ESTIMATING CAPITAL VALUE AND DEPRECIATION OF FISHING FLEETS: APPLICATION TO FRENCH FISHERIES

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ABSTRACT

While the need to solve problems of overcapitalization and excess investment in fisheries is now broadly admitted, very little information exists on the level of capitalization and the structure of capital invested in the fishing sector. This paper presents the first results of a research program aiming at assessing the value of capital, investments and depreciation in fisheries. Results presented are derived from a field survey operated by Ifremer and record transaction on the fishing vessel second hand market. Statistical analysis is carried out according to a set of fishing components, such as vessel hull, engine, electronics and storage equipment. Firstly, hedonic price functions are estimated for he vessel and its main components. Secondly, a depreciation function of vessels according to their age and fleet is proposed. Finally, indicators of gross value of capital, net physical value as well as market value are estimated for different significant groups of fishing units belonging to the NSCA less than 24 m. fleet.

Keywords: Capital value, Depreciation, Fishing sector

The broadly statement of overexploitation and overcapacity in many fisheries has been pointed out as the immediate consequence of a lack in the access regulation. While the control of the "fishing capacity" is now recognized as a key of the fisheries management, no indicators of the level of capacity developed in the fisheries are still available for managers. Although the conditions within which capital input can be used to measure productive capacity are still broadly discussed (Kirkley, 1998), the availability of time-series in capital stock could be at least the minimum required. This item is currently evaluated in other economic sectors.

For many years, the number of vessels and the total engine power (in kW) have been the unique references for assessing the level of capitalization in fisheries. As a consequence, the different policies implemented to reduce the overcapacities formulated their targets in terms of number or kW. Finally, the report is severe. While the number of vessels and the total engine power have decreased in many European fishing sectors, the overexploitation of stocks and overcapacities are still going on. Based on Garcia & al. (2004), 17% of the fish stocks are overexploited and 52% are fully exploited over the world. Moreover, it has been demonstrated that the number of operating units is an inadequate measure of the capital stock (Kirkley, 1988). Recently, many concerns raised in the possibility to assess the rent losses in fisheries over the world (FAO, 2006). Beyond the issue of overcapacity, the evaluation of capital invested is necessary for assessing the economic situation of the fishing sectors. Basically, the calculation of productivity and performance indicators are based on the availability of costs and earnings data but also on the value of the capital stock. This is specifically the case for the calculation of the rate of return on capital (Davidse, 1993). Since the beginning of 90's, a concerted action at European level produces annually a report on economic indicators for significant fleets including indicators of capital stock and fixed costs (Anonym, 2006). Recognizing the need for economic data in order to improve the Common Fisheries Policy through relevant bio economic studies, the EC regulation [1)] for data collection in fisheries also includes indicators of capital but at this moment no agreement is reached at European level for the definition and measurement of capital stock and capital annual costs in the fishing sector.

Even if "the nature of capital and its contribution to production has long been a contentious issue for economists, there is now a good measure of agreement on the definitions of the stock of fixed capital assets and consumption of fixed capital in the context of the national accounts" stressed in its introduction the OECD Manual "Measuring capital" (2001). Two objectives was assigned to this manual: 1) clarifying the conceptual issues concerning stocks and flows of fixed capital in the national accounts, and 2) provide practical guidelines for estimation. Based on this background, a recent research program [2)] aims to assess the applicability of the different methods proposed by the manual given the specificity of the fishing sector and the data available. The conclusions of this research group are going to be considered by the European Commission in order to evolve the regulation for the fisheries data collection in the near future.

This article aims to contribute to this general issue of the definition, the measurement and the evolution of the capital invested in the fishing sector. One of the difficulties of the definition of the capital stock in the fisheries is resulting from its heterogeneous composition. Multiple capital goods are employed in the harvest process beside the vessel hull. (Kirkley, 1998) propose a quite large list of additional items containing main and/or auxiliary engines, winches, booms, holds, chilling or cooling or freezing equipment, many types of vessel electronics and else... Apart from the capital components obviously linked with the fishing effort, another concern regarding the definition of the capital stock raised with the issue of land based equipments. Even if their consideration could be discussed for the estimation of the fishing capacity, they can be a significant part of the capital invested and must be taken account for the calculation of the return on capital in the fishing. As far as the range of the components to be considered is overcame, another concern is the measurement of this capital. To avoid the theoretical issues raise with the aggregation of heterogeneous capital into a consistent composite of capital, particularly the needs to satisfy the conditions of homothetic separability of capital (1), Leontief separability (2) and Hicks separability (3), we refer exclusively to a monetary value of capital instead of the physical value.

This study presents an approach to assess the gross and net values of the capital invested in the fishing sector based on estimation models for the price of different items (new vessel, new engine, new electronic equipment, second hand vessels...). First, the gross value of the capital stock is estimated based on a regression model for new vessel prices. In a second step, the contribution of engine, electronic and other equipment are assessed as well as their specificity in terms of efficiency and price profiles. The net value of capital is then evaluated based on a depreciation model for the hull and some considerations regarding the level of intangible assets in the total. Finally, these estimated values are compared to other capital proxies collected through surveys or accounts as insurance values or gross and net assets in accountings forms. At the end, this paper will discuss the limits of this approach which underestimating the real flows of gross investments occurring within fishing sectors from one year to another. It must be stressed that this study is expected to be seen as a first step to make up time-series of capital in the fishing sector, taking account of the available data which is still be a crucial problem even if it may be recognized the positive impact of the EC regulation on data collection in this field. It also aims to introduce and discuss how far the capital specificity in terms of components needs to be considered particularly in order to improve the assessment of the level of capital flows occurring during a year.

DEFINITIONS AND METHODOLOGY

As defined by OECD (2001), "**the capital stock** is the value, at a given point in time, of the capital assets that are installed in producers' establishment... This value depends primarily on the value of the rentals it is expected to earn during its lifetime and these rentals are discounting at a discount rate r."

$$V_t = \sum_{t=1}^{T} \frac{f_{t+t-1}}{(1+r)^t}$$

Where V_t is the real value of an asset at the beginning of year t, f is the real rental in each period, T is the service life of the asset in years and t takes the value of 1, 2... T.

The quantity of capital services generated by an asset will decline during the service life of this asset because of the decline of efficiency of an asset as it is age (age-efficiency profile). Moreover, as it is age, an asset faces a loss in value due to the introduction of new asset of the same class more productive leading to a less demand of the former. This combined effect is called "consumption of fixed capital" and leads to two kinds of capital stock calculation: the gross capital stock and the net capital stock.

The **Gross Capital Stock** expresses the value of assets on the assumption that there has been no decline in their productive efficiency due to age. Each asset in the stock is therefore valued at the price at which it would be purchased if it were still new. The gross capital stock can be valued at different prices: constant replacement cost, current replacement cost and acquisition cost (or historic prices). Valuation at current replacement cost (or constant) means that each asset is valued at the prices prevailing in the current year (a selected year). Valuation at acquisition cost means that each asset is valued at the prices prevailing at the time the assets were purchased.

For the **Net Capital Stock**, the same assets are valued at the prices at which they would be purchased if they were put on the market in their present state. These will be lower than ''as new'' prices even if, as will usually be the case, the assets are just as productive now as when they were originally purchased. The reduction in price over an asset's lifetime reflects the fact that each year there is an inexorable decline in the future income stream that the asset can be expected to generate. This depreciation or "consumption of fixed capital" is resulting from physical deterioration, normal obsolescence or normal accidental damage" (OCDE, 2001).

The consumption of fixed capital can be estimated using age efficiency profiles to obtain age price profiles or directly by applying depreciation function to the gross value of assets. Several depreciation functions exist (OECD 2001, Diewert 2004) but their application in the fishing sector is very few. It goes from very simplistic approach given the lack of knowledge or in order to ensure a comprehensive and homogeneous way of calculation at a spread level (Anonym, 2006) to complex one where the depreciation rate is not constant between periods (Lee, 1978). Other proposals attempt to take account of the specificity of capital components in terms of lifetime and depreciation function (Bailly, 2000; Placenti, 1999)

Based on time series on new vessel and second hand vessel prices, regression models are now defined to 1) measure the gross capital stock at a given time, 2) estimate a depreciation function of the vessel price with its age, 3) deduce the net capital stock given the age of a vessel. The availability of data on acquisition price and vessel's characteristics allows using the hedonic approach (Kirkley, 1988; Guyader, 2004). Finally, the net capital stock estimated could be different from the market value of the vessel which also contains the implicit value of the fishing rights specifically in the French context (Guyader, 2006).

Based on the hedonic approach, the acquisition price of the vessel (or other item) will be a function of its characteristics and the following specification is considered:

NVP = f (LGTH, Dev_GRT, Dev_kW, Fleet, Hull, Year)   Model 1

where NVP is the acquisition price of the vessel, LGTH is the length, Dev_GRT is the deviation of the vessel GRT from the mean GRT of the group of vessel belonging to the same length classes (8 length classes are considered), Dev_kW is the deviation of the vessel kW from the mean kW of the group of vessel belonging to the same length classes, Fleet are 5 dummy variables characterising the fishing activity (Trawler, Seiner, Dredger, Passive gears, Other), Hull are 4 dummy variables characterising the type of hull (Wood, Plastic, Metal, Other) and Year are 19 dummy variables equal the year of observation from 1985 to 2003.

The same specification has also been used for the new engine price and the electronic price for a fishing vessel (Models 2 and 3). The functional forms which have been finally retained (considering generalized Box Cox transformations) are semi logarithmic. The parameters estimates are presented in Annex. Given the acquisition prices of a new vessel and using the same specification, the acquisition prices of new engine and electronic equipment, the part of these important components in the price of a new vessel are then assessed (Boncoeur, 2000). Nevertheless, as the scope of the definition of the gross capital stock is still in debate, an assessment of the capital stock for equipment at land is done. At the end, the gross capital stock of the fishing firm could be dissociated from the gross capital stock of the vessel.

The hedonic approach could also been used for the estimation of the market price of a vessel. The specification which has to be considered is closed to the model 1 The AGE of the vessel which is expected to play a significant role in its market price is added. Nevertheless, the time series available for the transactions on the second hand market start with vessels of age 1. In order to deduce from this equation a depreciation function, the time series of new vessel prices (Age = 0) were compiled with the data on the second hand market. A new dummy variable is then considered according as the vessel is new or not. The final specification for the acquisition price of a vessel (new or second hand) is then:

VP = f (LGTH, Dev_GRT, Dev_kW, Fleet, Hull, Year, New, Age)   Model 4

Where New is a dummy equal to 1 if the vessel is age 0 and 0 if it is used and the age is a continuous variable.

Everything equals, a depreciation function for the vessel (hull) is deduced from the equation of the model 4 considering the price of a vessel as a function of its age (Guyader, 2006). The specification finally retained assumes that the rate of depreciation is constant over the period (OECD, 2001) but there are some arguments that our data reveals different rates of depreciation among different periods as also observed by Lee (1978) for the Japanese fleet. Based on the cumulated depreciation, the net value of the capital stock is calculated. This value corresponds to the depreciated price of the physical characteristics given the increasing age of the vessel. Regarding the specific case of access regulation in the French fishing sector, the expected value of a vessel on the second hand market at a certain age, should be upper that the real physical value due to obsolescence and less efficiency. In this context where the entry is limited by a fishing permit afforded freely to the fisherman, this fishing permit will have a implicit value which is containing in the market price of the vessel and which varies among year (Guyader, 2004).

Finally, all these estimates of capital stock will be compared to different current proxies traditionally collected in the fishing sector as insurance values for example.

DATA USED

Since 2000, the Ifremer Fisheries Observatory Network makes yearly surveys on a sample of 800 vessels to collect individual data on costs, earnings but also capital and employment. The vessel owners are questioned on their fishing activity but also more specifically on the features of their fishing vessel (s) and its components (hull, engine, gear and winches, electronics, storage) and their related prices (historical, replacement or market). The request detail level of information is different from one item to other (see annex?). This first dataset contains around 3500 observations on the capital structure of vessel belonging to the North Sea, Channel and Atlantic coast (NSCA coast) from 2000 to 2004 with more or less detailed information. A sub sample of 420 observations is used for the estimation of gross capital stock equation corresponding to the number of vessels for which the building year and the related building price are available (see annex).

A second dataset consists in the record of 70% of the second hand market transactions occurred from 1985 to 2003 along the French NSCA coast. The date and the price of each transaction are available. This second data set contains around 4600 observations from 1985 to 2004. In order to improve the assessment of the depreciation between 0 and 1 year old, the 420 observations form the new vessel prices dataset have been added to the dataset 2 (see annex).

Parallel to these datasets, the French annual fleet register is available for this study since 1990. This register contains for each vessel of the French fleet its technical characteristics (size in length, kW or GRT, age...) and the geographical location of the owner. Additional information regarding the monthly fishing activity for each vessel present in the Fleet register exists at Ifremer through exhaustive surveys developed annually since 2000. This information is complementary to logbooks which are available only for vessel up to 10 meters and allows to affect each vessel of the national register to a specific fleet taking account of the "metier" it practised during a year.

Datasets 1 and 2 are completed at individual level (vessel) with information on technical characteristics (length, engine power in kW, GRT, Building year if necessary), geographical location and fleet (coming from exhaustive database available at Ifremer). This study is mainly concentrating on these two datasets without forgetting that some specific processing has also been made from the Brittany Regional Observatory of Fisheries database containing accounting and balance sheets data for Brittany fishing vessels.

EMPIRICAL RESULTS

Statistical results

Equations 1 to 4 were estimated using semi logarithmic functional forms where the dependant variable is the logarithm of the price of each item measured in the real term (taking account of the inflation rate). The items could be the new vessel (equation 1), new engine (equation 2), new electronic equipment (equation 3) and new or used vessel in the market (equation 4). The expected parameter signs are obtained. For each model the increase in the size of the vessel (length) leads to increase in prices. Moreover, the vessel price in the same length category is positively linked with the fact that the vessel is bigger or smaller compared to the average of its category. This using of relative variable allows not facing the problems of multi co linearity of variables where length, kW and GRT must all be considered in a regression.

$$\text{Model 1 to 3: } \log(Y_i) = a + bK + \sum_{T=1985}^{2003} d_T I_T + e_{t,T}$$

Where
T = Building year
K = Technical characteristics (length, deviation from GRT and from kW, Type of hull)

Y_i =Acquisition price

I_T =1 if the building year equals T, 0 else

$$\text{Model 4: } \log(Y_i) = a + bK + l_N I_{neuf} + l\, t + \sum_{T=1985}^{2003} d_T I_T + e_i$$

Where
t = Age of the vessel *i* the transaction year
T = Transaction year
K = Technical characteristics (length, deviation from GRT and from kW, Type of hull)

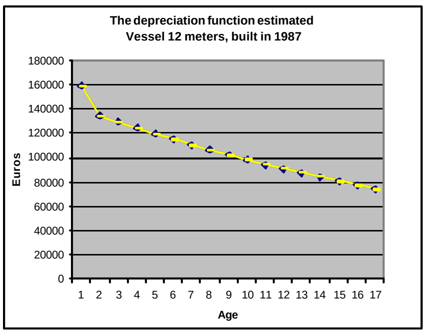
Y_i = Market price of the vessel i

I_{neuf} = 1 if the vessel was New, 0 else

I_T =1 if the transaction occurs the year T, 0 else

The parameter estimates are given in annex. Regarding the fishing activity of a vessel, it seems that the item prices for trawlers are significantly superior to other fleets. There is an exception with the price of electronics equipment for seiners. Considering the type of hull, the item prices for vessel made with metal are generally lower that for other type of hull. Nevertheless, the parameters are not significant for the "other type of hull" category. Regarding the influence of the year in the new vessel price (model 1), there are very few significant years (1991, 1998 and 2003). Then it seems that if we take account of the inflation rate, there are no big changes in building price of fishing vessels from year to year over the concerned period.

On the contrary, the year seems to have an influence for the vessel price in the second hand market (model 4). Guyader & al. (2004) considered in their hedonic model that the year captured the change in the implicit price of fishing rights. These rights were freely distributed to the fishermen but seem to have shadow or implicit values that are contained in the market price when there is a transaction. Mostly, one of the interests of the equation 4 is the measurement of the influence of the vessel age on its price in the market.



The parameter is significant and the sign is negative meaning that the price is decreased as the vessel aged. This is conforming to the depreciation of the vessel due to its efficiency and obsolescence. Moreover, the "new" dummy variable appears to be significant and with an expected positive sign. The depreciation function resulting from the equation 4 is basically a geometric depreciation (OECD, 2001) where the market value is declining at a constant rate in each period. In the following simulation for a vessel 12 meters built in 1987, the rate is 4% per year since the year 1 to 17 years. From the building year to the year 1, the decline of the price is 16%.

Compared to other studies in the fishing sector (Levy, 1978), the depreciation for the first year is comparable. However, the constant rate for the following years is quite lower. Moreover, some questions are raised about the consistency of a constant rate over the period as investigated by Levy (1978). More investigations are actually made in order to improve the model 4 by taking account of a cross variable between age and year.

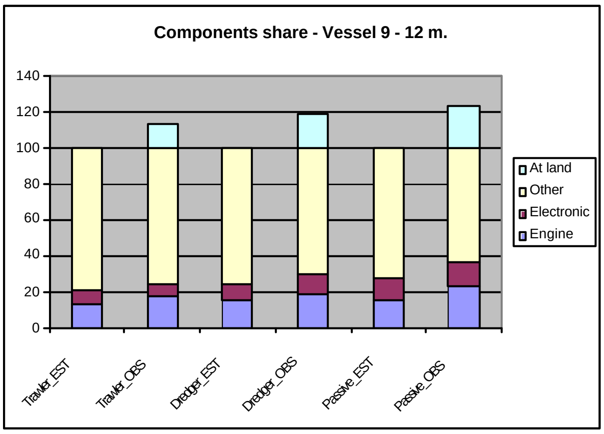
Estimations of the values of the NSCA fleet

Given the equations 1 to 4, the gross and net capital value of the NSCA fleet at the end of 2003 was evaluated. This fleet is composed with around 4000 vessels with an average age of 20 years old and have the following technical characteristics in average (12.3 meters long, 35 GRT and 187 kW). There is around 60% of the fleet building before 1985 for which there is no information on new vessel prices. Two fleet segments are mainly represented which are trawlers and netters. While trawlers are generally over 9 meters vessel, passive gears are mainly represented in less than 12 meters. The fleet is diversified in terms of fishing activity as well as type of hull. Metal is often the hull type of large vessels while wood and plastic are dominant for small vessels.

The models will be applied for estimates in prices for vessels less than 24 meters only, as the coverage of the datasets for the large vessel is weak. The remaining fleet represents 95% of the vessels belonging to the NSCA fleet and 74% of the total engine power deployed by the NSCA fleet. The total value of the NSCA less than 24 meters fleet in 2003 is evaluated to 809 m€, [742 m€; 882 m€] corresponding to the estimated value of the vessels on the second hand market. Based to the age structure of the fleet and its technical characteristics, the historical price was estimated to 1 126 m€, [885 m€; 1 439 m€]. Another estimation of the gross value could be the replacement value which corresponds to 1 570 m€, [1 090 m€; 2 264 m€]. Finally, the net physical value or net capital stock was 506 m€, [397 m€; 647 m€].

The deviation observed between the net physical value and the market value (the ratio is 62%) was described in Guyader et al. (2003) as the implicit value of the fishing rights. With an average age of 20 years old, this net physical value is still representing 45% of the historical value. Due to a benefit context in the beginning of the 2000's and other factors explained by Guyader et al. which leads to raise the implicit value of the fishing rights, the estimates of the market value of the fleet in 2003 is not so far from its historical price (72%). Finally, the ratio Market value to Replacement value is around 50% meaning that for the average vessel of the fleet, the building price in 2003 is twice its price on the second hand market. These ratios differ from one fleet to other.

The shares of the components in the gross capital stock have been estimated in average to 18% for the engine and 10% for the electronic equipment in 2003. These estimates based on models 2 and 3 are closed to the observed current values from the surveys, respectively 23% and 13%. A specific depreciation function for these items seems to be relevant as their lifetimes differ sensibly from the life time of the hull. Then, the surveys show that the expected lifetime of an engine is closed to 10 years old and differ among length classes of the vessel. Apart from the discussion on the vessel components, another concern is the equipment at land. Based on the Ifremer surveys, this value amounts in average 20% of the value of the vessel meaning that a gross capital stock 100 € could be in fact 120 € considering the equipment at land. This ratio declines with the size of the vessel but do not consider the land buildings for the management of large vessels for example.



Finally, the comparison of the estimates values of capital (gross value, market value and net value) with the insured values collected to the Ifremer economic survey improves the comprehension of this "so used" proxy of the capital in the fishing sector (Anonym, 2006). The cross checking is based on a common sample of around 600 vessels for which the insured value is available. By regrouping vessels among size and age classes (6 size classes and 4 age classes – less than 5 years; 5 – 10; 10 – 20 and more than 20 years old), it appears that the insured value is a proxy of the historical price for vessel less than 10 years old and a proxy of the market price for vessel more than 10 years old (see annex). This is more or less in conformity with the qualitative information given by insurance companies.

Despite the difficulty to compare the estimated values through the models with the estimate values through direct surveys due to the limited size of the common sample, the results are encouraging regarding the survey method to estimate the market value and physical value of capital. During the survey, the owner is asked to estimate the expected value of its vessel on the second hand market the given if he considers the "implicit sell of its fishing rights" or not. Based on average values per size classes, the results show that the proximity between the market value estimated by the model and the market value expected by the fishermen when he considers his fishing rights. Moreover, the physical values derivates from the estimated depreciation function appears rather closed to the expected value without considering the fishing rights. (see annex).

CONCLUSION: Limits in the measurement of investment flows

The application of the price models to the NSCA fleet less than 24 m. has produced a significant number of results which could be useful for the future elaboration of capital time series. First, based on a huge set of data from diverse sources used for the elaboration of hedonic price models, the historical, replacement, market and physical values are estimated at individual level for each vessel belonging to the fleet in 2003. The usefulness of the traditional proxies more often collected as insured values has been proved in order to run models or to provide some preliminary indicators of capital. But their use should be done with very cautious regarding the different kinds of capital value it refers according to the age of the vessel.

Moreover, the shares of the major components as well as some preliminary results on their age efficiency profiles are provided. This could constitute a useful benchmark for the future, specifically for a PIM (Perpetual Inventory Method) approach (OECD, 2001). Nevertheless, a strong limit of the current work is the assessment of the capital flows from one year to other regarding the gross investment. Based on accounting data on the Brittany fleet, the increase of the gross value of fixed assets between 2003 and 2004 was estimated at around 3% per year.

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ENDNOTES

1) COUNCIL REGULATION (EC) No 1543/2000 of 29 June 2000 "establishing a Community framework for the collection and management of the data needed to conduct the common fisheries policy" and COMMISSION REGULATION (EC) No 1639/2001 of 25 July 2001 "establishing the minimum and

extended Community programmes for the collection of data in the fisheries sector and laying down detailed rules for the application of Council Regulation (EC) No 1543/2000".

2) EC research project (N° FISH/2005/03) : "Evaluation of the capital value, investments and capital costs in the fishery sector", IREPA (Italy), IFREMER - UBO (France), FOI (Denmark), SEAFISH (UK), LEI BV (Netherlands), FRAMIAN BV (Netherlands).

ANNEX

* Presentation of the datasets

Table A1: Information available per year t and per vessel through Ifremer surveys

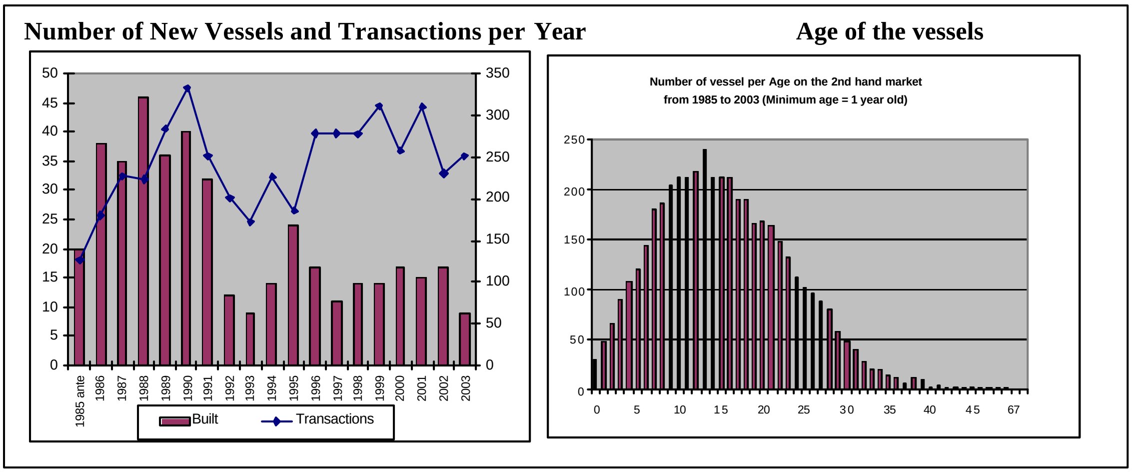
Component of capital	Year of acquisition	New / 2nd Hand	Historical price	Market price	Type of hull	Insurance value	Lifetime expected
Hull/Vessel	Yes	Yes	Yes	Yes	Yes	Yes	
Engine	Yes	Yes	Yes	Yes			Yes

Component of capital	Detailed per item	Number installed on board in t	Replacement price in t	Current value in t	Number acquired in t	Acquisition price in t	Lifetime expected
Gear/Winches	Yes	Yes	Yes				Yes
Electronics	Yes	Yes	Yes	Yes	Yes	Yes	
Storage	Yes				Yes	Yes	
At land	Yes	Yes			Yes	Yes	

* Parameter estimates for hedonic equations (models 1, 2, 3, 4)

<u>Dependency variables for the model 1 and 4</u>

New vessels (420 observations) + used vessels (4613 observations)



	Fleet1: Trawler	Fleet2: Seiner	Fleet3: Dredger	Fleet4: Passive	Fleet5: Other		Metal	Wood	Plastic	Other
New	152	7	41	176	44	New	155	61	201	3
Used	2036	27	424	1735	338	Used	952	2464	1188	9

Parameter estimates for the models 1 to 4

	Model 1 (l_new vessel price)		Model 2 (l_new engine price)		Model 3 (l_new electronic price)		Model 4 (l_vessel price)	
	Parameter	t	Parameter	t	Parameter	t	Parameter	t
R^2	0.9193		0.8086		0.6981		0.7971	
intercept	3.78714	<.0001	5.08309	<.0001	4.72614	<.0001	5.74753	<00
llenght_m	3.30600	<.0001	2.19415	<.0001	2.10271	<.0001	2.45438	<00
dev_GRT	0.16434	0.0202	0.12839	0.0007			0.14836	<00
dev_KW	0.21681	0.0008	0.09721	0.0321	0.14947	0.0443	0.1114	<00
Fleet_1 Trawler								
Fleet_2 Seiner	-0.56232	0.0055	-0.12662	0.3727	0.49175	0.011	-0.15785	0.1105
Fleet_3 Dredger	-0.18562	0.0668	-0.10543	0.0623	-0.12329	0.211	-0.0689	0.0262
Fleet_4 Passive	-0.34149	<.0001	-0.22552	<.0001	-0.13866	0.0441	-0.23962	<00
Fleet_5 Other	-0.79915	<.0001	-0.32747	<.0001	-0.57565	<.0001	-0.4847	<00
wood	0.47709	<.0001	0.24363	<.0001	0.09022	0.2458	0.12957	<00
plastic	0.59226	<.0001	0.34206	<.0001	0.28071	0.0004	0.25572	<00
metal								
other	0.14727	0.6414	0.01753	0.9403	0.74278	0.0625	-0.25628	0.1598
dummy_new							0.13418	<00
Age							-0.03882	<00
class_year1985	0.12055	0.3952					-0.12751	0.0302
class_year1986	0.02177	0.8538					-0.03441	0.5095
class_year1987								
class_year1988	0.08672	0.4446					0.11816	0.0167
class_year1989	0.04781	0.6901					0.10531	0.0267
class_year1990	0.23991	0.0410					0.20885	<00
class_year1991	0.21776	0.0783					0.31172	<00
class_year1992	0.10949	0.5205					0.17797	0.0007
class_year1993	0.02555	0.8956					0.05403	0.3282
class_year1994	0.04534	0.7775					0.07385	0.1498
class_year1995	0.11329	0.4126					0.10946	0.0397
class_year1996	0.21591	0.1487					0.14678	0.0027
class_year1997	0.22412	0.2295					0.26051	<00
class_year1998	0.28186	0.0790					0.49992	<00
class_year1999	0.23717	0.1394					0.68641	<00
class_year2000	0.07677	0.6070					0.73471	<00
class_year2001	0.18459	0.2380					0.96829	<00
class_year2002	0.19160	0.2079					0.99852	<00
class_year2003	0.43693	0.0223					1.11396	<00

*** Results for the NSCA Fleet less than 24 meters in 2003 (€) – Average value per group (Common sample) – Insured values**

Size class	Age class	Number of vessels	Historical Value (CST Price)	Historical Value (Price/Year)	Market Value	Insured value
	< 5 years	6	20 109	20 209	57 223	17 450
	5 - 10 years	10	21 384	20 980	46 577	18 356
	10 - 20 years	38	27 888	26 550	38 743	24 102
Less than 7 meters	>= 20 years	42	27 293	27 039	24 128	25 207
	< 5 years	14	42 642	46 298	104 937	56 361
	5 - 10 years	13	54 293	53 116	94 212	68 020
	10 - 20 years	31	57 430	54 874	69 757	55 051
7 - 9 m.	>= 20 years	93	64 942	64 307	47 516	46 687
	< 5 years	7	214 871	230 443	314 755	250 410
	5 - 10 years	11	214 553	209 299	270 508	197 483
	10 - 20 years	75	190 241	182 444	183 887	171 424
9 - 12 m.	>= 20 years	99	159 620	158 289	94 957	93 780
	5 - 10 years	4	379 407	374 302	418 099	381 417
	10 - 20 years	34	434 765	419 639	346 685	409 479
12 - 16 m.	>= 20 years	24	454 034	448 333	224 765	274 139
	10 - 20 years	15	734 699	711 277	519 793	601 166
16 - 20 m.	>= 20 years	17	723 495	714 110	317 799	407 605
	10 - 20 years	24	1 567 735	1 480 511	992 809	1 000 480
20 - 24 m.	>= 20 years	7	1 220 674	1 193 362	587 212	607 805
Total		**570**	**259 327**	**251 607**	**187 465**	**190 343**

*** Results for the NSCA Fleet less than 24 meters in 2003 (€) – Average value per group (Common sample) – Market values with and without entry permits**

	Number of vessels	Market Value (MODEL)	Market Value with entry permit (OWNER)	Net Physical Value (MODEL)	Market Value without entry permit (OWNER)
Less than 7 meters	46	33 452	36 828	10 545	13 776
7 - 9 m.	56	62 634	72 175	23 989	27 505
9 - 12 m.	61	149 077	180 415	75 041	71 655
12 - 16 m.	24	345 412	434 225	216 285	179 056
16 - 20 m.	7	416 687	455 239	260 308	216 051
20 - 24 m	10	995 094	1 136 658	729 160	604 712
Total	**204**	**173 027**	**204 489**	**101 523**	**90 205**