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## The Importance of Insurance in Maritime Trade of Chilled or Frozen Cargoes

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**Abstract:**

**Purpose:** The purpose of this article is to present insurance options for chilled and frozen cargo carried by sea and to discuss insurance clauses commonly used and specific to this type of cargo.

**Design/Methodology/Approach:** To achieve the goal several research methods were applied: desk study research, exploration method, critical and comparative analysis.

**Findings:** Global reefer freight volumes reached 297 million tonnes in 2021, of which seaborne reefer trade accounting for 46% of all global trade in perishable goods. With a high risk associated with the maritime transport of refrigerated cargo, and given its high value, it is reasonable to conclude an insurance contract. The insurance clauses most commonly used in the transport of chilled and frozen cargoes have been developed separately for frozen/chilled food and for frozen/chilled meat. There are now both old, well-known sets of clauses dating back to 1986 (for frozen cargo only) and the most recent from 2017 (for chilled and frozen cargo). Although they differ in the scope of insured risks and exclusions, they primarily provide protection against the most relevant risks for this group, i.e., temperature fluctuations or failure of refrigeration equipment. The most comprehensive protection is provided by the Institute Frozen/Meat Extension Clauses (A) 01/03/2017 and the Institute Frozen/Meat Extension Clauses 01/03/2017. The newer version of the clauses does not provide protection against a greater number of risks, but the changes made have adapted the wording of the clauses to be in line with the 2009 universal Institute Cargo Clauses and, having regard to court case law, modified some provisions to avoid discrepancies in interpretation.

**Practical Implications:** The results of the research can be used by exporters and importers of chilled/frozen food and meat transported by sea, as understanding the key insurance clauses can help them structure their insurance cover to fully meet their needs.

**Originality/Value:** Given the scarcity of information on the insurance specifically designed for chilled and frozen cargo, each study in this field can be considered valuable.

**Keywords:** Marine insurance, Institute Cargo Clauses, cargo loss and damage, perishable cargo.

**JEL classification:** M21, L99, L83, C38.

**Paper Type:** Research article.

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## 1. Introduction

Global trade in perishable food products secures the growing demand for food worldwide, contributing to the fight against hunger and malnutrition worldwide on the one hand, and meeting the growing needs of consumers in developed countries on the other (Klopott, 2020). The ever-increasing trade volume in refrigerated goods is also accompanied by increasing sea transport of this cargo group.

According to Drewry Maritime Research (Drewry, 2022) global reefer freight volumes reached 297 million tonnes in 2021, of which seaborne reefer trade accounting for 46% of all global trade in perishable goods. In recent years seaborne reefer trade grown at a 3% CAGR, however, growing by only 1.9% to reach 138.2 million tonnes in 2021. This growth is expected to be even weaker in 2022, settling around 1%, but experts forecast that the market will recover again from next year 2023 (Drewry, 2022).

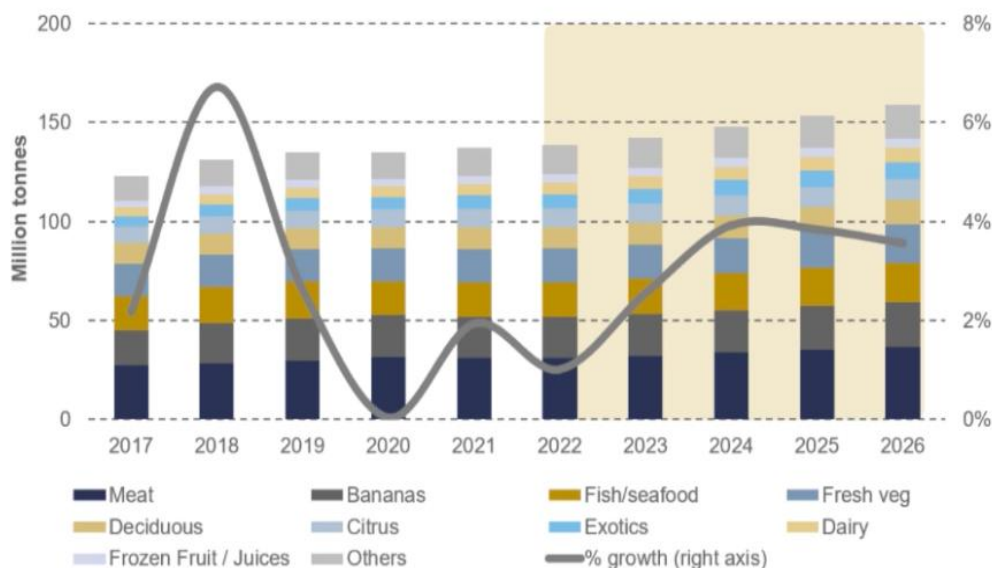
The main global reefer transport routes reflect the pattern of trade in perishable goods, hence the largest volumes are transported from South America to North America, from North America to Asia/Pacific and from Europe to Asia/Pacific.

The majority of perishable cargoes transported by sea is food products, primarily meat and poultry, fish and seafood, and bananas. In 2021, meat remained the number one seaborne perishable commodity with a share of 22%, followed by bananas (15%) and fish (13%). Fresh fruit and vegetables also form an important part of the cargo transported. The 'other' group includes, for example, pharmaceuticals, electronics, chemical products, flowers, beverages, and chocolate (Figure 1).

Food products belong to a group of goods that require controlled transport condition and are a difficult to transport, precisely because of the need to maintain the right parameters during the whole logistics chain. They need to be transported and stored at precisely defined conditions such as temperature, humidity (need for ventilation), barometric pressure, as well as air composition (e.g., regulating oxygen, ethylene, and carbon dioxide levels), and are very sensitive to every deviation from them (Rong *et al.*, 2011; Aung and Chang, 2014; Haas *et al.*, 2015).

Sometimes, seemingly even small fluctuations in temperature can reduce the commercial value of the goods or make them unfit for consumption. Peaches and nectarines, for example, should be transported at a temperature of minus 0.5 to 0°C, while the freezing point is a tad lower at just minus 0.9°C, which already deprives them of flavour (Lurie, 2022).

**Figure 1.** Seaborne reefer trade, volumes by product category, 2005- 2026. (Drewry, 2022)



*Source:* Own study.

Refrigerated cargoes are usually valuable goods. For example, a container load of frozen lobsters can be worth around \$350,000. Transporting these cargoes requires specialist knowledge and appropriate care. Otherwise, there is a risk of a breaking the cold chain integrity, leading to cargo damage. The goods then lose their commercial value and may also pose a risk to the consumer.

There are a number of critical points in the cold chain where its continuity may be interrupted and thus loss or damage may occur, e.g., during handling operations, loading onto means of transport and prior waiting, transshipment from one means of transport to another, transport, storage and the last stage in the chain - the actual delivery to the retailer, generally carried out by road transport.

Klopott (2019), who analysed as many as 1,816 cases of damage in perishable food cargoes in the study, identifies the most common causes of damage. The predominant causes include for example:

- breaking of the integrity of the cold chain (i.e., a lack of continuity throughout the cold chain in meeting expected cargo requirements such as temperature, air composition, humidity, etc.),
- unsuitability of packaging, stacking and preparation of the cargo for transit (especially lack of or insufficient pre-freezing or pre-cooling to the required transit temperature),

- errors and omissions in transport documents or shipping instructions (e.g., mistaking units of measurement or positive/negative values when setting the temperature).

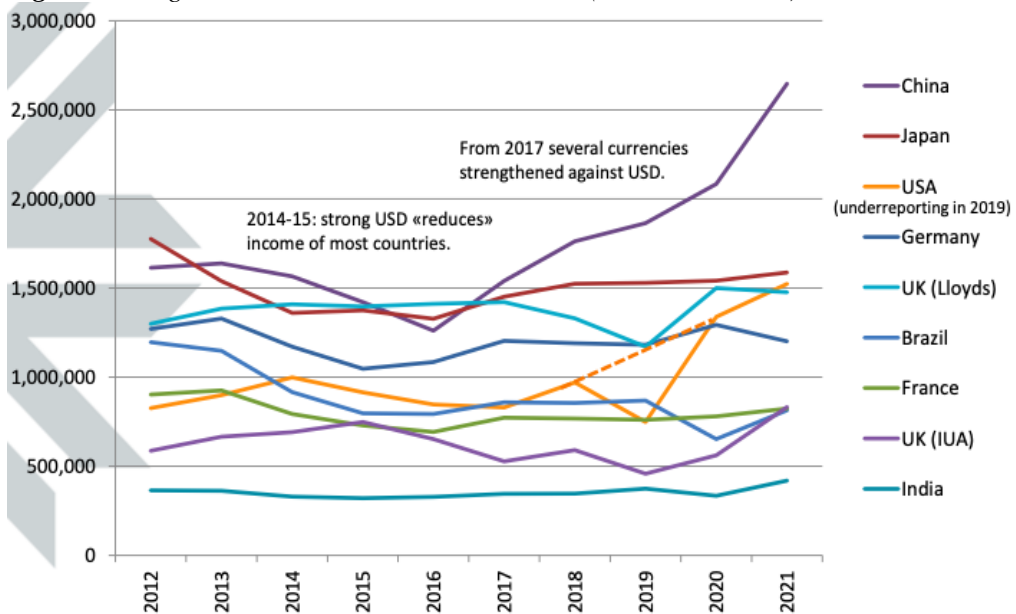
A closer analysis of the results by the author showed that human error was the main cause of many incidents, being responsible for around 50% of all claims investigated.

It seems obvious that such risks should be managed appropriately. Given the frequency of the risk, as well as its severity, an appropriate method of managing it should be chosen. One of the various methods of risk management is insurance, which is categorised as risk financing. Through an insurance contract, the policyholder transfers to the insurer not the risk itself, but the obligation to cover a loss if it is caused by the risk against which the insurance is taken out.

## 2. The Cargo Insurance Market

The IUMI *Global Marine Insurance Report* shows that the global premium base for the cargo market for 2021 reached USD 18.9 bn, an increase of 9.9%, thanks to a stronger dollar and increased global trade volumes (IUMI, 2022). Figure 2 shows how insurance premiums written have developed in the various markets, with a clear upward trend in the Chinese market.

**Figure 2.** Cargo Insurance Premiums 2012 -2021 (selected markets).



Source: IUMI *Global Marine Insurance Report*, 2022.

Loss ratios in most markets have further improved as a result of increased premium volumes combined with moderating impact of claims in recent years. For Europe, the gross claims ratio for the 2021 insurance year closed at 50%, while other regions reported the following 2021 accounting year loss ratios: US: 41% (incurred claims), Asia: 45% (paid claims only) and Latin America 43% (paid claims). A return to pre-Covid activity in 2022 is likely to increase the impact of claims on underwriting performance (IUMI, 2022).

Cargo insurers continue to face ongoing challenges, including increasing incidents of fires on board, improperly declared cargo (particularly hazardous cargo), worsening weather conditions. Moreover, the risk of large event losses continues to grow because of the increased value accumulation on ever larger vessels and single terminals. One need only mention the latest mega container ships (e.g., m/s “Ever Alot”), which have a capacity of around 24,000 TEU, and the enormous potential damage that could occur as a result of, for example, a ship sinking.

### **3. Institute Cargo Clauses for Frozen or Chilled Food and Meat**

With such a high risk associated with the maritime transport of refrigerated cargo, and given its high value, it is reasonable to conclude an insurance contract to cover the financial consequences of any loss or damage. The universal 2009 Institute Cargo Clauses commonly used in cargo insurance, regardless of the variant adopted (A, B or C), do not provide coverage for risks specific to the carriage of this group of cargo.

Various sets of sector-specific clauses are available on the market, taking into account both the specific characteristics of the various commodity groups and the terms of the trade contracts applicable in the individual commodity markets. There are, for example, separate clauses for coal, timber, oils and the frozen or chilled foods just discussed in this article. In their design, they are very similar to universal clauses.

The insurance clauses most commonly used in the transport of chilled and frozen cargoes were developed separately for frozen/chilled food and for frozen/chilled meat. The insurance market has long awaited a new edition of insurance clauses for this cargo group, which would follow the changes made to the universal clauses in 2009. After all, these Clauses that were used dated back to 1986.

The Joint Cargo Committee, responsible for the wording of the clauses, finally published a new version in 2017 after extensive industry consultation. It does not provide any revolutionary changes in terms of insurance coverage compared to the old clauses. The changes made have adjusted the wording of the clauses so that they

are in line with the universal 2009 Institute Cargo Clauses and, and, having regard to court case law, modified some provisions to avoid discrepancies in interpretation.<sup>2</sup>

Interestingly, the new clauses, unlike the previous versions, also cover chilled cargo (food or meat), which could not by definition be insured under the old version of the clauses. This is immediately apparent from looking at the new name of the clauses, where the word "frozen" has been replaced by "frozen/chilled". Throughout the Clauses, all references to 'frozen food' and 'frozen meat' have been amended to also include 'chilled' food and meat.

In a similar vein, other changes were also made, such as the reference to 'freezing works' being amended to 'freezing/cooling works' (e.g., in the Duration Clause). (Clyde & Co, 2017) Importantly, the new versions of the Clauses can also be used for air transport, but this topic is beyond the scope of this article. The new edition of the clauses does not imply the invalidity of the previous one. In practice, cargoes can be insured under both the 1986 Clauses and the latest 2017 Clauses.

For frozen/chilled foods, with the exception of frozen/chilled meat, the following sets of clauses may apply:

Clauses dating from 1986 r.

- 1) *Institute Frozen Food Clauses (excluding frozen meat) (A) 1/1/86 (Cl. 263)*
- 2) *Institute Frozen Food Extension Clauses 1/1/86 (for use only with Institute Frozen Food Clauses (A) 1/1/86 (Cl. 334)*
- 3) *Institute Frozen Food Clauses (excluding frozen meat) (C) 1/1/86 (Cl. 264)*
- 4) *Institute Strikes Clauses (Frozen Food) 1/1/86. (Cl. 265)*

Clauses dating from 2017 r.

- 1) *Institute Frozen/Chilled Food Extension Clauses (A) 1/3/2017 (Cl. 422)*
- 2) *Institute Frozen/Chilled Food Clauses (A) 1/3/2017 (Cl. 430)*
- 3) *Institute Frozen/Chilled Food Clauses (A) – 24 Hours Breakdown 1/3/2017 (Cl. 423)*
- 4) *Institute Frozen/Chilled Food Clauses (C) 1/3/2017 (Cl. 431)*
- 5) *Institute Strikes Clauses (Frozen/Chilled Food) 1/3/2017 (Cl. 424)*

Separate clauses are used for meat. Analogous to food insurance, both 1986 and 2017 clauses are also available for this cargo i.e.:

Clauses dating from 1986 r.

- 1) *Institute Frozen Meat Clauses (A) (not suitable for chilled, cooled or fresh meat) 1/1/86 (Cl. 323)*

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<sup>2</sup>The purpose of this paper is not to analyse all the provisions of the Clauses, as the wording of some of them is identical to the universal clauses, but only to point out those provisions that are specific to the carriage of refrigerated cargoes and to highlight the most important changes made in 2017.

- 2) *Institute Frozen Meat Clauses (A) - 24 Hours Breakdown* - 01/01/86 (Cl. 324)
- 3) *Institute Frozen Meat Clauses (C) - 24 Hours Breakdown* - 01/01/86 (Cl. 325)
- 4) *IMTA<sup>3</sup> Frozen Meat Extension Clause (for use only with Institute Frozen Meat Clauses (A) 1/1/86* (Cl. 327)
- 5) *Institute Strikes Clauses (Frozen Meat) 1/1/86*. (Cl. 326)

Clauses dating from 2017 r

- 1) *Institute Frozen/Chilled Meat Clauses (A) 1/3/2017* (Cl. 425)
- 2) *Institute Frozen/Chilled Meat Extension Clauses 1/3/2017* (Cl. 429)
- 3) *Institute Frozen/Chilled Meat Clauses (A) – 24 Hours Breakdown 1/3/2017* (Cl. 426)
- 4) *Institute Strikes Clauses (Frozen/Chilled Meat) 1/3/2017* (Cl. 428)
- 5) *Institute Frozen Meat clauses (C) and 24 Hours Breakdown 1/3/2017* (Cl. 427)

It should be noted that no specific war clauses have been developed for frozen food or meat, which means that the universal *Institute Cargo War Clauses 1/1/09* then apply. On the other hand, as can be seen in the above, strike clauses have been created for these cargoes. In the 2017 version of Clauses, the exclusions have been extended to bring them into line with the universal 2009 Clauses.

The new clauses provide four levels of coverage. *Institute Frozen/Chilled Food Extension Clauses* (all risk plus extensions) offer the broadest coverage. This is followed by *Institute Frozen/Chilled Food Clauses (A)* (all risk), then *Institute Frozen/Chilled Food Clauses (A) - 24 Hour Breakdown*, and finally *Institute Frozen/Chilled Food Clauses (C)*. The same applies to the clauses on frozen and chilled meat.

However, they cannot be discussed in isolation from the preceding clauses, as both versions can be applied and, moreover, the 1986 one has a rich judicial case law.

In the 1986 version of the Clauses, the first '**Risk covered**' clause is in two parts, and its construction is rather peculiar and unwieldy. Well, the first part states that "all risks of loss of or damage to the subject-matter insured, other than loss or damage resulting from any variation in temperature howsoever caused" are insured. This immediately raises doubts about the advisability of such insurance. By contrast, the second part reinstates coverage for loss or damage to the subject-matter insured arising precisely from "any variation in temperature attributable to breakdown of refrigerating machinery resulting in its stoppage for a period of not less than 24 consecutive hours".

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<sup>3</sup> *IMTA – The International Meat Trade Association*

The situation of a 'breakdown of refrigerated machinery' has been made more specific by adding the words 'resulting in its stoppage' to emphasise that not every loss resulting from the failure of the refrigerated unit will be insured. Additionally, there must be a stoppage of its operation for more than 24 hours.

This means, for example, that the insurer will not cover damage resulting from temperature fluctuations (e.g., due to malfunctioning sensors regulating the temperature inside the container) when the refrigeration unit is operating continuously. In individual cases, this clause may be modified in the insurance contract and the duration of the interruption in the operation of the refrigeration unit shortened depending on the needs of the specific carriage.

It is evident from the rest of the clause that named perils such as fire and explosion, running aground, sinking or capsizing of a ship, capsizing or derailment of a land vehicle are also covered.

Several doubts of interpretation arise here, which ideally should be clarified with the insurer even before the policy is signed. These are formulated by Vishwanath (Vishwanath, 2010), while pointing to various court decisions in this regard. One such doubt is, for example, the interpretation of the word 'breakdown': Will every event resulting in a machine stopping qualify as a 'breakdown'?

According to the courts, a 'breakdown' is any malfunction of a refrigeration machinery of mechanical or electrical origin. Therefore, damages resulting from, for example, the failure to connect a refrigerated container to the power supply or the absence of power on board due to crew error will not be insured. The failure of the carrier to set the correct parameters of the equipment (mistake in temperature, temperature units, ventilation standards) is also not eligible for reimbursement. (Hudson *et al.*, 2013)

Another doubt concerns, for example, how is the term 'machinery' to be understood. What is the machinery? The whole unit/machinery, or can it also be a part (component)? Judicial decisions differ in this regard. As a rule, however, any part of a refrigeration unit (e.g., of a refrigerated container) is considered a 'unit'.

If any part responsible for maintaining/regulating the temperature has malfunctioned, and if this part has not worked for more than 24 hours, the resulting damage is refundable (e.g., when the sensors stop working, but the unit continues to function, although it does not maintain the correct temperature).

There are also situations where a claim is accepted where the ship's engine room does not generate electricity, causing the refrigeration unit to be out of operation for more than 24 hours (the engine room is treated here as part of the ship's refrigeration system) (Hudson *et al.*, 2013).



In any analysis of insurance coverage, attention should be paid to the **exclusions**. The standard exclusion in all cargo insurance terms and conditions is loss, damage or expense caused by a latent defect or natural feature of the insured item. It is clear, that such an exclusion would not make sense in the case of refrigerated cargo, hence in the *Institute Frozen Food Clauses* Cl. 263 it has been limited and does not cover loss, damage or expense resulting from temperature fluctuations (exclusion 4.4.).

Also specific is the exclusion of the insurer's liability for claims arising from the failure of the insured or his subordinates to take all reasonable measures to ensure that goods are stored in places that provide adequate freezing/cooling conditions (exclusion 4.8).

The exclusion clause also implies that a claim must be reported within 30 days of the termination of the insurance, and any subsequent reporting will result in the insurer not being liable (exclusion 4.9). This is an exclusion completely unheard of in other sets of clauses. Recipients of refrigerated cargoes should therefore check their condition as soon as possible after delivery, as common sense dictates.

As the insurance coverage offered under Cl. 263 was highly unsatisfactory, it was possible to supplement it by adding *Frozen Food Extension Clauses* (Cl. 334). These clauses, as the name suggests, provide an extension of cover that can be purchased for an additional premium only and exclusively to the basic Cl. 233 insurance. As the scope of cover here is extremely extensive, in practice insurers only agree to include extension clauses for customers with a suitable insurance record (number of past claims, cause of loss) about whose business conduct they have no objections.

All risks of loss, deterioration or damage to the subject-matter insured which arise during the period of this insurance are, in accordance with the wording of this clause, insured. Accordingly, the insured is not required to prove that a fortuitous event contributed to the damage, provided, of course, that the goods were in good condition prior to the commencement of the insurance. It is therefore necessary for the insured to have a formal certificate of the condition of the goods, issued after inspection by a professional expert.

Beneficial for the insured, the changes also apply to the exclusion clause. The wording of the previously discussed exclusion 4.4. is amended to be limited to damage resulting from chain infection, salmonella infection and other infections that affected the cargo prior to the commencement of the contract, as well as errors and omissions in the preparation of the cargo, its chilling/freezing, packaging, etc. ("loss damage or expense arising from bone taint, salmonella, infection prior to attachment of this insurance, fault in preparation dressing cooling freezing wrapping or packing").

In the place of exclusion 4.5. i.e. "loss damage or expense proximately caused by delay, even though the delay be caused by a risk insured against") appears the

exclusion of damage arising from loss of market. This is unique in cargo insurance as it offers the possibility of compensation for damage caused by delay in delivery, other than loss of market, which is lacking in the case of universal clauses.

Whilst the clause extends the insurer's liability considerably, it also excludes its liability for claims if the time between the cargo first entering the cold store/refrigerated warehouse and the commencement of insurance exceeds 60 days, unless it has separately agreed and charged an additional premium.

At this point, one of the more significant changes introduced in 2017 should be mentioned (in addition to many other, not so notable ones). Namely, one that introduced a completely new Institute Extension Clause concept. As mentioned above, the CL. 263 (1986) clause did not provide significant risk coverage and had to be supplemented with an *Institute Extension Clause* (Cl. 334), which in turn could not be used independently. In the new 2017 version of the Clauses, the Extension Clause (Cl. 422) is structured differently, can exist independently and is essentially a combination of the coverage of the new Cl. 430 and the old extension clauses CL. 334.

Unlike its predecessor, it can be used separately as an independent set of clauses. As mentioned earlier, it is this clause that gives us the most complete coverage possible. All we need to prove is that the goods were in good condition before loading and were delivered deteriorated. The "inherent vice" or delay exclusions do not apply here. However, and this is fundamental to insurance, the damage must always be accidental/random in nature.

There are no differences, in terms of **insurance duration**, between the 1986 clauses and those of 2017. The insurance starts as soon as the cargo is loaded at the place of chilling/freezing onto any means of transport in order to commence carriage. All damage caused after loading but before carriage has even started is therefore insured.

For the termination of cover, the clauses provide for several possible circumstances, whichever happens first. This allows the insured a certain degree of discretion regarding the future of the goods. In the simplest case, the insurance ends when the cargo is delivered to the place indicated in the policy, which is a refrigerated warehouse or other place providing adequate cooling/freezing conditions.

It may also end at another refrigerated place/warehouse chosen by the insured for allocation or distribution purposes or for storage other than in the ordinary course of transit (e.g. at a transshipment port). The maximum duration of cover is only 5 days from the time of discharge at the final port of destination. This is a significant difference from the standard clauses, where the time limit is 60 days.

The 1986 clauses on both frozen food and meat end with their distinctive **Special Note**. Its purpose is to emphasise that if the cargo did not suffer damage or loss as a

result of a covered risk, but was not allowed into the importing country because of the regulations in force there (e.g., sanitary regulations, etc.) or as a result of an embargo imposed, the insured has no right to make a claim in respect of it.

Due to uncertainty about the legal statues of this Note, it can no longer be found in the new edition of the Clauses, and the exclusion of embargoes etc. has been moved to Clause 6 i.e. to the so-called war clause.

A new special note has been added to the bottom of the 2017 frozen/chilled meat clauses, this time specifying how the term 'European continent' is to be understood: "The European continent shall be deemed to include Eire and the United Kingdom (but not the Crown dependencies), but excludes the Greek Islands, Cyprus, Malta, Sicily, Sardinia, Corsica, the Balearic Islands and Iceland."

In the *Institute Frozen Food Clauses (excluding frozen meat) (C)* i.e. Cl. 264, the scope of cover is the same as in the 1982 Institute Cargo Clauses (C). The exclusions are also taken from this set of clauses, supplemented by the above-discussed clauses 4.8 and 4.9. Also unchanged (i.e., as in ICC (C)) is exclusion 4.4 (latent defect, natural characteristics of the goods), i.e., cargo specificity and loss, damage or expense resulting from temperature fluctuations are not considered.

However, this does not mean that the insurer will not be liable for all damages resulting from temperature fluctuations, but that the principle of direct causation will have to be taken into account in the analysis of each event. These are therefore not favourable insurance terms for refrigerated cargo and are more likely to apply only to those of low value. The same applies to the new clauses.

As mentioned above, separate clauses are used to insure frozen and chilled meat. Meat, according to the Lloyd's Survey Handbook (LLP, 1999), means "*whole carcasses covered with cotton stockinette, as for lamb, or in part carcasses as for beef*". It is clearly stated in the names of the Clauses from 1986 (Cl. 323), that they are not suitable for insuring fresh and chilled meat, but the fact is that with appropriate modifications to the clauses they also applied in insuring these cargoes.

As mentioned above, the new Clauses explicitly allow for insurance of chilled cargo. The Cl. 323 version offers all-risk coverage, of course with exclusions that are like those in the Cl. 263. However, a new one appears here, according to which "loss damage or expense on shore caused directly or indirectly by earthquake, volcanic eruption and/or fire resulting therefrom" is not covered. This exclusion in the wording of the 2017 Clauses has been removed. In C. 324 ((A) - *24 Hours Breakdown*), the wording of the clause setting out the coverage is identical to that in CL.263 discussed above.

However, in Cl. 325 ((C) - *24 Hours Breakdown*), the list of risks covered is the same as in the old Institute Cargo Clauses (C)/1982 with an additional clause

wording as described above i.e. covering loss or damage to the subject-matter insured arising from any fluctuation in temperature attributable to a breakdown of the refrigeration equipment resulting in a stoppage in its operation for a period of not less than 24 hours. In addition, we find here an exclusion known from the standard clauses, namely "wilful damage or wilful destruction of the subject-matter insured or any part thereof by the wrongful act of any person or persons", which is absent in the other versions.

The **commencement of cover** in the Institute Frozen Meat Clauses, as well as of new 2017 meat Clauses, can take place at one of the three points listed in the clauses, which, very characteristically, are selected by the insured:

1. when the cargo enters the colling/freezing compartment/warehouse and cannot remain in such a place for more than 60 days before loading onto the vessel, unless the insurer agrees to extend this time at an additional premium,
2. when the cargo is loaded at the cooling/freezing place onto any means of transport for the commencement of carriage (i.e., as in Cl. 263),
3. when the cargo is loaded into the vessel (in 2017 also into the aircraft).

The duration clause is broader than the corresponding provisions in the frozen/refrigerated food clauses, which is a key difference between the two. The end of cover, on the other hand, depends on the destination. If it is in continental Europe (including Ireland and the UK), the USA or Canada, the insurance ends 30 days after discharge from the ship (or aircraft) at the port of destination. In other cases, this time is shorter at only 5 days.

IMTA Frozen Meat Extension Clause (for use only with Institute Frozen Meat Clauses (A) 1/1/86 offers the same extension as the previously discussed IFFC Extension Clause (A) coverage. The new 2017 version of the IMTA Meat Extension Clauses also - like the Institute Frozen/Chilled Food Extension Clauses discussed above - is structured so that it can be used as a complete standalone set of Clauses.

#### 4. Conclusions

The maritime transport of refrigerated cargo is constantly evolving. It is a group of cargo that requires controlled conditions of carriage and the attention and experience of the carrier. It is also often a high-value cargo, the loss or damage of which can be a serious financial loss. It is therefore reasonable to cover it with insurance. Knowledge of the specific provisions in the insurance clauses for refrigerated cargo is essential in order to choose the best insurance option that suits needs of exporters and importers, as well as to proceed during the insurance period to facilitate claims. Greater attention should also be paid towards carefully researching the factors

responsible for cargo loss and damage, since a thorough understanding of them is a prerequisite for effective risk management throughout the entire transport chain.

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