
Tanker Economics

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Market Structure

- **The Zannetos Model**
- **Perfect Competition**
- **Traditional Ownership Pattern**
 - Oil Companies
 - Independent Owners

Oil Tanker Demand Shifters

- **Oil Majors**
- **Oil Traders**
- **Governments**
- **Random Events**
 - Political
 - Natural

Oil Tanker Supply Shifters

- **Primary Market Conditions**
- **Shipbuilding Market Conditions**
- **Market Expectations**
- **Regulatory Requirements**

Tanker Acquisition Mechanisms

- **Ownership**
- **Charter**
 - Bareboat
 - Time Charter
 - Voyage Charter
 - Contract of Affreightment
 - Consecutive Voyages

Ship Costs

- **Capital Cost**
 - Cost of acquisition
- **Running/Operating Cost**
 - Crewing and subsistence
 - Stores and lubricants
 - Repairs and maintenance
 - Insurance
 - Administration

Ship Costs (cont.)

- **Voyage Costs**
 - Fuel
 - Port and light dues
 - Pilotage and tugs
 - Canal tolls

Cost Burden

	Capital Costs	Running Costs	Voyage Costs
• B/B	Shipowner	Charterer	Charterer
• T/C	Shipowner	Shipowner	Charterer
• V/C	Shipowner	Shipowner	Shipowner

World (–wide Tanker Nominal Freight) Scale

- A system for quick comparison of rates for moving cargo between different ports/points
- Spot market fixtures usually reported using the WS system

WS System – Origin

- **WWII Tanker Reletting Activities**
- **British MOT Scale**
- **US Maritime Commission Scale**
- **Replaced by Intascale**
- **Replaced by WS in 1969**
- **Replaced by New WS in 1989**

WS – Basic Assumptions

- **Standard Vessel**

- Capacity: 75,000 m. tonnes of cargo, stores, water & bunkers
- Average service speed: 14.5 knots
- Bunker consumption: 55 m. tonnes/day steaming, 100 m. tonnes for purposes other than steaming, 5 m. tonnes for each port stay
- Fuel oil grade: 380 cst

WS – Basic Assumptions (cont.)

- **Standard Vessel**

- Four days for voyage between port pairs, extra 12 hours for each additional port
- Fixed hire rate: \$12,000/day
- Bunker price, currency exchange rate as specified
- Canal transit time:
 - 24 hours for Panama Canal
 - 30 hours for Suez Canal

WS Case Study #1

- **Two identical tankers chartered at WS 100**
 - One, Mina al Ahmadi to Rotterdam
 - Two, Curacao to Helsinki
- **What is the financial result (gross revenue) per diem?**

WS Case Study #2

- If **WS100 = \$10/tonne**,
 - WS250 = ?
 - WS50 = ?

WS Case Study #3

- Two tankers, one large and the other small, are being chartered at the same WS rating. Which will earn more, and why?

WS Case Study #4

- Ras Tanura to Rotterdam
- WS100 = \$17.50/tonne
- If the vessel carried 100,000 tonnes at \$10.5/tonne, report the fixture in WS

WS Case Study #5

- Ras Tanura to Rotterdam; WS100 = \$20/tonne.
- Vessel 100,000 dwt, fixed @ WS100 for 60 days round trip.
- Total Revenue = ?
- Revenue/Day = ?
- If the same vessel makes a 40 day round trip from Curacao to Helsinki @ WS100, what is the WS base rate on that route?

WS Case Study #6

- **Vessel capacity = 107,000 tonnes; WS100 = \$6.50/tonne.**
- **Shipper pays:**
 - Vessel hire = \$207,300
 - Fuel = \$187,000
 - Port charges = \$18,000
- **Report the fixture in WS.**

WS Case Study #7

Assuming:

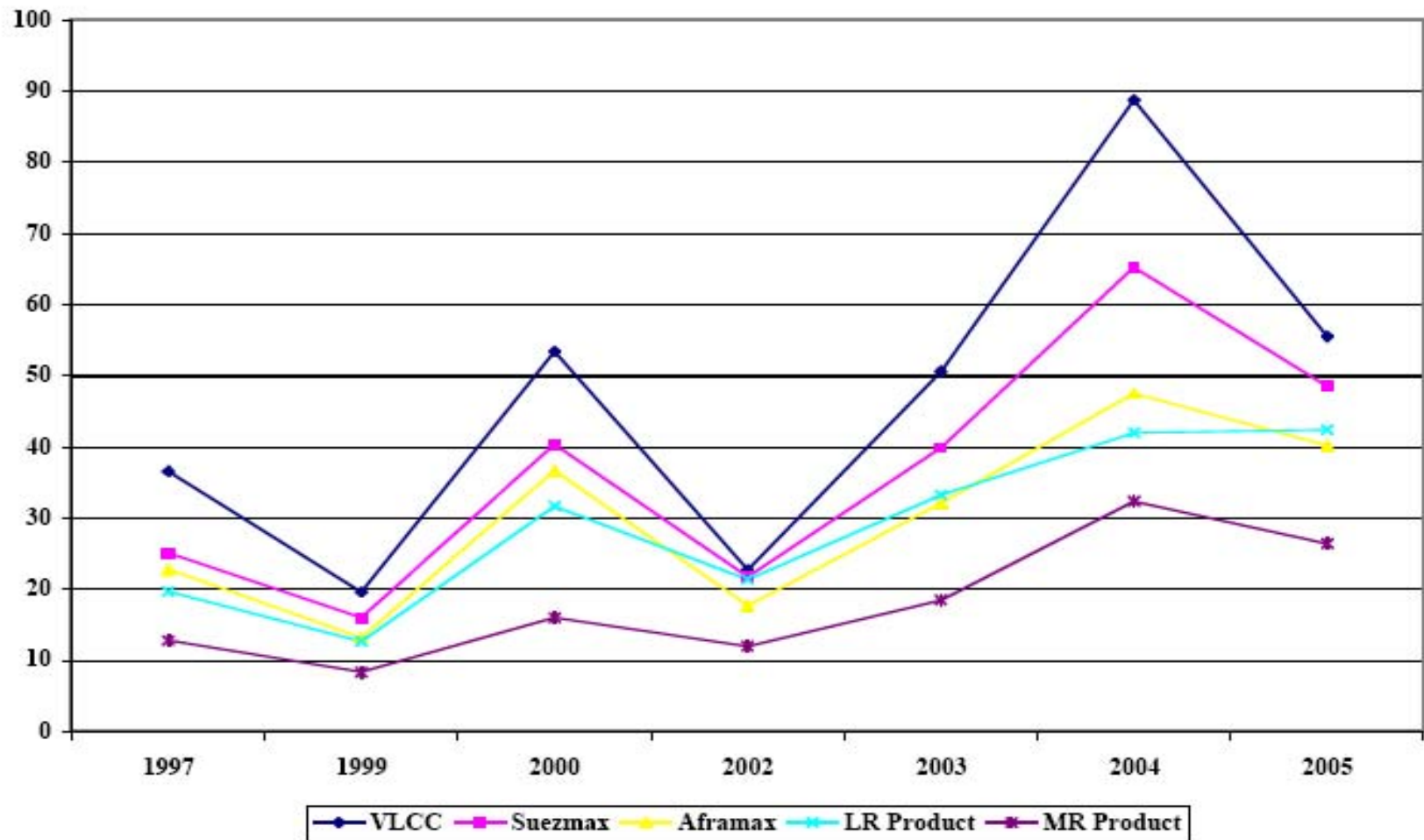
- Ras Tanura to Rotterdam; WS100 = \$17.5/tonne
- Vessel 155,000 dwt, carries 150,000 tonnes cargo.
- Fuel expenses for the round trip = \$610,000
- Port charges for the round trip = \$22,000
- During the operating year (=11.5 months), vessel can make 5.5 trips.

Question:

- What is the TCH if the vessel was fixed @ WS42?

Average Single Voyage Freight Rates

(\$Thousand/day)



Source: R.S.Platov 2006