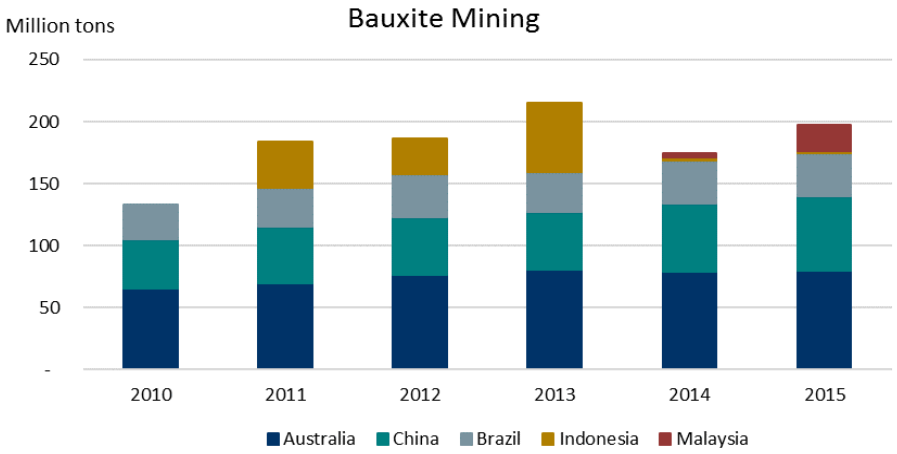


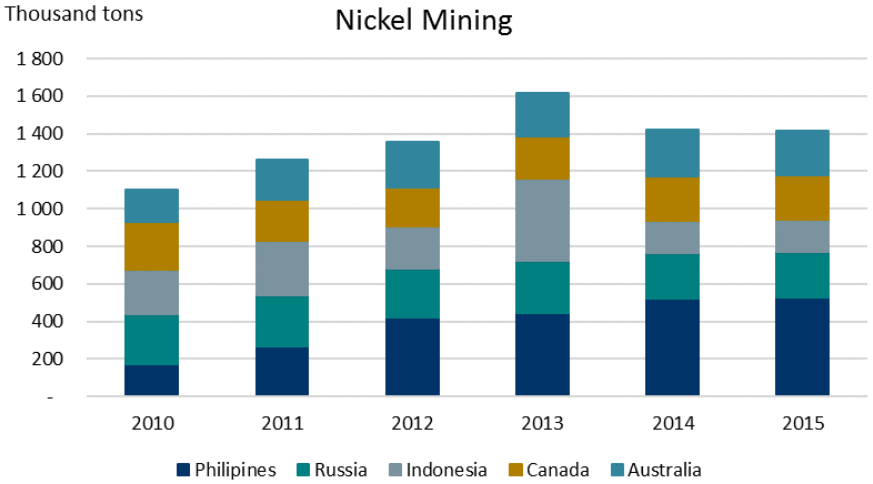
Average trading distances are incrasing, positively impacting tonne mile demand

Source: MSI

Bauxite and nickel markets constrained by supply concerns

- The ban on exports of unprocessed ores from Indonesia in 2013 and mining accidents in Malaysia has altered the trade flows of bauxite to China, with more being sourced from Western Australia, Guinea and Brazil
- The Filipino government has suspended the seventh nickel miner in a month because of environmental concerns. Currently the biggest supplier of nickel ore, the Philippines has suspended production from the miners in the await of an audit on mining companies' compliance, impacting short-to-medium term negatively pre-dominantly the Supra/Ultramax segment



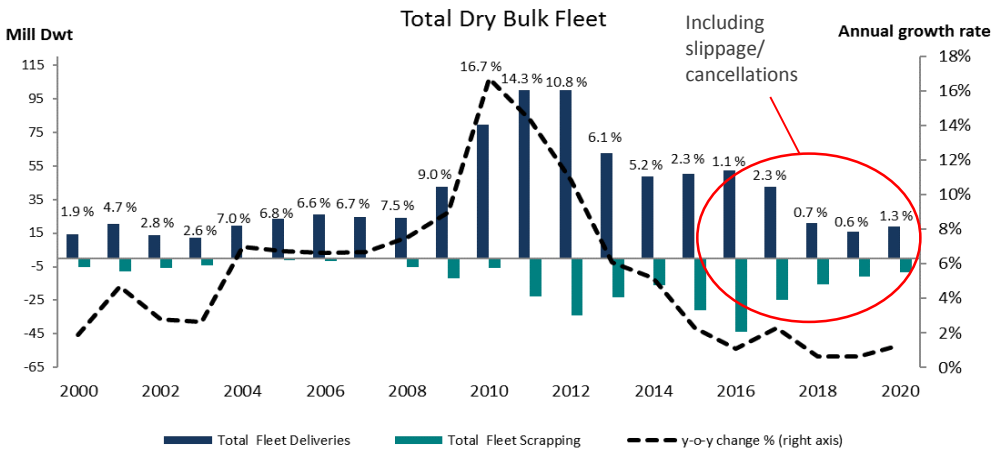


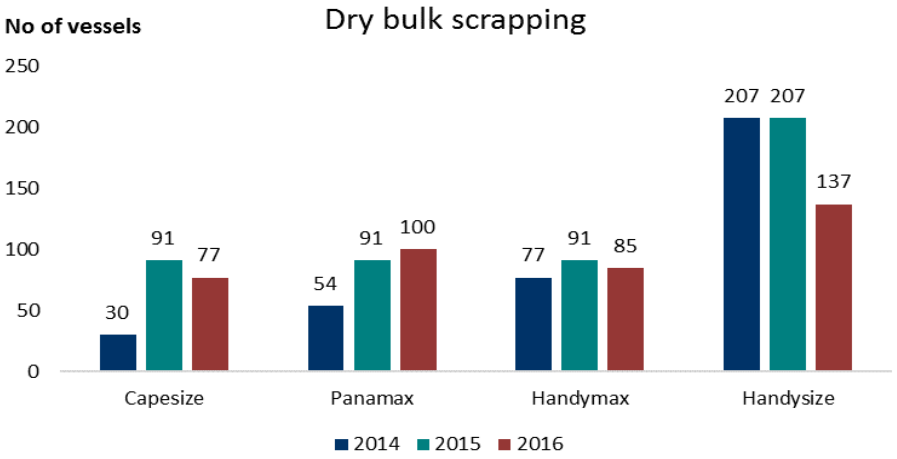
Mining in Malaysia and the Philippines coming under scrutiny

Source: MSI

Dry bulk fleet growth and scrapping

- Scrapping of over 27 million dwt year to date suggests that about 30 million dwt could be demolished in the course of the year
- Heavy scrapping of bulk carriers together with slippage and cancellations will nearly flatten out fleet growth this year
- Scheduled deliveries of 93 million dwt will be offset by 20 mill dwt in cancellations and 25 million dwt in slippage, meaning deliveries for 2016 will amount to 48 million dwt
- We expect a fleet growth of 2% in 2016 and 0.7% in 2017



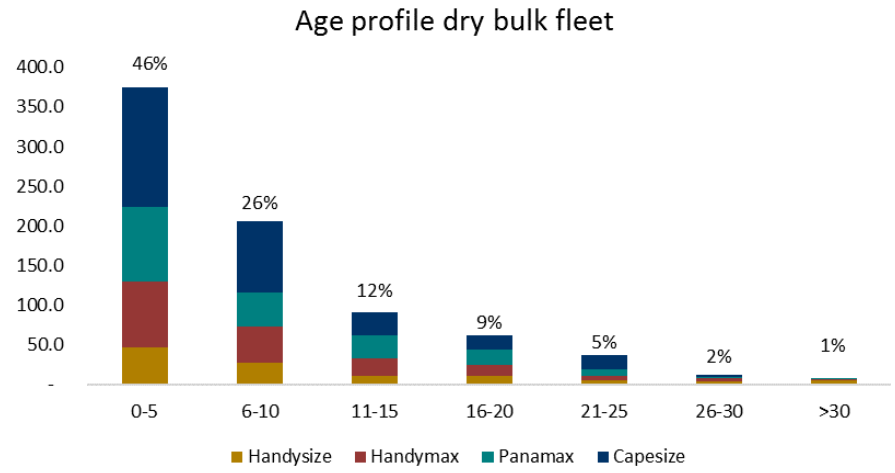


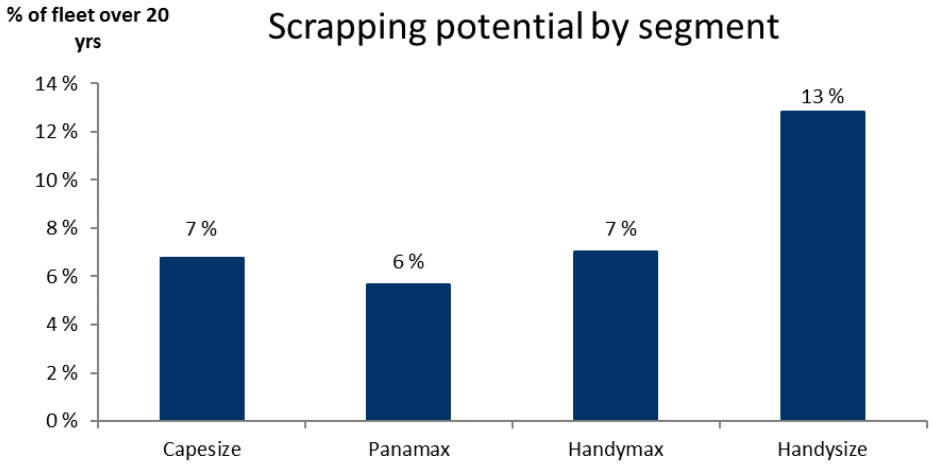
Total dry bulk fleet includes vessels from 10 000 dwt to 420 000 dwt

Source: AxsSnP, MSI

Age profile and scrapping potential

- About 8% of the fleet is over 20 years of age, and should be considered scrapping candidates
- Ageing vessels are predominantly in the Panamax and Handymax fleet along with vintage Handysize bulk carriers
- Newer VLOCs and Capesize bc as well as Kamsarmax bc and Ultramax bc have largely substituted for the older vessels
- Removing the scrapping candidates from the fleet would go a long way in restoring the tonnage balance

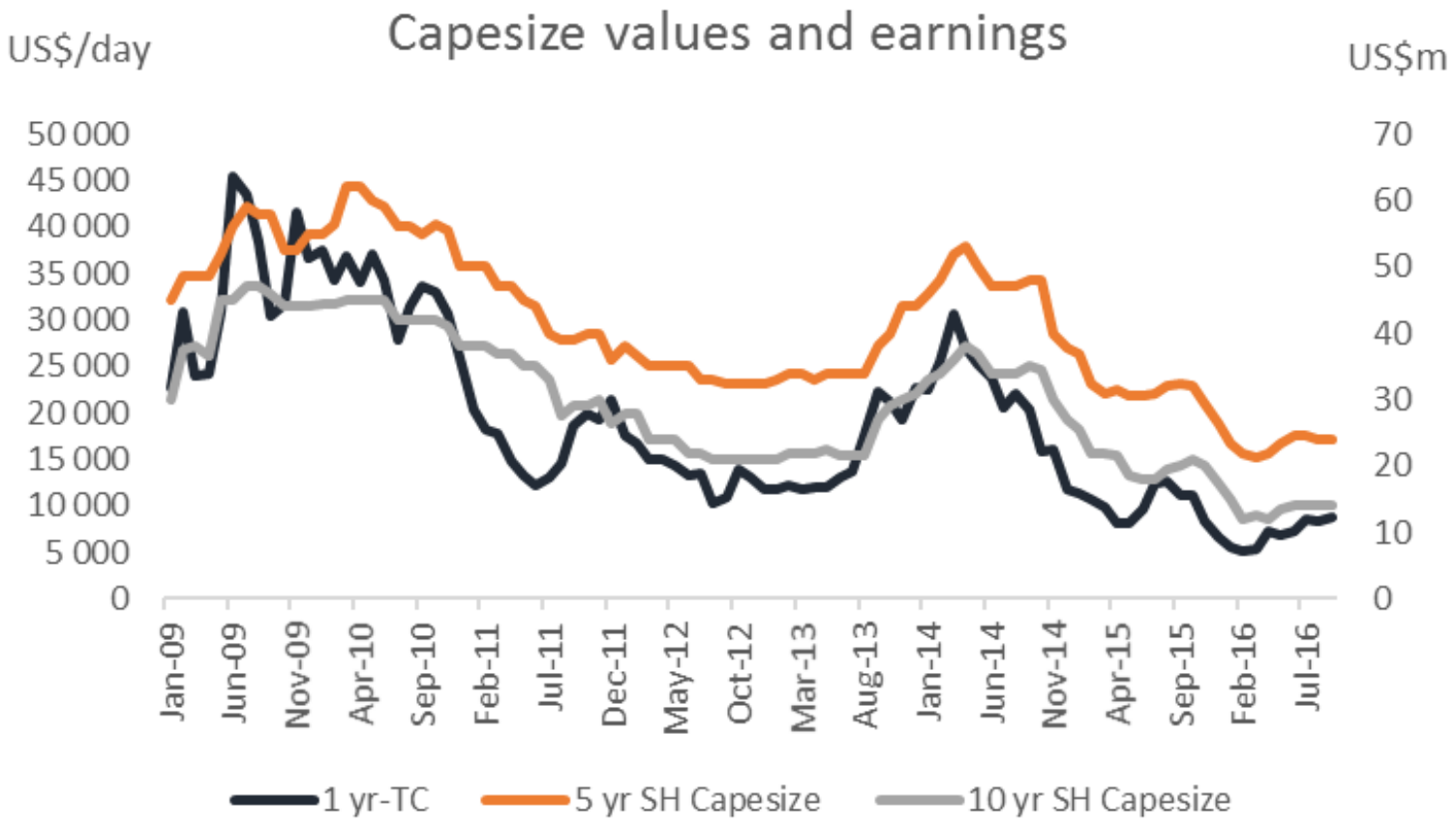




Removing vessels over 20 years from the fleet would restore tonnage balance

Source: Lorentzen & Stemoco Research

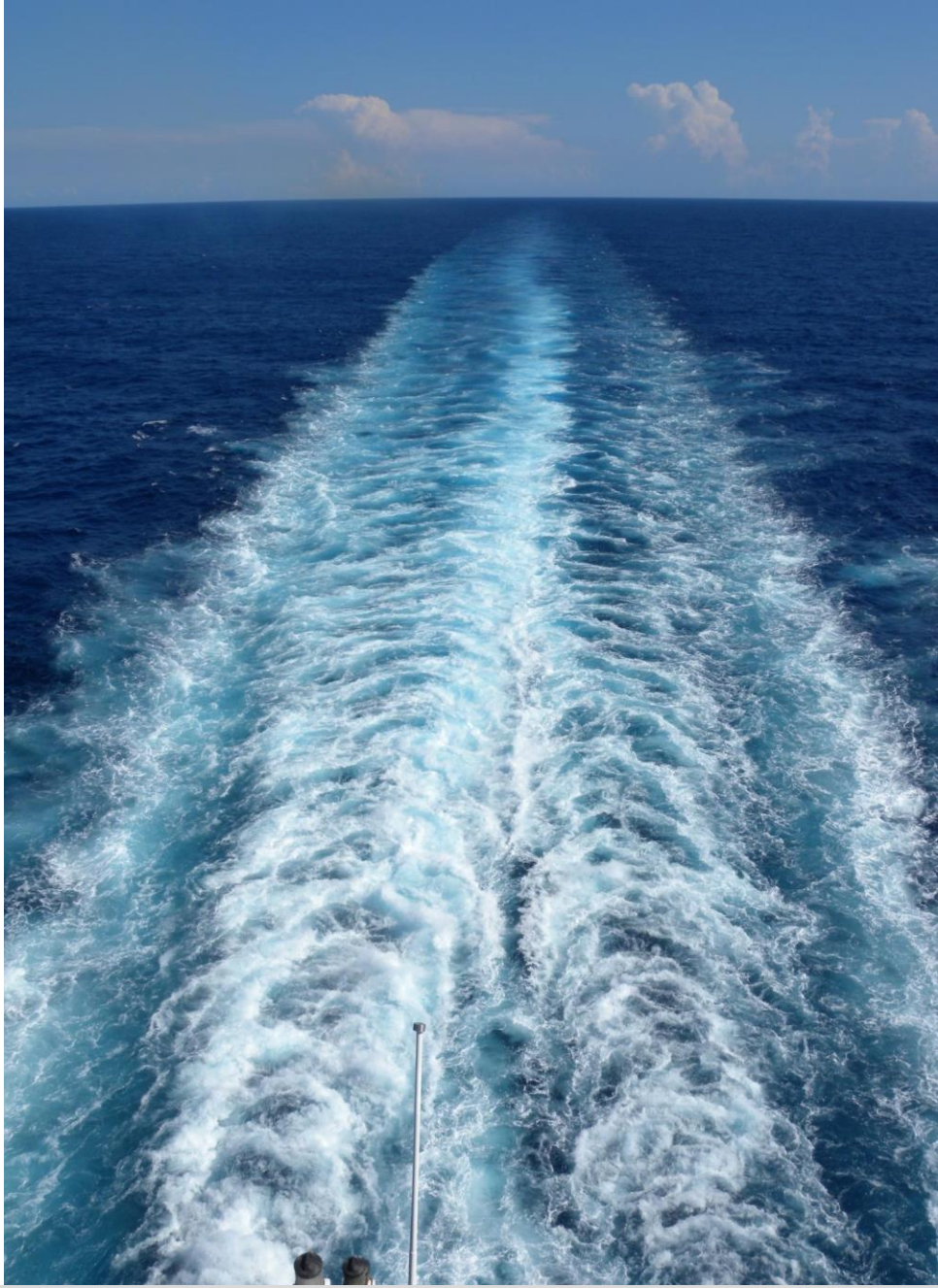
Values



Values expected to find support towards 2017 on firming earnings in the freight market

Source: Vessels Value, L&S SnP, Baltic Exchange

Appendices



Rate Forecast Capesize

Base Case	Status Aug 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017
Extra demand Vessels	50	26.0	26.0	14.5	14.5	14.5	14.5
Demand for Capesize bulk carriers	1275	1301	1327.0	1341.5	1356.0	1370.5	1385.0
Fleet end Quarter	1620	1615	1612	1617	1622	1627	1637
Vessel capacity utilization	**79 %**	**81 %**	**82 %**	**83 %**	**84 %**	**84 %**	**85 %**
Assumptions:							
Deliveries ytd.	70						
Expected deliveries		15	10	30	30	20	20
Scrapping ytd	77						
Expected Scrappings		20	13	25	25	15	10
BCI-5TC US$/day	**4 700**	**8 800**	**9 000**	**9 500**	**10 000**	**10 500**	**12 000**
C3 US$/mt	**7.00**	**10.10**	**11.20**	**11.98**	**12.00**	**12.33**	**12.60**
C3 TCE US$/day	**4 875**	**8 900**	**9 800**	**9 900**	**10 600**	**11 150**	**12 700**
C5 US$/mt	**4.00**	**4.60**	**4.96**	**5.35**	**5.35**	**5.35**	**5.60**
C5 TCE US$/day	**4 395**	**8 000**	**8 800**	**9 360**	**9 890**	**10 430**	**11 800**

Capesize bulk carriers likely to earn US$10,000/day in 12 months

Source: Lorentzen & Stemoco Research

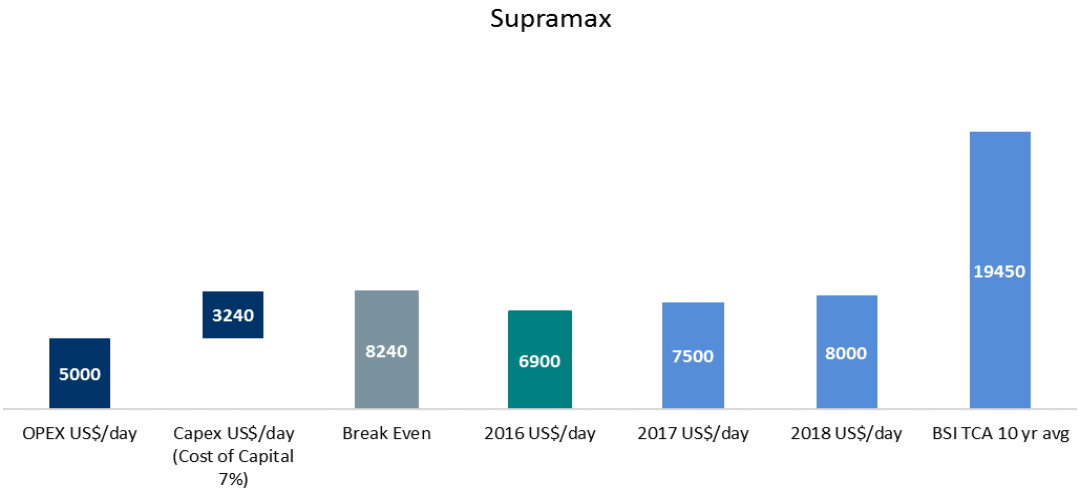
Rate Forecast – Supramax/Ultramax

Breakeven Case Study	
Ship Value 4 YR Ultramax (Chinese)	**12 500 000**
Vessel life (years)	21
Estimates scrap price USD/lwt	255
Lightweight (lwt)	10 000
Vessel residual value	2 550 000
Cost of capital	7.0 %
Periods per year	365
Operating days per year	355
CAPEX USD/day	3 053
OPEX USD/day	5 000
Cash Breakeven	8 053

Breakeven Case Study	
Ship Value 5 YR Supramax (Japanese)	**13 000 000**
Vessel life (years)	20
Estimates scrap price USD/lwt	255
Lightweight (lwt)	10 000
Vessel residual value	2 550 000
Cost of capital	7.0 %
Periods per year	365
Operating days per year	355
CAPEX USD/day	3 240
OPEX USD/day	5 000
Cash Breakeven	8 240

40-64 999 dwt

Numbers in mill dwt	End 2015	2016	2017	2018
Extra demand		4.3	4.4	4.6
Demand for Handy/ Supra/Ultramaxes	143.3	147.6	152.0	156.6
Fleet yr end	179.1	180.6	186.0	187.7
Vessel Capacity Utilization	80 %	82 %	82 %	83 %
Rate Expectations US$/day (Supramax)	6900	5200-6900	7000-8000	7 500-9000
Rate Expectations US$/day (Ultramax)		6500-7500	8000-9000	9000-10500
Assumptions:				
Deliveries ytd.		7.94		
Expected deliveries		14.5	10.0	4.7
Scrapping ytd		3.7		
Expected Scrappings		6.4	4.7	3.0



Ultra/Supramax investments appear attractive

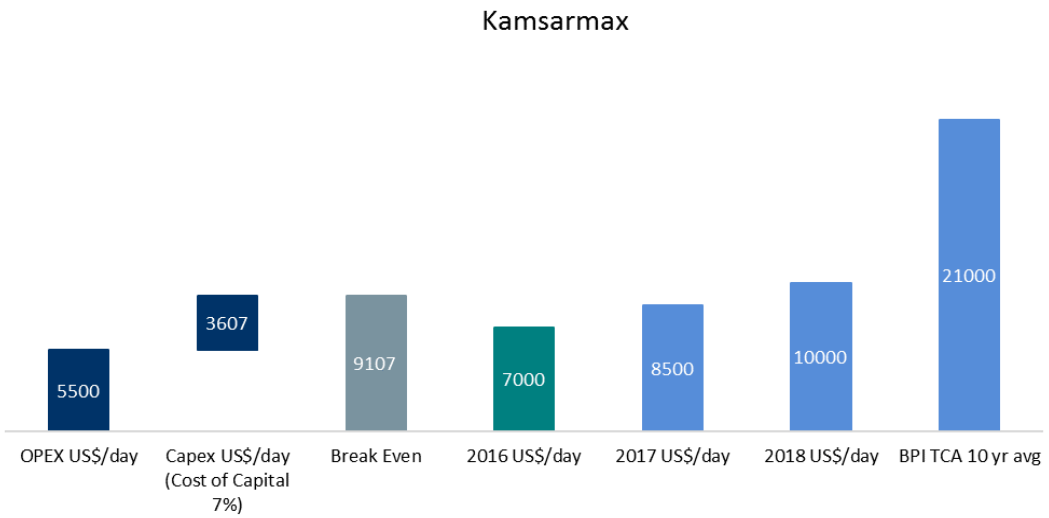
Source:AxsSnP, MSI, L&S research

Rate Forecast – Panamax/Kamsarmax

Breakeven Case Study	
Ship Value 5 YR Kamsarmax (Japanese)	**14 500 000**
Vessel life (years)	20
Estimates scrap price USD/lwt	255
Lightweight (lwt)	11 600
Vessel residual value	2 958 000
Cost of capital	7.0 %
Periods per year	365
Operating days per year	355
CAPEX USD/day	3 607
OPEX USD/day	5 500
Cash Breakeven	9 107

65-99 999 dwt

Numbers in mill dwt	End 2015	2016	2017	2018
Extra demand		4.851	5.0	5.1
Demand for Panamaxes	161.7	166.6	171.5	176.7
Fleet yr end	210	211.2	214.7	213.8
Vessel Capacity Utilization	77 %	79 %	80 %	83 %
Rate Expectations US$/day (Panamax)	**5600**	**4 500-6000**	**6000-7500**	**7500-9000**
Rate Expectations US$/day (Kamsarmax)		**6000-7000**	**7000-8500**	**8500-10000**
Assumptions:				
Deliveries ytd.		6.6		
Expected deliveries		13.2	9.9	4.3
Scrapping ytd		6.72		
Expected Scrappings		12	6.4	5.2



Kamsarmax bc starting to break even in 2018

Source:AxsSnP, MSI, L&S research

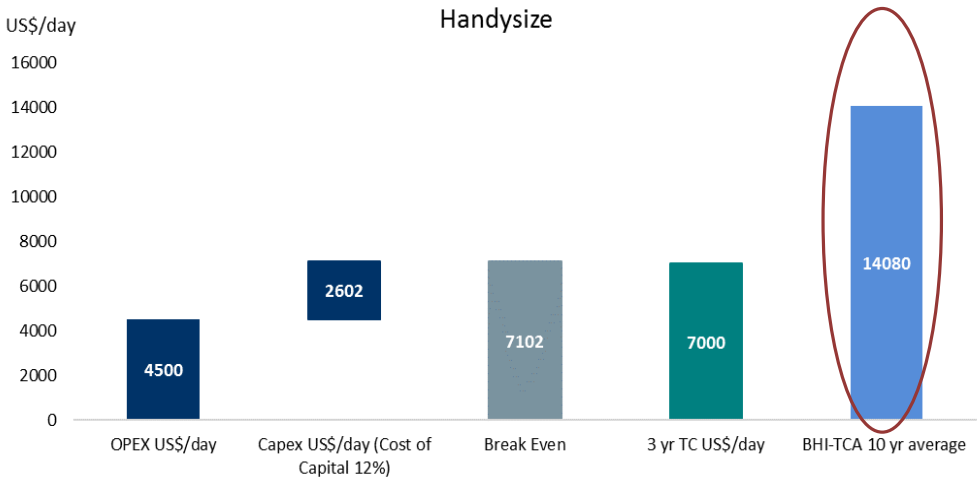
Rate Forecast - Handysize

- We are eying a tightening supply/demand balance and firming rates towards 2018
- Buying «discounted» tonnage today, will provide the buyer with high returns when market recovers

10-39 999 dwt

	End 2015	2016	2017	2018
Extra demand		0.8	3.1	2.7
Demand for Handysizes	73	73	76	79
Fleet yr end	93	92.5	93.1	93
Vessel Capacity Utilization	78 %	79 %	82 %	85 %
Rate Expectations US$/day	**5350**	**4 000-5 500**	**5 000 - 6 500**	**7 000-8 500**
Deliveries ytd		2.86		
Expected Deliveries		5	5.2	2.6
Scrapping ytd		1.84		
Expected Scrapping		5.5	3	2.1
Slippage / Cancellations			1.6	0.6

Breakeven Case Study	
Ship Value 5 YR Handysize (Japanese)	**10 500 000**
Vessel life (years)	20
Estimates scrap price USD/lwt	255
Lightweight (lwt)	9 000
Vessel residual value	2 295 000
Cost of capital	7.0 %
Periods per year	365
Operating days per year	355
CAPEX USD/day	2 602
OPEX USD/day	4 500
Cash Breakeven	7 102



Source:L&S Research, MSI

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