

DO FISHERY BAROMETER RESULTS REFLECT CORRESPONDING ECONOMIC STATISTICS?

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ABSTRACT

The fishery barometer surveys the economic prospects and trends of fishery enterprises in Finland. The barometer survey was developed on the basis of the general business surveys. The survey has been carried out annually since year 2000. Here we study if the results could be explained by external economic information or internal results. The external economic information is based on the official account statistics data. The internal comparison is made by comparing if the entrepreneurs' opinions of previous years economy explains the prospects for the coming year. The survey population consists of all fisheries sector enterprises on the business register of Statistics Finland. Here the fishery sector includes the whole value chain from fishing, aquaculture and processing to wholesale and retail trade. The results showed that for the fisheries sector enterprises, the turnover information inquired by a telephone survey differed to some extent from the factual information compiled later on the basis of the accounts statistics. The conclusions of the comparisons are discussed more closely in the paper.

Keywords: Fishery Barometer, Survey, Account statistics, Cross correlation

INTRODUCTION

Finnish Fishery Barometer has been established in year 2000 to examine the present and future views of fishery enterprises. The fishery business survey is a part of a more extensive Fishery Barometer survey of the views of both enterprises and consumers on the current situation in fisheries, and on fish products and expectations regarding them. The barometer survey aims to collect data that are reliable and comparable in the long term (see Ahvonen & Honkanen 2003, Honkanen & Ahvonen 2003, 2007) To understand the results and to maintain the data quality, there has been some methodological studies connected to the Fishery Barometer (e.g. Godenhjelm et. al. 2005).

The demand for macroeconomic analyses has increased substantially in recent years. Fishery Barometer has a role as decision tool of fisheries administrative authors. Also is known that large fishing industry enterprises have tried to take advantage of it.

This study is a part of the intervening research to evaluate the usability and accuracy of barometer. The aim of the study is two fold: first to determine the correlation between the information estimated in Fishery Barometer and known statistical information collected by statistics Finland. The second intention was to reflect the suitability and accuracy of Fishery Barometer as an indicator of state of fisheries and aquaculture based economy in Finland.

MATERIAL AND METHODS

In the Fishery Barometer (see Honkanen & Ahvonen 2008), enterprises of fishing, aquaculture, processing, wholesale and retail trade of fish were asked to estimate their economic performance and outlook by means of a traditional business survey (European Commission 1997). The enquired items were financial position, domestic market and average prices, export volume and prices, turnover, staff, investments and business subsidies. The opinions were asked for 12 months onwards (expected outlook) and 12 months backwards (estimated realized trend). The survey has been made annually in February and published in April-May.

The survey population of Fishery Barometer has consisted of all fisheries sector enterprises in the business register of Statistics Finland (N = about 1000). The final sample size has been 350-430 enterprises annually. A turnover limit of 168 067 € was used to classify enterprises to small and large. In all survey years the response rate has been 72 % or higher.

The results of the Fishery Barometer as saldo balances were compared to change of actual, quantitative statistics obtained from Statistics Finland in the years 2000-2004. The similarities of the results were tested with cross correlation analyses. To correspond to the time series of Statistics Finland, the survey data was temporarily adjusted in order to set expected values correspond to actual values.

RESULTS

The cross correlations of indexes between actual turnover (account statistics) and estimated realised turnover (Fishery Barometer) showed, that in large enterprises the correlations have been significant in fishing and in retail trade, and notable in wholesale. On the other hand, no significant correlation existed in small enterprises in any sector (Table 1).

The cross correlations between actual turnover and expected turnover outlook in large enterprises were indicative ($r > 0.50$) in all sectors excluding fishing. In small enterprises, a significant correlation appeared in the sectors of fishing and retail trade, but in the sector of aquaculture, the correlation was negative (Table 2).

Table 1. Cross correlations of index values of actual turnover (account statistics) against estimated realised turnover (fishery barometer) in 2000-2004.

Actual vs. estimated realized turnover		
<i>*p < 0.05</i>	Large enterprises	Small enterprises
Sector	<i>r</i>	<i>r</i>
Fishing	0.88*	0.32
Aquaculture	0.33	0.51
Processing	0.60	0.39
Wholesale	0.77*	-0.58
Retail trade	0.91*	0.60

Table 2. Cross correlations of index values of actual turnover (account statistics) against expected outlook (fishery barometer) in 2001-2004. The latter series was lagged to match the first.

Actual vs. expected turnover outlook		
<i>*p < 0.05</i>	Large enterprises	Small enterprises
Sector	r	r
Fishing	-0.18	0.95*
Aquaculture	0.93*	-0.91*
Processing	0.68	0.76
Wholesale	0.69	-0.09
Retail trade	0.86*	0.96*

DISCUSSION

The results showed that for the fisheries sector enterprises, the turnover information inquired by a telephone survey differed to some extent from the factual information compiled later on the basis of the accounts statistics. In the large enterprises, the inquired turnover information was more close to the factual accounts data than in the small enterprises. In the sectors consisting of small group of enterprises the trend estimations given by low number of respondents may cause unforeseeable variation to results.

The difference between large and small enterprises may be explained partly by a presumption that accounts statistics data are more representative for the larger enterprises. Besides that, the personnel of larger enterprises are often more familiar with the economical concepts than are for instance small-scale fishermen.

The outlook of the fisheries sector enterprises on the future turnover was in common in line with the development of the later information compiled from the accounts statistics of the sector. For the small enterprises, the outlook was in some cases significantly correlated with the realized turnover. The correlation could to some extent be explained by the reasonable stable state of the affair. On the other hand, the turnover of fishing, for instance, might depend more on the fishing opportunities than on the macroeconomics, which would help the fisherman to assess the short term future.

In conclusion, the intervening study on the Finnish Fishery Barometer revealed that more survey material needs to be collected to evaluate the accuracy of the survey precisely. These preliminary results concerning the prediction ability of Finnish Fishery barometer indicate that the survey reveals the main trends in fisheries livelihood, especially in case of large companies.

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