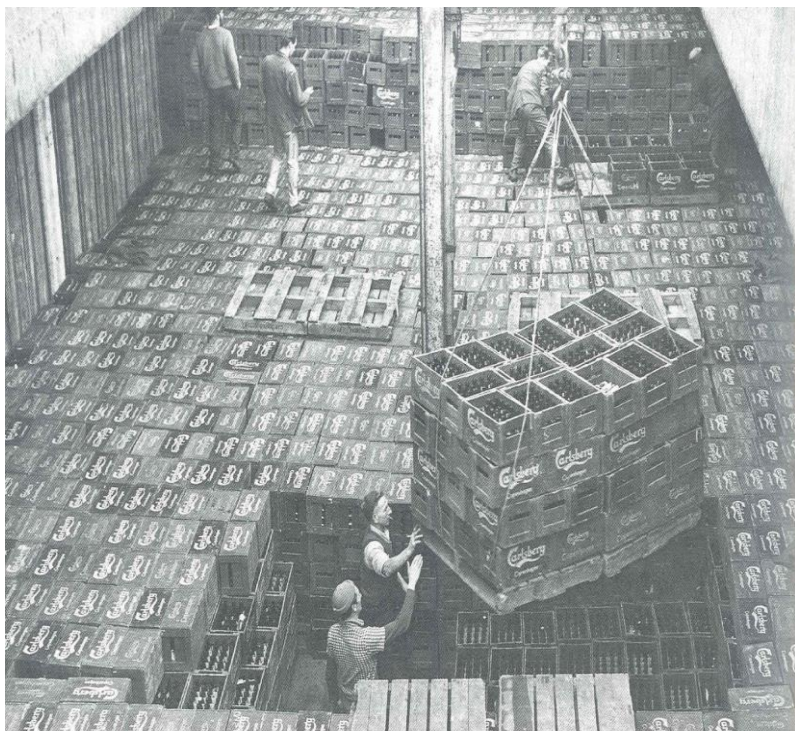


Brave new world? The next 25 years of container transport

Andrew Huxley – TT Club

2nd BALTIC PORTS & SHIPPING
26 SEPTEMBER 2018, RIGA

Pre-container general cargo



MV Fairland, Bremen, 1966

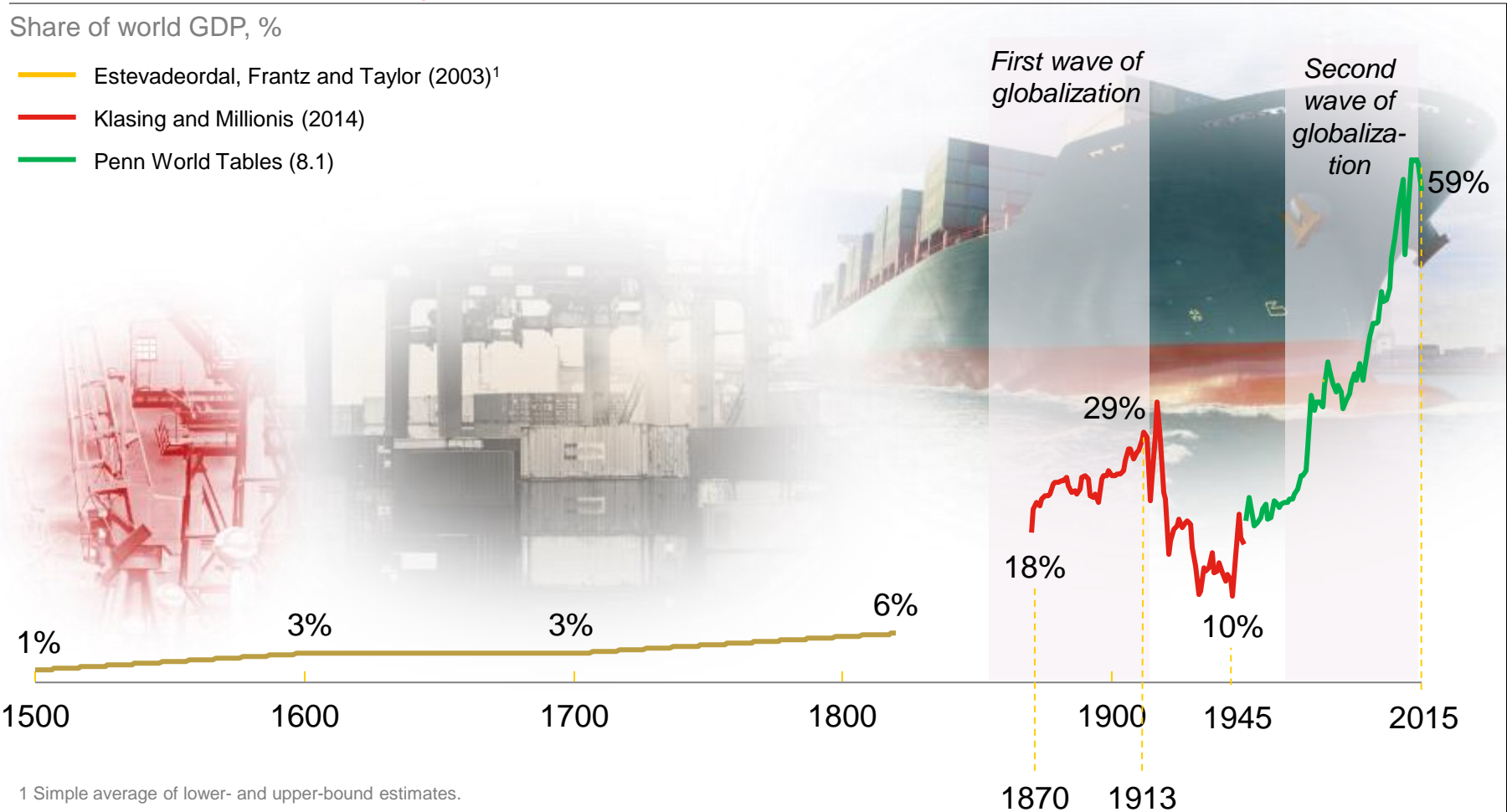
The container changed the game – both in terms of economics and safety



World exports and imports of goods and services

Share of world GDP, %

- Estevadeordal, Frantz and Taylor (2003)¹
- Klasing and Millionis (2014)
- Penn World Tables (8.1)



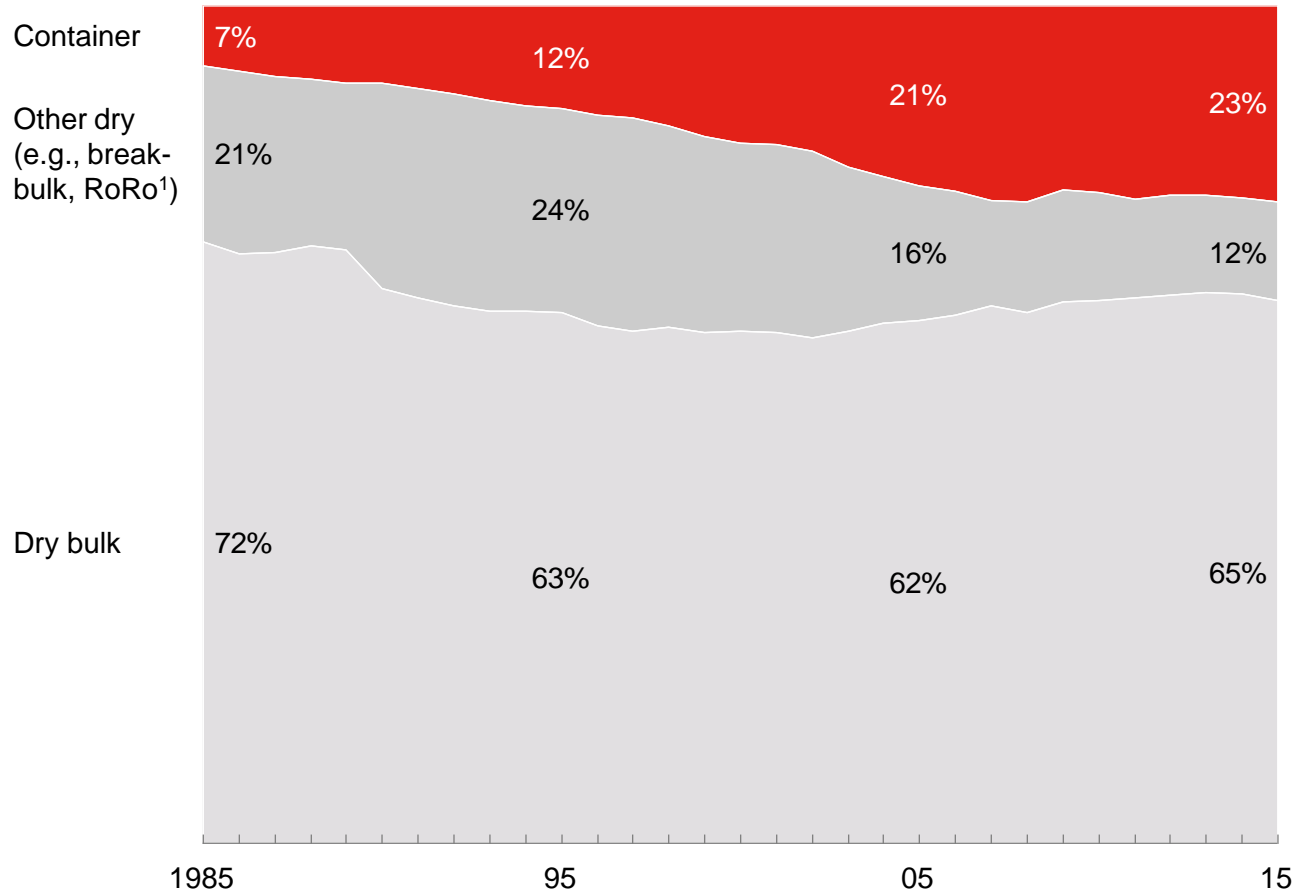
¹ Simple average of lower- and upper-bound estimates.

SOURCE: Esteban Ortiz-Ospina and Max Roser, "International trade," OurWorldInData.org; Mariko Klasing and Petros Millionis, "Quantifying the evolution of world trade, 1870–1949," *Journal of International Economics*, January 2014; Antoni Estevadeordal, Brian Frantz, and Alan Taylor, "The rise and fall of world trade, 1870–1939," *The Quarterly Journal of Economics*, May 2003; Penn World Tables Version 8.1; McKinsey analysis

Containerisation has slowed considerably since the early 2000s – but is unlikely to reverse

Container share of dry seaborne trade

% of total dry seaborne trade tons

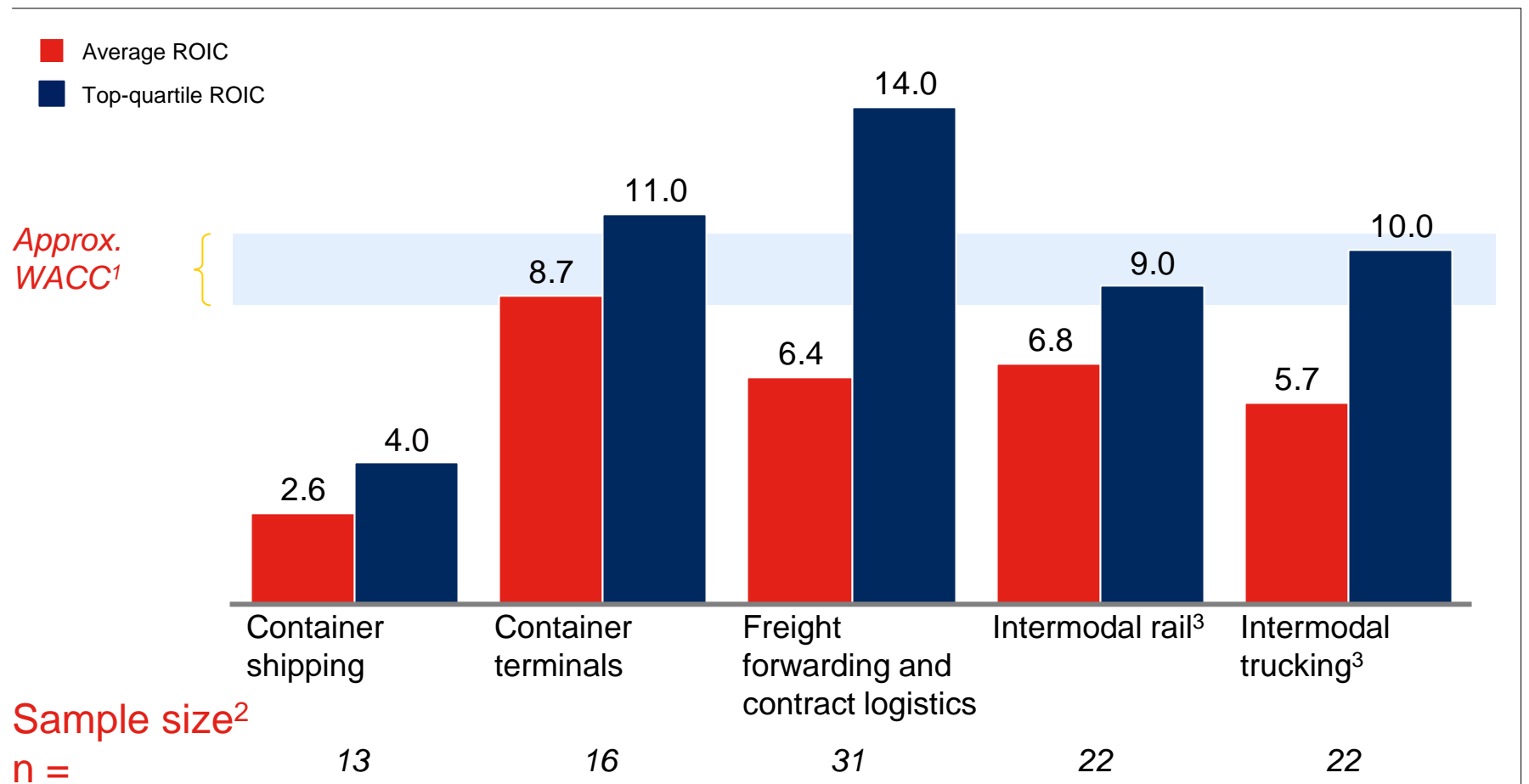


¹ Roll-on, roll-off

SOURCE: IHS, McKinsey analysis

The container transport industry has struggled to return its cost of capital in the last two decades

Average return on invested capital (ROIC), %, 1995-2016



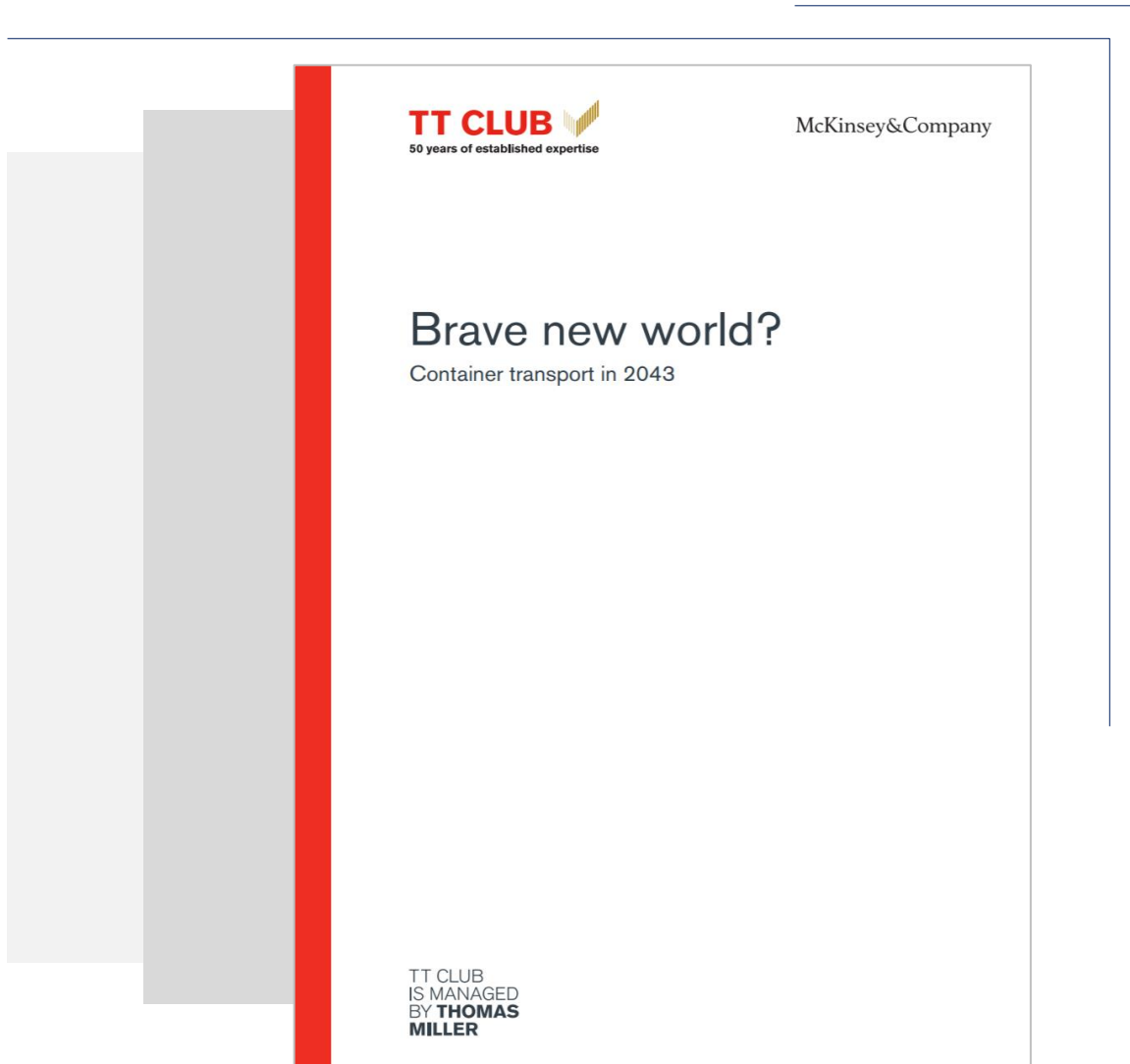
Sample size²
n = 13 16 31 22 22

1 Weighted average cost of capital; estimated at 8-10%
 2 Sample size varies across years due to data unavailability
 3 Includes non-containerised transport

SOURCE: Capital IQ, McKinsey analysis

What might the future hold?





What is the fundamental force that drives industry value-creation over the next 25 years?

- Trade growth?*
- Digital, data, analytics?*

Six (potential) sources of value creation going forward

1 GREATER ECONOMIES OF SCALE



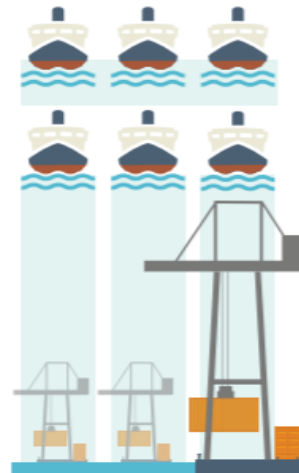
2 FLEXIBILITY



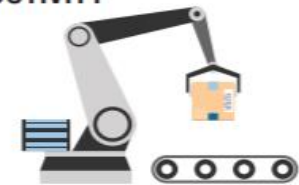
3 SUPPLY CHAIN RELIABILITY AND PREDICTABILITY



4 CONSOLIDATION AND INTEGRATION



5 AUTOMATION AND PRODUCTIVITY



6 ENVIRONMENTAL PERFORMANCE



Trade demand



**>2x
MULTIPLIER**

Re-acceleration of trade growth
Container captures significant share from bulk



Specialisation results in significant supply chain fragmentation



China manages slowdown while India grows >10% p.a.



Sector economics



Scale economies become important again faster than expected: ~30k TEU ships within 10 years



Continued prominence of hub-and-spoke networks



Digital, data, and analytics a fundamental driver of value



Considerable automation across value chain (ships, ports, rail, trucks)



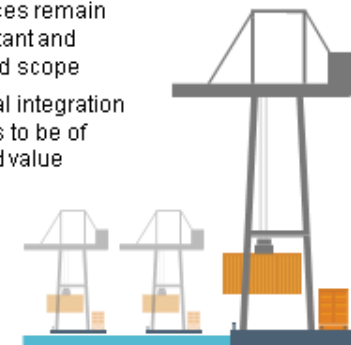
Industry structure



7+ incumbents and "long tail" of point-to-point players

Alliances remain important and expand scope

Vertical integration proves to be of limited value



Trade demand



**<1x
MULTIPLIER**

Further slowdown of trade growth
No more containerization

Market stays flat at **23%** 

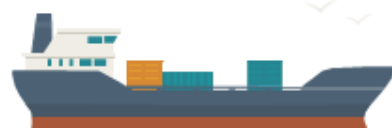


Increasing share of “local for local” supply chains

China’s export engine sputters and India does not achieve “breakout” growth



Sector economics



Scale economies lose salience because insufficient demand to fill ships



Hub-and-spoke networks; more trans-shipment



Digital, data, and analytics only an “overlay”



Gradual automation, especially landside (ports, rail, trucks)



Industry structure



Freight forwarders digitise faster than asset owners and avoid disruption



Accelerated consolidation resulting in 3-4 leading liners

Vertical integration proves to be of limited value

Alliances less valuable

“Digital natives” play in the margins; no entry by “digital giants”



Trade demand



**1-1.5x
MULTIPLIER**

"Slow and steady" trade growth

Modest additional containerisation



Shorter, more diverse supply chains (e.g., India to China, Africa to Europe)

China manages slowdown, India does not achieve "breakout" growth



Sector economics



Scale economies lose salience; flexibility is valued



Smaller ships, more point-to-point, less trans-shipment



Digital, data, and analytics a fundamental driver of value



Considerable automation across value chain (ships, ports, rail, trucks)

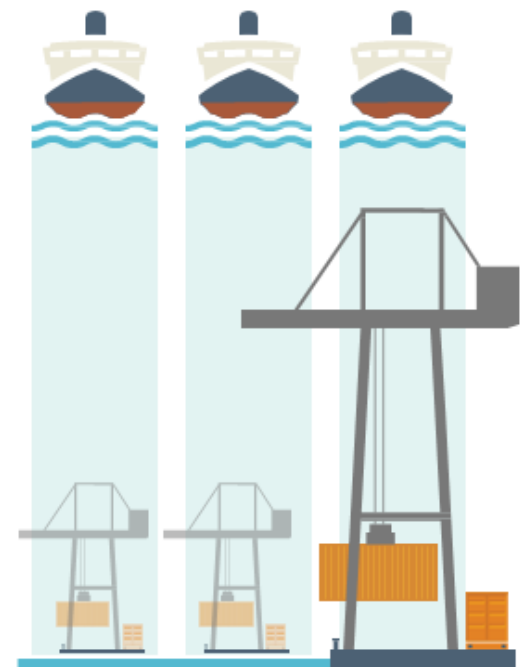


Industry structure

4-5 major incumbents and "long tail" of point-to-point players

Vertical integration enables digitisation and provision of E2E supply chain services

Freight forwarding radically shifted to a digital model



Trade demand



**1.5-2x
MULTIPLIER**

Reduced friction via digital unlocks new exporters/importers
Modest additional containerisation



Shorter, more diverse supply chains (e.g., India to China, Africa to Europe)

China manages slowdown, India does not achieve "breakout" growth



Sector economics



Scale economies lose salience; flexibility is valued



Smaller ships, more point-to-point, less trans-shipment



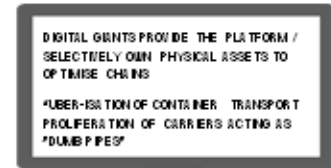
Digital, data, and analytics a fundamental driver of value



Considerable automation across value chain (ships, ports, rail, trucks)



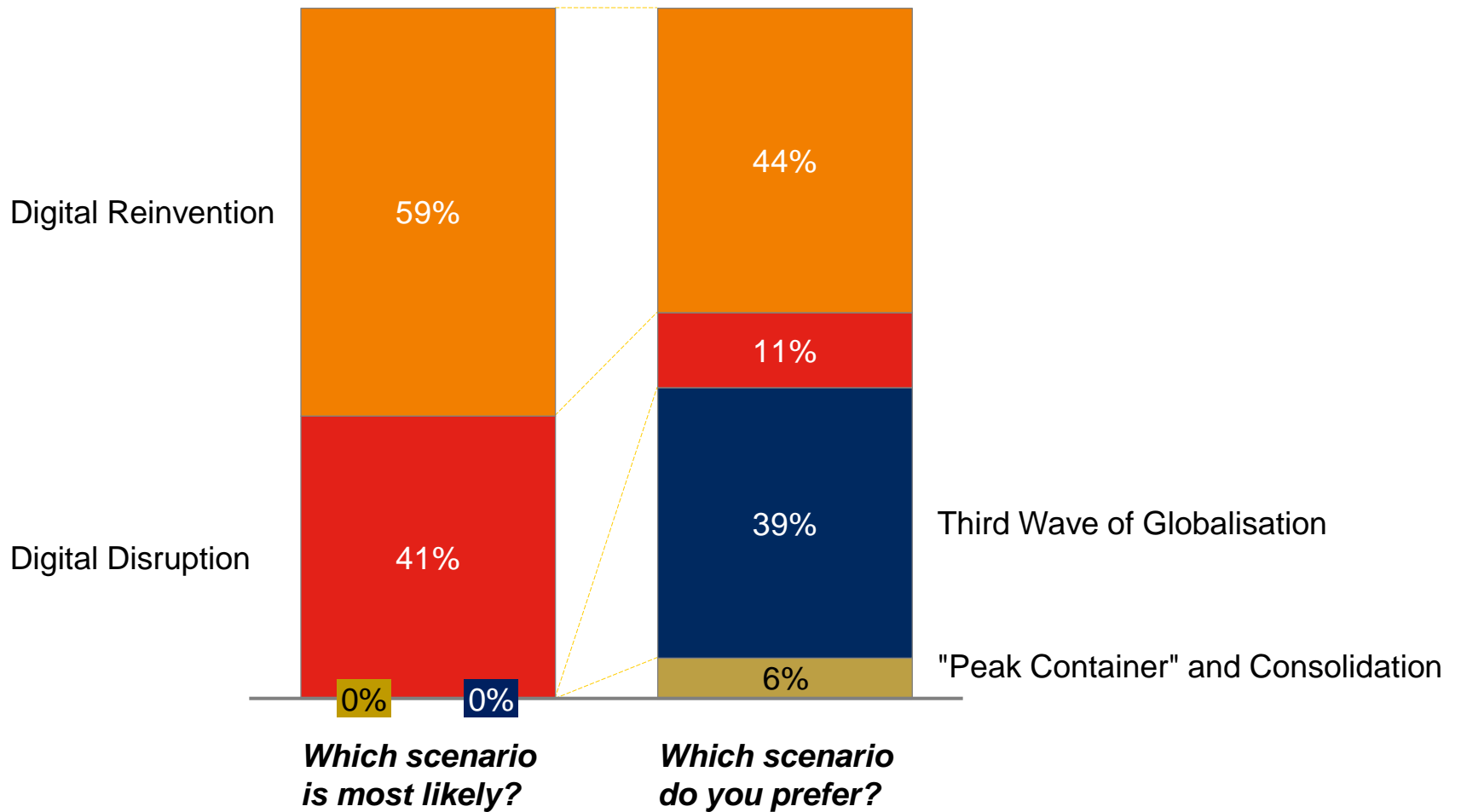
Industry structure



Led by "digital giants" – enables digitisation and provision of E2E supply chain services
Freight forwarding becomes totally digital



Responses of TT Club Directors (8 November 2017)



- It is far too easy to be pessimistic about the future – there is **more opportunity** than we tend to think
- The **future is digital** – some will win (big) while others will lose
- The winners will focus on innovation to **delight the customer** and make bold moves
- The **license to operate** – e.g. environmental performance, safety – will become more important



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