

# LIBRARY GUIDE

## Economics of Shipping: Study Guide

**For Shipping & Logistics Students – Caribbean Maritime University**

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**Based on:** Past paper (August 2018) – updated for current industry context

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This guide is organised by **exam question topics** from the past paper. Each section includes:

- **Key concepts** you must know
- **Updated context** (new developments since 2018)
- **Revision questions** (short answer and essay-style)

Use this alongside your lecture notes, textbook, and current industry reports (e.g., UNCTAD, Clarksons, BIMCO).

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### Module 1: National Fleets & Ship Financing

*(Based on Question 1)*

#### Key Concepts

- Strategic, economic, and political reasons for a national fleet
- Cargo reservation, cabotage laws
- Ship financing options: debt, equity, leasing, government subsidies, Islamic finance, sale and leaseback, IPOs

#### Updated Context (2018–2025)

- Impact of COVID-19 on ship finance (government support, loan guarantees)
- Green financing (Poseidon Principles, EU Taxonomy)
- Rise of alternative lenders and private equity
- Jamaica's logistics hub strategy – does a national fleet still make sense?

#### Revision Questions

##### Short answer (5 marks each)

1. Explain two strategic reasons why a small island state like Jamaica might want a national fleet despite high costs.
  2. What is the difference between a mortgage loan and a sale-and-leaseback arrangement in ship finance?
  3. How have environmental regulations (e.g., IMO 2030 targets) influenced ship financing decisions?
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### Essay (15 marks)

*Discuss the financial options available to a Caribbean shipowner wanting to purchase two medium-sized container vessels today. Which options are most realistic and why?*

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## Module 2: Price Elasticity of Supply & Demand in Shipping

*(Based on Questions 2 & 3)*

### Key Concepts

- Price elasticity of demand (PED) and supply (PES)
- Determinants of elasticity in shipping markets
- Total revenue test: relationship between PED, price changes, and revenue
- Numerical calculations

### Updated Context

- Post-COVID freight rate volatility (container and dry bulk)
- Elasticity of demand for different cargo types (necessity vs. luxury goods)
- Short-term vs long-term elasticity of tonnage supply

### Revision Questions

**True/False with explanation (2 marks each)** – practice with original Q2(b) and (c)

### Calculation problems

1. A ro-ro ferry carries 800 passengers/day at \$50. PED = -0.6. Price rises to \$55. Calculate new revenue and state if it increases or decreases.
2. PED = -2.5. Price cut by 8%. What happens to total revenue? Show working.

### Short answer (6 marks)

*Why is the supply of containership tonnage more price inelastic in the short run than in the long run? Use examples.*

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## Module 3: Shipping Market Cycles

*(Based on Question 4)*

### Key Concepts

- Four stages: trough, recovery, peak, collapse (downturn)
- Drivers: demand (trade, GDP), supply (newbuildings, scrapping), freight rates, second-hand prices
- Time lags in shipbuilding

### Updated Context

- 2019–2020: COVID collapse
- 2021–2022: Unprecedented peak (container sector)
- 2023–2024: Normalisation and overcapacity risks
- Impact of Red Sea diversions (2024) – artificial tightening

## Revision Questions

### Short answer (4 marks each)

1. Why does a shipping market cycle typically last longer than a cycle in air freight?
2. What indicators would tell you the market is moving from recovery to peak?

### Essay (20 marks)

*Describe the recent shipping market cycle from 2019 to 2024, identifying the four stages. Use specific examples from one sector (container, dry bulk, or tanker).*

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## Module 4: Shipping Costs & Cost Control

*(Based on Question 5)*

### Key Concepts

- Operating costs (crew, stores, insurance, maintenance)
- Voyage costs (fuel, port charges, canal dues)
- Capital costs (loan repayments, depreciation)
- Controllable vs non-controllable costs

### Updated Context

- Fuel cost volatility (VLSFO, LNG, methanol)
- Decarbonisation costs (CII penalties, retrofitting)
- Digital tools for cost control (AI route optimisation, predictive maintenance)
- Crew costs post-COVID (recruitment challenges)

## Revision Questions

### Distinguish (6 marks each)

*Operating costs vs voyage costs – give two examples of each and explain which a charterer typically pays.*

### Short answer (4 marks)

*List three major costs a shipowner can control in the short term and one they cannot.*

### Essay (9 marks)

*Explain how a container line could reduce fuel and port costs using digital technologies. Provide concrete examples.*

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## Module 5: Perfect Competition & The Tramp Market

*(Based on Question 6)*

### Key Concepts

- Characteristics of perfect competition: many buyers/sellers, homogenous product, free entry/exit, perfect information, price takers
- Dry bulk tramp market vs liner market
- Voyage charter, time charter, contract of affreightment

### Updated Context

- Consolidation in dry bulk (but still more fragmented than liner)
- Digital platforms (e.g., Baltic Exchange, Shipfix) improving information flow
- Does the tramp market still fit perfect competition? Role of big charterers (Cargill, BHP)

### Revision Questions

#### Definition (2 marks)

*What is the dry cargo bulk freight market?*

#### List (5 marks)

*State the five assumptions of perfect competition.*

#### Discussion (18 marks)

*Assess the extent to which the modern dry bulk tramp market meets the assumptions of perfect competition. Use industry examples (iron ore, coal, grain) and note any deviations.*

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## Module 6: Supply of Tonnage – Short Run vs Long Run

*(Based on Question 7)*

### Key Concepts

- Short-run supply: existing fleet, speed adjustments, lay-up, re-delivery
- Long-run supply: newbuildings, scrapping, second-hand market, fleet renewal
- Diagrams: short-run vertical segment, long-run upward sloping

### Updated Context

- Orderbook at historic lows (2024) – but rising for dual-fuel vessels
- Scrapping age increased (older vessels kept due to high earnings)
- Impact of EEXI and CII on effective supply

### Revision Questions

#### Short answer (5 marks each)

1. Give two ways a shipowner can increase tonnage supply in the short run without buying new ships.
2. Why does long-run supply of shipping tonnage slope upward (not perfectly elastic)?

#### Essay (15 marks)

*Using diagrams, analyse the factors that influence supply of dry bulk tonnage in the short run and long run. Include the role of environmental regulations.*

## Module 7: Seaborne Trade & Global Economic Development

(Based on Question 8)

### Key Concepts

- Seaborne trade as a percentage of global trade (approx 80-90% by volume)
- Link between GDP growth and maritime trade
- Role in developing countries: exports, imports, food security, energy
- Negative aspects: emissions, accidents, inequality

### Updated Context

- Post-pandemic trade recovery
- Nearshoring and friend-shoring (impact on tonne-miles)
- Africa and Latin America as growth regions
- Blue economy and sustainable development goals (SDGs)

### Revision Questions

#### Short answer (5 marks each)

1. Explain one way seaborne trade directly supports Jamaica's economy.
2. How has the shift towards regional trade agreements (e.g., AfCFTA) affected shipping demand?

#### Essay (15 marks)

*Critically discuss the role of seaborne trade in global economic growth and development since 2020. Include both positive contributions and challenges.*

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### Full Practice Exam (4 questions – 3 hours)

Attempt any **FOUR** questions. 25 marks each.

1. **National fleet & financing** (as Q1 above – updated to 2025)
  2. **Elasticity problem set** (as Q2 & Q3 combined – calculations and T/F with explanations)
  3. **Market cycles & cost control** (combination of Q4 & Q5 – cycle stages + cost reduction strategies)
  4. **Perfect competition in tramp market** (as Q6)
  5. **Supply of tonnage** (as Q7 – include diagram)
  6. **Seaborne trade & development** (as Q8)
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## Glossary of Key Terms (Updated)

Term	Definition
<b>CII</b>	Carbon Intensity Indicator – operational measure for ships
<b>EEXI</b>	Energy Efficiency Existing Ship Index
<b>VLSFO</b>	Very Low Sulphur Fuel Oil (post-IMO 2020)
<b>Scrapping</b>	Breaking a ship for recycling (removes supply)
<b>Lay-up</b>	Temporarily removing a ship from active service
<b>Cabotage</b>	Restriction of domestic shipping to national flag vessels
<b>Tramp shipping</b>	Irregular, charter-based shipping (bulk, breakbulk)

## Recommended Reading (Post-2018)

- UNCTAD *Review of Maritime Transport* (latest edition – free online)
- Stopford, M. *Maritime Economics* (4th ed) – Chapters on costs, cycles, elasticity
- BIMCO and Clarksons Research – market reports (student access via library)
- IMO publications on decarbonisation and financing


**Good luck with your studies and exams.**

*Remember: the economics of shipping is about real-world decisions – think like a shipowner.*


## Additional Support

For assistance with research or accessing resources such as past papers, visit the CMU Library or contact:

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