



HULL TRENDS_{as at 30 June 2021}

The Nordic Association of Marine Insurers



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Nordic Marine Insurance Statistics – Data and other reports

Executive Summary

Claims and Portfolio trends per 30 June 2021

One year into the COVID-19 pandemic

This half-year report presents hull trends from the Nordic Marine Insurance Statistics (NoMIS) portfolio as of mid-year 2021.

Last year at this time we listed a number of items describing how the ongoing pandemic actually and potentially might influence hull statistics trends.

While individual claims may have turned out more costly due to e.g. delayed delivery of spare parts or other challenges caused by the COVID-19 situation, the overall claims frequency and cost were clearly reduced in 2020 compared to previous years.

In the [Cefor Annual Report 2020](#)¹, issued in April 2021, we illustrated that this reduction needs to be seen in connection with changed activity patterns for some shipping segments in parts of 2020. On the whole, the COVID-19 pandemic's impact on hull and machinery insurance has thus been moderate, while marine insurance products such as Loss of Hire or P&I were more affected.

In 2021, the situation changed again. An increased demand for consumer goods and backlog of goods to be delivered led to a substantial increase in demand for particularly container shipping and as a result a high activity level of the container fleet. This is also reflected by a substantial increase in the insured values of container vessels in 2021 renewals (p. 13). Container vessels have also been in the spotlight because of the increased impact of severe fires in recent years. Cefor issued several analyses on this subject². Another incident of that kind occurred in 2021 with the fire on the X-Press Pearl. In addition to the fire damage, the subsequent sinking of the vessel caused severe environmental challenges to the coast off Sri Lanka when dangerous container contents leaked into the water.

The oil price, which for a short period dropped to very low levels in 2020, has since recovered and been on the rise in 2021. However, this has not yet had an effect on the supply/offshore renewals in the first half year of 2021 (p.13), a segment which has been under pressure for several years. The cruise market, which came to a full stop in spring 2020, has slowly begun to resume its activity but still at a slow pace. Trends between vessel segments continue thus to differ strongly.

Another issue Cefor monitors is the ongoing transformation of vessel propulsion in order to reduce emissions. The transition to low-sulphur fuels or installation of scrubbers (IMO 2020) has so far not led to a surge in machinery claims, although a number of cases have been noted. The number of vessels transformed into hybrid vessels or fully battery-driven is increasing and lessons about fire-fighting on battery-driven vessels were learned after the fire on the ferry 'Ytterøyningen' in 2019.

Crew changes still pose a challenge as well as geopolitical tensions or backlog at ports due to quarantine rules, the temporary blocking of the Suez canal or a renewed demand for consumer goods. These issues, in addition to the ones above, show that conditions change quickly and have varying impact on different vessel segments. Concerning is also the potential increase in extreme weather conditions. The 2nd largest loss in 2021 was due to sudden wind forces much stronger than anticipated. Cefor will monitor the trends and publish an update based on year-end figures 2021.

The figures presented in this report are derived from the hull and machinery portfolio insured by Cefor members and do not include other types of hull-related insurance.

¹ <https://cefor.no/globalassets/documents/about-cefor/annual-report/cefor-annual-report-2020.pdf>

² <https://cefor.no/statistics/analysis-with-special-focus/>

Hull trends observed as of 30 June 2021

- **Total losses**

The positive trend for the frequency of total losses continued also in 2021, with a frequency of 0.06% in the first six months of 2021 which continues the last years' trend of stabilizing at a low and possibly minimum achievable level in the 0.05% to 0.10% range since 2010.
- **Major losses**

In 2021, five losses in the USD 10-30 million range were reported, comparing to 3 in the first half of 2020. In the whole year 2020 there were 7 claims > USD 10 million (none > USD 30 million). 2019 saw 17 such claims, reflecting a more expected major claims impact. The low number of major losses in 2020 may be related to a reduction in activity in certain segments of the world fleet and particularly high-value segments (cruise, container). In 2021, activity levels for container vessels were reversed. They also represent 2 of the 5 largest losses.
- **Claim cost per vessel**

After a strong drop in the claim cost per vessel in 2020, it has been rising again in 2021. This is in line with expectations and increased vessel activity. Nevertheless, the cost per vessel has kept below the level of the years prior to 2020. This holds true both including or excluding total losses. With a time lag between activity levels catching up and claims being reported, this may change by end 2021. A strong increase in steel prices in 2021 may also drive claims cost inflation going forward.
- **Claims frequency**

Since 2012, the overall claims frequency has been relatively stable around 22% but dropped further from 2016 and showed an extraordinary low level in 2020 in connection with reduced activity levels in some shipping segments. In 2021, it is in line with expectations on the rise again but so far still at moderate levels.
- **Fire impact continues**

Analysing claims by type, the frequency and impact of navigational-related claims (collision, contact, grounding) has been substantially reduced in recent years. Other casualty types show a similar trend. The exception are fires which continue to show strong impact also into 2021 (see part 6, p. 19f). Cefor issued several extensive [analyses](#)³ on the subject, the latest in April 2021. Special focus has been on container fires, supporting the industry's initiatives to improve loss prevention as well as fire-fighting means onboard such vessels.
- **Insured values**

Vessels renewed in the first six months of 2021 showed an average value increase of 1.1%. This compares to a reduction of 2.7% in the whole year 2020. 2021 is the first year since 2008 with an on average increase in vessel values on renewal. The increase is mainly due to the high demand for container vessels after a strong increase in demand for consumer goods after the dip in 2020 due to COVID-19 lockdowns. Further, the rising steel price may contribute to an inflation of newbuilding prices. The segment still showing the most negative development are supply/offshore vessels. It will be interesting to monitor how the recent increase in the oil price may influence this segment going forward.
- **Portfolio: Number of vessels and share of world fleet**

Vessels with IMO-number: 328,112 vessel years for the years 1995 to 2021 (2020: 23,021 vessels in all, 2021: 15,125 vessels renewed as of 30 June). NoMIS statistics reflect roughly 34% of the total world fleet of vessels above 1,000 gross tons, and 49% of vessels above 10,000 gross ton.

³ <https://cefor.no/statistics/analysis-with-special-focus/>

1. Claim cost per vessel

Claim cost divided by number of insured vessels

Major and total losses

In 2019, the impact of costly claims had returned to an average expected level after the 3-year-period 2016 to 2018 which experienced a record-low impact of major and total losses. The increase in the claim cost per vessel in 2019 originated mainly from an increase in the number of claims in the range above USD 10 million.

2020 then saw a strong drop in both claims frequency and cost in line with reduced activity in some shipping segments. In the first half of 2021, the situation is reversed again. There is some increase in the claim cost per vessel, both for partial losses alone as well as including total losses. Although there are concerns that the COVID-19 pandemic may lead to delays in surveys, deliveries of spare parts or the availability of crucial personnel and thus an increase in repair cost, over the whole portfolio hull and machinery casualty trends have shown good records.

In 2021, five losses were reported exceeding USD 10 million, comparing to three in the first half of 2020. With increasing activity levels not the least in high-value segments such as large container or cruise vessels, claims costs may be expected to return to more normal levels in time. Three of the five largest losses were fires and the 2nd largest loss due to unanticipated wind force. For an update on fire trends see section 6.

Repair cost shows some increase but stays at low level

Excluding total losses, the claim cost per vessel showed a slight increase in the first half of 2021 compared to 2020 (graph 1) but stayed still below the average of the preceding years. In 2020, the claim cost was extraordinary low as outlined in the [Cefor Annual Report 2020](#), which needs to be seen in connection with reduced vessel activity in some segments due to the COVID-19 pandemic. This reversed again already towards the end of 2020 and especially in 2021 for container vessels which were in high demand due to increased demand for consumer goods. For the sixth year in a row, the partial claim cost per vessel has been lower than the preceding 11-year period 2004-2015.

Influencing factors

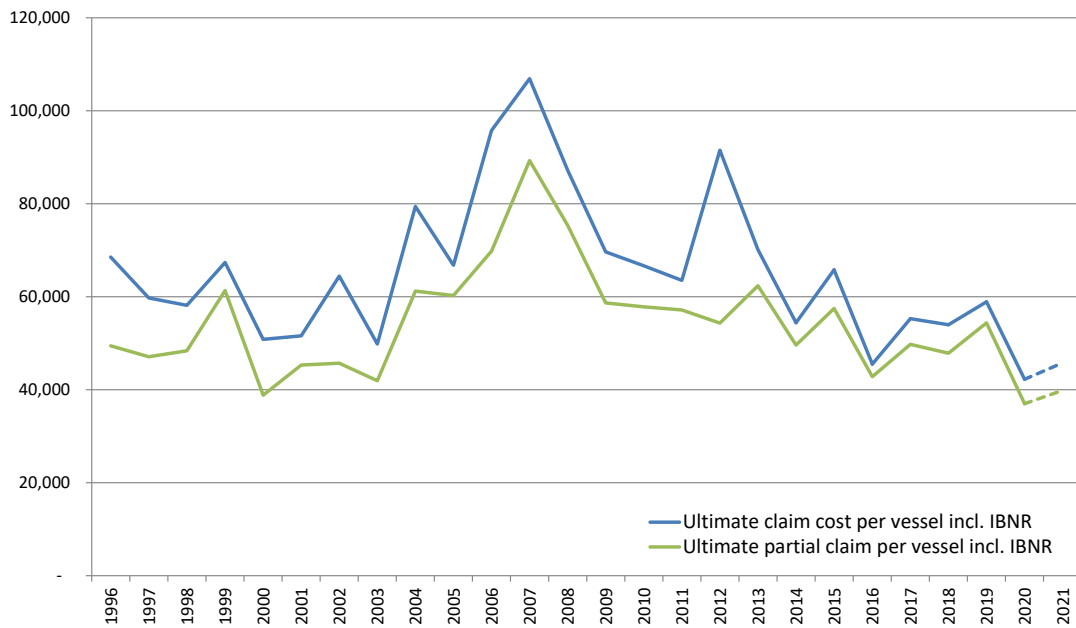
As repair cost is influenced by other currencies than USD, exchange rates may impact the statistics. A strong US dollar will, all else being equal, imply a reduced claim cost measured in USD. Since 2017, European and other currencies strengthened somewhat compared to the USD (graph 3), but this small increase does not seem to have had much impact on the claims cost in the ensuing years. Other factors with influence on hull repairs are the price of steel and spare parts and conditions at repair yards. As steel prices increased strongly in 2021 this may contribute to claims cost inflation going forward.

Ultimate claim cost per year

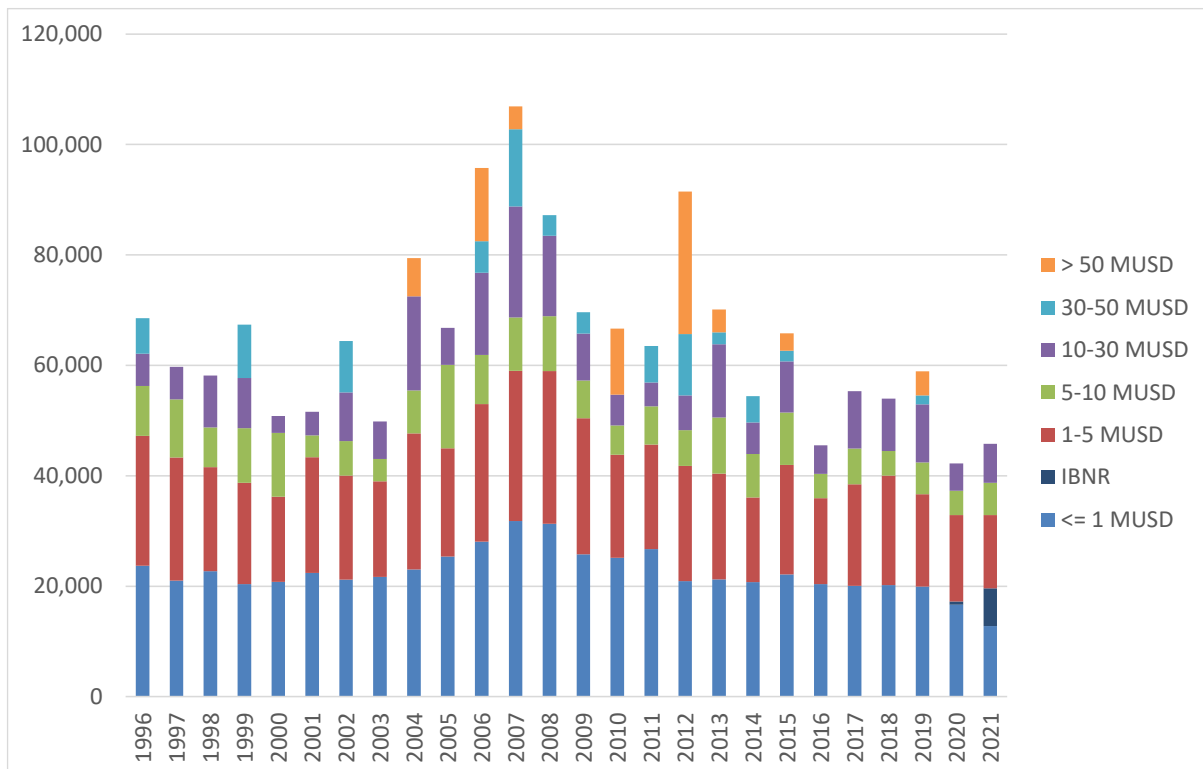
The estimated ultimate claim cost per vessel for 2021 is based on claims reported as of 30 June 2021. In order to compare 2021 to the previous full years, these claims are related to half of the number of vessels expected to be covered in the whole year 2021. The claim cost per vessel as illustrated in graphs 1 and 2 includes an IBNR⁴ reserve. No IBNR is added to reported total losses, as these due to their nature reflect 100% of the ultimate claim cost. As the strongest impact on the 2021 cost in the first half year came from one total loss of USD 30 mill., the calculated IBNR for 2021 is low.

⁴ IBNR = Incurred But Not Reported = reserve for expected claims adjustment and registration backlog.

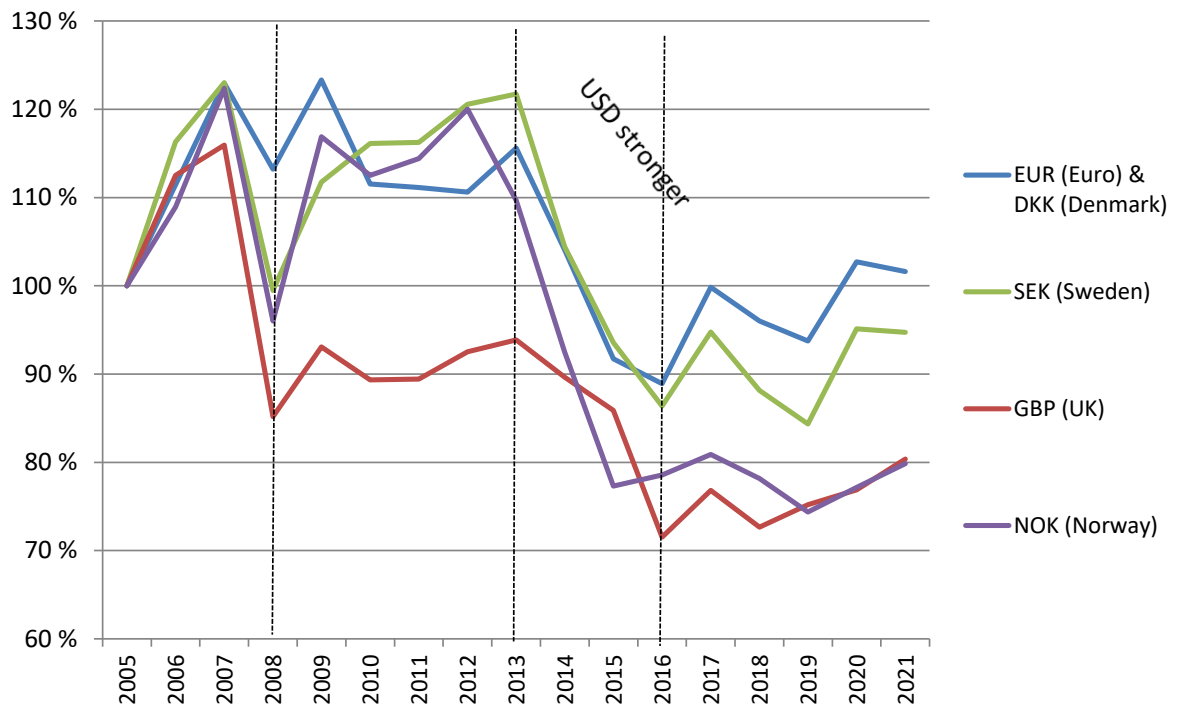
1: Ultimate partial and total claim cost per vessel (USD), by date of loss



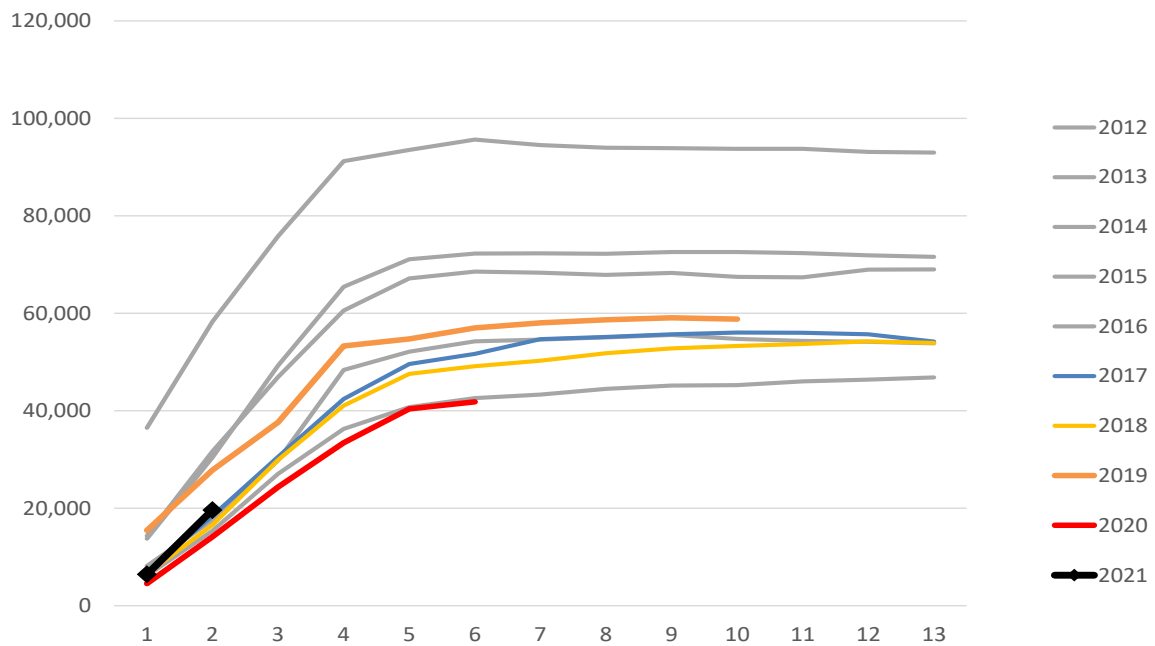
2: Claim per vessel by intervals of claim cost, by date of loss (USD)



3: Exchange rate Euro and Nordic currencies against USD Index, 2005=100%, as of June 2021

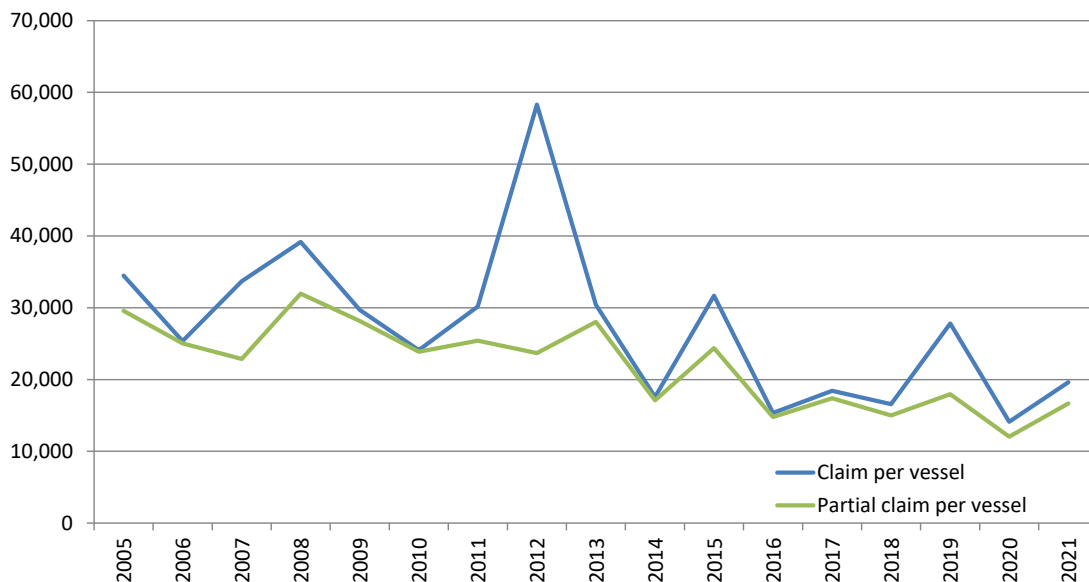


4: Claim per vessel (USD) – accumulated quarterly development⁵, by date of loss



The quarter ladder statistics compile the accumulated development of claims originating from a certain accident year⁶ by quarter. This makes it possible to directly compare the development of each accident year as of each quarter. The years 2016 to 2018 all started at a low level. 2020 had a particularly low cost level. The year 2021 starts somewhat higher and with vessel activity catching up may be expected to reach a cost level more in line with the average of recent years by year-end.

5: Claim per vessel (USD) as of 2nd quarter of each year², by date of loss



⁵ In graphs 4 and 5 the annual exposure is used, i.e. the total number of vessels expected to be covered in the respective year. Therefore, the claim cost per vessel by end quarter 1 to 3 is less than in those graphs that visualize the expected ultimate results per year.

⁶ Accident year, or 'date of loss perspective' = Claims are grouped by the year in which the accident occurred (as opposed to grouping claims by the underwriting year, i.e. the inception year of the insurance coverage).

2. Claims frequency

No. of claims divided by the number of insured vessels

Claims frequency on the rise again after strong drop in 2020

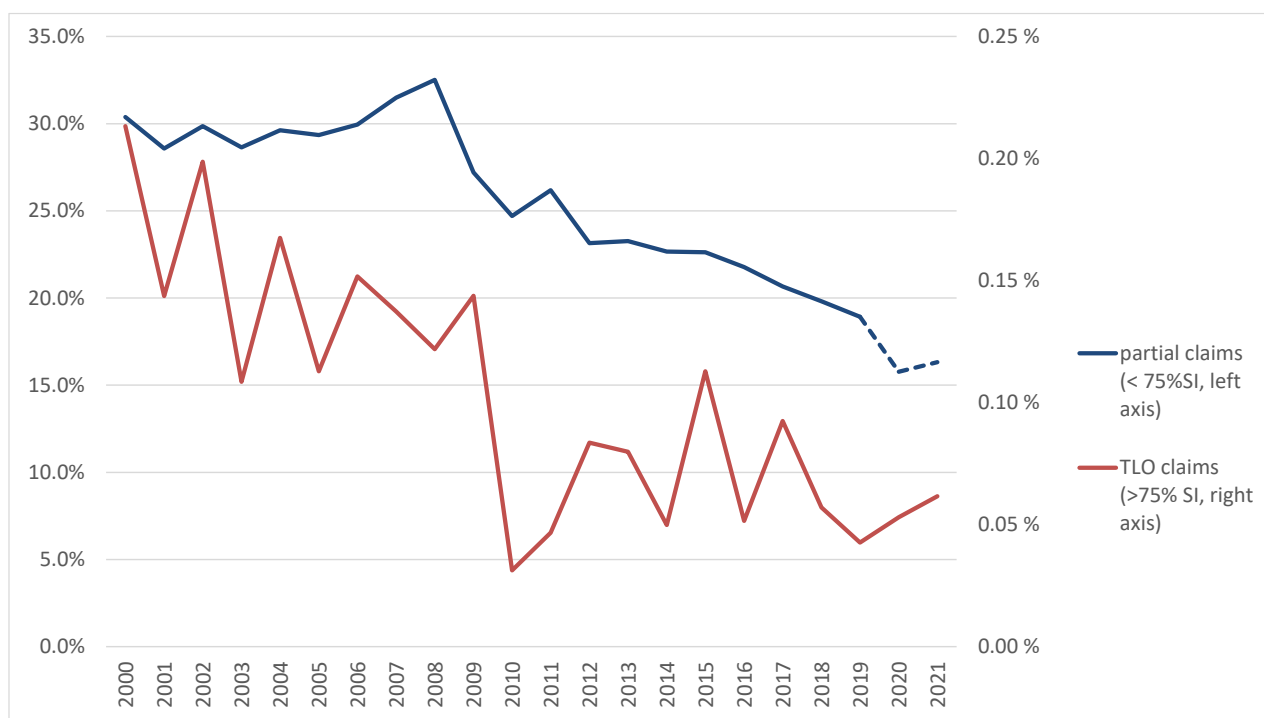
After the extraordinary drop in the claims frequency in 2020 in connection with COVID-19 effects on ship activity levels, it has been rising somewhat again in the first half of 2021. With increasing activity levels particularly in the container segment and potentially the cruise segment throughout the years, this reflects a normalisation of the claims frequency, although still at low levels.

The long-term downwards trend for total losses came to a halt in 2010. Since then, the total loss frequency has been fluctuating around a low level between 0.05% and 0.10% (graph 6). The first half of 2021 continued this trend. The oscillation in recent years around this level may indicate that the minimum achievable total loss frequency has been reached as a result of improved risk handling and loss prevention measures.

Several factors influence the claims frequency. Actual improvements such as better loss prevention play an important role. The claims frequency also tends to be lower during periods of reduced vessel activity.

From the insurance perspective deductibles also play a role, as claims below the deductible usually are not reported to insurers.

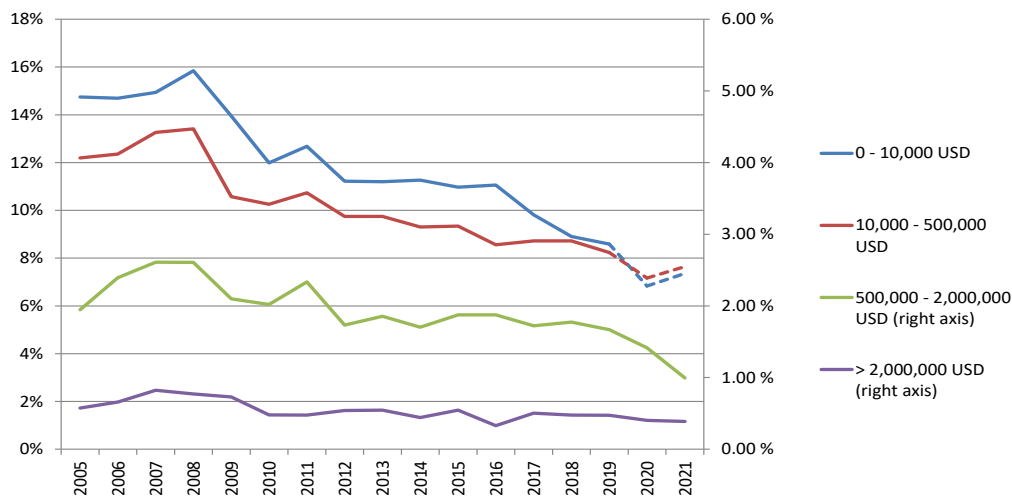
6: Claims frequency, by date of loss



MAJOR CLAIMS FREQUENCY

As newbuilds tend to be ever larger vessels, the risk exposure to high-value vessels continues to be high, although part of these were in periods inactive after the start of the COVID-19 pandemic. An accumulation of high-value vessels in certain geographic areas in 2020 with exposure to hurricanes, typhoons or other natural or man-made catastrophes posed the risk of catastrophic losses which luckily did not materialise. While very large single losses are not possible without very large insured values, the occurrence of major losses is often due to special circumstances rather than rationally identifiable causes alone.

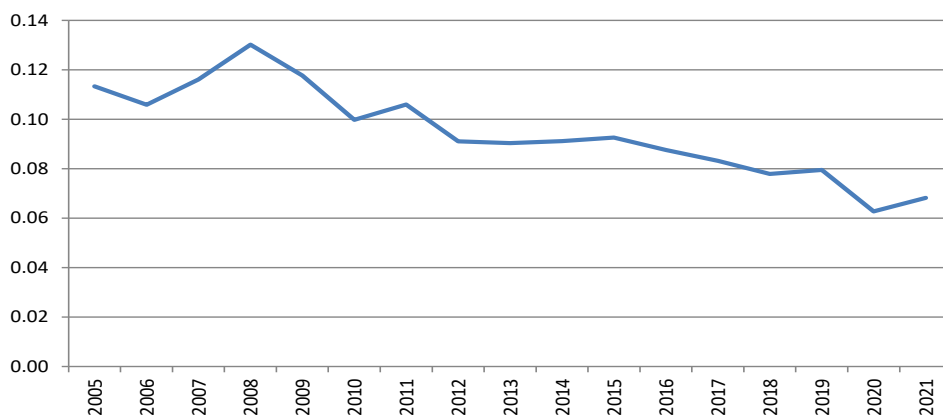
7: Claims frequency – by intervals of claim cost, by date of loss



Quarterly ladder statistics

Comparing the claims frequency as reported per 2nd quarter of each year, it confirms an extraordinary reduction in 2020 which started to reverse to some degree in 2021 but as of mid-year still stayed below the average claims frequency of the preceding years.

8: Claims frequency as reported as of 2nd quarter of each year⁷, by date of loss



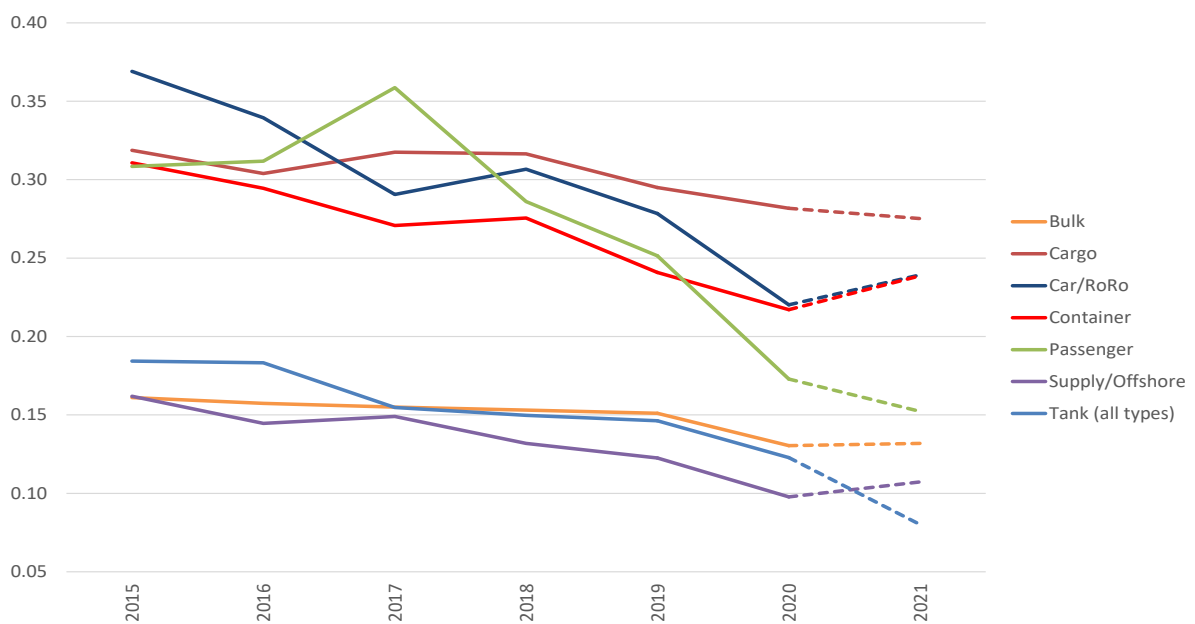
⁷ The annual exposure is used, i.e. the total number of vessels expected to be underwritten in the respective year. Therefore, the claim cost per vessel by the end of the 2nd quarter is half as high as in the other graphs that visualize the expected ultimate results per year.

CLAIMS FREQUENCY by vessel types

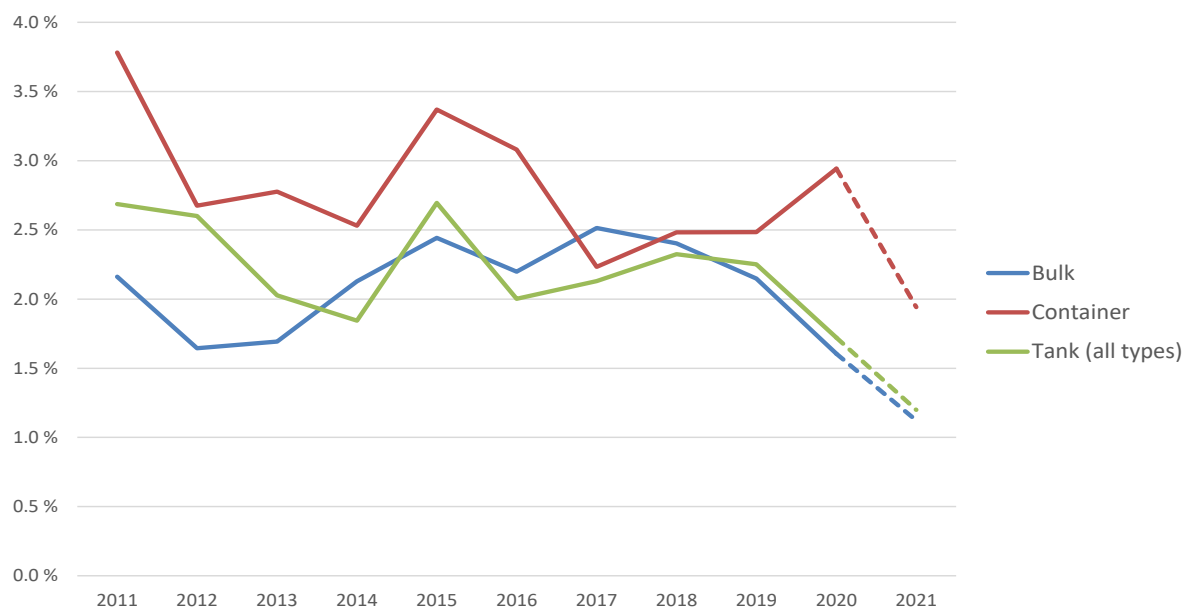
Particularly since 2020, different vessel segments show different casualty trends. Among the bulk, container and tank segment, container vessels have the highest frequency of claims exceeding USD 500,000, although this declined in the first half of 2021. It should however be noted that among the five largest claims reported in 2021 were two on container vessels and both fires.

As for the overall claims frequency including minor claims, container and car/RoRo vessels show an increase in 2021 which may be expected in line with increased activity levels.

9: Claims frequency by vessel type, all claims, including IBNR



10: Frequency of claims > USD 500,000 – Bulk, container, tank



3. Vessel values and size development

Change of values on renewal

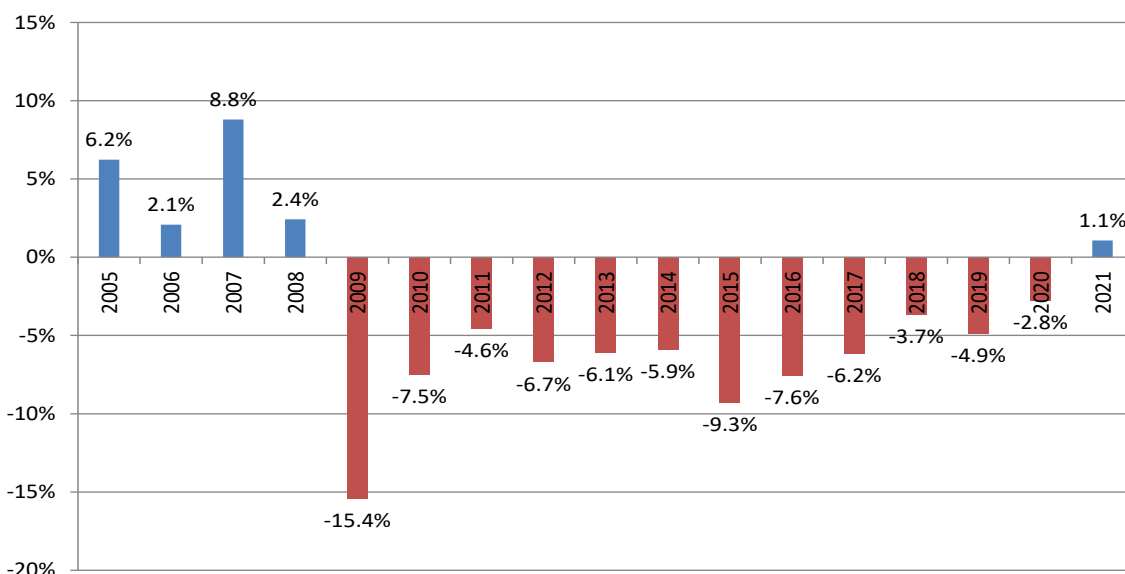
For vessels renewed in the first six months of 2021, the overall change in average value compared to the previous insured period was +1.1% (graph 9). Thus 2021 is the first year since 2008 which an actual increase in the average vessel value on renewal. This is mainly due to the high activity in the container segment striving to satisfy the backlog and increased demand in consumer goods after an intermediary dip in activity in 2020 as a result of COVID-19 lockdowns.

Generally, under unchanged market conditions, some reduction in the insured value of a vessel, compared to the previous insurance period, is expected due to the aging factor.

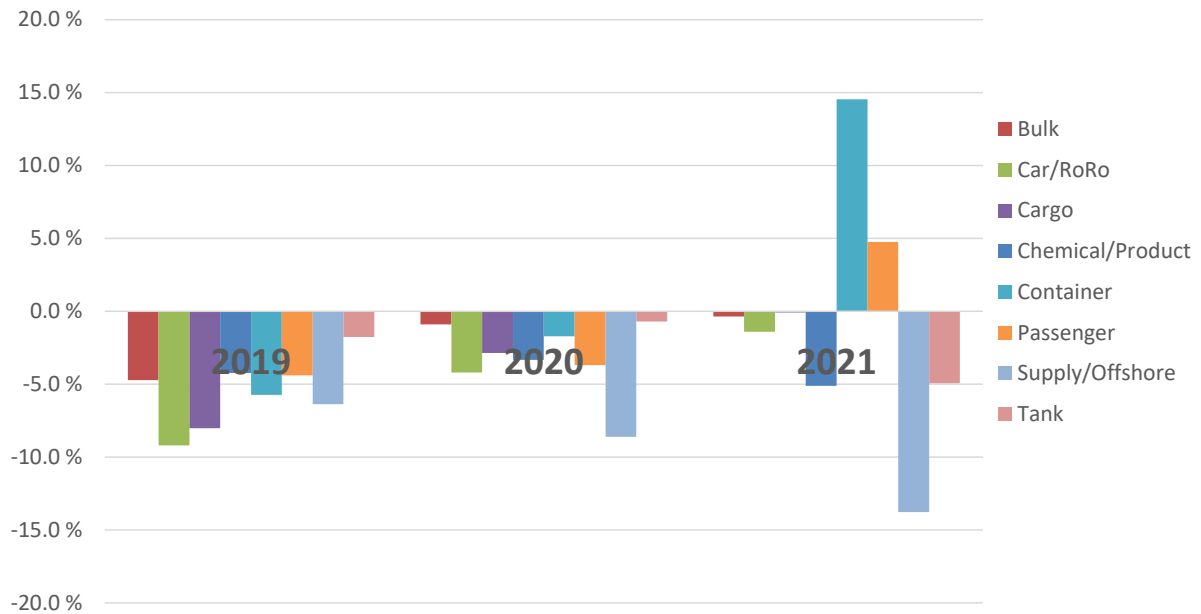
When analysing changes in insured values on renewal by vessel type, the situation in 2020 is very diverse. As graph 12 shows, there are substantial differences between vessel types, as trades were affected differently by the 2020 market environment and COVID-19 and the subsequent recovery in certain sectors of the global economy in 2021.

Despite a recent rise in the oil price, this was not yet reflected in the change in renewal values in the first half year of 2021. This segment has been under difficult market conditions for a number of years but it will be interesting to monitor to which degree this may change by year-end if the oil price continues its uptick.

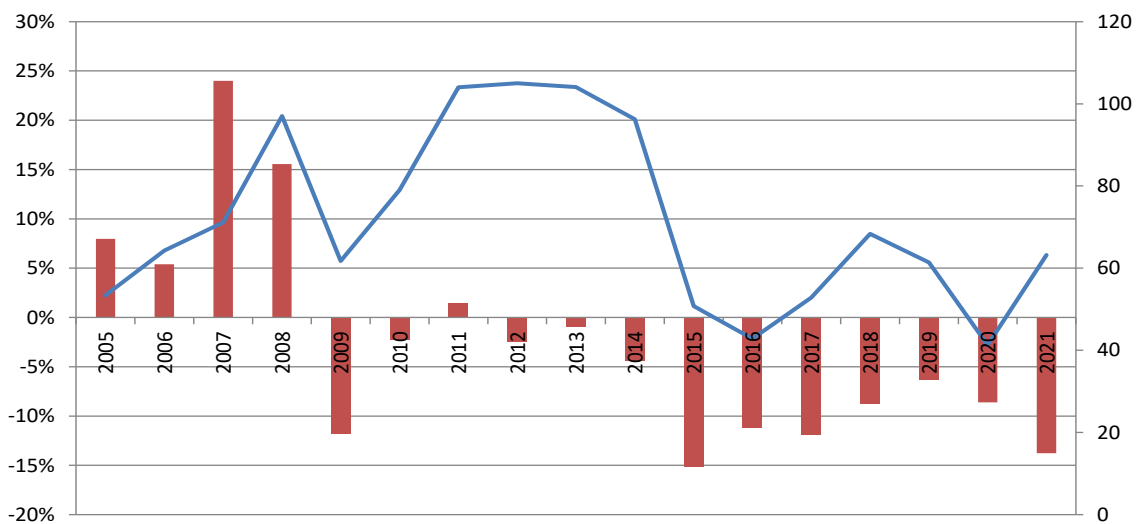
11: Average annual change in insured values on renewed vessels



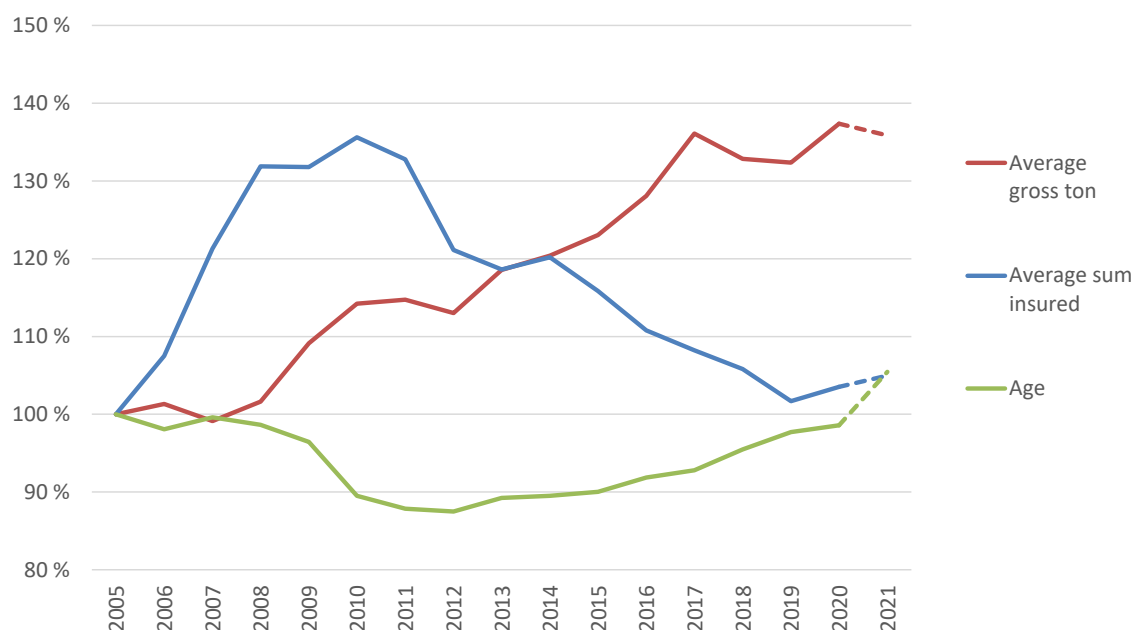
12: Average annual change in insured values on renewed vessels, by vessel type



13: Change in annual average insured value against annual average oil price



14: Index of evolution of average gross ton, age and insured values (renewed and new vessels)



The average size of vessels in the Cefor portfolio has been constantly increasing in the past ten years in line with ever larger vessels entering the world fleet but this development has not been reflected by the average insured value. On the contrary, the average insured value in the portfolio showed an adverse development in the years after the 2008 financial crisis and until 2019.

Since 2020, the average insured value over the whole portfolio started to stabilise and is now on the rise again. The figures in graph 14 include both renewed vessels as well as newly written and newbuilt vessels. As newbuilt vessels tend to be larger and thus often have higher values, this influences the average value over the whole portfolio.

The change in insured values may impact insurance results in various ways. On the one hand, when the insured value is reduced, the potential cost of a total loss of a vessel is also reduced. On the other hand, it may increase the probability of a constructive total loss which incurs when the assumed repair cost exceeds a certain percent of the insured value.

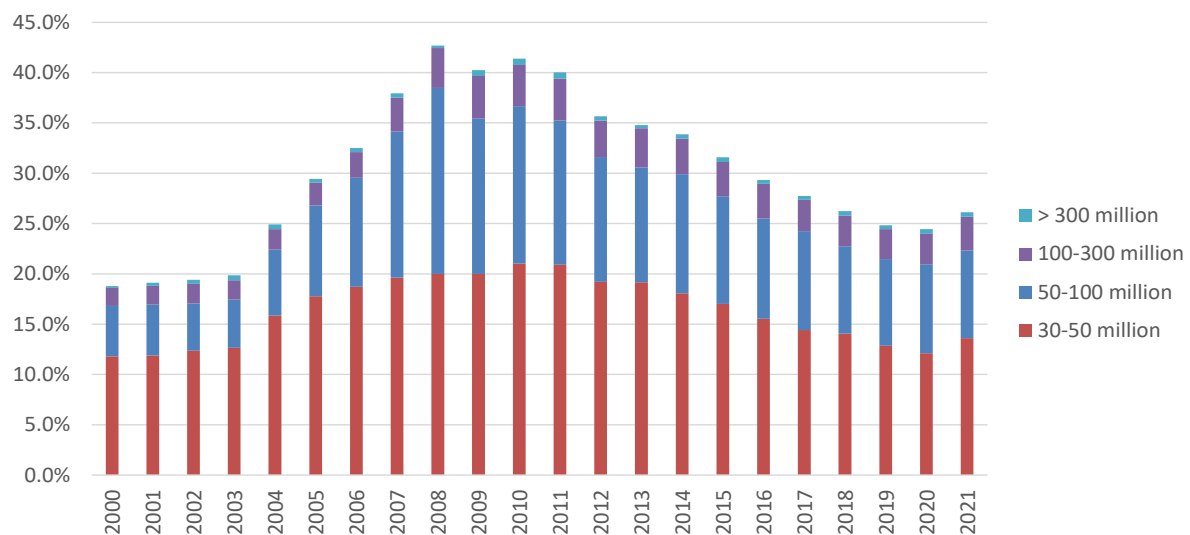
In addition, a value reduction is one of several factors which may influence the income side.

4. Major losses – Exposure and impact on total cost

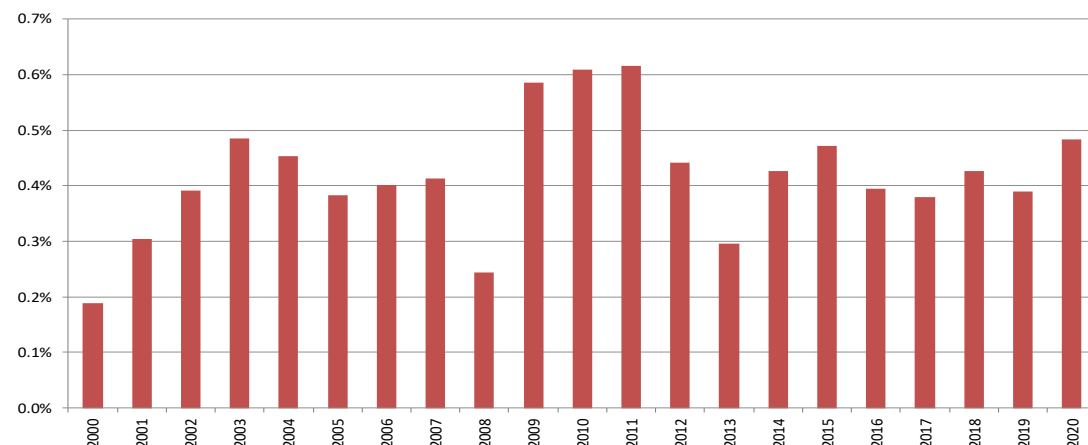
Portfolio share of high-value vessels

The inflow of high-value vessels continued and has gained some traction again in 2021. Expensive vessels are a prerequisite for expensive claims, especially when it comes to total losses. With an increase in the values of the largest vessels follows also the potential risk of new record losses. In 2020, the number of reported major losses was low, which may be seen in connection with many high-value vessels being idle, especially cruise vessels. The first half year of 2021 has seen some increase in major losses and two costly fires on container vessels, while most of the cruise market still has been idle and is only reactivating at slow pace.

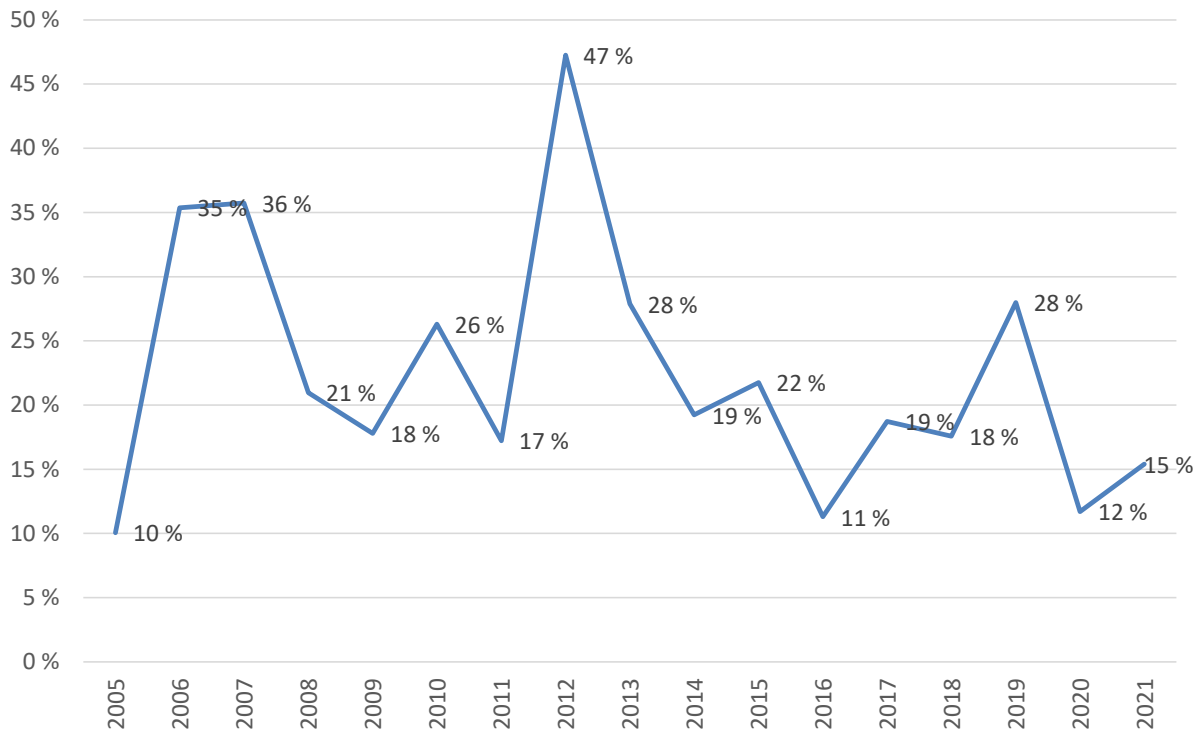
15.a: Portfolio share of ships with values exceeding USD 30 million



15.b: Portfolio share of ships with values exceeding USD 300 million



16: Claims in excess of USD 10 million as % of total claim costs



Until 2015, major losses represented an increasing share of the total claims cost per year but in the following 3-year period 2016 to 2018 the impact of claims exceeding USD 10 million on the overall claims cost was extraordinarily low.

In 2019, the number of claims in excess of USD 10 million increased once again and accordingly their contribution to the overall claims cost.

In both 2020 and the first half year of 2021, the impact of major losses has been comparably low but is rising somewhat in 2021. As explained before this needs to be seen in connection with vessel activity levels which changed throughout the period. .

Although there are annual fluctuations and individual benign years, with increasing exposure to high-value vessels the underlying risk of expensive losses needs to be monitored.

Further, as explained in more detail in previous reports, even in years with very moderate major claims impact, the costliest 1% of all claims account for almost 30% of the total claims cost.

5. Average claim cost by type

Total cost divided by number of claims

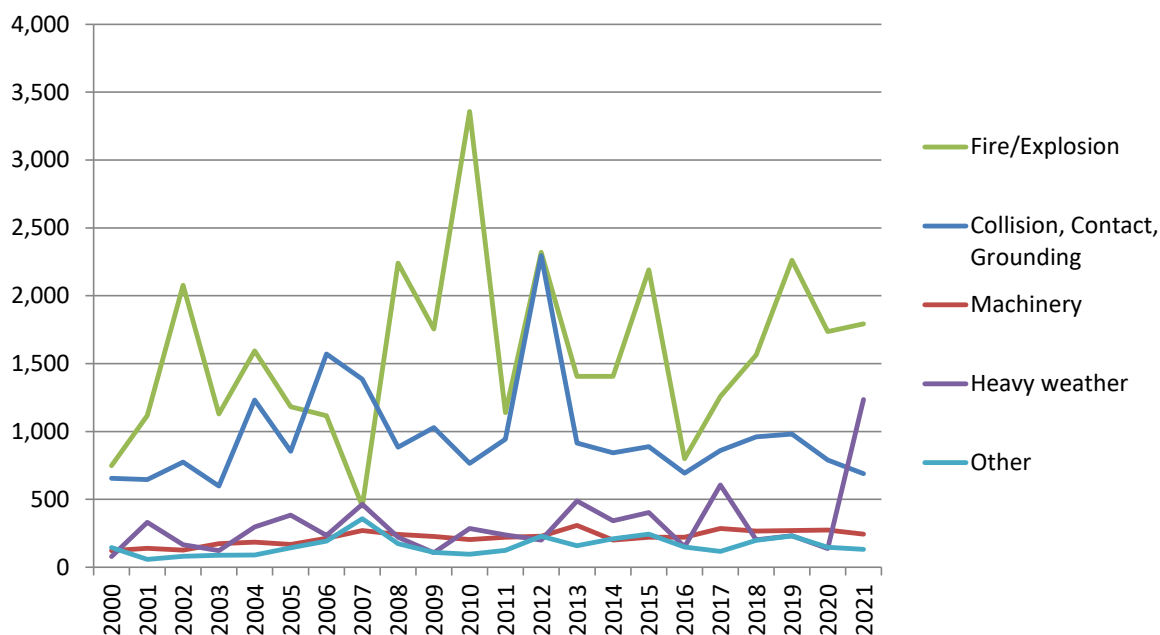
Impact of fire/explosion continues

While the average cost of fire/explosion claims was high between 2008 and 2015, fires only had a moderate impact in the years 2016-2018. In each of these years, few fire/explosion claims exceeding USD 10 million were reported but none of these exceeded USD 30 million.

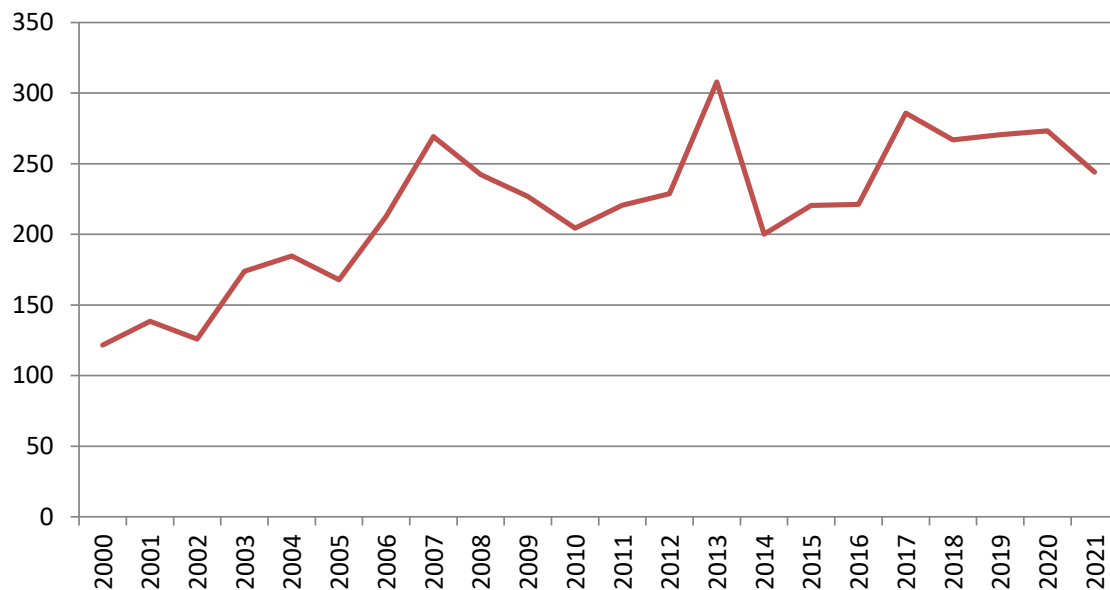
This changed since 2019 when particularly the number of severe fires on container vessels increased. Insurers are increasingly concerned by an escalating number of fires on container vessels in recent years, especially those starting in the cargo area of such vessels. Also 2021 again saw a dramatic example of this type with the fire on the X-Press Pearl, resulting in addition in the sinking of the vessel and environmental pollution of the cost off Sri Lanka. The potential of costly fire/explosion claims needs to be evaluated in the context of the increasing size of container vessels and an increasing number of high-value vessels. One concern is false declaration of goods and fire-fighting capabilities on large container vessels (see section 6. for a more detailed fire trend analysis). Apart from container vessels, focus has also been on RoRo vessels in connection with fires.

The cost of nautical-related claims (collision, contact, grounding) has been at a relatively stable and moderate level since 2014. In 2019, it increased somewhat but dropped again in 2020. It is natural to assume that a reduction in vessel activity in spring 2020 due to COVID-19 also entails a reduction in the impact of nautical-related claims over the portfolio as a whole. It will be interesting to monitor the trend until year-end 2021 after certain vessel segment resumed a higher activity again.

17: Average claim cost (USD 1,000) – all types of casualties



18: Average claim cost (USD 1,000) – machinery claims



The average cost of machinery claims showed an upwards trend until 2017. Since then it has oscillated somewhat around USD 250,000. A peak in 2013 was mainly due to the impact of two extraordinary costly machinery claims in that year.

Machinery claims exceeding USD 5 million have occurred regularly since 2011. Claims exceeding USD 10 million are no longer an exception in this claim category either, occurring in four out of the last ten years. Especially on cruise vessels, machinery claims may turn out quite costly, and the increasing number of cruise vessels in the world fleet contributed to the increase in machinery cost in recent years.

As of June 2021, one machinery claim in the USD 5-10 million range was reported, as opposed to two such claims in the first six months of 2020 (five in the whole year 2020).

In 2019, five machinery claims were reported in the USD 5-10 million range and three exceeding USD 10 million, all of which were on cruise vessels.

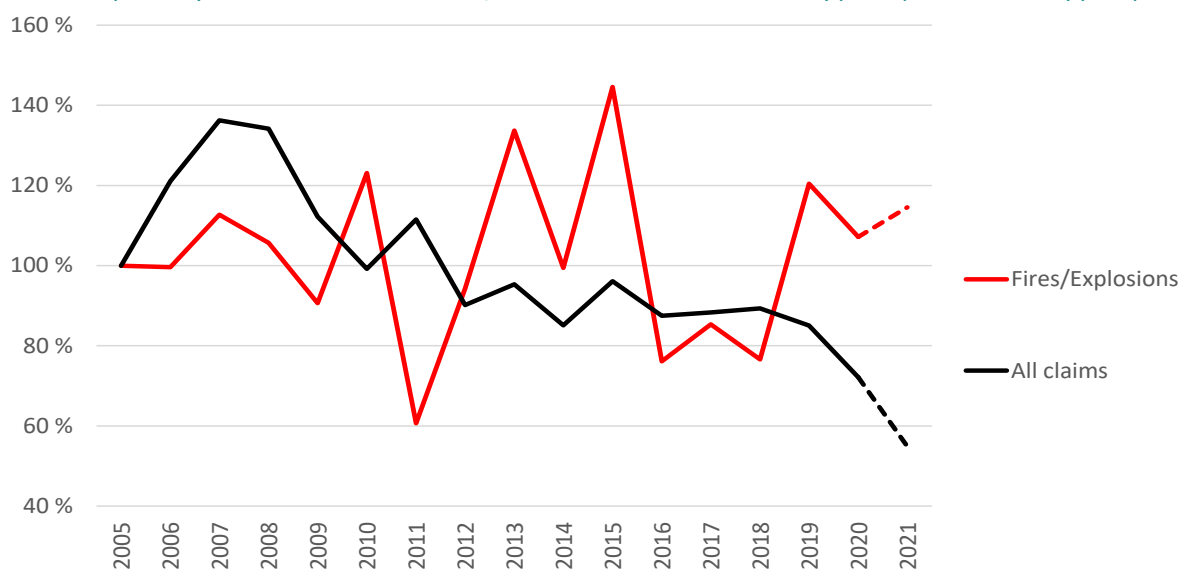
6. Fires

Since 2015, Cefor has published several analyses of fire trends in general and on container vessels in particular. Of special concern to insurers are fires starting in the cargo area of a container vessel because of the special challenges related to both preventing and extinguishing such fires.

Check also Cefor’s comprehensive [update on fire trends issued in April 2021](#) .

Graph 19 illustrates that fires also into 2021 continue to show a trend which differs from other casualty types. While the overall frequency of claims > USD 500,000 has substantially decreased since 2019, this is not the case for fires.

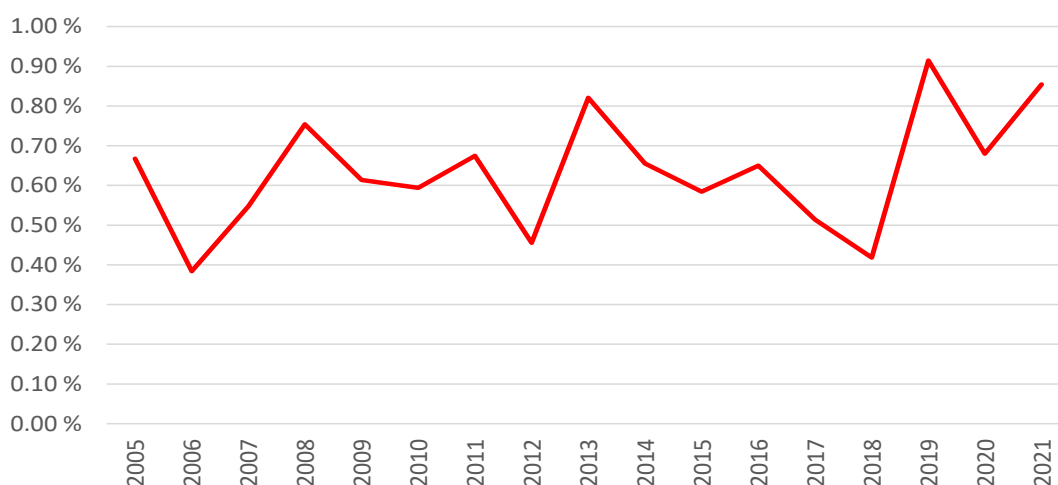
19: Frequency of fires > USD 500,000 versus all claims types (all vessel types)



For the trends in this section, ‘container’ vessels include all types of container-carrying vessels⁸.

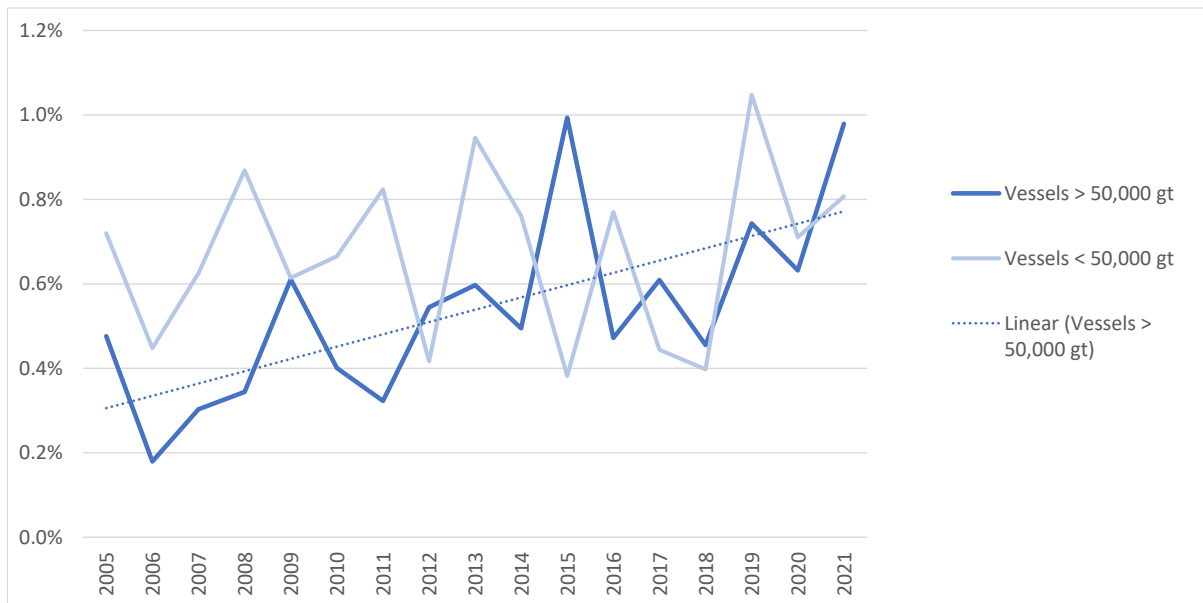
In the first six months of 2021, 22 fires on container-carrying vessels were reported into the NoMIS database. Of these exceeded two USD 10 million and were among the five largest losses in 2021.

20: Frequency of fires – by size of container vessel

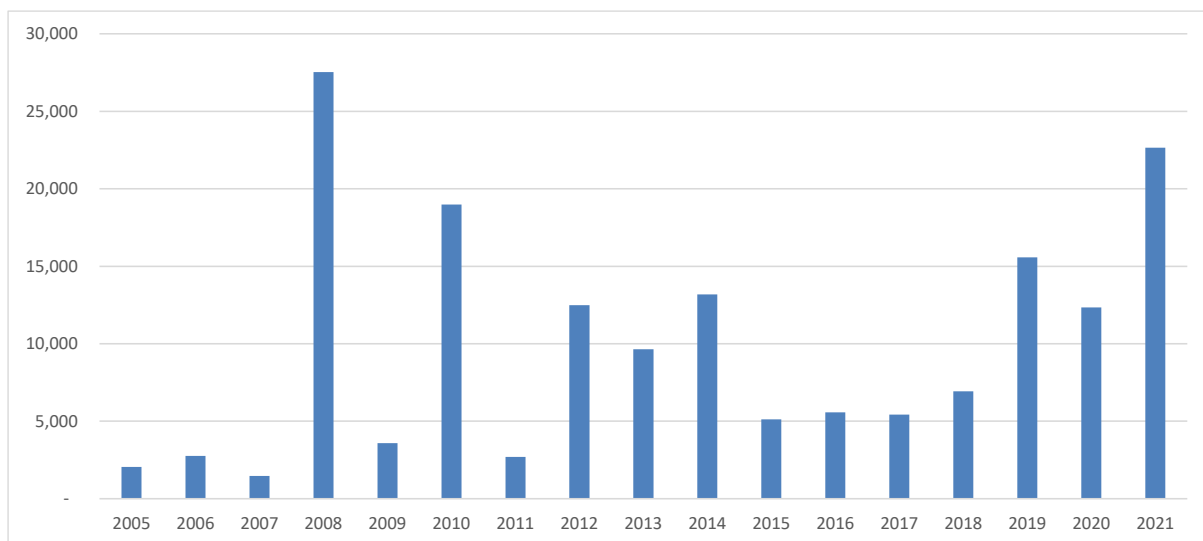


⁸ This section include fires on all types of container carrying vessels, i.e. Lloyds List intelligence vessel types UCC, URC, UCR (full cellular containership, roll on roll off with container capacity, fully refrigerated cellular).

21 Frequency of fires – by size of container vessel



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



The frequency of fires on container-carrying vessels, particularly larger container vessels, continues to show an upwards trends also into 2021. Potential reasons have been discussed in more detail in previous analyses issued by Cefor.

An overview of all previous fire and other analyses with special focus can be found here: <https://cefor.no/statistics/analysis-with-special-focus/>

Nordic Marine Insurance Statistics (NoMIS)

Data in this report & other NoMIS statistics

The statistics in this report reflect data reported by Cefor members into the Nordic Marine Insurance Statistics database as of 30 June 2021. The report has been prepared by the Cefor Statistics Forum.

If not indicated otherwise, claims are grouped by date of loss, i.e. calendar year in which the claims incurred (= accident year).

Figures reflect 100% of each vessel and resulting claims insured under a Hull & Machinery coverage, regardless of the share underwritten by one or more Nordic insurers.

2021 claims (cost, numbers) reflect the status as reported per 30 June, including an estimate of incurred but not reported claims. For comparability to previous years, 2021 claims – i.e. claims reported within the first half year – are related to 2021 portfolio data for half a year. In the two “quarterly development” graphs (p. 5) the annual exposure is used – and the claim cost per vessel by 2nd quarter of each year therefore is half as high as in the other graphs showing the expected ultimate results per year.

Further information is available on the Cefor website at www.cefor.no/statistics



Annual Report 2020:
Update on the Cefor market & activities
and NoMIS trends as of December 2019.



The 2020 NoMIS Reports for Ocean and Coastal Hull claims trends with breakdown by age group, size group, vessel types, insured value layers and other key figures, plus exposure curves.

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