

# Liner Shipping Industry

---

12 AUGUST 2016

DR VENUS LUN

# Outline

---

- Basic of liner shipping
- Industry background and recent trend
- Liner shipping market
- Pricing
- Shipping alliance

# Basic of liner shipping

---

- What is liner shipping?
- How does one cargo get from origin to destination?
  - 10-step example
- Direct shipment
- Transshipment

# What is liner shipping

---

There are different segments in the shipping market: tramp shipping and liner shipping

- The purpose of tramp shipping is to provide convenient and economical means to transport goods.
- Liner shipping is different from tramp shipping as it is committed to provide regular publicized schedule of shipping service between particular ports.

According to World Shipping Council, liner shipping is the service of transporting goods by means of high-capacity ocean-going ships that transit regular routes on fixed schedules. There are approximately 400 liner services in operation today. Most of these liner services provide weekly sailing from the ports of call.

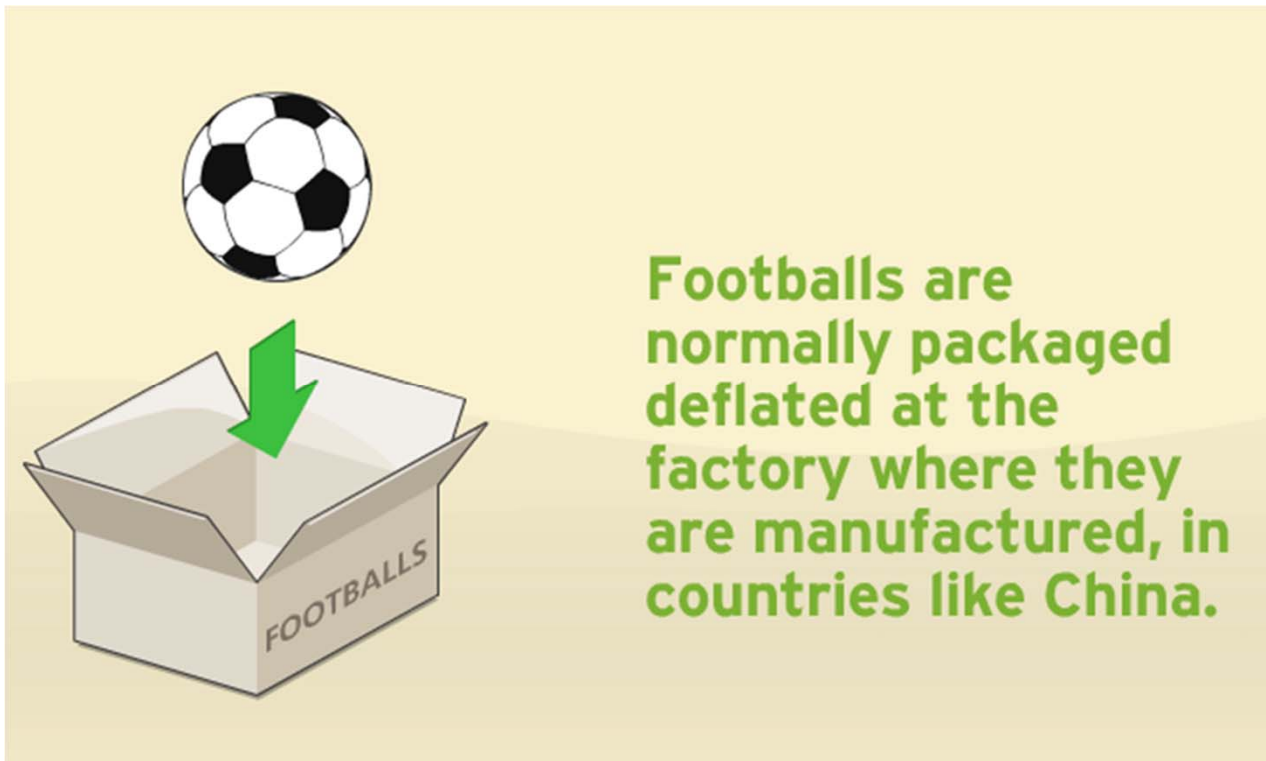
# How does a football get to a store?

---

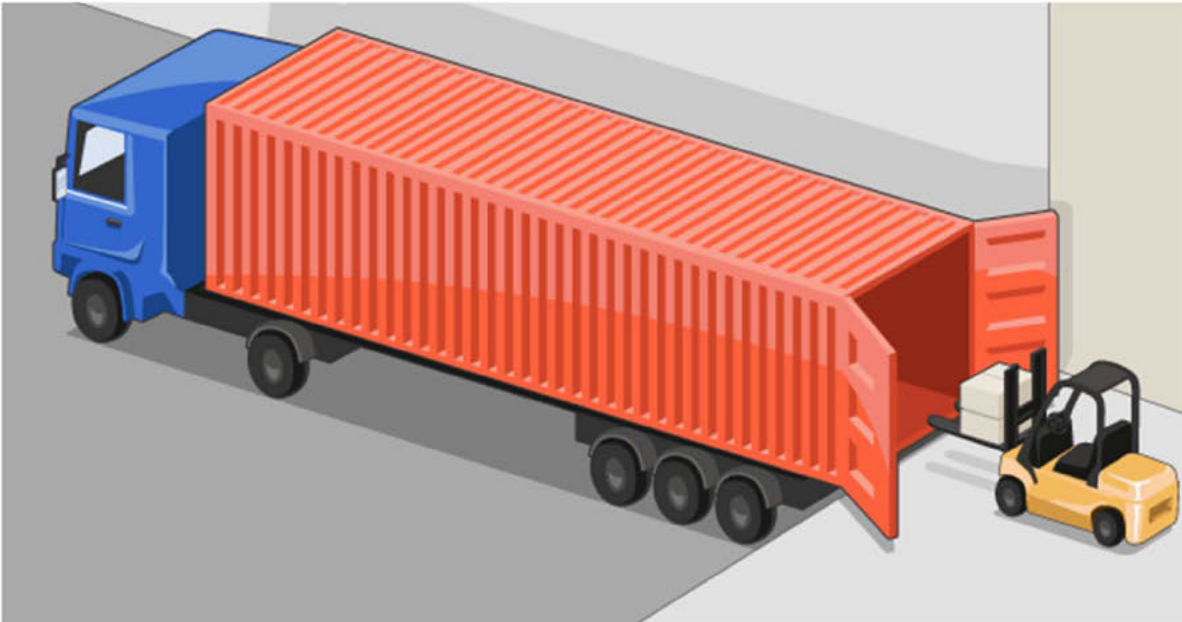
An example from World Shipping Council:

- <http://www.worldshipping.org/about-the-industry/how-liner-shipping-works/examples-animation>

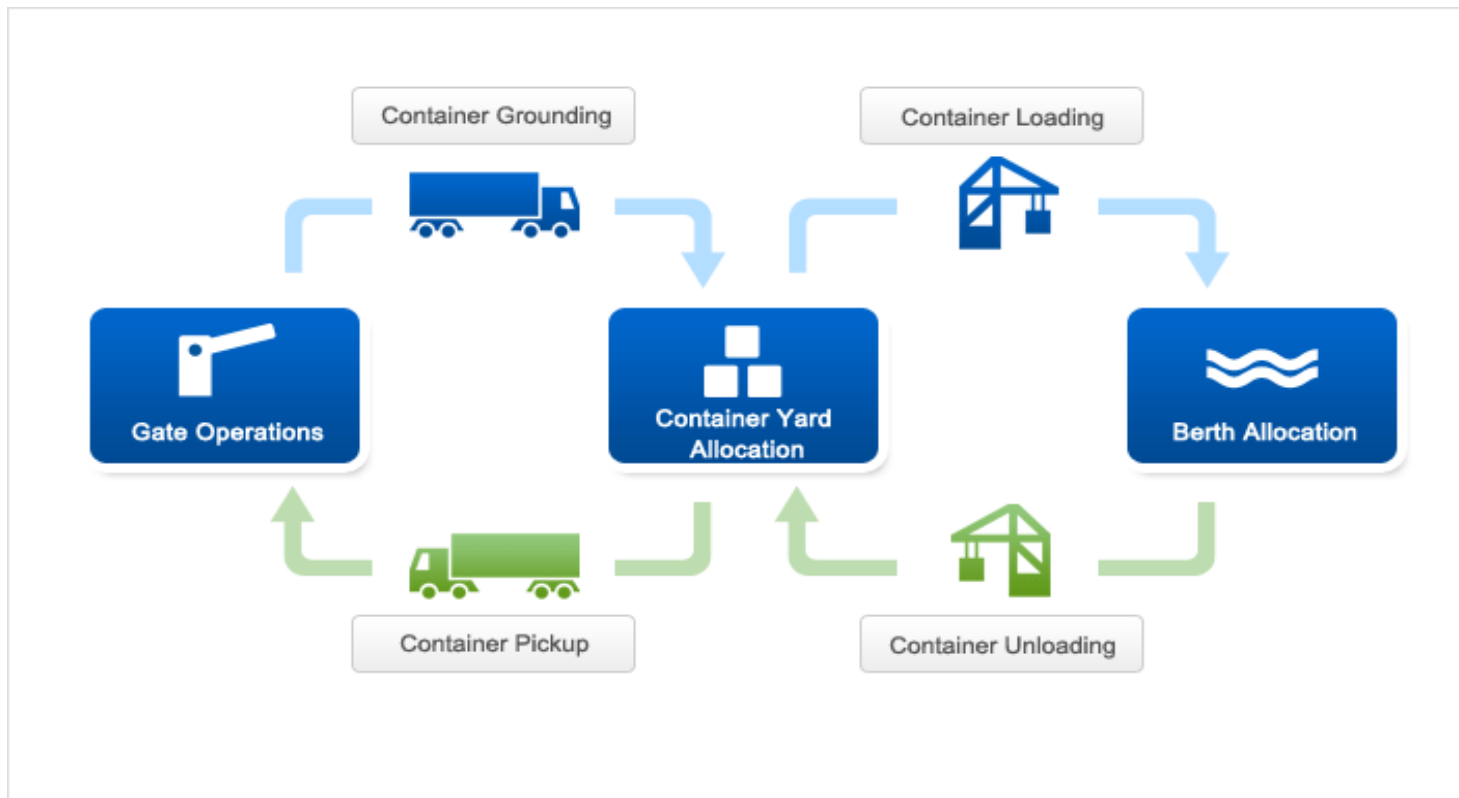
# Step 1: Packaging at the factory



## Step 2: Stuffing in a container

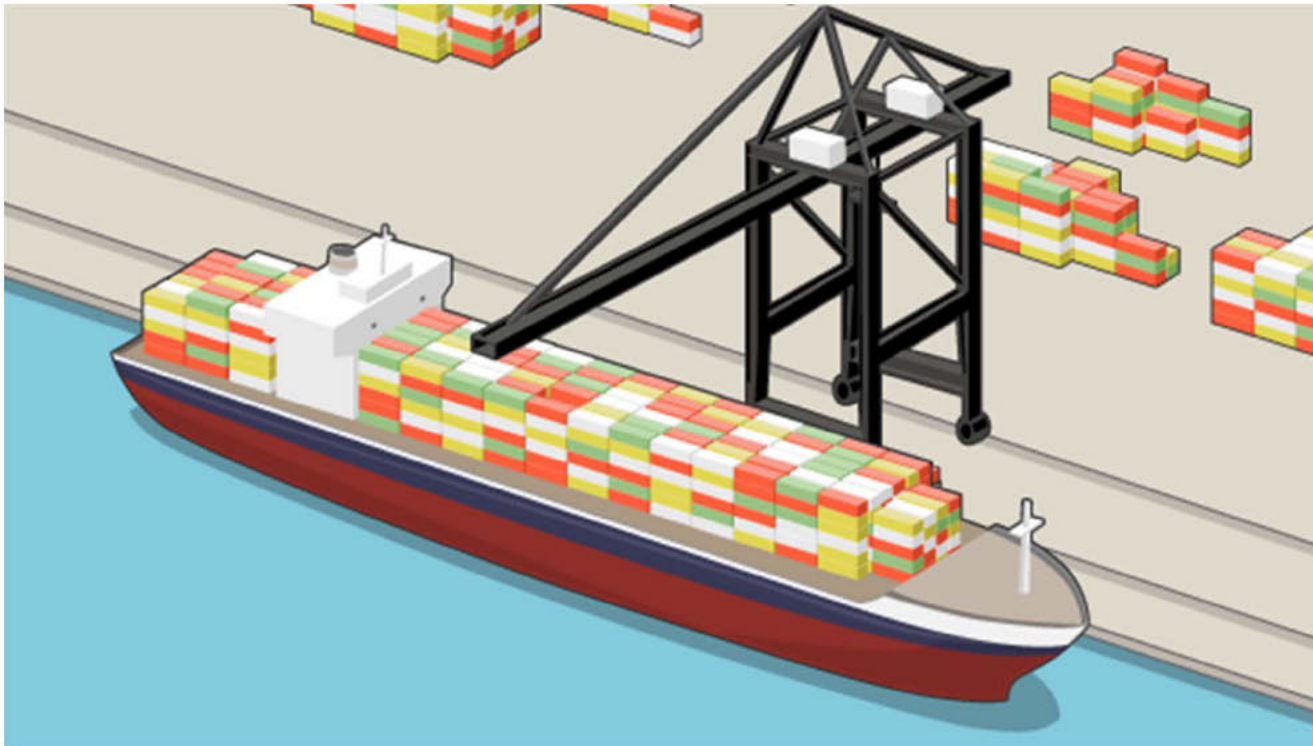


# Step 3: Container terminal operations

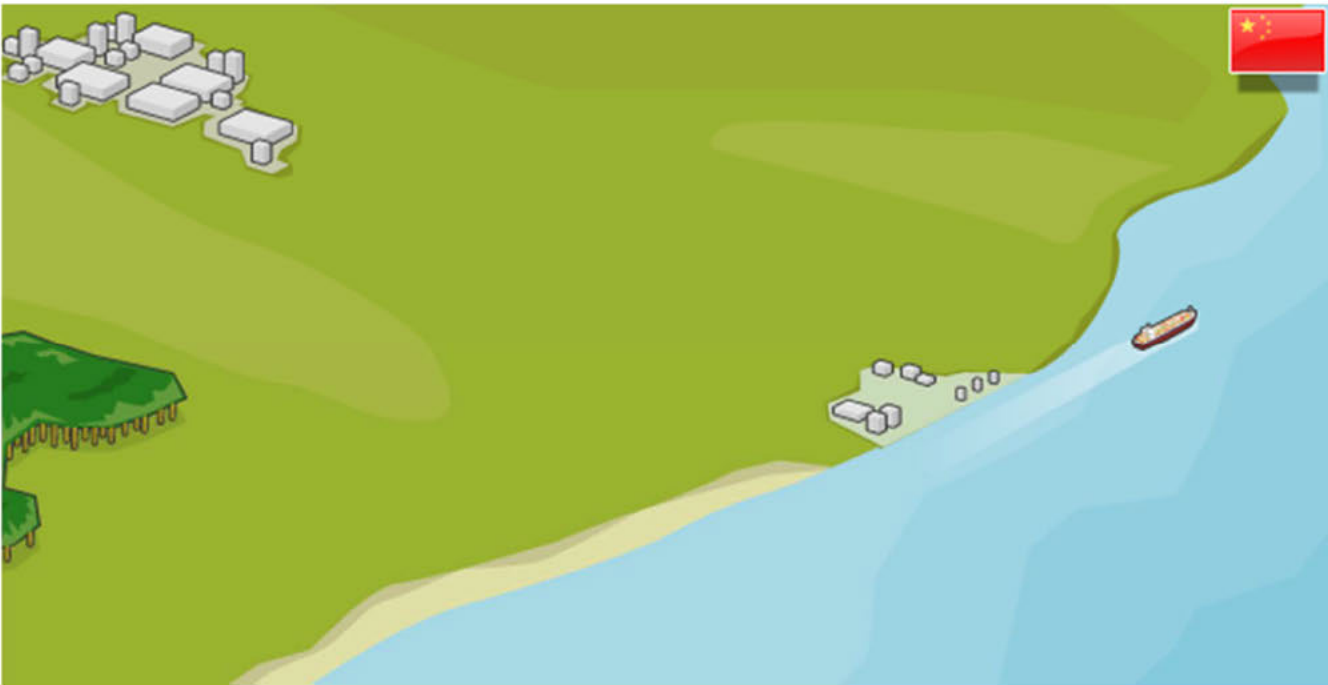




## Step 4: Container loading at a container terminal



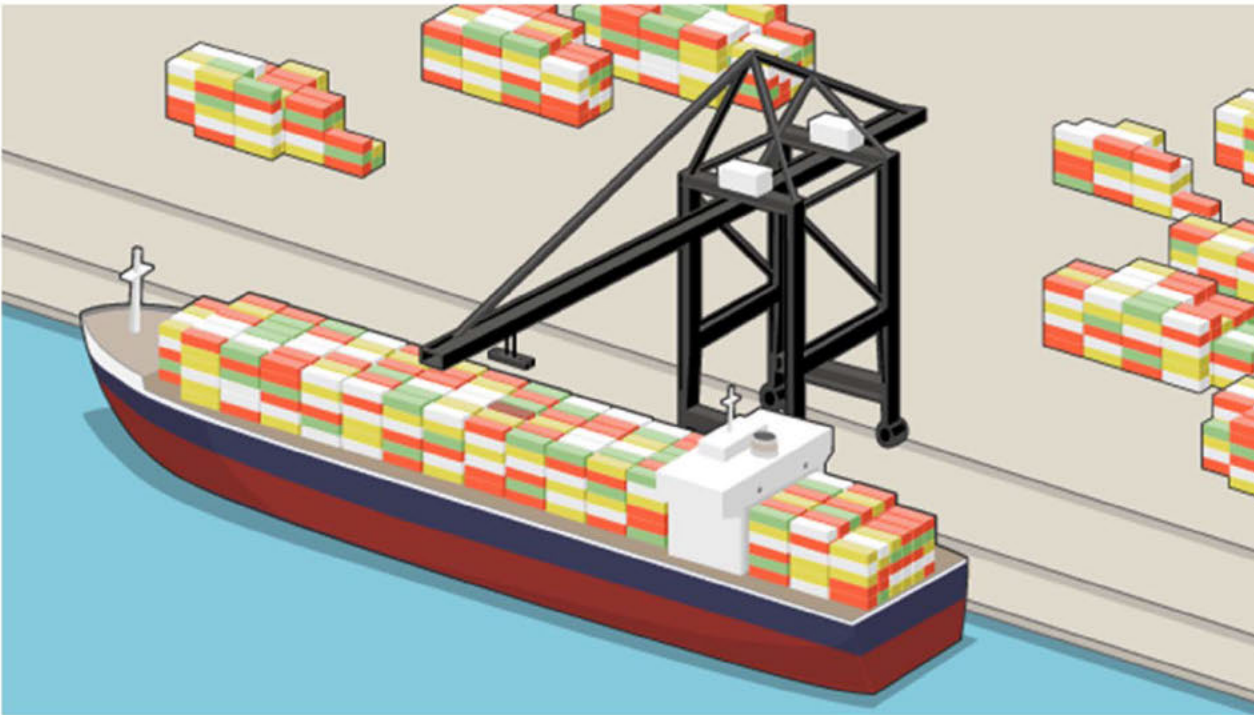
# Step 5: Ship heading to the destination across ocean



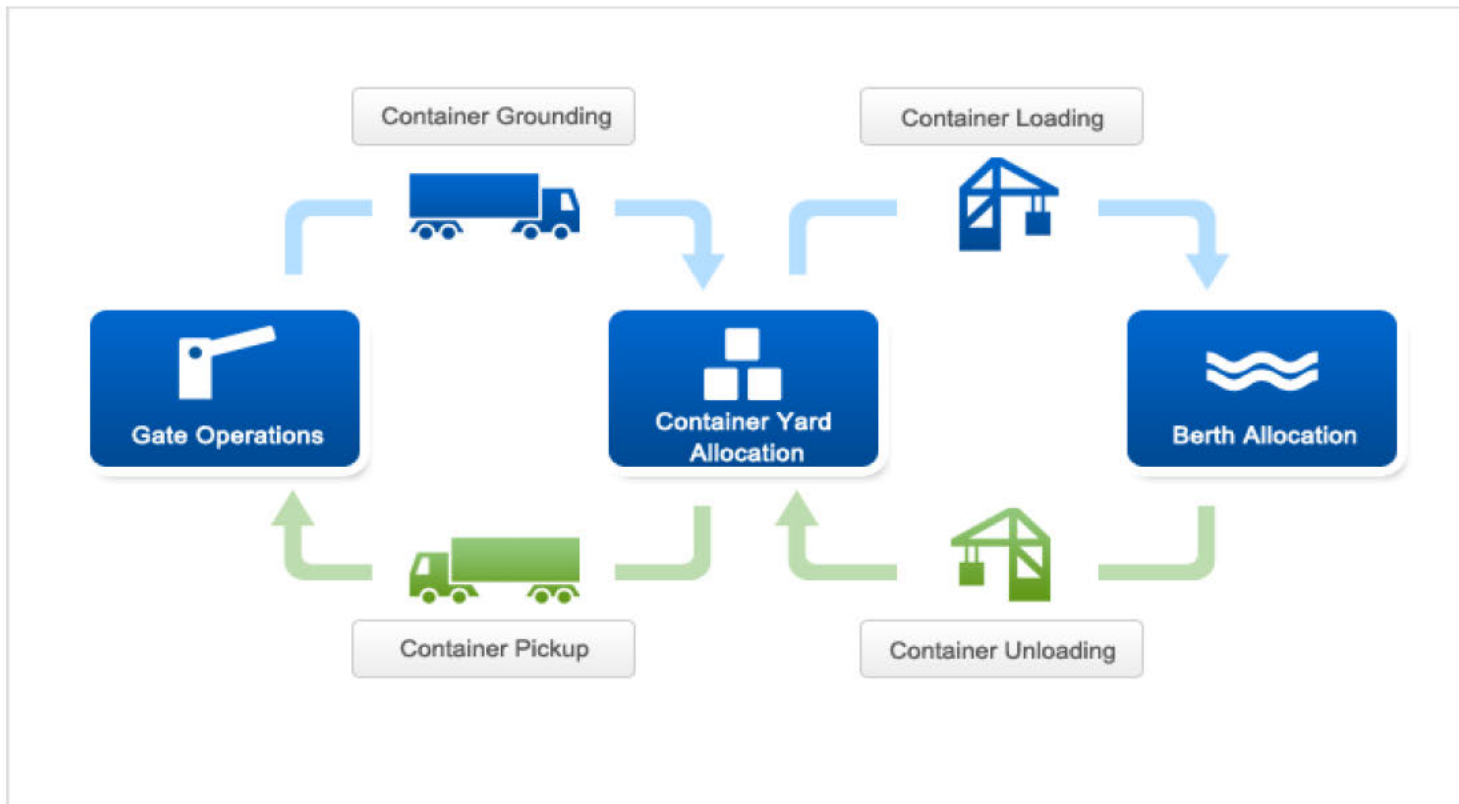
## Step 6: Ship arriving the discharging port



## Step 7: Container discharging at a container terminal



# Step 8: Container terminal operations



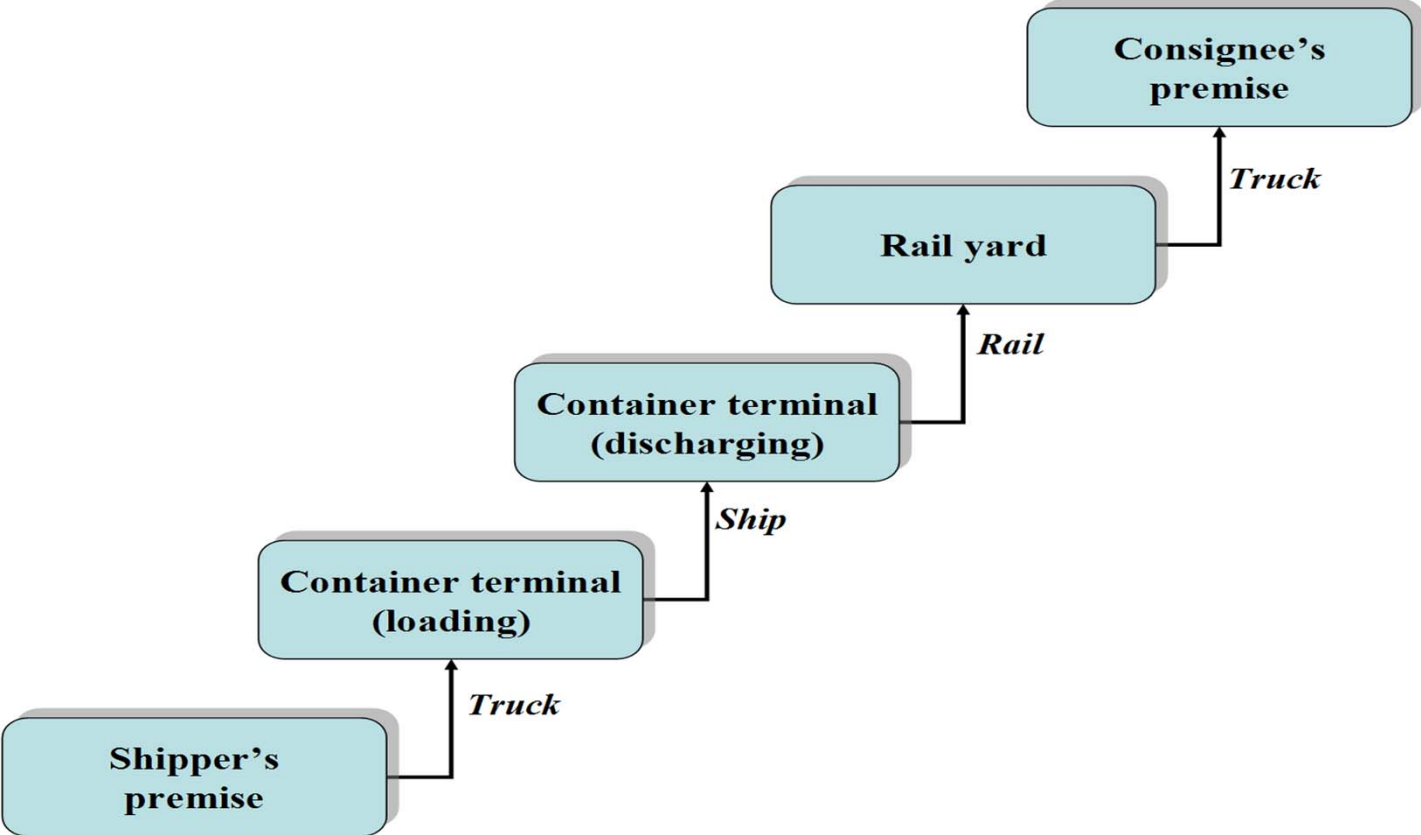
## Step 9: Container moving to a distribution center for devanning



## Step 10: Delivering to the store



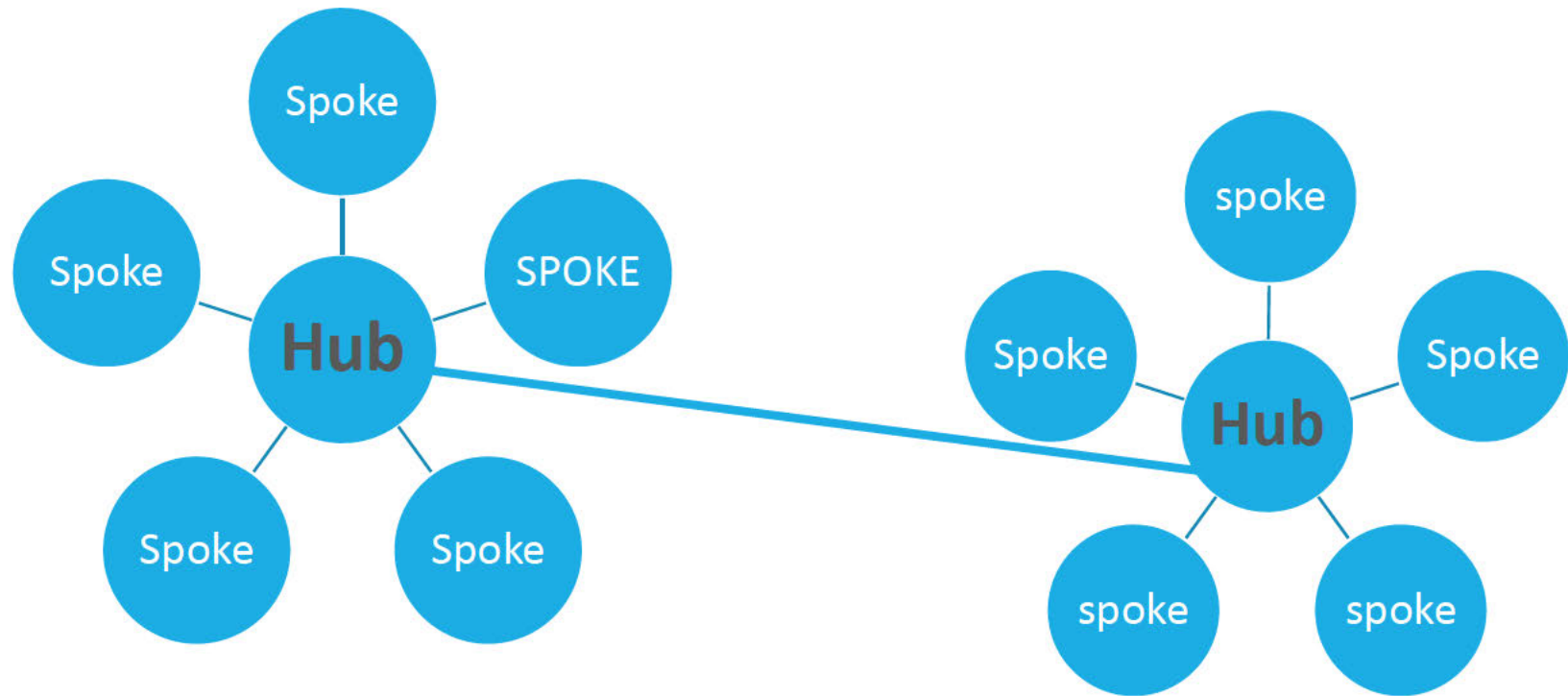
# Direct shipment from port of loading to port of discharging





# Transshipment

Transshipment is the shipment of goods from the origin to a transshipment hub, then to the final destination.



# Industry background and recent trend

---

- Major routes
- Competition between ports
- Recent trends
  - Ship size
  - Number of ships
  - Throughput (in TEU)
  - Service
  - Market share

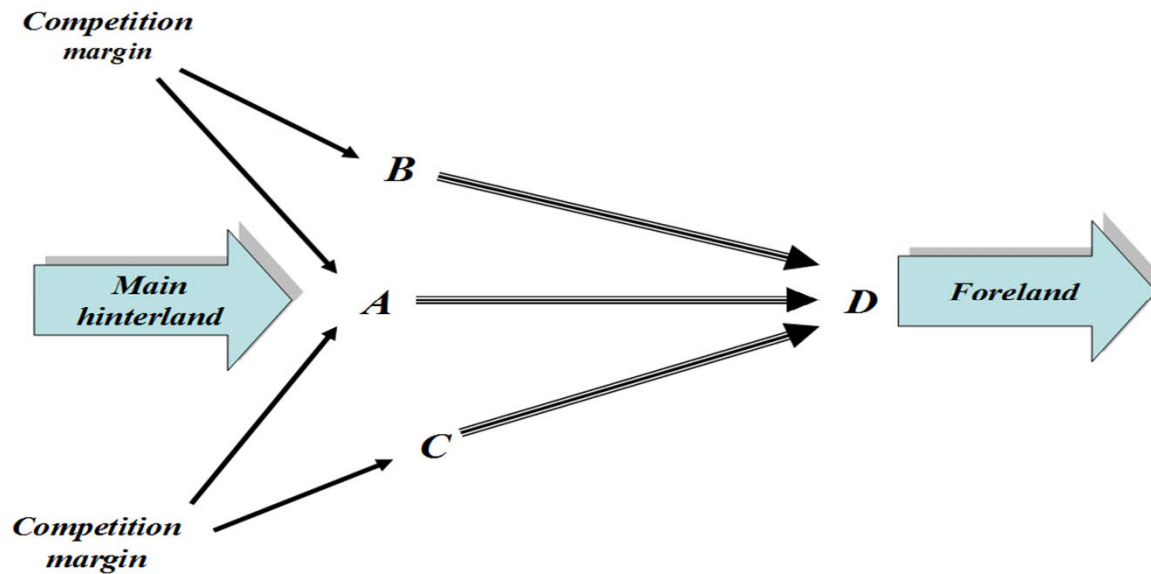
# Major routes

Top Trade Routes (TEU shipped) 2013

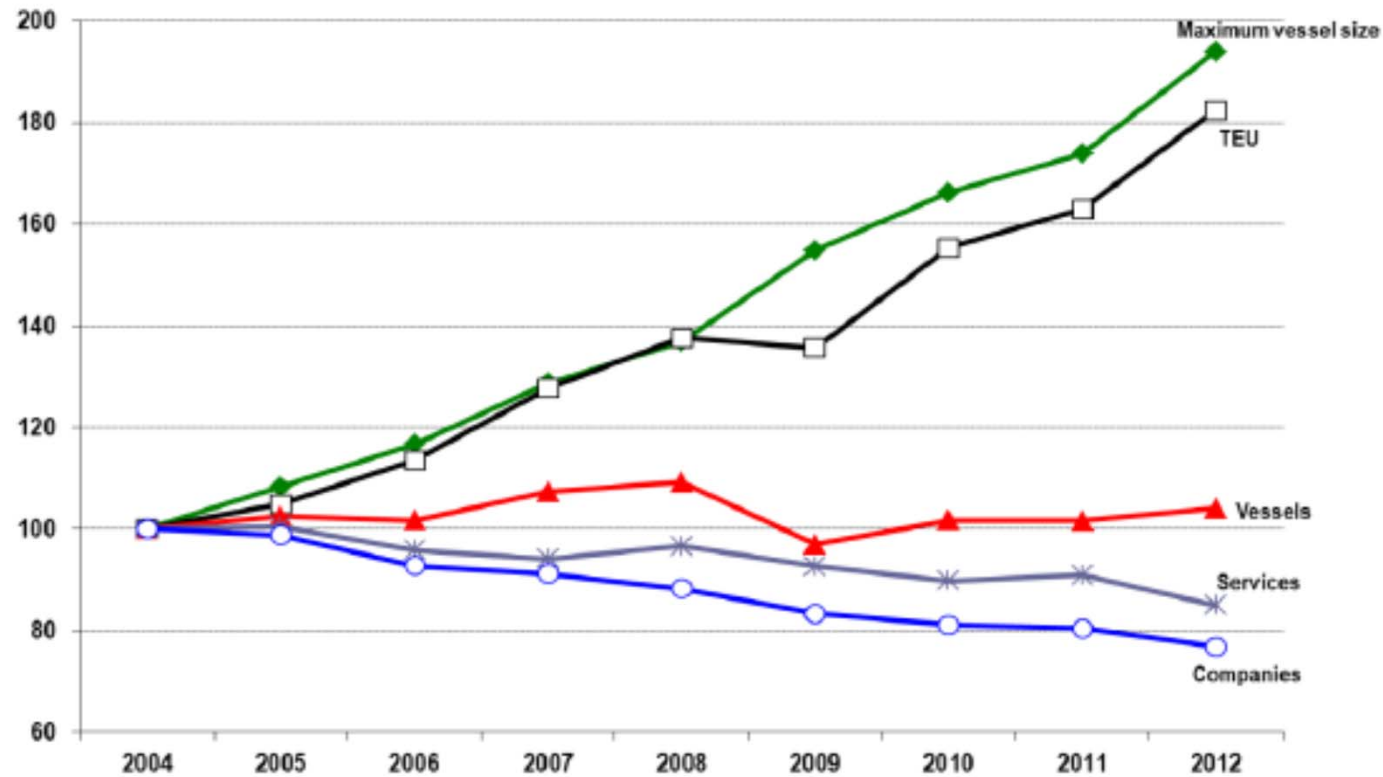
Route	West Bound	East Bound	North Bound	South Bound	Total
Asia-North America	7,739,000	15,386,000			23,125,000
Asia-North Europe	9,187,000	4,519,000			13,706,000
Asia-Mediterranean	4,678,000	2,061,000			6,739,000
Asia-Middle East	3,700,000	1,314,000			5,014,000
North Europe-North America	2,636,000	2,074,000			4,710,000
Australia-Far East *			1,072,016	1,851,263	2,923,279
Asia-East Coast South America			621,000	1,510,000	2,131,000
North Europe/Mediterranean-East Coast South America			795,000	885,000	1,680,000
North America-East Coast South America			656,000	650,000	1,306,000

# Competition between ports

---



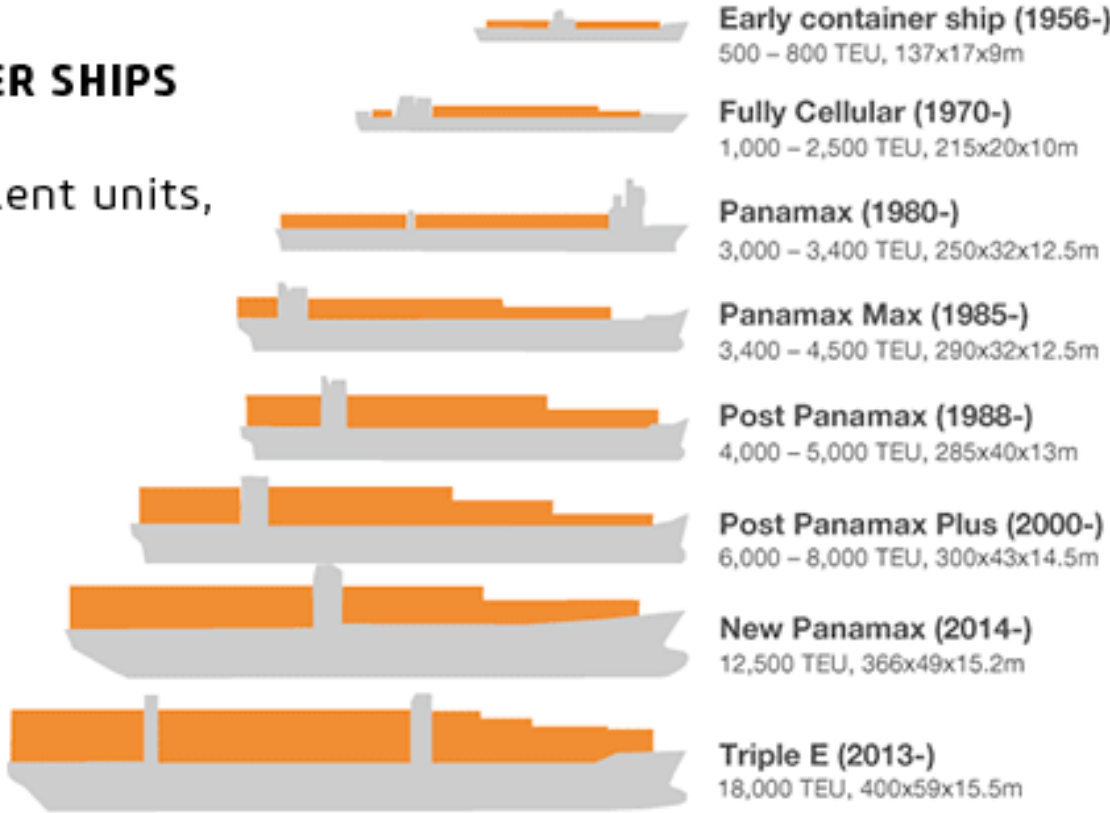
# Trends in the five components of the UNCTAD Liner Shipping Connectivity Index



# Evolution of ship size

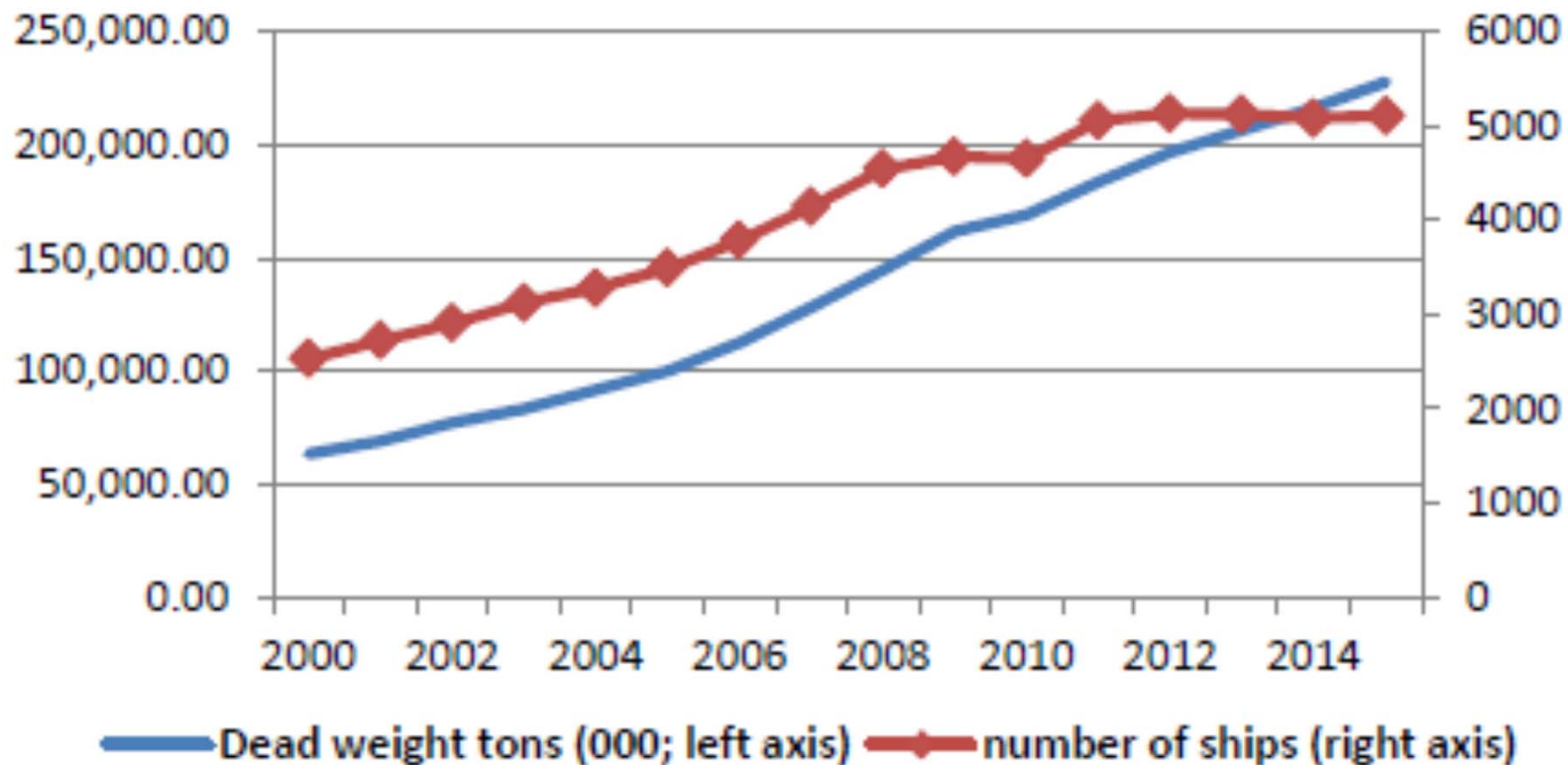
## EVOLUTION OF CONTAINER SHIPS

TEU: twenty-foot equivalent units, length x width x depth below water in meters

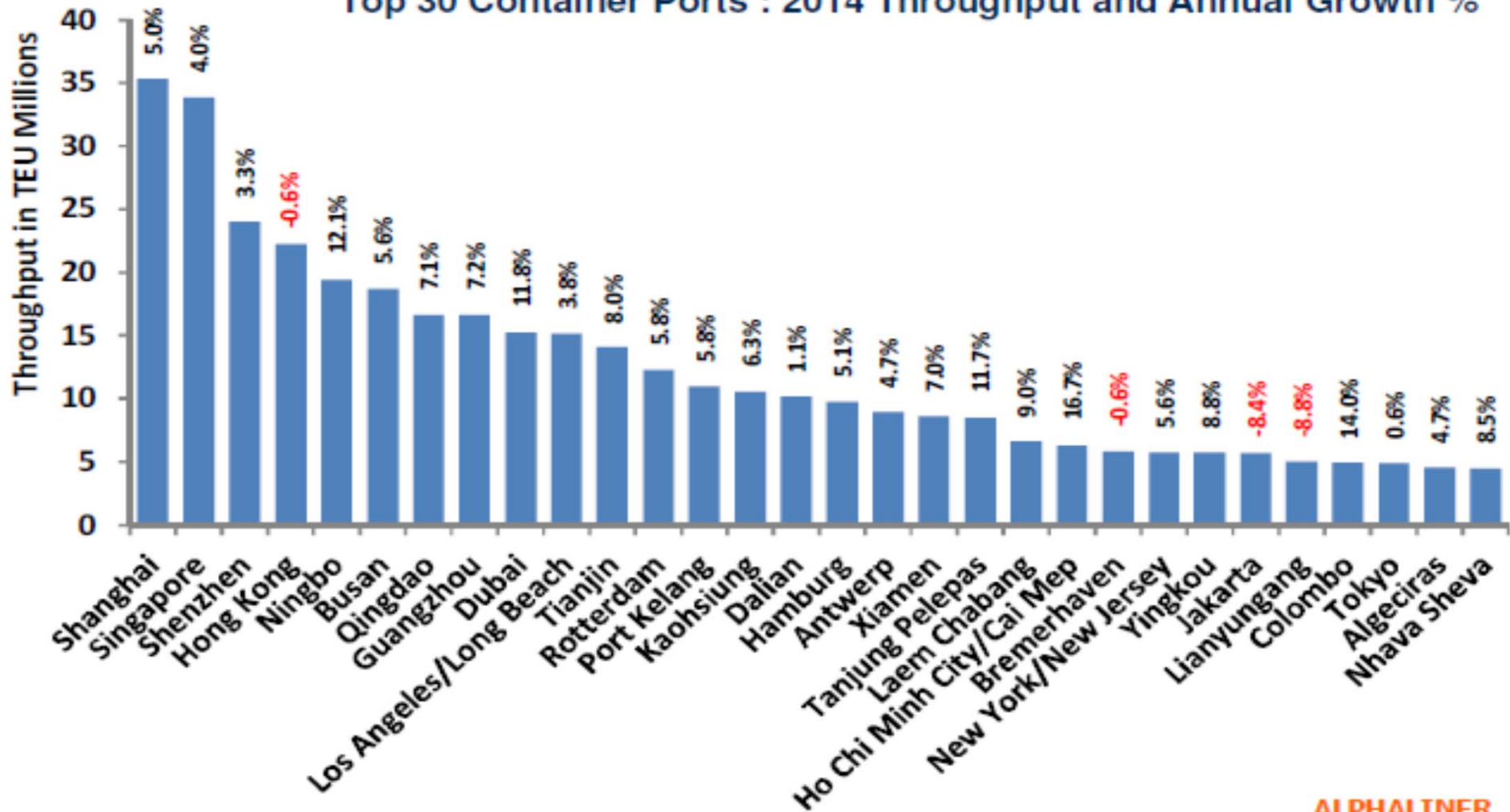


Adapted with permission from the Geography of Transport Systems, Jean-Paul Rodrigue

# Ship size and number of ships



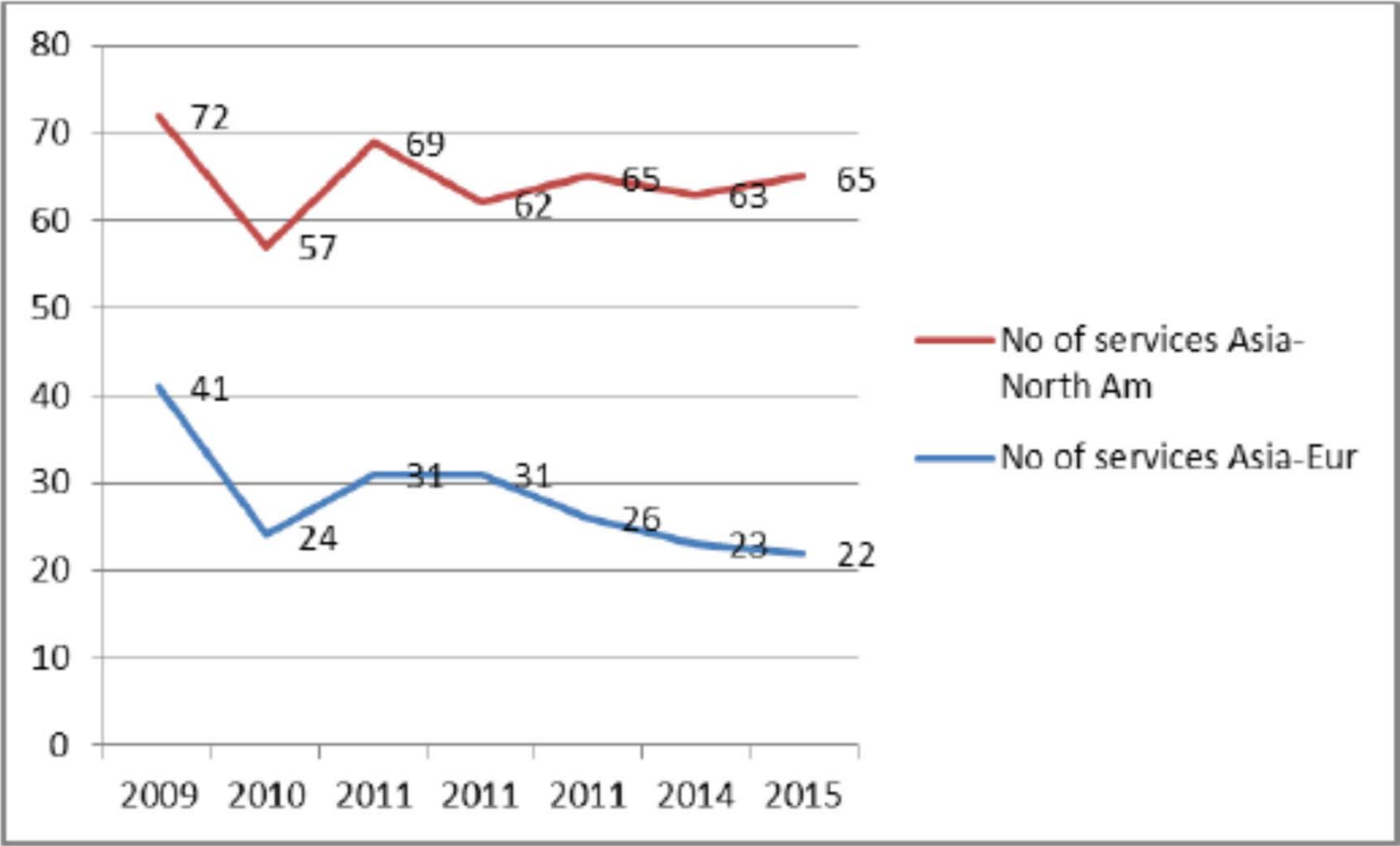
Top 30 Container Ports : 2014 Throughput and Annual Growth %



ALPHALINER



# Number of services



# Market share: Top 20 operators

Rnk	Operator	Teu	Share	Existing fleet	Orderbook
1	APM-Maersk	3,203,526	15.5%		
2	Mediterranean Shg Co	2,780,541	13.4%		
3	CMA CGM Group	2,299,362	11.1%		
4	COSCO Container Lines	1,556,579	7.5%		
5	Evergreen Line	955,086	4.6%		
6	Hapag-Lloyd	916,174	4.4%		
7	Hanjin Shipping	612,714	3.0%		
8	Hamburg Süd Group	611,154	2.9%		
9	OOCL	571,979	2.8%		
10	Yang Ming Marine Transport Corp.	570,451	2.8%		
11	UASC	541,146	2.6%		
12	MOL	528,974	2.6%		
13	NYK Line	498,287	2.4%		
14	Hyundai M.M.	445,604	2.1%		
15	K Line	364,361	1.8%		
16	PIL (Pacific Int. Line)	347,881	1.7%		
17	Zim	345,806	1.7%		
18	Wan Hai Lines	234,539	1.1%		
19	X-Press Feeders Group	142,162	0.7%		
20	KMTC	123,409	0.6%		

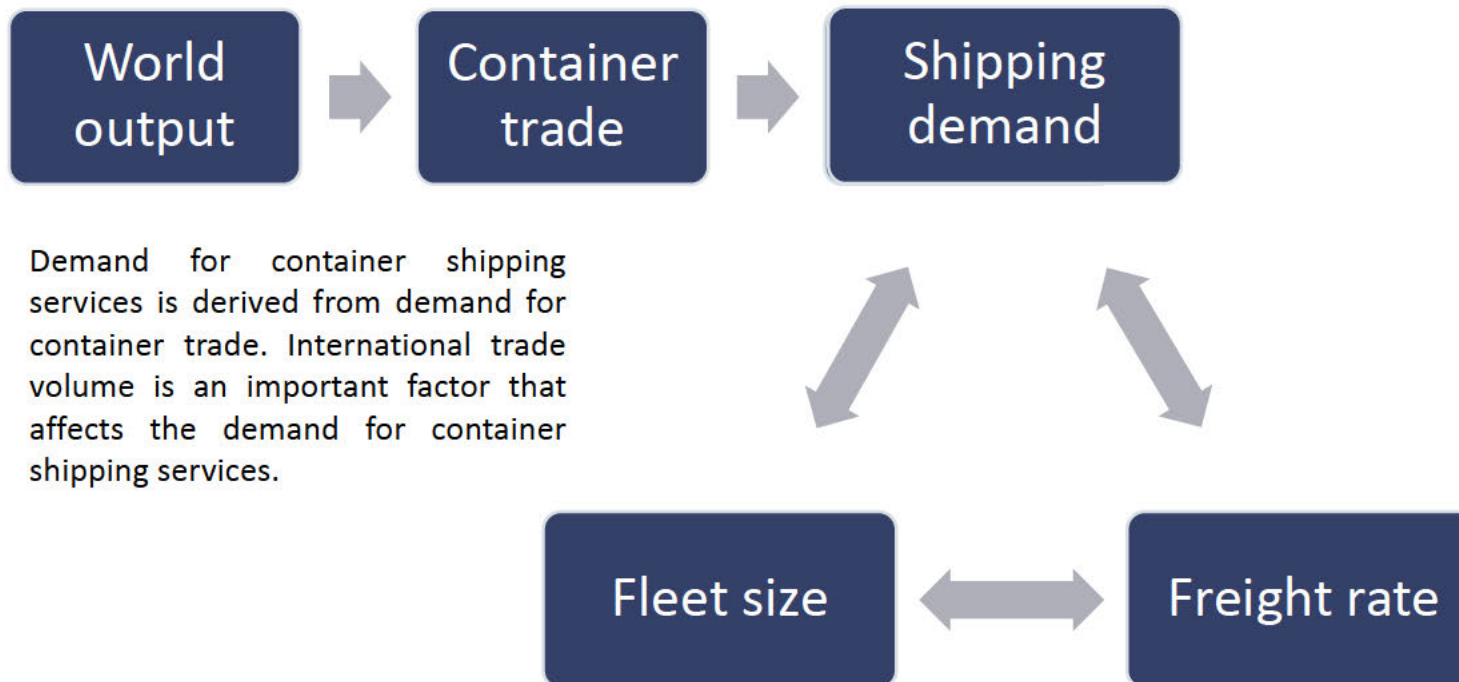
# Liner shipping market

---

- Capacity adjustment
- Shipping demand
- Shipping supply

# Capacity adjustment

The container shipping market is governed by a mechanism through which **the demand for and the supply of shipping** services interact to determine the **freight rate** and **fleet size**.



# Shipping demand

Shipping demand depends on a number of factors. International trade is one of the most important determinants affecting the demand for sea transport.

Shipping business is more sensitive than others to fluctuations in international economic activities.

The change in international trade volume may lead to a change in the volume of seaborne trade, and consequently a change in the demand for sea transport.

# Shipping demand

The concept of elasticity of demand for sea transport helps to show the relationships between the shipping industry's gross revenue and output and changes in freight rates.

Demand for sea transport is a derived demand.

For instance, demand for tramp shipping depends on demand for bulk materials. Furthermore, demand for bulk materials depends on the level of consumption on final products using the materials.

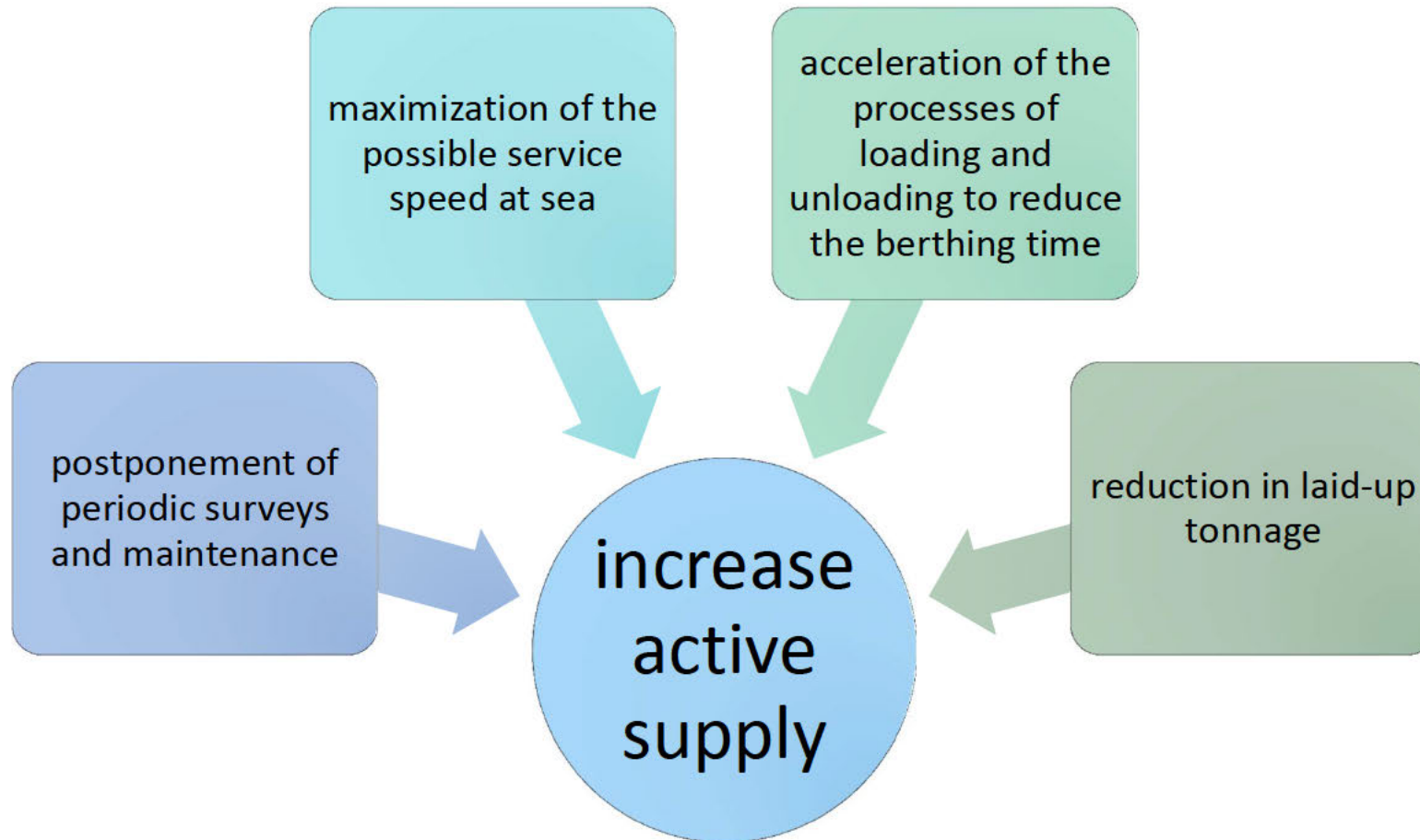
# Shipping supply

---

Supply of sea transport is measured in terms of the supply of tonnage, which refers to the shipping capacity for carrying cargo from one or more ports to one or more ports by sea. All the ships that are trading in the freight market constitute “active shipping supply”. Ships that are not trading (e.g., laid-up tonnage), constitute “available shipping supply”.

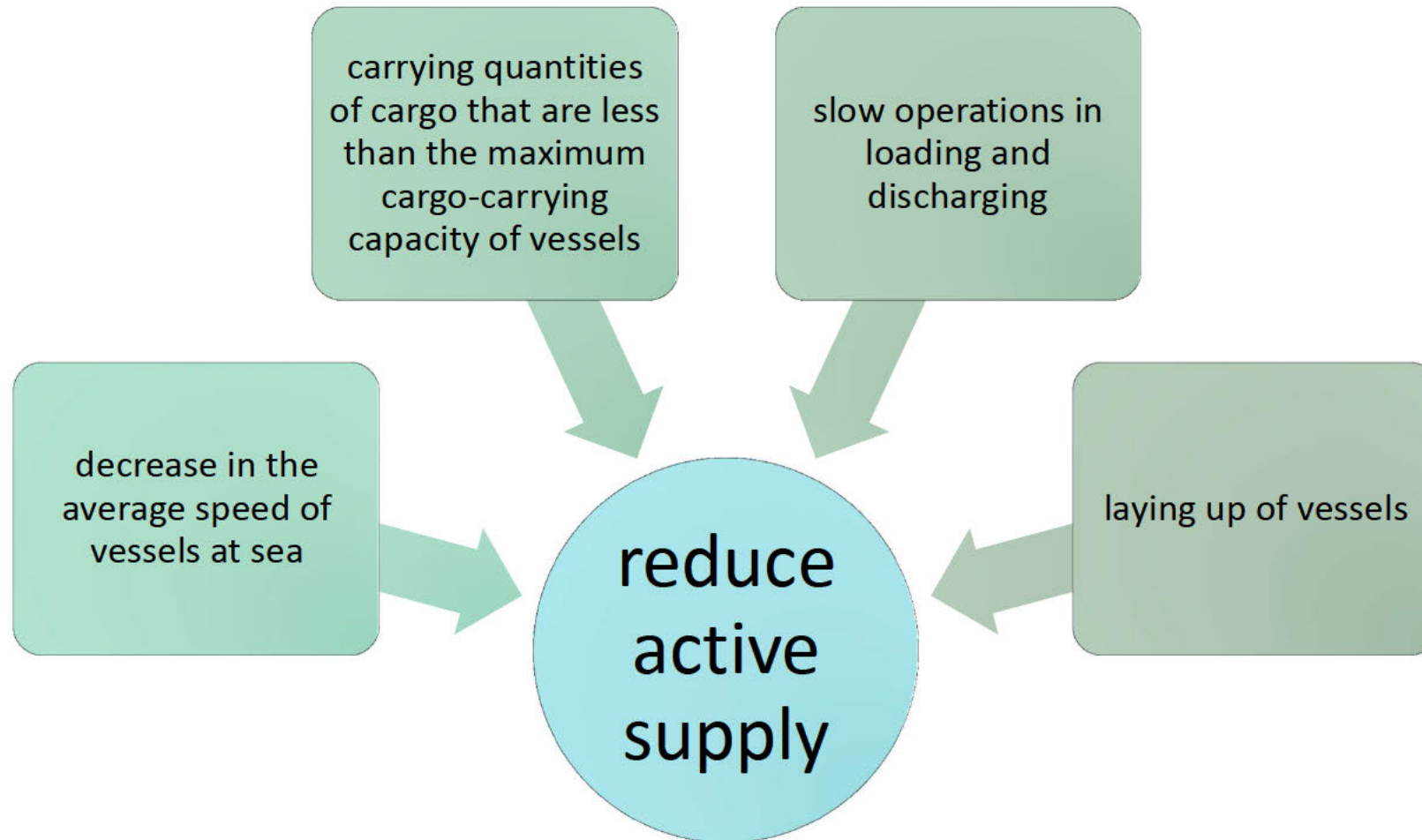


# Managing active supply





# Managing active supply



# Shipping supply: short run & long run

How do shipping firms adjust their supply of shipping services?

The supply of shipping is difficult to expand or reduce in the **short run**.

In the **long run**, there is a time lag between the decision to expand fleet size and the actual time of delivery of new vessels.

Thus, the supply of shipping services tends to be **inelastic** and **incapable of responding instantly** to demand and freight rate changes.

# Short run shipping supply

Depending on the level of freight rates and carriers' expectation of the shipping market, shipping companies **adjust their output in the short run with a view to minimizing their costs and maximizing their profits.**

In the short run, there may be changes in the magnitude of active supply, but total supply cannot expand or contract.

In other words, the **supply of shipping services in the short run tends to be inelastic.**

# Long run shipping supply

## Increase tonnage

- Order new vessels
- Long term repairs of out of use vessels

## Reduce tonnage

- Break up old ships

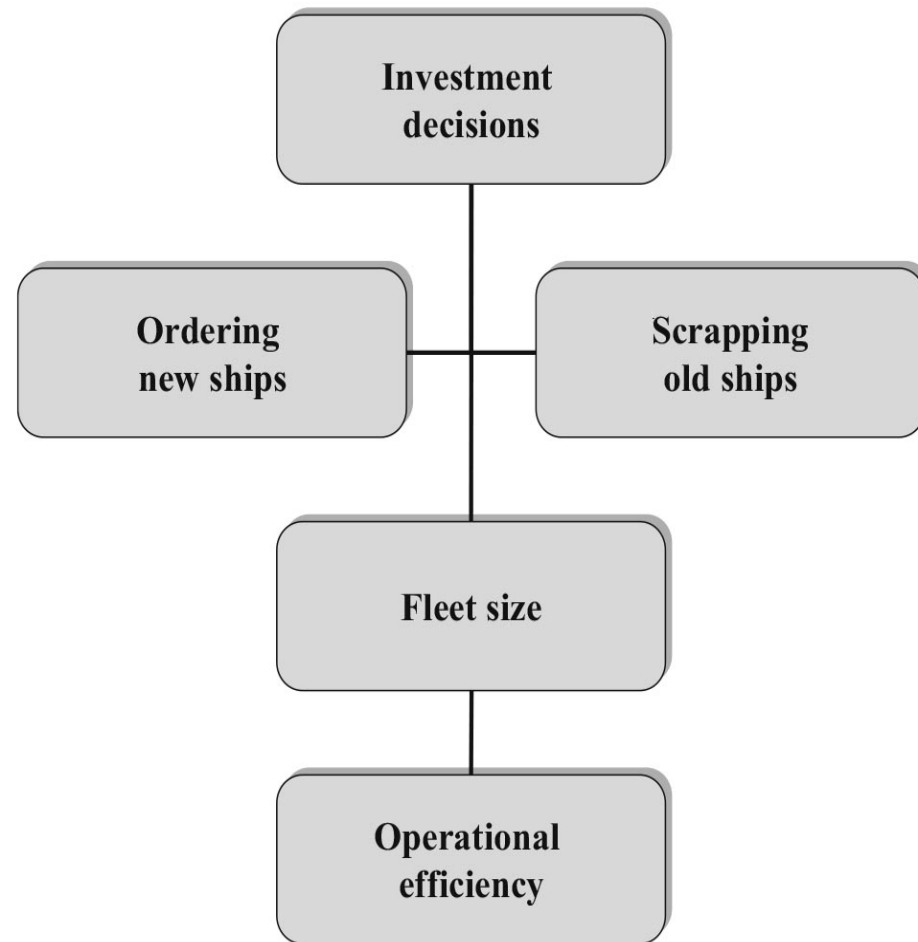
# Shipping supply

Shipping is a capital-intensive industry.

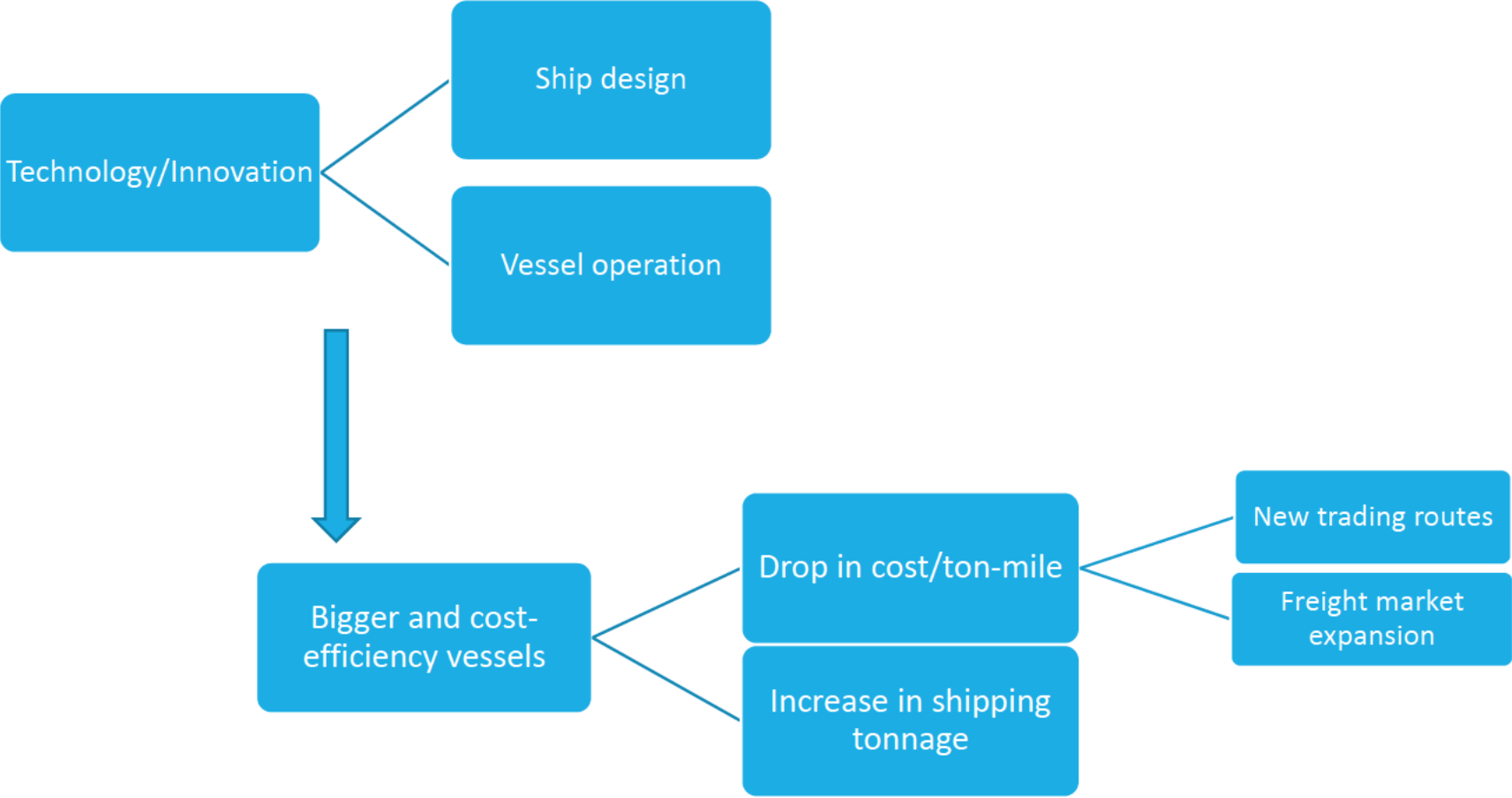
The cost of capacity adjustment is high. It takes about many years for the investment in new ships to be recovered.

A long time interval ranging from 1 to 4 years, depending on the capacity of shipyards, may elapse between ordering and delivering of new ships.

This situation can be viewed as supply rigidity.



# Shipping supply: very long run



# Pricing

---

- Determinants of freight rate
- Market players
- Freight rate & surcharges
- Tariff & service contract
- Incoterms (e.g., FOB, CIF)

# Determinants of freight rate

---

- Balance between shipping demand and shipping supply
- Shipping costs
  - Capital cost (e.g. LIBOR)
  - Operating cost (e.g., labor, flag, administration)
  - Voyage cost (e.g., bunker, port charges)



# Market players

---

Supply side:

- vessel operating common carrier (VOCC), i.e. shipping line

Demand side:

- beneficial cargo owner (BCO), i.e. shipper/consignee or exporter/importer
- non-vessel operating common carrier (NVOCC), i.e. freight forwarder or 3PL

# Freight rate & surcharges

---

The total price for a shipment consists of various components: basic rate, mandatory surcharges and extra services.

Basic Ocean Freight - The BAS (commonly known as “freight rate”) is a transportation rate for moving cargo. The rate is determined by a number of factors such as different origin/destination and cargo type (i.e. general cargo, reefer cargo or special cargo).

Mandatory surcharges - Mandatory surcharges constitute a part of the rate which is not covered by the BAS. Mandatory surcharges are established to cover cost items or services that are either pass-through charges (e.g. from terminals) or beyond the basic ocean transport services. These surcharges are applicable to every shipment.

Other surcharges are applicable to some shipment. Shippers with bargaining power can sometime negotiate with carriers not to pay for certain non-mandatory surcharges.

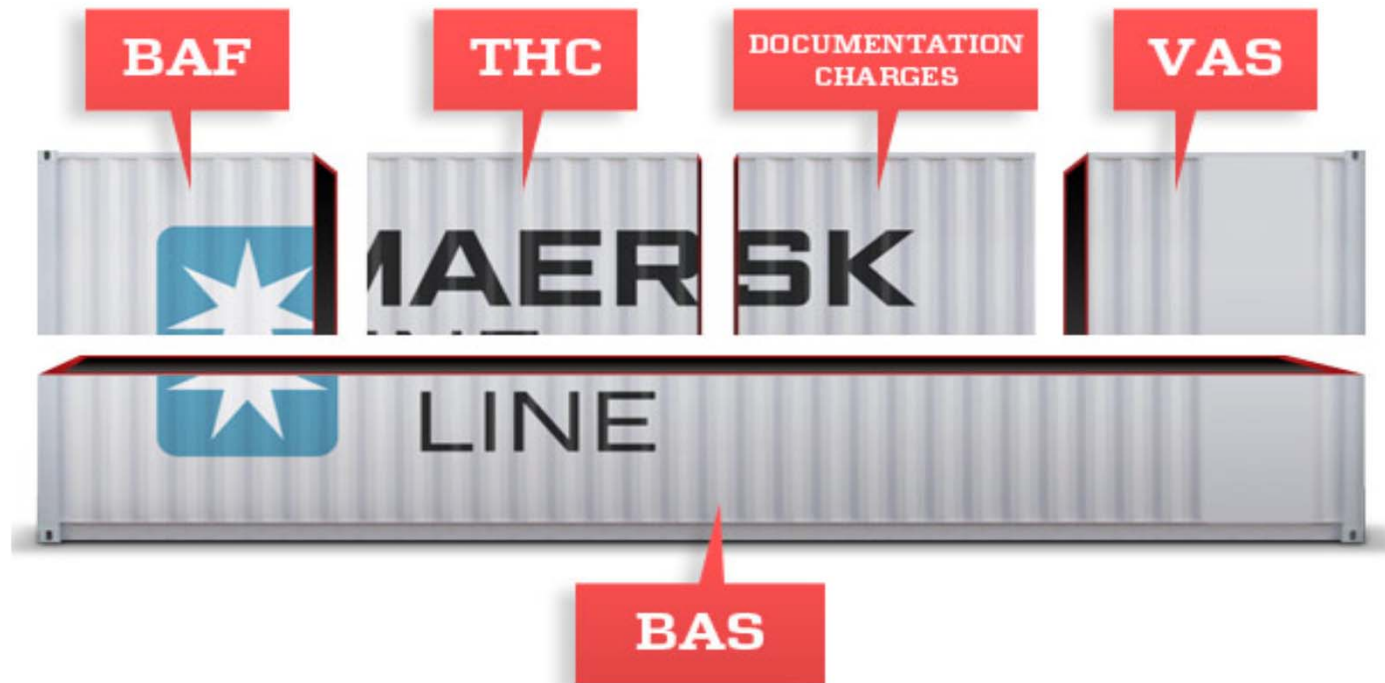
# Freight rate & surcharges

---

Most frequent surcharges:

- Bunker Adjustment Factor (BAF): The BAF is a charge to account for the fluctuation in bunker costs (fuel used by the vessels).
- Currency Adjustment Factor (CAF): The CAF aims to offset losses from the fluctuation of exchange rate. It is a charge to account for the changing exchange rates between the US dollar and other currencies. The CAF increases as the US dollar decreases.
- Terminal Handling Charge (THC): The THC is based on the cost of handling the container in the terminals, including loading and discharging containers to/from the vessel.
- Documentation Charge (DOC): The DOC is a service charge related to the provision of transport documents at the origin and the destination based on shipping instruction (SI).
- Value Added Services (VAS): The VAS are extra services that offered to accommodate additional requirements. Examples of VAS include Container Cleaning, Garments on Hangers, Out of Gauge.

# Freight rate & surcharges



# General rate increase (GRI)

---

GRI is an adjustment of freight rates across all trade routes or on specific trade routes during a specific time frame. GRI is applied by shipping lines, generally based on the supply and demand on the trade routes. Some shippers with bargaining power can negotiate not to include GRI clauses in their service contracts.

Example:

- Effective date: 1st September, 2013 (applicable to all cargo gated-in from the 1st of September)
- Scope : Far East Asia countries to South Africa (including hinterland countries serviced via South Africa)
- General rate increase: USD 300 per 20' container & USD 600 per 40' container

# Tariff

---

Carriers publish their tariffs setting forth the rates, charges, and other terms and conditions of all-water and intermodal transportation for the general public.

Rates, charges, rules, and practices between all points or ports on a carrier's route and on any through transportation route that has been established are included in the published tariff.

Tariff rate can be used as one of the reference points for contract negotiation.

Situations for using tariff:

- Non-regular business
- Small consignment

# Sample tariff



We take it personally

## Rate Tariff Details

Tariff: Asia-Europe  
 Cargo Nature: General  
 Commodity: Cargo Nos, Non-Temperature Controlled  
 Shipping Date: 06 Aug, 2016

Origin (Traffic Mode): Hong Kong, Hong Kong (CY)  
 Origin Via (Transport Mode):  
 Service Loop(s) / T/S Port(s):  
 Destination Via (Transport Mode):  
 Destination (Traffic Mode): Rotterdam, Zuid-Holland, Netherlands (CY)

Charge Description	Code	Payment Currency	Per 20'	Per 40'	Per 40' High Cube	Effective Date	Expiry Date	Remarks
Ocean Freight	OCEAN	USD	1150	2300			31 Dec, 2016	
<b>Ocean Surcharges</b>								
Amendment for Advance Manifest Security Charge	AAM	USD	40	40				Per BL
Advance Manifest Security Charge	AMS	USD	30	30				Per BL
Bunker Adjustment Factor	BAF	USD	96	192				Per Container
Currency Adjustment Factor	CAF	USD	10	14				Per Container
Inbound Documentation Fee	DCF	EUR	39	39				Per BL
Outbound Documentation Fee	DOC	HKD	500	500				Per BL
Gulf of Aden Surcharge	GAS	USD	43	86				Per Container
Gate In Charge	GIC	HKD	600	650				Per Container
High Security Seal Charge	HSS	HKD	65	65				Per Container
Late SI Charge	LSI	HKD	450	450				Per BL
Low Sulphur Fuel Surcharge	LSS	USD	17	34				Per Container; Service Loops: (LP5, LP7, LP6, LP1, LP4)
Suez Canal Transit Charge	SUZ	USD	9	18				Per Container
Terminal Handling Charge at Origin	THC	HKD	2000	2700				Per Container
Terminal Handling Charge at Destination	THD	EUR	199	199				Per Container

# Service contract

---

Service contract: Carriers enter into individual, separately-negotiated, confidential service contracts with customers that set forth the rates, charges and other terms of transportation.

A service contract is a contract between a carrier and its customer (BCO or NVOCC) in which the customer commits to provide a certain minimum quantity or cargo over a fixed period of time and the carrier commits to a certain rate or rate schedule and a defined level of service.

Each carrier negotiates service contracts with each individual customer on a confidential basis.



# Incoterms

---

The Incoterms or International Commercial Terms are a series of pre-defined commercial terms published by the International Chamber of Commerce (ICC). The incoterms are widely used in international commercial transactions or procurement processes.

A series of three-letter trade terms (e.g., FOB, CIF) related to common contractual sales practices in international trade. The Incoterms aims to provide clear communication between buyers and sellers on the tasks, costs, and risks associated with the transportation and delivery of goods.

Incoterms for sea transport:

- FOB – Free on Board (named port of shipment):
  - Seller is responsible for all charges (i.e. local surcharges) incurred before the cargos are loaded on the ship
  - Buyer is responsible for all charges (i.e. freight and destination surcharges) incurred after the cargos are loaded on the ship
- CIF – Cost, Insurance & Freight (named port of destination)
  - Seller is responsible for all charges (i.e. local surcharges and freight) incurred before the cargos arrive at the port of destination
  - Buyer is responsible for all the charges (i.e. destination surcharges) incurred after the cargos arrive at the port of destination

# Liner shipping alliance

---

- Current major alliances
- Possible changes

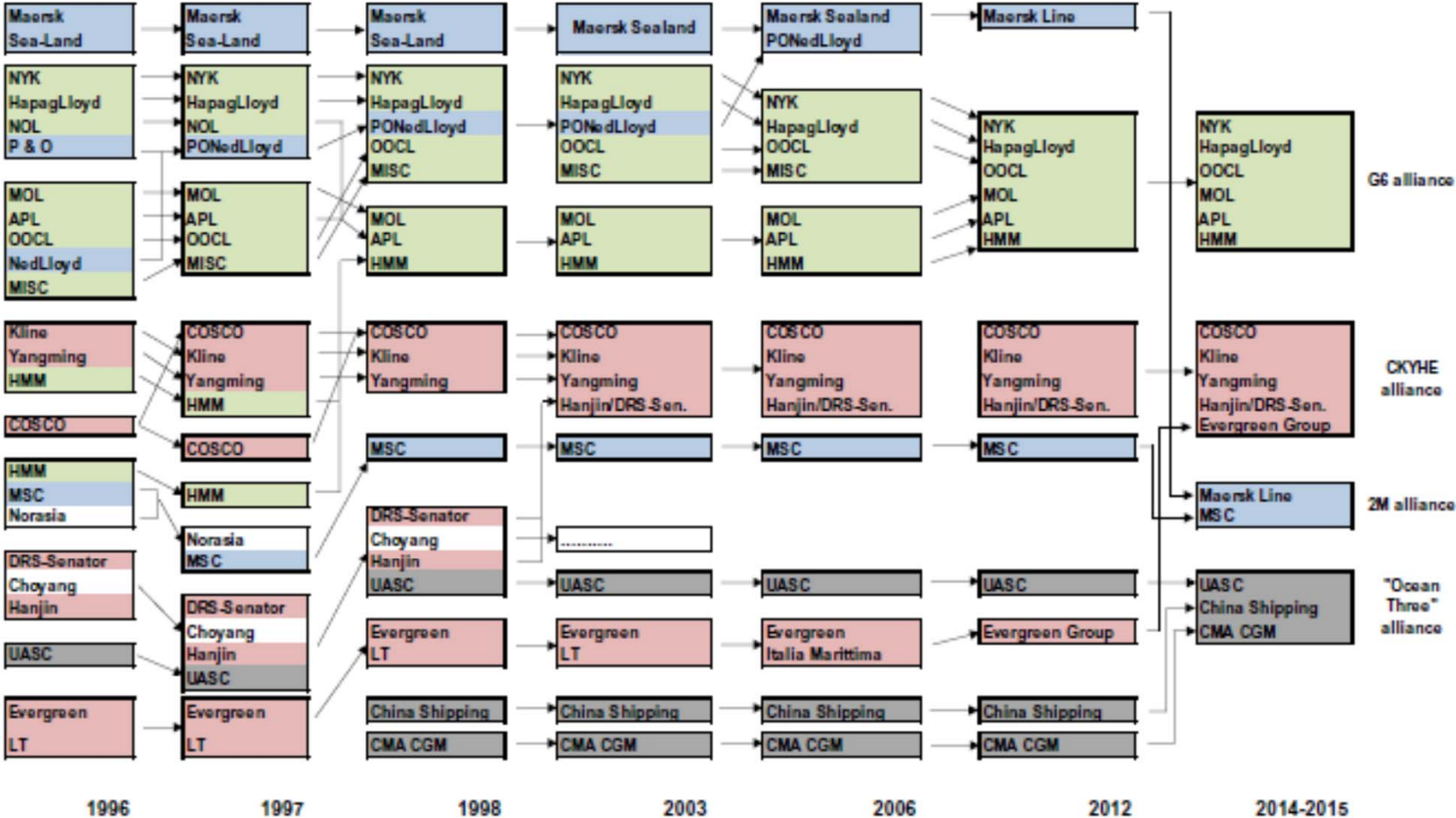
# Major alliances

---

Four major liner shipping alliances:

- 2M: Maersk and MSC
- CKYHE: COSCO, K Line, Yang Ming Line, Hanjin Shipping and Evergreen Line
- G6: APL, Hapag-Lloyd, Hyundai, MOL, NYK, OOCL
- O3: CMA CGM, China Shipping, UASC

# Liner shipping alliances



Source: OECD

# Reshuffling of alliances

---

Existing alliances will be broken up:

- \* Merger between Hapag-Lloyd and UASC
- \* Merger between COSCO and China Shipping
- \* CMA CGM acquiring NOL and its liner unit APL

Possible changes (2017):

- Hyundai will join Maersk and MSC
- Ocean Alliance (2CEO) will bring together the newly merged China COSCO Shipping, CMA CGM, Evergreen, and OOCL
- THE Alliance will comprise Hanjin, MOL, NYK, K Line, Hapag-Lloyd and Yang Ming

Thank you