Economic Report of the EU Aquaculture Sector

AAC working group 3

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Outline of presentation

- Background for the data collection on aquaculture in EU
- Content of the report from 2020 (STECF-20-12)
- Special chapters
- Data issues
- Conclusions

The aim of the data collection under EMFF and EMFAF

- The Common Fisheries Policy (CFP) should ensure that fishing and aquaculture activities contribute to long-term environmental, economic, and social sustainability.

- The CFP should contribute to the Europe 2020 Strategy for smart, sustainable and inclusive growth, and should help to achieve the objectives set out therein.

- **Collection and dissemination of aquaculture data is done in order to provide a sound basis for scientific advice in support of the EU Common Fisheries Policy**

New program 2021-2027 - The European Maritime, Fisheries and Aquaculture Fund (EMFAF)

- New program and data collection regulation in place from 2022

- **The new EMFAF particularly supports** small-scale coastal fisheries, young fishers and outermost regions, **as well as the promotion of sustainable aquaculture**

- **New data collection regulation include data on fresh water aquaculture**

Background

- The basis for collecting economic data was established from 2004-2009
- The data collected are specified by Commission regulation
- First aquaculture report published in 2012 (data from 2008 and 2009)
- MS report data according to their National Programs for data collection
- Important to harmonize the data reported
- Foundation – The Structural Business Statistics (SBS)
- Regional Coordination Group ECON
- Segmentation on species and production technique

Institutional setting, workflow, data flow

Data dissemination
https://stecf.jrc.ec.europa.eu/data-dissemination
Coverage
https://datacollection.jrc.ec.europa.eu/coverage

Commission request
Terms of Reference
Selection of Experts
Expert Working Group Meeting
Data available to Scientists
Finalisation of Report
Discussion by STECF
STECF Opinion - Publication of Reports
STECF

Commission - DG MARE

JRC quality checks validation analyses

Aggregated data

DCF data call

EU Member States' National Institutes

Raw data

Aggregation, processing

Commission - DG MARE Policy proposals

EU AGRIFISH Council European Parliament

BACKGROUND - Data call, working group, report and data

- The overall aim is to provide an economic overview of the EU aquaculture sector
- Terms of reference DG Mare, STECF, JRC and the chair of the meeting
- Data is based on EU data call in December 2020 – January 2021
- Data for the years 2008 to 2018
- Variables according to Commission implementing decision (EU) 2016/1251
- In addition to the report, the data are published at JRC website
- 32 experts covering 22 countries. 3 JRC experts and 2 Eurostat observers present
- In one week - data should be checked, processed, analysed and overviews and special chapters should be written

Contents of the report

- EU Aquaculture Sector Overview
- The Structure of the EU aquaculture sector
  - Marine finfish (salmon, seabream/seabass, bluefin tuna and other species)
  - Shellfish (mussels, oysters, clams and others spp.)
  - Freshwater (trout, carp and other species)
  - New species/production - Algae
- National Chapters (EU-27 + UK in the annex)
- Estimation of Covid-19 impact on the performance of the sector
- Nowcast estimation of a selection of indicators to 2019 (2020 not presented)
- Socio-Demographics of the EU Aquaculture Sector

The EU aquaculture in numbers (2018)

- There are about 15 thousand enterprises (whose main activity is aquaculture).
- More than 80% are micro-enterprises, employing less than 10 employees.
- Employees and full time equivalents (FTE) is estimated to: 69 and 39 thousand
- Production (first sales) reached 1.2 million tonnes and EUR 4.1 billion in value
- The sector performance increase 2% in sales volume and 11% in the turnover compared to 2016.
- However, the sector has experienced a slight decrease in the economic performance from 2017 - driven by the marine fish segment

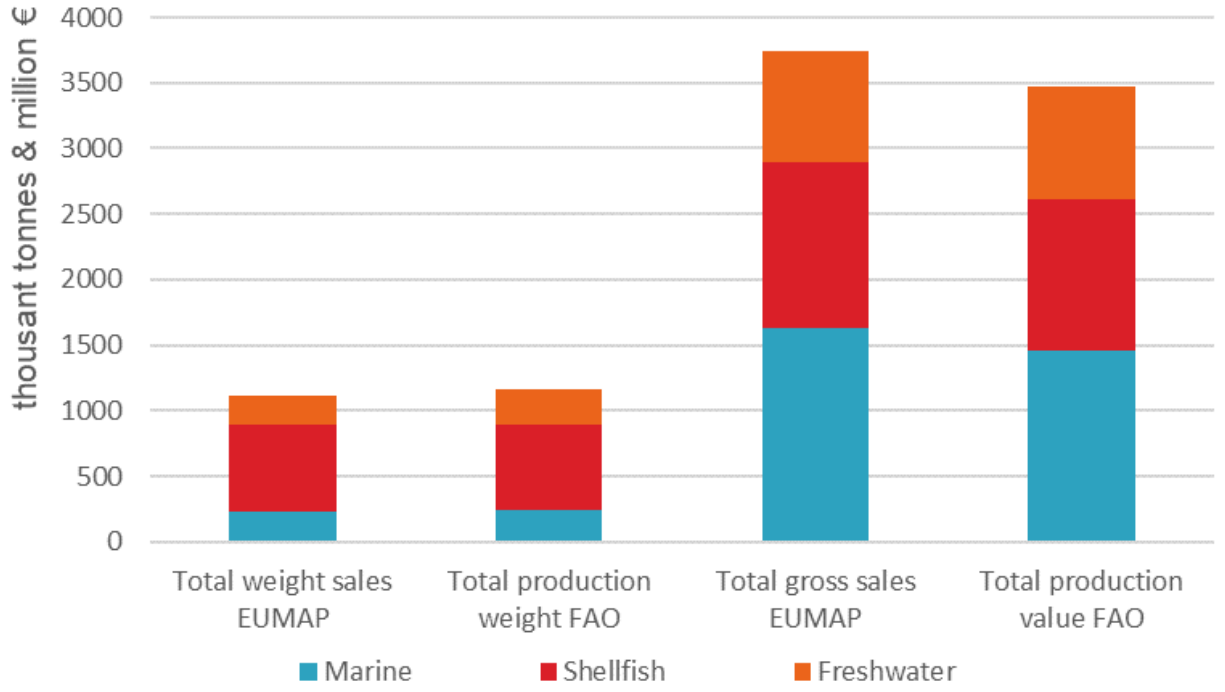
Main species by weight and value (2018)

- Main species by weight are mussels, trout, oysters, seabream, seabass and carp.
- Main species by value are trout, seabass, oysters, seabream, mussels, clams and carp.

Source: FAO, 2021

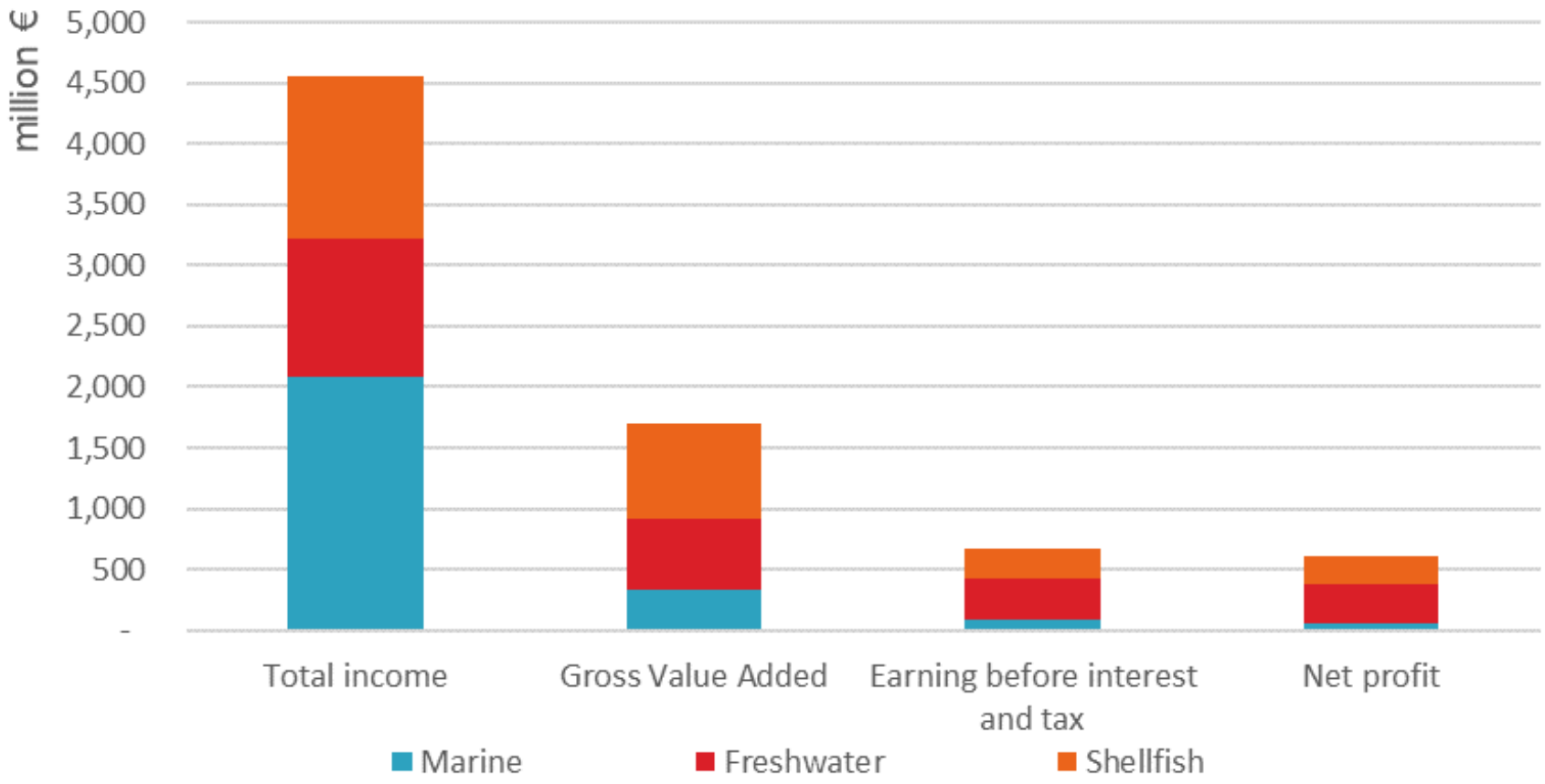
Comparison of production by subsector (2018)

- We estimate a total production of 1.2 million tonnes and a value of EUR 4.1 billion.
- Production is defined as first sales (not including stock changes).
- Our production weight may be slightly underestimated
  - Reason is lack of freshwater aquaculture and information from Land Locked countries



Economic performance by subsector (2018)

- The report provides useful insights by subsector
- Marine fish, Freshwater fish and Shellfish aquaculture…



Main results - Marine fish sector 2018

The most important segment in terms of value (44%), covering 22% of the weight

The largest producers is now Greece (seabass/seabream), few species - high specialisation. (UK salmon was the biggest sector)

The marine sector is capital intensive and have larger enterprises.
The marine sector employs around 8,000 persons and have around 550 enterprises

Main results - Shellfish sector 2018

Shellfish contributes (31%) in terms of value and (54%) in volume.

Main producers are Spain, France, Portugal and Italy

Species are Oysters, Mediterranean- and Blue-mussels and Clams

Dominated by small scale family owned enterprises

The shellfish sector is the most important in terms of employment 36,000 persons, distributed on 7,000 enterprises

Main results - Freshwater fish sector 2018

Freshwater contribute 25% of value and 24% in volume.

Main producers are Italy, Denmark, France and Spain

Species are trout and carp

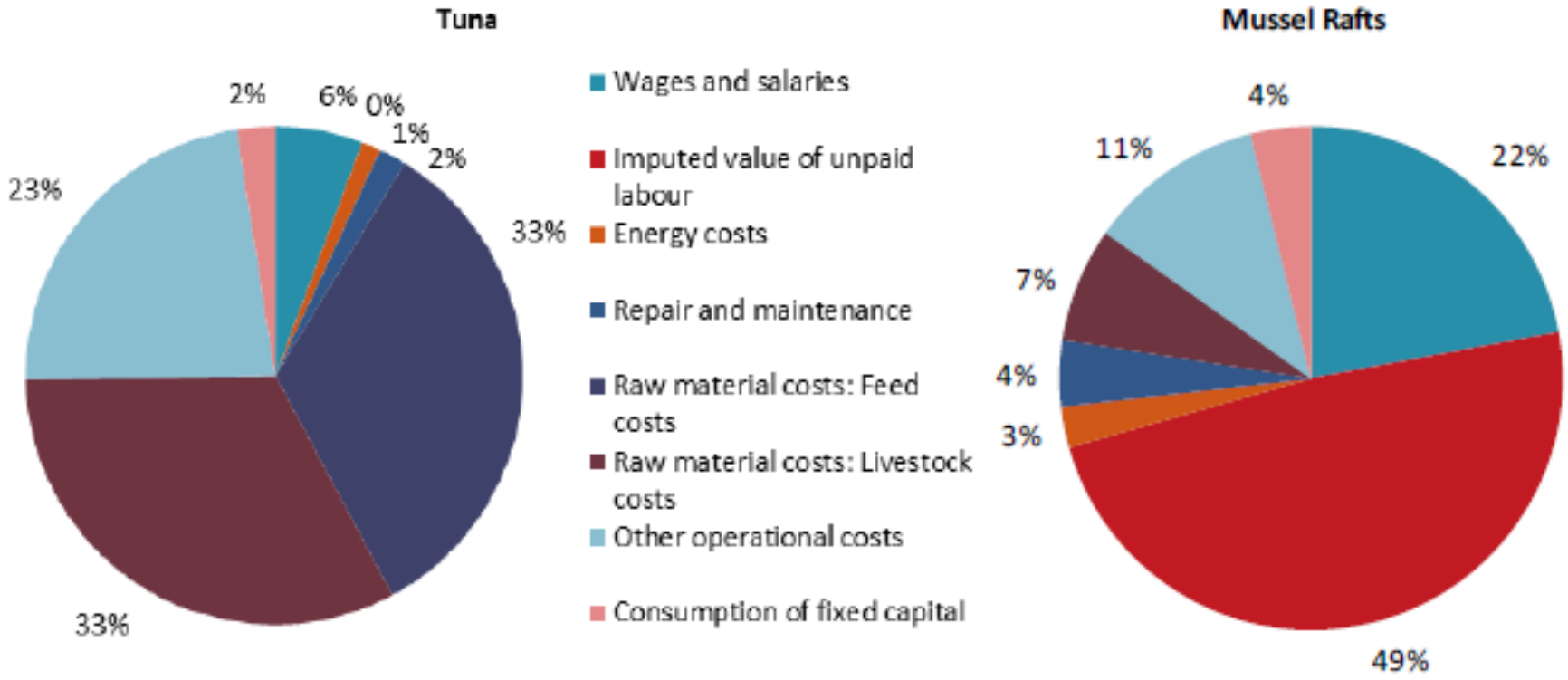
Trout are produced in both intensive and extensive systems
Carp is produced in extensive systems

Small scale family owned enterprises

Employment 10,000 persons?
Around 5,000 enterprise?

Economic performance by subsector (2018)

- … and by aquaculture segment
- Combination of main species cultured and culture technique



Economic performance by subsector (2018)

Oysters, Mussels and Clam:

An example of comparing productivity in different species segments

Total EU	GVA		FTE (employment)		Labor Productivity (LP)		EBIT	
	million €		number		thousand €		million €	
	2017	2018	2017	2018	2017	2018	2017	2018
Mussels	291	303	6142	6408	47	47	85	96
Oyster	303	336	8078	8135	37	41	71	79
Clams	160	136	2227	1371	72	99	106	78

Special Topics – COVID-19

Covid-19 impact on aquaculture sector:

1. Questionnaire: Group 1 - 58 participants representing enterprises (65%) and producers associations (35%). Group 2 - 20 experts covering other 17 EU countries.
2. Estimated decrease in sales (17%) and prices (8%), but different among stakeholders and sectors (Sales: Marine 3%, shell. 19% and fresh. 10%)
3. Production cost increases –waiting for better "days" –keeping the fish in the water
4. Short term employment and production volume not affected – production already planed and will proceed as planed

Conclusion

- Producers relying on first hand sales and restaurants are suffering the most
- Producers delivering to supermarket chains are less vulnerable
- The market has not disappeared, however distribution and have changed

Special Topics – Nowcast

Nowcast for aquaculture sector:

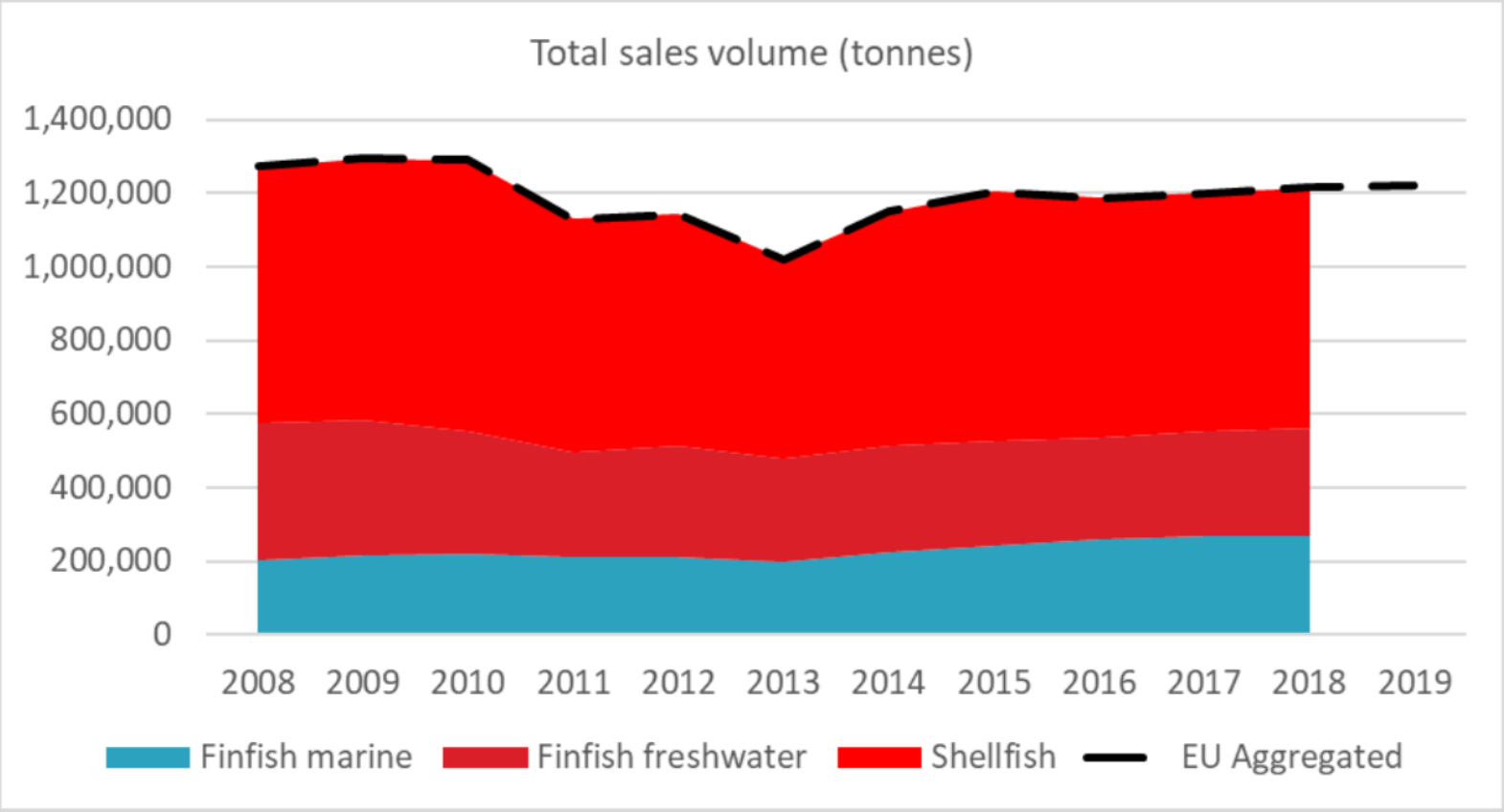
1. The basic imputation model developed for the last report was used to fill data gaps between 2008-2018
2. Data from MS was delivered for 2019 and 2020 for the use of the developed nowcast-model – estimating production volume and value along with employment in the sector
3. Do to the lack of data received from countries for 2020 (only 4 MS) and the special situation with the Covid-19 pandemic – Experts concluded that the nowcast results for 2020 should not be presented do to the high uncertainty within these estimates.

Conclusion:

- The basic model for Nowcasting is now available.
- The model can be extended including more economic indicators in the future, but that will require more work introducing for example prices to the model

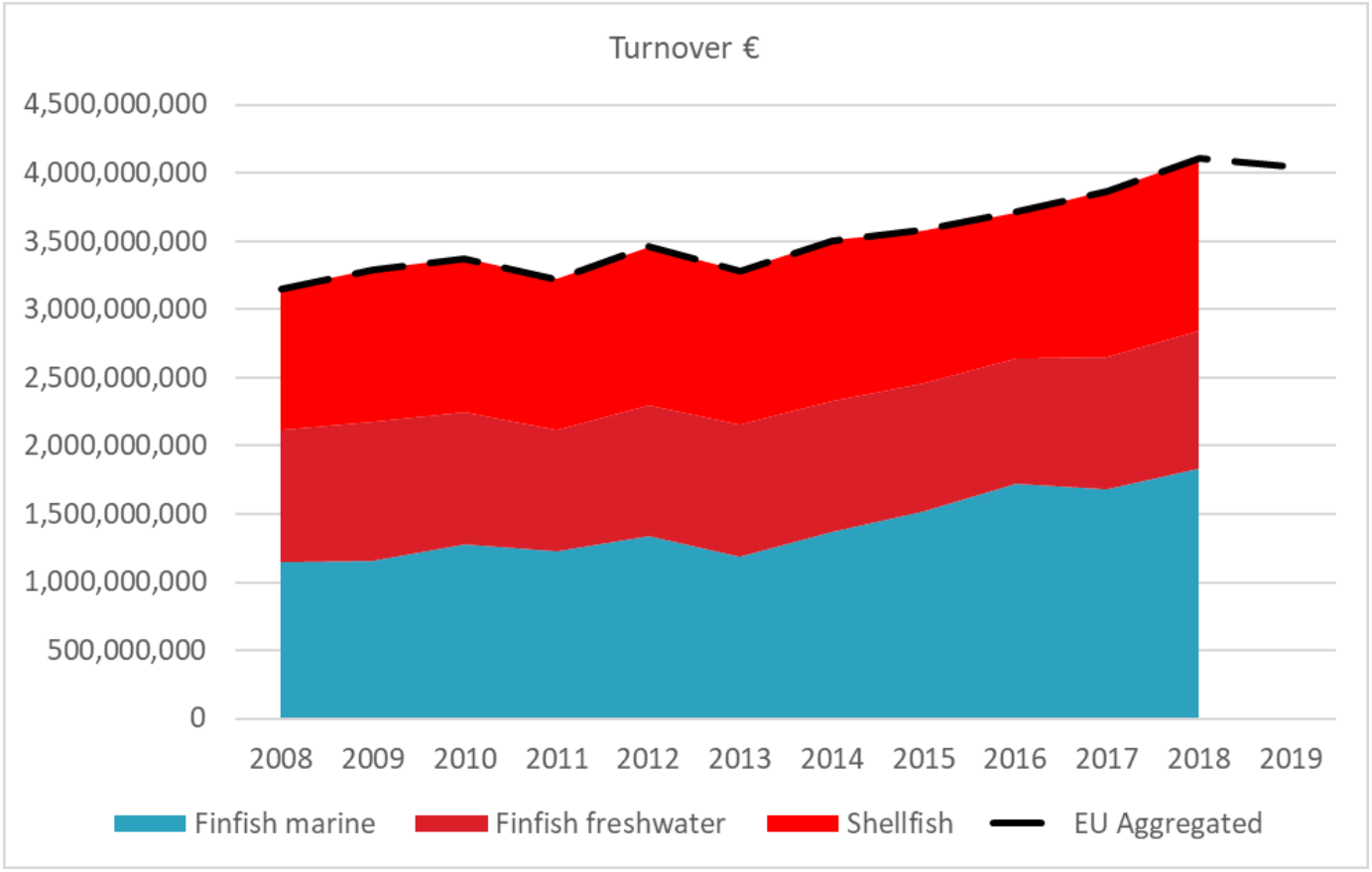
Nowcasting (I)

- Some key variables were estimated for 2019.
- The EWG considered that could not provide a robust estimate for 2020.



Nowcasting (II)

- The negative economic development is expected to continues in 2019 and 2020.



Future "Now-cast" developments

- This should be done at segment level (species and technology)

- Input and economic indicators?
- Fish prices (e.g. from EUMOFA) and some 2021 production data (national or even something from EUMOFA).
- What about costs?: Fishmeal (may be relevant for some species), labour costs (updated in Eurostat) – are these relevant to explain changes in the aquaculture sector?
- In the best scenario, all variables are quite stable and we don't suffer so much for the effect of missing information from missing variables.
- However, the added value of this exercise is also going to be minor.

Special Topics – Social data

Social data:

1. This is the first analysis of the social data provided under the EU-MAP for the aquaculture sector
2. Data on gender, age, education, nationality and employment status
3. The analysis provide information on the EU and national level
4. The data was also analyzed according to the 3 main sectors and to production technology

- The results show that the persons employed are primarily male (76%) and that the age class 40-65 constitutes about 43% of total employment.
- The majority (83%) of people employed are nationals of their own country, whereas the rest mainly comes from other EU countries.
- Education level shows large differences among Member States, the production technology used and production sectors.

Special Topics – Social data

- Social data can potentially contribute to the impact assessment analysis (e.g. some EMFF measures) and seafood industry issues such as gender equality, aging employees and support for young entries to the sector. They can also inform future education and mobility policies.

- One issue is that this is an economic report and therefore there is a lack of social scientist within this group.

Data quality and delivery

All in all:

- MS submitted less data due to thresholds and freshwater not being mandatory
- Data break between DCF and EU MAP is not fully aligned

Issues:

- Some countries did not deliver data on time!
- Data collection for freshwater aquaculture is not mandatory, (only approx. 70% of weight and value are reported)
- Some countries still provide “wrong” data, even though, that this has been addressed for several years
- Alignment of social data is necessary to enable comparison between MS

DCF – EU-MAP

Segmentation is changed (species and production technique):

- This have implication for time series analysis both at the National as well as EU level
- Data break for most countries is between 2016 and 2017
- In some cases the allocation of farms to segment are not aligned between MS
- An aquaculture workshop is suggested under RCG ECON (May 2022)

Conclusions

- The overall information on the EU sector has improved due to the new estimations, allowing for bridging data gaps and present time trends (Imputation and nowcasting tools)

- On the other hand, data submission issues like late submission and continuous uploads during the meeting decrease quality

- The lack of ready to use data and templates for the experts hampers the opportunity to improve quality of the report and provide deeper economic analysis at the meetings

Conclusions

- The data break between DCF and EU MAP makes time series analysis - before and after - difficult at the national and EU level

- Comparability of DCF and EU-MAP sales data with EUROSTAT production data is still an issue, (EUROSTAT was present at the meeting and some of the issues was discussed, specially missing data do to confidentiality issues)

- The lack of obligation to provide freshwater data is a problem. It limits the possibilities for an overall EU data analysis of the sector and weakens the conclusions drawn from these – problem solved in 2022, but historically!

Other issues

- Issues that could be of interest and could be investigated by aquaculture experts should be put forward to the Commission (DG Mare)
- STECF do not have specialists within aquaculture
- Collection of environmental variables (Mortality and Medicine)?

Thank you

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