

# Risk Management

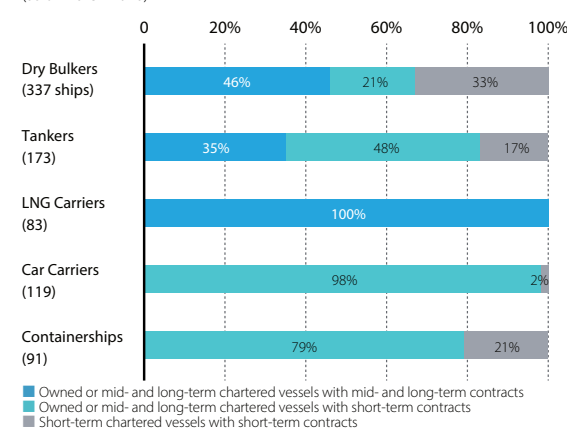
The Company identifies the risks surrounding the MOL Group, such as fluctuations of freight rates, with the aim of managing and reducing these risks. MOL has designated the reinforcement of total risk control as one measure to strengthen its management foundation and support the successful execution of the plan. To fully exercise sustainable risk management, the Company transparently quantifies its comprehensive risk.

## Fluctuations of Cargo Volume, Fleet Supply and Freight Rates

The global shipping business, like many other industries, is greatly affected by trends in the global economic cycle, and is thus subject to both macroeconomic risk, as well as business risk associated with trends in specific industries. There are a multitude of factors that are subject to change, such as fluctuations in the economies of individual countries, changes in trade structures, vessel supply and demand balance, market conditions and cargo volumes. Achieving the best performance hinges on objectively analyzing information so as to continually increase the probability of generating higher earnings. With this in mind, MOL has adopted a strategy of “diversifying operations to reduce risk” and “raising highly stable profits” by aligning its fleet to match international marine transport demand in the transport of both raw materials and finished goods. In this way, we strive to maximize returns and sustain profit growth. In accordance with our internal market risk management regulations, we appropriately reduce risks related to fluctuation, especially those arising from freight rates, bunker prices, exchange rates, and interest rates. The Investment and Finance Committee also identifies, analyzes and evaluates risks related to such material issues as investment in ships.

## Variation of Procurement and Contract Terms

(as of March 2018)



## Market Exposure by Vessel type

(as of March 2018)

Vessel Type	Total number of fleet	Market exposure
Capsize	88	24%
Small- and medium-sized bulkers	108	6%
VLCCs	31	16%
Product tankers	39	74%
LPG tankers	8	50%

## Diversifying Operations to Reduce Risk

MOL operates a “full-line marine transport group.” As of the end of March 2018, we operated around 860 vessels, ranging from dry bulkers, tankers, and LNG carriers to car carriers and containerships, capable of transporting a diverse range of raw materials and finished goods. Each type of ship and each type of cargo have particular supply and demand trends, and create particular markets. While some of these markets are highly correlated with each other, others are negatively correlated depending mainly on the economic environment, so the impact in one sector offsets the impact in another. By assessing the suitability of a particular vessel type for medium- to long-term contracts and market exposure the Company expects, MOL constructs an optimum business portfolio, which allows the Company to pursue higher profits while mitigating risks.

## Building Up Highly Stable Profits through the Use of Medium- and Long-Term Contracts and Other Means

The Company pursues medium- and long-term contracts won based on long-standing relationships of trust with customers. These contracts ensure a stable future cash flow that will help reduce the risk that market fluctuations could have on its results.

International marine transportation is expanding, but considering the ongoing glut of shipbuilding capacity, more time will likely need to elapse before a structural turnaround is realized in the market environment. The Company aims to conclude contracts that are not largely affected by changes in the external business environment and constitute a source of highly stable profits. By expanding these contracts from a long-term perspective, MOL will create an even steadier earnings structure. To achieve this objective, one of the options we will look closely at as a matter of priority is M&A deals in growing sectors which enjoy a relatively stable cash flow.

## Exchange Rate Fluctuations

Although MOL has concluded transport contracts on a yen-denominated basis with some Japanese clients, most transactions in the international marine transport business are concluded on a U.S. dollar-denominated basis. Despite our best efforts to incur expenses in U.S. dollars, U.S. dollar-denominated revenue currently exceeds U.S. dollar-denominated expenses, so when the yen strengthens against the U.S. dollar this can have a negative impact on Group earnings. In fiscal 2018, we project that each ¥1-per-dollar change in the yen-U.S. dollar exchange rate will have an impact of approximately ¥0.8 billion on consolidated ordinary profit.

## Interest Rate Fluctuations

MOL depends mainly on the issuance of corporate bonds and funds borrowed from banks and other financial institutions to meet working capital and capital expenditure requirements. Loans are denominated in either yen or U.S. dollars, with funds procured at variable interest rates affected by interest rate fluctuations. As of March 31, 2018, interest-bearing debt totaled ¥1,118.0 billion, and around 30% of that loan principal is locked in at a fixed interest rate. As a result, an increase of 1 percentage

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point in market interest rates on both yen-denominated and U.S. dollar-denominated interest-bearing liabilities would impact annual consolidated ordinary profit by no larger than approximately ¥4.0 billion. Although MOL has benefited from ultra-low interest rates in the aftermath of the financial crisis, the Company is taking steps to mitigate the risk of a future interest rate rise. It plans to flexibly adjust the ratio of variable- and fixed-rate loans through interest rate swaps and other means according to changes in financial conditions, taking into consideration the balance between variable- and fixed-rate interest.

## Bunker Price Fluctuations

The market price of bunker is generally linked to the price of crude oil, and any increase in bunker prices has a negative impact on earnings for the MOL Group. In fiscal 2018, MOL projects buying 3.9 million tons of fuel on a standalone and consolidated subsidiary basis, of which the Company is able to pass on about 80% of the risk to customers. In addition, an increase of US\$1 per metric ton in the average annual price of bunker would lower earnings, including from equity-method affiliates, by approximately ¥0.18 billion (net of hedging) at the maximum.

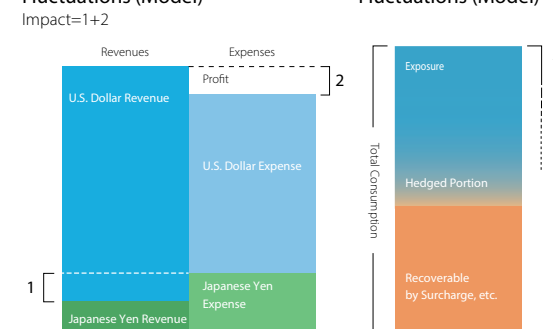
A stricter regulatory rule to reduce SO<sub>x</sub> emissions generated by ships will be introduced in 2020. This regulation would require the use of low-sulfur fuel oil containing less than 0.5% sulfur, or the use of alternative fuels such as LNG, LPG, and methanol, which could have an impact on fuel costs or capital costs. In this case, the Company intends to put in effort to gain the understanding of customers and reflect these additional costs in freight rates and other fees.

## Sensitivity of Earnings to Exchange Rate/Interest Rate/Bunker Price Fluctuations

Exchange rate (¥/US\$)	A ¥1 appreciation reduces ordinary profit by approximately ¥0.8 billion
Interest rate (%)	A 1 percentage point rise in both yen- and U.S. dollar-denominated interest-bearing debt reduces ordinary profit by approximately ¥4.0 billion
Bunker price (US\$/MT)	A US\$1/MT increase reduces ordinary profit by approximately ¥0.18 billion

## Impact of Exchange Rate Fluctuations (Model)

Impact=1+2



## Vessel Operations

MOL operates a fleet of approximately 860 vessels and it is therefore impossible to ignore the risks related to various incidents that may occur on the high seas. In order to prevent accidents, the Company has introduced a variety of measures such as safety standards, a safety management system, comprehensive crew education and training, and establishment of organizations to support safe operations.

Furthermore, MOL has arranged sufficient insurance coverage so that its financial results will not be materially impacted, should the Company or a third party suffer damages in the unlikely event of an MOL-operated vessel being involved in a collision, sinking, fire or other marine incident.

## Group Company Operational Management

The MOL Group Corporate Principles serve as the basis for setting regulations at MOL Group companies. Each Group company submits required reports to MOL in a timely manner in accordance with Group Company Management Regulations. After properly ascertaining the financial conditions and business risks, the Company, as a shareholder, requests Group companies obtain permission prior to executing important management matters.

## Natural Disaster or Similar Event

An earthquake, other natural disaster or an outbreak of an infectious disease (hereinafter “disaster or similar event”) could affect MOL-operated vessels, offices and facilities, as well as employees, hampering business operations.

MOL puts the highest priority on ensuring the safety of its vessels and personnel in the event of a disaster or similar event. The Company has formulated a business continuity plan documenting procedures to enable it to continue providing core ocean transport services and quickly restore operations in the unlikely event that they are suspended. This business continuity plan establishes organizations and delegates authority for duties relating to maintaining the safe operation of vessels, execution of transportation contracts and charter agreements, financial preparation, securing required personnel, and other matters. Furthermore, for some years, MOL has been conducting regular disaster-preparedness drills on and off premise at its Head Office, aboard ships and throughout the Group's other facilities, as well as taking other measures to ensure preparedness. By addressing issues arising from these drills, MOL believes that it maintains a high state of readiness. Nevertheless, in the event of a disaster or similar event in which MOL cannot completely avoid damage, the Company's business performance may be affected.