



# THE NORDIC MARINE INSURANCE STATISTICS (NOMIS) 2019



# CLAIMS FREQUENCY VERSUS VESSEL SPEED

# Claims frequency versus vessel speed

Over the last decade, there has been an increasing focus on reducing emissions from the shipping industry. It is well known that a reduction in vessel speed leads to a reduction in emissions. A study<sup>1</sup> shows that a 20% reduction in speed for bulk, container and tank vessels can reduce greenhouse gas emissions by 24%. It also leads to a reduction in emitted particles. In this article we focus on another possible positive effect of a speed reduction, which is a reduction in the frequency of claims.

## Slow steaming

Slow steaming has been increasingly adopted as a measure to reduce costs since the financial and shipping crisis in 2008. As the market slowed down, the focus was on optimising the utilisation of capacity and avoiding idling costs. At the same time there were concerns that, if the speed is reduced to such a degree that the engine is running below its intended load, slow steaming could lead to premature wear, lubrication problems and soot deposits. Thankfully, these problems did not develop to the extent that was feared. A positive side-effect, on the other hand, was that fuel savings led to a substantial reduction in emissions.

Moving forward a few years from 2008, the ECA zones<sup>2</sup> came into force, compelling vessels entering these areas to install SOx scrubber systems or switch to low sulphur fuel.

Finally, from 1 January 2020, the IMO implemented a global 0.5% m/m (mass/mass) sulphur limit<sup>3</sup>.

<sup>1</sup> Faber et al, Regulating speed: a short-term measure to reduce maritime Greenhouse gas emissions, 2017: <https://euagenda.eu/upload/publications/untitled-111480-ea.pdf>

<sup>2</sup> Emission control areas under IMO MARPOL Annex VI, see: [http://www.imo.org/en/OurWork/Environment/PollutionPrevention/AirPollution/Pages/Emission-Control-Areas-\(ECAs\)-designated-under-regulation-13-of-MARPOL-Annex-VI-\(NOx-emission-control\).aspx](http://www.imo.org/en/OurWork/Environment/PollutionPrevention/AirPollution/Pages/Emission-Control-Areas-(ECAs)-designated-under-regulation-13-of-MARPOL-Annex-VI-(NOx-emission-control).aspx)

<sup>3</sup> Annex VI of the International Convention for the Prevention of Pollution from Ships (MARPOL Convention)

## Claims frequency decreases in line with vessel speed

Cefor compared the change in claims frequencies since 2008 for the NoMIS portfolio of bulk, container and tank vessels to the change in average speed for the same vessel segments in the world fleet (graph 8). The average speed is derived from the complete bulk, container and tank segment of the world fleet<sup>4</sup>, while the claims frequencies reflect those of the vessels and claims reported into the NoMIS database. Special thanks go to Clarksons Research for letting Cefor use their annual speed indices for the purpose of this comparison.

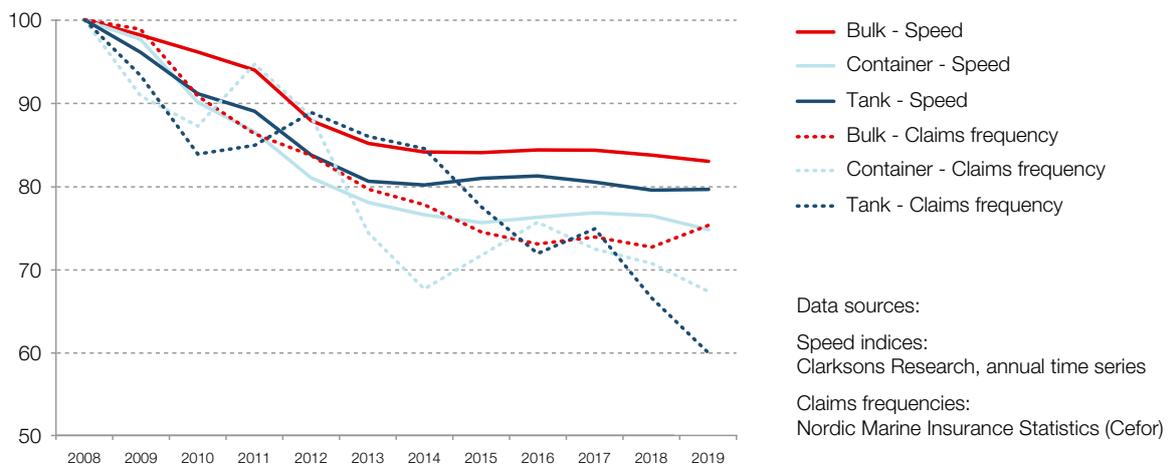
Graph 8 shows that the claims frequencies for the NoMIS bulk, container and tank fleet show a similar decline as the speed of the respective vessel segments in the world fleet.

The parallel development is no proof of a causal connection between the claims frequency and the vessels' speed, but nevertheless an indication of a possible correlation. It would be surprising if a vessel with higher speed/activity would not show a higher claims frequency. A vessel in a liner trade reducing its speed by 10% will equally reduce the number of voyages and thus the risk of potential claims (port calls, passages through high risk areas, cargo operations etc). It also seems reasonable to assume that the consequences of groundings and collisions are less severe when travelling at a lower speed.

Reducing speed in the dry bulk and tank segments is more straightforward because of fewer stakeholders and the absence of strict timetables. On the other hand, the theoretical potential for reducing speed is higher for container vessels, as container vessels generally sail at a higher speed than bulk and tank vessels. Graph 8 shows that the container segment had the biggest reduction in speed in the years following the financial crisis. This should be seen in the context that their average speed and thus the potential for speed reduction was higher before the crisis.

When analysing claims frequencies, one should bear in mind that there are several different factors that generally affect the frequency. Among these influencing factors are the level of insurance deductibles, the cost of repairs, activity in ports and congested areas, and new technology.

### 8: Average annual vessel speed versus claims frequency (bulk, container, tank) Index, 2008 = 100%, Frequency = 2-year average incl. IBNR<sup>5</sup>



<sup>4</sup> Clarksons Research: Time series for annual average speed

<sup>5</sup> IBNR = Incurred But Not Reported = reserve for claims adjustments and registration backlog

## Going forward

The IMO 2020 regulation limits sulphur emissions to 0.5% m/m from 1 January 2020. The existing technologies used to meet the limit are primarily exhaust gas scrubber systems or low-sulphur fuel oil/LNG.

Owing to the higher cost of low-sulphur fuel, it has been speculated that vessels without scrubbers will reduce their speed even more to avoid increased fuel costs, and that vessels with scrubbers will do the opposite to reap the benefits of being allowed to burn cheaper non-compliant fuel. Graph 8 does not differentiate between vessels with and without scrubbers, as it is still early days for this type of analysis, with the world fleet currently in a transitional phase.

The prices for VLSFO (very low sulphur fuel oil complying with the 0.5% sulphur cap) in February 2020 were roughly 50% higher than the prices for IFO380 (intermediate fuel with a maximum of 3.5% sulphur). On the other hand, there are indications that the cost of HSFO (high sulphur fuel oil) is also increasing, because the refineries took action to reduce the supply. This means that carriers which invested in a scrubber may not be able to take the full advantage of this investment.

For the charterer, the combination of the bunker price and the freight rates will be decisive for determining the optimum travel speed.

As the number of installed scrubbers is increasing, Cefor has introduced a claims code for claims related to scrubbers and will monitor the claims frequency on vessels with scrubbers going forward. The other aspect we will focus on are the trends for new types of engine damage resulting from the use of low-sulphur fuel (cat fines, non-compatibility of fuel etc).