Japan’s Maritime Cluster Current Status

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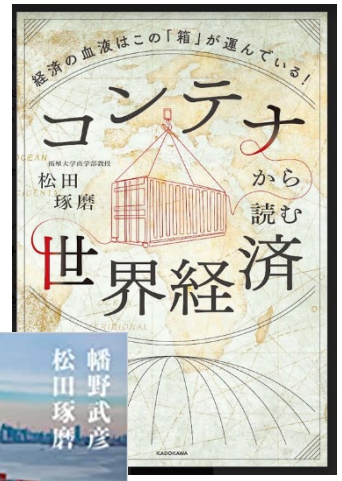

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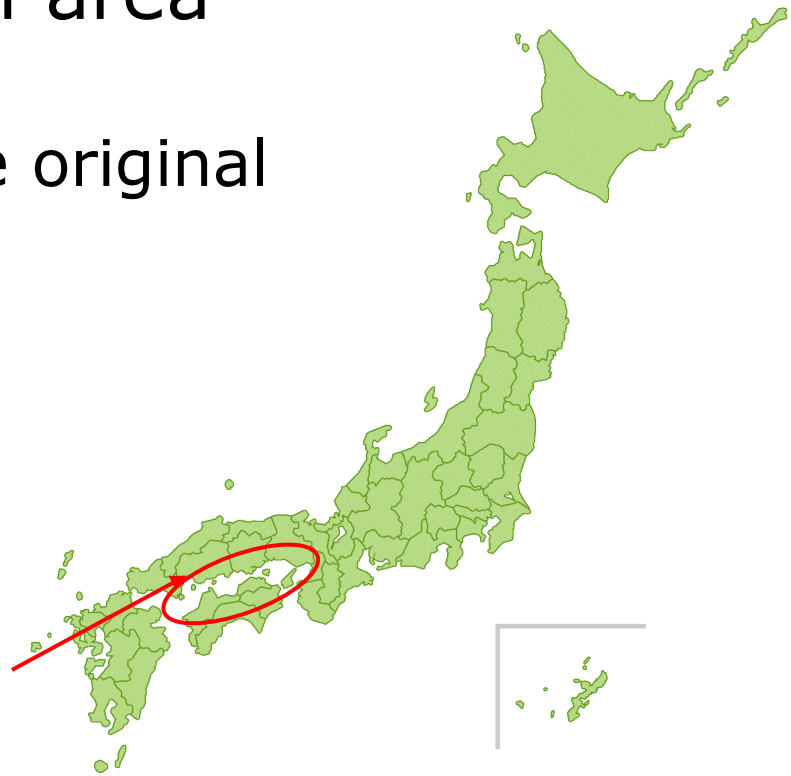
Introduction

- Japan: A nation surrounded by sea
- Maritime industry: Closely tied to regional economies
- Setonaikai area: A hub of maritime activities
- Main Focus: Maritime clusters in the Setouchi area
  - Some agglomerations regionally such as Imabari
  - Agglomerations around Imabari area seems to be original business cluster (Honzu, 2016)
  - Ehime Prefecture is Japan's largest shipowner concentration area



What is a Maritime Cluster?

- Definition of the Maritime Cluster: Business Cluster of Maritime Industries
  - Geographical concentration of interconnected maritime businesses
  - Benefits: Synergy, efficiency, innovation, productivity gains
- "Clusters are geographic concentrations of interconnected companies and institutions in a particular field. Clusters encompass an array of linked industries and other entities important to competition. They include, for example, suppliers of specialized inputs such as components, machinery, and services, and providers of specialized infrastructure."(Porter,1998)

Michael E. Porter(1947-)
Bishop William Lawrence University Professor,
Harvard Business School

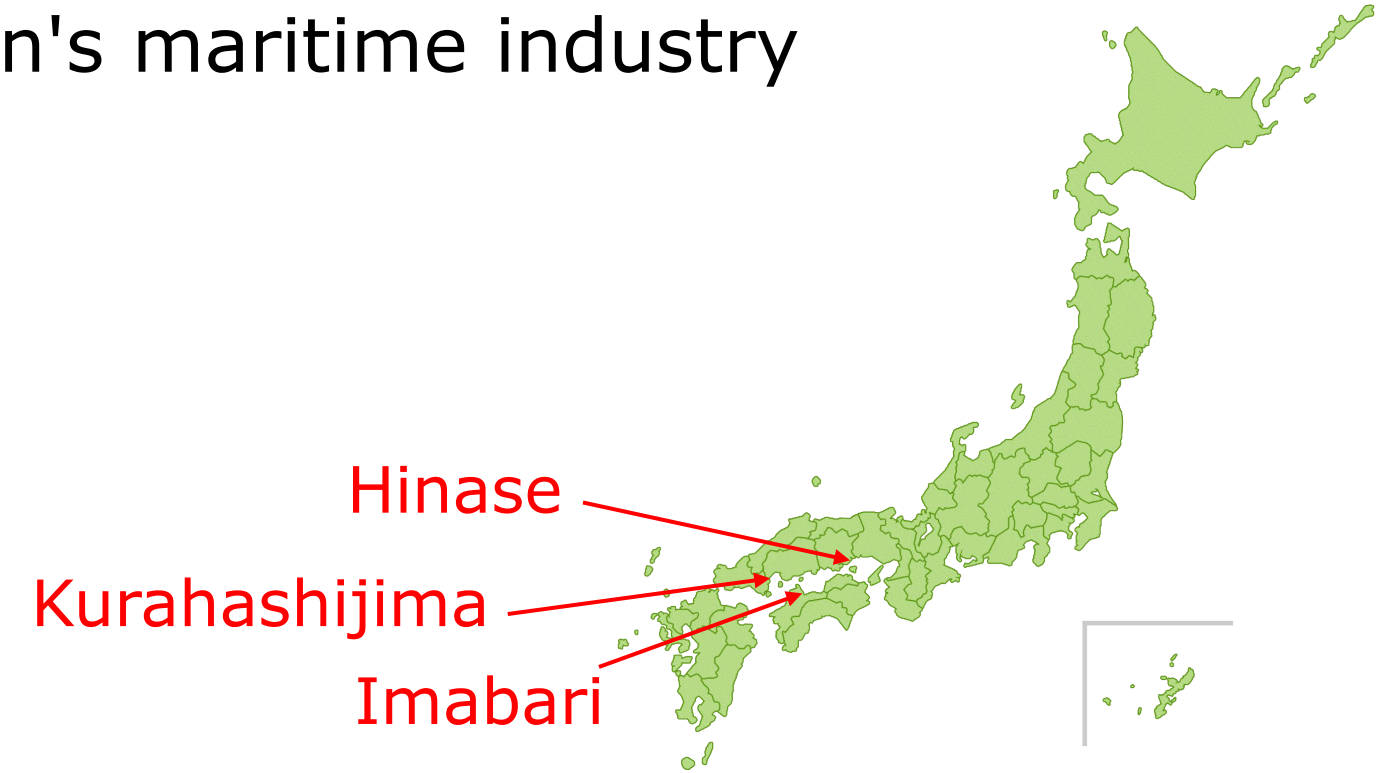
Overview of maritime cluster in world

	Advantagous industry
Netherland	Port-related industry
U.K.	International Organization(IMO), Baltic Exchange, Financial Service, Insurance
Norway	Drybulk, Tanker, Offshore shipping
Denmark	Shipping(Maersk)
Germany	Container Shipping(Hapag-Lloyd) and Ship Finance
Greece	Shipowners
Singapore	Port-related industry(PSA), Shipping(NOL), Ship Management
Hong Kong	Port-related Industry(Hutchison)
Phillipines	Seafafers
China	Shipping(COSCO), Shipbuilding
Korea	Port(Busan) and Logistics, shipbuiliding
Japan	**Shipping(NYK, MOL, K-LINE), Shipbuilding(Imabari Zosen, JMU,...),Shipowners**

Source: Shinohara(2010) and other information

Setouchi Maritime Cluster

- Key areas: Ehime (Imabari), Okayama (Hinase), Hiroshima (Kurahashijima),….etc.
- Main industries: Shiponwers, shipbuilding, marine equipment manufacturing
- Concentration: ~30% of Japan's maritime industry



Overview of the Maritime Cluster in Japan (view of service supply)

■ : Ships, Parts, Engines, Machinery
■ : Financial services
■ : Services concerning ship operation
■ : Manning
■ : Port Usage
■ : Transport, Logistics

Banks, Financial Institutions

Parts Supply

Machinery, Engine Supply

Ship Repair

Insurance

Shipping (Owners and Operators)

Shipbuliding

Port Maintenance, Pilotage

Port Authorities

Port Transportation

Ship Management

Classification

Warehousing, Logistics

Shippers or Consignees

- Wholesale,Retail
- Steel
- Non-ferrous Metal
- Pulp, Papers
- Automobile
- Petroleum
- Electric Devices
- Power Plant, Gas
- Grain Traders
- Others

Universities, Colleges

Brokers, Consultants

Government, officers, Legal services…..

Trading Companies

Economic Scale of the Maritime Cluster

- Japan's maritime cluster (2015):
  - Gross value added: 4.74 trillion yen (0.87% of GDP)
  - Production value: 12.63 trillion yen (1.25% of domestic production)

- Setouchi (estimate):
  - Gross value added: ~800 billion yen
  - Production value: ~2.1 trillion yen
  - 2.3% of the region's gross prefectural product
  - Significant employer in the region
  - Multiplier effect: 2.54 times for new ship orders
  - Importance of maintaining the cluster for regional economic development

Shipowners

- Close proximity: A unique feature of the Setouchi cluster
  - Collaboration: Enhances ship design and usability
  - Competition: Drives innovation and efficiency
- Japan's domestic shipowners have been steadily increasing their fleet size
  - As of September 2020, Ehime shipowners (about 80 companies) owned 1,199 ocean-going vessels
  - In 2004, Ehime shipowners owned 527 ocean-going vessels
  - By 2008, this number increased to 767 ships
  - The fleet size doubled in about 10 years, growth rate has slowed but continues to increase

Changes in Business

- Significant increase in ship sizes (e.g., Cape-size became "normal")
- Diversification of ship types:
- Previously focused on bulkers and container ships
- Now includes oil tankers, chemical tankers, and product tankers
- Some shipowners even acquired VLCCs
- Strengthening BBC (Bareboat Charter) operations
- Expanding business with overseas operators

Shipbuilding

- Japanese Shipping Companies (including Shipowners) usually make orders to Japanese Shipbuilding Companies
  - Japanese Shipbuilding Companies have built 77% of existing fleet controlled by Japanese Shipping Companies
    - 51% of order of Japanese Shipbuilding Companies from Japanese Shipping Companies

    (Above 1,000GT ships and GT-Based figure)
- Japanese Shipbuilding Companies usually order ship machinery and equipment to Japanese Companies
    - about 92% (Monetary-based figure)

Role of Regional Financial Institutions

- Key supporters: Iyo Bank, Ehime Bank, Hiroshima Bank, Yamaguchi Financial Group
  - Services: Ship financing, market information, personnel exchanges
  - Loan balance: Significant portion dedicated to maritime industries
  - Recent developments: Expansion of specialized departments

	Iyo Bank	Hiroshima Bank	Yamaguchi FG	Ehime Bank	Fukuoka Bank	Hyakujushi Bank	Chugoku Bank
2023	70	50	50	30	30	30	20

Table: Regional Banks' lending as of December 2023 (Unit: 100 mil. USD)
Source: Petrofin Research

Link between shipping companies and shippers and consignees

- Japanese Shipping Companies transports about 60% of seaborne trade from/ to Japan
  - About 70% in import volume
  - Most of primary energy (e.g. clude oil,Gas)
- Japanese Shipping Companies make long-term contracts with their shippers and consignees
  - Steelmakers, Electricity, Gas companies
  - Manufacturers for container shipping

	Export	Japanese Shipping Companies' Share	Import	Japanese Shipping Companies' Share
2000	10,174	34.4	78,800	68.4
2005	13,437	33.8	81,563	64.9
2010	15,641	28.6	75,904	61.4
2015	16,898	36	77,774	70
2020	15,062	38.8	66,503	65.4
2023	14,315	44.6	65,661	70.1

Table:Japanese shipping trade volume and Japanese Shipping Companies' Share (Unit: 10,000 ton)
Source:MLIT of Japan

Challenges for the Maritime Cluster

- Importance of developing unique business models for survival for shipowners
  - Shift from "Japanese operators", "bulkers", and "long-term charters"
  - Increase in "overseas", "non-bulker ship types", and "short-term charters"
  - Growth in BBC (Bareboat Charter) deals
  - Decrease in TC (Time Charter) negotiations
- Shortage of domestic shipbuilding capacity, difficulties in overseas expansion
- Increasing costs due to global inflation trends
- Difficulties in investment due to high ship prices and uncertainty about next-generation fuel ships

Policy Changes: Maritime Industry Strengthening Act

- Passed in May 2021
- Aims: Promote shipyard restructuring and productivity improvement
- Key points:
  - Government recognition of restructuring plans
  - Financial support and tax incentives
  - Encouragement for new ship orders

Conclusion

- Setouchi maritime cluster: A vital component of regional and national economy
- The way forward
  - Balancing cluster components for sustainable development
    - Difficulties in investment due to high ship prices and uncertainty about next-generation fuel ships
  - Fostering innovation and technological advancement
    - Focus on technological superiority rather than price competition
    - Leverage environmental technologies
    - Enhancing collaboration between industry, academia, and government
  - Addressing global competition and changing market dynamics
    - Need for adaptive policies and industry cooperation
    - Importance of maintaining balance in cluster development