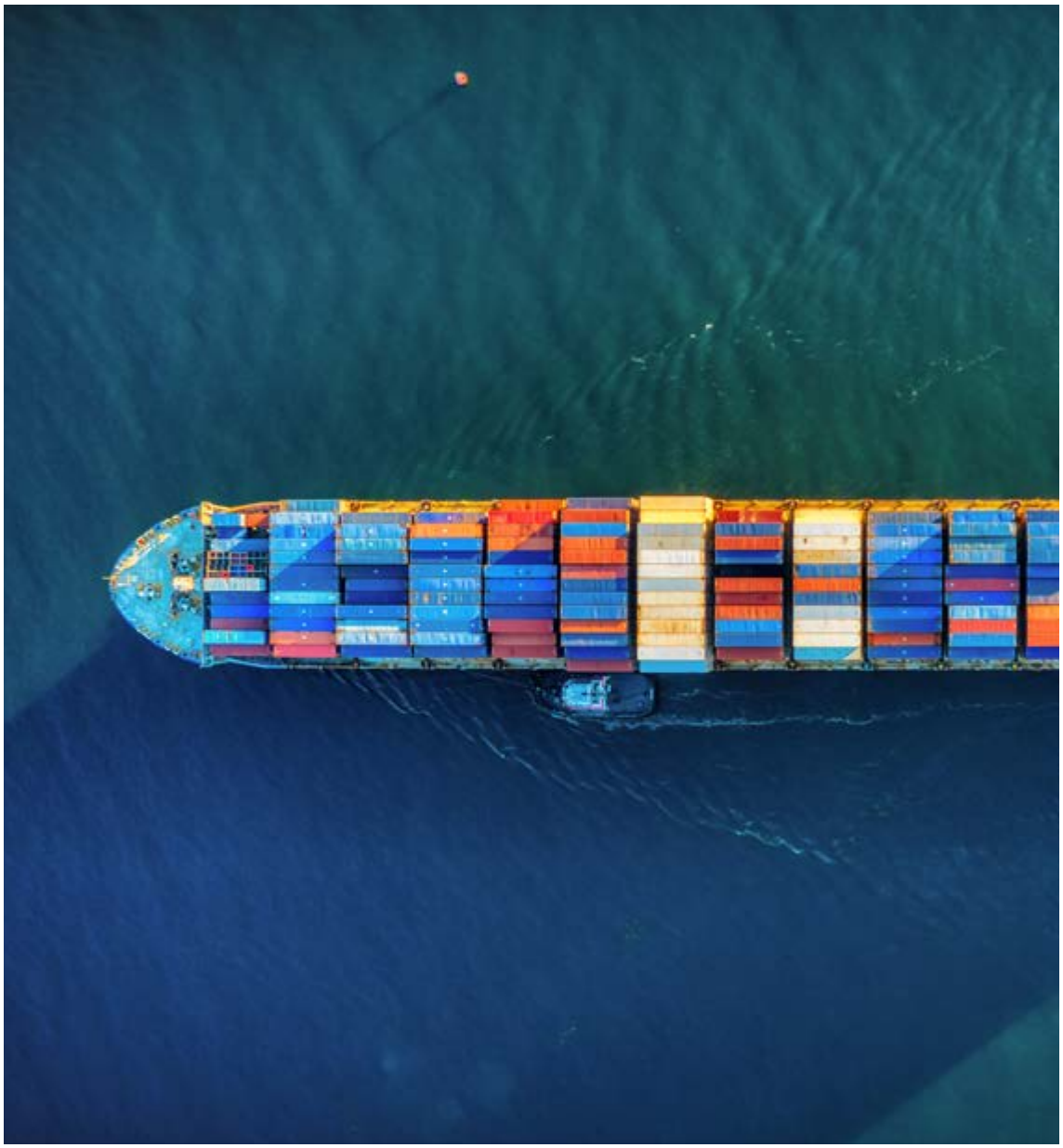


FIRES – NO ALL-CLEAR SIGNAL

Fires – No all-clear signal

The increasing risk of fires on container vessels, particularly those starting in containers on board, is a worrying trend. Unlike fires in the engine room, fires starting the cargo area are challenging to detect and extinguish. Previous analyses[1] revealed that – while there has been a stable to downward trend in the frequency of most types of casualties – this has not been the case for fires. In 2020, there was an extraordinary drop in the overall claims frequency owing to the impact of Covid-19 on global trade and vessel usage, as explained in the ocean hull trend article on page 27. This article shows that this was not the case for fires.

To show the full extent of all fires that have occurred in recent years on container-carrying vessels, the statistics presented in this article include not only fully cellular container vessels but also combination carriers, i.e. RoRo vessels with container-carrying capacity.

The 2020 context: significant drop in overall claims frequency, but fires prevail

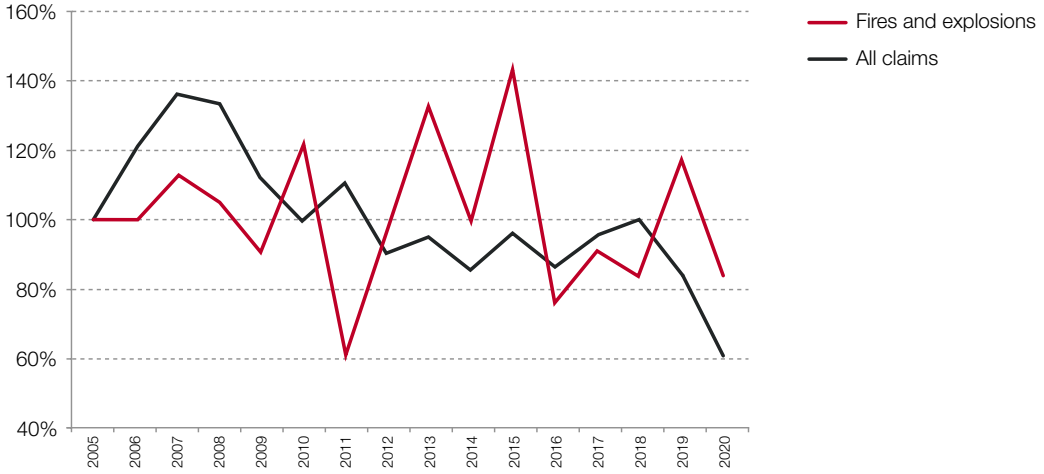
Graph 1 illustrates that the claims frequency for all types of claims in excess of USD 500,000 dropped by about 40% from the peak in 2007/2008 up to 2018/2019. In 2020, there was a significant further drop which must be viewed against the impact of Covid-19 on the shipping market environment (see articles on pages 24 and 27). For fire/explosion claims there is no clear similar trend. While the occurrence of fire/explosion claims generally has much higher volatility, graph 1 also reveals that the frequency of fires has oscillated around the same average level. The year 2020 does not show any clear trend change in the frequency of fires but confirms on the contrary that this behaves differently from other types of casualty. A particularly worrying trend is the recent increase in the frequency of fires over USD 500,000 on container vessels (graph 2).

Graphs 1 and 2 include all types of fires. In 2020, the majority of fires over USD 500,000 were engine room fires but recent years' casualties were a clear warning signal of the danger arising from fires starting in a container.

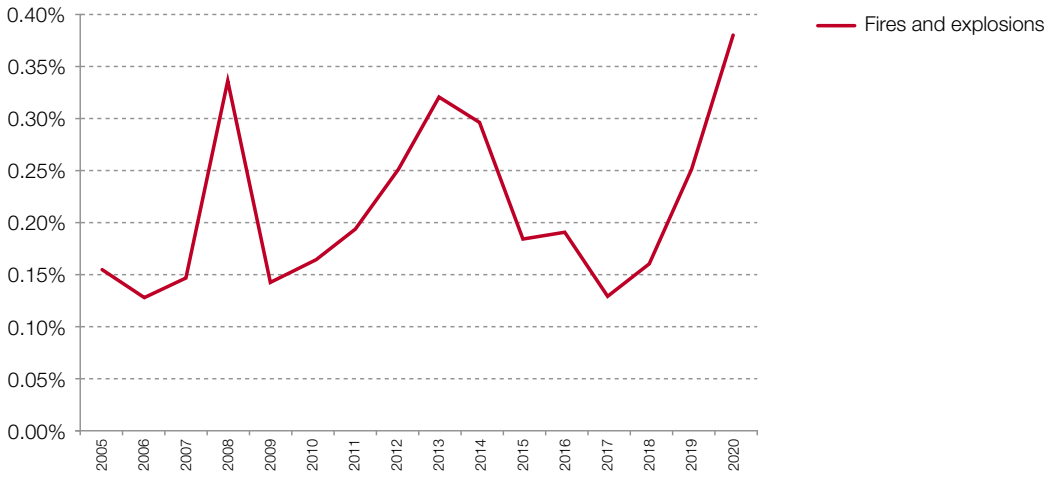
Although the fire/explosion frequency is low in percentage terms compared to other claim types, the cost of such claims is typically high and therefore affects the overall annual claim cost (see ocean hull trends, page 27).

[1] https://cefor.no/statistics/analysis-with-special-focus/

1: Claims frequency, claims > USD 500,000, all claims versus fire/explosions, Index 2005 = 100%



2: Frequency of fires > USD 500,000 on container-carrying vessels



Highest fire risk on large container vessels and medium-size car carriers

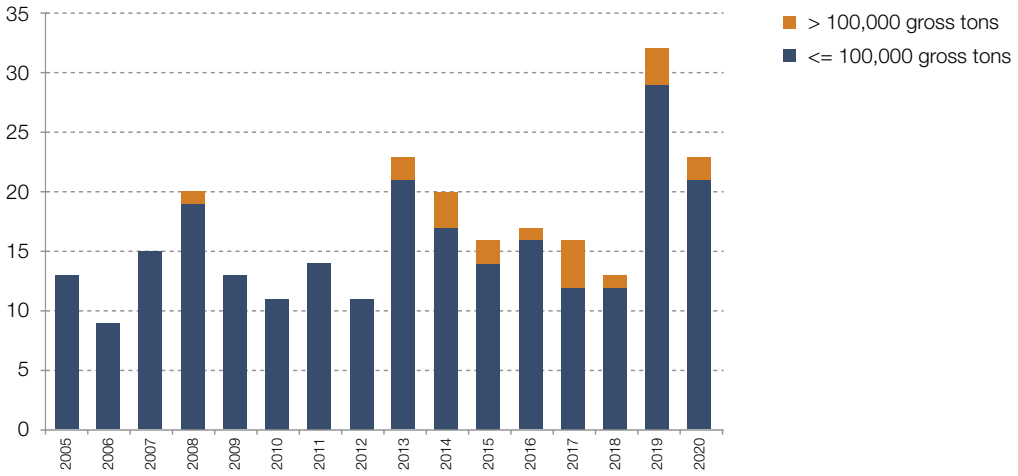
A Cefor analysis published in 2020[2] revealed that the highest fire frequency can be observed on medium-sized passenger vessels, car/RoRo vessels between 5,000 and 8,000 gross tonnes, and large container vessels over 50,000 gross tonnes.

A statistically obvious explanation why the fire frequency in the container and RoRo segment increases with vessel size is related to the amount of transported cargo. With a given probability of a fire starting in one container, the probability of a fire starting in at least one of the containers will grow in almost direct proportion to the number of containers. The larger the number of containers on board, the higher the probability that at least one of the containers could contain something that self-ignites and causes a fire. Moreover, the larger the vessel, the more severe the consequences of the worst-case fire scenario on this vessel will be.

Upward trend in fire frequency on container vessels unbroken

In the first quarter of 2019, an unusually large number of such fires was recorded. In 2020, the number was slightly reduced, but was still above the average for the years before 2019. Of particular concern is the increasing number of these fires on vessels over a certain size (graphs 3 and 4), where the potential for damage to cargo and injury to crew members is especially great if the fires cannot be extinguished before spreading to other areas.

3: Fires on container vessels – number of occurrences by vessel size

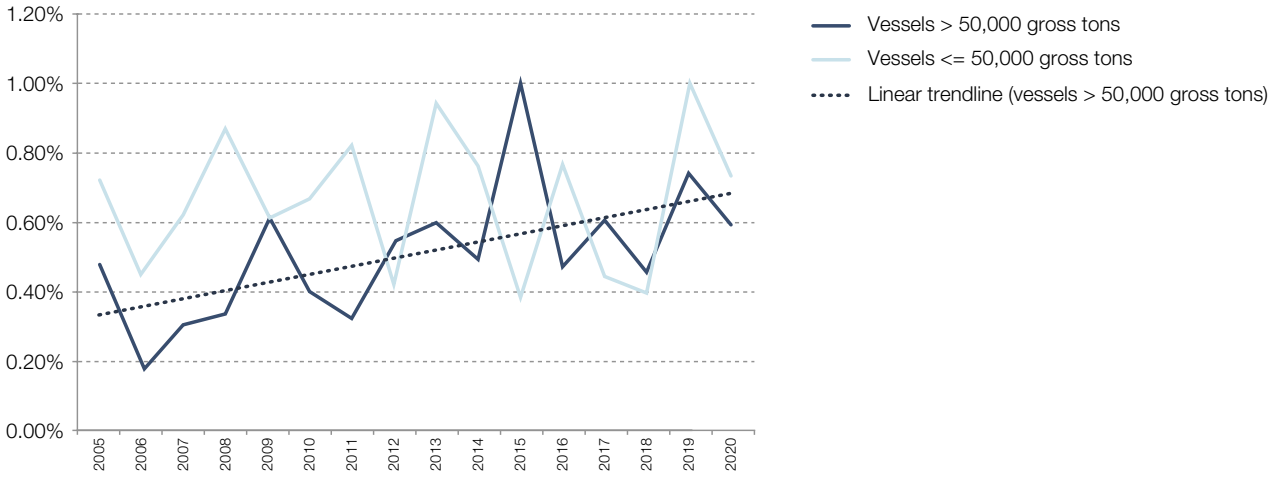


[2] https://cefor.no/globalassets/documents/statistics/nomis/2019/2020-the-fire-challenge---containers-et-al..pdf

The increase in absolute numbers in graph 3 may be partly explained by the growth in the number of large container vessels in the world fleet and hence in the NoMIS portfolio.

Graph 4 compares the frequency of all fires/explosions on container vessels above 50,000 gross tonnes with vessels of less than 50,000 gross tonnes. Here the number of claims occurrences is related to the number of insured vessels of that size in the NoMIS portfolio. For the larger vessels, there is a clear trend towards more fires over the last fifteen years. The small reduction in the frequency in 2020 does not break the general upward trend, and is within the range of normal fluctuations.

4: Claims frequency – all fires/explosions on container vessels



Claim cost per vessel

Fires often represent a high cost to shipowners and hence to their insurers. Graph 5 shows the claim cost per vessel for such fires, which represents the cost under the standard hull and machinery policies as entered into the NoMIS database. The lion's share of the cost of fire/explosion claims on container vessels since 2012 originated from fires starting in the cargo area. A serious concern is the misdeclaration of goods, as this may lead to e.g. containers which should not be exposed to heat being stored in unsuitable places.

5: Claim cost per vessel – all fires/explosions on container vessels