



PrimeFish



Horizon 2020
Programme

**METHODOLOGY FOR ANALYSING NEWFOUNDLAND AND
LABRADOR COD VALUE CHAIN**
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**PrimeFish (Canada) advisory board meeting Memorial
University 26 Feb. 2016**

PrimeFish

- One of the main aims of PrimeFish is to develop a Fisheries and Aquaculture Competitiveness Index (FACI).
 - This will be based on the Fishery Competitive Index (FCI) constructed in 2005 and used to evaluate the competitiveness of the Icelandic and Norwegian fisheries.
 - FCI is based on 142 independent factors.

Creating stability

1. Fisheries Management	26
1.1 Stability of fisheries management - allocation of fisheries rights	10
1.2 Property right and freedom of exchange of fishing rights	8
1.3 Research and advice for total catch	5
1.4 Official monitoring and inspection	3

2. Macroeconomic management & government	14
2.1 Labour law and regulations	2
2.2 Taxes	3
2.5 Economic management	5
2.6 Administration	4

Stimulating environment

3. Infrastructure	21
3.2 Education and knowledge	4
3.3 General infrastructure	12
3.4 Communications	1
3.4 Financial markets	2
3.6 Management practice	2

Competence of the industry

4. Fishing companies	36
4.1 Special impact of government on fishing companies	7
4.2 Competence of fishing companies	20
4.3 Competition/cooperation and suppliers	9
5. Fish processing companies	34
5.1 Special impact of government on fish processing companies	8
5.2 Competence of the fish processing companies	17
5.3 Competition/cooperation and suppliers	9
6. Marketing	11
6.1 Special government impact on marketing	1
6.2 Competence of marketing companies/exporters	6
6.3 Competition/cooperation and suppliers	4

The FCI is based on three different kind of sources

1. Hard data, e.g. data from Statistics Iceland, Marine Research Institute etc.
2. Research/analysis (RA); estimates of specialists engaged in compiling FCI based on some concrete theory.
3. Information from the World Economic Forum's The Global Competitiveness Report.
4. Survey undertaken among managers and specialists in the fishing sectors

WP2 Economic performance and prices

WP2 will focus on the economic performance of primary production units (capture fisheries and aquaculture) using sector and firm level data.

- The sectoral analysis will be undertaken using microeconomic models
- The firm level analysis will be undertaken using both parametric and non-parametric methods.
- The historical analysis of the development of prices and quantities will be undertaken using time-series analysis and other appropriate econometric techniques.
- Special attention will be paid to investigate the effects macro-economic factors have had on boom-and-bust cycles and price transmission and market integration.

Rating factor	Data source	Scale - Method of assessment
Stability of fisheries management - allocation of fisheries rights		
<i>Stability of fisheries management</i>		
Stability of fisheries management	Survey	Current fisheries management is characterised by: (1= <i>instability</i> ; 7= <i>high stability</i>)
Permanency of the allocation of the fisheries rights.	Survey	Current allocation of fishing rights (quotas) to existing user-groups (as defined by location, vessel category, gear type etc.) is characterised by: (1= <i>instability</i> ; 7= <i>high stability</i>)
<i>Result of fisheries management</i>		
Efficiency of fisheries management	Survey	In general, for the last years, fisheries management has been (1= <i>very inefficient</i> ; 7= <i>highly efficient</i>)
Actual fishing mortality vs. recommended fishing mortality	Hard data	Averages for last 5 years, calculated for the 5 most important species. Weighted by catch value last year. $(F_{real}/F_{pa}) - 1$
Catch in excess of quotas	Hard data	Average for last 5 years. The 5 most important species; (total catch / allowable catch -1). Weighed by catch value last year
Sustainability. Catch in accordance with the advice of ICES	Hard data	Discrepancy between the country's total allowable catch (quotas) and what is advised by ICES. Average for last 5 years for the 5 most important species and weighed by catch value last year.
Stability of catch for the 5 most important species.	Hard data	Standard deviation in catch of the five most important species during the past 5 years. Weighed by catch value last years

Property right and freedom of exchange of fishing rights

Property right - legal status.	Survey	The perceived legal status of your fishing rights is (1= <i>weak</i> ; 7= <i>very strong</i>)
Fishing right and transferability	RA	Is the fishing right reduced by trading in vessels, companies or quotas (<i>The law</i>)
Freedom of transferability - permanent fishing rights (permanent quota shares)	RA	Degree of transferability of the permanent fishing rights (permanent quota shares) (<i>The law /Anthony Scott</i>)
Freedom of transferability - permanent fishing rights (permanent quota shares)	Survey	The freedom to sell or buy permanent fishing rights (permanent quota shares) is (1= <i>does not exist</i> ; 7= <i>is very high</i>)
Freedom of transferability - leasing fishing rights (with in the season)	RA	Degree of transferability of the temporary fishing rights (lease quota). (<i>The law /Anthony Scott</i>)
Freedom of transferability - leasing fishing rights (with in the season)	Survey	The freedom to sell or buy catch quotas (temporary fishing rights) is (1= <i>does not exist</i> ; 7= <i>is very high</i>)
Efficiency of investment by fishing companies	Survey	The fisheries management in your country (1= <i>does not at all stimulate efficient investment</i> ; 7= <i>greatly stimulates efficient investment</i>)
Duration of fishing right	RA	How long is the period during which the holder is empowered to take fish? (<i>Anthony Scott</i>)

WP3 - Supply Chain Relations and regulation

WP3 will focus on the main material flow in the supply chain (input-output structure)

- Results will form the sample frame/design for the subsequent micro level mapping of different product categories.
 - The mapping will cover catch and harvesting as well as value-addition through the various stages of processing, distribution, retail and food-service marketing channels.
- Case studies will be used to highlight impacts of mandatory and market-based regulatory regimes along with **governance** and **power-relations** within the supply chain on risks, costs and rewards to participants.
- Using **key informant interviews and systematic survey methods**, primary data - qualitative and quantitative - will be collected from individual production companies, producers' organizations and sales organizations.
- Special attention will be paid to the effects of different management systems. Non-market effects (aka externalities) are non-intentional impacts of economic activity.

4.2.	Competence of the fishing companies		
4.2.1.	Business indicators		
4.2.1.1.	Profit margin	Hard data	EBIT / catch value
4.2.1.2.	Capital turnover	Hard data	Catch value / invested capital
4.2.1.3	Financial strength	Hard data	Owner's equity ratio
4.2.1.4	Return on invested capital	Hard data	EBIT / invested capital
4.2.3.	Technology and productivity		
4.2.3.1.	Technical level of vessels and mechanical equipment	Survey	The fosjomg vessels and mechanical equipment in your country, is (1=of a vey low technical standard; 7=of a very high technically advanced)
4.2.3.2.	Fishing technology	Survey	The level of fishing technology in fishing vessels in your country, is (1=of a low technical standard; 5=technical standard)
4.2.3.3.	Processing technology om board	Survey	The level of processing technology in fishing vessels in your country, is (1=of a very low technical standard; 7=of a very high technical
4.2.3.4.	Handling of catch on board	Survey	Handling of catch in fishing vessels in your country, is (1=of a very low standard; 7= of a very high standard)
4.2.3.7.	Productivity of fishermen	Hard data	Value added / man year (EUR/man year)
4.2.3.8.	Productivity of total assets	Hard data	Value added / invested capital
4.2.3.9	Proportion of the fishing fleet less than 10 years old	Hard data	Proportion of the fishing fleet (GRT) less than 10 years old.

5.3.	Competition - cooperation and suppliers (related sectors)		
5.3.1.	Competition and suppliers		
5.3.1.1.	Competition among major suppliers	Survey	Competition among major suppliers (energy, transportation, wrappings, maintenance etc.) is (1=ineffective; 5=effective)
5.3.1.3.	Cost of electricity	Hard data	Price of electricity (EUR/kWh)
5.3.1.4.	Supply and cost of fresh water	Survey	Supply and cost of sufficient fresh water (1=does not at all meet the needs of the processing companies; 7=well meets the needs of the processing companies)
5.3.1.5.	Distribution of the catch within the year	Hard data	Distribution of fresh landed catch by month in most important species. a) demersal species b) pelagic species.
5.3.1.6.	Timing of wetfish availability	Survey	Timing of landed fresh fish catch in most important species is (1=not according to the needs of the processing companies; 5=according to the needs of the processing companies)
5.3.2.	Cooperation		
5.3.2.2.	Processing equipment manufacturers	Survey	Current production/design/ development of processing equipment in your country (1=does not at all improve the competitiveness of fish processing companies; 7=greatly improves the competitiveness of fish processing companies)
5.3.4.	Cooperation among fish processing companies	Survey	Cooperation among fish processing companies in your country is (1=does not exist at all; 7=exists to a high degree)

WP4 - Products, consumers and seafood market trends

WP4 will analyze the impact of consumer behavior, market trends, innovation and product development in the seafood market.

- As a first step, micro-economic tools will be used to analyze how factors such as income, own prices and prices of substitute goods affect the demand for the chosen species.
- In a second stage, past and current consumer preference trends will be analyzed and the acceptability of fish products examined by looking at consumption in local, niche and global markets.
- Finally, a database of successes and failures in product development and consumer behavior will be used as a background material for trend research, yielding insights into product innovation and which product characteristics best fit consumers' preferences.
- Results will highlight fish/seafood consumption within the consumers' diets, depending on country, region, and types of consumers and will be used to simulate the effects of various marketing policies.

WP3 - Supply Chain Relations and regulation

- Descriptive report of main flow of products
 - Due February 2016, Heather
- Key informant interviews
 - In progress, Ögmundur and Ray
- Survey
 - Done after the interviews and in accordance with other Prime fish members

Key informant interviews

- Aim to understand the complex value chain for each sepsis
 - semi structure interviews
 - open questions
 - will be used to build up further survey
 - fill into gaps that hard data will not do

Interview Topics WP3

Personal information	<ul style="list-style-type: none">• Position in the company and responsibilities?• How long have you been working in the industry?
General information about the company	<ul style="list-style-type: none">• Describe the company's production• Operating and development of the last 5-10 years.• What is the level of education within the company?
The governance/ structure of the value chain	<ul style="list-style-type: none">• Where do you place the company in the value chain?• How does the company cooperate with other actors in the value chain?• What do you think about the distribution of power in the value chain?
Sales and Marketing	<ul style="list-style-type: none">• How is the marketing organized?• Regarding your products, what factors are the most important to price variation?• How important is the coastal fishing for the company?• How do you use marketing information in your daily operation
Value added	<ul style="list-style-type: none">• What changes have occurred in the production and value added in the last 5-7 years?• What have been the focus areas of the company to increase the value added (profit) in the last 5-7 years?• Are there any special events that have made you to focus on increasing value creation?

Interview Topics WP3

Fisheries Management system	<ul style="list-style-type: none">• Does the current Fisheries Management System have any effect on the development of the company's value chain in the last 5-7 years? If yes, which ones?• Which effects have the Fisheries Management System had on the marketing of your products?• How effective do you find the current Fishing Management system?• Is the FMS supporting or hindering effectiveness of your company?
Raw material	<ul style="list-style-type: none">• How well can the raw material providers respond to the marketing signals as timing, quality, and quantity?
Institutional environment	<ul style="list-style-type: none">• What requirements/regulations do you find support/increased or is blocking?
Certifications	<ul style="list-style-type: none">• Importance of third party certification labels on your operation
Competitiveness of the value chain	<ul style="list-style-type: none">• How competitive would you say that the NL value chain is compared with you competitors (other countries)?• Development in the value chain, what has pushed for development and what has slowed down or block it?

Results

WP5-Development of robust simulation and prediction models

- Development of Fisheries and Aquaculture Competitiveness Index (FACI).
 - the index can be used to compare the fisheries and aquaculture industries between European countries and between Europe and the rest of the world, and gauge the competitiveness of individual companies and sectors.
- Boom and bust” analysis.
 - to predict price behavior and give early-warning signals of a potential “boom and bust” cycle
 - to highlight the eventual presence of dumping phenomena and or other infringements that affect the market competitiveness of the fisheries and aquaculture sectors.

Results

- Strategic positioning model
 - Analyzing strategically where in the value-chain companies chose to position themselves and how changes in their environment can affect this choice.
- Success analysis model.
 - Compiling robust model to analyses the likelihood that new seafood products launched will be successful. A “what if” analysis will be carried out in order to explore the outcome under different scenarios.
- Innovation and price analysis model.
 - Command and consumer analysis conducted in WP4, this task will consist of compiling models to analyses the willingness-to-pay of consumers, and consequently the price that producers may charge in different markets.

Thank You!

