



MOORE

MOORE MARITIME INDEX 2024

SHIPPING TRENDS BASED ON THE COUNTRY OF BUILT





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SHIPPING TRENDS BASED ON THE COUNTRY OF BUILT

INTRODUCTION

The Moore Maritime Index (MMI) report “Shipping Trends based on the Country of Built” focuses on studying the possible trends and correlations between “Country of Built” and operating expenses of the vessels. Collected data comes from more than 150 management companies which manage 1,500 vessels globally. The study concentrates on the dry cargo and tanker shipping sectors aiming at identifying possible relationships between the Country of Built and vessel operational performance. The analysis is based on 2023 data. Our report contains reliable data based on specific criteria that we believe are important and ensure sufficient data depth on which our preliminary results can be based. Our aspiration, however, is to act as a business companion, therefore we encourage our members to run their own data queries in Moore Maritime Index and seek information to obtain a more accurate view on the subject and gain further insights. See more information on how to access MMI in section 4, page 7.

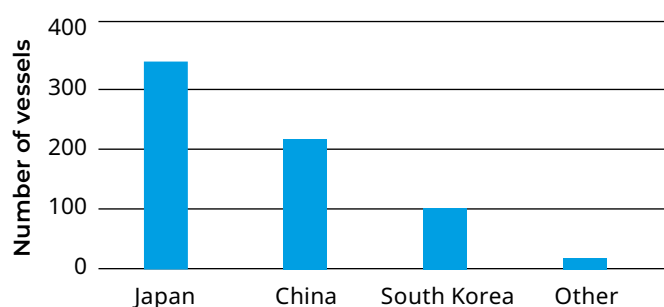
1. FOCUS ON BULK CARRIERS: INSIGHTS BASED ON COUNTRY OF BUILT AND OPERATING EXPENSES

A. Breakdown of the Countries of Built in MMI database

Data of more than 710 bulk carriers are included in our database at the time of this publication. Most of these vessels (96%) are built in one of the three major shipbuilding countries namely, China, Japan and South Korea.

Other Countries of Built reported for bulk carriers in the MMI database include Philippines, Romania and Vietnam.

Table 1: Number of Vessels per Country of Built



Source: Moore Maritime Index

In the analysis that follows, our goal is to identify potential patterns between the country in which a vessel is built and the vessel's operating expenses.

Our analysis will concentrate on the three countries that prevail in our database: China, Japan and South Korea.

B. First look at the Total Operating Expenses per Country of Built

In 2023, Chinese vessels reported average daily operating expenses of \$7,009, Japanese vessels reported average daily operating expenses of \$6,452 and South Korean bulk carriers reported \$6,906 operating expenses per day.

C. Focus on Repairs and Maintenance and Spares per Country of Built

Total operating expenses comprise of crew wages and expenses, lubricants and stores, repairs and maintenance, spares, insurances and administrative expenses with management fees included.

Some of these categories are clearly unaffected by the Country of Built and depend on management decisions, as is the case of the choice of nationality of crew or the choice of the management fees level.

In the analysis that follows, we will focus on the "Repairs and Maintenance and Spares" category aiming at understanding whether there is a pattern based on the Country of Built or not.

As presented in Table 2, Bulk carriers built in Japan are reported to have the lowest average daily Repairs and Maintenance and Spares costs, with \$857 per day. South Korea vessels follow with \$1,074 per day on average and finally vessels built in China perform with an average cost of \$1,165 per day.

Table 2: Bulk Carriers' daily Repairs and Maintenance/ Spares per Country of Built

	Daily R&M and Spares
Japan	\$857
South Korea	\$1,074
China	\$1,165

Source: Moore Maritime Index

In the following analysis, we focus on the Panamax bulk carrier vessels, for which the MMI has more than 380 vessels.

Table 3: Daily Repairs and Maintenance/ Spares for Panamax bulk carriers

Per Country of Built (Daily)	Daily R&M and Spares_Panamax
Japan	\$863
South Korea	\$941
China	\$1,074

Source: Moore Maritime Index

In the Panamax sector, vessels built in China presented the highest daily Repairs and Maintenance and Spare expenses, followed by vessels built in South Korea. The lowest daily Repairs and Maintenance and Spare expenses in the Panamax sector are reported in Japan amounting to \$863 for the year 2023.

D. Filtering data based on vessel “age”, “capacity” and S&P activity

Age and size are two of the most important parameters for understanding cost behaviour. To focus exclusively on the impact of the Country of Built on performance, we analysed the data of Panamax bulk carriers built between 2008 and 2017.

It should be noted that we have excluded vessels which were either purchased or sold during the year since they did not have a full trading year and their costs may fluctuate significantly compared to other ships. The results are presented in Table 4 below.

Table 4: Daily Opex and R&M/Spares for vessels with
a) Full Trading Year,
b) Year built between 2008-2017 and
c) Type: Panamax

Per Country of Built (Daily)	Daily R&M and Spares	Daily OPEX
Japan	\$819	\$6,309
South Korea	\$896	\$6,411
China	\$1,187	\$7,048

Source: Moore Maritime Index

As seen, the lowest reported costs for both daily operating expenses and Repairs and Maintenance and Spare expenses are for vessels built in Japan. Vessels built in South Korea and Japan reported similar daily operating expenses, but Chinese vessels are reported to have the highest total Operating Expenses in general as well as the highest Repairs and Maintenance and Spare expenses per day.

E. Comparison with prior years

This section focuses on Panamax bulk carriers as well, built between 2008-2017 and with a full trading year, aiming at identifying trends based on the country of built that could be applicable over the last five years.

In the five-year comparison presented in Table 5, it can be observed that between 2019 and 2023, Japanese vessels reported the lowest daily Repairs and Maintenance and Spare expenses compared to vessels built in South Korea and China.

Table 5: 5-year comparison_Daily Opex and R&M/Spares

Per Country of Built (Daily)		Daily OPEX	Daily R&M and Spares
Japan	2023	\$6,309	\$819
	2022	\$6,218	\$773
	2021	\$6,067	\$720
	2020	\$5,507	\$603
	2019	\$5,253	\$493
South Korea	2023	\$6,411	\$896
	2022	\$6,213	\$810
	2021	\$5,977	\$784
	2020	\$5,586	\$612
	2019	\$5,343	\$671
China	2023	\$7,048	\$1,187
	2022	\$6,649	\$1,016
	2021	\$6,206	\$887
	2020	\$5,581	\$708
	2019	\$5,533	\$705

Source: Moore Maritime Index



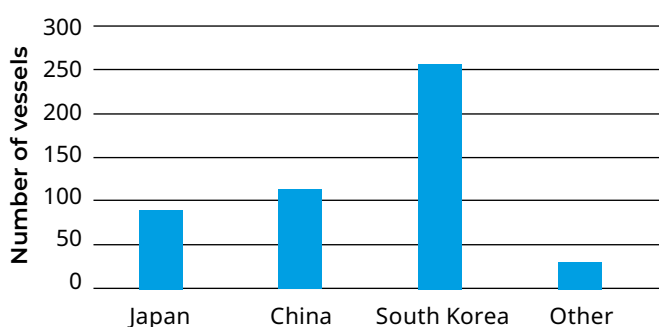
2. FOCUS ON TANKERS: INSIGHTS BASED ON COUNTRY OF BUILT AND OPERATING EXPENSES

A. Breakdown of the Countries of Built for tankers in MMI database

Data of more than 530 tankers are included in our database at the time of this publication. Most of these vessels (89%) are built in South Korea, Japan and China thus our analysis will focus on these three countries.

Other Countries of Built reported in MMI for tankers include Croatia, Liberia, Romania, Turkey, Ukraine, Vietnam and United Arab Emirates.

Table 6: Number of Tankers per Country of Built



Source: Moore Maritime Index

B. First look at the Total Operating Expenses and R&M and Spares Costs per Country of Built

As presented in Table 7 Chinese built tankers regardless of size and age seem to have the lowest daily operating expenses, amounting \$7,381. Japanese tankers follow with \$7,585 daily operating expenses and South Korean tankers with \$7,614.

China built vessels reported the highest daily Repairs and Maintenance and Spare expenses, amounting to \$1,073 per day, while South Korean and Japanese vessels follow with \$1,073 and \$978 per day respectively.

Table 7: Daily Opex and Repairs and Maintenance/ Spares for tankers

Per Country of Built (Daily)	Daily OPEX	Daily R&M and Spares
China	\$7,381	\$1,073
South Korea	\$7,614	\$1,059
Japan	\$7,585	\$978

Source: Moore Maritime Index

C. Filtering data based on vessel “age”, “capacity” and S&P activity

In this section, we focus on Aframax tanker vessels (80,000 dwt - 120,000 dwt) having a full trading year, built between 2006 and 2017.

Table 8: Daily Opex and R&M/Spares for vessels with
a) Full Trading Year,
b) Year built between 2006-2017 and
c) Type: Aframax

	Daily OPEX	Daily R&M and Spares
South Korea	\$7,711	\$1,143
China	\$8,575	\$1,309
Japan	\$8,215	\$1,046

Source: Moore Maritime Index

As shown in Table 8, China built vessels are reported to have the highest total Operating Expenses, and at the same time they reported the highest daily Repairs and Maintenance and Spare expenses.

Japanese built vessels reported the lowest daily Repairs and Maintenance and Spare expenses, with \$1,046 per day, while South Korean follow with \$1,143.

D. Comparison with prior years

This section focuses on the vessel type of Aframax tankers as well, built between 2006-2017 and with a full trading year, aiming at identifying trends based on the country of built that could be applicable over the last five years.

Table 9: 5year comparison_Daily Opex and R&M/Spares

Per Country of Built (Daily)		Daily OPEX	Daily R&M and Spares
South Korea	2023	\$7,711	\$1,143
	2022	\$7,497	\$1,028
	2021	\$6,777	\$784
	2020	\$6,815	\$857
	2019	\$6,933	\$908
Japan	2023	\$8,215	\$1,046
	2022	\$8,012	\$957
	2021	\$8,043	\$934
	2020	\$7,660	\$881
	2019	\$7,508	\$756
China	2023	\$8,575	\$1,309
	2022	\$7,471	\$1,081
	2021	\$6,909	\$917
	2020	\$7,506	\$1,311
	2019	\$7,388	\$1,053

Source: Moore Maritime Index



South Korean vessels reported the lowest daily total Operating Expenses in 2023, as was the case also for the years 2019, 2020 and 2021.

Looking specifically at Repairs and Maintenance and Spare expenses, Japanese vessels reported the lowest cost in 2023, as well as in 2022.

Overall, the costs for Repairs and Maintenance and Spare have increased in 2023 compared to 2022, independent on the country of built, but the highest increase was reported in Chinese vessels.

3. PATTERNS & INSIGHTS

The present analysis aims at understanding the cost behaviour of vessels during their entire operating life. Factors, such as human resources skills, unforeseen events and strategic alliances influence companies' operating cost performance. Here we have used data for the period of 2019-2023 aiming at understanding the role of country of built in the Repairs and Maintenance and Spares cost category. Based on available data, the country of built seems to play a role on the vessels' operating expenses.

Concluding, MMI data indicate the following:

- **For bulk carriers in 2023, Japanese vessels reported the lowest daily total Operating Expenses and the**

lowest daily Repairs and Maintenance and Spare expenses.

- **For tankers in 2023, the Japanese vessels reported the lowest daily Repairs and Maintenance and Spare expenses. Chinese vessels reported the highest daily Operating Expenses and the highest Repairs and Maintenance and Spare expenses, compared to vessels built in other countries.**

We are closely monitoring how these preliminary observations evolve over time, and we will share our updates in the near future. We would be delighted to receive your feedback and requests, which we hope to incorporate in our future reports.

4. VISIT MOORE MARITIME INDEX TO INVESTIGATE MORE AND SHARE YOUR MMI EXPERIENCE

Moore Maritime Index (MMI) is a statistical and analytics tool on shipping operating costs and revenues of 1,500 vessels. We extract our data from the financial statements of ship-owning companies audited by Moore Global member firms, as well as from verifiable independent submissions from all around the world.

Analysis on Operating Expenses is available on the Moore Maritime Index platform. You are welcome to investigate further this analysis on the following link:

<https://www.moore-index.com>

We also encourage our members to run their own data queries, look for interesting themes and share them with us at mmi@moore.gr

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