

# Measuring Aspects of Container Shipping Supply

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# Measuring Containership Supply

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- What are we measuring - ship capacity or liner network carrying capacity ?

Nominal vessel capacity

- Measure of maximum potential capacity of vessel

Vessel carrying capacity

- Measure of 'effective' trading capacity of vessel

Vessel running capacity

- Measure of provision of annual running capacity

Service / trade lane running capacity

- Aggregation of running capacity to compare to trade flow
- Construction of this metric in similar vein to dwt demand, tonne-mile etc.

# Capacity Example

"OOCL SEOUL"

Nominal Capacity	8,063 TEU
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Homogeneous Capacity	6,275 TEU
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Far East-Europe Service – Weekly - 11 Ships

Running Capacity (nominal) pa	38,116 TEU
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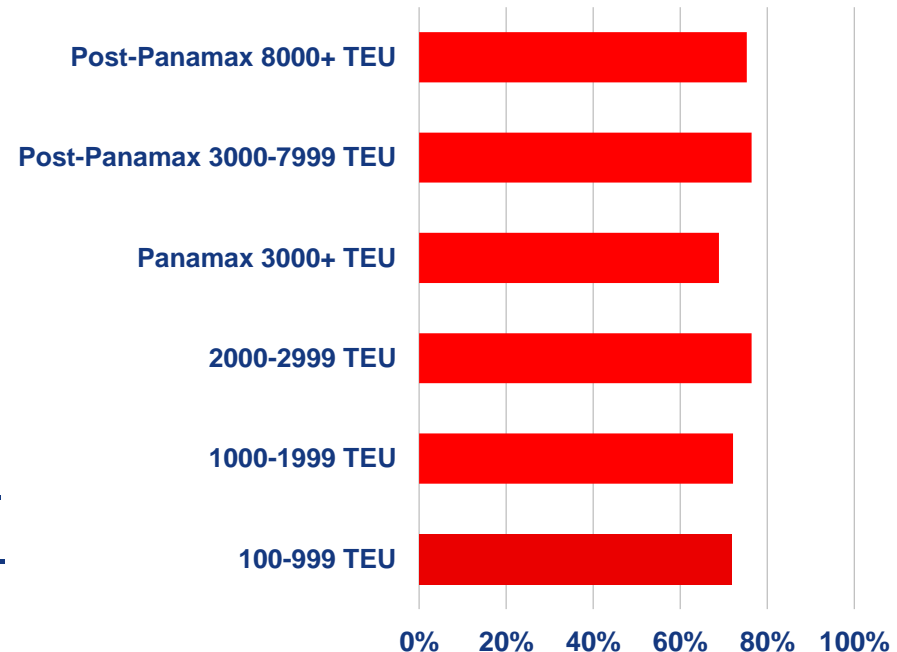
Service Trade Lane Capacity pa	523,734 TEU
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Source : World Fleet Register, Clarkson Research; OOCL.

# Vessel Carrying Capacity

- Significant agreement on standards.
- Nominal TEU used as standard measurement for describing vessels.
- Homogeneous TEU used as standard measurement of carrying capacity at 14t per TEU.
- Takes into account stability requirements.
- But also depends on cargo weight – trade lane specific (general range 8-14t per TEU but some outliers)
- Box issues: 20/40 split, hi-cube intake.

**Avg. Homog./Nominal Capacity Ratio**



Source : Container Intelligence Monthly, Clarkson Research.

# Vessel Running Capacity

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- Flow of annual capacity provided (at any given point in time)
- What's the equation?
  - TEU capacity (nominal or homogeneous)
  - Frequency of service
  - Number of ships in service

**Annual Running Capacity =**

**Vessel TEU Capacity x Service Frequency / No. of Ships in Service**

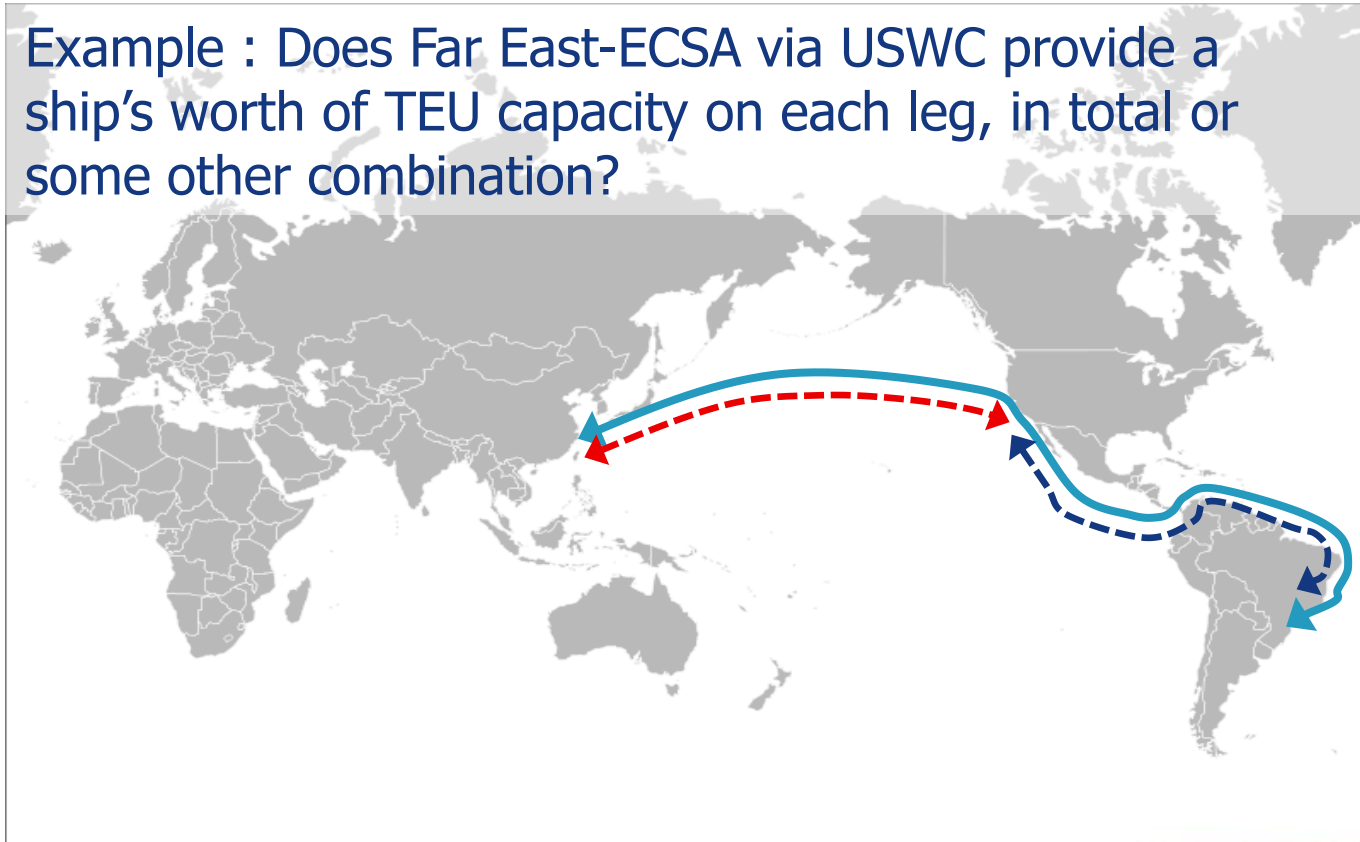
# Aggregate Trade Lane Capacity

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- Why is this metric useful?
- To compare to trade flows for supply-demand analysis.
- Should be as simple as aggregate of vessel/service running capacity on a trade lane
- But significant problems :
  - 'Effective' vessel capacity (as previously)
  - What's in the scope of the region and what's out? (capacity and trade)
  - Example : Transpacific E/B 0.8m TEU difference re Canada (2012)
  - Capacity allocation - need to understand cargo (again)
  - Liner network increasingly complicated

# Allocating Capacity

Example : Does Far East-ECSA via USWC provide a ship's worth of TEU capacity on each leg, in total or some other combination?

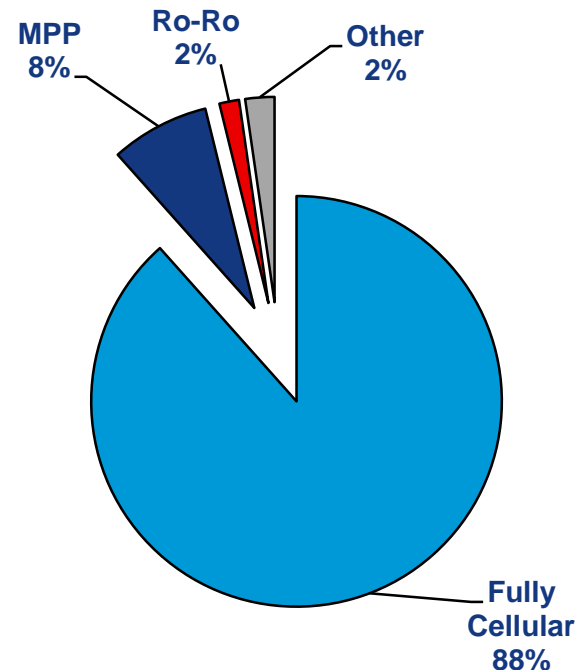




# Trade Lane Capacity – Other Problems

- Inclusion or otherwise of non-fully cellular containership capacity.
- Directional nature of non-FCC capacity.
- Differences in cargo weight on different directions.

**Total Container Capable Capacity**



Source : Container Intelligence Monthly, Clarkson Research.



# Additional Analytical Problems

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## 1) Aggregation

- Aggregate world running capacity only relates to current pattern of deployment
- Different fleet could generate same aggregate running capacity, but different on a trade lane basis
- Same fleet could provide different running capacity if deployed differently

## 2) Utilization

- Usually fine to make approximations, but assumptions on cargo and scope can lead to very significant differences
- Example : 5% less cargo in scope, 10% more capacity turns 90% utilisation into 78%.

# New Issues?

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Three key issues in liner shipping today :

- Slow Steaming – Impacts on running capacity via no of vessels in service
- Idling – Impacts on level of capacity in/out of trade lane running capacity and/or charter market capacity
- Cascading – Frequent changes in deployment making capacity changes difficult to monitor

But one additional problem :

- Void sailings - More detailed analysis required to assess running capacity provision at any point in time

# Thankyou

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