1 Introduction
1.1 Background

The fisheries have always been pivotal for a great many coastal communities and ensured their survival by generating economic value and employment.

In the future too, the fisheries will be an essential industry for coastal Norway. But the industry will evolve, just as it has always done and just like any other industry. One key challenge is to strike the best possible balance between developments in the fisheries and those in society at large, with due consideration for the coastal communities that are most dependent on this industry.

The fish resources harvested by Norwegian fishermen are limited, and strategies for management of those stocks affect the future value of the fish resources for both fishermen and society generally. Continual technological advances in the fisheries allow limited fish resources to be harvested with increasing efficiency. This trend entails structural changes in the fishing fleet and the rest of the fisheries industry. As such, the structural policy for the fishing fleet is an essential instrument and should be regarded as an important element in stewardship of the fish resources.

For much of the post-war era, there has been broad consensus among the Norwegian political parties that fishing capacity in the fleet must be adapted to the resource base. Capacity adaptation of the fishing fleet contributes to sustainable exploitation of the marine resources. An economically sustainable fishing fleet is conducive to long-term employment, investments in the fleet and thriving coastal communities.

Norway has a long history of implementing different structural measures in its fishing fleet. Structural instruments currently employed consist partly of a decommissioning system and partly of a structural quota system (SQS) for different vessel groups.

The SQS is basically very simple: someone who owns two vessels can, on certain terms, combine the quotas for each vessel and then fish both quotas using just one vessel, in some cases following a certain reduction. But because this transfer facility exists, it allows vessels to be purchased specifically with a view to consolidating quotas. This increases the transaction rate and accelerates structural changes. In this way, the SQS has impacts beyond those internal to the enterprise; vessels are moved, activities are concentrated, jobs are created or lost both onshore and offshore.

Thus, the SQSs affect the extent and distribution of activities in the Norwegian fisheries.

It is a political responsibility to be aware of this and to decide whether the impacts the system is expected to have or proves to have had are tenable. It is a political responsibility to strike the right balance between commercial interests and socio-political interests. The structural issue thus concerns the future format of the Norwegian fisheries fleet, and as such is a key issue in Norwegian fisheries policy debate.

In recent years, some of the instruments used in reducing excess capacity have been changed and new structural measures have been introduced. These changes have not received the same broad political backing as those that preceded them. This then forms part of the background for the present White Paper.

The Norwegian fish resources are national resources. The income from fishing for which the fish resources form the basis accrues to those who fish for a living. In discussions about the changes, a debate has however arisen concerning an actual 'privatisation' of the resources. The structural systems have thus become linked with a debate on the principles of proprietary rights and rights of use of the fish resources, as well as a debate concerning underlying, long-term consequences which the regulatory system as a whole is purported to have for such proprietary rights and right of use. This then forms another part of the background for the present White Paper.

The Norwegian fisheries management regime is essentially based on vessel quotas and access control. The introduction and use of such individual permits have served as a means of safeguarding communal rights and exercising communal responsibility. The development of the fisheries management system has underlined the role of society in sectoral governance and has strengthened its means of exerting control. There is thus no conflict between the use of individual permits and communal ownership of the fish resources. A well-functioning system, based on individual permits linked with quotas and access to fishing, can on the contrary strengthen the status of fish resources as communally-owned resources, since the future value of fisheries will increase as a result of reductions in excess capacity and greater profitability in the sector. Successful management of fish resources allows the natural assets which the fish resources represent to gain prominence.

It is therefore important for the structural systems to be assessed and discussed in relation to the primary objectives of those systems:

First, they are to be instrumental in enabling the fishing fleet to keep up with continual productivity growth in the same way as in any other sector. Structural systems are necessary because fish stocks set definitive limits for total production in the fisheries. The systems must thus also facilitate improved profitability and give those that operate in the sector opportunities for improving their efficiency within a regulated framework.

Second, the systems must promote better capacity adaptation in the fleet to match the resource base. Because individual actors have access to combining different input factors such as for example engine horsepower, vessel size, fish finding equipment and fishing gear, it is scarcely expedient to regulate capacity in relation to the technical parameters of individual vessels. But a number of other reasons dictate the need for vessel owners to be given relative freedom in assembling their own operating assets. As such, restricting the number of vessels in the fishing fleet is the most practical means of regulating capacity, in spite of the fact that the total technical fishing capacity is determined by more factors than the number of vessels alone. Within the limited-entry fisheries with fixed total quotas and vessel quotas, the fishing fleet's technical fishing capacity is not especially relevant as a capacity target, even if the technical capacity may pose individual control-related challenges.

Sustainable management of the resources is a premise ipso facto for marine activities. But the fishing industry is also heavily dependent on the overall framework conditions that are imposed. The most important of these are allocation of resources and the quota basis, the regulatory format applied to each individual fishery and the options for individual adaptation within the quota basis.

Any commercial enterprise is prone to a certain amount of risk and uncertainty. However, few sectors endure more uncertainty than the fisheries. Besides the ordinary commercial risk, investments in the fisheries are affected by the uncertainties of future fish population trends, the accessibility of the fish, environmental factors and the risk of shipwreck or damage. Such risks reduce the predictability of the industry. It is therefore important that the framework conditions imposed by the authorities *are* predictable and stable.

The Norwegian Government wishes to lay the foundation for a future policy that will receive widespread approval, both in the fishing industry and in society at large. In order to achieve this, for the Government it has been imperative to carry out a comprehensive review of structural policy for the fishing fleet.

This provided the rationale for the Government's decision to suspend the SQS as of 20 October 2005 and to set up a committee under the authority of Royal Resolution of 6 January 2006 to assess the impact of established structural measures in relation to the Government's objective of securing fish resources as commons; to secure a fishing fleet that would serve to sustain activity the length of the Norwegian coastline and ensure that such a fleet is modern, diversified and profitable. The committee was requested to submit its proposals for how the structural policy might be formulated in order to realise these objectives.

On 19 August 2006, the committee submitted its report to the Ministry of Fisheries and Coastal Affairs in Norwegian Official Report 2006: 16 *Strukturvirkemidler i fiskeflåten* (Structural Instruments in the Fishing Fleet).

Drawing on that report, the Government is presenting a White Paper to the Storting concerning a structural policy for the fishing fleet. The measures proposed in the present White Paper reflect the Government's objectives for fisheries policy and are to form the basis for a future structural policy that will ensure the sector of stable and effective framework conditions.

1.2 Current structural systems

The structural instruments currently comprise

- the decommissioning system for vessels in the coastal fleet with a quota length under 15 metres
- the decommissioning system for vessels in the coastal fleet with a quota length over 15 metres
- the structural quota system (SQS) for vessels in the offshore fleet

The term "quota length" is based on the following: the quotas vary from one vessel to the next within their group, based on various parameters. In the coastal fleet, the traditional parameter was vessel length. However, it is not desirable for vessels to be lengthened or replaced by longer vessels solely in order to obtain a larger quota at the expense of others in the group. Consequently, quotas are allocated on the basis of vessel length at a fixed point in time in the past; a so-called cut-off date. The length used in determining a quota allocation may thus differ from the vessel's actual length, and is referred to as the 'quota length'. In the offshore fishing fleet, quota allocation is based on other ratios, referred to as quota factor, basic tonnage, etc. The point in all instances is that the distribution of quotas among vessels within a group must be immutable, irrespective of both vessel-group quota size and individual vessel replacements.

Under the decommissioning system, a decommissioning subsidy is disbursed on application from the Decommissioning Fund for capacity reduction in the coastal fleet managed by the Norwegian national industrial development agency, Innovation Norway. The Fund is financed partly through government appropriations and partly by the industry itself through a specific structural tax on first-hand sales of fish. Any vessel awarded a decommissioning grant must be withdrawn from the fishery, and all fishing permits obtained for the vessel must be surrendered. The quotas obtained for that vessel may then be distributed among the remaining vessels in the regulation group to which the decommissioned vessel belonged. The decommissioning system was introduced as of 1 July 2003, and was intended to be in force for five years.

The system is discussed in more detail in Chapter 4.2.2.The decommissioning system for the coastal fishing fleet.

The structural quota systems for both the coastal and offshore fishing fleets entail that, provided the owner surrenders all participant permits/licences for a vessel and decommissions that vessel, the owner will be entitled to a quota increase for any remaining vessel with a permit for the same fishery/fisheries. In the coastal fleet, the quota increase amounts to 80% of the quota for the decommissioned vessel. The 20 per cent reduction is borne by the regulation group and serves to improve the quota basis for all vessels in that particular group. In the offshore fishing fleet, the details and restrictions in the system vary somewhat from one group to the next, although the main condition applicable to structural quota allocations is the same for this fleet.

Any vessel withdrawn from fishing and the vessel to be allocated a structural quota must belong to the same regulation group. If, for instance, the structural quota is for cod, haddock and saithe in the coastal fleet, this requires that both vessels have a quota length of between 15 and 21 metres or between 21 and 28 metres. In the offshore fishing fleet, the regulation groups equate essentially to the licence groups, for instance, the cod trawl group, the purse-seine group and the saithe trawl group. In this way, structural adaptation occurs intra-group, and does not result in redistribution of quotas between, for example, the coastal fishing fleet and the offshore fishing fleet.

The SQS for the coastal fleet was introduced in autumn 2003, with effect for quotas from 2004 following the Storting deliberations on St. Meld. (White Paper) no. 20 (2002-2003). This was a wholly new system for the coastal fleet. The SQS for the offshore fishing fleet was introduced in March 2005, and replaced the existing unit quota systems from 2000, 2001 and 2002 for different groups in the offshore fishing fleet. The unit quota system embodied a predetermined time limit in that a raised quota (unit quota) could be allocated solely for up to 13 or 18 years. The SQS involves no corresponding predetermined time limit.

A more detailed discussion of this system is included in Chapter 4.2.2.2 The structural quota system (SQS) for the coastal fishing fleet and Chapter 4.2.3 The structural quota system (SQS) for the offshore fishing fleet.

1.3 Mandate of the Structural Committee

The Structural Committee was appointed on 6 January 2006 with a mandate to assess the impacts of these structural measures in relation to the objectives of

- safeguarding fish resources as communal property (´commons')
- securing a fishing fleet that contributes to activity along the coast
- achieving a modern, diversified and profitable fleet

The Committee was asked to submit recommendations for a structural policy which would further these objectives, while also being instrumental in achieving a fishing fleet tailored to the resource base.

To that end, the Committee was to

1. "assess the consequences of the structural systems for the various vessel groups in the coastal fishing fleet and submit proposals for future systems within the various groups. The Committee was also to assess whether a predetermined time limit was to be applied to the structural quota system. In addition the Committee was to
    a. assess the relationship between the structural quota system, the operational scheme, see regulations of 7 November 2003 concerning special quota systems for the coastal fishing fleet, Chapter 2, and the decommissioning system.
    b. report on the consequences the operational scheme and the decommissioning system had for the coastal fishing fleet with a quota length under 15 metres, and submit proposals for future systems for these groups, including assessment of whether structural quota systems should be introduced in these groups. The proposals were allowed to be different for the 10–15-metres group and the under-10-metres group.
    c. assess whether the stipulated quota ceiling in the current structural quota system for the coastal fishing fleet had been set at a level that would enable achievement of the objectives identified above, and, that not being the case, to propose changes to the quota ceiling.
2. assess the consequences of the structural systems for the various vessel groups in the offshore fleet and submit proposals for future systems within the various groups. This was to comprise assessment of whether SQSs should be subject to a predetermined time limit, and whether the stipulated quota ceilings for each group had been set at a level that would enable achievement of the objectives identified above, and that not being the case, to propose changes to the quota ceilings.
3. examine the question as to how the structural measures should be financed;
    a. self-financed by those who make use of the structural measures
    b. collectively financed within the individual vessel group through taxes, a fund, or the like
    c. collectively financed by the fishing fleet as a whole through taxes, a fund, or the like
    d. exclusively public-sector financed
    e. jointly financed by the public sector and the fisheries, or
    f. by a combination of these alternatives."

1.4 The Committee's proposals – delimitation of the White Paper

The structural instruments in the fishing fleet have a number of interfaces with other regulatory components. The Structural Committee is essentially divided into three blocs which submit a number of proposals which, to a greater or lesser extent, concern the design of structural systems for the fishing fleet. For a detailed report on the Structural Committee's proposals, please see Norwegian Official Report 2006: 16 *Strukturvirkemidler i fiskeflåten* (Structural Instruments in the Fishing Fleet), Chapters 8.4 to 8.7. A tabular summary of the different blocs' proposals is included in the same report in Table 8.1 on page 97.

In this report, the Government wishes to concentrate on the fundamental main concerns linked most intimately with the structural issue itself. The other proposals set out in the Committee's Green Paper will be assessed and followed up in different processes. This would include issues raised concerning the district quota system or a supplementary quota system, recruitment, education and research quotas, etc.

The Structural Committee's proposals and responses from the consultation bodies are reported on in the individual chapters in the report with the exception of Chapter 6. The proposals and consultation responses concerning the matters dealt with there are reported on in Chapter 5 together with the proposal to introduce a predetermined time limit in the structural quota system.

1.5 The Government's proposals

The present report to the Storting (White Paper) focuses on the following key issues:

First, the need for structural systems in the future. This is discussed in Chapter 3, where the Government's conclusion is that there is a need to continue structural systems.

Second, what type of structural instruments are to be employed. This is dealt with in Chapter 4, where the Government's conclusion is

1. that the decommissioning system for the smallest vessels in the coastal fleet should be continued within the frameworks of the original time limit until 1 July 2008, and that the entire five-year period during which the system will have been in effect should be evaluated a whole,
2. that the SQS should be continued for those groups that currently have an SQS,
3. that also vessels in the coastal fishing fleet with a quota length of between 11 (13) and 15 metres should be given the opportunity to use the SQS, but with a lower quota ceiling, and
4. that the quota ceiling should be lowered for the coastal fishing fleet.

Third, the question as to whether structural quotas should be subject to a predetermined time limit for the allocation period. This is dealt with in Chapter 5, where the Government's conclusion is that a predetermined time limit of 20 years should be introduced.

Fourth, the matter of whether a predetermined time limit should be made applicable to already allocated structural quotas. This is dealt with in Chapter 6, where the Government's conclusion is

1. that a predetermined time limit in the SQS should also be made applicable to structural quotas allocated under the 2003-/2005 rules,
2. that the predetermined time limit should run from the quota year 2008, but
3. that the predetermined time limit will then be 25 years (rather than 20) for these SQSs.

Fifth, the role of resource rent in the fisheries. This is dealt with in Chapter 7, where the Government's conclusion is that a resource tax should not be introduced.

The Government holds that these are the principal political issues that are to be settled, and, within these frameworks, the specific systems should be tailored to demand and adapted to match the individual vessel group.

Financial and administrative consequences, sector-economic consequences, district-specific consequences, consequences for the environment and for the Sámi people and Sámi culture are dealt with in Chapter 8.

There is not necessarily always a need to reduce the number of vessels in each vessel group. The Government will therefore regularly be assessing and deciding on the choice of structural instrument and which groups at any time are to be offered a given structural instrument. In addition, the Government will need to assess the restrictions to be built into the structural systems for the individual vessel groups in order to accommodate district-specific and other interests, and the degree of structuring that is desirable.

The structural systems function within the frameworks of an established allocation of the resources between different vessel groups and within individual vessel groups. This means that the structural systems do not affect the distribution key (pro rata allocation) among the groups and that the structural benefit is retained within each individual regulation group.

The Government maintains that continued stability concerning these distribution issues is of great significance for sustained growth in the fisheries sector. Redistribution amongst the groups would solely result in uncertainty concerning a future quota basis, and hence a lack of security for those investments that are needed for creating the fishing fleet of the future. This applies to all vessel groups, from small and medium-sized fishing boats, through large coastal vessels to the offshore fishing fleet.

A stable distribution between the vessel groups will thus also be a basic criterion for achieving the intended effect of the structural measures in the different groups. The structuring must be effected within predictable, long-term frameworks for quota distribution, and the structural benefit must accrue to the vessels in the group in question. Only then will each fisherman be properly able to consider the alternatives open to him.

The SQSs, for both the offshore fishing fleet and the coastal fishing fleet, contain limitations on how large a quota of individual species of fish may be allocated to any vessel under these systems. This is referred to as the quota ceiling.

This quota ceiling thereby limits quota concentration at vessel level. The quota ceiling in the SQS does not however restrict quota concentrations as effectively at owner level, since a single owner may be operating several vessels.

For the offshore fishing fleet, rules have been laid down concerning concentration of ownership in the regulations of 13 October 2006 no. 1157 concerning special permits to engage in individual forms of fishing and hunting (the licensing regulations). The details of this are discussed in more detail in Chapter

4.5.3. When it comes to the coastal fleet however, no rules have been laid down regarding restrictions on concentration of ownership.

The Government will be continuing to work on this issue. If a detailed assessment, among other things of the actual status of the ownership structure and the trends it exhibits as a result of application of the SQS, etc. indicates a need for rules regarding concentration of ownership in the coastal fleet, proposals to that effect will be submitted for consultation and ultimately laid down as regulations. In that connection, the need for rules to restrict the opportunity for the same owner to operate vessels in both the offshore fishing fleet and coastal fleet will also be examined.

As indicated in Chapter 1.1, some of the debate on structural systems has concerned right of use of the resources, and whether this has in effect been ”privatised”. In Norwegian Official Report 2005:10, the Marine Resources Legislative Committee proposes a separate legal act to the effect that wild marine resources in their wild state are the property of the State; see Sections 1-5 of the Committee’s draft act. The Government will be returning to this proposal in a bill for a new marine resources act to replace the current Act relating to sea-water fisheries, etc., following assessment of the consultation responses and the manner in which resource legislation in other countries has resolved this issue. A legal provision that marine resources belong to the people of Norway would, however, be a natural element of modern resources legislation.

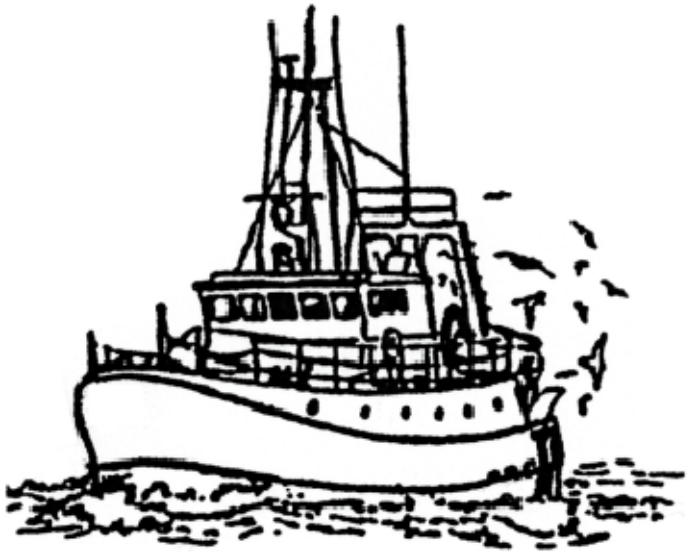

Figure 1.1 Illustration of a fishing vessel

2 Background – facts about the fisheries sector in Norway

In the post-war era, Norway has enjoyed substantial economic growth, and the increase in average income and welfare has affected many aspects of society, including where people choose to live and work. This has had consequences for the fishing industry, as it has for other industries, and developments in the fisheries should thus be understood in terms of the changes in the social structure and the substantial technological progress that have facilitated increased productivity. The fishing fleet is affected to a great extent by these technological and social trends, and over time has undergone comprehensive changes. This has occurred at both national and regional level.

This chapter presents trends in catch volume, catch value, numbers of vessels and numbers of fishermen, and the trend in the number of annual participant permits and licences at the national level. This chapter goes on to compare trends between Northern Norway and Southern Norway, and these are then broken down at county level to offer a more local impression of developments. The review indicates that, in spite of the fact that fishing is based on stocks which vary in size and prevalence, the long-term trend at the national level has nonetheless remained stable since early in the previous century up to the present day. The object of this review is to illustrate how the fishing industry has changed and to discuss what driving forces have prevailed at different times and in different locations.

2.1 National trends in the fishing industry

2.1.1 Catch value and catch volume

Since 1945, the yield from Norwegian fish stocks has been increasing in both volume and value. The 1980s were an exception, in that this decade saw a fall in yield. However, the post-war era has also seen great fluctuation. Figure 2.1 shows the annual catch volume and first-hand value for Norwegian fishing vessels in the period from 1945 to 2006. The value is measured in terms of the value of the Norwegian Kroner (NOK) in 2006.

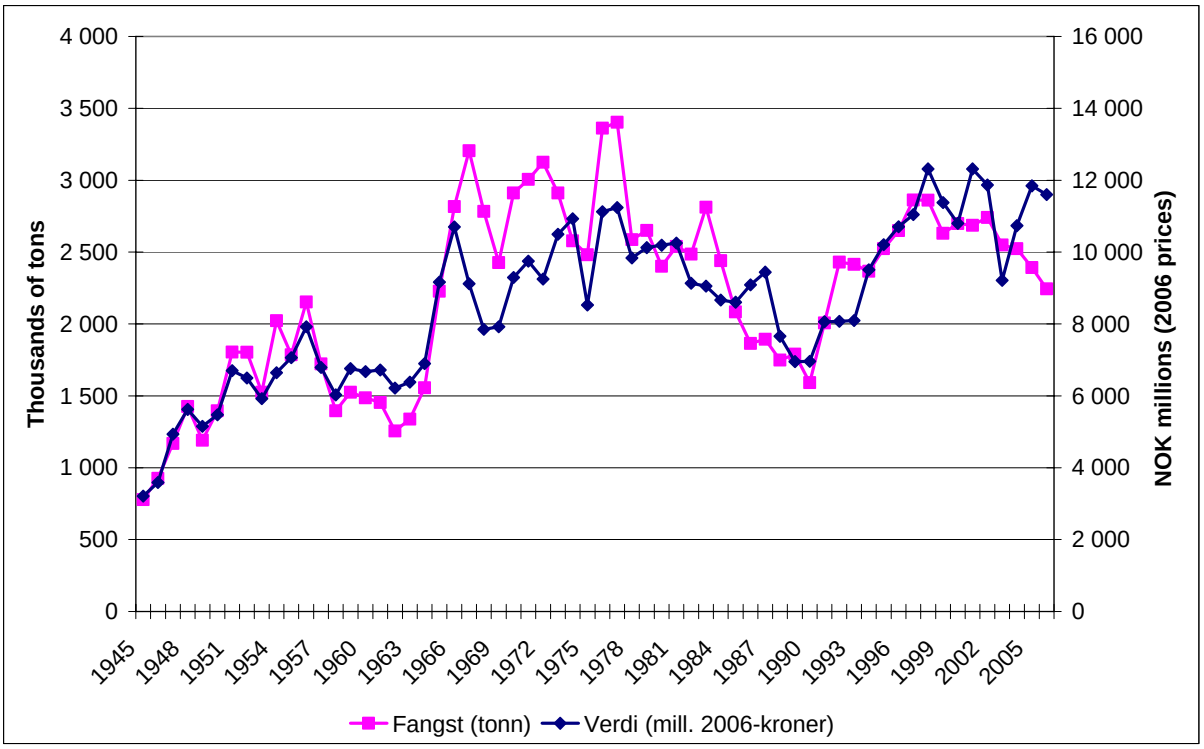

Figure 2.1 Catch from Norwegian fishing vessels 1945 – 2006. Volume in 1000s of tons, value in NOK millions (2006 prices)

Source: Directorate of Fisheries

Catch value increased from approx. NOK 3.2 billion in 1945 to NOK 11.6 billion in 2006. Over the same period, the volume landed increased from around 700,000 tons to almost 2.2 million tons. 2001 is the peak year to date in terms of value, since the catch value topped NOK 12.3 billion (2006 prices) for a catch volume of around 2.7 million tons. In earlier years, the catch volume was even higher, with 3.4 million tons landed in 1977 for example.

The great increase in catch volume in the 1960s is attributable primarily to the large pelagic fisheries, especially herring fisheries, as a result of the use of power blocks in purse-seining. Weak recruitment and intense fishing pressure resulted in a depletion of stocks of Norwegian spring-spawning herring in the late 1960s and the fishery was closed. However, increases in other fisheries meant that the reduction in the total catch volume was modest and the catch value increased in the second half of the 1970s. The 1980s and up until 1990 brought a decline in the Norwegian fishing industry with substantial declines in both volume and value. It was notably the cod fisheries that failed. This had particular impact on Northern Norway. Post-1990, the value of the fishery picked up again and, in spite of the fact that 2003 in isolation was a weak year, in terms of value Norwegian fisheries have achieved a record high.

In the main, for much of the era post-1945, the trends in value and volume had stayed in step. Up until the latter half of the 1960s, the correlation between the two was clearly in evidence. From the second half of the 1960s and up until 1970, catch volume increased without any significant change in total value. From 1980 and onwards, the correlation between catch volume and value appears to have been regained, but after year 2000, the value rises while the volume falls. The trends for the period 2000 to 2006 are illustrated in more detail in Figure 2.2.

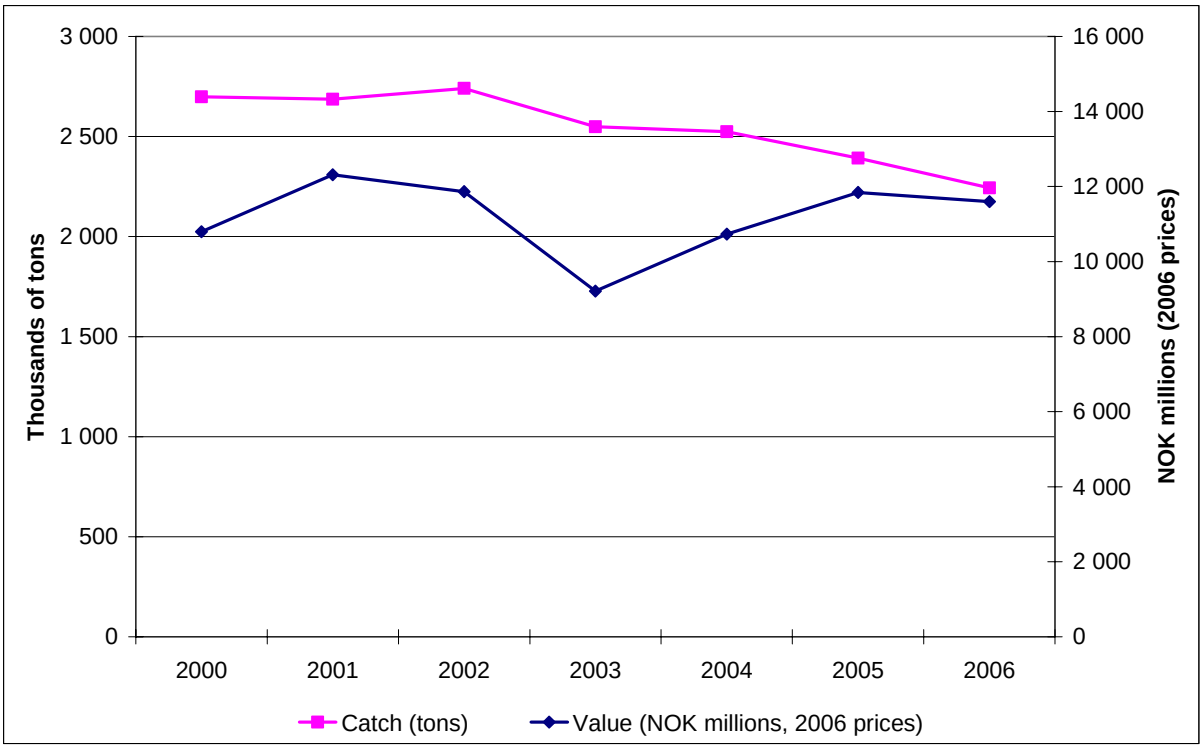

Figure 2.2 Catch from Norwegian fishing vessels 2000 – 2006. Volume in 1000s of tons, value in NOK millions (2006 prices)

Source: Directorate of Fisheries

The total catch volume went down in the period 2000 to 2006, but the reduction is not that dramatic. In terms of value, however, the same period saw great variation, which is attributable essentially to fluctuations in first-hand prices. The total value was at its highest in 2001, and was almost equally high in the following year. In 2003, the first-hand price for the majority of species fell, and the total catch value was reduced by more than 22 per cent over the previous year. Post-2003, in terms of value, the fisheries regained their 2001 level, which is attributable in the main to increased fish prices. This demonstrates clearly that the fishing industry is subject both to trends in fish stocks and to market fluctuations.

Overall, the review of catch volume and catch value from 1945 to the present day indicates that Norwegian total production has scarcely any impact on price formation. The catch value fluctuates in response to catch volume. This should be understood in the light of the fact that most of the fish is exported and that price trends increasingly have to be analysed in a global market context.

Norway can scarcely count on achieving substantially increased shares of the total quotas for the fish species sought after by Norwegian fishermen, and the maximum Norwegian harvest from the sea would appear to be in the order of 3 million tons. In terms of value, a number of factors are at work, and historically, the first-hand value of the yield from the sea is currently high. By developing long-term management models, we are thus seeking to reduce fluctuations in volume and to stabilise harvesting of fish stocks at as high a level as possible, within sustainable parameters.

The total volume of Norwegian catch consists of a number of different species of fish. However, a few species account for the greater proportion in terms of both volume and value. Figures 2.3, 2.4 and 2.5

show the trends in volume and value from 1977 to 2006 for three of the most important species of fish in the Norwegian fisheries: North-East Arctic cod, Norwegian spring-spawning herring and mackerel.

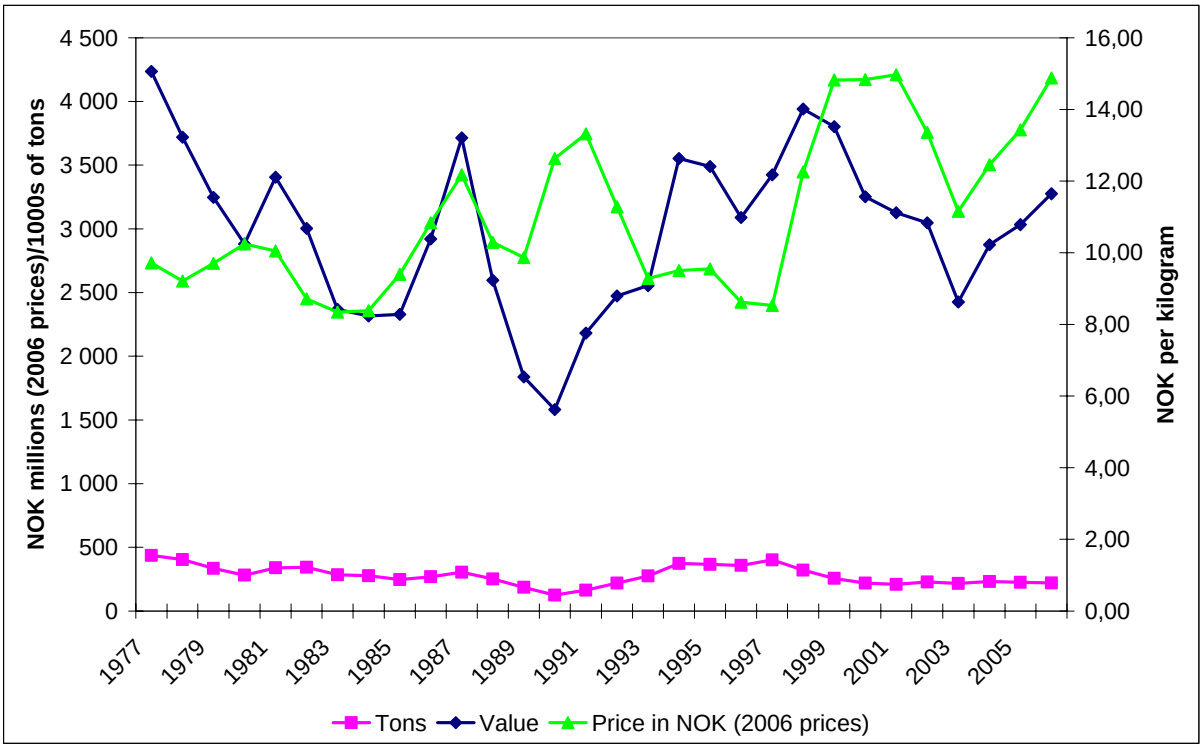

Figure 2.3 Catch of North-East Arctic cod from Norwegian fishing vessels 1977 – 2006. Volume in tons, value in NOK 1000s, kilo price in NOK (2006 prices)

Source: Directorate of Fisheries

Figure 2.3 shows the trend for North-East Arctic cod. The catch volume was fairly stable over the entire period, with the exception of the years surrounding 1990, when the quotas were low. In terms of value however, there were large fluctuations, which is attributable to price variation along with changes in volume. The average price of cod over the period varied between approx. NOK 8/kg and close to NOK 15/kg. The average price in 2006 was almost the same as in 2001, when it was at its highest. The average for the period 1977 to 2006 was NOK 11.06/kg, which means that the price each year from 1998 to the present has been above the average for the whole period.

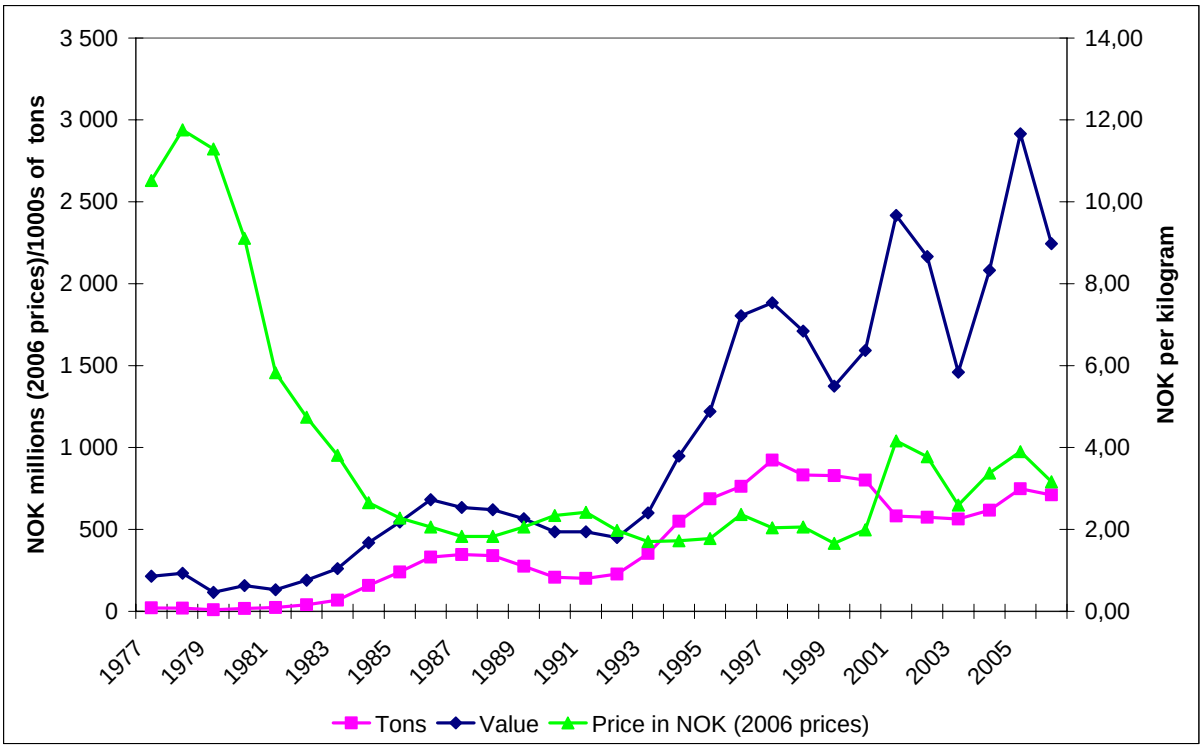

Figure 2.4 Catch of Norwegian spring-spawning herring from Norwegian fishing vessels 1977 – 2006. Volume in tons, value in NOK 1000s, kilo price in NOK (2006 prices)

Source: Directorate of Fisheries

Figure 2.4 shows the corresponding trend for Norwegian spring-spawning herring. For this species, the fluctuations were high in the period from 1977 to 2006. Compared with previous years, in the late 1970s the herring catch was negligible. The same period saw record-high prices with an average price in 1978 of NOK 11.57/kg, which was NOK 2.50 more per kilo than cod in the same year for example. The herring fishery increased gradually over the latter half of the 1980s, and, following a small decline around 1990, the fishery experienced a strong upturn, achieving its volume record to date in 1997, when 923,000 tons of herring were landed from Norwegian vessels. At that time, the average price was around NOK 2/kg. In 2003, both catch and first-hand price were low, which accounts for the low total value for the herring fishery in this year. In 2004 and 2005, the trend in both catch and prices was positive, and the average price in 2005 was NOK 3.83/kg. This is among the highest prices recorded for the period, and the highest since 2001. However, in 2006, the price fell back, averaging NOK 3.16/kg.

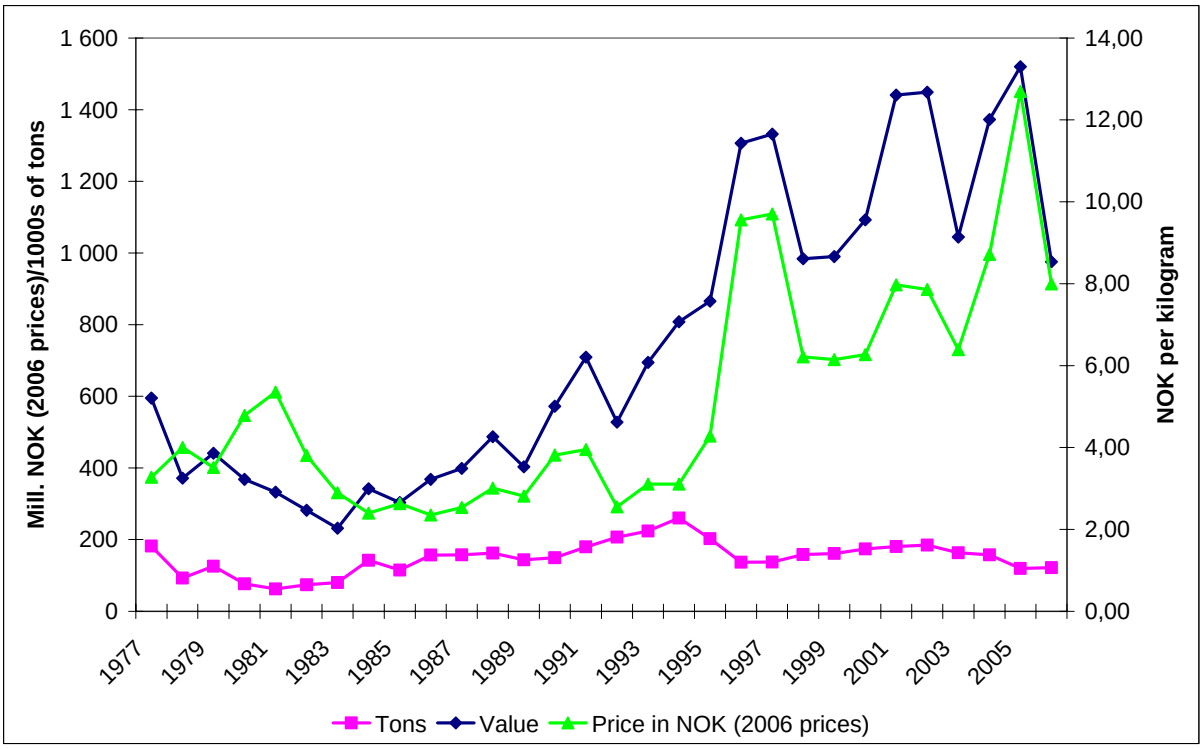

Figure 2.5 Catch of mackerel from Norwegian fishing vessels 1977 – 2006. Volume in tons, value in NOK 1000s, kilo price in NOK (2006 prices)

Source: Directorate of Fisheries

Mackerel catches also varied somewhat from 1977 to 2006; see Figure 2.5. The lowest volume was in 1981 with 62,000 tons landed, and the peak in 1994 of 260,000 tons. In 2005, the catch was approximately 120,000 tons. In the period with the largest volume in the early 1990s, the average prices were also at their lowest, with, for instance, just NOK 2.50/kg in 1992. The years after 1999 saw a strong price increase for mackerel. In 2005, the average kilo-price exceeded NOK 10 for the first time in the period, ending at NOK 12.50. This is three times higher than the average for the entire period, and almost NOK 4.00 higher than in 2004. In 2006, the price of mackerel went down, ending at an average NOK 8.00/kg.

Our review of the trends in these three fish species shows two things. Firstly, the price variation is large and the price trend appears to vary with catch volume, more so than for the total figures, so that low volume is counterbalanced by increased prices. However, this is not a consistent trend. Secondly, our review reveals that these three species of fish currently account for 60 per cent of the Norwegian total value. This means that, in spite of the fact that many different stocks are fished, only a few are of salient economic interest for Norway.

2.1.2 Vessels and fishermen

Over the last century, the Norwegian fishing industry has undergone fundamental changes linked with trends in the social structure, settlement and technology. In addition the resource base has varied.

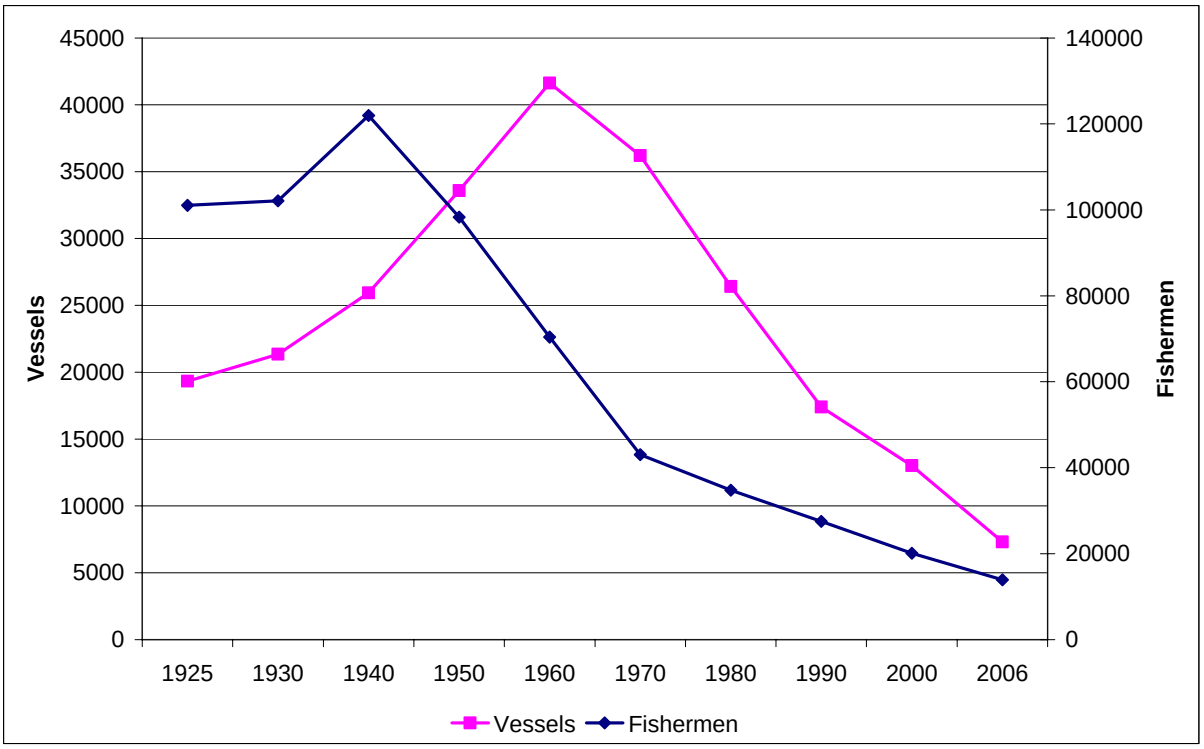

Figure 2.6 Number of vessels in the Directorate of Fisheries' Register of Norwegian Fishing Vessels and number of persons in the Register of Fishermen 1925 – 2006

Source: Directorate of Fisheries

The trend in the number of fishermen and vessels from 1925 to 2006 is characterised by growth early on in the period, followed by a reduction towards the present levels. This is illustrated in Figure 2.6. From 1924 to 1940 the number of fishermen increased from around 100,000 to more than 120,000. This increase is attributable to various factors, including high unemployment in the inter-war years, when people found work in the fisheries for want of alternatives. In the post-war years, the number of fishermen has declined steadily to a total of 13,932 registered full-time and part-time fishermen in 2006. At the same time, the proportion of registered fishermen engaged in fishing as a secondary occupation has gone down from approx. 36 per cent in 1924 to approx. 20 per cent in 2006. This then indicates that increasingly fewer people are working as fishermen in combination with other occupations.

In 1940, the number of vessels was around 26,000, which meant an average of 4.6 fishermen per registered vessel. 20 years later, in the early 1960s, the number of vessels increased to around 42,000, while the number of fishermen was down to almost half that in 1940. The average number of fishermen per vessel was by then less than 1.7. The reduction in the number of vessels started circa 1960 and by 1970 there were an average of 1.1 fishermen per vessel. By year-end 2006, there were 7,313 fishing vessels entered in the Register of Norwegian Fishing Vessels, and the number of fishermen per vessel had increased to around 2.

The main decrease was in the registered small, open vessels, from around 29,000 in 1960 to just under 9,000 in 1990 **1**. The number of large, decked vessels also decreased, from around 12,500 in 1960 to just under 8,500 in 1990. The decrease in the years 2000 to 2006 is due not only to the actual exit of active fishing vessels during this period, but is also a result of the fact that vessels without a registered catch have been deleted from the registers. Moreover, from 2004, an annual charge was introduced for

having a vessel listed in the Register of Norwegian Fishing Vessels. This also resulted in a purge, with inactive vessels being removed from the register. These circumstances account for some of the increase in the number of fishermen per vessel in the recent period.

The above-mentioned measures have meant that the Register is now more reflective of the active fishing fleet than in the past. In 2005, catches were registered for a total of 6,430 vessels out of the 7,729 vessels which were listed in the Register as at 31 December 2005. Of the 6,430 vessels reporting a catch, 1,342 had registered catch income of less than NOK 29,389 (which is half the base-rate amount that must be earned to qualify for sick pay and other benefits).

Our review indicates that the decline in the number of fishermen started earlier than the decline in the number of vessels. This may be attributed in part to the fact that many vessels were able to remain listed in the registers long after they had actually exited the fishery. However, the number of vessels increased steadily from 1925 up until 1960, and this may be due to the increasing numbers of fishermen wishing to operate their own vessel. The decline in the number of fishermen and vessels has levelled off over the last few decades, which may be an indication that the sector is more balanced in relation to the resources available.

2.1.3 Licences and participant permits

In the Norwegian sense, a 'licence' (*konsesjon*) is an individual permit to engage in an activity which is in principle prohibited. According to the ”Participant Act” – Act of 26 March 1999 no. 15, relating to the right to participate in fishing and hunting – a vessel may not be used for commercial fishing unless a commercial licence to do so has been granted by the fisheries authorities. By law, a special permit – a licence – is also required in order to engage in a number of types of fishing. The licensing schemes currently apply mainly to vessels exceeding 28 metres in length – or what is commonly referred to as the offshore fishing fleet.

The licensing schemes work in principle as a form of ’entry limitation’ in the various fisheries, and have been in use for a long time in regulating the Norwegian fisheries. Trawling has been subject to limited entry since 1939. This was the first real restriction on the number of fishing vessels in the Norwegian fishing fleet. The purse-seining group was made subject to limited entry in 1970 by way of a registration ban for new vessels, which was replaced by an ordinary licensing scheme for purse-seiners exceeding 90 feet in length in 1973. An increasing number of vessels have been controlled by licensing since then, and changes have been made along the way to the conditions for granting licences. At the same time, there have been schemes that have permitted the consolidation and sharing of licences, and this has impacted on the number of licences and the number of vessels with a licence.

Trends in the number of licences should also be understood in the light of the different structural instruments to which the offshore fishing fleet has had access during the same period. These include various decommissioning systems, unit quota systems and the structural quota system. Over the years, a number of amendments have been made to the definition of different licence categories. This makes it difficult and to some extent meaningless to present statistics for the trend in the total number of licences over time. However, in Table 2.1 we present an overview of the main licences – purse-seine, cod trawl, shrimp trawl and industrial/North Sea trawl from 1980 to 2006. It must be emphasised that the

methodology applied to count up the number of licences affects the figures obtained. Table 2.1 is a count of the number of licences with the status of ”active” in the Register as at 31 December in the year in question. This means that the licence is for a specific vessel. However, this does not show the actual body of licences, and elsewhere in this report, in the interests of providing as precise a picture as possible, we have used counts that also include passive licences, that is, licences which at the time of the count are not specific to a vessel.

Table 2.1 Selected licence types in Norwegian fisheries. Number of active licences as at 31 December, selected years 1980 - 2006

	1980	1985	1990	1995	2000	2006
Purse-seine	215	143	103	103	97	84
Cod trawl	64	107	122	116	102	51
Shrimp trawl	157	166	147	119	108	75
Industrial/North Sea trawls	72	235	193	175(40)[1]	142(41)[1]	147(90)[1]
Total	508	651	565	513(40)[1]	449(41)[1]	357(90)[1]

[1] Of which delimited North Sea trawling

Source: Directorate of Fisheries

Participation in fisheries is also regulated through annual participant permits laid down pursuant to the Participant Act. Regulations concerning limited entry are laid down for one year at a time. Assessment of whether participation in a fishery is to be limited must be performed at the start of each new regulatory year, based on the fish-stock situation in the fishery in question.

Through these forms of limited-entry measures, it is possible to define which vessels are to be granted entry to a specific fishery (obtain a participant permit) in order thereby to exclude other vessels from that fishery. Limited entry also allows permit-holders to be divided into groups. It is also possible, within a single fishery, to have a limited entry group where participation is subject to stringent conditions, while a different group is left open to anyone listed in the Register of Fishermen and who owns a vessel listed in the Register of Norwegian Fishing Vessels. The fact that a fishery is subject to limited entry does not necessarily imply that the fishery is completely 'out of bounds', but there tend to be considerable differences in the allocated quotas between the open and closed groups.

Annual participant permits were initially used as a regulatory instrument for purse-seiners without a licence in the mackerel fishery in 1983. The vessels in question were purse-seiners with a length of 70 to 90 feet, that is, under the limit for awarding a purse-seining licence. This has since been extended to more fisheries in the coastal fishing fleet, and the cod fishery north of 62 degrees north was made subject to limited entry in 1990. With the exception of vessels over 28 metres that fish with conventional gear (such as net and line) and the shrimp trawl fishery south of 62 degrees north, limitations on annual participant permits are applied exclusively in the coastal fishing fleet, that is vessels under 28 metres.

In 2006, there were around 4,300 participant permits in total. Due to the new entry regulations, changes in the conditions for granting of participant permits, etc., it is difficult to present the trends from when the first annual participant permits were introduced to the present day. However, Table 2.2 shows the trends from 2004 to 2006.

Table 2.2 Participant permits in Norwegian fisheries, 2004-2006

Type of participant permit	No. of participant permits

	2004	2005	2006
Cod, haddock and saithe north < 28 m	2,685	2,572	2,406
NSS coastal vessel group	661	522	475
Saithe north – seining vessels 13-27.5m.	226	218	181
Coastal mackerel – seining 13-21.35 m	103	94	77
Coastal mackerel – net/line 13-21.35 m	83	82	77
Coastal mackerel – seining < 13 m	204	183	175
Coastal mackerel – net/line < 13 m	206	208	193
Coastal shrimp trawl south 11 m and above	197	182	164
North Sea herring– seining vessels < 21.35 m	121	117	109
Saithe south – seining vessels 13-27.5m.	67	68	64
Conv. vessels < 28m cod south of 62ºN	48	60	59
Purse-seining 70-90 foot (no licence) North Sea herring	20	20	19
Purse-seining 70-90 foot (no licence) mackerel	20	20	19
Conv. vessels > 28m.	53	53	48
Red king crab	255	267	264
Total	4,949	4,666	4,330

Source: Directorate of Fisheries

More than half of the total number of participant permits are for the cod, haddock and saithe fisheries north of 62 degrees north, and this underlines the significance of these fisheries for the coastal fishing fleet. In this context it is also important to emphasise that a vessel may well have several different participant permits, and that, in the coastal fishing fleet, the tendency is for the number of participant permits assigned to the individual vessel to increase in proportion to vessel size.

2.1.4 Developments in core technical dimensions in the fishing fleet

At the start of 2007, the registered Norwegian fishing fleet consisted of around 7,000 coastal vessels of under 28 metres and around 250 offshore vessels of over 28 metres. Present-day fishermen make considerably greater demands regarding comfort and safety on board the vessels than in the past, and this influences vessel design in the direction of larger, more comfortable and safer vessels.

This tendency may be illustrated by looking at trends in average length and average horsepower in the fishing fleet over the last few decades. This is illustrated in Figure 2.7. From 1970 to the present day, average length in the fishing fleet has increased somewhat, but the vessels have acquired considerably more powerful engines.

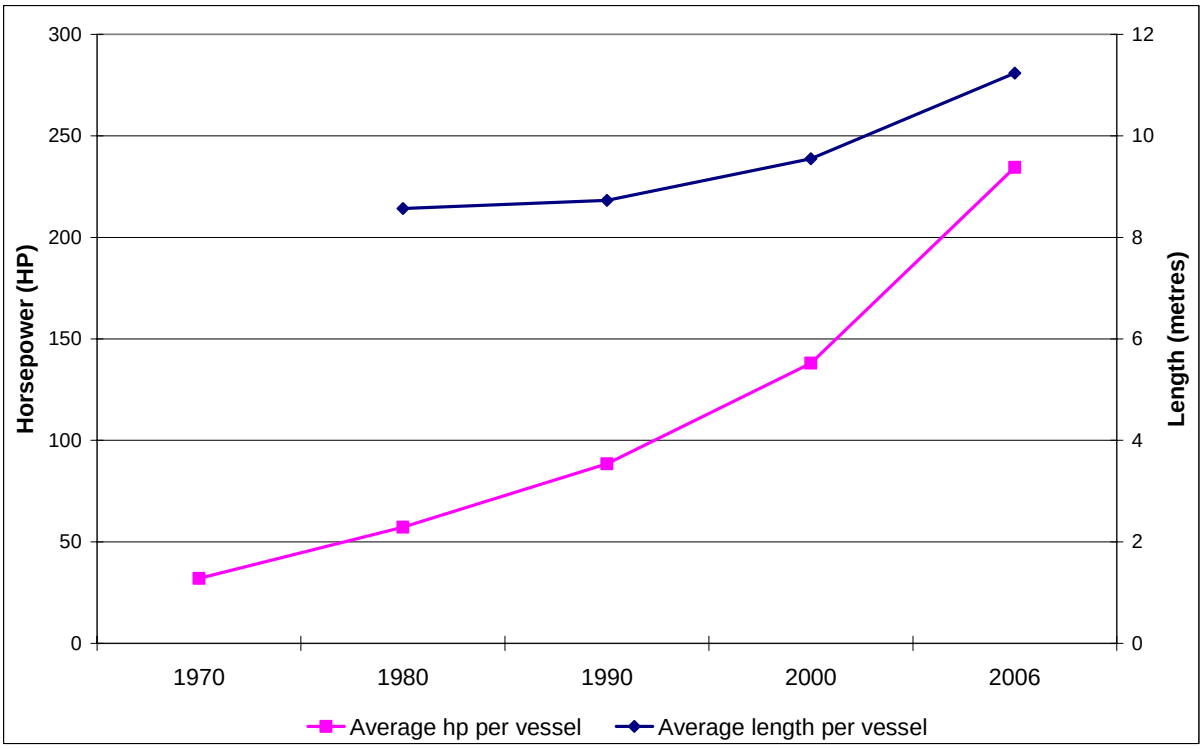

Figure 2.7 Average horsepower (HP) and average length (metres) per vessel, 1970 – 2006

Around 1970, the average vessel had 32 horsepower, but by 2006, this was up to 235. The trend is for heavier increases, which is due to the fact that the majority of vessels exiting the fisheries have less horsepower than the average of vessels still in service.

However, in the same period, the average vessel has increased in length from around 8.5 metres to 11.1 metres, which is primarily due to the fact that vessels withdrawn from the Register of Norwegian Fishing Vessels are less than the average of the registered vessels still in service. At the same time, we have seen that it is the least active vessels that disappear from the Register, and this is indicative that the average length in the active fishing fleet has not increased materially since 1980.

The average of Norwegian fishing vessels is also indicative of the fleet's capacity for renewal. Figure 2.8 provides an overview of the trend in average age for four groups of vessel: vessels under 28 metres, vessels with a purse-seining licence, vessels with a cod-trawl licence and other vessels of 28 metres or longer.

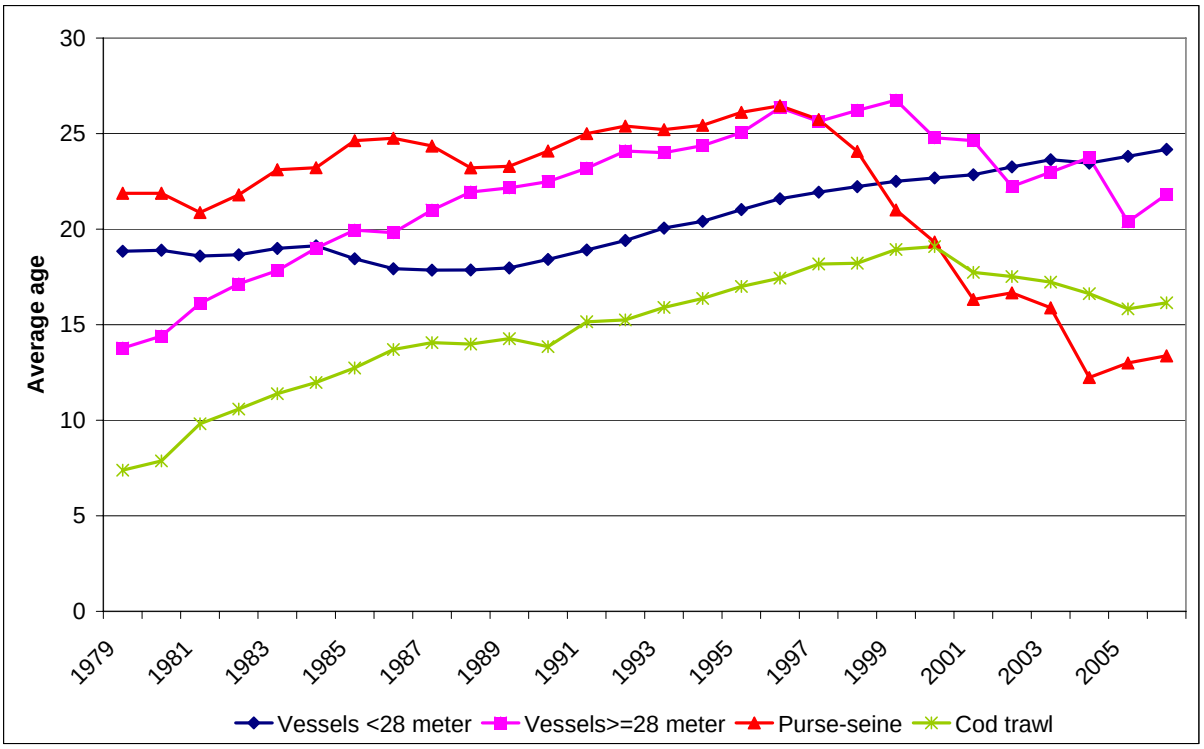

Figure 2.8 Average age of selected groups of vessel 1979 – 2006

For the coastal fishing fleet, the average age has been increasing over the entire period, except for the years 1985, 1986 and 2004. This indicates a low-level of investment in new vessels. At the same time, this is decidedly the largest group, which means that a few new vessels will have less effect on the total average age of the group.

In the offshore fishing fleet, the average age was on the rise up until the late 1990s, but has since then gone down. Vessels with a purse-seining licence are distinct from the other groups in the period since 1997 in that, for these, the average age has gone down heavily from 26.5 years to 13.4 years. This is assumed to have a clear correlation with structural adaptation in the fleet and the very positive increase in profitability for this group over the period, which has allowed for investment and renewal of vessels. From 2005 to 2006, the average age for all the groups increases somewhat.

It should be emphasised that the average age refers to the hull of vessels in the fishing fleet and that any conversions and other upgrades of existing vessels are not reflected in these figures.

This review indicates that the average increase in horsepower has been a far stronger trend than average length. This may partly be due to the regulatory system, which is geared to vessel length. The average in the fishing fleet turns out to be on the increase; with the exception of purse-seiners, the average age for all the groups shown is higher today than it was in 1979 - a trend that cannot be sustained in the long term.

2.2 Trends in Northern Norway compared with Southern Norway 2

2.2.1 Catch volume and catch value

The regional and local trends in the fisheries may differ periodically from the national trends. There is great variation between the regions in terms of which fisheries have traditionally been operated, and, as in other sectors, the individual regions have developed particular pre-eminence within different fisheries.

Vessels based in Northern Norway have mainly engaged in fishing for ground fish. These fisheries are also referred to as the cod fisheries and are based on fish species which in the Norwegian context have a relatively high kilo-value. Vessels from Southern Norway have specialised more extensively in fishing for pelagic stocks, which yield greater volumes, but on the whole a lower kilo-value. These fisheries are usually referred to as the herring fisheries.

These adaptations date back far in time, and are primarily a result of geographical and biological factors in the distribution range and migration patterns of these stocks. One example would be the cod fishery in Lofoten and on the Finnmark coast and the herring and mackerel fishery off Western Norway. Equally however, this divide is certainly far less in evidence now than it was in the past.

Figures 2.9 and 2.10 show the relative distribution of volume and value between Northern and Southern Norway from 1977 to 2006.

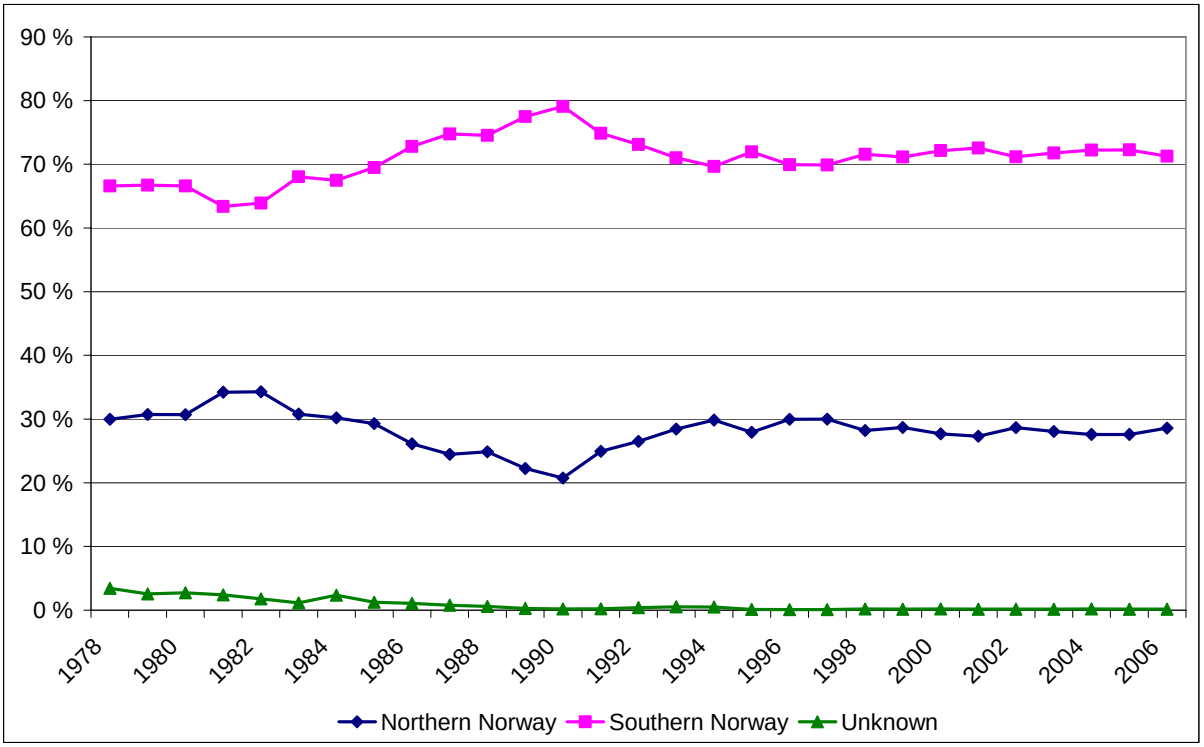

Figure 2.9 Share of catch volume by vessels based in Northern and Southern Norway 1977 – 2006

Source: Directorate of Fisheries

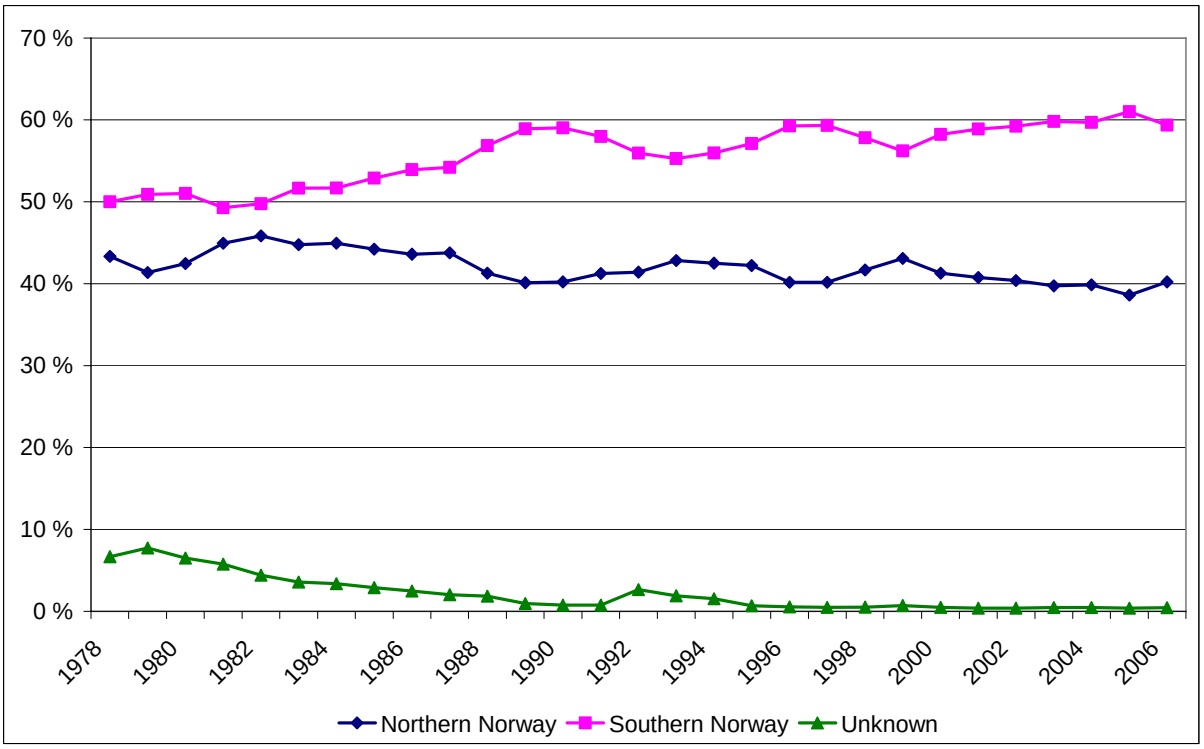

Figure 2.10 Share of catch value by vessels based in Northern and Southern Norway 1977 – 2006

Source: Directorate of Fisheries

In the period from 1977 to 2006, vessels from Northern Norway fished around one-third of the Norwegian total volume, while vessels from Southern Norway fished two-thirds. In terms of value, the distribution has been 40/60 in favour of vessels from Southern Norway. The figures show that the relative value and volume landed by vessels from Southern Norway increased during the 1980s up until 1990. This is attributable to, among other things, the negative trend in the North-East Arctic cod fishery in the same period.

Since 1990 the trend in both volume and value has been relatively stable. The distribution of landed volume by vessels based in Northern and Southern Norway respectively was stable from 1993 to 2006. For the value of the catch, there is a weak tendency towards an increase favouring vessels based in Southern Norway. However, this was reversed in 2006, as a result of the reduction in catch value from the pelagic fisheries.

The stock situation, and hence the quota basis in different fisheries, accounts for much of this trend. In the period after 1990, blue whiting emerged as one of the most important pelagic stocks, as this fishery is operated mainly by purse-seiners based in Southern Norway. In addition, Norwegian spring-spawning herring and mackerel have seen a positive price and volume trend, in recent years especially. Within these fisheries, vessels from Southern Norway are dominant.

For cod and shrimp, and to some extent saithe and haddock, which are important fish species for vessels from Northern Norway, both the price and volume trends have been more variable over the period. This has contributed to the more favourable trend for vessels based in Southern Norway than for vessels in Northern Norway.

2.2.2 Fishermen and fishing vessels

The practices of the different fisheries go some way in accounting for differing trends in the number of fishermen in different parts of the country. The cod fisheries are characterised by many and relatively small vessels. In the herring fisheries, the vessels tend to be fewer but larger and carrying more fishermen. However, the distribution of numbers of fishermen between Northern and Southern Norway has remained stable for the entire period from 1924 to 2006; see Figure 2.11. In other words, it is difficult to claim that average vessel size has in any way influenced the trend in the number of fishermen.

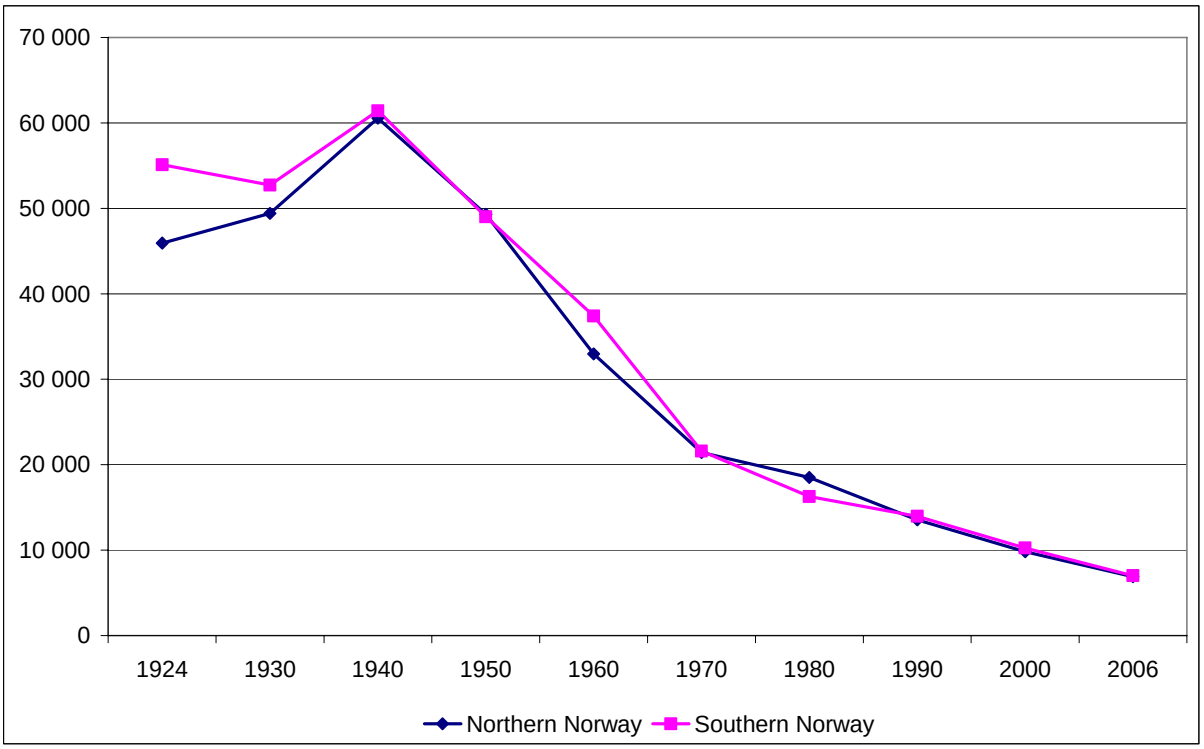

Figure 2.11 The number of registered fishermen in Northern Norway and Southern Norway, 1924 – 2006

Source: Directorate of Fisheries

In the 1950s, the decline in the number of fishermen in Northern Norway was greater than in Southern Norway. This is presumably connected with the large herring fisheries that were a high source of employment for fishermen in Southern Norway. In the 1960s and 1970s, the herring fisheries in Southern Norway were substantially reduced, and the fall in the number of fishermen in this period was greater in Southern Norway than in Northern Norway. The problems in the cod fisheries throughout the 1980s meant that the fall in the number of fishermen was greatest in Northern Norway. After 1990, the trend was effectively identical for the two regions.

In the period from 1925 to around 1960, there were some 10,000 more fishing vessels in Southern Norway than in Northern Norway; see Figure 2.12. After 1970, the number of vessels was conversely greater in Northern Norway. In 1950, there were 12,752 vessels in Northern Norway, against 20,827 in Southern Norway. In 2006, the distribution was 4,174 in the north and 3,139 in the south.

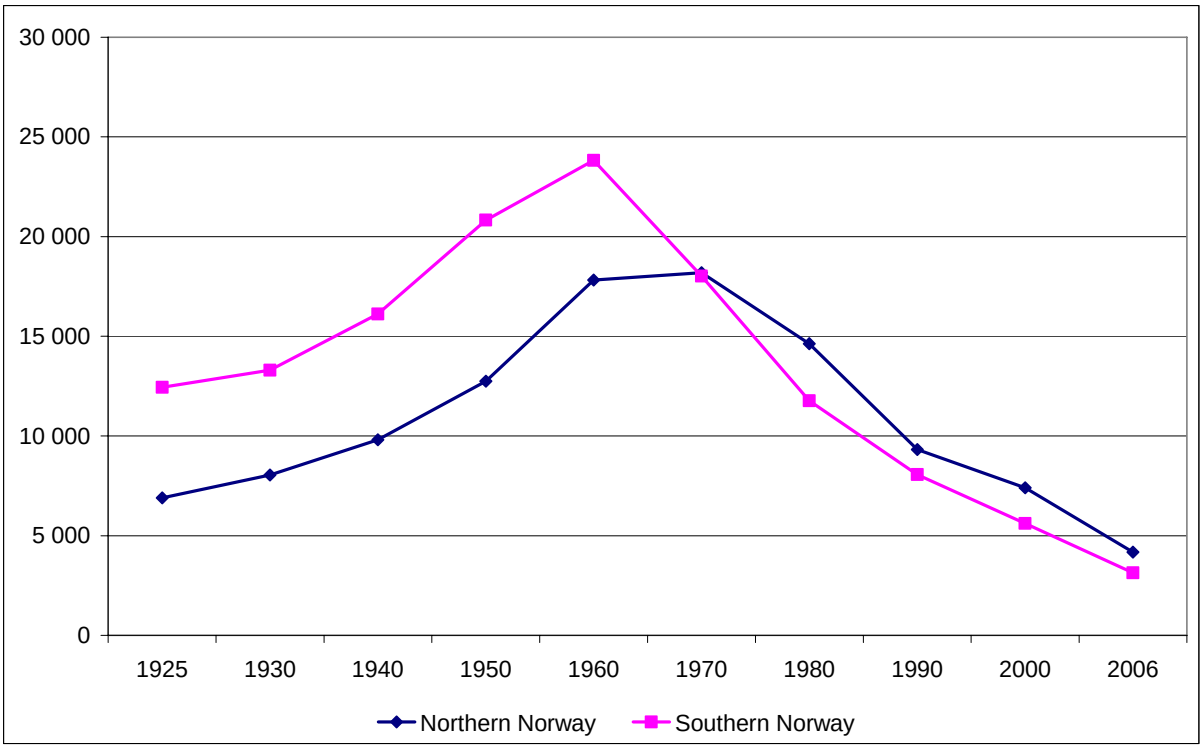

Figure 2.12 Number of registered fishing vessels in Northern Norway and in Southern Norway 1925 – 2006

Source: Directorate of Fisheries

This review indicates that the main traits are relatively similar in both regions. There was a substantial fall in the number of fishermen and vessels in both the north and the south throughout the period. The distribution of catch volume and catch value between the regions was stable from 1977 to 2006. At a general level, there were no major displacements between the regions.

2.2.3 Licences and participant permits

As mentioned in Chapter 2.1.3, an increasing number of fisheries are now licence-based. At the same time, changes have been made to the conditions for awarding licences, and systems have been operations that permit the consolidation and sharing of licences. All told, these factors have affected the number of licences and the number of vessels with a licence. The cod and shrimp trawlers dominate in Northern Norway, while purse-seiners and industrial/North Sea trawlers are based mainly in Southern Norway. The trends within these vessel groups have varied a good deal in the period since 1980, and are illustrated in Figure 2.13, which shows the main licences for purse-seines, cod trawls, shrimp trawls and industrial/North Sea trawls by the region in which the vessels which are based, for the years 1980 to 2006.

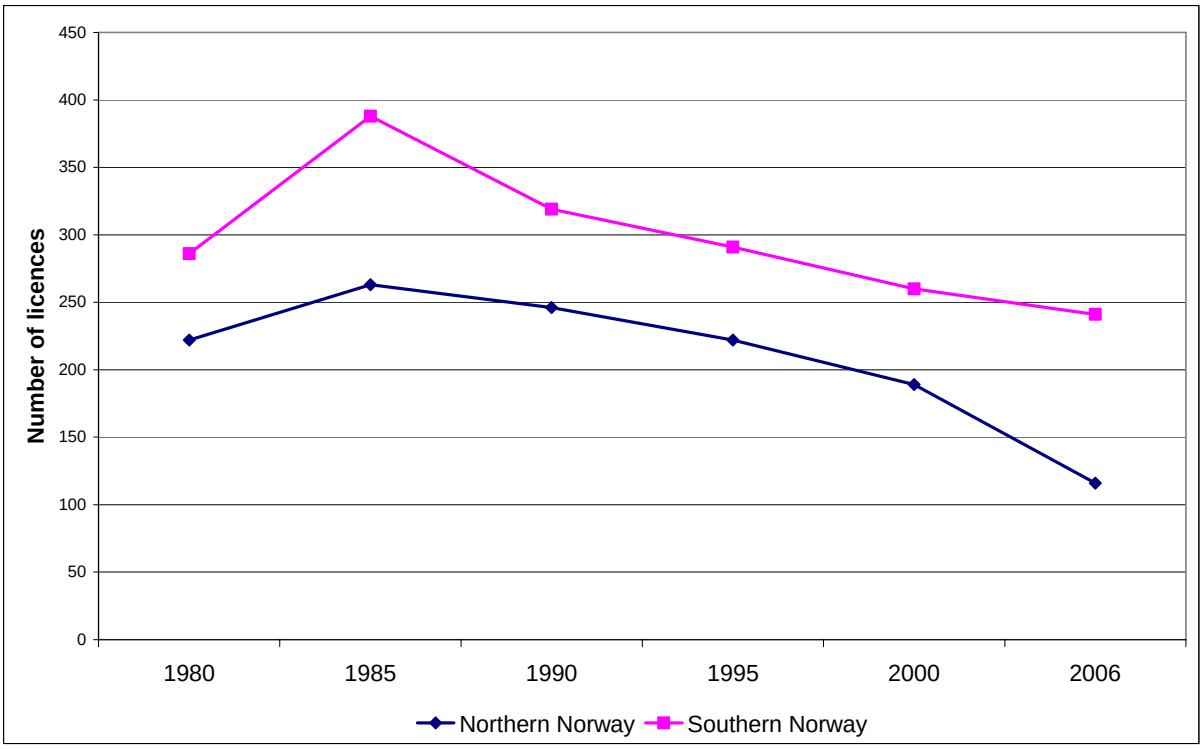

Figure 2.13 Number of purse-seine, cod trawl, shrimp trawl and industrial/North Sea trawl licences in Northern Norway and in Southern Norway 1980 – 2006

Source: Directorate of Fisheries

The number of licences in Northern Norway was reduced heavily in the period after year 2000. More than anything, this was due to the high excess capacity in the cod trawl and shrimp trawl groups, and, through the structural systems, the number of licences has been reduced substantially; see Table 2.1.

When it comes to the number of participant permits, unlike for the number of licences, no consecutive time series is available.

The distribution in 2006 is shown in Figure 2.14. **3**

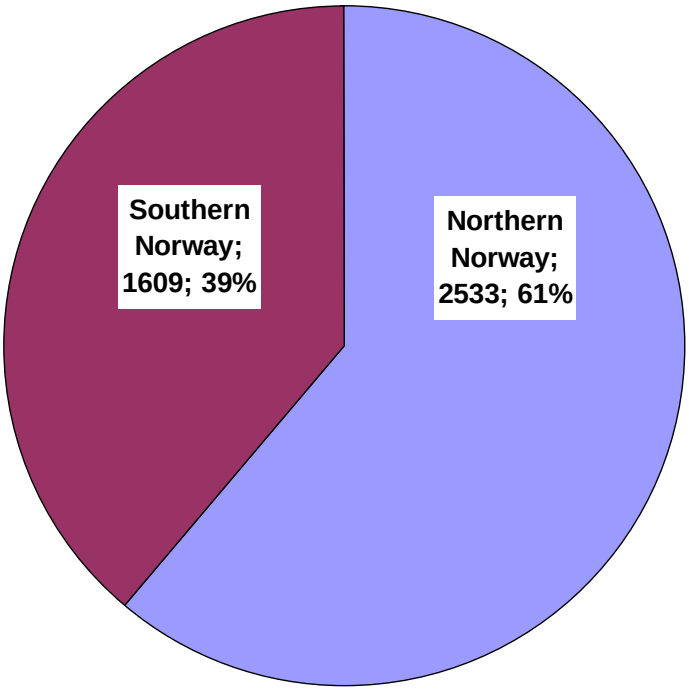

Figure 2.14 Number of participant permits in 2006, in Northern Norway and in Southern Norway, 1925 – 2006

In 2006, just over 60 per cent of the total number of participant permits were associated with Northern Norwegian vessels, while the corresponding figure for Southern Norway was just under 40 per cent.

2.3 Trends at county level

2.3.1 Catch volume and catch value

The regions of Northern and Southern Norway tend to show great differences and it is therefore useful to break down the trends in catch volume, catch value and numbers by the individual counties. Figures 2.15 and 2.16 show catch volume in thousands of tons from 1978 to 2006 by the vessels' home county and catch value in NOK millions, adjusted to 2006 prices, for the same period.

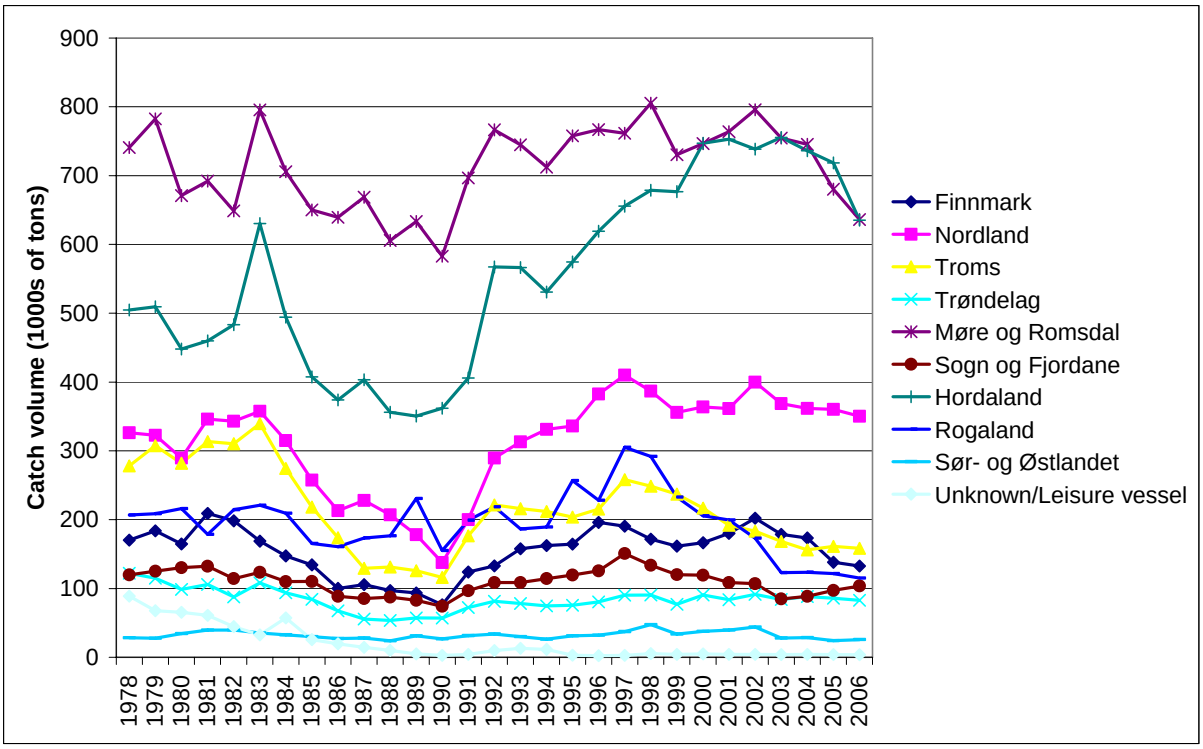

Figure 2.15 Catch volume in thousands of tons by the vessels' home county, 1978 – 2006

Source: Directorate of Fisheries

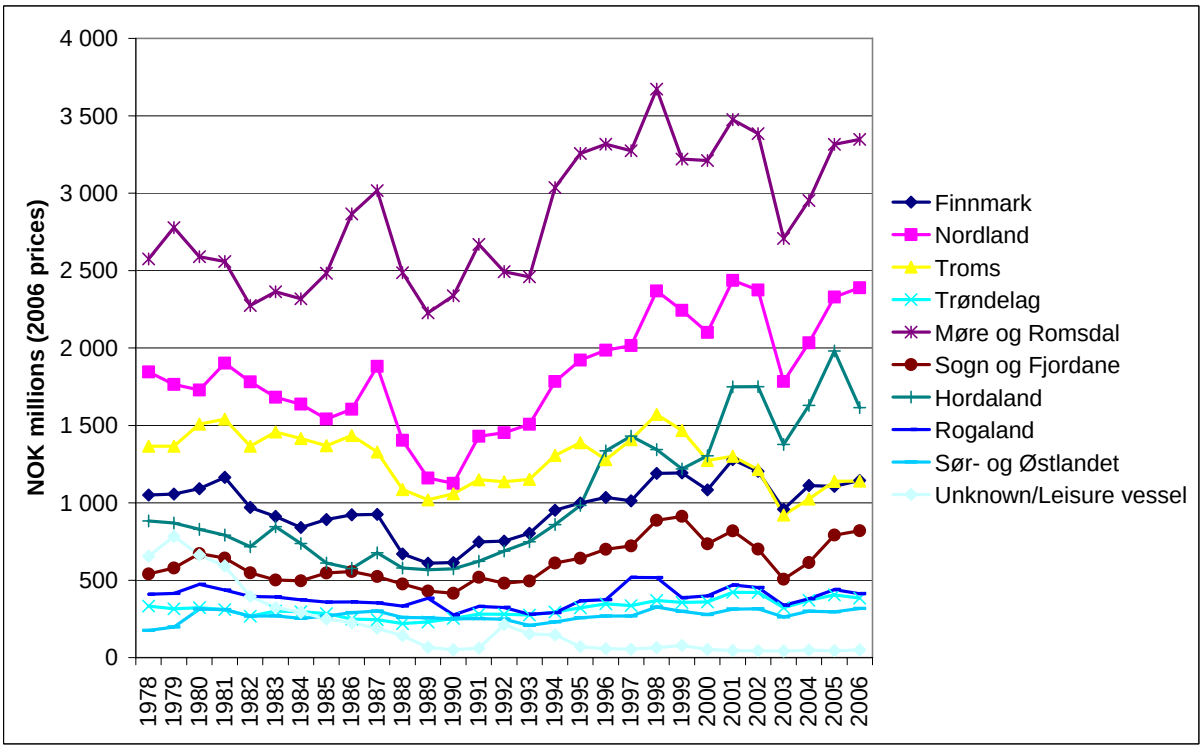

Figure 2.16 Catch value in NOK millions (2006 prices) by the vessels' home county, 1978 – 2006

Source: Directorate of Fisheries

Breaking the figures down at county level reveals more clearly the great fluctuations that characterise the fishing industry. This applies both within the individual counties and between counties. The figures

representing all the counties together show that catch volume and catch value in individual counties varies from one year to the next, but also that the trends can be correlated. This is clearly connected with the fact that the stocks and pricing are independent of the vessels' home county, and that quota and price changes consequently affect all vessels participating in a fishery. However, the outcomes are subject to variation, as will be more apparent if we look at a few selected counties in more detail.

We can, for instance, compare the figures for Finnmark and Møre og Romsdal, two key fishing counties. Figure 2.17 shows the change in catch value for vessels based in the two counties in the period 1988 to 2005.

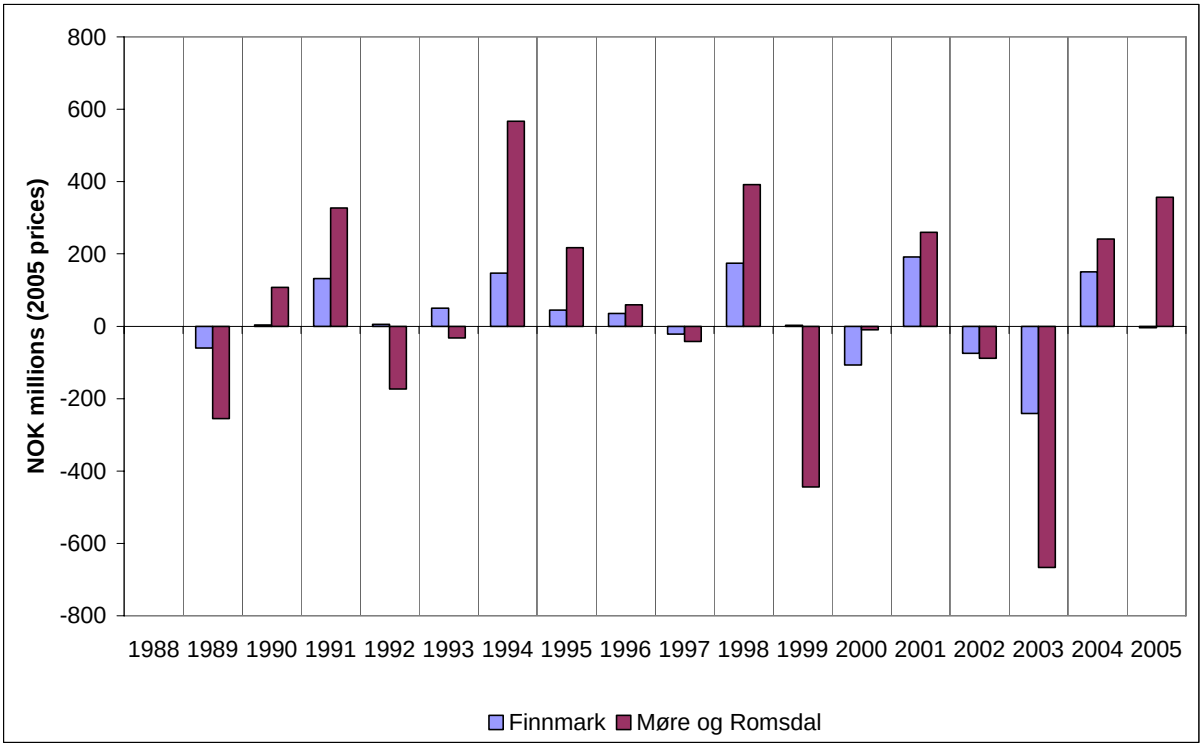

Figure 2.17 Change in catch value from one year to the next for vessels from Finnmark and Møre og Romsdal, 1988 – 2005. NOK millions (2005 prices)

Source: Directorate of Fisheries

The total catch revenue for vessels based in these two counties shows substantial fluctuation over the period, and the effect for vessels from Møre og Romsdal is far greater than for vessels from Finnmark. This should be considered in the light of the fact that the total catch value for vessels from Møre og Romsdal is far greater than for vessels from Finnmark, which means that the effects are thus also greater overall.

However, in order to determine how changes affect the individual county, it is not sufficient to look exclusively at catch achieved by vessels based in the counties. Many vessels land their catch in counties other than their own, and in order to make any assessment of the situation for the fishing industry and employment on shore in the counties that results from fishing operations, the value of the total catches landed in the county concerned is a better parameter. Figure 2.18 shows the value of landed catch in Finnmark and Møre og Romsdal in the period from 1988 to 2005.

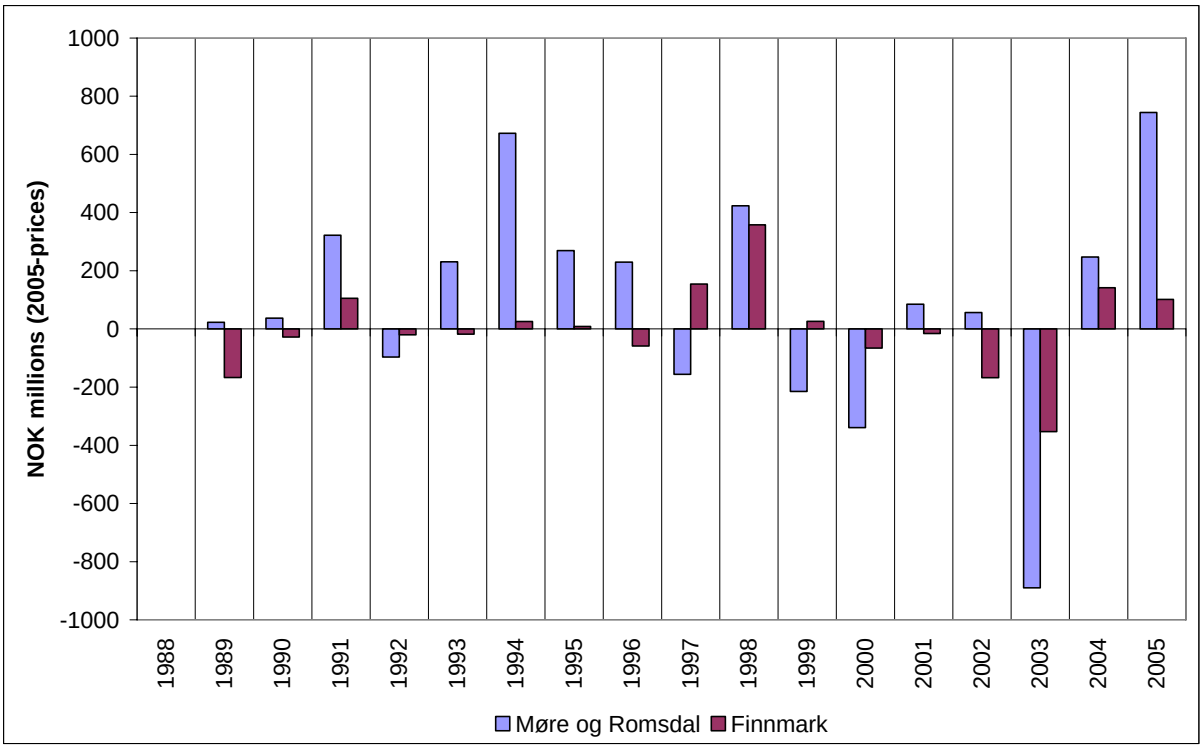

Figure 2.18 Change in catch value from one year to the next for landings in Finnmark and Møre og Romsdal, 1988 – 2005. NOK millions (2005 prices)

Source: Directorate of Fisheries

For both counties, the change in value of landed catch is greater than the changes for vessels based in the two counties. This tells us that, in both Finnmark and Møre og Romsdal, a great deal of raw material is landed by vessels from other counties.

How much of the catch the vessels land in their own home county tells us something about the mobility of the fishing fleet in the different counties. In counties with a large coastal fishing fleet, the share landed in the vessels' home county will normally be larger than in counties dominated by offshore fishing vessels. Table 2.3 shows the trends for 1980 to 2005, and by and large confirms this conclusion. For Finnmark, however, the catch landed by vessels in their own county is falling. In 1980, almost 90 per cent of the vessels' catch value was landed in Finnmark, but by 2005, this share was down to around 50%. This may be connected with both changes in where the fishing takes place, the industrial structure on shore and greater mobility in the fleet. By comparison, the situation in Nordland remained almost unchanged from 1980 to 2005.

Table 2.3 Catch by vessels based in selected counties. Catch value landed in own or other counties. Percentage of the vessels' total catch value, 1980 - 2005

Vessel county	Finnmark		Troms		Nordland		Møre og Romsdal		Hordaland	
Landed	Finnmark	Other	Troms	Other	Nordland	Other	Møre og Romsdal	Other	Hordaland	Other
1980	89%	11%	67%	33%	68%	32%	57%	43%	27%	73%
1985	82%	18%	66%	34%	62%	38%	67%	33%	24%	76%
1990	63%	37%	73%	27%	73%	27%	61%	39%	22%	78%
1995	56%	44%	68%	32%	72%	28%	71%	29%	25%	75%
2000	61%	39%	68%	32%	66%	34%	65%	35%	20%	80%
2001	54%	46%	65%	35%	63%	37%	60%	40%	22%	78%
2002	52%	48%	65%	35%	65%	35%	60%	40%	14%	86%

Vessel county	Finnmark		Troms		Nordland		Møre og Romsdal		Hordaland	
Landed	Finnmark	Other	Troms	Other	Nordland	Other	Møre og Romsdal	Other	Hordaland	Other
2003	51%	49%	66%	34%	66%	34%	60%	40%	12%	88%
2004	51%	49%	64%	36%	68%	32%	57%	43%	14%	86%
2005	52%	48%	61%	39%	67%	33%	62%	38%	17%	83%

Source: Directorate of Fisheries

County dependency on raw material from its own fishing fleet may be illustrated by a look at how large a percentage of the total landed catch value these vessels account for in each individual county. Table 2.4 provides the figures for selected counties. As we can see from the table, Finnmark and Troms are the two counties with the largest percentage of landed catch value from vessels based in the same county. For both of these, the catch value from the county's "own" vessels amounts to almost 60 per cent of the total landed catch value in the county. In 2005, Hordaland was the county with the lowest percentage of landed catch from vessels based in the same county, with just over 20 per cent. This means that around 80 per cent of the catch value landed in Hordaland in that year came from vessels from other counties.

Table 2.4 Value of catch landed in selected counties, by vessel home county. Percentage of the total landed total catch value in selected years, 1980 - 2005

Landed	Finnmark		Troms		Nordland		Møre og Romsdal		Hordaland	
Vessel county	Finnmark	Other	Troms	Other	Nordland	Other	Møre og Romsdal	Other	Hordaland	Other
1980	46%	54%	28%	72%	32%	68%	22%	78%	37%	63%
1985	41%	59%	28%	72%	26%	74%	18%	82%	44%	56%
1990	50%	50%	25%	75%	22%	78%	22%	78%	29%	71%
1995	63%	37%	33%	67%	25%	75%	28%	72%	29%	71%
2000	51%	49%	45%	55%	21%	79%	35%	65%	24%	76%
2001	54%	46%	50%	50%	27%	73%	37%	63%	23%	77%
2002	56%	44%	49%	51%	28%	72%	39%	61%	28%	72%
2003	65%	35%	52%	48%	29%	71%	33%	67%	27%	73%
2004	63%	37%	55%	45%	31%	69%	38%	62%	24%	76%
2005	57%	43%	58%	42%	34%	66%	40%	60%	22%	78%

Source: Directorate of Fisheries

The trend in catch volume and catch value will also have differed between municipalities within the individual county. To illustrate this, Appendix 1 presents figures for the municipalities in the counties of Finnmark, Troms, Nordland, Hordaland and Møre og Romsdal.

2.3.2 The active fishing fleet

As discussed earlier, the level of activity among registered vessels is variable. As indicated, out a total of 7,729 registered vessels in 2005, only 6,430 of them recorded a catch.

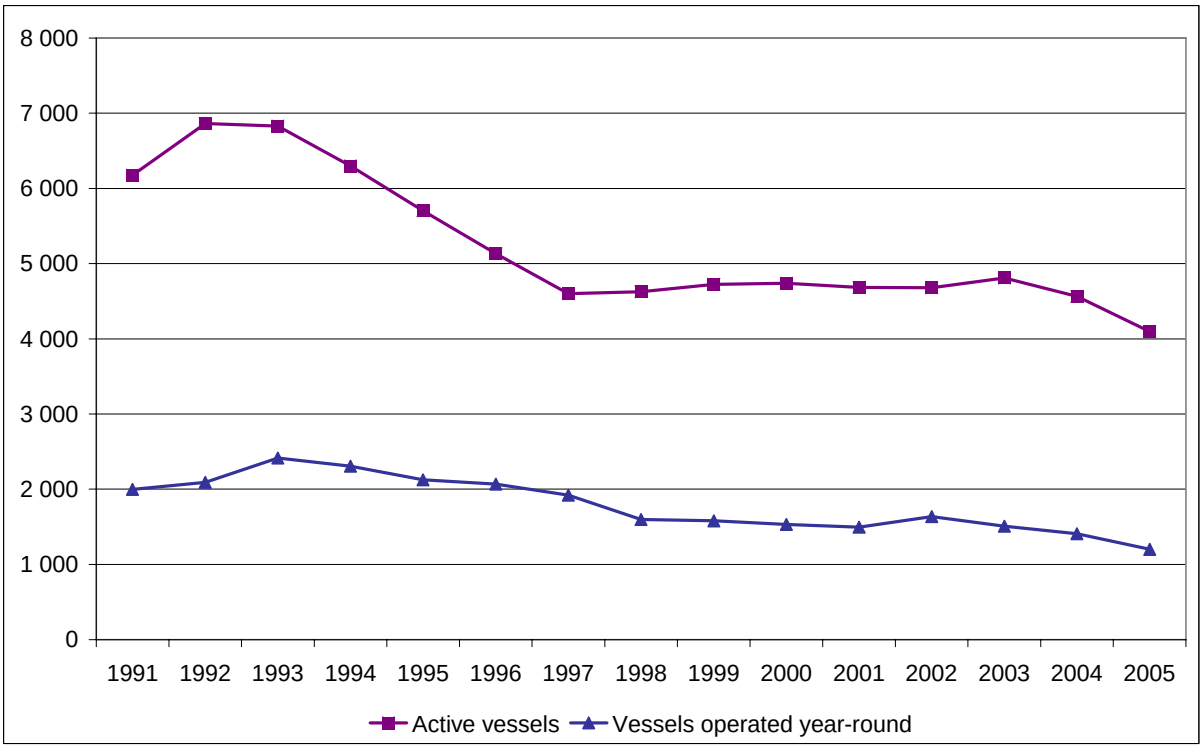

Figure 2.19 Number of registered fishing vessels under 28 metres fishing with conventional gear and recording catches of cod of 1 ton or more, 1991 – 2005. Vessels defined as active[1] and operated year-round[2]

[1] Active vessels are defined here as vessels with catches of cod of 1 ton or more in the year in question.

[2] Vessels operated year-round comprise vessels of 8 metres + at their greatest length and which meet the requirements for landing fish for at least 7 months out of 12, and for their fishing activity to result in total revenue above a certain minimum, depending on vessel size.

Source: Directorate of Fisheries

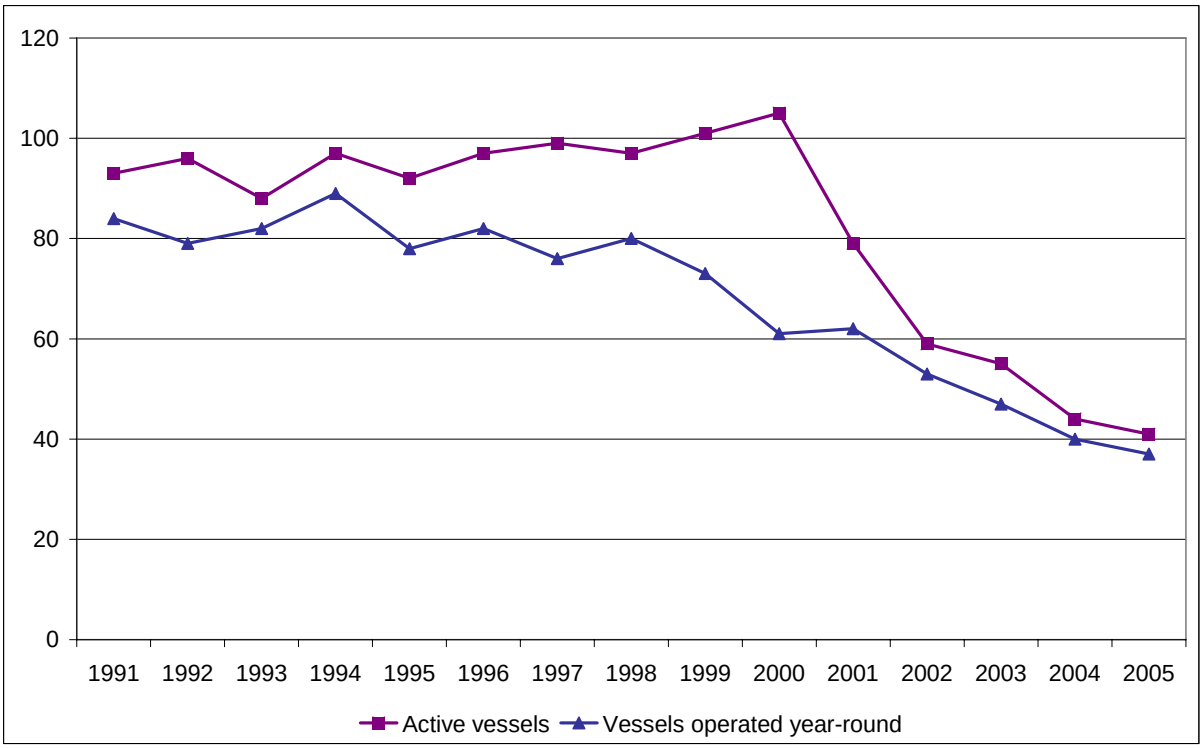

Figure 2.20 Number of registered fishing vessels over 28 metres fishing with conventional gear and recording catches of cod of 1 ton or more, 1991 – 2005. Vessels defined as active and operated year-round

Source: Directorate of Fisheries

The number of coastal fishing vessels fishing with conventional gear and landing more than one ton of cod was reduced from around 7,000 to around 4,000 in the period from 1992 to 2005; see Figure 2.19. The corresponding figures for the group of conventional vessels of 28 metres or longer are from 89 to 37; see Figure 2.20. One interesting point is that the cod quotas varied in this period, and although the quotas were increasing and at times high during the 1990s, the figure for vessels catching more than one ton was either decreasing or stable. This indicates that the fishing fleet had a lot of unused capacity which enabled them to utilise the increased quotas without putting more vessels into service.

In 1980 there were a total of 26,400 vessels listed in the Register of Norwegian Fishing Vessels, and 6,700 of these supplied more than one ton of cod. This corresponded to approx. 25 per cent of the registered fishing fleet. In 2005, the number of vessels supplying more than one ton of cod was 4,139, i.e. equivalent to 53 per cent of the fishing fleet. This indicates that cod had become more important, but is also attributable to the fact that the majority of vessels deleted from the Register had little or no activity. The total decline in the number of fishing vessels is thus less dramatic than might first appear.

To find out what cod meant at county level, we can break down the vessels in this example by counties and regions. Figure 2.21 shows the county or regional percentage of the number of vessels in Norway which supplied more than one ton of cod from 1977 to 2005.

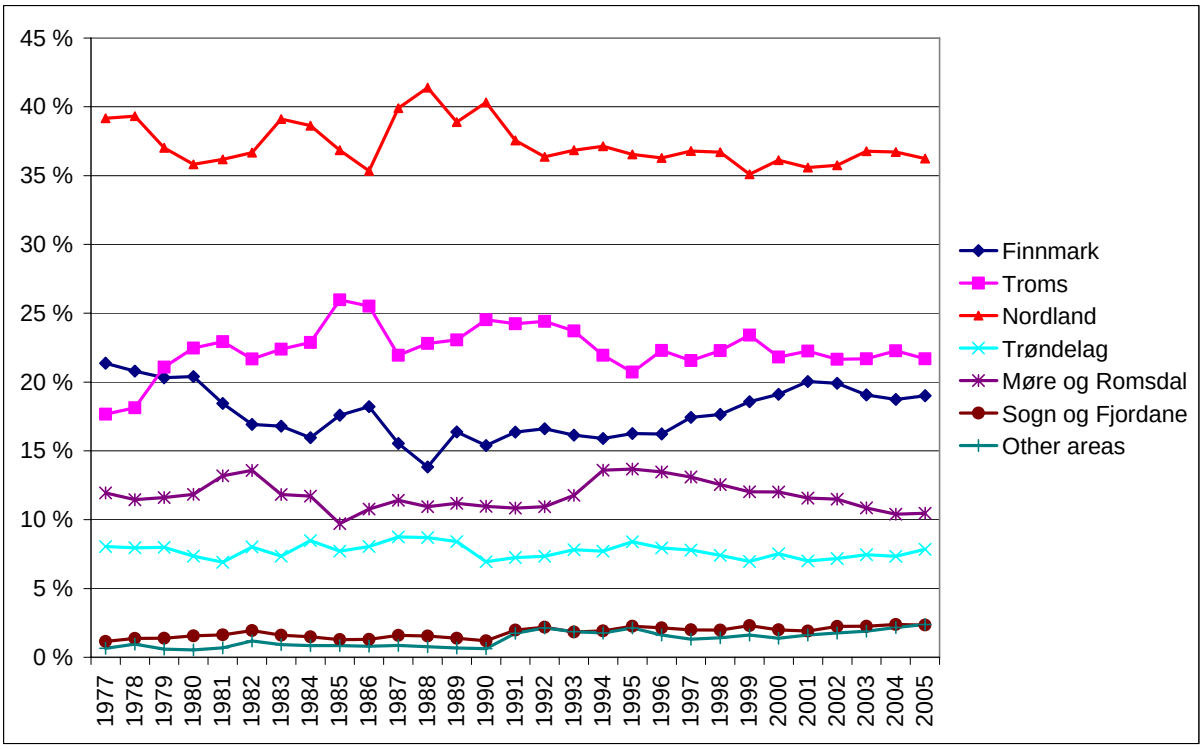

Figure 2.21 Distribution by county of vessels fishing with conventional gear and recording a catch of cod of 1 ton or more, 1977 - 2005. Percentage of national figure

Source: Directorate of Fisheries

Up until 1990, the percentage catch varied considerably more than in the years post-1990. The most notable trend post-1990 sees Finnmark's share of vessels landing at least a ton of cod increasing, and, conversely, a corresponding decrease for Møre og Romsdal. For the other counties, the changes are minor. Given that coastal cod fisheries north of 62 degrees north were made subject to limited entry in 1990, it is not that surprising that the shares level out after that year. Moreover, it is not unexpected that vessels based in Northern Norway account for around 75 per cent of vessels supplying more than one ton of cod. This is explained logically by the stock's distribution range and its migration patterns.

Figure 2.22 High-level activity in the Lofoten fishery

Photo: Norwegian Seafood Export Council, Alf Börjessen

2.3.3 Fishermen and fishing vessels

Intra-county and inter-county trends during the period display great variation. As indicated by the figures for the national trends, both employment in the fisheries and the number of fishing vessels are affected by the emergence of new occupations and trends in the fishing industry and other industries. These trends become even more noticeable when the data are broken down by county.

Figure 2.21 shows the number of fishermen based in the different counties in the period 1924 to 2006. Figure 2.23 then shows the number of vessels based in the same areas in the period from 1925 to 2006. The counties of Southern and Eastern Norway, and those of the central Norwegian region of Trøndelag are relatively small in a fisheries context, and have therefore been combined in the figure as Southern and Eastern Norway and Trøndelag, respectively.

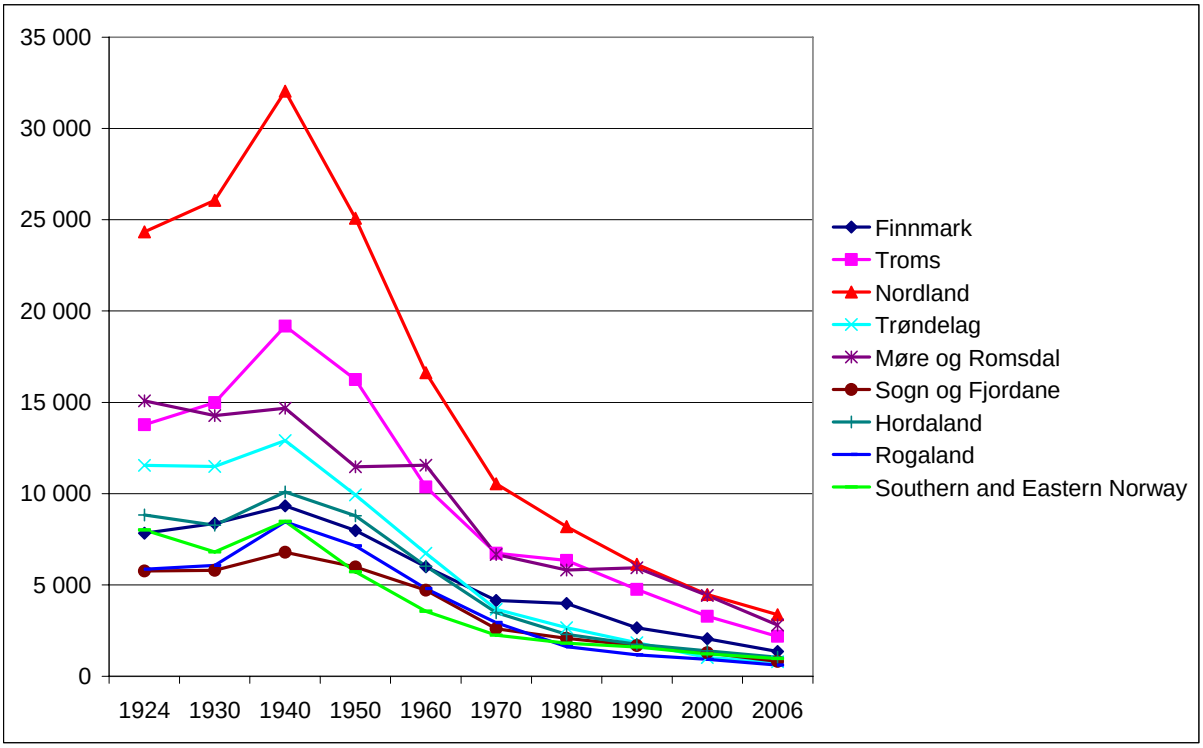

Figure 2.23 Distribution by county of registered fishermen, 1925 – 2006

Source: Directorate of Fisheries

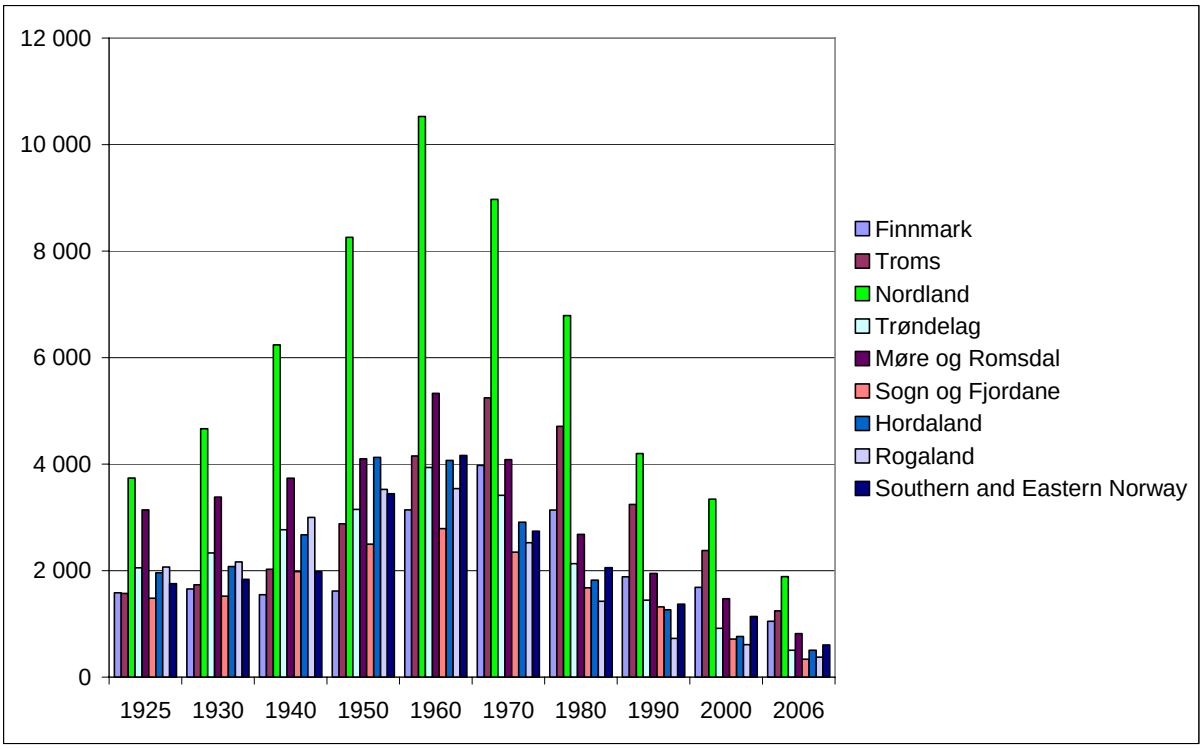

Figure 2.24 Distribution by county of registered fishing vessels, 1925 – 2006

Source: Directorate of Fisheries

On the whole, the trend in the number of fishermen and vessels has been relatively similar in the various counties, but has varied over time and at different rates. Historically, Nordland is the largest fisheries county measured by the number of fishermen, followed by Møre og Romsdal, Troms and Finnmark. This picture has not changed substantially up to the present, with the exception of the upward trend in Møre og Romsdal in the 1980s, giving this county almost as many fishermen as Nordland in the 1980s and 1990s. Nordland has also been the dominant county measured by the number of fishing vessels, with the Lofoten fishery being one of the main contributors. In the past, many of the counties of Western Norway had more registered vessels than both Troms and Finnmark.

The situation in 2006 is summarised in Table 2.5. This shows the distribution by county of the number of registered vessels and registered fishermen.

Table 2.5 Vessels and fishermen, by county, 2006

County/Region	Registered fishing vessels	Registered fishermen
Finnmark	1,048	1,348
Troms	1,241	2,184
Nordland	1,885	3,372
Trøndelag	505	797
Møre og Romsdal	815	2807
Sogn og Fjordane	335	807
Hordaland	506	1037
Rogaland	376	613
S. & E. Norway	602	967
Total	7,313	13,932

Source: Directorate of Fisheries

Appendix 2 presents additional trends in respect of the number of fishermen and fishing vessels at county level.

2.3.4 Licences and participant permits

The trend in the number of licences is influenced by where the different licensed fisheries generally take place. The purse-seine group has strong traditions in Western Norway, while cod and shrimp trawls predominate in the northern counties of Troms and Finnmark. The new licensed fisheries are extensively based in Southern Norway. Table 2.6 shows the trend in the number of purse-seine, cod trawl, shrimp trawl and industrial/N. Sea trawl licences, by county in selected years in the period from 1980 to 2006, while Figure 2.25 illustrates the geographical location of the licences.

Table 2.6 Purse-seine, cod trawl, shrimp trawl and industrial/North Sea trawl licences, by county, 1980 – 2006. Total numbers.

Year	Finnmark	Troms	Nordland	Trøndelag	Møre og Romsdal	Sogn og Fjordane	Hordaland	Rogaland	Agder/ Østlandet	Total
1980	53	106	63	21	133	21	56	40	15	508
1985	63	113	87	28	161	16	65	73	45	651
1990	69	104	73	13	123	11	54	66	52	565
1995	59	91	72	8	100	9	59	52	63	513
2000	52	71	66	8	90	6	59	49	48	449
2006	24	38	54	3	76	4	61	48	49	357

Source: Directorate of Fisheries

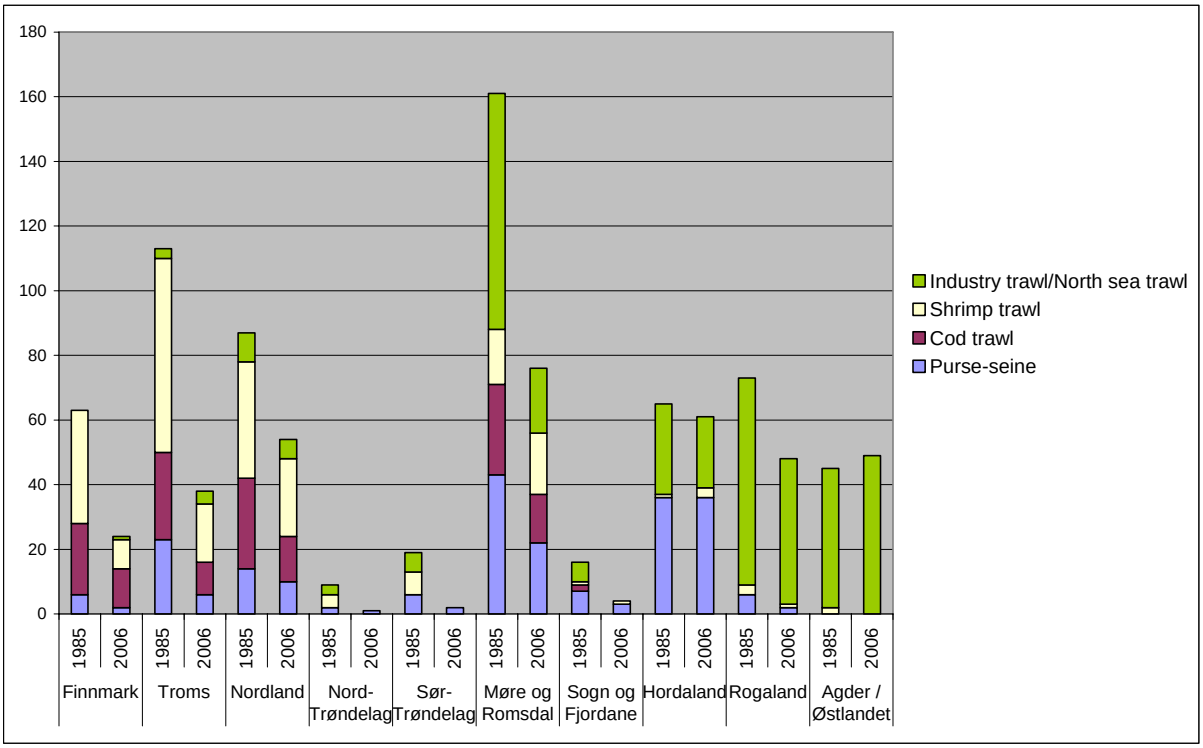

Figure 2.25 Distribution by county of main licences – purse-seine, cod trawl, shrimp trawl and industrial/North Sea trawl. Number of licences, 1985 and 2006

Source: Directorate of Fisheries

Over the period 1985 to 2006, shrimp trawl and cod trawl licences especially were down, while the number of other licences was also reduced. In Møre og Romsdal, the reduction was in the number of industrial/North Sea trawl licences, while Agder and Eastern Norway produced a slight increase. This

increase is likely to be attributable to amendments to the regulations regarding so-called 'delimited North Sea trawling licences'.

The number of participant permits can also be broken down by county, but not as far back in time as for licences. This is due to both short periods of activity and unreliability of data. However, Figure 2.26 shows the distribution for 2003 and 2006. As revealed by this figure, there was a fall in all counties.

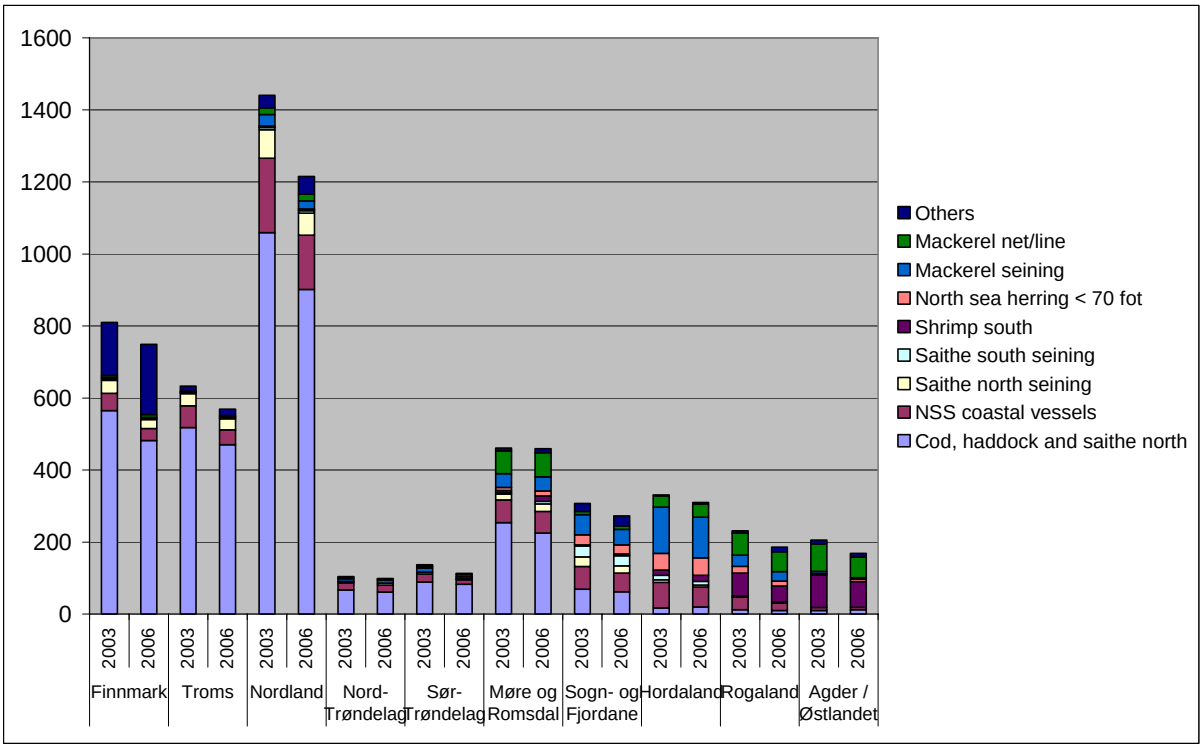

Figure 2.26 County distribution of participant permits, 2003 and 2006

Source: Directorate of Fisheries

Table 2.7 Number of participant permits in the cod, haddock and saithe north fisheries, for conventional vessels under 28 metres. By county, 2004-2006

County	2004	2005	2006
Finnmark	580	563	520
Troms	528	513	475
Nordland	1,079	1,029	942
Nord-Trøndelag	73	64	60
Sør-Trøndelag	94	91	87
Møre og Romsdal	226	220	202
Sogn og Fjordane	56	55	46
Hordaland	17	17	19
Rogaland	12	11	10
S. & E. Norway	12	12	13
	2,677	2,575	2,374

Source: Directorate of Fisheries

Table 2.7 and Figure 2.27 show the distribution of participant permits (closed group) in the cod, haddock and saithe fisheries north of 62 degrees north, by county in the period 2004 to 2006. As the figures indicate, the relative distribution is stable.

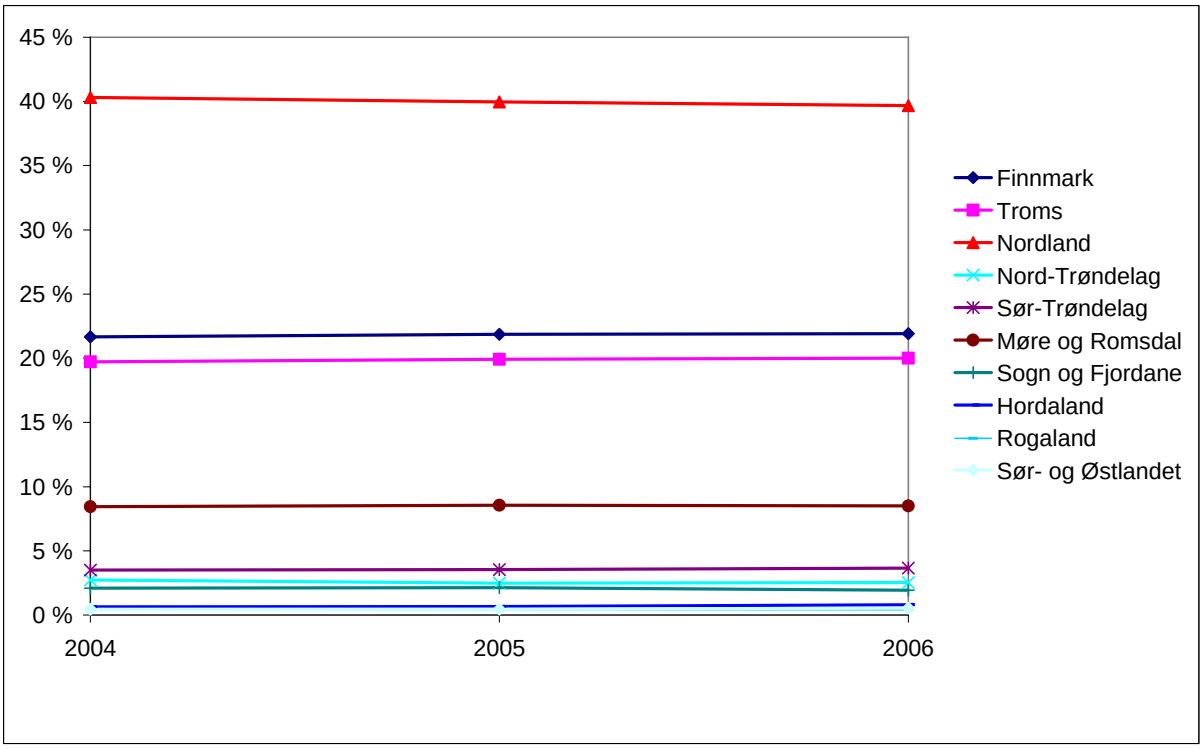

Figure 2.27 Distribution by county of the number of participant permits for conventional vessels under 28 metres, percentages, 2004-2006

Source: Directorate of Fisheries

2.4 Summary

The Norwegian fishing industry and the Norwegian fishing fleet have always been in a state of flux. This review indicates how the changes are to some extent a result of factors intrinsic to the industry, such as stock size, quotas, first-hand prices and the regulatory system. At the same time, other social factors are of great significance and the trends can scarcely be understood without taking these into account.

These changes at national level do not necessarily provide the full picture of the trends at regional and local level. The rate of change varies, and the regional differences are in some places extensive. The general trend over the whole of the previous century was for ever-decreasing numbers of fishing vessels and fishermen.

Figure 2.28 Norway still has a large fleet of small-scale vessels.

Photo: Norwegian Ministry of Fisheries and Coastal Affairs

[1]

After 1990, no distinction is made between open and decked vessels in the registers.

[2]

Northern Norway is defined as the counties of Finnmark, Troms and Nordland, while Southern Norway covers the remaining counties. This division is the same as that used in Appendix 5 to Norwegian Official Report 2002:13 *Eierskap til fiskefartøy* (Ownership of fishing vessels).

[3]

This counts only the number of participant permits for a vessel. Table 2.2 also includes passive participant permits, which arise when a vessel has been withdrawn pending replacement.

3 The need for structural systems in the future

3.1 Introduction

As described in Chapter 2, trends in the Norwegian fisheries sector have been characterised by changes for many years. This is attributable to sector-specific factors, general changes in society and demographic changes, and these different factors must be considered in relation to each other.

As such, the fishing industry does not change and evolve in a vacuum unaffected by industry and society at large. But in addition to the characteristic trends that occur in any sectors with a potential for efficiency improvements, the fishing industry has been affected by fluctuations that ultimately stem from variations in the resource base. The fact that this resource base is limited means that total production in the fisheries cannot be increased beyond the level the stocks allow. This is quite unlike sectors in which increased efficiency can be compensated for through increased production and thereby sustained employment.

General factors such as improved educational opportunities, the emergence of alternative workplaces, the extraction of oil and gas resources and productivity gains in the Norwegian economy have contributed to a substantial increase in earnings and welfare in Norwegian society during the post-war era. In the first few decades after the Second World War, total production in the fisheries increased, and the fishing industry was able to keep up with the increase by fishing more. But this soon proved a non-sustainable response, since the fisheries soon reached the natural limits to how much the stocks could be taxed. Since then, the industry's ability to keep up with earnings and welfare increases in society as a whole has been sustained through technological productivity gains in the fisheries. The necessary consequence has been fewer vessels and fewer fishermen. This chapter addresses these issues and how they affect the fishing industry.

3.2 General issues surrounding society's demands for continual adaptation

The cost of living and the standard of living in Norway impose certain minimum requirements regarding the real earnings level in the Norwegian economy. The real earnings level in turn requires a certain level of productivity in trade and industry. That productivity is the basis for real earnings and determines the level of welfare and the standard of living. The standard of living, welfare and earnings level are thus closely linked with productivity, and increasing demands for standard of living, welfare and earnings level thus require productivity gains.

Where productivity increases in society as a whole, and when the wage level increases in both competitive industries and other sectors, productivity in the fisheries must also increase in order for the sector to sustain its relative competitiveness. The alternatives to this kind of efficiency gain are either to demand higher prices for the product, or to reduce the level of real earnings. Neither of these alternatives is straightforward. For an export industry like the fisheries, it is clearly difficult to demand higher prices in a competitive international market.

If real earnings in the fisheries fall, the fishing industry will face problems of retaining and recruiting labour, especially in periods in which other sectors experience a shortage of labour and can pay more to recruit it. In some local communities, it may take a while for such consequences to filter through because

people there are generally keen to work in the fisheries or because of a lack of other employment opportunities. In the long term, however, the fishing industry will not be able to count on sufficient recruitment in a society based on high levels of education and a mobile workforce if the fisheries are unable to provide wage and working hours commensurate with those in competing sectors.

Similarly, an imbalance in productivity growth in relation to other sectors will make it more difficult for the fishing industry to attract the necessary capital. The long-term precondition for inflow of capital, both equity and loan capital, is that the industry generates a high return on investment to match that of competing sectors. Requirements for return on investment must be met by any industry which purchases a raw material and invests labour and capital in its production. Thus, over time, the fishing industry has to live up to the financial minimum requirements dictated by what would otherwise be yielded by capital and labour.

The traditional alternatives to such financial minimum requirements are for production to be relocated abroad or for the industry in question to be subsidised. For the actors in the fishing fleet, production is of course tied to Norwegian fish resources, and the activities are governed by nationality requirements and other requirements that tie the actors to Norway. As such, operating vessels under a flag of convenience is not an option. Subsidisation is also not an alternative, and the Norwegian fishing industry has been almost subsidy-free since the early 1990s.

The fishing industry underwent extensive efficiency gains in the latter half of the 1900s. This was touched on in Chapter 2 and will also be discussed below in Chapter 3.5 Efficiency improvements in the fishing industry. This period saw sustained productivity and welfare improvements in society at large, which the fishing industry succeeded in matching.

Figure 3.1 Coastal vessel from Rogaland unloading to a well boat during seining

Photo: Fiskeri.no

3.3 Concerning capacity measurements and driving forces behind capacity increases

3.3.1 Introduction

The theoretical aspects of the capacity issues are dealt with in detail in Chapter 3 of Norwegian Official Report 2006:16 *Strukturvirkemidler i fiskeflåten* (Structural Instruments in the Fishing Fleet).

Capacity may be defined and measured on the basis of various parameters. However, a number of factors complicate the concept of capacity in the fishing industry. In particular, there is the uncertainty resulting from one input factor in production, the fish stocks, being beyond the control of the producers. This means that we have to distinguish between excess capacity in the short and the long term because the same fishing fleet may in one period be large, but in the next period too small as a result of changes in the total quotas. In addition, the availability of fish varies from year to year, and from area to area. This also impacts capacity requirements. Furthermore, there is the challenge posed by the fact that the fish stocks change more rapidly than the fishing fleet, which makes it difficult to keep a fleet that is at any time ideally matched to the resource base.

A number of other factors complicate any model for calculating the ideal technical fishing capacity. The individual vessels participate in different fisheries and tax different stocks, which may undergo differing stock growth. There may be large differences between vessels in terms of operational intensity and operational patterns, which means that two vessels with the same quota basis will not necessarily fish the same quantity although in technical terms they have the same fishing capacity. The skippers' and other key individuals' differing proficiency and professional skills may give rise to big differences in a vessel's fishing efficiency at any time.

However, in practice, we find that the trend in the majority of quota-controlled fisheries, especially for the large vessels, is for somewhat even quota utilisation among the vessels. This is also connected with the general move away from over-regulation and maximum quotas in favour of a regulatory system based on fixed vessel quotas. As such, the regulatory system is a significant factor in capacity trends in the fisheries.

3.3.2 Technical fishing capacity

Technical capacity concerns how many fish can be caught within a given period if the input factors are exploited to the full. Basically, full exploitation of the input factors means that the vessel is in service all year or all season except for periods of ordinary maintenance.

However, the implications of technical capacity are not that clear-cut owing to the impacts of many natural variables: the biomass, age-mix, availability of stocks and weather conditions. Moreover, there are the considerable problems associated with actual measurement of technical capacity, since a number of different indicators can be used as parameters.

However, whatever the case, the main point to take account of is that technical fishing capacity is not a static factor; see Chapter 3.5.

Technological advances are a key factor in accounting for efficiency improvements and hence capacity increases in the fisheries. We also have to take account of the fact that advances in technology and

competency-building represent continual, and welcome, progress. Advances in technology and competency-building are essential in achieving greater efficiency, which in turn is crucial in order to ensure that the fisheries can take part in general welfare improvements. If we look at occupational health and safety, there are obvious advantages to having more space on board, and that requires larger vessels. The result is better and safer workplaces. This also promotes better handling of the raw material and ensures good quality.

These types of improvements are recorded as technical capacity increases. In this way, capacity issues cannot be addressed in isolation from other factors. This makes it difficult or impossible to define stable targets for the ideal technical fishing capacity. As we have seen, technical capacity is influenced by a range of factors and it is scarcely meaningful to control and measure capacity in relation to technical criteria particular to each vessel. In consequence of this, over the past decade, detailed regulation of vessel design and size has been abandoned.

3.3.3 Economic capacity

Capacity and capacity increases can also be considered or measured in terms of economic criteria. Given that the fisheries are controlled through participant permits, quotas and rules for how fishing is practised, the technical fishing capacity recedes in significance while the economic criteria are the most relevant.

The key question is then whether it is possible, within an anticipated quota basis, to pay the workforce and secure returns on invested capital at a level to match wages for alternative employment and the return on alternative investments. The economic returns from fishing over a given period are highest when the fixed quotas are fished using the minimum of resources at as low an overall cost as possible. If the most economically rewarding fishing was the sole aim of fisheries policy, there would then be excess capacity in any fishery where the total costs were not kept to a minimum and the returns thus not as high as possible.

In the real world, fisheries policy has to pursue diverse aims, which are to some extent conflicting, which makes it unrealistic to operate with the aim of eliminating economic excess capacity. Besides which, this would not be a particularly wise aim. Because of fluctuations in fish stocks, it is good practice to maintain a certain spare capacity that can be deployed if the exploitable catch increases as a result of increased quotas.

But the derived impacts on society must also be considered in any moves to change the level of activity in the fisheries at local, regional or national level. This is discussed in more detail in Chapter 3.8.

3.3.4 Concerning the significance of resource rent for the capacity issue in the fisheries

In any fishery, the natural resource itself is one of the main ’input’ factors, and in principle costs nothing to exploit. This form of free production factor is what allows the industry to generate a resource rent (land rent), that is, added returns on top of the normal compensation for labour, capital and other paid production factors. This is a fundamental factor in all industries based on the use of scarce natural resources.

Political consideration must be given to how this kind of added return from a national resource is to be used. Other industries generating land rent include petroleum extraction, hydropower production and

forestry. For the petroleum and power industries, a number of special tax rules have been laid down in order to secure a percentage of the land rent for the benefit of society as a whole. The size of the land rent is determined among other things by regulatory measures in the sector. For example, the object of obtaining the highest possible land rent might need to be balanced with the interests of district policy, as in the case of fisheries policy. Resource rent is discussed at greater length in Chapter 7, so in the present discussion, concerning the need for structural measures in future, the point is to emphasise the following:

Excess capacity is a result of individual investment decisions and adaptations by actors in the industry These operate within a set of economic, social and political limitations, and tend to seek to adapt their operations in order to achieve satisfactory earnings. The fact that the fishing industry yields a resource rent has allowed for over-establishments, which for the individual operator have represented sensible investments. However, for the industry as a whole, such investments mean a reduction in total productivity.

The consequences of over-establishment and excessive numbers of actors in a fishery cannot in practice be corrected solely by the introduction of limited entry to that fishery. This is because limited entry is, in the majority of cases, not introduced until problems actually arise as a result of reduced total quotas or over-establishment. However, limited entry creates the framework needed for implementing measures to reduce the consequences of over-establishment. Within the frameworks of limited entry, there is the option of introducing both publicly and privately financed systems for structural adaptation.

Without limited entry, each and every structural measure would be countered by new establishments. We must expect that a fishing fleet characterised by over-establishment and persistent high excess capacity will overall suffer low profitability, in spite of the fact that individual actors stand to achieve good financial results as a result of differences in cost structure and individual capacity for running efficient operations. It must also be expected that a fleet which overall suffers low profitability also has a low renewal rate and low wages. It is the presence of the resource rent in the fisheries which from the outset creates excess capacity and then sustains it.

In this way, the resource rent from the fisheries can, on the one hand, mask what is in fact a lower return on labour input and capital investment in this industry than occurs in other industries, precisely because a core and valuable input factor in production is free. This is expressed as excess capacity in the shape of more vessels and fishermen than if the industry was based solely on efficiency criteria. On the other hand, the resource rent can form the basis for exceedingly high profitability for a limited number of actors if they are given the opportunity to organise their operations to best effect. The resource rent can also be realised through sales of fishing vessels for continued operations, in which case it will accrue to the seller of the vessel as a sales profit.

The presence of a resource rent in the fishing industry can, to some extent, compensate for the ordinary efficiency requirement. But even if one opts to use the resource rent to achieve higher capacity and employment in the industry than what is strictly necessary, for district-policy reasons, for example, productivity in the industry will still need to be stepped up in order to keep up with general welfare improvements in society.

3.4 Excess capacity and the need for capacity reduction

3.4.1 Introduction

Globally, the overall capacity of the fishing fleet is far higher than the resource base. In 1997, an FAO study (Garcia and Newton) calculated that global fishing capacity would have to be reduced by more than 50 per cent in order for revenue to cover the total costs. This says something about the scale of the problem.

The FAO (the Food and Agriculture Organization of the United Nations) monitors the total condition and exploitation of the main stocks in the world for which data are available. In its report "The state of world fisheries and aquaculture" for 2004, the FAO states that 24 per cent of these species are overexploited, depleted or in the process of recovery, 52 per cent were fully exploited, while the last 24 per cent were underexploited or moderately exploited. In global terms, excess capacity in the fishing fleet poses a threat to fish stocks, especially within weakly regulated or unregulated fisheries, fishing on the open sea, and through illegal, unregulated and unreported fishing.

One basic reason that excess capacity occurs at all is unhindered access to exploit a free resource. The current global excess-capacity problem is usually attributed to the period before the 200-mile exclusive economic zones were introduced. With these new zones, large sections of what previously had been commercially attractive fishing resources for the world's fisheries now came under national jurisdictions. At around the same time, through a viable scientific instrument for stock evaluation, it became possible to estimate the size and status of the most important fish stocks. The combination of national jurisdiction and scientifically-based quota recommendations created the basis for setting binding total quotas for the individual fisheries, as dictated by the need for sustainable resource management. The national jurisdiction more than anything else, made it possible to enforce these quotas.

The introduction of 200-mile zones meant that coastal nations could now restrict access by foreign vessels to their zones and this reduced the fishing opportunities dramatically for vessels from traditional distant-water and offshore fishing nations. These vessels were thereby indirectly forced to seek new fishing grounds in international waters. At the same time, the coastal nations started expanding their own fishing fleets in order to be able to harvest the stocks that were now under national jurisdiction. The economic zones were thus a contributory factor in the substantial capacity increase in the global fishing fleet.

Subsidies for the fishing fleet have also contributed to capacity expansions, and operational subsidies have the effect of sustaining unprofitable units. In a report from 2006 ("Financial Support to Fisheries: Implications for Sustainable Development") the OECD points out these problems and emphasises that subsidies may undermine the object of sustainable management. The OECD recommends unequivocally that such support be withdrawn, highlighting countries such as Norway as successful examples of this.

3.4.2 Excess capacity as a control problem

Total quotas alone result in weak, if any, motivation for capacity reduction. Regulation based solely on total quotas tends instead to result in increased capacity as a result of 'Olympic' fisheries (larger vessels and more effective fishing gear) and thus compounds the economic excess-capacity problems. The immediate problems that occur can to a great extent be eliminated through quota control at vessel level.

This type of quota control allows each individual operator to adjust his fishing effort over the season and reduces the opportunity for 'grabbing' a larger share through high technical capacity.

Whether or not the excess-capacity problem can be remedied through vessel quotas depends on whether maximum quotas are applied, or whether control is exercised through fixed vessel quotas. The effect of operating with over-regulated maximum quotas, in which the total of the maximum quotas exceeds the group quota and fishing is suspended for everyone once the group quota has been fished, irrespective of how much the individual has caught, is to spur continued investment in higher capacity. This is part of the reason why Norwegian control mechanisms are based increasingly on vessel quotas, in which the total of the vessel quotas corresponds to the group quota for a given vessel group.

In a national context, the risk of overfishing due to excess capacity is to some extent dependent on control interventions. This also means that reduced excess capacity means reduced expenditure on control.

For offshore fishing, in a global context, we have to distinguish between vessels from states that exert genuine control of fisheries and vessels which are fishing de facto beyond national control and engaging in illegal, unregulated and unreported fishing.

For fishing activities outside of national zones by vessels under the genuine control of the flag state, the capacity problem is comparable with that at work within nationally regulated fisheries. This applies especially as more of the commercially-appealing fisheries in areas beyond the jurisdiction of any state come under the management of international fisheries management organisations which set the binding regulations. Here it is a question of looking at the capacity issue in the context of the control intervention one is willing to institute.

But even fishing vessels that are de facto beyond national control should not be completely disconnected from national structural policies, since national structural systems should comprise mechanisms to ensure that vessels withdrawn from national fisheries are not redirected to illegal, unregulated and unreported fishing. Under the Norwegian structural systems, we have employed various mechanisms to ensure this does not happen, with the scrapping of withdrawn vessels being one of the main ones. Neither the Norwegian fishing industry nor the world at large has anything to gain from responding to our excess capacity – i.e. vessels withdrawn from national fisheries through the structural systems – by fishing under flags of convenience without any control. This requires a stringent application of the decommissioning obligation such that it is genuinely actual capacity that is decommissioned through the national structural systems.

Box 3.1 Measures within the EU for capacity adaptation

In the EU too, there is increasing focus on the need to adjust capacity in the fisheries.

In the reform of the Common Fisheries Policy adopted in 2002, earlier programmes which had proved inefficient, were replaced by a simpler system for limiting the fishing capacity of the EU fleet. In order to restrict fishing capacity, the Commission originally proposed that structural assistance to building of new fishing vessels should be eliminated, and that aid for modernisation of vessels be reduced. In 2002, in a compromise, the Council of the European Union agreed that assistance for the building of new fishing

vessels was to be continued to the end of 2004, but only for vessels of under 400 tons. Since 2004, no structural assistance has been granted for construction of new vessels, with the exception of assistance to new vessels in the French overseas departments, on the Azores and on the Canary Islands.

Through the EU's multi-annual guidance programmes for adaptation of the fishing fleets of the Member States, a reference-level capacity is set as the limit for each individual country. This reference level is reduced for each vessel that is decommissioned, to ensure that decommissioned vessels cannot be replaced by new vessels. In the new budgetary period for 2007 to 2013, just under 4 billion Euro has been allocated for structural measures for the fisheries industry (vessels and onshore enterprises). Assistance is available to undertakings such as the withdrawal of fishing vessels, replacement of engines on condition that the replacement represents a capacity reduction and for vessel upgrades for the improvement of safety and sanitary conditions.

3.4.3 International measures for capacity reduction

International cooperation at global level is effected through bodies such as the FAO. An international plan of action was drawn up in 1997. The Member States in the FAO Committee on Fisheries (COFI) found it necessary to put in place a form of international agreement to ensure proper management of the world's fleet capacity in line with the FAO Code of Conduct for Responsible Fisheries and the prime objective of sustainable exploitation of fish resources. Norway played an active role in work on the Plan of Action which was adopted by COFI in February 1999 and endorsed by the FAO Council in November 2000. The Plan of Action is to ensure that the Member States implement measures to combat excess capacity in the fishing fleet. Through this agreement, Norway has made a political commitment to implementing measures for ensuring a fleet capacity adapted to the resource base, in all groups. However, the agreement is not binding under international law.

Norway and all other countries report on their progress in their capacity work to FAO (COFI) every two years.

There can be no question that excess capacity can have serious consequences for fish stocks. There is also no doubt that excess capacity and control requirements and hence the costs of control are connected, and that excess capacity is one of the main causes of the extensive illegal, unregulated and unreported fishing which occurs in domestic and distant waters. This is part of the reason for the scrutiny this issue has come under both nationally and internationally.

Figure 3.2 The Norwegian Coast Guard in action against IUU fishing

Photo: The Norwegian Coast Guard

3.5 Efficiency improvements in the fishing industry

3.5.1 Improvements in fishing gear and equipment

The continual improvements made to fishing gear and mechanical, hydraulic and technical equipment are a determinant in the efficiency of fishing. This benefits all vessel groups in the fleet, with even small vessels in the coastal fleet having their operations automated. This means that each individual fisherman can operate with larger amounts of gear and fish larger quantities. In effect, this form of progress means that labour input is replaced by capital input even in the small-scale coastal fleet.

In many ways, these improvements of the modern era started with the introduction of the engine as motive power, but since then the industry has gained increasingly efficient fishing gear and fish-finding devices. An example of this is provided in Norwegian Official Report 1972:24 *Konsesjonsordninger i fiske* (Fisheries licensing), in which Appendix 1 summarises the trends and participation in purse-seining in the period from 1945 to 1971.

This describes, among other things, how the introduction of purse-seining and hydraulic hauling gear (power blocks) made it possible to build a fleet consisting of increasingly large vessels, but that, even in the initial phase, the new gear technologies meant that the size of crew per vessel was approximately halved from ”around twenty-two to twelve or thirteen men per vessel”. The report also states that ”expansion in the purse-seining fisheries thus entailed a substantial increase in capital investment in the fisheries, not just in absolute terms, but also in terms of the labour invested”. The development of the purse-seine and the introduction of power blocks represent an unusually dramatic technological leap, comparable with the introduction of the engine and the development of steel vessels.

Box 3.2 Concerning technological progress

- A whole new generation of echo-sounders is on the way. These are designed to distinguish not only different species of fish, but also to indicate the size of individuals. In the future, purse-seining skippers will be able to see what they have under the keel - both the species of fish and its size.

- In a few years, people will shake their heads at the thought of current echo-sounders, and say that in 2006 we were fishing blind.

Professor Kjell Olsen at the Norwegian College of Fishery Science, to the professional journal *Norsk Fiskerinæring* no. 8/2006.

A study cited in an FAO publication from 1996 (Precautionary approach to fisheries – the study Fitzpatrick 1996: Technology and Fisheries Legislation) indicates specifically that, for fisheries subject to limited entry, technological progress is what drives technical fishing capacity. In this study, annual progress in fishing efficiency was estimated at 3 per cent. Based on the number of vessels in different groups, and including efficiency improvements at this rate, we can project the trend in the number of vessels required based on capacity considerations alone. Figure 3.3 illustrates this kind of projected trend for individual vessel groups in the ground-fish sector, and Figure 3.4 shows the same for the pelagic sector.

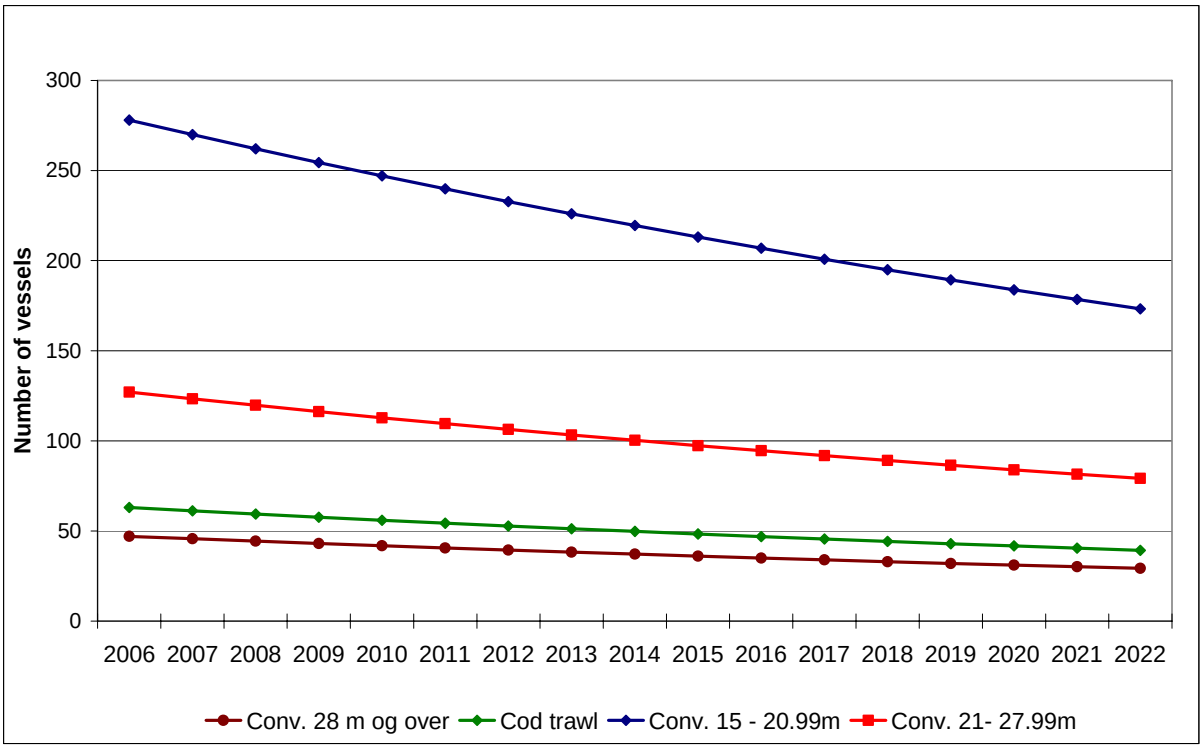

Figure 3.3 Projected trend in the number of vessels in individual vessel groups in the ground-fish sector, 2006 – 2022, assuming an annual efficiency improvement rate of 3 %

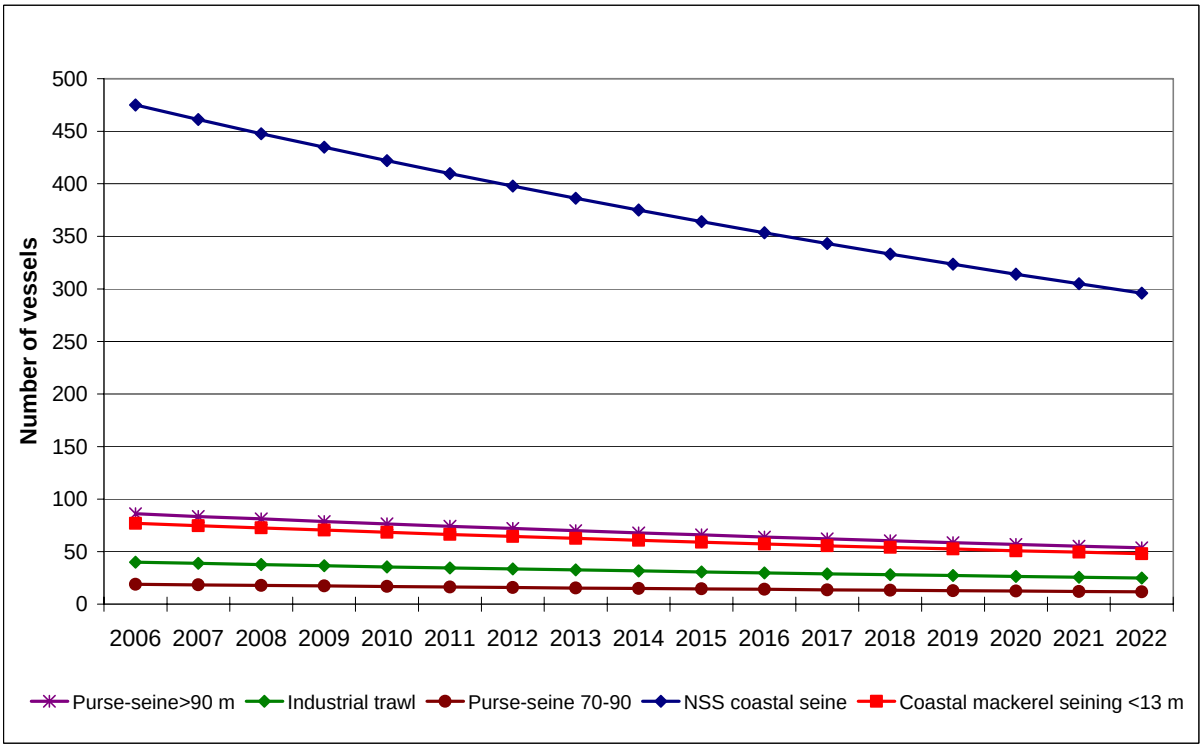

Figure 3.4 Projected trend in the number of vessels in individual vessel groups in the pelagic sector, 2006 – 2022, assuming an annual efficiency improvement rate of 3 %

In Chapter 3.3 Concerning capacity measurements and driving forces behind capacity increases and Chapter 3.6 Capacity in the Norwegian fishing fleet, a number of factors in capacity measurement are

discussed in some detail. The two figures, however, illustrate the projected consequences of capacity increases being a continual process.

In St. Meld. (White Paper) no. 20 (2002-2003) *Strukturtiltak i kystfiskeflåten* (Structural measures for the coastal fishing fleet), the importance of technological progress in terms of dealing with larger amounts of fishing gear was set out in Chapter 7. The trend outlined in the paper showing an increase in engine power, tonnage, equipment for gear development, etc. within each size group, has continued and will do so in future. This means that each individual vessel will be able to handle a gradually increasing amount of gear without the need for labour to increase.

This technological trend, both the gradual one and the one that has occurred in leaps and bounds, has brought the fisheries from being a work-intensive to a capital-intensive industry. Figure 3.5 illustrates this trend.

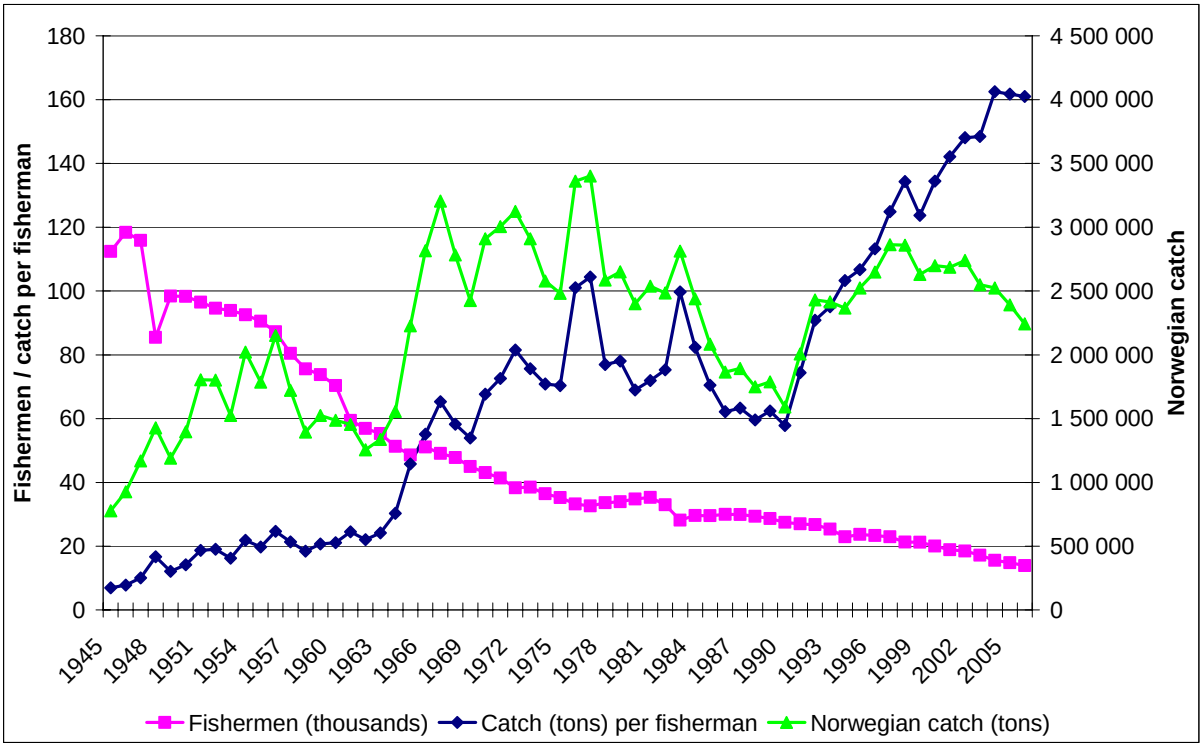

Figure 3.5 Norwegian catch, number of fishermen and catch per fisherman, 1945 – 2006

The figure shows how much catch each Norwegian fishermen averaged over the period, and thus serves as an indicator of efficiency improvements in the Norwegian fisheries. Up until the end of the 1960s, productivity increased through a combination of increased total catch and a reduction in the number of fishermen. With a more or less predefined natural upper limit for production capability, the industry gradually became wholly dependent on sustainable management, technological progress and a gradually reduced investment of labour and capital in order to match welfare growth in society at large.

3.5.2 The trend in real earnings in relation to other industries

The yield from the fishing industry depends not only on catch volume and how efficiently the fishing is done, but also on the prices achieved for the catch. An index of the average first-hand price per kg of fish (rounded weights, all species), reveals that the average real price of fish can vary greatly from one

year to the next. Nonetheless, overall, the real price has been relatively stable in the period post-1945; see Figure 3.6.

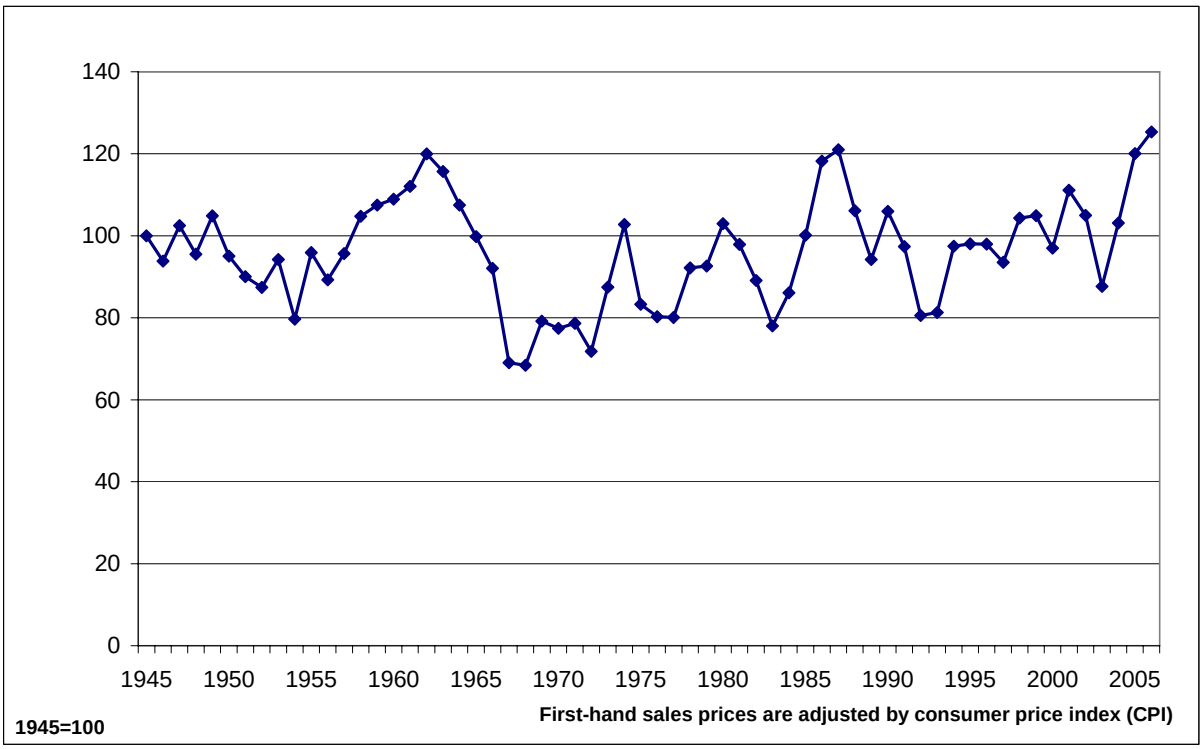

Figure 3.6 Average price of fish realised in first-hand sales (real price) for all species 1945 – 2006. Index

Source: Directorate of Fisheries

For many years, the real price of fish realised has been lower than the price realised in 1945. We see no trend towards consistently higher real prices although the trend since 1970 has been positive and the average price in 2006 was the highest in the period. Whitefish farming is an uncertainty factor in the future picture. The question is how an increasing volume of farmed fish from Norwegian and international providers will impact the price level for wild-caught fish. Equally, uncertainty prevails as to the scale of future demand for wild-caught fish, and whether it will be possible to reach new markets. Against this background, it is difficult to predict future price trends, but the tendency is clearly towards stable real prices.

With the exception of just a few years, the trend in real earnings for employees in other industries has followed a positive trend throughout the post-1945 period. In the period 1971-2006, the increase in the real-earnings level averaged 1.9 per cent per annum. Productivity in the fisheries will consequently have to increase correspondingly in order for its employees to achieve the same increase in real earnings.

During the same period, the catch per fisherman increased from 73 tons in 1971 to 161 tons in 2006, see Figure 3.5, or by an average of 3.4 per cent per annum. Thus, the catch per fisherman has increased more than real earnings. However, as revealed by the figure, this was no steady increase. The increase in productivity per fisherman has been driven more than anything by technological progress. This entails increased capital intensity in the fisheries combined with gradually more sustainable resource

management in recent decades. However, fluctuations in the quotas have a great impact on the catch per fisherman and in years with low quotas, the catch falls substantially.

The Norwegian Directorate of Fisheries' profitability surveys for 2005 indicate that the average wages paid to crew account for 33 per cent of the operating revenue. For vessels operating in cod fisheries, that percentage is slightly higher than for those engaged in herring fisheries; 37 and 29 per cent respectively. This percentage has changed over time and was higher early on in the period when the capital costs were smaller and the fishing more labour-intensive. Figure 3.7 presents a calculation of the size of catch required per fisherman in order to achieve the Norwegian average wage, on the assumption that wages to fishermen represent 33 per cent of total catch revenue.

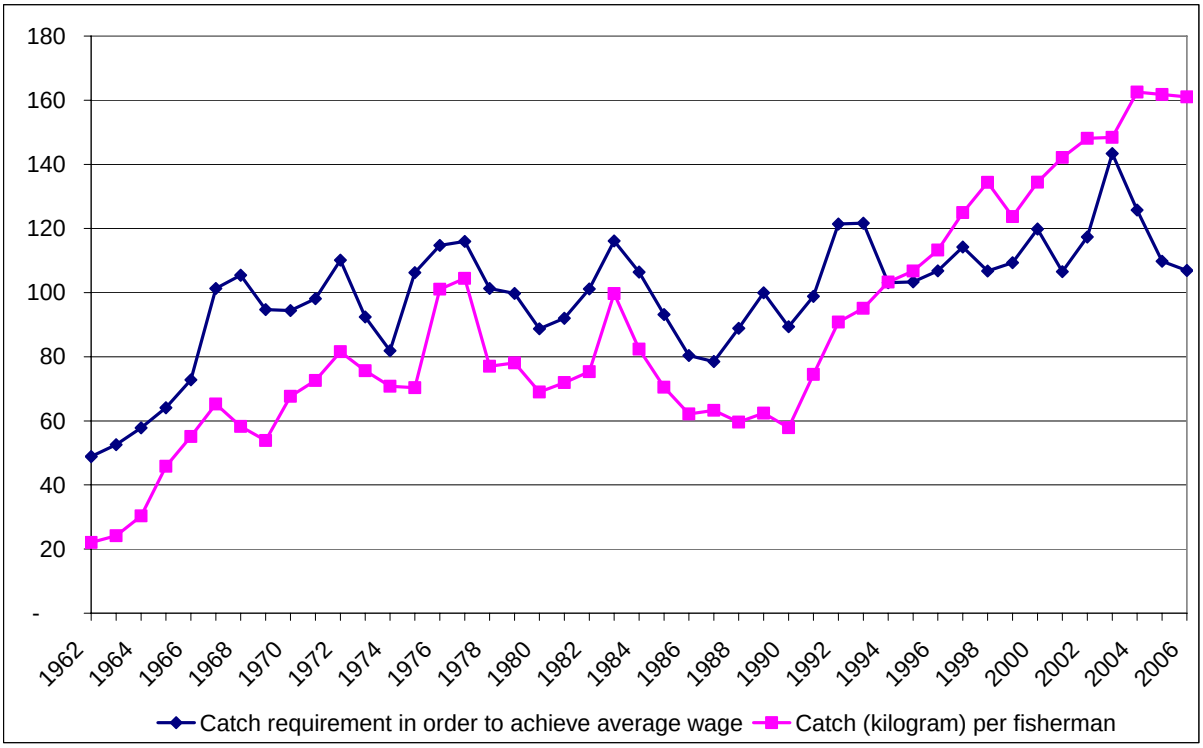

Figure 3.7 Catch per fisherman and catch requirement in order to achieve Norwegian average wage, 1962 – 2006

Source: Directorate of Fisheries

The figure shows that post-1995, the average catch has been higher than was necessary in order to pay the Norwegian average wage, assuming that wages paid to fishermen account for 33 per cent of catch revenue. In 2004 for instance, an average 125 tons had to be caught per fisherman in order to achieve the Norwegian average wage. The catch statistics reveal that the catch per fisherman in 2004 was a good 160 tons. The analysis indicates that the average wage level from fishing is slightly higher than the Norwegian average wage. Also worthy of note is that, in 2006, the value of the average catch per fisherman was NOK 823,000.

If we assume that we cannot reckon on an increase in total catch or an increase in real prices, catch per fisherman has to continue to increase if fishermen are to achieve the same welfare increase as the rest of society. The only other factor that might boost earnings would be if the value of catch increases because fishing is redirected at species that can be sold for a higher price or if by-catch is put to more

efficient use. The fact that the real price of fish has been stable throughout the entire post-war era, and that production is limited by natural causes, offers a clear indication that structural adaptations and efficiency improvements are the sole alternative open to fishermen for keeping up with productivity and welfare improvements in society at large.

3.5.3 The impact of subsidies in the Norwegian fishing industry

From 1942, a number of programmes were implemented for price levelling in exports of fishing products. These programmes were extended after the war, and substantial funds were accumulated. The original 'price levelling fund' was split into two entities in 1948, and in 1951 converted into two separate funds: Prisreguleringsfondet for fisk (the Price Regulation Fund for Fish) and Prisreguleringsfondet for sild (the Price Regulation Fund for Herring).

Both funds amassed substantial reserves in the initial years of their establishment. However, trends in the market, conditions in the fisheries and cost levels resulted in large net disbursements from the funds, for price support and in order to reduce costs in the fisheries. The capital of the funds was consequently drained so heavily that they were no longer adequate and, as of 1958, the situation called for special appropriations for the fishing industry from the national budget. Initially, these were intended as provisional support measures, but the difficult situation for the industry persisted.

Following the recommendations of a committee appointed in January 1963, the General Agreement for the Fishing Industry was concluded on 3 June 1964 between the Norwegian Fishermen's Association (NFA) and the State. Through the General Agreement, the authorities and NFA engaged in close cooperation with a view to implementing measures capable of boosting profitability in the fishing industry. The object was for earnings to be commensurate, as a minimum, with those for other occupations, and for the industry to gradually regain its independence from government assistance measures.

Under the General Agreement, NFA was entitled to call for negotiations for assistance measures, if the potential wage under normal fishing conditions for ordinarily well-operated and well-equipped vessels engaged in year-round fishing was not, in the NFA's opinion, commensurate with wages from other industries. This is the reason why the Norwegian Directorate of Fisheries conducts annual profitability surveys for fishing vessels operated year-round.

Up until the early 1990s, the government assistance was provided in the main as price subsidies and as cost-reducing measures (for example, subsidies for the transportation of fish). The system of a minimum crew share of vessel earnings if the fishing failed was also financed through the General Agreement.

In individual years, fisheries subsidies amounted to almost 40 per cent of the first-hand value of fish. However, out of the first-hand value for 2004 of NOK 10.4 billion, the fisheries subsidy of NOK 50 million was equivalent to around 0.5 per cent. Figure 3.8 shows the size of the fisheries subsidies, in relation to the first-hand value in each year. The values are measured in fixed prices (2006 prices) (here and in the following, figures for 2005 and 2006 are taken from Ch. 1050, item 75 of the National Budget – Subsidies for industrial measures for the fisheries).

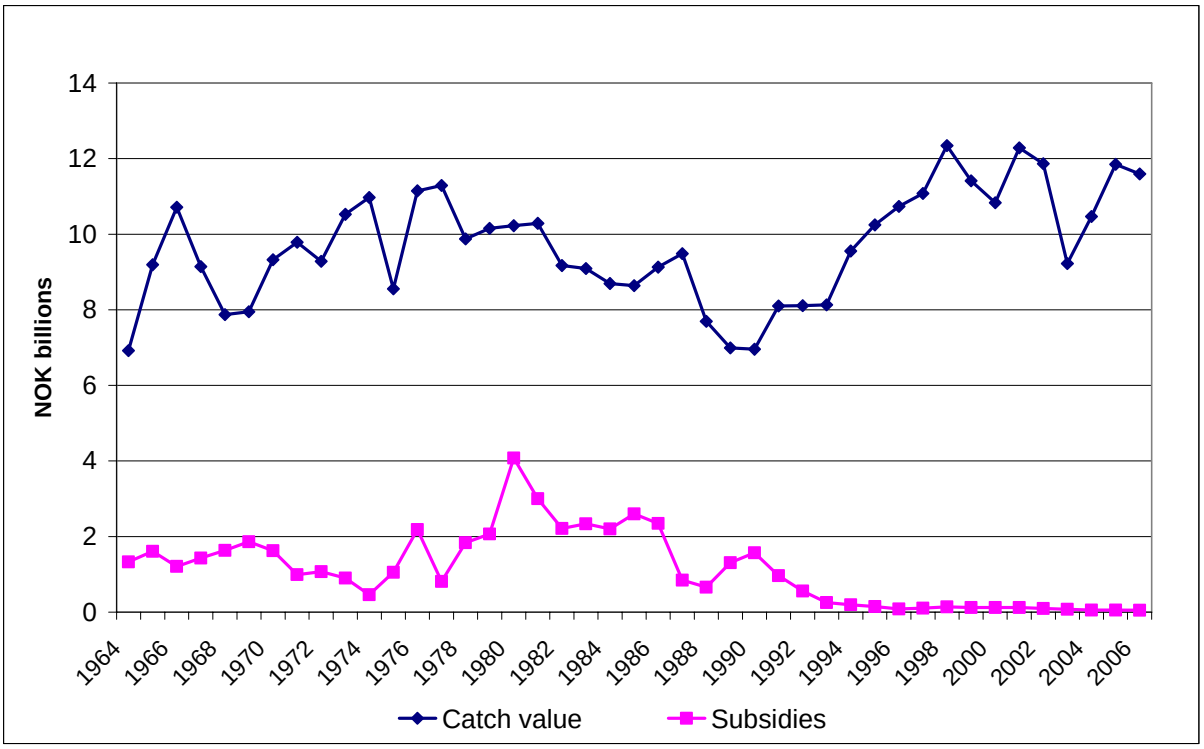

Figure 3.8 Catch value and subsidies through the General Agreement, 1964 – 2006[1]. NOK billions (2006 prices)

[1] The figures for 2005 and 2006 are from Ch. 1050, item 75 of the National Budget – Subsidies for industrial measures for the fisheries.

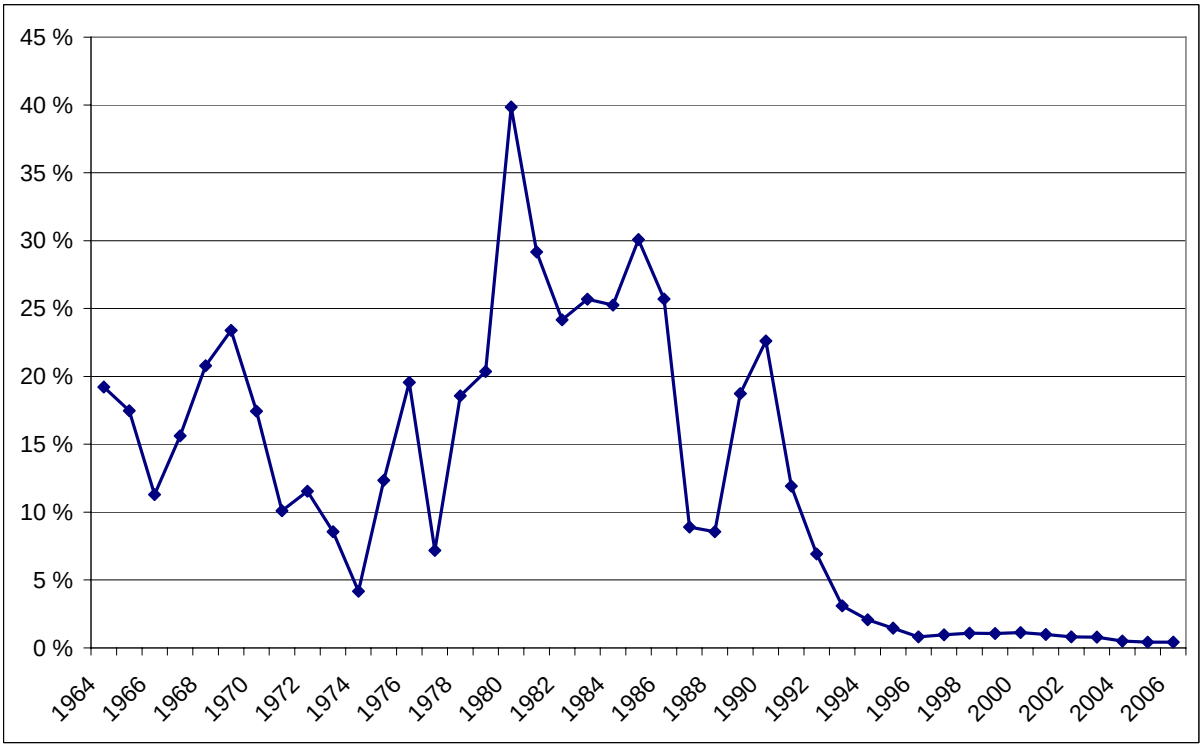

Figure 3.9 Subsidies through the General Agreement as a proportion of catch value, 1964 – 2006[1]. Percentages

[1] The Agreement for 1974 covered the period from 1.6.1974 to 1.1.1975.

Figure 3.9 shows the size of fisheries subsidies as a percentage of catch value, 1964 - 2006.

As illustrated by Figures 3.8 and 3.9, fisheries subsidisation has varied greatly, and until circa 1980, the correlation between the level of fisheries subsidisation and catch value was relatively clear: in periods of low catch value, subsidisation increased; in periods of high or increasing catch value, subsidisation was low. Fisheries subsidisation peaked in 1991 before it was subsequently phased out.

As stated above, the object of the General Agreement was to guarantee fishermen an income commensurate with that of other occupational groups. Figure 3.10 illustrates how the need for subsidisation in the fishing industry developed during the period in which the General Agreement was in force and in the two years after the period. The figure presents the trend in fisheries subsidisation per registered fisherman in selected years over the period 1964 – 2006, measured in fixed prices (2006 prices), compared with fisheries subsidisation plus catch value per fisherman over the same period.

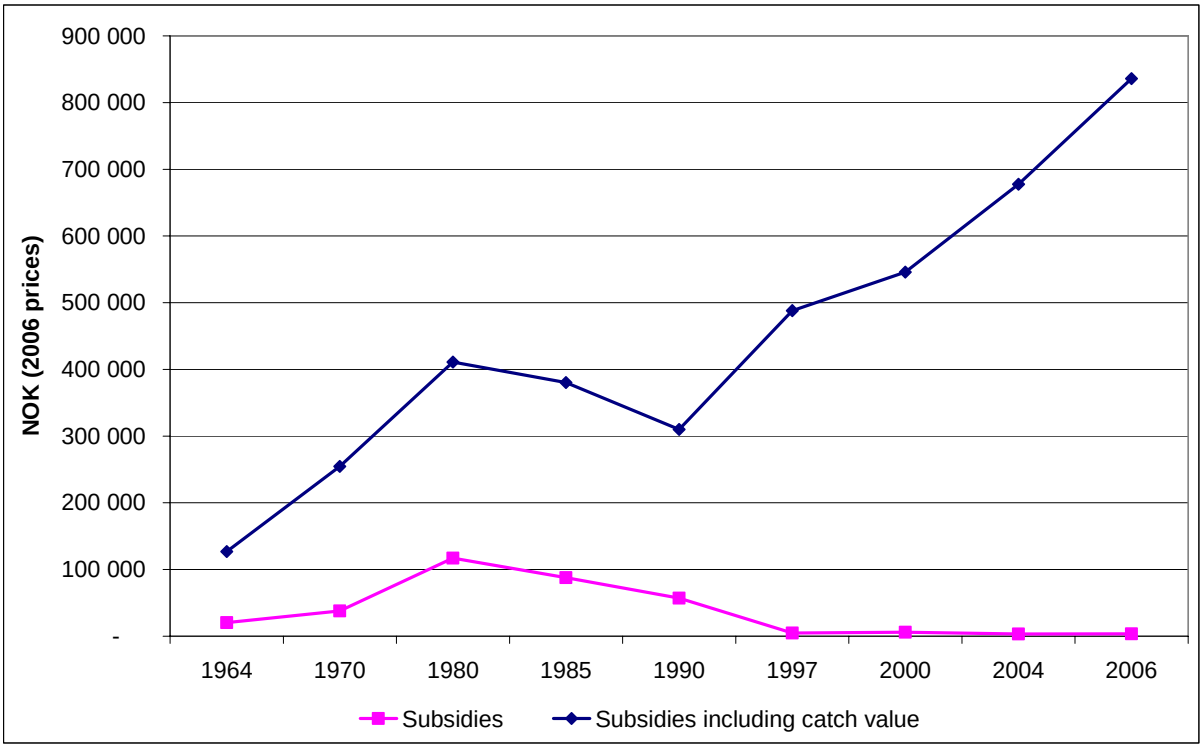

Figure 3.10 Subsidies through the General Agreement and subsidies through the General Agreement including catch value, selected years, 1964 – 2006 (2006 prices). Average per registered fisherman

Figure 3.10 indicates that, until 1990, subsidies through the General Agreement served to boost earnings from the fisheries. After the early 1990s, subsidies through the General Agreement have had little impact on the trend. This is due to the fact that, in the latter years, few fishermen received any direct or indirect subsidy through the General Agreement.

As stated earlier, the object of the General Agreement was to eventually eliminate all forms of subsidisation. Improved resource management and adaptations of capacity in the fishing fleet to the available resource base reduced the need for subsidisation. Moreover, international agreements such as the EEA and EFTA agreements restricted the possibilities for providing continual State aid to industry. The General Agreement was rescinded on 31 December 2004, and in its latter phase was of only marginal economic significance for Norwegian fisheries. Certain components of the General Agreement

such as guaranteed crew share and transportation subsidies have been continued as ordinary items in the National Budget.

There is little doubt that fisheries subsidisation was instrumental in making employment higher in some periods than the level for which the revenues from fishing itself actually provided a financial basis. The phasing-out of fisheries subsidies influenced the rate at which the numbers of fishermen and vessels were reduced during the 1990s. Price subsidies and other operational assistance meant that the industry was employing more individuals than it would otherwise have done, which meant that government assistance had the effect of sheltering the industry from the efficiency requirements imposed on other industries. Fisheries subsidies thus also made it possible to build up and sustain excess capacity in the fisheries in the shape of both excess labour and vessels. In this way, the subsidies created a need for the structural instruments subsequently introduced in the fishing fleet.

Price subsidies and other operational assistance combined with resource rent paved the way for a far higher rate of employment and capital investment in the fisheries industry than merited by the fish resources and than would have been possible in other industries. The transition from being a heavily subsidised industry to being an efficient sector capable of realising resource rent has necessarily led to great structural changes in the fisheries. The costs of adapting to the new situation have to a great extent been borne by the actors in the industry themselves.

3.6 Capacity in the Norwegian fishing fleet

A number of studies dealing with capacity increases in the Norwegian fishing fleet are cited by the Structural Committee in Norwegian Official Report 2006:16, Chapters 3.7 and Appendix 2. These studies demonstrate great differences between the different vessel groups, but also produce varying findings.

As indicated in the foregoing Chapter 3.3 Concerning capacity measurements and driving forces behind capacity increases, it is important to bear in mind that surveys of fleet fishing capacity are associated with a number of problems. This entails a large methodological problem in any study. Furthermore, technical fishing capacity is scarcely relevant as regards vessel-quota regulated fisheries.

The vessel owners' own preferences regarding time spent fishing, vessel size and design, returns and utilisation of capacity further complicate the need for capacity reduction, especially in the coastal fleet. Concerns surrounding occupational health and safety especially mean that individuals prefer to operate larger vessels than necessary for catching their quota. These differing preferences go some way to account for the fact that profitability varies greatly between the vessels, even among vessel groups with more or less the same operational capability. One fisherman may be happy with his current fishing capability, even if his vessel, in technical and financial terms, offers low capacity utilisation. This may account for why not all vessel owners wish to make use of the structural systems open to them. This means that studies of capacity in isolation will tend to exaggerate the need for capacity reductions.

Against this background, it is difficult to determine the current capacity situation in the Norwegian fishing fleet with any precision.

Calculations of technical capacity trends in the fishing fleet reveal a substantial increase, although the structural systems that have been in operation in recent years have meant that the number of vessels has been reduced considerably since many of the studies were conducted.

There are those who regard it as a weakness of the structural systems that they encourage greater increases in the technical fishing capacity of the remaining vessels than the reduction achieved when older and smaller vessels are withdrawn from the fisheries. Some of the studies which indicate a capacity increase also address the situation in periods where there have been no structural systems, but rather limited entry. Since both limited entry and structural systems are conducive to investment in vessels, the increase in technical fishing capacity is not a surprising consequence. At the same time, this is of secondary importance, since the intention of the structural systems is not to reduce technical fishing capacity.

We should also take into account that steady renewal of the fishing fleet is both desirable and necessary in order for the fishing industry to keep up with ordinary cost and welfare trends in society. This is what enables the industry to offer competitive wages and working conditions that meet occupational health and safety requirements.

Limited entry and structural systems are part of the overall framework conditions which in both the short and the long term are what will enable the fishing industry to achieve continual renewal. Equally, renewal leads to increased technical fishing capacity provided that this is measured in terms of vessel size and other factors connected with vessel dimensions (engine size and amount of gear).

We are therefore unable to draw any unequivocal conclusion concerning the need for structuring based on static capacity measurements, especially since these are dynamic factors that are capable of changing rapidly depending on the size of fish stocks or on the back of real technological advances.

Against this background, the intention underlying limited entry in the fisheries is to limit the number of new fishing enterprises, while the intention of the structural systems is essentially to reduce the number of vessels participating in a given group. As such, the structural systems are above all aimed at curbing financial overcapacity. The actual ability of structural systems to counteract financial overcapacity is however dependent on how the fishing vessel owners choose to use the financial benefits they achieve from an extended quota basis. If the aim is to check that profits are not spent on new, larger vessel replacements, this can be achieved only by introducing or enforcing specific and more restrictive size limitations on vessel replacements.

However, such limitations would be at the expense of safety, working and living conditions on board, quality criteria, etc. Accordingly, in various contexts, such as in St. Meld. (White Paper) no. 51 (1997-98) *Perspektiver på utviklingen av norsk fiskerinæring* (Perspectives on the developments of the Norwegian fishing industry), Chapter 6.4.4 and Innst. S. (Green Paper) no. 93 (1998-98) Chapter 6.2.4, the point of departure is for the regulations governing vessel design to be eased. This has been implemented in the regulatory provisions. In recent years, it has also been relevant to look at the possibilities of installing gas-fuelled machinery on fishing vessels, which would require larger vessels. The same trend is resulting from the development in so-called 'live fishing', that is, where the fish are hauled on board and transported live to net cages where they are stored until such time as it is convenient to slaughter them.

Any aim of reducing technical fishing capacity undermines the objective of continual renewal of the fleet and all that this entails. Within the system as it exists, it is therefore scarcely meaningful to reduce the overall technical fishing capacity of the fishing fleet.

In 1993, the average age of the entire registered fleet was 21.0 years, and this has increased every year with the exception of 2001-2002 when the average age in both years was 24.3 years. By 2005, the average had reached 25.1 years. More detailed figures for the individual vessel groups are provided in Figure 2.8.

Clearly, this cannot carry on indefinitely, which is why systems are required that promote investment in new vessels. Limited entry and structural systems are designed to create a sound financial basis for fishing that can justify the necessary investments.

3.7 Limited entry in detail

Before the 1970s, the authorities did little to encourage any reduction in the fishing fleet and the number of fishermen through public-sector instruments. Fishermen and vessels that left the fisheries before that time tended to do so as a result of technological developments, alternative employment and alternative investment opportunities. The collapse of the herring fishery illustrated the problems posed by excess capacity. Awareness of this increased, and capacity adaptation was adopted as a distinct objective in the interests of resource management. In St. Meld. (White Paper) no. 18 (1977-78) *Om langtidsplan for norsk fiskerinæring* (Concerning the long-range plan for the Norwegian fishing industry), for example, the preamble reads:

”One key aspect of the long-range plan is to seek to strike a balance between the different levels in the industry within the frameworks of the resource base for our fisheries and the market conditions for the product. Within these frameworks, we are aiming to elaborate key aspects of fisheries policy."

In Chapter 8.2 of the report, *Fiskeripolitiske hovedmål* (Primary goals for fisheries policy), goal no. 1 is described as:

”Growth in any commercial enterprise associated with the fisheries is founded on the resource base for fishing. The fish resources in marine areas that are of significance for the Norwegian fishing industry and our share of these resources should therefore form the point of departure for the long-range plan.”

Since the early 1970s, resource management has been a dominant concern. One of the consequences of this has been a process whereby different fisheries at varying points in time have been subject to limited entry. Up until 1990, this was particularly the case for the offshore fleet, although the first limited entry in what is today referred to as the coastal fishing fleet was implemented as early as in 1983 for vessels of between 70 and 90 feet operating in the mackerel fishery south of 62 degrees north – referred to as unlicensed purse-seiners. In 1990, the coastal fleet’s cod fishery north of 62 degrees north was made subject to limited entry.

In St.Meld. (White Paper) no. 58 (1991-92) *Om Struktur- og reguleringspolitikken overfor fiskeflåten* (Concerning structural and regulatory policy for the fishing fleet), it is stated, as early as on page 5, under the heading ”Primary objectives”, that protection of the resource base is ”the foremost objective of fisheries policy”.

The current system of limited entry is differentiated depending on different factors in the different fisheries. For example, a licence is required for trawling in any fishery. The license requirement for purse-seining is however limited to vessels of 28 metres or longer. Similarly, the licence requirement for shrimp trawling is limited to vessels of or under 65 feet and to the grounds north of 62 degrees north. Besides fisheries subject to a licence requirement, a number of fisheries are now subject to so-called 'annual limited entry' pursuant to Section 21 of the Participant Act. In most cases, however, these are confined to individual species, with the exception of the limited entry applicable to vessels of 28 metres or longer. This limited entry covers all benthic fishing with conventional gear for this vessel group.

Some fisheries are now completely closed in the sense that all fishing is subject to limited entry through annual limited entry or licence requirements. Other fisheries are subject to limited entry for individual regulation groups, but also have an open group. This is the case, for instance, for the cod fishery north of 62 degrees north, where all trawling requires a licence, all fishing with conventional vessels of 28 metres or longer is subject to limited entry, while the coastal fleet under 28 metres has a limited entry group and an open group. Some fisheries are subject to limited entry for vessels over a certain size, but open to smaller vessels. This is the case for shrimp trawling south of 62 degrees north for example, which is subject to limited entry solely for vessels over 11 metres.

In addition, some fisheries are not subject to limited entry, but managed through quota regulation and rules regarding fishing practices. This applies, for example, to the blue whiting fishery, which is prohibited for all vessel groups except the coastal fleet under 28 metres within fixed quotas. The last category is the fishery for species not subject to quota regulation or limited entry such as the coastal fleet fishery for ling, torsk fish and pollack. All fisheries however are subject to a requirement to hold a commercial licence for operating in commercial fishing.

The closure of a fishery or a vessel group through licensing systems and annual participant permits does however entail that operators inside the closed fishery are given protection against having to compete with newcomers. Those 'inside' are, as it were, granted an exclusive right to fish, but that right is not exclusive in the sense of a 'monopoly' and they are not protected against changes. The criterion for obtaining a licence or permit has, in virtually all cases, been participation in the respective vessel group, in the fishery in question for 12 months or more immediately prior to the introduction of limited entry. Furthermore, there have always been individual instances of operators being required to meet certain activity requirements in order to be assured of retaining the licence or permit. As regards the general and underlying commercial licence, rules exist for revoking this if the vessel is not used for active fishing. Where this is revoked, any fishing licence or permit will automatically be revoked as well.

In practice, limited entry to the various fisheries has to some extent reduced mobility in the industry. Against that, limited entry is instrumental in stabilising the quota basis and vessel structure. This results in greater investment security and greater security for the financial institutions.

Equally, limited entry gives access to participate an intrinsic value. If the number of operators goes down and the available quotas are thus distributed among fewer vessels, for example, as a result of structuring processes – the prospects for future profitability increase and the value of the fishing permit also

increases. The design of the structural systems also affects the value of fishing permits: the more favourable the structural systems, the higher the price attainable for the fishing permits.

This poses a challenge, notably for new operators seeking to set themselves up in fisheries within limited-entry groups, and is a contributory factor in further cementation of vessel structure and ownership.

Figure 3.11 Batalden – an active coastal community in Sogn og Fjordane.

Photo: Harald Ulriksen

3.8 The structural systems in detail

The fishing fleet is provided with opportunities for improving its efficiency through various structural measures. The direct consequence of limited entry and structural systems is a reduction in the number of vessels in each individual vessel group. This facilitates increased profitability in both socio-economic and commercial terms.

But at the same time, structural measures have other impacts that must be considered in connection with the design and enforcement of the systems.

Firstly, fewer vessels result in a reduction in total fishing costs. Increased quotas for the remaining vessels result in lower fishing costs because the fixed costs are spread over larger catches. These economies may amount to a substantial profit, but industry-financed systems may at the same time result in an increased need for external financing. In these instances, the remaining operators will be encumbered by higher fixed capital costs for a period.

Secondly, fewer vessels in the fishing fleet mean reduced employment. This causes fishing costs to go down, while it also facilitates improved wage and working hour arrangements for the remaining fishermen. The use of replacement crew especially means greater predictability for the individual, making

it easier to combine fishing as an occupation with a modern family and social life. This in itself is positive for recruitment to fishing as an occupation.

Conversely, for fishermen who are made redundant and fail to find new work, there is both a human and socio-economic cost. However, employment trends in the fishing industry essentially match those in other competitive industrial sectors. These sectors are in a continual state of flux and have been so for decades. As such, the reduction in the number of vessels and fishermen was not a trend that started with limited entry or structural quota systems; see the summary of this trend in the preceding Chapter 2. The trend in unemployment benefit paid to fishermen does not indicate that fishermen suffer widely from unemployment, and, in fact, projections of future labour requirements in Norway indicate a shortage of labour. Those industries capable of raising their efficiency will have to cover this shortage in order for other sectors to grow.

This is one side of the picture. Another side is the consequences for local communities that have been highly dependent on the fisheries, and which have to submit to change processes if employment in the fishing fleet is reduced. Any changes in the fishing fleet affect not only employment in the fleet itself, but have general local impact. Thus, reductions in the fleet will, at least in the short term, have negative impacts on local labour markets, and ultimately will affect settlement in fisheries-dependent communities. If a shortage of alternative employment results in migration from local communities and reduced activity, the resulting reduced use of infrastructure and real capital in a local area will also involve a socio-economic cost.

However, structural changes in settlement patterns and local activity do not arise as a result of the structural measures. These are elements in the continual evolution of society, and are influenced by many different factors, of which the structural measures are just one. The many villages and fishing communities which have been abandoned point to such changing adaptations in response to technological and social progress.

3.9 The Government's summary and conclusion

3.9.1 The need for structural systems

As mentioned above, as early as in St. Meld. (White Paper) no. 18 (1977-78), the focus was on the need to achieve a fishing fleet that, in terms of capacity, would be adjusted to the resource base and to enable the fishing industry to respond to the projected competition for labour. Chapter 8.2 of the White Paper states:

"The resource base to which our fishing fleet must adapt itself in future is limited. By and large, we cannot hold out any hope of expansion potential in the fisheries. In key fisheries, the fleet already has excess capacity in relation to the resource base. This results in reduced profitability. It also makes it difficult to secure satisfactory employment for those who work on the vessels. One prime objective must be to achieve a fishing fleet which in terms of capacity is adjusted to the resource base."

Similarly, St.Meld. (White Paper) no. 58 (1991-92) *Strukturmeldingen* (White Paper on Structure), Chapter 11.2 states:

”The object of regulation must necessarily be to achieve certain aims. From a fisheries perspective in isolation, those aims must concern the achievement of a sustainable and profitable industry. This is achieved through measures to stimulate increased earnings and reduced costs.”

The authorities have used various instruments for restricting or reducing the size of the fishing fleet, and regard for the resource base and the profitability of operators has been a core aim of the various systems.

However, the limited entry system introduced in different fisheries is not, in isolation, an ideal instrument for resolving the capacity issue. This is due to several factors, notably the following:

Firstly because limited entry bars access by new operators on the ’outside’ of the system, but also confers value on the right to participate in itself. This means that few vessels are withdrawn from the fishery without being replaced by a new one, and that few actors leave the fishing industry without selling their vessel for continued operation. At times however, and in individual vessel groups, there has been a not unsubstantial shedding even among the limited-entry groups. This has occurred mainly in periods with low licence values, or as a result of regulations that require a certain level of activity.

In the 1990s and to the end of 2001, the activity requirement in the closed group in the cod fishery north of 62ºN resulted in a substantial reduction in the number of vessels in this group. A total of around 870 vessels exited the group as a result of a lack of activity. The effect of such rules is increasingly weak over time as the remaining operators gain increasingly higher average quota utilisation. Consequently, the ’activity requirement’ was revoked. The effect of the activity requirement was also counteracted by the fact that, based on the quotas that were ’freed up’ in each county, so-called ’recruitment programmes’ were carried out. The aim of these programmes was essentially to recruit young fishermen to the closed group.

Secondly, we would like to draw attention to the fact that there was a long-standing call to create conditions that would give the operators more latitude in the design of their vessels. More than anything, this was in the interests of allowing individuals to choose a vessel suited to their own operations, and one that would offer sound working and living conditions and meet increasingly stringent safety requirements. Limited entry systems, whether in the shape of licensing systems or annual permit systems, allow more operators than would otherwise be the case to achieve the assurance of achieving the future earnings needed for investing in larger and better vessels.

These larger and better vessels tend also to represent greater technical fishing capacity, and entail a larger monetary investment than is strictly necessary for fishing the allocated quotas. In effect, any renewal of the fishing fleet means an increase in the fleet’s technical fishing capacity. The trend towards larger vessels over time changes the fleet structure and the ratio of large to small vessels. The aim of achieving a differentiated structure for the fleet would therefore also entail a conflict with the aim of more latitude for individuals in the design of their vessels.

Equally, it is worth bearing in mind that even if excess capacity causes problems, there are factors to indicate that, in objective terms, there is a need for a certain amount of excess capacity. The natural variations in the size of fish stocks are large, and since the fish stocks change more rapidly than the

fishing fleet, it is difficult, if not impossible, to maintain a fleet ideally matched at any time to the resource base. In order to be able to harvest peaks in the stocks and thereby realise the benefits of increased quotas, a certain amount of excess capacity in the fleet is necessary. Furthermore, it is worth bearing in mind that availability and quality vary within a single season or period, and that since the fishing fleet is dependent on these factors, a certain amount of excess capacity stands to reason if the quotas are to be fished to their maximum. This would include situations where fish stocks accumulate, since a certain amount of excess capacity is sensible to ensure full use of future quota increases.

The enduring lines in Norwegian structural policy, ever since St. Meld. (White Paper) no. 18 (1977-78) *Om langtidsplan for norsk fiskerinæring* (Concerning the long-range plan for the Norwegian fishing industry), have nonetheless concerned a continual need for systems to facilitate continual adaptation of the fishing fleet to the fish resources and efficiency improvements. Chapter 9.4.1 of the White Paper reads:

> ”In terms of capacity, the fleet should be adjusted to match the resource base. In key fisheries, the fleet already has excess capacity in relation to the resource base. In some fisheries, the taxation paradigm chosen in order to achieve rational exploitation of fish stocks should have consequences for the structure of the fleet. It is an objective to achieve a fishing pattern conducive to resource-conserving exploitation of fish stocks. The composition of the fleet affects population settlement patterns. The aim should be a fleet that will be instrumental in preserving the main traits of population settlement trends. This entails taking into account the impact of fleet composition on onshore enterprises. The irregular supply of raw material to substantial proportions of the processing industry poses a problem. Against this background, various considerations must be weighed up in respect of fleet composition. Based on the preferred fleet composition, the aim should be to build up a rational and efficient fleet that will generate high profitability and sound earnings prospects for those involved in the fleet. The requirement regarding physically satisfactory workplaces must also be accorded high priority.”

In many ways, the observations made here still hold true. Not because extensive structural changes have not been made in the fishing industry in the intervening period since this White Paper came out, but because adaptation has to be continuous. The need for continual adaptation is created both by technological advances and by advances in society generally.

The cited text states that the differing importance of different vessel groups for population settlement patterns must be given due consideration. This is done primarily through the distribution of resources that occurs between different vessel groups. Within this framework, necessary and sustained adaptation must be made so that active vessels are able to offer safe, sound and attractive workplaces.

The alternatives to such systems are the kind of structural adaptations that occur as a result of compulsory winding up of the individual operator’s business, through liquidation processes for instance. One problem, however, is that fishing vessels tend to be unsuited to other uses. Consequently, capacity reduction without special systems will usually result in substantial loss of value or mean that new operators take over and continue operations. This has the effect of delaying the necessary capacity

adaptation. The consequences of structural adaptation without special systems will also be far less transparent than if it is effected within regulated frameworks.

This does not necessarily mean that there is a constant need to reduce the number of vessels in every vessel group. The Government will regularly assess and decide on a number of factors. This is the case, for instance, in the choice of structural instrument and the choice of which groups are to be offered a given structural instrument at any given time. Furthermore, there is the decision as to the limitations to be incorporated in the structural systems in order to protect district-specific interests and the degree of structuring that is required.

Against this background, the Government finds that there is a need to continue the structural systems for the fishing fleet.

3.9.2 Concerning stability in the distribution of resources

As noted immediately above, different fish resources are distributed among different vessel groups. Structural adaptation occurs within each individual vessel group, within the frameworks of this distribution.

Whenever the available quota basis for the fishing fleet has been too small to guarantee profitable year-round operation for all vessels, the distribution of the resources becomes the object of debate. Scarcity creates conflict between different vessel groups, and creates uncertainty surrounding future operational prospects. It is therefore vital to ensure stable and long-term distribution of resources between the vessel groups. This creates predictability and serves to shift the focus of individual vessel owners and fishermen away from ”the competition for shares” to opportunities for increased value creation per kilo of fish.

The current distribution of resources between different vessel groups came about as a result of the historical development of fishing as an occupation. The distribution of resources thus reflects the adaptation to the resources made by different local communities, and the trends among different vessel groups that have committed to this adaptation. The current distribution of resources also came about as a result of the fisheries and industrial policy pursued over the last 50 to 100 years. It thus also reflects changing political choices and priorities.

As of the year 1990, the Norwegian quota of North-East Arctic cod was distributed between vessels fishing with conventional gear and trawlers according to a special distribution key (known as the ’trawling increment’, *trålstigen*). Although quotas were also formerly split among different vessel groups, in many respects, the trawling increment was the start of the process that led to a more consistent distribution of resources. The trawling increment was proposed by the Norwegian Fishermen’s Association (NFA) following talks within the different NFA groups, and was implemented by the authorities when the quotas were determined.

The trawling increment was dynamic in the sense that the shares of the two groups differed depending on the size of the Norwegian total quota, and it gave priority to the coastal fleet when total quotas were low. This prioritisation was continued in subsequent adjustments of the trawling increment. Thus, the

trawling increment was not just a distribution compromise in an emergency situation, but set a standard for the future.

The NFA has subsequently, on many occasions, deliberated on the issue of quota distribution between different vessel groups in respect of increasing numbers of fish species. The fact that the authorities for their part have placed great emphasis on the industry's own view of the distribution issues, as expressed notably in resolutions from the NFA national assembly, is attributable to the importance of long-term stability and calm surrounding the distribution issues. The Norwegian Parliament's Standing Committee on Business and Industry stated as follows on this matter in Innst. S. (Green Paper) no. 93 (1998–1999):

"The Committee would refer to the fact that the fishing industry is dependent on nature and is exposed to natural fluctuation. The take should therefore be governed by sustainable harvesting of the resources. However, the Committee wishes to emphasise the fishing industry's need for stability and frameworks on which to base its operations, even if the quotas change from one year to the next. The Committee maintains that the system of distributing fish quotas between offshore and coastal fisheries should be reviewed with a view to arriving at a permanent distribution key. It should thus remain an objective for the industry itself through the fishermen's unions to arrive at accordant distribution schemes amongst the different groups. The Committee wishes to emphasise that the distribution of quotas amongst the groups should be maintained over time in order for it to be an effective instrument for promoting structural adaptation and long-term planning."

The distribution keys proposed by the Norwegian Fishermen's Association have therefore to a great extent been adhered to by the Ministry of Fisheries and Coastal Affairs.

The Government maintains that continued stability concerning these distribution issues is of great significance for sustained growth in the fisheries sector. Redistribution amongst the groups would solely result in uncertainty concerning a future quota basis, and hence a lack of security for those investments that are needed for creating the fishing fleet of the future. This applies to all vessel groups, from small and medium-sized fishing boats, through large coastal vessels to the offshore fishing fleet.

A stable distribution between the vessel groups will thus also be a basic criterion for achieving the intended effect of the structural measures in the different groups. The structuring must be effected within predictable, long-term frameworks for quota distribution, and the structural benefit must accrue to the vessels in the group in question. Only then will each fisherman be properly able to consider the alternatives open to him.

4 The format of the structural systems

4.1 Introduction

In Norway, two structural instruments have been employed: decommissioning and various systems for consolidating quotas. The period up to the 1980s was characterised by decommissioning systems. Subsequently, consolidation schemes have been employed increasingly and are now the most important instrument.

However, the main object of these systems is the same. First, that they are to enable the industry to keep up with continual productivity improvements on a par with all other industries; see the preceding Chapter 3. Reductions in the number of participating vessels creates opportunities for improved profitability for those vessels that remain. Operators in the industry are thus to be given a means of improving their efficiency within a regulated framework. Second, the systems must promote better capacity adaptation in the fleet to match the resource base. In this way, we also stand to achieve a number of other benefits, such as making it easier to finance vessel renewal, and easier to attract qualified labour, a reduction in the need for monitoring, etc. In this chapter, we discuss different structural systems and the measures to be employed in future in the different vessel groups.

4.1.1 Financing of the systems

One of the chief differences between the various systems has been the form of financing used. While the public sector has financed the decommissioning systems, the consolidation scheme has in effect been a privately financed efficiency improvement programme, in which increasing demands have been made for the scrapping of withdrawn vessels. The characteristic aspect of the consolidation scheme is that the individual that undertakes the cost of withdrawing a vessel from a fishery is granted a higher quota in return. In many instances, the consolidation scheme amounts to quota reduction. It also means that the other participants in the group benefit from an immediate gain from the reduced number of participants. When the additional quota allocated on the basis of consolidation is subject to a predetermined time limit, as in the earlier unit quota systems, the entire gain will ultimately be distributed among all the remaining participants in the regulation group in question.

The current systems are described in more detail in Chapter 4.2.

The decommissioning system currently applicable to coastal vessels with a quota length of under 15 metres deviates from this general pattern. A decommissioning subsidy is awarded from a fund in which 50 per cent of funds are State funds and 50 per cent derive from a tax on the gross catch value of any catch comprised by the sales organisations' exclusive right to first-hand sales pursuant to the Act on the marketing of raw fish; see the regulations of 30 June 2003, no. 876 concerning structural taxation and the Decommissioning Fund for capacity reduction in the coastal fleet. The Decommissioning Fund, and hence the decommissioning subsidy, is thus financed in part by the industry.

From 1960, the Government Bank for Fisheries (Statens Fiskarbank) administrated several programmes for decommissioning fishing vessels in both the offshore and coastal fishing fleet. For the offshore fishing fleet, the funds have been used mainly for reduction of the purse-seining and cod trawling fleet. As illustrated in Table 4.1, from 1960 to 1993, 393 vessels were decommissioned and a nominal NOK 592 million were dispensed.

Table 4.1 Decommissioning of vessels in the offshore fishing fleet, 1960 – 1993

	1960 – 68	1969 – 78	1978 – 88	1990 – 93	Total
Decommissioned vessels	115	55	190	33	393
NOK millions (nominal)	15	11	470	96	592

Source: OECD 2004. Further examination of economic aspects relating to the transition to sustainable fisheries: A case study of Norway. OECD, Paris.

The first decommissioning programme for the coastal fleet was also implemented in 1960. Up until 2002, 2,843 vessels were decommissioned under this programme, at a total cost of a nominal NOK 514 million; see Table 4.2. For the coastal fleet, the decommissioning funds were formerly in effect a subsidy for fleet renewal, in that the State bought up older vessels, and the vessel owner received capital that could be used to finance a new vessel. The decommissioning funds have thus in the past indirectly contributed to capacity increases.

Table 4.2 Decommissioning of vessels in the coastal fishing fleet, 1960 – 2002

	1960 – 68	1969 – 78	1978 – 88	1990 – 93	1998 – 02	Total
Decommissioned vessels	1760	540	490		53	2843
Combined decommissioning[1]				143	44	187
NOK millions (nominal)	21	13	130	150	200	514

[1] Subsidy for vessel owners who withdrew their vessels permanently from a fishery, but whose aim was to continue fishing with another vessel which entailed substantial renewal or upgrading in relation to the vessel for which the decommissioning subsidy had been granted.

Source: OECD 2004. Further examination of economic aspects relating to the transition to sustainable fisheries: A case study of Norway. OECD, Paris

Post-2002, decommissioning subsidies for coastal fishing vessels have been administrated by Innovation Norway through the Decommissioning Fund. The effect of this is described in a separate section below in Chapter 4.2.2.1.

In the last few decades, various forms of consolidation schemes have taken over as the main instrument. These schemes have been financed solely by the actors in the industry involved. The first schemes were based on consolidation of so-called licence capacity for vessels in the purse-seining group and the shrimp trawl group, without any form of predetermined time limit on the increased licence capacity. In the purse-seining group, this resulted in a direct benefit in the form of a higher quota, although the format of the quota system limited this benefit. In other words, consolidation amounted to reduction.

With the so-called unit quota systems for different groups in the offshore fishing fleet, a predetermined time limit in the additional quota was introduced. The time limit was, for example, 5 years in the cod trawl group's unit quota system from 1990, but was gradually extended in new systems, via 10 and 13 years, up to a maximum of 18 years in the new systems after 2000. In 2000, a separate consolidation scheme for small trawlers in the cod trawl group was introduced. Even though this system had its own purpose different from the unit quota system, it also functioned as a structural system, but without a predetermined time limit.

The structural quota system for the coastal fishing fleet in 2003 was the first system for quota consolidation in the coastal fleet and this was introduced without predetermined time limits for the

allocation of the structural quota. After that, the structural quota system for the offshore fishing fleet replaced the previous unit quota systems in March 2005.

These developments are illustrated in Figure 4.1.

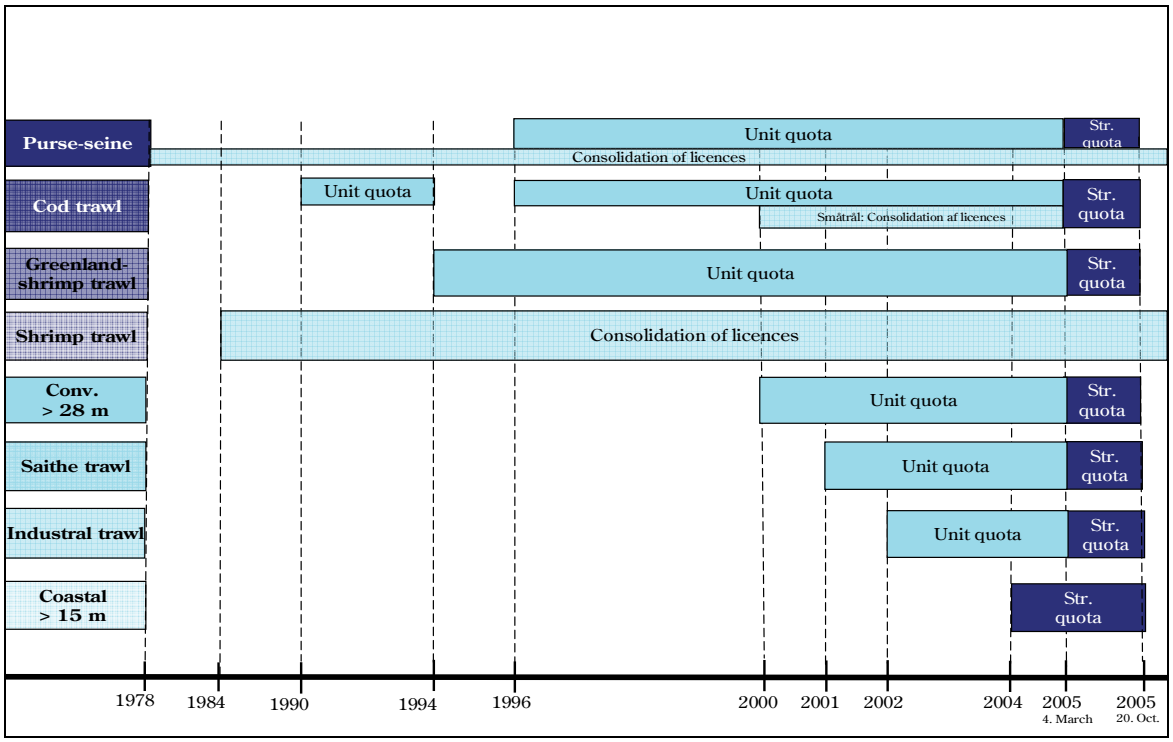

Figure 4.1 Consolidation schemes in the fishing fleet from 1978

4.2 The current structural systems in detail

4.2.1 The relationship to the regulation and entry groups

For the vast majority of fisheries, groups of vessels with annual participant permits have now been established either through the licensing regulations or the annual participant permit system pursuant to Section 21 of the Participant Act. The annual quota distribution is then performed through regulations pursuant to the Act relating to sea-water fisheries.

An example of quota distribution is shown in Figure 4.2. The figure shows the distribution between different vessel groups of the Norwegian quota of cod north of 62 degrees north in 2007.

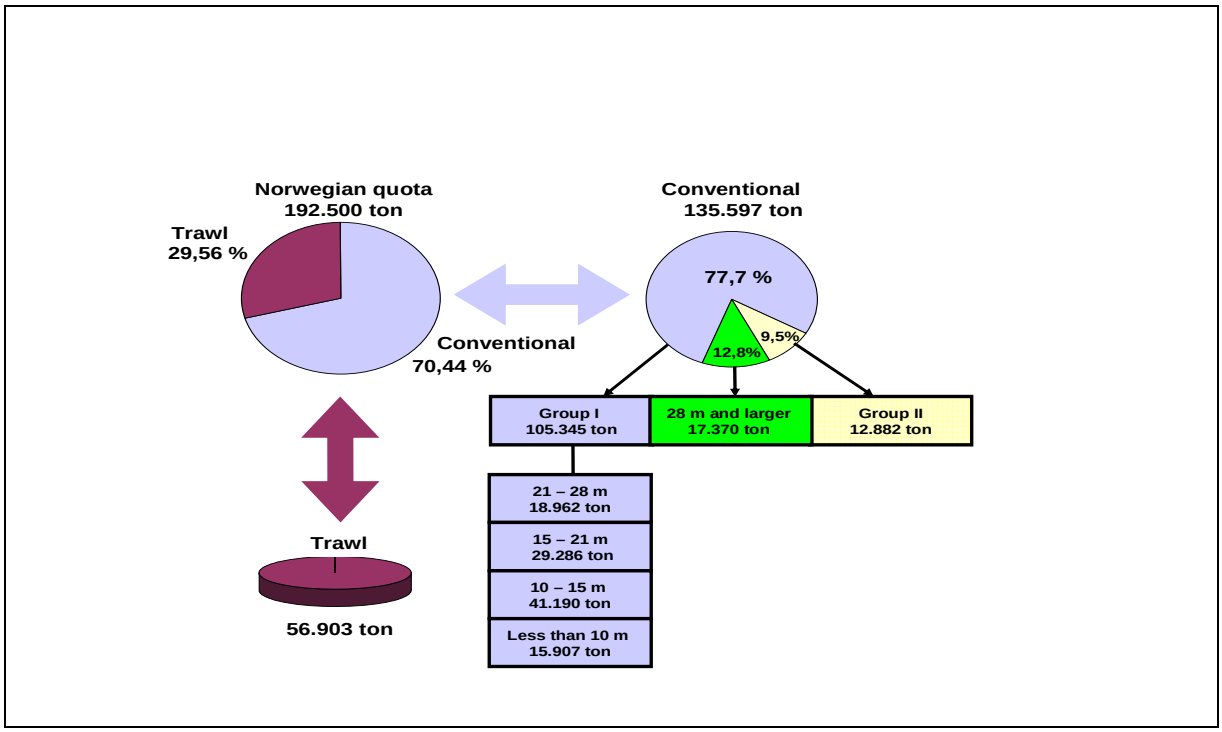

Figure 4.2 Distribution of the total quota for cod north of 62°N in 2007

There are seven regulation groups which have quotas for direct fishing of cod north of 62 degrees north - the cod trawl group, conventional vessels of 28 metres or above, the four different groups under 28 metres in the coastal fleet and an open group for conventional vessels under 28 metres. The structural systems, whether decommissioning systems or structural quota systems, operate within the individual groups. This is discussed in detail in Chapter 4.2.2.1 The decommissioning system for the coastal fishing fleet, Chapter 4.2.2.2 The structural quota system (SQS) for the coastal fishing fleet and Chapter 4.2.3 The structural quota system (SQS) for the offshore fishing fleet.

To participate in the open group for conventional vessels under 28 metres, the conditions are that the vessel is listed in the Register of Norwegian Fishing Vessels, that the owner of the vessel and skipper are registered in the Register of Fishermen and that the vessel is suitable, crewed and equipped for fishing for cod, haddock and saithe. There are no structural systems in this group, inasmuch as every withdrawn vessel may be replaced by another.

4.2.2 The coastal fishing fleet

4.2.2.1 The decommissioning system for the coastal fishing fleet

The current decommissioning system is financed in part by a tax payable on the first-hand value of the catch and in part by State subsidies. The system was introduced in July 2003, on the basis of deliberations on Ot. prp. (proposition to the Odelsting) no. 76 (2001-2002) and St.Meld. (White Paper) no. 20 (2002-2003) *Strukturtiltak i kystfiskeflåten* (Structural measures for the coastal fishing fleet). For a detailed account of the background to the system, readers are referred in particular to Chapters 8.4 and 10.4 of the White Paper. The system's rules are set out in the regulations of 30 June 2003 no. 876 concerning structural taxation and the Decommissioning Fund for capacity reduction in the coastal fleet.

The decommissioning subsidy from the Decommissioning Fund may only be allocated to vessels with permits to participate in limited-entry fisheries and which have a quota length under 15 metres. The

conditions for allocating a decommissioning subsidy are that permits linked to the vessel are surrendered and the vessel is decommissioned. In certain cases, an exemption may be made to the requirement to decommission the vessel. The quota surrendered by the particular vessel will stay in the relevant regulation group and extend the quota basis for the remaining vessels. This is illustrated in Figure 4.3.

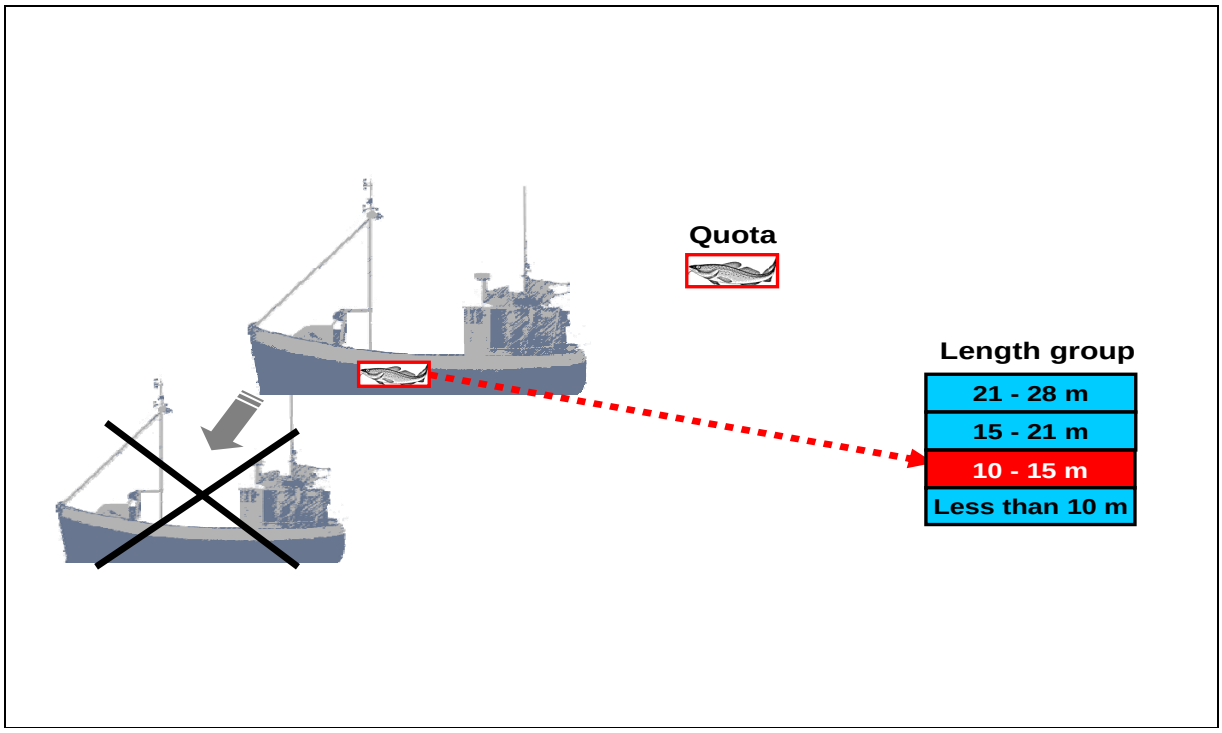

Figure 4.3 The Decommissioning Fund

It was decided, when the Decommissioning Fund was created, that the decommissioning system should operate for five years, see Section 9b last para. of the Act relating to sea-water fisheries. The system expires on 1 July 2008.

Norwegian Official Report 2006:16 Chapter 5.2.1 (see also Chapter 6) gives an account of the results of the system, and here it will suffice to mention that, through the system, a total of 330 vessels have been withdrawn (see Table 4.3) and a nominal NOK 170.8 million have been spent.

Table 4.3 The Decommissioning Fund 2003 – 2006

	2003	2004	2005	2006*	Total*
No. of decommissioned vessels	87	114	87	42	330
Cod fisheries	68	88	64	38	258
Other fisheries	19	26	23	4	72
Total in NOK millions	43	59.8	42.1	25.9	170.8
Cod < 10 m	49	55	41	20	165
Cod > 10 m	19	33	23	18	93

*Provisional figures

Source: Innovation Norway

While Table 4.3 shows how many vessels have been withdrawn from the fisheries, Table 4.4 shows how many annual participant permits have been surrendered through the decommissioning system in each individual county. This is different from the number of vessels, since a single vessel may hold a participant permit for several fisheries.

Table 4.4 Surrendered annual participant permits from vessels withdrawn through the Decommissioning Fund. By county and type of participant permit

	Cod < 10 m	Cod 10-15 m	NSS	North Sea herring	Shrimp	Mackerel < 13 m	Mackerel > 13 m	Total
Finnmark	46	33	1					80
Troms	36	15						51
Nordland	65	35	3			1		104
Nord-Trøndelag	6	4	1					11
Sør-Trøndelag	1					1		2
Møre og R.	9	5	4			11		29
Sogn og Fjordane	2	1	2	1		4	1	11
Hordaland			7	2	2	21	1	33
Rogaland			3		7	4		14
Vest-Agder						4		4
Aust-Agder					1	1	1	3
Telemark					1			1
Vestfold					3			3
Akershus								0
Østfold						1		1
Number	165	93	21	3	14	48	3	347

Source: Directorate of Fisheries and Innovation Norway

4.2.2.2 The structural quota system (SQS) for the coastal fishing fleet

The SQS for the coastal fleet was introduced through regulation of 7 November 2003 on special quotas systems for the coastal fishing fleet, with quota effect as of 2004. Like the decommissioning system, this system was also discussed in St. Meld. (White Paper) no. 20 (2002-2003) *Strukturtiltak i kystfiskeflåten* (Structural measures for the coastal fishing fleet).

The SQS works within the different regulation and entry groups in the coastal fishing fleet, in vessel groups with quota lengths over 15 metres.

The conditions for being allocated a structural quota are that a vessel will be decommissioned and all related permits surrendered. Once the conditions have been fulfilled, an owner's remaining vessel in the same length group can be allocated a structural quota for the fishery in question. The structural quota corresponds to the withdrawn vessel's quota, reduced by 20 per cent. The structural quota is allocated without a predetermined time limit, in contrast to the previous unit quota systems for the offshore fishing fleet. Provided that the vessel owner continues to meet the conditions that apply to owning a fishing vessel and the permit has not been withdrawn for other reasons under the various provisions of the Participant Act, the structural quota will be allocated in the future in the same way as the vessel's basic quota; see the more detailed description below of the relationship between the basic quota and the structural quota in Chapter 5.4.4.

Figure 4.4 En route for the fishing fields.

Photo: The Norwegian Seafood Export Council, Jean Gaumy

The reduction of 20 per cent means that all vessels in the group stand to benefit from an immediate structural gain. In Table 11.4 in St. Meld. (White Paper) no. 20 (2002-2003), this quota gain was calculated for different structural levels. This shows that, through a reduction of 10 per cent of the vessel group with a quota length of between 21 and 28 metres in the closed group for cod, haddock and saithe fishing north of 62 degrees north, the gain for each individual vessel would be 2.7 per cent. With a structural effect of 30 per cent, the gain resulting from the reduction would be 10.4 per cent. Corresponding figures for the group with quota lengths between 15 and 21 metres was calculated at 1.9 per cent and 7.5 per cent.

A schematic illustration of how the system works is shown in Figure 4.5. In the figure, a single vessel is shown receiving the structural quota, but the regulations do not prevent the structural quota from being shared among several vessels.

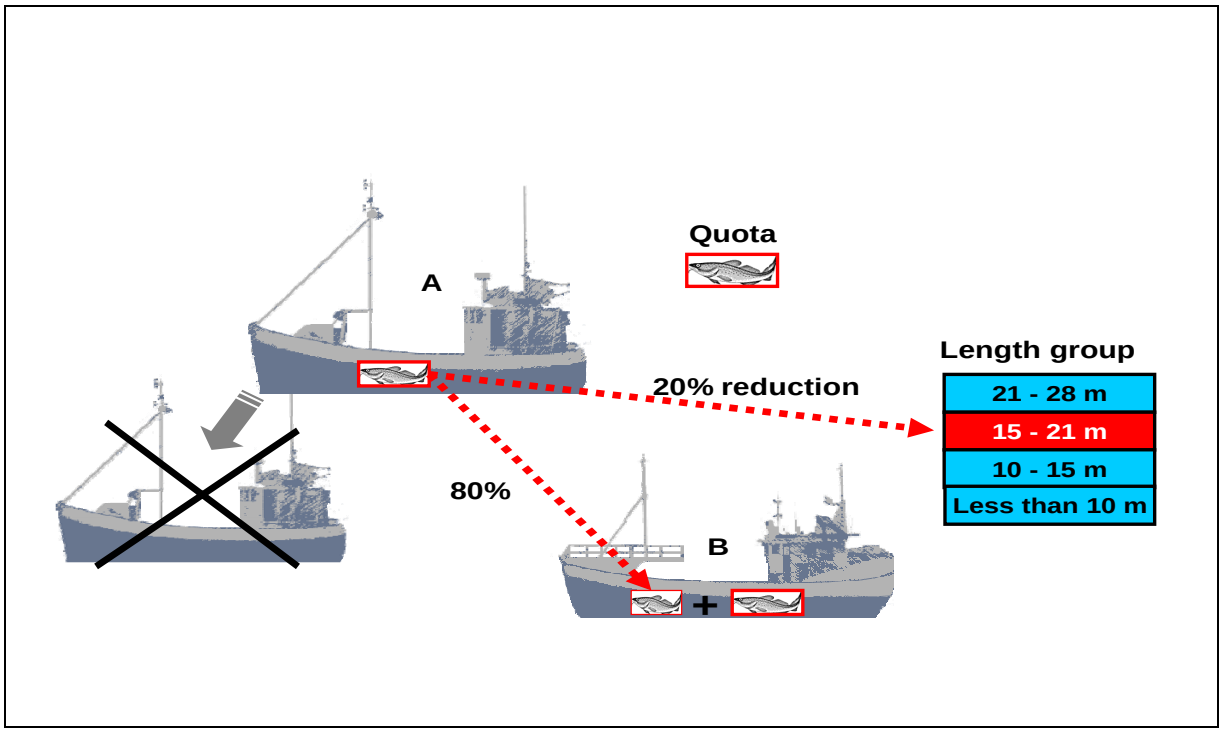

Figure 4.5 The structural quota system in the coastal fishing fleet

The system includes a quota ceiling, which means that a vessel cannot be allocated more than three times the vessel's own quota of the individual fish species, including this basic quota.

A review of the results of the SQS is provided in Norwegian Official Report 2006: 16 Chapter 5.2.2; see also Chapter 6. In brief, a total of 211 vessels were withdrawn through the SQS. A detailed overview of how many vessels are involved within each group in each individual county is provided in Table 4.5.

Table 4.5 Withdrawn vessels and exchanged annual participant permits pursuant to the structural quota system for the coastal fishing fleet. By county

County	No. vessels	Quota length (m)	Conv. vessels <28m North	Conv. vessels < 28m south	NSS coastal seine	Saithe seine north	Saithe seine south	Coastal mackerel seine 13-27.5m	Coastal mack. conv. 13-21.34m	Coastal shrimp trawl	North Sea herring seine < 27.5m	Total	Share
Finnmark	30	15-20.99m	20		6	4				1		31	34%
		21–27.99m	10		10	8		1			1	30	39%
Troms	30	15-20.99m	16		5	2			1	1		25	28%
		21–27.99m	12		14	2				1		29	33%
Nordland	78	15-20.99m	52		18	9				1		80	28%
		21–27.99m	21		41	9				1		72	30%
Trøndelag	7	15-20.99m	2		2	1		1				6	23%
		21–27.99m	2		5	1						8	24%
Møre og Romsdal	29	15-20.99m	7		9	1		7			2	26	43%
		21–27.99m	5		15	2	1	3		4	4	34	34%

County	No. vessels	Quota length (m)	Conv. vessels <28m North	Conv. vessels < 28m south	NSS coastal seine	Saithe seine north	Saithe seine south	Coastal mackerel seine 13-27.5m	Coastal mack. conv. 13-21.34m	Coastal shrimp trawl	North Sea herring seine < 27.5m	Total	Share
Sogn og Fjordane	22	15-20.99m	4	1	6	2	3	7			4	27	39%
		21–27.99m	7	1	15	5	1	5		4	5	43	36%
Hordaland	9	15-20.99m			5		1	1			2	9	20%
		21–27.99m			4					1		5	13%
Rogaland	4	15-20.99m											9%
		21–27.99m											7%
Skagerrak	2	15-20.99m								1		1	2%
		21–27.99m								1		1	6%
Total	211		159	2	156	46	6	25	1	19	18	432	29%

Source: Directorate of Fisheries

As the table shows, the number of vessels differs from the total number of annual participant permits in each individual fishery. This is due to the fact that a vessel may hold a permit for several limited-entry fisheries. Table 4.6 presents a list of how many participant permits were held in each individual fishery before the structural quota system was implemented, how many were withdrawn, how many participant permits remain and the structural effect within the group. (The table does not take account of the fact that the number of vessels may have been affected by reasons other than structuring. This is especially the case in the NSS group, where the rules regarding participant permits were amended along the way. Use of the SQS is however by far the most important reason for changes overall.)

Table 4.6 Effect of the structural quota system for the coastal fishing fleet

	No. of participant permits before the SQSs	No. of participant permits surrendered	Remaining	Structural effect (per cent)
Conv.vessels<28m North	563	159	404	28%
Conv. vessels<28m south	13	2	11	15%
NSS-coastal seine	400	156	244	39%
Saithe seine North	193	46	147	24%
Saithe seine south	62	6	56	10%
Coastal mackerel seine 13-27.5m	76	25	51	33%
Coastal mack. conv. 13-21.34m	37	2	35	5%
Coastal shrimp trawls	90	19	71	21%
North Sea herring seine < 27.5m	54	18	36	33%

Source: Directorate of Fisheries

Table 4.7 shows the structural effect by county in group I in the cod, haddock and saithe fisheries north of 62 degrees north; see the Conv. vessels<28m North group in Table 4.6.

Table 4.7 Effect of SQS for vessels with participant permits in the fisheries for cod, haddock and saithe north of 62°N

County	Quota length (m)	Conventional vessels <28m north of 62ºN			
		No. before SQS	Withdrawn through SQS	Remaining	Structural effect
Finnmark	15- 20.99m	62	20	42	32%
	21– 27.99m	28	10	18	36%
Troms	15- 20.99m	62	16	46	26%
	21– 27.99m	29	12	17	41%
Nordland	15- 20.99m	200	52	148	26%
	21– 27.99m	76	21	55	28%
Trøndelag	15- 20.99m	10	2	8	20%
	21– 27.99m	8	2	6	25%
Møre og Romsdal	15- 20.99m	23	7	16	30%
	21– 27.99m	19	5	14	26%
Sogn og Fjordane	15- 20.99m	12	4	8	33%
	21– 27.99m	18	7	11	39%
Hordaland	15- 20.99m	3		3	0%
	21– 27.99m	3		3	0%
Rogaland	15- 20.99m	4	1	3	25%
	21– 27.99m	1		1	0%
Skagerrak	15- 20.99m	3		3	0%
	21– 27.99m	2		2	0%

Source: Directorate of Fisheries

4.2.2.3 Geographical changes in the quota allocation

In many ways, the cod fishery is the ‘foundation’ for the coastal fishery in Nordland, Troms and Finnmark. The limited entry for cod fishing include a so-called 'county restriction' (in Norwegian, *fylkesbinding*) which means that a vessel may not be sold for continued operation from one county to another. The requirement is that the buyer and the seller of the vessel must have been listed in the Register of Fishermen in the same county in the 12 months preceding the sale. Exceptions to this may only be made when the vessel is purchased from another county and sold into Nord-Troms and Finnmark, and in the case of a sale between neighbouring counties when it is natural to view the seller's and the buyer's districts as part of a single area.

The object of these rules is to maintain the relative distribution of the cod vessels between the counties, and the figures do display a high level of stability. The county restriction also applies in the SQS. The system may therefore not lead to changes in the relative quota distribution except in one circumstance: the quota from vessels decommissioned through the decommissioning system and the reduction of 20 per cent in the SQS will be distributed to all those remaining in the group on a national basis.

The county restriction is not intended however to prevent changes in the relative distribution of quotas and vessels within a *county*. It is therefore neither surprising nor unexpected that the distribution by local municipality should change over time.

If the individual municipality's quota share changes, this may be due to a number of factors:

- a vessel is withdrawn from fishing through the decommissioning system
- a vessel is withdrawn from fishing in connection with the allocation of a structural quota to a vessel based in another municipality in the county

- a vessel is withdrawn from fishing and a structural quota is allocated to another vessel in the same municipality, due to the quota reduction
- a vessel owner has moved to another municipality in the county
- a vessel is sold for continued operation to a new owner in another municipality in the county

There may nonetheless be grounds for believing that most of the changes that have occurred in Nordland, Troms and Finnmark in the last three years are due to vessels being withdrawn from fishing through the decommissioning system and vessels being withdrawn in connection with the SQS. Please see Figures 8.2, 8.3 and 8.4 in Chapter 8.4.3.

4.2.3 The structural quota system (SQS) for the offshore fishing fleet

The offshore fishing fleet's SQS was introduced through regulation no. 193 of 4 March 2005 on a structural quota system for the offshore fishing fleet. The SQS replaced the former unit quota systems for the cod trawl fleet, the purse-seine fleet, the Greenland shrimp fleet, the saithe trawl fleet, the group of conventional vessels of 28 metres or longer, and the industrial trawl fleet.

For each individual vessel group, the SQS applies to the quota for specific species of fish. This is set out in section 3 of the regulation. The primary conditions for the allocation of structural quotas in the offshore fishing fleet are the same as in the coastal fishing fleet, i.e. a vessel owner surrenders all permits for the vessel and it is decommissioned.

In the transition from the unit quota system to the SQS, the geographical restrictions that applied to individual vessels were maintained. This applies for example to the prohibition against allocating unit quotas in the cod trawl group to vessels registered in Southern Norway on the basis of the withdrawal of vessels which were registered in Finnmark, Troms or Nordland as at 1 January 1996.

The SQS for the offshore fishing fleet includes no general rules on a reduction of the structural quota, but for individual vessel groups reductions are employed in all or in certain cases. For the purse-seine fleet a reduction is always made, but this varies from 5 to 40 per cent depending on where in the country the withdrawn and the remaining vessels are registered. The largest deduction is when the withdrawn vessel is registered in Finnmark, Troms, Nordland, Nord-Trøndelag or Sør-Trøndelag and the remaining vessel is registered in one of the other counties.

The difference between the structural quota system and the earlier unit quota system is that the unit quotas could be allocated for up to 13 years, or 18 years if the withdrawn vessel was decommissioned, while there is no such predetermined time limit for the structural quotas; see Figure 4.6.

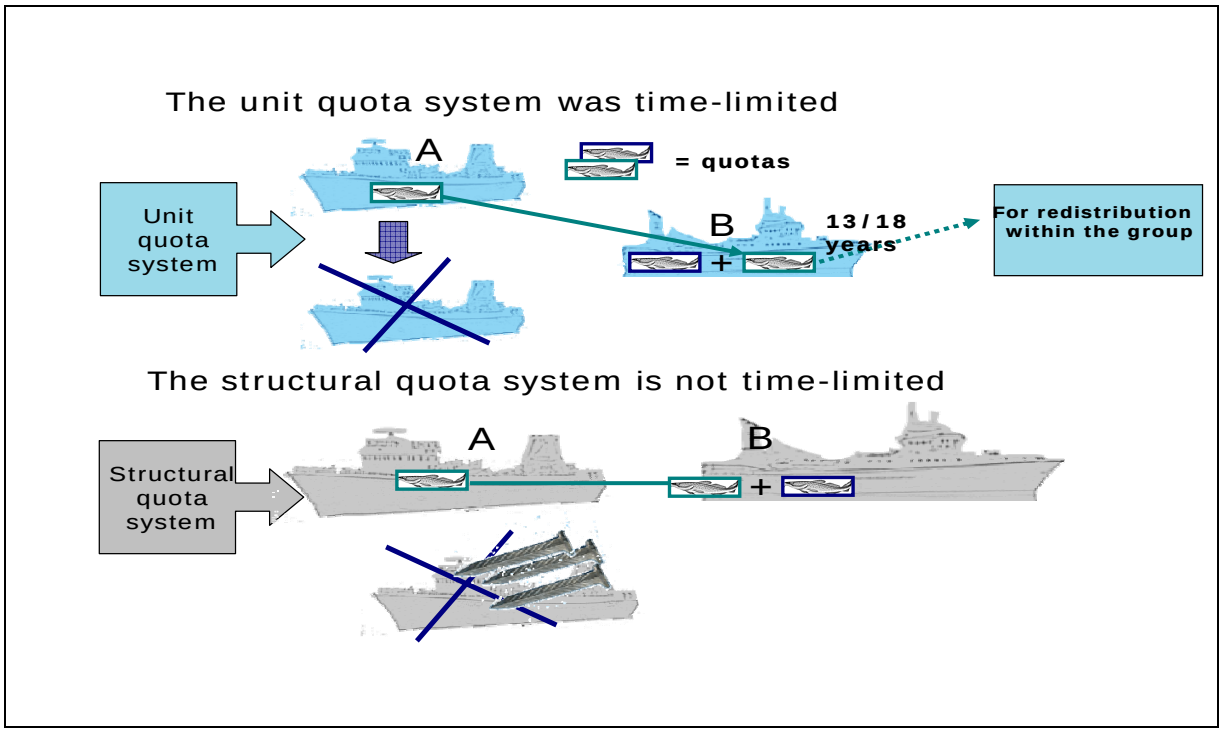

Figure 4.6 Comparison of the unit quota system and structural quota system for the offshore fishing fleet

As with the SQS for the coastal fishing fleet, the quota from a withdrawn vessel can be shared as a structural quota between several recipient vessels. A single vessel can also receive structural quotas from several withdrawn vessels. As a result, the number of allocated structural quotas may differ from the number of withdrawn vessels.

While the quota ceiling in the coastal fishing fleet's SQS is a function of the receiving vessel's own quota for the fishery in question, the quota ceiling in the offshore fishing fleet system is an identical factor for all vessels in the specific vessel group. Within a vessel group there are, in some cases, different quota ceilings for different fish species. The quota ceiling varies from group to group and is determined on the basis of an assessment of the situation in the individual group.

The effect of the SQS is shown in Table 4.8.

Table 4.8 Licences and participant permits in the offshore fishing fleet post-SQS

	No. of permits before implementation	Surrendered through SQS	Percentage effect of SQS	Remaining as at Nov. 2006
Conventional > 28m	52	5	9.6%	47
Cod trawl	90	27	30%	63
Purse-seine	89	4	4.5%	85
Saithe trawl	11	1	9.1%	10
Industrial trawl	51	11	21.6%	40
Greenland shrimp trawl	17	0	-	17
Total	310	48	15.50%	262

Source: Directorate of Fisheries

The vessel owners who were allocated unit quotas before implementation of the SQS were given the opportunity to convert them into structural quotas with no predetermined time limit. In these cases, the structural quota was reduced by 7 per cent of the unit quota allocated, for each year unit quotas were

allocated up until 2003, or by 5 per cent per annum for those vessels which met the conditions for being allocated unit quotas for up to 18 years. Effectively all the unit quotas were converted and these constitute more than half of the current structural quotas. In the individual groups, the percentage shares are as follows:

- in the group of conventional vessels of 28 metres or longer, 39 unit quotas were converted to structural quotas, corresponding to approx. 90 per cent of the number of structural quotas in the group
- in the cod trawl group, 28 unit quotas were converted, corresponding to approx. 45 per cent of the number of structural quotas in the group
- in the purse-seining group, 56 unit quotas were converted, corresponding to approx. 88 per cent of the number of structural quotas
- in the industrial trawl group, 23 unit quotas were converted, corresponding to approx. 59 per cent of the number of structural quotas
- in the saithe trawl group, 4 unit quotas were converted, corresponding to 80 per cent of the number of structural quotas
- in the Greenland shrimp group, 2 unit quotas were converted, corresponding to 50 per cent of the number of structural quotas

4.2.4 Quota shares as structural quotas

Of the total quota basis in the different groups, some are now allocated as ordinary quotas and some as structural quotas. Table 4.9 provides an overview of this distribution in the individual regulation groups as at 14 November 2006.

Table 4.9 Share of unit and structural quotas in the fishing fleet as at 14.11.2006

Regulation group		Quota variable	Structural/Unit quotas	Ordinary quotas	Quota basis	Percentage share unit/structural quotas
Purse-seine >90 and Purse-seine 70 -90	Mackerel	Basic quota	6,101.5	40,172.0	46,273.5	13.2
Purse-seine > 90 feet	NSS herring	Basic quota	5,933,5	36,182.0	42,115,5	14.1
Industrial trawling	Mackerel[1]	Basic quota	4,516,0	6,348.7	10,864.7	41.6
	NSS-Herring[1]	Basic quota	4,462,9	7,036.0	11,498.9	38.8
Mackerel - coastal seine 13 - 21.34m	Mackerel	Mackerel factor	164.9	582.0	746.9	22.1
Mackerel - Net/Line	Mackerel	Mackerel factor	3.4	450.9	454.3	0.8
NSS-coastal seine	NSS herring	NSS factor	1,747.6	4,617.5	6,365.1	27.5
Cod trawl	Cod North	Cod factor	33.9	54.0	87.9	38.6
	Haddock North	Haddock factor	33.9	54.0	87.9	38.6
	Saithe North	Saithe North factor	41.1	62.1	103.2	39.8
Saithe trawling	Saithe North	Saithe North factor	4.0	8.5	12.5	32.1
Conv. 28m and over	Cod North	Cod factor	40.1	52.1	92.2	43.5
	Haddock North	Haddock factor	41.6	47.0	88.6	47.0

Regulation group		Quota variable	Structural/Unit quotas	Ordinary quotas	Quota basis	Percentage share unit/structural quotas
	Saithe North	Saithe North factor	9.1	14.0	23.1	39.4
Conv. vessels < 28 metres[2]	Cod North	Cod factor	919.5	3,057.0	3,976.6	23.1
	Haddock North	Haddock factor	941.5	3,130.9	4,072.4	23.1
	Saithe North	Saithe North factor	939.4	3,174.8	4,114.2	22.8
Seines 13-27.5m	Saithe North	Saithe North factor	67.1	345.7	412.8	16.3

[1] Also includes NSS herring/ Mackerel factors for vessels without an industrial-trawl licence.

[2] The 15-20.99 metre and 21- 27.99 metre size groups are combined.

Source: Directorate of Fisheries

4.3 Proposals of the Structural Committee

The Committee is divided into various majorities and minorities, and the different blocs have put forward a range of proposals. Please see the report for a complete presentation of these. Norwegian Official Report 2006: 16 Chapter 8.4 contains a summary of all the proposals, while each individual bloc's proposal is presented in Chapters 8.5, 8.6 and 8.7.

With respect to the question of continuing with structural instruments, a majority of eleven of the 15 committee members recommends that the SQS for the offshore fishing fleet be continued as it is today, except on the question of predetermined time limits. These members are divided in their views on this issue, which is dealt with separately below in Chapter 5 The question of predetermined time limits in the SQS.

In respect of the coastal fishing fleet, the same majority recommends continuing with the SQS with an adjustment of the quota ceiling. The majority is also divided here on the question of predetermined time limits.

The same majority however proposes that the SQS should also apply to vessels with a quota length of between 11 and 15 metres (13 metres in the coastal mackerel group).

These members also recommend that, as a result of this, the decommissioning system through the Decommissioning Fund be wound up for this group of vessels and that the decommissioning funds be aimed exclusively at the group of vessels with a quota length of between 10 and 11 metres (up to 13 metres in the coastal mackerel group). The majority recommends that decommissioning subsidies no longer be granted to vessels with a quota length under 10 metres, since it is considered that there is no longer a need here to use State or private funds for further capacity reduction.

A minority of four members was against continuing the SQS for the coastal fishing fleet. This minority was also, in principle, against continuing the decommissioning system for the coastal fishing fleet with a quota length under 15 metres, but was open to a degree of decommissioning in these groups if the decommissioning system was viewed in connection with the need to renew the fleet. This minority argues instead for the coastal fishing fleet being allotted larger quota shares through the redistribution from the

offshore fishing fleet and that a targeted decommissioning system be implemented for groups in this fleet.

The minority also stresses that practice-modifying regulations "in the form of area restrictions, fishing gear and technical restrictions, minimum targets, time limits, contractual stoppages ... are examples of capacity-restricting measures which are effective in both the short and long term" and may thus replace the need for the current structural instruments, see Norwegian Official Report 2006: 16 Chapter 8.5.3, "without reducing employment in the industry or contributing to further weakening of the coastal communities".

4.4 Consultation responses

Among the trade organisations who have responded to the question of continuing the SQSs, the Norwegian Fishermen's Association (NFA) supports the proposal to continue. The NFA refers to the need for "profitability, stability, predictability and the development of a modern, forward-looking fleet which attracts young people". The NFA believes however that the SQS for the coastal fleet should apply to vessels with quota lengths down to 10 metres (13 metres in the coastal mackerel group), and that the decommissioning system should therefore only apply to the coastal mackerel group under 13 metres.

The Norwegian Confederation of Trade Unions (LO) supports the majority proposal and points out, in essence, that a low quota basis for the individual vessel weakens the fishing fleet's ability to renew itself. LO believes that this has negative consequences for the potential to recruit qualified labour and that "a low level of modernisation will lead to ... poorer health and safety and a poorer environment for employees on board, inefficient fishing, a lack of ability to deal with by-catch and generally poorer catch management." It also points out that an adapted fleet will "facilitate better conditions for stable supplies of quality raw materials to the industry", which is important for the "highly significant workplaces for women along the coast" within fish processing activities.

The majority proposal is also supported by The Norwegian Financial Services Association (FNH)/the Norwegian Savings Banks Association and the Norwegian Seafood Federation (FHL) industry and export branch association. Sør-Norges Trålerlag (the trawlermen's association of Southern Norway) supports the continuation of the SQS for the industrial trawl group, which is the vessel group the association organises. The Norwegian Seafood Association (NSL) is committed to ensuring stable and long-term framework conditions for the industry and supports the majority proposal. The NSL endorses "a decommissioning system for vessels between 10 and 11 metres, but is open to a geographical assessment of how the measure should be maintained".

The Norwegian Coastal Fishermen's Union is against continuing the SQS for the coastal fishing fleet and also believes that the coastal fleet under 15 metres needs to be spared from further reduction. The Union points out that "any structural systems in the fleet group of under 15 metres must be limited to a decommissioning system balanced with the need for recruitment and renewal in the fleet."

As justification for its position, the Union notes, among other things, that the structural systems will cause employment in the fishing fleet to be reduced more dramatically than might be expected from the historical trend; the unfortunate fact that small, non-diversified fishing communities will be most

vulnerable to a loss of jobs in fishing; that the SQS offers a lower capacity reduction than the number of withdrawn vessels might indicate; and that the systems lead to a focus on quantity rather than quality.

The Sámi Parliament is against introducing the SQS for vessels under 15 metres, in that this group "must be spared from reductions in number and any restrictions in the resource base and should rather be allocated resources, not least for recruitment to the fisheries".

Finnmark County Council is against decommissioning in the coastal fleet, and points out that vessels under 15 metres especially must be protected from reductions in numbers. The County Council is also in favour of "a targeted decommissioning of freezer trawlers and factory trawlers and for the quotas to be distributed to regional resource companies".

Troms County Council supports the majority proposal for an SQS for the offshore fishing fleet and for the coastal fishing fleet of quota lengths over 11 metres. However, the County Council expresses a certain scepticism towards the decommissioning system and questions if this is "a rational use of public money". Nordland County Council supports the majority proposal, but requests that "an analysis be made of the structural measures' potential effect on fishing practices, resource exploitation and realisation of the fishing industry's value-creation potential".

The county councils of Nord-Trøndelag and Sør-Trøndelag endorse the majority proposal but call for "a review of the regional distribution of fishing rights over the last 10 years, and furthermore that the opportunities for correcting regional displacements of fishing rights using expired structural quotas be discussed".

Møre og Romsdal County Council supports the majority proposal to continue with the SQS, but maintains that the system in the coastal fishing fleet should cover vessels of a quota length over 10 metres. Hordaland County Council also thinks that the SQS must be continued and extended to vessels down to 10 metres so that these vessel owners can receive offers to adapt with larger quotas.

The Lofoten regional council is in favour of continuing with the SQS for the offshore fishing fleet and for vessels of a quota length over 15 metres, but is against structuring the fleet of vessels under 15 metres. It believes that the coastal fleet should instead be generally strengthened and spared a reduction in the number of vessels. In the regional council's view, such a strengthening can be achieved, for instance, "by reducing the quota basis for vessels that supply sea-frozen raw material." The Executive Committee for Northern Norway endorses the majority proposal but asserts that "after a thorough evaluation of the fisheries policy and the SQS has been made, one should look more closely at redistributing fish quotas between the offshore and coastal fleets." It also recommends "continuing the decommissioning system for vessels under 15 metres and that the quantity freed up be used as part of a renewal and recruitment programme for the coastal fleet under 15 metres."

West Finnmark Regional Council supports the majority proposal to continue the SQS and to apply it to vessels down to 11 metres. The Council points out that it "sees a need for some type of structuring to strengthen profitability within this fleet group."

Berg and Lenvik municipalities support the proposal to continue with the SQS, but point out that an assessment should be made as to whether "to continue the decommissioning system for vessels under 15 metres." Austevoll municipality also endorses continuation of the SQS.

Among the other consultation bodies, the majority proposal concerning the SQS is supported by the Directorate of Fisheries and SUROFI (the Sunnmøre and Romsdal Fish-Selling Association). Innovation Norway endorses continuation of the SQS but maintains that it should be applied to all vessels with a quota length over 10 metres and that the decommissioning system should then be phased out.

WWF is in favour of "necessary measures to ensure that the fleet is adapted to the resource base" and points out that the structural instruments must be used " to ensure sustainable fisheries management which safeguards and builds up the fish stocks." WWF observes that overcapacity is a key problem in the world's fisheries, is a major threat "to sustainability in the fisheries" and offers "reduced profitability to the fishing fleet which in turn can lead to illegal fishing."

Friends of the Earth Norway/Barents Sea Office supports the minority proposal.

Bivdi - the Coastal Sámi hunting and fisheries organisation - is against structuring in the fishing fleet. As justification it notes that it is against "fishing rights being gathered into fewer and fewer hands", since this "is a policy which does not serve Coastal Sámi interests and small fisheries-dependent communities whose existence is based on being able to harvest the sea's resources."

4.5 The Government's summary and conclusion

4.5.1 The decommissioning system for the coastal fishing fleet

Decommissioning systems have long been used as capacity-reduction instruments in a number of countries. The aim has been to increase profitability and modernise the fleet, or to secure fish stocks and compensate actors in a crisis situation. Decommissioning systems have been used at irregular intervals in the Norwegian fishing fleet since the 1960s.

The overall national and international experiences of such systems are not unequivocal, and it is not immediately evident that this type of system works if the aim is to reduce technical fishing capacity. Norwegian experiences indicate that average capacity has increased and that decommissioning systems in operation for a limited period have not in themselves managed to keep up with capacity increases within the remaining fleet. This is because decommissioning reduces the number of vessels but actual capacity is not determined solely by the number of vessels.

Equally, there is no doubt that decommissioning has worked as intended in individual groups and gives the remaining vessels larger quotas and hence improved profitability for these vessels. In a situation where the quota basis for individual vessels across the board is too low to produce an acceptable return, it will be appropriate to reduce the number of participants.

Previous decommissioning systems in Norway have been publicly financed and, at times, considerable sums have been spent on buying out vessels. In some cases, the decommissioning system has also been combined with subsidies for vessel renewals.

To some extent, the existing system represents a break with previous practice in terms of how it is financed. The entire fishing fleet is subject to a structural tax and thus the entire fleet is involved in

paying for capacity reduction in the smallest fleet groups. As such, the combined fishing fleet bears half of the cost of improving the efficiency of these vessel groups. The fact that the groups which the system applies to pay only for a small proportion of the improvement in profitability makes the system more effective than if the actors themselves paid for the entire capacity reduction.

In particular, the lot of the closed group in the fishery for cod, haddock and saithe north of 62 degrees north with a quota length under 10 metres has improved since 2003. It is true that other circumstances, such as the availability of fish throughout the year and in different areas, have also contributed to the liberal regulation it has been possible to accord these vessels towards the end of the year. We must however assume that decommissioning has been an important factor in the improvements achieved for this group.

Legal authority for collecting a structural tax expires on 1 July 2008. A decision needs to be made as to whether there is a need for continuing with a decommissioning system. The Government will return to this issue when an overall evaluation of the entire five-year period during which the system has operated is available. In the period leading up to 1 July 2008, the Government will continue the decommissioning system for the smallest vessels under the same terms as it has operated to date.

The question of an SQS for vessels with a quota length of between 11 and 15 metres (13 and 15 metres in the coastal mackerel fishery) is discussed at greater length below in Chapter 4.5.2. If the SQS is introduced in these groups, the Government will adjust the regulations for the decommissioning system so that it no longer covers vessel groups which have access to structural quotas.

Figure 4.7 Coastal fishing vessel in Stamsund

Photo: Norwegian Ministry of Fisheries and Coastal Affairs

4.5.2 The structural quota system for the coastal fishing fleet and the offshore fishing fleet

On the basis of the conclusion in Chapter 3.9 that the structural system should be continued, the Government will continue with the SQS for the coastal fishing fleet and the offshore fishing fleet. The question as to whether the SQS should include a predetermined time limit is discussed in Chapter 5.

The SQS is both an instrument for improving efficiency and a measure to reduce capacity. However, the system's main focus is on improving efficiency. The anticipated effect is greater socio-economic profitability in the use of labour and capital. This is a consequence of the quotas being concentrated on fewer vessels and these vessels initially having spare capacity. Increased profitability in the industry boosts competitiveness and puts the industry in a better position to renew its vessels, fishing gear and technical equipment. Such on-going renewal is crucial if the industry is to achieve the requisite productivity gains.

The alternative to the SQS would have to be systems of increased tradability for quotas, disconnected from the vessels and the traditional stability which the quota allocation currently has in the different vessel groups. This is not appropriate to the situation.

The Government proposes that the SQS for the coastal fishing fleet be extended to cover the group of vessels with a quota length of between 11 and 15 metres. In the coastal group for mackerel fishing, the lower length limit should be a quota length of 13 metres, on the basis of the groupings already established for quota allocation in the mackerel fishery.

The justification is that the structural instruments for the coastal fishing fleet to date have produced the least effect in this vessel group, which is also the group numbering the most vessels with permits to participate in the closed group in the cod fishery north of 62 degrees north. The large number of vessels in the group and the low number withdrawn through the decommissioning system mean that the remaining vessels have not experienced a significant positive impact on their quotas bases. A number of vessel owners in the group have also taken advantage of the operational quota system to exchange quotas. This demonstrates the need for increasing the quota basis in this group as well.

It is however proposed that the lower limit should be a quota length of 11 metres and not 10 metres which is the limit for the present grouping. This is in accordance with the proposal from the majority on the Structural Committee.

Because of the special significance of the smaller vessels in the coastal fleet, by the end of 2009, the Government will evaluate the effect of this measure, with particular emphasis on the consequences for the districts.

The modifications to the regulations which are necessary because the threshold here does not follow the currently established grouping in the fishery for cod, haddock and saithe using conventional gear north of 62 degrees north will be considered and improved during 2007. Certain adjustments concerning the design of the regulations in relation to this 10-metre threshold will also be made in the cod regulations

for both 2006 and 2007. It will then be possible to implement the system over the year, with quota effect as of 2008.

Since the SQS for the coastal fishing fleet previously followed the established length thresholds in the Finnmark model, there may be individual vessel owners who already possess a number of vessels in the 10-15 metre quota length group and who have intended using the SQS if it is introduced into this vessel group. Even if the group now becomes 11 to 15 metres, there will still be an opportunity to use the SQS if one of the vessels has a quota length of 10 metres. There is a precondition that the same person or company must own 50% or more of the vessels and that the same person has had his ownership in the vessels or in the company or companies listed in the Register of Norwegian Fishing Vessels since before 16 March 2007. However, an exception will also be made for those cases where two (or more) people own the vessels jointly, but with different ownership shares. One of the vessels might, for example, be 60%-owned by A and 40% by B, and vice versa for the other vessel. In some such cases, there may also, in practice, be others who have shares in one or both vessels. This will not prevent an exception being made, as long as there is a predominant degree of commonality of ownership. The aim is to ensure that no-one is disadvantaged from the threshold being set at 11 metres instead of 10 metres. A corresponding exception will not apply to the coastal mackerel group, since the regulation groups in this case divide at 13 metres.

The SQS's mode of operation inherently means that it can potentially cause increased concentration. The degree of concentration is controlled in particular by the quota ceiling and geographical restrictions and it will be possible to both lower the quota ceiling and introduce geographical restrictions if desirable.

A majority of the Structural Committee proposed setting the quota ceiling at twice the vessel's own quota in the coastal vessel group of 11(13) to 15 metres. It was further proposed to lower the quota ceiling for 15-28 metre quota length groups from three to two times the vessel's own quota, but retain three times the vessel's own quota for vessels "with a single exploitable catch, e.g. confined to the cod fishery". It was also proposed to set "a maximum threshold for how many structural quotas a single vessel may hold in total within all fisheries, following an overall assessment."

The Government finds that the rules for the quota ceiling in the SQS for the coastal fishing fleet should be changed. The current quota ceiling means that a combined basic quota and structural quota can be allocated for each individual fish species, which together constitute three times the vessel's basic quota. This is illustrated in Figure 4.8 which shows a vessel with a maximum structural quota in two fisheries in the cod sector and two fisheries in the pelagic sector.

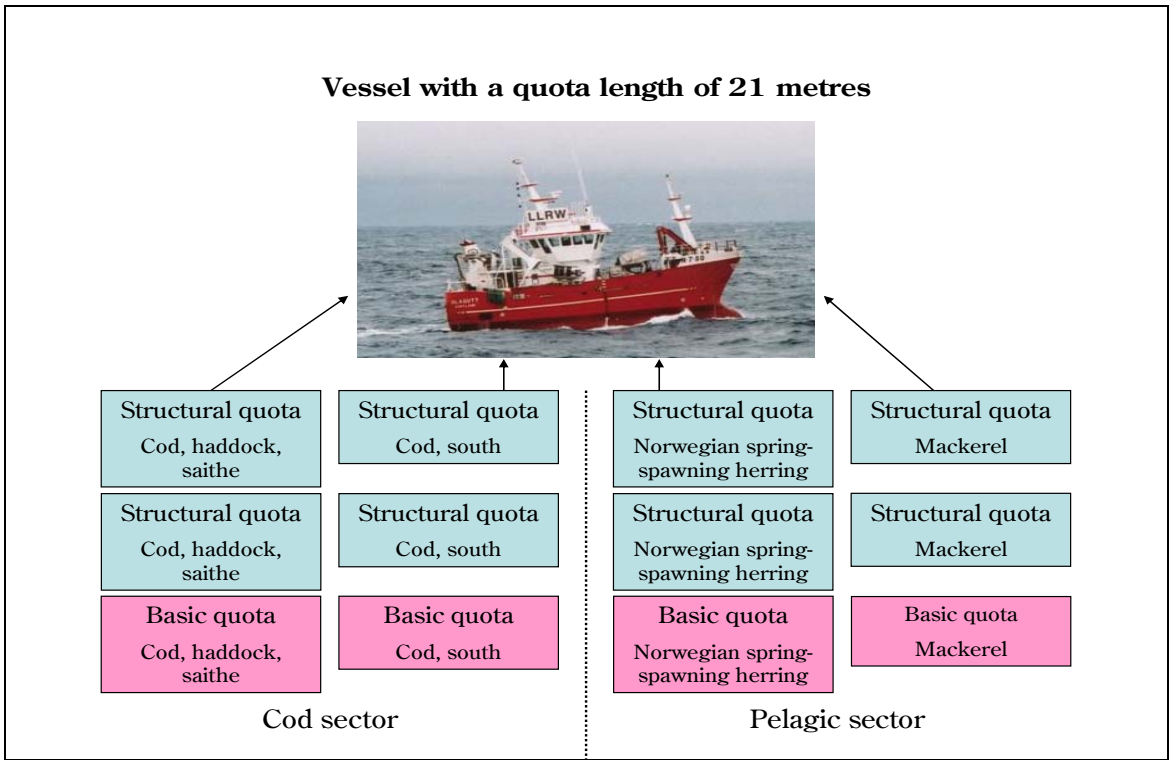

Figure 4.8 The current quota ceiling in the coastal fleet

When it comes to groups in the coastal fleet with a quota length over 15 metres, which are already covered by the SQS, the Government proposes that, in future, a structural quota may not be allocated beyond a quota ceiling of twice the vessel's own quota in each individual fishery, if structural quotas are allocated in both the cod and pelagic sectors. Here, the cod sector includes fishing for cod, haddock and saithe, saithe seining and shrimp trawling. The pelagic sector includes fishing for Norwegian spring-spawning herring, mackerel and North Sea herring. This means that:

- if, for example, a structural quota is allocated in the fishery for cod, haddock and saithe north of 62 degrees north and in the fishery for mackerel, the quota ceiling of two applies in each individual sector, and
- if, for example, a structural quota is allocated in the saithe-seining fishery and in the fishery for Norwegian spring-spawning herring, the quota ceiling of two applies in each individual sector.

The proposal, then, in these cases, is for a combined quota ceiling that may be described as 2 + 2; see Figure 4.9. The figure shows a vessel of a quota length of 21 metres which has opted to use the SQS within both the cod sector and the pelagic sector and is thus restricted to the quota ceiling of two in each individual sector.

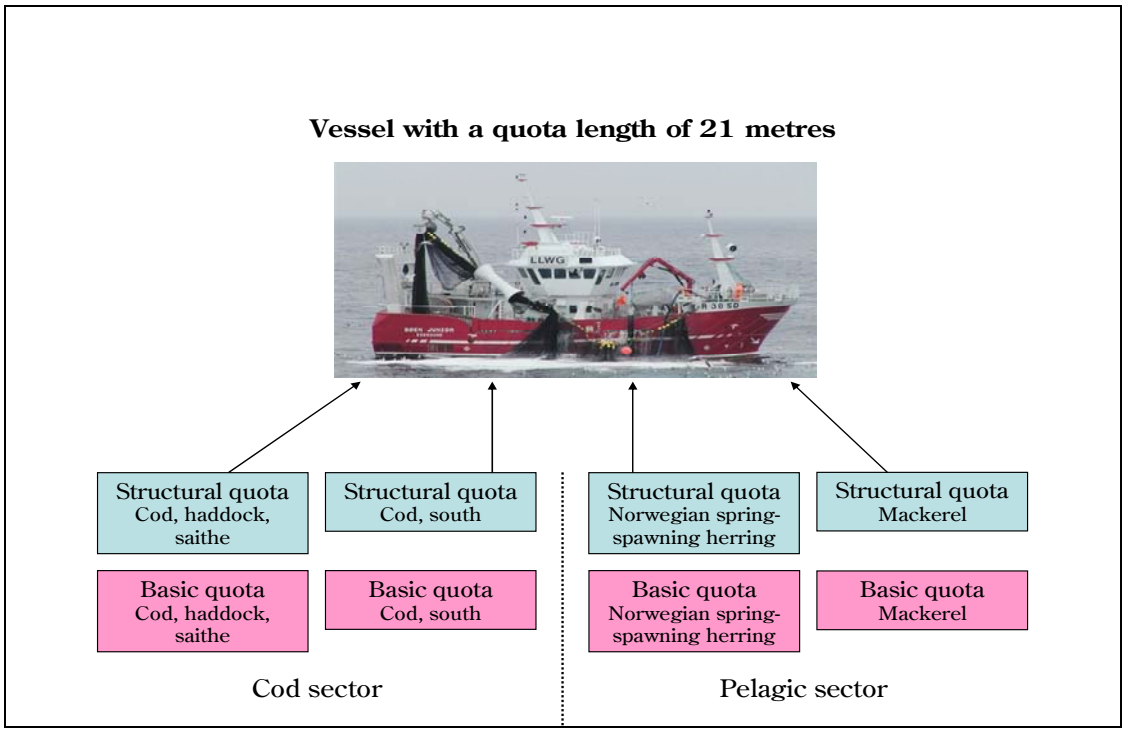

Figure 4.9 Example of the structuring potential within both the cod sector and the pelagic sector for a vessel with a quota length of 21 metres

The current quota ceiling of three times the vessel's own quota, including this quota, should be continued only for vessels which are allocated structural quotas either solely in the cod sector or solely in the pelagic sector. This means that:

- in order to be assigned a structural quota in excess of the quota ceiling of two in the fishery for cod, haddock and saithe north of 62 degrees north, there will be a condition that a structural quota is not allocated, for example, in the fishery for Norwegian spring-spawning herring,
- if a structural quota in excess of the quota ceiling of two has already been allocated in, for example, the fishery for cod, haddock and saithe north of 62 degrees north, a structural quota may not be allocated to this vessel in the fishery for Norwegian spring-spawning herring,
- structural quotas will, however, be able to be allocated within the ceiling times three in different fisheries in the cod sector such as the fishery for cod, haddock and saithe and the saithe-seining fishery, or
- in the different fisheries in the pelagic sector such as the fishery for mackerel and Norwegian spring-spawning herring.

The quota ceiling in these cases will then be 3 + 1; see Figure 4.10. The figure shows a vessel of a quota length of 23 metres, which has opted to use the SQS up to the quota ceiling of three in the pelagic sector and therefore cannot be allocated a structural quota in the cod sector.

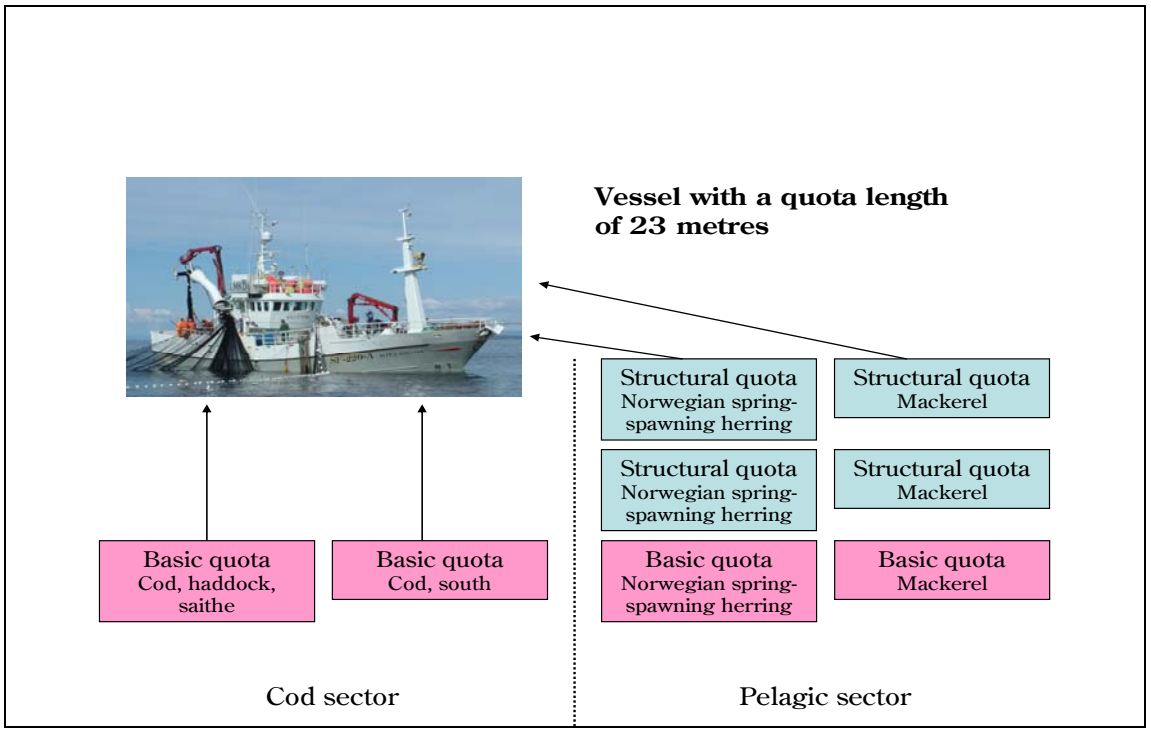

Figure 4.10 Example of the structuring potential within the pelagic sector for a vessel with a quota length of 23 metres

This change will not have any consequences in relation to structural quotas already allocated. This means that:

- a vessel which has already been allocated quotas in excess of the ceiling of 2 + 2, for example, 2.5 in both the mackerel fishery and the fishery for cod, haddock and saithe north of 62 degrees north, will continue to be able to be allocated these quotas, and
- a vessel which has already been allocated quotas in excess of the ceiling of 3 + 1, for example, 3 in the fishery for cod, haddock and saithe north of 62 degrees north and 1.5 in the fishery for Norwegian spring-spawning herring, will continue to be able to be allocated these quotas.

The new quotas will however be applicable to vessels which have already been allocated structural quotas if a further allocation is applied for. This means that:

- a vessel which has been allocated a quota of 2.5 in the fishery for Norwegian spring-spawning herring and a quota of 1.5 in the fishery for cod, haddock and saithe north of 62 degrees north, will not to be able to be allocated further structural quotas either in the fishery for Norwegian spring-spawning herring or in the fishery for cod, haddock and saithe north of 62 degrees north, but
- will be able to be allocated structural quotas within the ceiling of 2 in other fisheries in the pelagic sector, such as mackerel fishing, and
- a vessel which is allocated a combined quota of 2.5 in the mackerel fishery and which has not been allocated a structural quota in the cod sector will be able to be allocated a further structural quota in the mackerel fishery (and in other fisheries within the pelagic sector) within the quota-ceiling framework of 3 + 1.

In this new group in the coastal fleet to which the SQS is now being offered, vessels with a quota length between 11 (13) and 15 metres, a quota ceiling of twice the vessel's own quota should be set. This means an opportunity to double the quota through the use of the SQS. The intended consequence of this is a reduced degree of structuring. As the majority in the Structural Committee points out, this group is important for activity along the entire coast. Caution should therefore be exercised, so that the structuring does not excessively weaken settlement and employment on the coast. The Government believes that it will lead to a good balance between the different concerns if the SQS is offered to this group with a quota ceiling of two.

The Government also considers, for the same reason, that these vessels should not be allowed to be allocated structural quotas in both the cod sector and the pelagic sector.

This means that:

- if a structural quota is allocated in, for example, the fishery for cod, haddock and saithe north of 62 degrees north, a structural quota will then not be able to be allocated in the fisheries for Norwegian spring-spawning herring, mackerel, North Sea herring, etc.
- if a structural quota is allocated in, for example, the fishery for Norwegian spring-spawning herring, a structural quota will then not be able to be allocated in the fishery for cod, haddock and saithe north of 62 degrees north, in the fishery for cod south of 62 degrees, in the saithe-seining fishery, etc.
- however, a structural quota will however be able to be allocated in, for example, the mackerel fishery, even if a structural quota is allocated in the fishery for Norwegian spring-spawning herring and
- a structural quota will be able to be allocated in the saithe-seining fishery, even if a structural quota is allocated in the fishery for cod, haddock and saithe north of 62 degrees north.

The proposal, then, for this group, is for a combined quota ceiling that may be described as 2 + 1; see Figure 4.11. The figure shows a vessel of a quota length of 13 metres, which has opted to use the SQS within the cod sector, within the framework of the quota ceiling of two, and therefore cannot be allocated a structural quota in the pelagic sector.

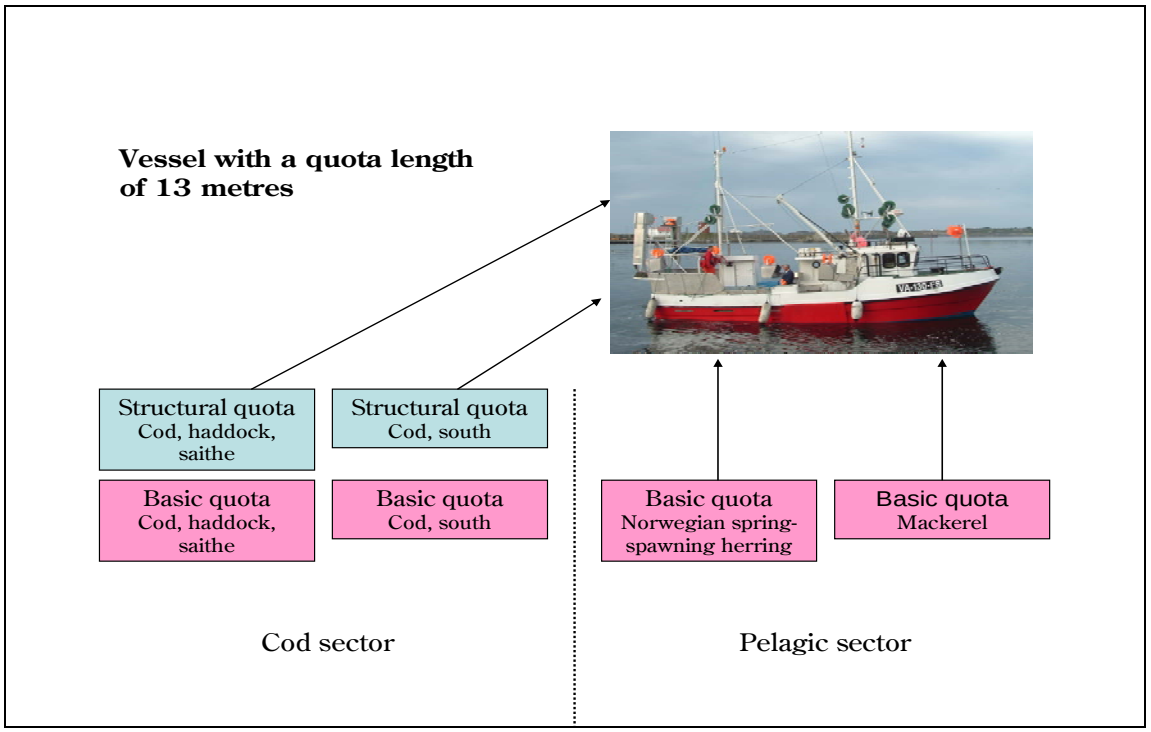

Figure 4.11 Example of the structuring potential within the cod sector for a vessel with a quota length of 13 metres

When it comes to the offshore fishing fleet, no objections have been raised to the restrictions which the current system incorporates to provide for district and distribution-policy concerns, including the quota ceilings. These were also thoroughly evaluated and discussed in connection with the replacement of the previous unit quota systems with the structural quota system. This applied in particular to the quota ceilings. The Government therefore sees no grounds for making changes here.

As regards the question of a structural quota system for new groups in the offshore fishing fleet, the Government will look more closely at the potential for finding a solution for the group of vessels with North Sea trawl permits, similar to the structural system for the industrial trawl group.

For the rest, the question of which vessel groups at any one time should be offered an SQS, and how the SQS at any one time should be designed in detail as regards any restrictions, quota ceilings, etc. is one the Government will have to assess and decide on as part of an on-going process, as has also been done in the past for the offshore fishing fleet's unit quota systems.

4.5.3 Concentration of ownership

As mentioned above, the structural quota systems for both the coastal fishing fleet and the offshore fishing fleet contain so-called quota ceilings. These are rules which limit how much the individual vessel's quota can be increased by using the structural quota system.

The quota ceiling thereby limits quota concentration at vessel level. The quota ceiling in the SQS however does not restrict quota concentrations as effectively at owner level, since a single owner may be operating several vessels.

For the offshore fishing fleet, however, rules have been laid down concerning concentration of ownership in the regulations of 13 October 2006 no. 1157 concerning special permits to engage in individual forms of fishing and hunting (the licensing regulations). In brief, these rules are:

For the cod trawl group the general rule is that an owner may not hold a cod-trawl licence for more vessels than the number of vessels which, combined, will be allocated up to nine quota factors; see Section 2-4 of the licensing regulations. This equates to somewhat more than 10% of the total number of quota factors in the group.

This general rule is supplemented by a special rule for fishing industry enterprises which also own fishing vessels. When several such fishing industry enterprises have the same underlying owner, the owner may hold cod trawling permits for vessels which, combined, will be allocated up to seven quota factors for each fishing industry enterprise he owns, when he has the obligation to supply the catch in accordance with regulation no. 1131 of 12 September 2003 on the supply obligation for vessels with cod trawl permits for fishing industry enterprises. The rules relating to this are set out in Section 2-5 of the licensing regulations.

For the industrial trawl group, the rule on the concentration of ownership is that an owner may not possess such licences for more vessels than the number which, combined, will be allocated up to 10% of the total of the basic quotas for the vessels in the group in the individual fishery, or 10% of the group quota for fish species which are not regulated through the basic quota model; see Section 2-9 of the licensing regulations.

For the saithe trawl group, the threshold is set at 20% of the group quota, see Section 2-16 of the licensing regulations, while the threshold in the purse-seine group is set at 5% of the total of the basic quotas for the vessels in the individual fisheries; see Section 4-5.

The rules on restriction of ownership apply not only when it is the same person or company which directly owns the vessel, but also the real underlying owner, regardless of how it has been decided to organise ownership. From the rules in Section 1-6 of the licensing regulations, it ensues that the individual owner shall be allocated the full quota if he has a share of ownership of more than 50%, that a pro rata share shall be allocated to a share of ownership of between 30% and 50%, while none of the quota shall be allocated if the share of ownership is less than 20%.

As regards the coastal fleet, no such rules on restricting concentration of ownership have been laid down.

The Structural Committee pronounced on concentration of ownership in Norwegian Official Report 2006: 16 Chapter 8.4.2 as follows:

"The Committee members would like clear rules to be prepared that define limits for the scale of fishing rights individual actors are permitted to hold, in order to avoid the excessive concentration of such rights. The Committee proposes a maximum limit of 10% of the group quota in the regulation groups where stricter limits are not already set. For small fisheries, an exemption from the restriction should be made".

The Government will be continuing to work on this issue. If a detailed assessment, among other things of the actual status of the ownership structure and the trends it exhibits, indicates a need for such rules as the Structural Committee is proposing here, a proposal to that effect will be submitted for consultation and ultimately laid down as regulations. In that connection the need for rules to restrict options for the same owner to operate vessels in both the offshore fleet and coastal fleet will also be examined.

Figure 4.12 The coastal fishing fleet endures a breaking sea

Photo: Fiskeri.no

7 The resource rent issue

7.1 Introduction

Fish stocks represent a national resource and a valuable part of the natural capital on which Norwegian society is founded. This chapter discusses the resource rent in the fisheries and its significance for the industry's economic functioning. Also discussed are the political aspects of the resource rent and problems that arise in connection with the resource rent and the economic management of fisheries resources.

The economic value of a natural resource is normally linked to the concept of resource rent according to which natural resources are to be regarded as a source of revenue, like profit and return on capital. The term resource rent is relevant in respect of revenues that derive from scarce natural resources and is also referred to as land rent **1**

Resource rent is therefore a key concept for understanding the economy of the fisheries, just as it is for other industries based on the exploitation of natural resources. In Norway, petroleum extraction and hydro-power production are examples of other industries with significant resource rent revenues. Resource rent is thus not a fisheries-specific concept.

The first thing to understand about the concept of resource rent is that, in industries which exploit natural resources, one is actually harvesting a yield from nature's own production. It is the natural resource itself which is the basis for the production while the resource is also an important input factor which it is essentially free to exploit. In other words, nature performs some of the production. It is this free production factor which allows the industry to harvest a resource rent.

The resource rent will thus always be present in industries which are able to harvest a free yield from nature's own production and can, under given conditions, be realised as an additional yield beyond the normal compensation for labour, capital and other paid-for production factors. This is the fundamental economic reality in businesses based on natural resources. The resource rent is not necessarily of a visible or clearly defined size for the actors in the industry, but it nonetheless affects the economic functioning of industries based on the use of scarce natural resources.

From an economic perspective, the potential for using a free input factor in production can be considered to be a sort of deficiency in the market, and the resource rent is an expression of the resource's "shadow price" **2** . This shadow price reflects the marginal value of the resource. If access to exploiting a natural resource is traded on a market, this shadow price will be realised as a market price. In this case the market deficiency will be corrected and the resource then priced as an input factor in line with labour and capital.

For a natural resource to produce a resource rent, there is a precondition of the resource being scarce. Scarcity means that willingness to buy exceeds the cost of extracting the resources and this must be founded on physical or biological limitations on access to the resource. A high market price may thus signal resource scarcity, but a price increase may also be the result of factors other than this. This means that not all natural resources necessarily generate a resource rent. For many natural resources, it is demand, along with production costs, and not the scarcity of the resources, which restricts supply. The

production costs can however also be interpreted as an expression of scarcity and normally extraction costs will increase with increasing physical scarcity of the resource. In other cases there may be little of the resource itself available, but still no scarcity in terms of demand.

Value creation in a normal production process occurs through the purchase of input materials, such as raw materials, and the input of labour and capital (or only through the input of labour and capital as in the case of the service sector). It is productivity, together with the quality of the goods and services relative to the willingness to pay and the discretion of the demand side, which determines the yield from any combination of these input factors. The yield from the input factors' alternative uses determines an economic minimum level for the yield required on the resources in order for an industry to be profitable. Fundamentally, the same requirement on yield is imposed in industries based on the exploitation of natural resources, but the fact that nature's production is free can compensate for a genuinely lower return on the other input factors. If the return from these is at a normal level, the free input factors will be expressed as an extra yield.

In order for the resource rent to be realised as profit beyond what one would normally have earned by investing in activities not based on natural resources, there is a precondition that new suppliers are not able to establish themselves freely. Access to the resource must therefore be restricted in accordance with its scarcity in order for the resource rent to be realised as an extra yield. For the individual industrial actors it is the total yield that underpins their investment decisions, and with free access to establishment, the resource rent will result in overestablishment. The surplus from operations will then be forced down to normal yield levels and profitability will be no better than in other industries. The way in which the extraction of the resource is organised is consequently highly significant for the extent to which the resource rent is realised as an extra yield, both for the individual actor and for the industry as a whole. Given that the condition of market scarcity is met, the underlying potential resource rent will nonetheless still exist, regardless of whether it is realised as a high yield or not.

In addition to this, producers in industries based on natural resources have varying levels of cost-effectiveness. This means that they have different profitability levels at different times and the total extra revenue for the most cost-effective producers is called producer surplus. Individual actors' yield above the norm in industries based on natural resources is thus not due solely to the resource rent.

7.1 Resource rent in the fisheries

Wild-caught fish are a conditionally renewable resource. If, through sustainable management, we maintain a balanced ecosystem, and natural conditions are otherwise conducive, fish stocks will reproduce. A catch in excess of a sustainable level today may mean a reduced future catch and thereby reduce the value of the resource. On this basis, it can be asserted that fish are a scarce natural resource.

For those fish stocks that are currently exploited commercially, the precondition of scarcity as a basis for resource rent is thus met. The fishing industry thus fulfils the preconditions for harvesting a resource rent. How and how extensively this is realised is however dependent on how the harvest is regulated and organised.

The resource rent can either provide a basis for profitability above the norm for a limited number of actors, or it can be consumed by the industry by lower demands, in real terms, being made of the return

from the paid-for input factors. In the case of a reduced return requirement relative to other industries, the resource rent may be used to overinvest in capital goods (over-capitalisation) or to employ more people than are necessary to harvest a given quantity. These consequences of a lower return requirement essentially imply a loss of socio-economic efficiency, insofar as the input factors have a positive value in alternative activities within society. In this case, total value-creation in society may increase. In order to maintain the growth in welfare in Norway, it has been, and remains, essential that necessary reorganisation occurs, so that the input factors are allocated to where they achieve the best return. Reorganisation during economic booms is a good thing since there is relatively better and easier access to alternative employment and investment opportunities. Any reorganisation must also be seen in relation to factors such as demographic trends among fishermen and the population's aspirations with regard to settlement, access to infrastructure and needs vis-à-vis employment terms and conditions.

The existence of a resource rent in the fishing industry may thus, to a certain degree, compensate for society's general requirements for returns and growth in productivity. But even if the resource rent is used to achieve higher capacity and employment in the industry than are strictly necessary, productivity in the industry must still improve in order to keep up with welfare trends elsewhere in society. The formidable increase in productivity in the Norwegian fishing fleet provides an absolutely clear illustration of this.

A further improvement in efficiency in the fishing industry will have consequences, notably for local communities which are highly dependent on the fisheries and which will have to undergo reorganizational processes if activity and employment in the fishing fleet are reduced, just as earlier efficiency gains resulted in such consequences. In the longer term, the resource rent has not inhibited the reorganizational processes caused by other structural forces in society. Over time, we will therefore see that the location of the fishing fleet, the processing industry and other appurtenant industrial and societal activities has changed. The resource rent may, if the regulatory system and the industry actors so permit, function as a temporary buffer and help moderate these consequences, but, in the longer term, the resource rent cannot per se prevent them occurring.

On the one hand, the existence of the resource rent may mask the fact that the yield from input factors is lower than in other industries, precisely because one key and valuable input factor in the production is free. On the other hand, the resource rent from the fisheries may be realised as an extra yield for a relatively limited number of actors if these have the potential to manage the activity for optimal efficiency.

In recent years, most countries have realigned their regulatory systems, so that fishing is operated more efficiently and a resource rent is realised. The Norwegian regulatory system has also been gradually changed, and the introduction of limited entry systems and various structural measures have been instrumental in individual groups of vessels in the Norwegian fisheries now realising substantial resource rents. The design of the regulatory system is highly important for how this resource rent is realised.

7.3 The size of the resource rent in Norwegian fisheries

The total quotas of individual fish species that can be harvested each year represent a significant economic boundary for the fishing industry in Norway. In Norway, these quotas are distributed between

different vessel groups, based on distribution keys fixed over time. The quota basis for the individual vessel is therefore dependent on how the vessel group as a whole has adapted to the resource base.

Individual groups have undergone extensive structural adaptations and the group quota is distributed to relatively few vessels. The existence of the resource rent means that profitability in these groups is generally very high. In other vessel groups, profitability is lower as a result of the group quota being distributed to a relatively large number of vessels and the individual vessel's quota basis consequently being too small for the resource rent to be realised as high profitability. The resource rent is then used to maintain the size of the fleet and allow a relatively low level of productivity.

In other words, the distribution of quotas and different degrees of capacity adaptation in the individual groups can result in large differences in earnings within one and the same industry.

A number of calculations have been made of the potential resource rent from fisheries, both nationally and internationally. Such calculations depend, among other things, on the assumptions made, both in terms of industry factors such as the regulatory system and the replacement of vessels, and how real capital and the return requirement are determined. On the basis of the Norwegian fish stocks, it is possible to estimate an optimal extraction of each individual species in balance, and, furthermore, the most cost-effective way of taking the catch in terms of requisite labour and capital can be determined. The calculations show that there is a considerable underlying resource rent in the fisheries, but they do not provide a particularly descriptive picture of the present situation and how much is realised in the form of extra yield.

Profitability in the fisheries depends, as in all industries, on the balance between revenues and costs. This consequently is also crucially significant for whether, and how much of, the resource rent is realised,

Of course, revenues from fishing depend on the price of fish and the catch volume. The majority of what is caught in Norway is exported and the end price is largely determined in foreign markets where Norwegian actors have limited influence. This price setting is based on consumer demand and the supply of fish and affects the Norwegian first-hand price. It is difficult to predict what future price trends will be and there are many uncertainties involved. However, as shown in Chapter 3.5.2, the real price of fish on its first-hand sale in Norway has been stable for many decades.

In terms of fish catches, there is little to indicate that these will increase substantially in Norway's neighbouring waters. Any changes in the ocean climate might be assumed to affect fish stocks, including their distribution and migration patterns. There is uncertainty surrounding what the net effect of such changes might be.

Given that prices will not increase significantly and that volumes will remain stable, it is costs and the regulation of fisheries that will be of most significance for future profitability. Here too there are a number of contributory factors, the most decisive of which include fuel costs, wage levels and interest rates. Other factors such as changes in and expansion of the labour market, legislative liberalisation and increased environmental costs seem likely to play a future role in the cost level in Norwegian fisheries.

Another characteristic of the fisheries sector is the need for capital-intensive productive assets in the shape of fishing vessels. This applies to all vessel groups, including the coastal fishery using small

vessels. At the same time, competition for labour from other maritime industries is increasing, and this is helping to push wage levels in the fishing industry higher.

The level of charges in the fishing fleet also affects profitability, but, as concerns the size of the resource rent, only sector-specific charges are directly significant. These constitute a relatively limited proportion of the total level of charges.

Insofar as the revenue level or cost structure of Norwegian fisheries remains broadly unchanged, profit trends will depend in the first instance on the fishing fleet's growth in productivity. Increased productivity will mean fewer vessels taking part in a fishery. This is a trend we have already been seeing for several decades, as the review in Chapter 2 clearly demonstrates.

In recent years, the number of vessels has also been reduced through the use of various structural instruments. The reduction in the number of vessels has contributed to fishing revenues being shared among fewer actors, which in turn means that increasingly more vessels are in a position to realise a return on invested capital above the norm. Structural adaptation has consequently helped the resource rent from Norwegian fisheries resources to be increasingly in evidence, whether as extra yield from activities or through realised profits from sales. Based on the technological development of fishing and the efficiency gains in society in general, there is little to indicate that this trend will not continue.

Bodies such as SNF (the Institute for Research in Economics and Business Administration) and Statistics Norway have calculated the size of the resource rent in Norwegian fisheries. These calculations are discussed in Box 7.1. Since the calculations are based on different assumptions, and have different levels of detail, they do not provide comparable results.

Box 7.1 Calculations of the resource rent and potential resource rent

A report from SNF[1] demonstrates that the resource rent realised from the fisheries in 2002 was roughly zero, but that the potential could be NOK 7 billion if excess capacity were eliminated and the entire fleet renewed with the most efficient vessels. The calculations are based on catches and prices achieved in 2002, and it may be added that the base figures have changed since then. No depreciation was included in the calculations, since this is catered for by sensitivity analyses of the capital assets. In its calculations, SNF estimated the size of the realisable resource rent under varying suppositions.

The results indicate that, through changes in the institutional framework conditions, a significant resource rent is achievable in the Norwegian fisheries and it may be noted that all the alternatives imply that the fleet remains differentiated. A significant resource rent can also be achieved within the framework of current vessels groups and quota allocation, on the precondition that the respective groups in the fleet consist of the most cost-effective vessels. All the alternatives that cause more of the resource rent to be realised involve a reduction in both the number of vessels and employment.

SNF also analysed the relationship between the trading of fishing permits and the gearing ratio[2]. The report reveals a clear correlation between the trading of fishing permits and the gearing ratio among the conventional vessels over 28 metres, and a corresponding, but less emphatic, trend within the seining fleet[3]. The tradable value of quotas also provides a market valuation of the resource rent within the groups in the fleet, while also offering a pointer as to the size of the resource rent being capitalised by

private actors. The results of the analysis of the two groups in the fleet referred to indicate that trade in fishing permits leads to a relatively large proportion of the resource rent linked to the individual quota being capitalised as sales value which accrues to the seller. There are grounds for believing that this same trend applies to other groups of vessels which have had access to unit quota and structural quota systems, and indeed for all vessel transactions where the vessel holds a licence or annual participant permit.

Statistics Norway (SSB)[4] also performed a calculation of the resource rent in 2002 and arrived at a negative resource rent of NOK 1.8 billion. The primary reason for this large difference compared with SNF's calculation is that SSB incorporated significantly higher wage costs. SSB does however point out that the potential resource rent in Norwegian fisheries is considerable.

[1] SNF report no. 06/05.

[2] SNF report no. 05/05.

[3] The selection of vessel groups was made on the basis of data available at the time of reporting and on the basis that these are groups which have undergone relatively major restructuring in recent years.

[4] SSB report no. 2005/13.

7.4 Political discussion of resource rent in the fisheries

The resource rent in the fisheries has been discussed in a number of documents submitted to the Storting since 1990. In this connection, it has also been debated whether the industry should cover a larger proportion of the costs of fisheries management, but there has been no complete discussion of the issue of whether the resource rent should be taxed. The following reviews the main features of the discussion of resource rent in the documents and the Storting's debating of the issue.

St.Meld. (White Paper) no. 58 (1991-1992) Om struktur- og reguleringspolitikk overfor fiskeflåten (Concerning structural and regulatory policy in relation to the fishing fleet)

The issue of resource rent in the fishing fleet was discussed as far back as 1992, in the structural and regulatory policy White Paper. A key question in the review was to whom the resource rent should accrue: the fisherman, the coastal population or the nation as a whole.

The collection of a resource tax was presented as an instrument that would make the added yield from fishing more visible and simultaneously be instrumental in suppressing capacity. In this way, society would be provided with some of the resource rent which an effective harvesting of the fisheries resources offers, while it would also have a positive effect on the resources. It was noted particularly that imposing a tax would, in the first instance, cover the administration costs of fisheries management, which in 1991 amounted to approx. NOK 500 million.

The following means of collection were debated:

A one-off charge to fish, which should reflect the economic benefit deriving from access to fishing in the years ahead. The high level of such a one-off charge would however exclude smaller actors from fishing. This was judged to be undesirable.

An annual charge on fish (an extraordinary tax) which would offer the authorities the potential for collecting a larger share of fishing's resource rent. A charge on catches, input factors and listing in the Register of Norwegian Fishing Vessels were assessed.

The White Paper's conclusion was that, over time, a share of the resource rent should be collected for the benefit of society, with a proposal that differential charges should be introduced for a listing in the Register of Norwegian Fishing Vessels as a first step towards a resource tax. In addition to contributing to the public purse, such a tax would also allow the Register to be purged.

Innst. S. (Green Paper) no. 50 (1992-1993)

In the Storting's debate on the 1992 structural and regulatory policy White Paper, the majority of the Maritime and Fisheries Committee voted against the introduction of a registration charge for the Register of Norwegian Fishing Vessels as a step towards a resource tax, on the basis that, as far as possible, value creation should take place in the districts, to ensure settlement and employment. Most of the fishermen's organisations were also against the introduction of such a tax.

Ot.prp. (proposition to the Odelsting) no. 67 (1997-1998) On the act relative to the right to participate in fishery

In this bill for a new act on participation in the fisheries, it was proposed that an annual fee should be payable while the vessel was on the Register of Norwegian Fishing Vessels (in addition to the enrolment fee). The Ministry referred to the structural and regulatory policy White Paper of 1992 and stressed that such a charge would not be the first step towards a resource tax. The justification for the charge was, on the contrary, that the industry should help finance the costs of administrating the Register and the use of the register for statistical and coordination purposes.

The Standing Committee on Business and Industry endorsed this in Innst.S. (Green Paper) no. 38 (1998-1999). The Committee also stressed that:

"The Committee would like to point out that the fisheries resources belong communally to the Norwegian people. Fundamentally therefore no one individual or single company may be granted perpetual exclusive rights to freely harvest (and earn money from) these resources, while others are barred from participating in fishing.

St.Meld. (White Paper) no. 51 (1997-1998) Perspektiver på utvikling av norsk fiskerinæring (Perspectives on the development of the Norwegian fishing industry)

In this paper, put forward on 18 June 1998, scarcely two weeks after the bill for the Participant Act, the then Government noted that permits for participation in fishing and catch quotas were allocated free of charge by society, so that the resource rent accrued in its entirety to the fishing profession. This was seen as society's investment in further development of the districts.

The Standing Committee on Business and Industry came to this resolution in its deliberations on the White Paper in Innst. S. (Green Paper) no. 93 (1998-1999).

St.Meld. (White Paper) no. 20 (2002-2003) Structural measures for the coastal fishing fleet

In its structural measures White Paper, submitted on 28 March 2003, the premise for the Government of the time was that fish are to be considered a scarce natural resource and are able to provide the basis for resource rent if effectively utilised. It was also pointed out that there may be conflicts between the

concern of maximising resource rent and other concerns, such as district policy, on which the fisheries policy is founded.

The paper also pointed out that there was substantial consensus between changing governments and the Storting that the fisheries resources belong communally to the Norwegian people. In this light, it would be natural for some of the resource rent generated in the fisheries to be returned to society to pay for non-profit public purposes in line with the Committee's observation that no one may be given the right, free of charge, to harvest the resources. The paper lays down that the introduction of structural instruments may contribute to realising greater surpluses in sections of the fishing fleet in the years ahead, which raises the question of extraordinary taxation of the resource rent.

The paper also refers to the fact that many countries have already introduced, or have decided to introduce, taxation of the resource rent in the fisheries, but that Norway cannot necessarily be compared with these countries. It was also pointed out that in Norway emphasis has been given to maintaining a differentiated fleet structure and a reasonably stable geographic spread of vessels. As instruments for achieving this, the fishing fleet is subject to various restrictions and guidelines in the regulations. These help to reduce surpluses, so that the resource rent is realised less fully in individual vessel groups.

The then Government gave notice of a report on this question, in order to establish the best possible decision-making basis for evaluating the introduction and format of a resource-rent tax in the fisheries.

Innst. S. (Green Paper) no. 271 (2002-2003)

In the Storting's deliberations on the White Paper, the majority of the Standing Committee on Business and Industry referred to the fact that the introduction of structural quotas may contribute to realising greater surpluses in sections of the fishing fleet in the years ahead, and that this raises the question of extraordinary taxation. The majority were therefore in favour of a report on the question of introducing taxation of primary resources in the fisheries.

St.Meld. (White Paper) no. 19 (2004-2005) Marin næringsutvikling – Den blå åker ("Fields of blue". Industrial and commercial development of marine resources)

The White Paper on the industrial and commercial development of marine resources, submitted on 18 March 2005, again took as its basis the notion that the fish resources represent a national resource. The paper referred to the same aspects discussed in St.Meld. (White Paper) no. 20 (2002-2003) and, on this basis, noted that conditions such as a differentiated fleet structure, stable geographical distribution of vessels and the regulatory system affected the resource rent. It was also established that a considerable proportion of the potential resource rent is capitalised as overcapacity.

It is stated that the way in which the resource rent can best earn interest for the industry and society is an important and also a complex topic and that recovery of resource rent is a question of fundamental importance. Against this background, it was noted that there was a requirement for further clarification and evaluation of the resource rent issue. The paper gave notice that the Government will continue working on a report on the resource rent issue. A further report will cover questions relating to its level and issues of collection and allocation. This work should also evaluate the current charges imposed on the fishing fleet.

Innst. S. (Green Paper) no. 192 (2004-2005)

In its discussion of the paper, the Standing Committee on Business and Industry also set out that the fisheries resources are a communal resource that must be managed for the benefit of settlement and commercial development along the entire coast. The Committee also asserted that having a fishing industry with a structure whereby the actors vary in size is a strength and that each in his own way provides a foundation for sustainable local communities.

The Committee noted that the White Paper raised the issue of the introduction of national resource-rent taxation. A majority of the Committee stated that taxation of the fishing fleet was already quite comprehensive and feared that further taxation might have unfortunate consequences for the industry and produce unintended effects on society. A minority maintained that assessing the introduction of a resource-rent tax in the fishing industry was conditional on removing the other extraordinary taxes imposed on the industry and reducing the overall tax burden. Beyond this, the Committee had no particular observations on the Government bill for this area.

7.5 Proposal of the Structural Committee

The Committee is divided in its proposal with regard to the resource rent from the fisheries. This question was not an express component of the mandate, but was nonetheless central to the Committee's report. The minority of seven members in favour of continuation of the structural quota system within a predetermined time limit recommends that this be linked to the introduction of some form of resource rent taxation.

The two groupings who comprise the majority of eight members recommend that resource rent taxation not be introduced into Norwegian fisheries. One of these two groups points out that the introduction of a resource rent tax would negate the assumption that the fisheries resources should be for the benefit of the coastal population. This group maintains that the allocation (and reallocation) of the fish resources can be seen as society's use of the resource rent for the development of the fishing industry and communities along the coast.

The other group in the majority bloc points out that the issue of resource rent taxation has been raised from many quarters. It asserts however that resource rent taxation is in many ways an academic question that is difficult to translate into practice. It also points out that taxing the resource rent might involve a large-scale structuring and rationalisation of the fleet. The group sees the resource rent as the activity and expertise the fishermen offer society by harvesting the resource in a rational and sustainable way, through the rights and customs developed over generations.

The group in favour of the introduction of resource-rent taxation in combination with structural quotas with no predetermined time limit maintains that resource-rent taxation will serve to safeguard the fisheries resources as commons. It maintains that taxing the resource rent will ensure fair distribution and serve to reduce the quota prices. It is presumed that a resource rent tax would not be offloaded onto employed fishermen paid in crew shares. The group's opinion is that the taxation model must be designed so that socio-economically profitable employment is retained, that fishermen's incomes are well distributed and that fishermen have arrangements for working hours that approximate the Norwegian norm, that are predictable in terms of hours at work and off work. It is also a precondition that resource-rent taxation is not organised in such a way that it leads to an increase in illegal fishing. The group

maintains that resource-rent taxation can only be introduced after a more detailed report and consultation on possible taxation models.

7.6 Consultation responses

The Norwegian Confederation of Trade Unions (LO) supports the proposal to evaluate the introduction of resource-rent taxation on extraordinary surpluses in the fisheries. They assume however that a more detailed report and consultation round will be undertaken before a conclusion can be reached.

The Norwegian Financial Services Association (FNH) and the Norwegian Savings Banks Association are of the opinion, in a joint consultation response, that "the introduction of a resource-rent tax on profit exceeding a normal return for labour and capital will be appropriate only if the industry can be successfully restructured, and may be a way to ensure compensation to society for fishing a limited resource of which society is the owner." They conclude that the introduction of any resource-rent taxation "must take place in combination with the introduction of other and new opportunities for optimising the fleet", but that this is a question which requires its own report and consultation.

FHL industry and export, a branch association of the Norwegian Seafood Federation, fears that "a future resource rent will in reality be imposed on the fishing industry through an increase in the price of the raw material". In spite of this, they support the proposal for resource-rent taxation, but emphasise that "the resource rent must be applied to extraordinary profit". Sør-Norges Trålerlag (the trawlermen's association of Southern Norway) maintains that the resource-rent question is a separate major matter of principle which must be discussed through separate consultation.

Norges Fiskarlag (the Norwegian Fishermen's Association) notes that the question of resource-rent taxation has been previously debated in the Storting. The Association has previously commented on the matter in the discussion of White Paper no. 20 (2002-2003), and holds that there are no grounds for raising the question of resource-rent taxation again.

The Norwegian Coastal Fishermen's Union is against taxation of the resource rent and believes that taxation of this kind would legitimise a continuing system of perpetual and tradable quotas. Bivdi - the Coastal Sámi hunting and fisheries organisation - is also against the imposition of resource-rent taxation, and is afraid that this would legitimise perpetual structural quotas for the few.

Among the county authorities and other bodies, Finnmark, Troms, Nordland and Sør-Trøndelag counties, and Nord-Trøndelag County Council recommend that resource-rent taxation not be introduced. Møre og Romsdal County Council and Hordaland County Council maintain that, in the case of non-time-delimited quotas, it is in principle right to tax the resource rent. They envisage that "models must be devised for this to deal with the total taxation level for the fleet and the competitive situation generally", and conclude that "a resource-rent tax can be introduced only on the basis of extraordinarily high net returns".

The Executive Committee for Northern Norway, the Lofoten and West Finnmark regional councils recommend that resource-rent taxation not be introduced. Lenvik and Berg municipalities do not endorse the proposal for such a tax either.

Among other consultative bodies, the Directorate of Fisheries suggests the introduction of differentiated resource taxes on first-hand sales. SUROFI (the Sunnmøre and Romsdal Fish-selling Association) agree with the majority that "a resource-rent tax should be evaluated for those who have a permit to harvest the sea's resources free of charge", but also maintain that imposition of this tax will require thorough assessment. Friends of the Earth Norway is against the collection of resource rent, while the WWF concurs with the Committee's minority on the opposite view.

7.7. The Government's assessment

7.7.1 General remarks about use of the resource rent

The management of natural resources which provide a basis for large, on-going revenues raises a number of questions relating to the form of regulation they are subject to. Firstly, all experience indicates that it is necessary to regulate access to the resources. Secondly, how the revenues are distributed is an important question for society. In the future, it may be relevant to also take account of other ways of utilising the fish resources than through traditional fishing; note for example the problems surrounding fish tourism. Thirdly, there may be other, non-profit, interests linked to the management of fish stocks than the purely commercial.

If a limited natural resource is exploited effectively, it may, as has already been pointed out, provide a basis for higher returns than in industries not based on such resources.

For the petroleum industry and hydro-power production, special tax rules have been laid down to draw down some of the resource rent for the benefit of society, and there is also extensive public ownership in these industries. In the fisheries, no special tax rules have been established and only a fraction of the realised resource rent accrues to society through the ordinary tax system.

The fish resources belong communally to the Norwegian people. Accordingly, it would not be unnatural if some of the resource rent realised in the fisheries were returned to society, to pay for non-profit public purposes and in line with the political premise that no one may be given "perpetual exclusive rights to harvest free of charge (and earn money from) these resources" (see the quotation above from Innst. S. (Green Paper) no. 38 (1998-99). At the same time, this must be evaluated in relation to the effects of the resource rent accruing to the fishing profession, and, through investment and the maintenance of activities, benefiting communities along the coast. Entry restrictions are an important precondition for the realisation of the resource rent from the fishing industry and structural measures have been instrumental in reducing the number of actors. This, along with the fact that the resource rent is not collected, has been instrumental in giving the industry actors greater financial scope than they would otherwise have had.

Conversely, there is also an alternative that the industry should be deliberately regulated on the basis of concern for fisheries-dependent districts, activity along the entire coast and a dispersed fleet structure, so that less of the resource rent is realised.

The special significance of the fisheries for the coast in general and for a wide range of fisheries-dependent communities in particular has been decisive for the resource rent accruing to the industry. The background to this includes the fact that the industry has been subject to a range of regulations and restrictions not applicable to other industries, in order to cater for district-related concerns.

Figure 7.1 The fisheries play a key role in coastal life

Photo: Norwegian Ministry of Fisheries and Coastal Affairs

Equally, the number of actors, measured as active fishing vessels in the Norwegian fishing fleet, has been considerably reduced. The industry employs far fewer people than it has done historically, and activity appears to be concentrated in fewer locations than before. The reduction in the number of vessels has contributed to fishing revenues being shared among fewer actors, which in turn means that increasingly more vessels are realising a return on invested capital above the norm. As this becomes evident in society, questions may be asked as to whether this is a reasonable distribution of income deriving from a common resource.

Through continued structural adjustment and efficiency gains within most vessel groups, increasingly more vessel groups will be able to realise a substantial resource rent. Even if current quota allocations and other regulatory limitations are continued, the calculations indicate that the fishing fleet is capable of realising an annual resource rent of several billion Kroner. This may put a system where the resource rent accrues solely to the industry actors, whether as sales value or higher surpluses, under additional pressure. At the same time, it should be emphasised that the question as to whether the State should tax part of the resource rent or not is a matter which in principle can and should be dealt with independently of how the structural systems in the fishing fleet are designed.

The resource rent has made it possible to use the fishing industry as an instrument for pursuing more wide-ranging and ulterior political goals. This means that some of the fishing industry revenues have been used to achieve district-policy objectives for settlement and employment, without the socio-economic impacts of this having been quantified.

If the fishing industry is regulated so that it uses more labour and demands more of society's capital resources than are necessary in respect of the resource base, this implies a loss of efficiency in socio-

economic terms. Furthermore, the potential for taking some of this extra return and using it in pursuance of overarching political priorities will be affected if the resource rent is not realised. From a socio-economic perspective, this is acceptable only if the extra resources tied up in the industry, both labour and capital, would not be better employed elsewhere.

On this basis, a utilisation of the resource rent that means this either stays in the industry or is used in a targeted fashion to cater for concerns other than the need for efficiency must be the result of an explicit political choice, a choice that takes a position on how the resource rent can best be used to cater for overarching socio-political priorities, including district-policy concerns.

7.7.2 Summary and conclusion

Until now the resource rent has accrued to the industry and it is the fisheries' particular significance for the coast and for a wide range of fisheries-dependent communities that has been decisive in this respect.

In recent decades, the fishing industry has grown from a heavily subsidised industry to a competitive one that stands on its own two feet. This has been achieved through comprehensive structural adaptation and efficiency improvements and has had consequences in the shape of reduced employment and increased concentration. At the same time, this development has made it possible for a range of actors to realise the resource rent, either as sales gains or through a high level of profitability from operations.

The question is whether the resource rent, without further regulation, should continue to remain in the industry and the coastal communities, as society's investment in the further development of the industry and the districts.

If the resource rent from the fisheries is subjected to special taxation this may contribute to it being increasingly managed in pursuit of overarching political priorities. The current system, whereby the resource rent is assumed to be used for district-policy purposes without the cost of this being known or the impact made visible, makes this prioritisation difficult. Moreover, the current system does not ensure that the resource rent is actually used for developmental purposes by the individual operatives who harvest it. No mechanisms have been established to manage this. Over the last century, surplus from the fishing industry has however largely been reinvested in coastal communities, as new investment in the fisheries sector or in other marine industries, such as fish farming or in ship-building activities connected to petroleum activities on the Norwegian Continental Shelf.

Resource-rent taxation will be able to affect the market price of a fishing vessel which is sold for continued operation. The price depends on the resources which the buyer will gain access to using the vessel and on how the surplus in the fisheries is taxed. This is something which the buyer must take into consideration in his profit calculations and will thus affect the price that is set. This might lower the threshold for setting up in business with one's own vessel. To the extent taxation of the resource rent leads to lower prices, it will also contribute to preventing new owners taking on disproportionate debts. Equally, some of this resource-based extra return will accrue to society, in preference to actors who sell out of the fishing industry.

On the other hand, consideration must be given to the fact that recovery of any proportion of the resource rent from the fisheries is not unproblematic. Firstly, trade that has already occurred means that

some of the anticipated future resource rent is already capitalised on the seller's part through the sales value. Secondly, a resource tax may contribute to strengthening structural adaptation and efficiency gains, and thereby also the negative consequences for vulnerable fisheries-dependent communities. Thirdly, the risk related to operating a business in the fisheries is relatively high, since the basis of operations in the form of fish stocks can change quickly. This speaks in favour of the actors having a higher return than in industries with a lower risk profile. It may also be difficult to distinguish between what is genuine resource rent and what is recompense for taking a risk.

Furthermore, it will be a challenge to design a system that takes account of the industry actors' requirements and also guarantees that a reasonable share of the return accrues to society. Profitability for the private actors must be sufficient to undertake necessary investments and ensure stable employment.

Following a comprehensive assessment, the Government has come to the view that concern for the coastal communities dictates that value creation should remain to the greatest extent possible in the industry and in the coastal communities, as society's investment in further development of the districts and coastal industry. The Government will therefore not be introducing a resource tax in the fisheries.

Resource rent, or land rent, was originally introduced by the classical economist David Ricardo (1817) and related to the fact that different agricultural lands have different productivities (also called differential rent).

Shadow prices are used in an economical context either when there is no market price for some goods or when the market price does not genuinely reflect the value of the goods.