

Centre for Fisheries & Aquaculture Management & Economics in cooperation with the Norwegian School of Economics and Business Administration is arranging a

Ph.D. Course on

The Economics of Fisheries Management and Fish Markets

**In Bergen at the Norwegian School of Economics and
Business Administration**

3rd – 14th October 2005

The Lecturers are

Rögnvaldur Hannesson, professor, Norwegian School of Economics and Business Administration

Frank Asche, professor, University of Stavanger

Trond Bjørndal, professor II, Norwegian School of Economics and Business Administration

Content

The course will consist of three parts:

1. Bio economic theory of fisheries
2. Game-theoretic approaches to the management of shared resources
3. Analysis of fish markets

Bio economic theory

The bio economic theory of fisheries will be presented with simple biomass models, both general ones and variants of the logistic model. These models will be used to introduce fundamental economic results, such as the consequences of discounting of future cash flow streams, the importance of cost relationships (i.e., whether unit costs depend on the exploited biomass or not), the consequences of open access and how they depend on cost relationships and the nature of the growth function of fish stocks, and adjustment paths towards equilibria in optimally managed and open access fisheries. Dynamic optimisation (the maximum principle) will be used in this exposition, as well as dynamic analysis of paths towards equilibria. Fisheries regulations will be an integral part of this analysis.

Furthermore, there will be discussion of several applied topics with the aid of simple bio economic models, such as investment under individual transferable quota (ITQ) regimes, a

comparison of fees versus quota controls, and the effects of marine reserves. Exercises will be developed, using an age-structured fisheries model.

Game theory

Most fish stocks are shared between two or more countries. Moreover, some stocks straddle into the high seas, where they are subject to harvesting also by distant water fishing nations. The game theory part will introduce methods for analysing strategic choices among agents who share a common fish stock. The most relevant setting is where a number of countries share fish stocks that migrate between the exclusive economic zones of the countries. This approach could also be relevant where a number of firms have exclusive access to a common stock. However, straddling fish stocks, exploited by coastal states as well as distant water fishing nations, will also be considered. The literature that will be used is both general, discussing methodology and principles, and applied, where the latter is case studies of specific fish stocks.

Fish markets

During the last decade there have been significant changes in the world seafood markets in a number of dimensions. This includes a move from regional to global markets, more concentrated supply chains, branding and labeling, competition from farmed products, etc. This development has also led to substantial research interest in topics related to the seafood markets. In this course we will look at tools used to investigate many of the current economic research issues in the seafood market from an empirical as well as a theoretical point of view. We will discuss issues related to demand and the supply chain, including which product forms are supplied. However, we will not go into the supply of seafood to a larger extent than what is necessary for the market models, and we will accordingly avoid topics related to fishermen's behavior and fisheries management.

A large share of the world's seafood production is exported. This has led to a number of trade conflicts. We will in this course review parts of international trade theory relevant for these issues to give insights into why the trade conflicts occur and how one can use results from demand analysis and relationships between prices to discriminate between different arguments.

Applications etc.

The course will consist of 36 hours of lectures over two weeks, Monday October 3 to Friday October 14. The examination will be in the form of homework assignments to be handed in and approved by the lecturers. The credits given for approved participation will be 7.5 ETCS.

For further information, contact Dagny Kristiansen (dagny.kristiansen@nhh.no). Information about the course will also be posted on NHH's website (www.nhh.no). Funds are available for supporting travel of students from universities in the Nordic countries. Deadline for application (course and travel support): **September 1st 2005**.