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INSURANCE SCHEMES FOR THE NORWEGIAN FISHING FLEET

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Abstract

Norway is a major seafaring and fisheries-orientated nation, with an annual output of some 2.5 million tons of fish and yearly exports exceeding US\$3 billion in value. The fleet, entirely owned by fishermen themselves, is highly efficient. The paper outlines the nature and scope of the Norwegian marine fisheries and describes the number and types of accidents to vessels and fishermen which have occurred in recent years. Reference is made to the very effective search and rescue service which has been developed. Marine insurance in Norway has its historic basis in the self-help local fishermen's clubs formed as long ago as the early nineteenth century. Commercial companies began to take an interest in marine/fisheries insurance about one hundred years ago. There are now four large insurance companies involved, in addition to 28 mutual clubs owned and managed by the fishermen. The paper discusses the terms of cover and policies offered, underwriting guidelines followed and claims settlement procedures. A standard set of marine insurance terms has greatly facilitated the overall system. The fishermen themselves benefit from a package of insurances, required of fishing vessel owners, which supplement the national social security scheme and covers loss of belongings and wages and compensation for occupational illness, injury or death. The means by which the purchase or rebuilding of fishing vessels is financed are described. The author draws attention to the need for fisheries insurance systems to be based on adequate data regarding the sector and the accidents incurred.

NORWAY

Norway is a small, social democratic kingdom with a 2,500 mile coastline and more than 80% of the population of 4 million living less than 20 miles from the sea. It is thus no wonder that Norway is a seafaring and fishery-orientated nation. Without the mild and nourishing Gulf Stream, the coastline and fishing banks could be compared with more hostile areas such as the Davis Strait and West Coast of Greenland which are partly covered with permanent ice.

Despite roots within fishing and farming from the early nineteenth century, Norway is now a modern, industrialized country with one of the highest standards of living in the world. Its 25 year-old oil and gas activities now play an important part in the national economy (38% of total export), together with alloys (11%), fish (8%) and shipping.

FISHING HISTORY

Since the last ice age, and due to the long coastline and close, fertile fishing grounds, fishing has been a major part of the national economy. In 1948, Norway had more than 85,000 fishermen, at that time a fairly large percentage of the workforce. Despite a decrease of fishermen to about 25,000 in 1995 and a sharp decline in the number of vessels, the annual catch of 2.5 million tons is the same as 20 years earlier.

The present status of Norway's fisheries is as follows:

- Annual quantity: 2.5 million tons = 2% of world total catch (about 0.2 million tons comprises farmed salmon).
- Annual export value: US\$3.1 billion (of which fish farming contributes US\$1.5 billion).
- No of fishermen = About 25,000 (plus 2,500 fish farmers)
- No of fishing vessels = About 15,000 (but only 9,000 are "covered"). Plus 1,300 fish farms.

The value of fish and fishery products exports has dramatically increased over the last 10 years; from US\$700 million in 1984 to US\$3,000 million in 1994, a rise of more than 300%. During the same period the number of fishermen decreased by 15% - which can lead to the following conclusions:

Norway's fishing fleet is, despite the fact that only 5% (1994) are trawlers efficient, with approximately 70 tons of catch per fisherman per annum. As a comparison, the French fishing fleet takes 45 tons per fisherman and Canada only 20 tons.

The export pattern (1994) is rather interesting. Despite the fact that Norway (mainly because of the fishing industry and the rural population) voted against joining the EEC (European Common Market) in 1994, two thirds of its exports still goes to these countries - with France as the main importer with approximately 12% of the total of US\$3.1 billion. Japan is the second most important country for Norwegian fisheries, with an annual import of US\$310 million.

Another important factor with regard to the structure of Norwegian fisheries over the last 50 years is the Government's policy to use farming and fishing as the main instruments to maintain the geographical population pattern. The fishing industry has for years claimed that the sector's lack of profit is a result of the Government's policy to keep the settlement rate in rural coastal districts in the West and North of the country at a high level in order to decrease the speed of urbanization.

This is of special importance in Northern Norway, where the fishing industry is the primary economic source and the historic basis for rural settlement due to the short distance from fjords and islands to the fishing banks.

THE FISHING FLEET

Ever since the age of the Vikings, the coastal people of Norway have developed vessels specially

adapted to the rough waters around the long coastline, of which 50% is north of the Arctic Circle (where there is the midnight sun during the short summer months, and pitch-dark 24 hours a day during November through February).

Ever since the beginning of the 18th century, fishing was a rather unorganized "industry" - despite a dominant pattern of cod being fished in the north, bought by local tradesmen and shipped to Bergen, which at that time was the capital of Norway. From there, fish products (dried and salted) were shipped to Europe by Hanseatic (German and Dutch) tradesmen in exchange for goods necessary to the North.

Some 120 years ago witnessed the first formal organizations within the fisheries sector, with the fishermen on one side and the fishing industry/buyers on the other. However, they very quickly saw the necessity for rules and regulations within this industry; in the opinion of many these have gone too far - with no less than 1,400 different laws, rules and regulations today.

However, with respect to the fishing fleet, one of the most important factors is that *all fishing vessels in Norway are owned by the fishermen themselves...*! These owners have, since the middle of the last century, been organized within the Norwegian Fishermen Association. The Association comprises two separate groups, one for the fishermen who own the fishing vessels and the other only for the crew fishermen.

The fleet today has some 15,000 registered vessels, but only about 8,600 are in permanent, commercial use. The fleet (and hence the fisheries) is divided in two groups; the Ocean-going Fleet and the Coastal Fleet.

The Ocean Going Fleet

Consists of 350 vessels more than 27.5 meters in length and 500 trawlers and purse-seiners exceeding 20 meters. They employ more than 40% of the fishermen who fish all-year round, and contribute more than 60% of the value of the catch (US\$700 million). However, despite its importance, both with respect to employment, value of catch and as a constant supplier of fresh raw material to the land-based industry, the average age of the vessels is 24 years. Only an annual average of four new vessels within this category were renewed during 1982-1995 due to government regulations and fear of over-capacity within the total fleet. All these vessels are built of steel with modern navigation and fish finding equipment. Many are supplied with factories and freezers, although the majority supply the shore-based industry with fresh iced or salted fish.

The Coastal Fleet

Consists of more than 8,000 vessel (1995) commercially employed on a more or less year-round basis of which as many as 7,300 are below 15 meters or 25 GRT. The remaining 700 are traditional liners, seiners, netters and the like. Their average age is even higher - close to 30 years, the reason being economy within the fleet and government regulations. These vessels are built of steel, wood and GRP and most of them have been rebuilt with new engines and wheel houses, including modern navigation, communication and fish finding equipment.

Regarding building material, the following can be noted:

- All vessels (251) above 40 meters are built of steel.
- 58% of all vessels below 20 meters are built of wood, and 40% of GRP or aluminium.
- Only 700 vessels (8%) of all Norwegian decked fishing vessels are built of steel.

Regarding age, 15% were built before 1960 - and are thus more than 36 years of age, the oldest one being built before the turn of the century; only 4% were built after 1990, and the majority (35%) were built between 1980 and 1990.

Vessel economics are of interest to marine insurance companies; in this context, it is interesting to note that a traditional Norwegian fishing vessel between 13 and 21 meters long has an annual income

of US\$207,000. Nearly half (49%) of this is paid to the crew, 10% goes on maintenance and 44% on insurance (vessel, gear/equipment and crew).

The larger trawlers (> 250 GRT), had an average income in 1994 of US\$4.5 million. On the expense side, manpower is the main item with US\$1.35 million p.a. (30% of gross income). Annual maintenance of vessel, gear and equipment accounts for US\$643,000 (14.5%). The cost of insurance (vessel only) accounts for just 2% of annual income (US\$88,000) while other insurance including the mandatory crew-coverage is US\$35,000.

The estimated overall value of the Norwegian fishing fleet is approximately US\$3.0 billion or the equivalent of the value of annual exports of fishery and fish products (including US\$1.5 billion from fish farming). However as the fishing fleet retains only 50-60% of the export value, its part of the export value is US\$1.0 billion.

FISHING OPERATIONS

Type of Fishing

The number of Norwegian fishing vessels above 13 meters operating on a yearly basis (41.3 weeks per annum) was 1,600 in 1994; this is in fact the "professional" fleet which contributes close to 100% of the annual catch. However 50% of these vessels were below 17 meters long; only 574 (35%) were between 17 and 36 meters, with the remaining 240 fishing vessels (15%) being above 36 meters. A total 47% of the time was used for cod and haddock fisheries, 20% on shrimp and 11% on herring. The remainder of the time was spent on various other species. The total aggregate is approximately 2.53 million tons, which on average is 1,565 tons per vessel per annum.

Catch Composition

Cod;	0.38 mill. tons (15% of volume, 37% of value)
Other type of groundfish;	0.34 mill. tons (14% of volume, 22% of value)
All types of herring;	1.53 mill. tons (64% of volume, 25% of value)
Other species	0.13 mill. tons (6% of volume, 21% of value)

Type of Fishing Gear Used (Vessels > 13 meters, 1994)

Net	24%
Shrimp trawl	19%
Purse seiner	15%
Danish seiner	13%
Longlining	10%
Trawl	10%
Miscellaneous	9%

Total	100%
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Of the vessels longer than 13 meters in 1994, 354 were above 27.5 meters (43% trawlers plus 6% shrimp trawlers, 29% purse seiners and 22% ocean-going net and longliners); these vessels account for more than 65% of the "first hand value" of the Norwegian fisheries, i.e. the annual value of landed catch, which in 1994 amounted in total to US\$1.1 billion.

Area of Fishing Grounds 1990-92

71.8%	=	Norwegian Zone (Barentz Sea, Norway Sea, North Sea and Skagerak)
6.1%	=	Svalbard and Jan Mayen fishery protection area
9.0%	=	Greenland, Iceland, Russian, Faroes and Canadian Zones
13.1 %	=	European Union Zone

FISHING VESSELS AND ACCIDENTS

Commercial fisheries involves a high ratio of risk to vessels, crew and equipment. With one of the most hostile and stormy fishing grounds in the world (Bartens Sea and the North Atlantic), and with hardly any daylight during the winter season, Norwegian fishing vessels are liable to accidents.

In order to understand in more detail the economics and the pattern of accidents for fishing vessels, in 1992 Vesta Marine Insurance of Bergen to organised a Forum for Coastal Hull Statistics (CHS). Its findings were presented in the "Annual Report, 1995, of the Central Union of Marine Underwriters, Norway".

Despite the fact that for years the Government, Marine Directorate of Norway, Det Norske Veritas, etc. for years have been collecting information about marine accidents the data is unreliable nor is there any information about costs.

Thus, CHS's statistical database is the only one in Norway which combines both numbers as well as values of each accident for the entire Norwegian coastal fleet of approximately 11,200 vessels (1994) of which 8,500 are fishing vessels. (This figure of 8,500 corresponds reasonably well with Government statistics of fishing vessels more or less permanently in commercial use: "decked fishing vessels", 1994 = 8,800). These 8,500 fishing vessels make up 76% of the total Norwegian coastal insurance market, where the remaining 24% is divided between freighters/coasters (19%), regular service vessels/ferries (4%) and off-shore vessels (1%).

In addition to being a basis for Tariffs, Risk Management and Loss Prevention, the CHS is also used to improve terms and conditions of insurance policies.

When analyzing data for 8,500 fishing vessels during the period 1989-1994, the following can be said (as seen from an underwriter's point of view):

- i) An insurable accident to a fishing vessel in Norway happens once every 2.8 years (12,950 accidents on 6,300 vessels in average over the six year period). The loss frequency is 0.34 (compared with 0.18 for coastal vessels).
- ii) The type of accidents vary for the different categories of fishing vessels (trawl, purse-seiner, vessels below and over 15 meter) but for simplicity, the overall pattern is as in Table 1:

ACCIDENTS TO FISHERMEN

Although this paper concentrates on the risks faced by fishing vessels, it is important to have a understanding of the crew (fishermen) as well, especially as 80% of all accidents at sea are caused by human error.

In Norway, fishing is the most risky occupation (as regards the number of accidents) and the chance of an accident to a fisherman is roughly 13 times higher than an activity such as mining. Referring to the risk of death, fishing has a rate of 12.3 (number of accidents per 1,000 men per year), four times higher than in farming, for example.

TABLE 1:		
Type of Accident	% of Cost	% of Numbers
Fire/explosions	11	2
Striking	11	36
Collision	3	2
Grounding	18	8
Machinery damage	28	33
Heavy weather	16	6
Ice damage	3	1
Others	10	12
<u>of which > TLQ</u>	<u>27%</u>	<u>2.3%</u>
Total	100%	100%

From 1970 to 1993, 1,038 serious personal accidents within fishing were registered; 630 of these resulted in death, while 408 survived with permanent damages of various types and grades.

From 1989 to 1993, 108 deaths to fishermen were registered, with 26 due to ship-wreck/swamping of minor vessels, and 47 due to capsizing of medium/larger vessels; 10 died due to miscellaneous reasons, 16 due to collision with another vessel and 8 due to grounding.

During the same five year period, the marine insurers of the Norwegian fishing fleet registered 10,500 claims, including 277 for total losses.

After 10 years (1979-89) of focus on the work environment and risk within fishing, the rate of risk dropped; however, the rate has since climbed up again to the 1980 level, which is far from acceptable.

The number of deaths has however, decreased over the last 10 years. On the other hand, there has been an increase in the number of serious injuries causing disablement. The main reason for the decrease in fatal accidents is a reduction in the occurrence of capsizings and groundings and an increase of survivals from such accidents. The reason for these changes are stricter enforcement of stability regulations, improved training and better rescue services. The increase in work accidents causing serious injury are assumed to be caused by increased mechanization and also increased economic pressure, causing operations to be carried out under more severe conditions.

THE RESCUE SERVICE

A Government Commission appointed in 1953 submitted its report to the National Assembly in 1959. This led to the formation of the Search & Rescue Service (SRS) with responsibility for a large and varied geographical area. The service is managed by two Rescue Coordination Centres with unlimited authority to use both public, military as well as civilian resources in the air, at sea and on shore.

In addition, all Norwegian fishermen must go through a specially designed "Safety Course". The training (inclusive of pick up from helicopters) is done via two "mobile classrooms", i.e. two training vessels travelling up and down the coastline. In addition to the compulsory Course, all Norwegian fishermen must have an approved survival suit.