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Danish fisheries:  
Management, fleet structure and  
economic performance

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# Danish fisheries Management, fleet structure and economic performance

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## **Introduction**

In the last decade, the Danish management system has, under the CFP, undergone considerable changes, which to a large extent have been undertaken with involvement of stakeholders from the fishing communities. The capacity of the Danish fishing fleet was intensively regulated before the introduction of individual property rights in 2003. The fleet capacity regulations have been strictly enforced and the capacity levels have been well below the EU reference levels for many years. However, problems with overcapacity and poor economic performance due to a regulation of quotas allowing all registered fishermen to enter any fishery managed by rations led to a government decision in 2001 to enter into a management using Transferable Fishing Concessions (TFC).

The Danish TFC management has obtained interest from many parties having an interest in fisheries management. This short note intends to give some basic facts and figures about the development in Danish fisheries from 2000 to 2010.

## **The Danish Management system**

The first step towards a Danish regulatory system primarily based on Transferable Fishing Concessions was initiated for the pelagic and industrial fleets 1<sup>st</sup> January 2003. Initially herring was regulated by Individual Transferable Quotas (ITQ's), but later also mackerel and a range of industrial species (used to produce fishmeal and fish oil) were regulated by ITQ's. The ITQ's were allocated using the grandfathering method, where the rights were given free of charge to fishermen, using 2000-2002 as reference years.

The pelagic and industrial vessels catch relatively cheap fish and are thus more dependent on efficient handling of large amounts of fish than the demersal fleet.

The fishery for demersal species was regulated by individual fishing rights from 1<sup>st</sup> January 2007. Individual vessel quota shares (VQS) for the 28 most important quotas were distributed to all vessels with a level of activity generating more than € 30,000 of gross earnings each year in the reference period 2003-2005. Us-

ing the grandfathering method, VQS were allocated to each vessel based on landings in the reference period 2003-2005. Initially the VQS could only be transferred together with the vessel to another vessel, but this restriction was abolished after two years.

A VQS vessel can join a coastal fisheries scheme under the condition that the vessel is less than 17 meters and at least 80% of its fishing trips are shorter than three days. An additional quota share of cod and sole was allocated as a premium for vessels participating in the coastal fisheries scheme. The coastal vessels can buy quota shares from vessels over 17 meters, while vessels above 17 meters cannot buy from the coastal vessels.

The less active – typically small scale vessels with gross earnings below € 30,000 in the reference period continued to be managed with a ration system with a fixed share of the national quotas for their segment. The total quota allocated to the group of less active vessels is calculated as share of these vessels fishery in the reference period (2003-2005).

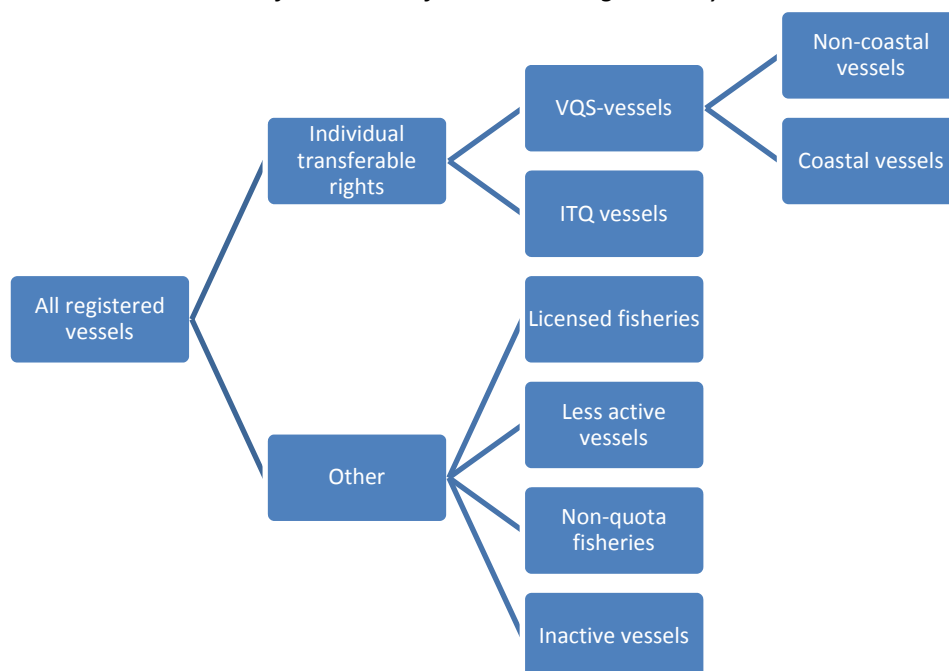
A Fish Fund with flexible quota shares for the individual stocks was also established to support the development in the fishery. Rules with regard to ownership, concentration of rights and requirements for active participation in the fishery were also a part of the regulation.

The Danish management system prioritises high flexibility. Vessels can transfer shares permanently typically in the context of fleet adaptation, but can also lease limited amounts of fish within the quota year typically to address the daily need for quota adaptations. Furthermore, fishermen can form a pool with other vessels within which the annual vessel quotas can be transferred freely, given that the fishermen comply with the requirement of being an active fisherman earning at least 60% of his income from active fishing.

A number of fisheries for mussels and brown shrimp are regulated separately with entry-licenses. Some vessels only catch non-quota species and are accordingly not restricted by EU quotas. Finally, inactive vessels are placed separately. There can be various reasons for vessels to be inactive rather than being scrapped. For example until 2009, in order to be eligible for days at sea in relation to the North Sea cod recovery plan. The days at sea could then be transferred to active vessels.

Based on the above, each vessel in the Danish fishing fleet can be placed in one of the boxes displayed in Figure 1 showing the structure of the Danish management system.

Figure 1 The overall structure of the Danish fisheries management system



### The structural development of the Danish fishing fleet

The structural development is influenced by many factors. The three primary factors are: 1) the biological conditions, such as the catchability of fish and quota levels, 2) the economic conditions including fish and fuel prices and the general financial conditions, and 3) the management system in place.

The Danish fishing fleet has been reduced in number of vessels with 32% from 2000 to 2010, cf. Table 1. The development has been most prominent for the active vessels having yearly gross earnings above € 30,000 with a reduction of 52% from 2000 to 2010. The number of less active vessels with yearly gross earnings below € 30,000 consists primarily of vessels below 12 metres, and the number of vessels has been relatively stable over the period. The number of inactive vessels, i.e. vessels not having any fishing activities within a year, has been reduced with 28% from 2000 to 2010.

Table 1 Number of registered vessels in the Danish fishing fleet, 31<sup>st</sup> December

|                                   |        | 2000  | 2003  | 2006  | 2007  | 2008  | 2009  | 2010  |
|-----------------------------------|--------|-------|-------|-------|-------|-------|-------|-------|
| Active vessels <sup>1)</sup>      | <12m   | 494   | 406   | 434   | 356   | 324   | 260   | 259   |
|                                   | 12-15m | 359   | 270   | 249   | 198   | 191   | 174   | 172   |
|                                   | 15-18m | 238   | 186   | 155   | 116   | 116   | 118   | 118   |
|                                   | 18-24m | 207   | 177   | 131   | 103   | 100   | 93    | 94    |
|                                   | 24-40m | 155   | 137   | 89    | 61    | 54    | 46    | 45    |
|                                   | >40m   | 46    | 43    | 39    | 38    | 30    | 29    | 28    |
|                                   | Total  | 1,499 | 1,219 | 1,097 | 872   | 815   | 720   | 716   |
| Less active vessels <sup>2)</sup> |        | 1,265 | 1,440 | 1,239 | 1,215 | 1,174 | 1,209 | 1,121 |
| Inactive vessels                  |        | 1,377 | 910   | 798   | 870   | 900   | 902   | 985   |
| Total number of vessels           |        | 4,141 | 3,569 | 3,134 | 2,957 | 2,889 | 2,831 | 2,822 |

Source: The Danish AgriFish Agency

Note: 1) Yearly gross earnings above € 30,000.

2) Yearly gross earnings below € 30,000.

The active vessels below 24 metres obtain the primary part of their income from catching demersal species. For the active vessels between 24 and 40 metres, their income is more equally distributed between demersal and pelagic species. Finally, the active vessels above 40 metres obtain almost entirely their income from catching pelagic and industrial species, where the latter are used to produce fish meal and fish oil. The income for less active vessels originates on average primarily from demersal species. These catch compositions have been reasonably stable within the last decade.

The development in capacity, measured in tonnage (GT), is shown in Table 2. The registered capacity has been reduced from 111,120 GT in 2000 to 66,000 GT in 2010, equal to 41%. As the reduction is done on a voluntary basis, some of the inactive and potential capacity may be activated if for instance changes in quotas or economy make it economically profitable.

*Table 2 Tonnage of registered vessels in the Danish fishing fleet (GT), 31<sup>st</sup> December*

|   |        | 2000    | 2003   | 2006   | 2007   | 2008   | 2009   | 2010   |
|---|--------|---------|--------|--------|--------|--------|--------|--------|
| Active vessels <sup>1)</sup>            | <12m   | 3,671   | 3,044  | 3,196  | 2,730  | 2,533  | 2,140  | 2,178  |
|   | 12-15m | 7,421   | 5,425  | 4,921  | 3,968  | 3,829  | 3,514  | 3,490  |
|   | 15-18m | 10,395  | 8,068  | 6,497  | 4,918  | 5,257  | 5,643  | 5,664  |
|   | 18-24m | 17,957  | 15,334 | 10,625 | 8,563  | 8,481  | 8,411  | 8,875  |
|   | 24-40m | 36,685  | 33,966 | 21,707 | 15,331 | 13,618 | 12,042 | 11,968 |
|   | >40m   | 28,272  | 27,061 | 29,674 | 29,934 | 24,438 | 26,798 | 26,714 |
|   | Total  | 104,400 | 92,897 | 76,620 | 65,444 | 58,155 | 58,547 | 58,888 |
| Less active vessels <sup>2)</sup>       |        | 4,404   | 4,332  | 3,525  | 3,911  | 3,241  | 4,164  | 3,860  |
| Inactive vessels                        |        | 2,316   | 1,536  | 5,577  | 7,114  | 11,628 | 5,038  | 3,252  |
| Total for registered vessels            |        | 111,120 | 98,765 | 85,722 | 76,469 | 73,024 | 67,749 | 66,000 |
| Unutilized tonnage that can be inserted |        |         |        | 4,941  | 7,977  | 11,671 | 20,268 | 21,618 |
| Total tonnage                           |        | 111,120 | 98,765 | 90,663 | 84,446 | 84,695 | 88,017 | 87,618 |

Source: The Danish AgriFish Agency.

Note: 1) Yearly gross earnings above € 30,000.

2) Yearly gross earnings below € 30,000.

For the active vessels, the average tonnage per vessel has increased from 70 GT in 2000 to 81 GT in 2010. For the vessels below 15 metres, the increase has been modest, but for the vessels above 15 metres, the increase has been more pronounced, especially for those above 40 metres, which on average has gone from 615 GT in 2000 to 954 GT in 2010. The corresponding yearly average change in vessel number and tonnage for the period prior to and after the introduction of the vessel quota shares on 1<sup>st</sup> January 2007 is given in Table 3.

Table 3 Average yearly change in vessel numbers and tonnage (%)

|                                   |        | Number of vessels |                  | Tonnage          |                  |
|-----------------------------------|--------|-------------------|------------------|------------------|------------------|
|                                   |        | Change 2000-2006  | Change 2006-2010 | Change 2000-2006 | Change 2006-2010 |
| Active vessels <sup>1)</sup>      | <12m   | -2.0              | -10.0            | -2.2             | -8.0             |
|                                   | 12-15m | -5.2              | -7.8             | -5.7             | -7.3             |
|                                   | 15-18m | -5.8              | -6.0             | -6.2             | -3.3             |
|                                   | 18-24m | -6.2              | -7.0             | -6.8             | -4.0             |
|                                   | 24-40m | -7.2              | -12.3            | -6.8             | -11.3            |
|                                   | >40m   | -2.5              | -7.0             | 0.8              | -2.5             |
|                                   | Total  | -4.5              | -8.8             | -4.5             | -5.8             |
| Less active vessels <sup>2)</sup> |        | -0.3              | -2.5             | -3.3             | 2.5              |
| Inactive vessels                  |        | -7.0              | 5.8              | 23.5             | -10.5            |
| Total number of vessels           |        | -4.0              | -2.5             | -3.8             | -5.8             |

Note: 1) Yearly gross earnings above € 30,000.

2) Yearly gross earnings below € 30,000.

The average age of a vessel in the Danish fishing fleet is displayed in Table 4. For the active vessels, the age has been stable around 30 years in the period from 2000 to 2010. For the less active vessels and inactive vessels, the average age has gone up.

Table 4 Average age of the registered vessels in the Danish fishing fleet, 31<sup>st</sup> December

|                                   | 2000 | 2003 | 2006 | 2007 | 2008 | 2009 | 2010 |
|-----------------------------------|------|------|------|------|------|------|------|
| Active vessels <sup>1)</sup>      | 30   | 30   | 31   | 30   | 30   | 30   | 30   |
| Less active vessels <sup>2)</sup> | 25   | 25   | 26   | 27   | 27   | 27   | 28   |
| Inactive vessels                  | 24   | 26   | 29   | 29   | 30   | 31   | 32   |
| Average age                       | 27   | 27   | 28   | 28   | 29   | 29   | 30   |

Source: The Danish AgriFish Agency.

Note: 1) Yearly gross earnings above € 30,000.

2) Yearly gross earnings below € 30,000.

The average tonnage age, calculated for each year at their individual vessel tonnage times vessel age divided with total tonnage, to a higher extend gives a weighted measure, which includes the renewal process that has been initiated, especially for the larger vessels. The average tonnage age is shown in Table 5, and it is observed that the average tonnage age for the active vessels have been reduced from 26 in 2000 to 24 in 2006 and then further reduced to 21 in 2010.

Table 5 Average tonnage age of the registered vessels in the Danish fishing fleet, 31<sup>st</sup> December

|                                   | 2000 | 2003 | 2006 | 2007 | 2008 | 2009 | 2010 |
|-----------------------------------|------|------|------|------|------|------|------|
| Active vessels <sup>1)</sup>      | 26   | 26   | 24   | 23   | 24   | 21   | 21   |
| Less active vessels <sup>2)</sup> | 29   | 30   | 32   | 31   | 31   | 32   | 32   |
| Inactive vessels                  | 33   | 31   | 18   | 24   | 21   | 27   | 29   |
| Average tonnage age               | 27   | 27   | 24   | 24   | 23   | 23   | 24   |

Note: 1) Yearly gross earnings above € 30,000.

2) Yearly gross earnings below € 30,000.

## Developments in landings

The total landings in live weight from vessels being active at the end of the year have been reduced from 1.5 million tons in 2000 to 0.8 million tons in 2010, cf. Table 6. In absolute figures, this was primarily due to reduced pelagic landings, but in relative figures the demersal landings have been reduced more.

Table 6 Landings in live weight by Danish fishing vessels active 31<sup>st</sup> December (1,000 tons)

|  |                                   |        | 2000  | 2001  | 2002  | 2003  | 2004  | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|-----------------------------------|--------|-------|-------|-------|-------|-------|------|------|------|------|------|------|
| P<br>e<br>l<br>a<br>g<br>i<br>c <sup>3)</sup>      | Active ves-<br>sels <sup>1)</sup> | <12m   | 3     | 1     | 2     | 3     | 5     | 5    | 5    | 3    | 2    | 2    | 1    |
|  |                                   | 12-15m | 16    | 23    | 14    | 15    | 19    | 29   | 21   | 15   | 12   | 13   | 19   |
|  |                                   | 15-18m | 42    | 55    | 35    | 34    | 43    | 39   | 27   | 18   | 16   | 25   | 29   |
|  |                                   | 18-24m | 71    | 85    | 85    | 48    | 57    | 55   | 45   | 31   | 28   | 33   | 39   |
|  |                                   | 24-40m | 666   | 628   | 580   | 352   | 307   | 210  | 178  | 101  | 110  | 101  | 72   |
|  |                                   | >40m   | 496   | 440   | 478   | 369   | 406   | 387  | 413  | 339  | 368  | 439  | 516  |
|  | Total                             | 1,295  | 1,232 | 1,195 | 819   | 837   | 724   | 689  | 507  | 535  | 613  | 676  |      |
|  | Less active vessels <sup>2)</sup> | 1      | 0     | 0     | 0     | 0     | 1     | 0    | 0    | 0    | 0    | 0    |      |
|  | Total Pelagic                     | 1,295  | 1,233 | 1,195 | 819   | 837   | 725   | 690  | 507  | 535  | 614  | 676  |      |
| D<br>e<br>m<br>e<br>r<br>s<br>a<br>l <sup>3)</sup> | Active ves-<br>sels <sup>1)</sup> | <12m   | 64    | 61    | 55    | 52    | 51    | 37   | 29   | 28   | 25   | 25   | 18   |
|  |                                   | 12-15m | 60    | 61    | 53    | 48    | 50    | 36   | 27   | 25   | 26   | 24   | 20   |
|  |                                   | 15-18m | 46    | 53    | 47    | 37    | 40    | 37   | 38   | 38   | 22   | 22   | 24   |
|  |                                   | 18-24m | 32    | 32    | 30    | 28    | 26    | 22   | 22   | 18   | 19   | 19   | 20   |
|  |                                   | 24-40m | 27    | 27    | 30    | 27    | 35    | 36   | 24   | 16   | 19   | 20   | 20   |
|  |                                   | >40m   | 4     | 4     | 4     | 4     | 6     | 6    | 7    | 7    | 6    | 7    | 7    |
|  | Total                             | 233    | 238   | 220   | 196   | 208   | 174   | 146  | 132  | 117  | 117  | 109  |      |
|  | Less active vessels <sup>2)</sup> | 4      | 4     | 4     | 4     | 3     | 3     | 3    | 3    | 3    | 3    | 3    |      |
|  | Total Demersal                    | 237    | 242   | 224   | 200   | 212   | 177   | 149  | 135  | 119  | 120  | 112  |      |
| Total live weight                                  |                                   |        | 1,532 | 1,475 | 1,419 | 1,020 | 1,048 | 903  | 839  | 642  | 654  | 734  | 788  |

Source: The Danish AgriFish Agency

Note: 1) Yearly gross earnings above € 30,000.

2) Yearly gross earnings below € 30,000.

3) Includes all pelagic/demersal species, not only the TCF managed.

The value of landings has not developed in the same direction as the live weight landings. The total landing value has decreased from € 437 million in 2000 to € 390 million in 2010, cf. Table 7. This lower reduction in value compared to live weight can either be due to an increased price of the landed fish and/or a change in the distribution of the landed fish towards more valuable fish.



Table 7 Landings in value by Danish fishing vessels active 31<sup>st</sup> December (€ million)

|                                      |                                   |        | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--------------------------------------|-----------------------------------|--------|------|------|------|------|------|------|------|------|------|------|------|
| P<br>e<br>l<br>a<br>g<br>i<br>c      | Active ves-<br>sels <sup>1)</sup> | <12m   | 1    | 0    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 0    |
|                                      |                                   | 12-15m | 2    | 3    | 2    | 2    | 2    | 4    | 4    | 3    | 2    | 2    | 4    |
|                                      |                                   | 15-18m | 4    | 7    | 5    | 5    | 5    | 5    | 5    | 4    | 3    | 4    | 7    |
|                                      |                                   | 18-24m | 7    | 9    | 12   | 6    | 6    | 6    | 8    | 5    | 4    | 4    | 9    |
|                                      |                                   | 24-40m | 62   | 74   | 85   | 46   | 32   | 25   | 31   | 18   | 16   | 13   | 17   |
|                                      |                                   | >40m   | 66   | 82   | 102  | 69   | 77   | 103  | 114  | 93   | 96   | 89   | 162  |
|                                      |                                   | Total  | 141  | 175  | 206  | 128  | 124  | 144  | 162  | 124  | 121  | 113  | 200  |
|                                      | Less active vessels <sup>2)</sup> | 0      | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Total Pelagic                        |                                   |        | 141  | 175  | 206  | 128  | 124  | 144  | 163  | 124  | 122  | 113  | 200  |
| D<br>e<br>m<br>e<br>r<br>s<br>a<br>l | Active ves-<br>sels <sup>1)</sup> | <12m   | 41   | 40   | 35   | 33   | 32   | 33   | 35   | 34   | 26   | 19   | 19   |
|                                      |                                   | 12-15m | 55   | 56   | 48   | 38   | 37   | 39   | 40   | 37   | 32   | 24   | 25   |
|                                      |                                   | 15-18m | 57   | 56   | 52   | 41   | 36   | 41   | 43   | 40   | 36   | 29   | 35   |
|                                      |                                   | 18-24m | 68   | 72   | 71   | 59   | 52   | 55   | 54   | 52   | 49   | 39   | 46   |
|                                      |                                   | 24-40m | 54   | 52   | 56   | 47   | 46   | 54   | 57   | 45   | 44   | 40   | 45   |
|                                      |                                   | >40m   | 12   | 13   | 10   | 10   | 12   | 11   | 13   | 14   | 12   | 13   | 14   |
|                                      |                                   | Total  | 288  | 290  | 272  | 228  | 215  | 232  | 242  | 222  | 198  | 164  | 184  |
|                                      | Less active vessels <sup>2)</sup> | 8      | 9    | 8    | 9    | 8    | 8    | 8    | 8    | 8    | 7    | 7    | 6    |
| Total Demersal                       |                                   |        | 296  | 299  | 280  | 237  | 223  | 240  | 250  | 229  | 205  | 170  | 190  |
| Total value                          |                                   |        | 437  | 473  | 487  | 365  | 347  | 384  | 413  | 353  | 327  | 283  | 390  |

Source: The Danish AgriFish Agency

Note: 1) Yearly gross earnings above € 30,000.

2) Yearly gross earnings below € 30,000.

### Economic performance

A range of economic performance measures can be used in order to analyse the economic situation for the Danish fishing fleet. In Table 8, the earning capability and gross profit are used.

The earning capability is defined as gross income, covering income from fishing activities as well as other types of income, minus operating costs for fuel, provisions, brokerage, packing, maintenance, insurance etc., and it portrays the surplus available for payment of crew and capital.

The earning capability is regarded as the best indicator of the economic development of small vessels below 12 metres, because labour costs can be overestimated due to the special crew structure with an owner and possible support of a part time fisherman. An average active vessel below 12 metres has had a relatively stable earning capability from 2000 to 2009, cf. Table 8.

For the vessels above 12 metres, gross profit is considered to be a better economic performance measure. The gross profit is defined as the earning capability minus labour costs, and thus gives the surplus to pay off the invested capital. A general observation on the economic performance of an average vessel within the various length groups above 12 metres indicates that gross profit rise to a higher level from 2006/2007 and onwards.

Table 8 Key economic indicators for an average active vessel (€ 1,000)

|         |                    | 2000  | 2001  | 2002  | 2003  | 2004  | 2005  | 2006  | 2007  | 2008  | 2009  |
|---------|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <12 m   | Gross income       | 71    | 74    | 75    | 79    | 67    | 75    | 81    | 93    | 88    | 74    |
|         | Operating costs    | 28    | 28    | 29    | 31    | 29    | 33    | 33    | 40    | 44    | 40    |
|         | Earning capability | 43    | 46    | 45    | 48    | 38    | 43    | 48    | 53    | 44    | 35    |
|         | Labour costs       | 55    | 53    | 52    | 55    | 48    | 46    | 50    | 53    | 55    | 50    |
|         | Gross profit       | -12   | -7    | -7    | -7    | -11   | -3    | -3    | 0     | -12   | -15   |
| 12-15 m | Gross income       | 152   | 158   | 150   | 147   | 134   | 157   | 184   | 206   | 200   | 159   |
|         | Operating costs    | 62    | 61    | 59    | 61    | 58    | 68    | 77    | 88    | 94    | 82    |
|         | Earning capability | 90    | 98    | 90    | 86    | 76    | 89    | 107   | 118   | 107   | 78    |
|         | Labour costs       | 86    | 90    | 84    | 87    | 77    | 82    | 87    | 84    | 87    | 76    |
|         | Gross profit       | 4     | 7     | 7     | -1    | -1    | 7     | 20    | 35    | 20    | 2     |
| 15-18 m | Gross income       | 271   | 267   | 260   | 230   | 231   | 270   | 315   | 370   | 329   | 299   |
|         | Operating costs    | 109   | 103   | 101   | 99    | 104   | 110   | 121   | 146   | 148   | 137   |
|         | Earning capability | 163   | 164   | 159   | 131   | 126   | 160   | 194   | 224   | 181   | 162   |
|         | Labour costs       | 137   | 135   | 129   | 122   | 124   | 134   | 145   | 161   | 143   | 131   |
|         | Gross profit       | 26    | 29    | 30    | 9     | 2     | 26    | 48    | 63    | 38    | 31    |
| 18-24 m | Gross income       | 375   | 374   | 408   | 393   | 335   | 395   | 487   | 584   | 593   | 495   |
|         | Operating costs    | 159   | 148   | 154   | 167   | 162   | 179   | 208   | 230   | 275   | 224   |
|         | Earning capability | 216   | 226   | 255   | 226   | 173   | 216   | 279   | 353   | 318   | 271   |
|         | Labour costs       | 180   | 171   | 188   | 191   | 155   | 180   | 202   | 223   | 217   | 198   |
|         | Gross profit       | 36    | 55    | 66    | 35    | 17    | 36    | 77    | 130   | 101   | 73    |
| 24-40 m | Gross income       | 818   | 919   | 1,023 | 739   | 679   | 799   | 1,111 | 1,106 | 1,200 | 1,188 |
|         | Operating costs    | 432   | 425   | 422   | 395   | 392   | 446   | 538   | 553   | 648   | 572   |
|         | Earning capability | 386   | 494   | 600   | 343   | 288   | 353   | 573   | 553   | 552   | 617   |
|         | Labour costs       | 273   | 317   | 350   | 259   | 244   | 274   | 340   | 325   | 368   | 375   |
|         | Gross profit       | 114   | 177   | 251   | 84    | 43    | 79    | 234   | 228   | 184   | 242   |
| >40 m   | Gross income       | 1,447 | 1,915 | 2,391 | 1,667 | 1,816 | 2,757 | 3,222 | 2,622 | 3,605 | 3,259 |
|         | Operating costs    | 726   | 752   | 798   | 771   | 844   | 1,005 | 1,095 | 934   | 1,249 | 1,111 |
|         | Earning capability | 720   | 1,163 | 1,593 | 897   | 973   | 1,752 | 2,127 | 1,688 | 2,357 | 2,148 |
|         | Labour costs       | 419   | 560   | 699   | 480   | 519   | 673   | 762   | 619   | 767   | 753   |
|         | Gross profit       | 301   | 603   | 894   | 417   | 454   | 1,079 | 1,366 | 1,068 | 1,590 | 1,395 |

Source: The Danish Fishery Account Statistics, Statistics Denmark.

Note: Includes only active vessels with a value of landings above a yearly threshold.

## Investments

The average yearly investments in fishery assets such as vessel, hull, engines, winches, electronics, fishing gear etc. are shown in Table 9. Comparing the period before 2006 with the period after, a shift is generally observed towards a higher level of investments. For the vessels above 40 metres, this shift becomes evident already from 2004.

Table 9 Investments in fishery assets for an average active vessel (€ 1,000)

|        | 2000 | 2001 | 2002 | 2003 | 2004  | 2005  | 2006  | 2007  | 2008  | 2009 |
|--------|------|------|------|------|-------|-------|-------|-------|-------|------|
| <12m   | 10   | 10   | 9    | 11   | 7     | 11    | 9     | 6     | 20    | 14   |
| 12-15m | 19   | 15   | 19   | 13   | 15    | 9     | 60    | 36    | 43    | 7    |
| 15-18m | 26   | 14   | 2    | 35   | 22    | 17    | 40    | 144   | 161   | 46   |
| 18-24m | 60   | 54   | 43   | 69   | 11    | 21    | 66    | 119   | 138   | 187  |
| 24-40m | 182  | 141  | 118  | 73   | 64    | 54    | 232   | 432   | 60    | 407  |
| >40m   | 520  | 214  | 356  | 892  | 2,122 | 2,317 | 2,403 | 1,972 | 1,906 | 775  |

Source: The Danish Fishery Account Statistics, Statistics Denmark.

Note: Includes only active vessels with a value of landings above a yearly threshold.

### Distribution of fishing rights

The transferability of fishing rights became possible from 2003 for pelagic and from 2007 for demersal species. The transferability is possible at two levels: 1) as a permanent transfer of quota shares between vessels, or 2) as an in-year transfer (lease) of vessel quotas between vessels.

The development in transfers of shares illustrates the longer term development in the fleet, and the development in the allocation of these is shown in Table 10. The demersal species are primarily caught by vessels below 40 metres, while the pelagic species are caught by the vessels above 40 metres. Inactive vessels also have some shares, which are leased to other vessels typically within pools. Inactive vessels also have transferable quota shares. These are not transferred to other vessels due to various legal restrictions on transfer possibilities to avoid concentration as well as restrictions related to primarily the North Sea cod recovery plan. However, these inactive vessels must be owned by active fishermen. The vessels quotas allocated to these inactive vessels are transferred to other vessels, which land the fish.

Table 10 Relative distribution of transferable quota shares (%), 31<sup>st</sup> December

|                                   |        | Demersal species |      |      |      |      | Pelagic species |      |      |      |      |
|-----------------------------------|--------|------------------|------|------|------|------|-----------------|------|------|------|------|
|                                   |        | 1/1-2007         | 2007 | 2008 | 2009 | 2010 | 1/1-2007        | 2007 | 2008 | 2009 | 2010 |
| Active vessels <sup>1)</sup>      | <12m   | 11               | 10   | 8    | 7    | 7    | 1               | 2    | 1    | 0    | 0    |
|                                   | 12-15m | 15               | 12   | 12   | 11   | 11   | 6               | 4    | 2    | 3    | 3    |
|                                   | 15-18m | 16               | 12   | 12   | 13   | 14   | 15              | 12   | 7    | 6    | 6    |
|                                   | 18-24m | 19               | 17   | 17   | 19   | 20   | 8               | 7    | 6    | 5    | 5    |
|                                   | 24-40m | 29               | 26   | 27   | 27   | 30   | 16              | 14   | 11   | 8    | 8    |
|                                   | >40m   | 1                | 2    | 1    | 1    | 1    | 49              | 54   | 62   | 68   | 70   |
|                                   | Total  | 91               | 79   | 77   | 79   | 82   | 96              | 93   | 89   | 90   | 93   |
| Less active vessels <sup>2)</sup> |        | 2                | 4    | 3    | 5    | 6    | 1               | 3    | 1    | 2    | 2    |
| Inactive vessels                  |        | 7                | 17   | 20   | 15   | 12   | 4               | 4    | 10   | 8    | 5    |

Source: The Danish AgriFish Agency.

Note: 1) Yearly gross earnings above € 30,000.

2) Yearly gross earnings below € 30,000.

Table 10 shows the overall development in the allocation of vessel quota shares. As fishing vessels can swap and lease fish to other vessels, the distribution of quota share is not straight forward comparable with the distribution of live weight landings in Table 6. This discrepancy is furthermore enhanced by the possibility of being member of a pool. Table 11 shows how many vessels are actually a member of a pool. Approximately two-thirds of the active vessels were members in 2010. The pools have been attractive for the fish-

ermen to join, because it increases their flexibility. The two largest pools had more than 250 members each in 2010.

*Table 11 Number of vessels being member of a pool, 31<sup>st</sup> December*

|                                   |        | 1/1-2007 | 2007 | 2008 | 2009 | 2010 |
|-----------------------------------|--------|----------|------|------|------|------|
| Active vessels <sup>1)</sup>      | <12m   | 142      | 123  | 135  | 129  | 135  |
|                                   | 12-15m | 143      | 125  | 130  | 136  | 136  |
|                                   | 15-18m | 114      | 89   | 88   | 94   | 94   |
|                                   | 18-24m | 98       | 87   | 83   | 80   | 82   |
|                                   | 24-40m | 84       | 71   | 52   | 45   | 42   |
|                                   | >40m   | 39       | 41   | 22   | 22   | 21   |
|                                   | Total  | 620      | 536  | 510  | 506  | 510  |
| Less active vessels <sup>2)</sup> |        | 32       | 51   | 51   | 107  | 102  |
| Inactive vessels                  |        | 22       | 79   | 105  | 107  | 93   |
| Total number of vessels           |        | 674      | 666  | 666  | 720  | 705  |

Source: The Danish AgriFish Agency.

Note: 1) Yearly gross earnings above € 30,000.

2) Yearly gross earnings below € 30,000.

Table 12 shows that around 80% of the quota shares are now related to vessels in a pool. There is no obligation to register in-year quota transfers taking place within a pool in the public databases. However, based on information from pool administrators, there is a considerable amount of transfers within the pools, thus giving rise to improved profitability and possibly reduced discards of the vessels.

*Table 12 Distribution of quota shares between vessels in and not in a pool, 31<sup>st</sup> December*

|              | 1/1-2007 | 2007 | 2008 | 2009 | 2010 |
|--------------|----------|------|------|------|------|
| In pools     | 66       | 81   | 80   | 80   | 80   |
| Not in pools | 34       | 19   | 20   | 20   | 20   |

Source: The Danish AgriFish Agency.

### **The coastal fisheries scheme**

The number of vessels classified as a coastal vessel and thus a part of the coastal fisheries scheme is shown in Table 13. Vessels joining the scheme are obliged to participate for three years. Thus the sudden reduction in the total number of coastal vessels observed from 2009 to 2010 was due to a new application process. However, the share of coastal vessels out of the total fleet has been stable around 10-11%, when comparing the total number of vessels in Table 1 and Table 12. The share of active coastal vessels out of the total number of active vessels has on the other hand been reduced a bit from 35% in 2007 to 30% in 2010.

*Table 13 Number of vessels participating in the coastal fisheries scheme, 31<sup>st</sup> December*

|                                   |        | 2007 | 2008 | 2009 | 2010 |
|-----------------------------------|--------|------|------|------|------|
| Active vessels <sup>1)</sup>      | <12m   | 187  | 163  | 131  | 114  |
|                                   | 12-15m | 95   | 91   | 83   | 77   |
|                                   | 15-18m | 21   | 23   | 23   | 25   |
|                                   | Total  | 303  | 277  | 237  | 216  |
| Less active vessels <sup>2)</sup> |        | 38   | 55   | 82   | 57   |
| Inactive vessels                  |        | 11   | 13   | 27   | 18   |
| Total number of vessels           |        | 352  | 345  | 346  | 291  |

Source: The Danish AgriFish Agency.

Note: 1) Yearly gross earnings above € 30,000.

2) Yearly gross earnings below € 30,000.

The vessels participating in the coastal fisheries scheme have at the overall level had a more or less unchanged share of the vessel quota shares of demersal species and doubled their share of pelagic species, but from a low level, cf. Table 14.

*Table 14 Distribution of quota shares between vessels participating in the coastal fisheries scheme and not, 31<sup>st</sup> December*

|                     | Demersal |      |      |      | Pelagic |      |      |      |
|---------------------|----------|------|------|------|---------|------|------|------|
|                     | 2007     | 2008 | 2009 | 2010 | 2007    | 2008 | 2009 | 2010 |
| Coastal vessels     | 18       | 18   | 19   | 17   | 2       | 2    | 3    | 4    |
| Non-coastal vessels | 82       | 82   | 81   | 83   | 98      | 98   | 97   | 96   |

Source: The Danish AgriFish Agency.