2018 ANNUAL REPORT LITHUANIA

On sustainable balance

Between fishing capacity and fishing opportunities

31 May 2020

Introduction

This Report is prepared in accordance with Regulation (EU) No 1380/2013 of the Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy (hereinafter – Regulation (EC) No 1380/2013) and with 2014 Guidelines for the analysis of the balance between fishing capacity and fishing opportunities according to Art 22 of Regulation (EU) No 1380/2013 of the European Parliament and the Council on the Common Fisheries Policy.

It summarizes the current state of Lithuanian national fisheries fleet management measures and efforts to achieve sustainable balance between fishing capacity and fishing opportunities.

Please note that during the preparation of this Report the JRC website was not functioning. As a result, the 2019 STECF calculation and comments on national reports was not taken into account for the reporting period.

1. General information

1.1 Description of fishing fleet

Lithuanian fisheries fleet is divided in three basic groups based on fishing grounds.

The first group of Lithuanian fishing fleet operates in the near coastal zone of the Baltic Sea (Coastal fleet). Coastal fleet is composed of fishing boats in length less than 12 meters and the main engine power of 110kW or less. In terms of weight of landings, the main species targeted by coastal fleet in 2019 was European smelt, Baltic herring and round goby. Cod was one of most targeted species, but in 2019 landings declined significantly. Other important species are flounder, turbot, bream, pikeperch and some other freshwater species.

The second group of Lithuanian fishing fleet operates in the all Baltic Sea area with vessels more than 12 meters in length (Baltic fleet) and dominant main engine power of 165 – 220 kW. Main targeted species are cod, herring, sprat and salmon.

The third fishing fleet group operates mainly in waters of CECAF, SPRFMO, NAFO and NEAFC (Distant fleet). This group is composed of fishing vessels with length more than 40 meters. Mostly mackerel, horse mackerel, sardines and round sardinella are fished.

1.2 Development of fishing capacity

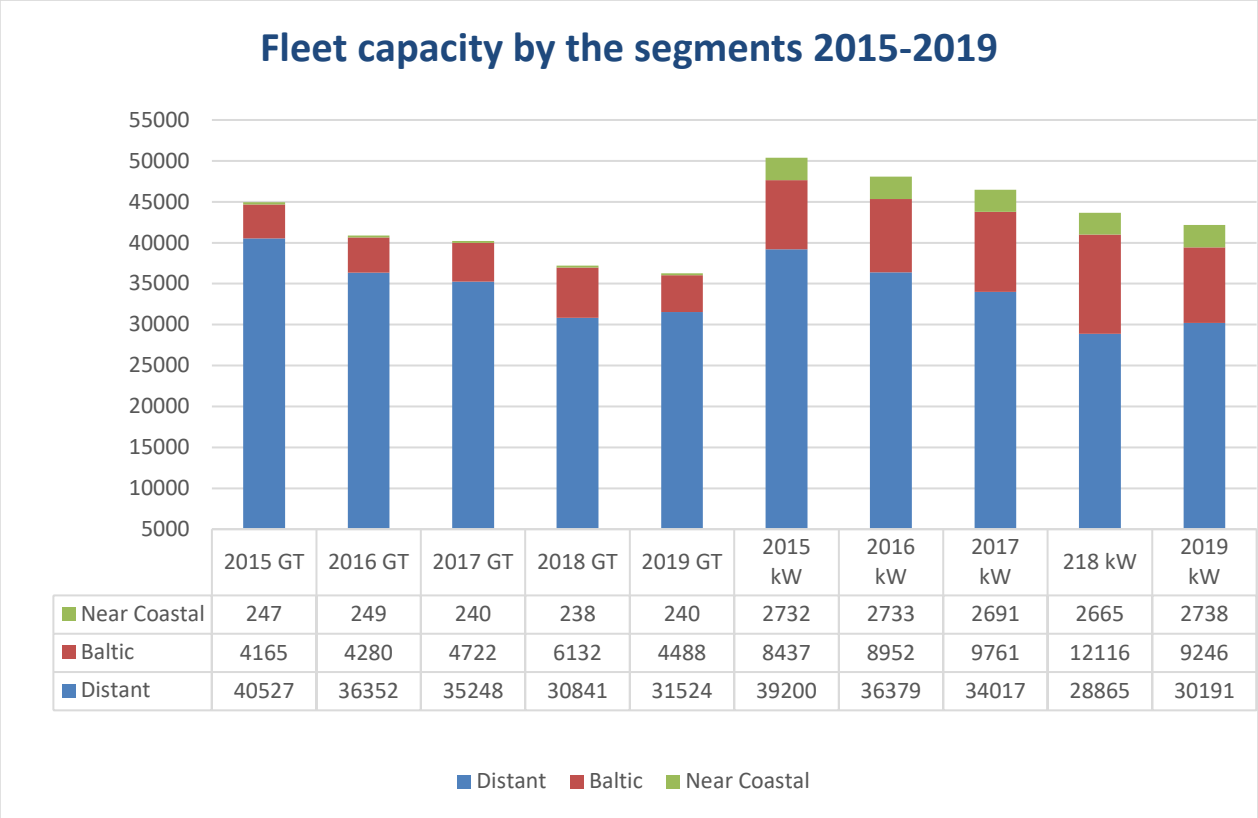
By the end of 2019 Lithuanian fishing fleet consisted of 138 (6 vessels operated in distant areas, 29 – in Baltic Sea and 103 – in coastal waters) vessels with total capacity of 36 252 GT and 42175 kW.

Comparing to 2018 the total capacity declined by 1 335GT (3.5%) and 1 253 kW (2.9%). Since 2014 the total capacity dropped by 19 % and by 16 % respectively. This fishing fleet reduction caused mainly by withdrawal of fishing vessels operated in Baltic Sea and distant areas.

The distribution of total fleet capacity by the three basic segments is shown in Figure1.

1.3 Impact of fishing effort reduction schemes

During the year of 2019 there were no fishing effort reduction schemes introduced either for Lithuanian fisheries fleet or in the waters of jurisdiction of Republic of Lithuania.



	2015 GT	2016 GT	2017 GT	2018 GT	2019 GT	2015 kW	2016 kW	2017 kW	218 kW	2019 kW
Near Coastal	247	249	240	238	240	2732	2733	2691	2665	2738
Baltic	4165	4280	4722	6132	4488	8437	8952	9761	12116	9246
Distant	40527	36352	35248	30841	31524	39200	36379	34017	28865	30191

Figure 1.Fishing fleet capacity by fishing grounds 2015 – 2019.

1.4 Compliance with entry/exit scheme and with level of reference

Lithuania applies entry/exits scheme as defined in Regulation (EC) No 1380/2013 Article 23. For 2019 the same like for the previous years, no public aid was granted or entry of new capacity into the fleet was compensated by the withdrawal of existing capacity.

In the reporting period no vessels with capacity of over 100 GT entered the fishing fleet and no engines of fishing vessels of a length of 12 meters or more have been replaced with public support.

2. Biological Indicators

2.2. Sustainable harvest indicator (SHI)

The SHI (Sustainable Harvest Indicator) was used to assess whether vessels are relying on overfished stocks.

The SHI indicator, Festimated/Ftarget, is a measure of whether the economic activity of a fleet segment is, on average, less or more dependent on overfished stocks. A value less than one is usually considered as indicating a sustainable exploitation of the stock and a value higher than one is usually considered as a sign of overfishing of the stock.

Eastern Baltic Cod -the age-based Eastern Baltic (subdivisions 24-32) cod stock assessment could no longer be accepted by ICES WGBFAS in 2014 mainly because of age reading problems as well as changes in growth rates leading to unknown changes in catchability. From 2014 onwards the stock has been assessed as a category 3 stock and an FMSY value has no longer been provided by ICES. Therefore, the last F and FMSY value available is the one from the 2014 assessment. As consequence, the EWG 17-08 Preparatory meeting decided to withdraw Eastern Baltic cod

completely from the SHI index calculations as there is currently no basis to determine the status of the stock.

SHI values that were calculated and observed for all stocks with assessment data, even if the proportion of landings value of the assessed stocks made up less than 40% of the total landings value of the fleet segment. In such cases, the indicator is considered as unrepresentative/unreliable and SHI indicator values cannot be used meaningfully to assess the balance or imbalance.

SHI values calculated only for those fleet segments where the coverage ratio of the assessed stocks targeted by Lithuanian fleet was greater than 40%.

The Lithuanian Baltic Sea fishing fleet in 2018 consisted of 9 segments as defined in the Fleet economic data call as follow: PG VL0010, DFN VL1012, DTS VL1824, TM VL1824, DFN VL2440, DTS VL2440, TM VL2440, DTS VL40XX, TM VL40XX. Two segments PG VL0010 and DFN VL1012 are exclusively operating in the coastal area. The most recent ICES stocks assessment parameters for fleet segment operating in the Baltic Sea were used as data sources. Cod has been removed from the SHI calculations and only SHI values were computed for TM VL1824, TM VL2440 and TM VL40XX in 2018 (Table 1).Due to eastern cod values removing from SHI indicator calculation, SHI values have been unlike since 2013. Dynamics of SHI values provided in Figure 2.

Table 1. Calculated SHI values for Baltic Sea segments in 2018.

Fleet segment	SHI value
TM VL1824	1.127
TM VL2440	1.126
TM VL40XX	1,125

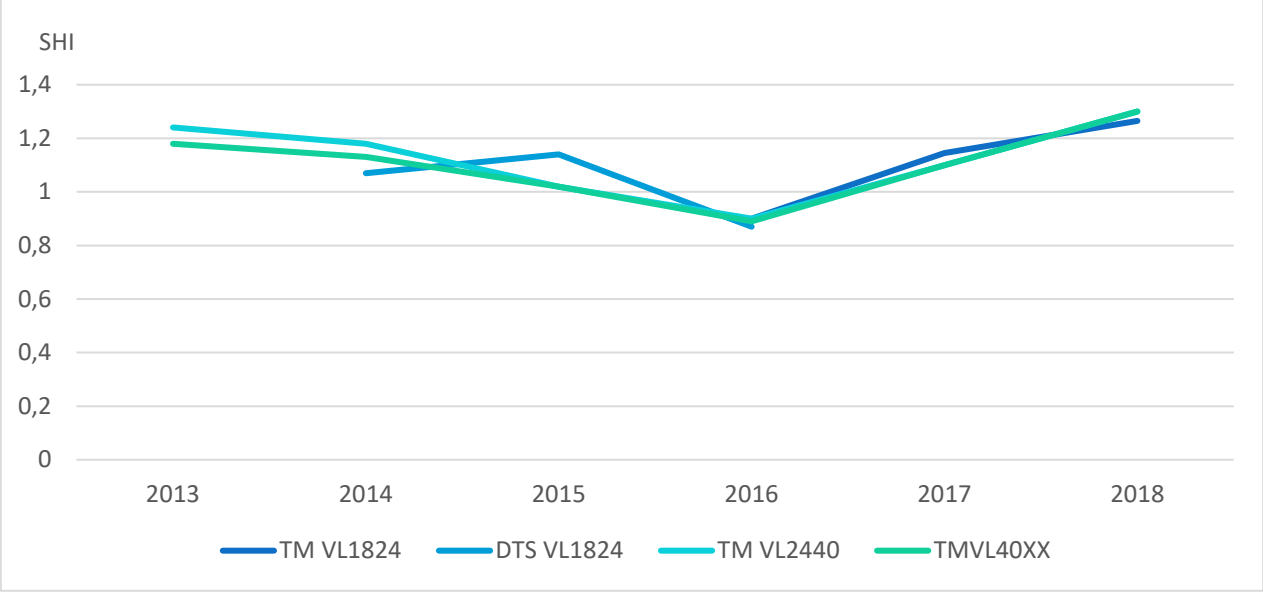


Figure 2. Dynamics of SHI values in 2013-2018.

Dynamics of SHI values show increasing trend for segments TM VL1824, TM VL2440 and TM VL40XX in the Baltic Sea. All fleet segment takes less than 10% of its catches from a pelagical fish stock. The important non-quota fish stocks exploited by the Lithuania fishing fleet include perch, smell, turbot and flounder. ICES has not provided analysed data for these fish stocks.

It should be highlighted that Baltic eastern cod stock is in a poor state. Lithuanian fishing quota for the Baltic eastern cod decreased from 3710 tonnes to 1597 tonnes from 2014 to 2018.

Lithuanian fleet segments strongly (more than 50 percent of income is gaining from the cod fisheries) depending on cod landings are DFN VL1012, DFN VL2440, DTS VL2440 and DTS VL1824.

When the biological indicator is unavailable due to the lack of values of F and Fmsy for more than 60% of the stocks which constitute the catch, the sustainable harvest indicator cannot be used meaningfully to assess the balance or imbalance of a fleet segment.The Lithuanian fishing fleet's catch of fish species subject to a quota which set by the Council of the European Union. Moreover, CFP is stated: "*The maximum sustainable yield exploitation rate shall be achieved by 2015 where possible and, on a progressive, incremental basis at the latest by 2020 for all stocks*." Therefore, before 2020 an SHI indicator above 1 may not reflect the outcome of political decisions to reach F_{MSY} not immediately, but by 2020.

2.3 Stocks-at-risk indicator

In 2019 according to scientific advice from the International Council for the Exploration of the Sea (ICES), the eastern Baltic cod (*Gadus morhua*) stock suffers from an unsustainably low biomass due to a combination of declining recruitment, environmental factors and changes in the ecosystem leading to a high natural mortality and an excessive fishing mortality given the status of the stock. The stock is distressed and is expected to have reduced reproductive potential. Moreover, ICES estimates that the biomass will remain below the sustainability reference point in the mid-term even with no fishing at all. Since 1 June 2019 targeting cod fishery was stopped.

The stocks at risk indicator (SRI) aim to determine the catch taken by a given fleet segment from stocks with heavily reduced biomass and in a condition such that recruitment may be greatly diminished. In accordance with the Commission's guidelines, a cod stock in subdivisions 24–32 at risk was indicated as assessed as being below the B_{lim} biological level:

The indicator is calculated as the number of stocks exploited by a given segment which meet the following conditions: catch from the stocks considered at risk makes up more than 10% of the fleet segment's catch. The calculation formula is as follows:

(1 where (Ci > 0.1 Ct) or (Ci > 0.1Ti); otherwise 0),

where Ci – catch from stock i, Ct – total catch of all stocks taken by the fleet segment, Ti – total catch of stock i taken by all segments.

The SRI values calculated for the segments of the Lithuanian fleet which were analysed are presented in Tables 2below.

Feet segments	SRI indicator by years for cod stock in subdivisions 24–32		
	2016	**2017**	**2018**
VL0010 PG	0	0	0
VL1012 DFN	1	1	1
VL1824 DTS	1	1	1
VL1824 TM	0	0	0
VL2440 DFN	1	1	1
VL2440 DTS	1	1	1
VL2440 TM	0	0	0
VL40XX TM	0	0	0

In 2018, Western and Eastern Baltic cod became a stock at risk. Due to the significance of this stock in terms of the catch taken by the fleet, four segments (VL1012 DFN, VL1824 DTS, VL2440 DTS and VL2440 DFN) met the first condition regarding reliance on catch from stocks at risk. However, the Lithuanian fleet takes less than 5 % of the catches of the stock. Moreover, segments VL0010 PG, VL1824TM, VL2440TM and VL40XX TM caught a limited amount of stocks at risk (SRI = 0).

3. Economic indicators

3.1. Fleet segment description

Lithuanian fishing fleet is subdivided by fleet segments based on Commission Delegated Decision (EU) 2019/establishing the multiannual Union program for the collection and management of biological, environmental, technical and socioeconomic data in the fisheries and aquaculture sectors. Segmentation is used to specify distinct types of fisheries as well as to avoid reporting of confidential data, where insufficient number of enterprises compose particular segment. Fleet segments are as follows:

OFR TM-40XX – segment consists of Distant fleet vessels operating predominantly in CECAF and also in SPRFMO, NAFO and NEAFC. Landings are composed mainly from small pelagic species, such as HMZ, MAS, JAX and PIL, as well as PRA and PCR. Due to confidentiality reasons, segments are not detailed by fishing techniques. This clustered segment contains vessels using TM, DTS and FPO techniques. Almost all vessels are larger than 40m.

NAO TM 24-40 – includes pelagic trawlers 24-40 m and over 40 m, which are operating in Baltic Sea. Target species for the main gear are SPR and HER. Segment also includes vessels using demersal trawler as second gear however with less effort than pelagic trawler.

NAO DTS 24-40 – segment consist of 24-40 m demersal trawlers, fishing in Baltic Sea. Fleet is mainly targeting COD and FLE with demersal trawler as the main gear. Segment also includes vessels using pelagic trawler as second gear however with less effort than demersal trawler.

NAO DFN 10-12 – Due to confidentiality reasons this segment is clustered from passive gear coastal vessels from 10-12 m length and 24-40 m length vessels fishing in Baltic Sea with netters.

NAO PG 00-10 – small scale fleet segment under 10 m in length which operates only in coastal area of Baltic Sea. Main species are European smelt and Baltic cod.

3.2 Return on Fixed Tangible Assets (ROFTA)

Return on capital was evaluated by two indicators - Return on Fixed Tangible Assets (ROFTA) and Return on investments (ROI). ROFTA was estimated not taking into account intangibles assets, since transferable fishing rights were available from the December 2016. Therefore, since 2017 when legislation approved fishing rights to be transferrable and traded, ROI indicator was additionally introduced to the report.

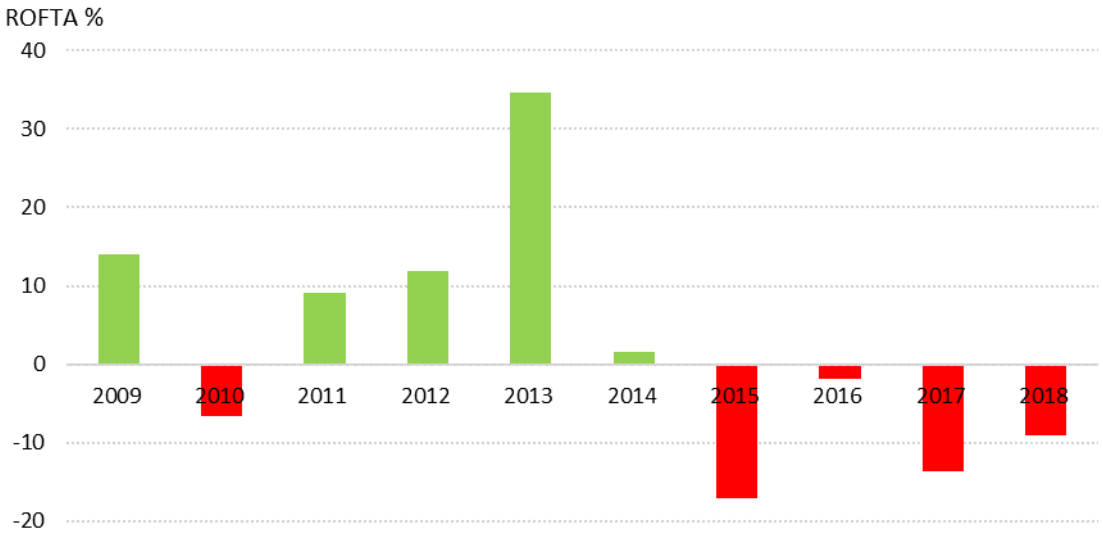
Capital productivity could also be assessed comparing ROFTA and ROI to the long term interest rate. Comparison is provided in each table of capital productivity. If ROFTA and ROI are smaller than the low-risk long term interest rates available elsewhere, then this suggests that the fleet segment may be overcapitalized and if less than zero and less than the best available long-term risk-free interest rate, this is an indication of long-term economic inefficiency that could indicate the existence of an imbalance.

3.2.1. ROFTA and ROI for the fleet segment OFR TM- 40XX (Distant fleet)

Values	2014	2015	2016	2017	2018
Net profit (thousand €)	1 329,2	-21 365,1	-1 924,9	-12 019,1	-7 322,5
Fleet tangible asset value (replacement) (thousand €)	86 887,3	124 804,8	104 949,2	87 954,6	81 033,6
Estimated value of fishing rights (thousand €)	-	-	-	45 855,5	46 670,3
ROFTA= Net profit / Vessel replacement value (%)	1,5	-17,1	-1,8	-13,7	-9,0
ROFTA minus risk free long-term interest rate* (%)	-2,91	-20,72	-4,58	-15,51	-10,17
ROI = Net profit / Capital asset value (%)	-	-	-	-9,0	-5,7
ROI minus risk free long-term interest rate* (%)	-	-	-	-10,8	-6,9

Data source: AIRBC, ECB

* - arithmetic average of long-term interest rate for the previous 5 years in relation to reference year.



ROFTA for the fleet segment OFR TM- 40XX (Distant fleet)

In Distant fleet segment current trend of ROFTA indicates potential overcapacity as capital productivity indicators are continuously negative. However, the net losses from 2015 have a slight tendency to retreat. In 2018 fleet has a significant 35% decrease in weight of landings followed by lower days at sea. Consequently, declination of some major variable costs combining with higher

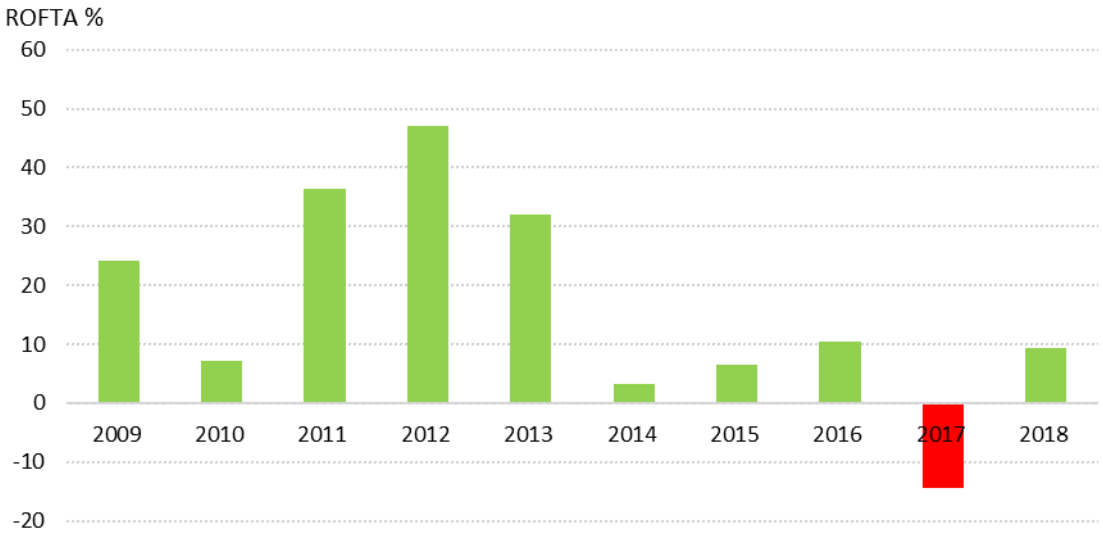
prices for target species have increased income from landings by 8% compare to 2017. However, incurred high fixed costs manly driven by non-annual fishing right costs turned economic results to losses.

3.2.2 ROFTA and ROI for the fleet segment NAO TM 24-40 (Baltic Sea)

Values	2014	2015	2016	2017	2018
Net profit (thousand €)	61,0	163,4	459,2	-680,7	412,2
Fleet tangible asset value (replacement) (thousand €)	1 908,6	2 496,9	4 435,5	4 703,2	4 405,9
Estimated value of fishing rights (thousand €)	-	-	-	2 641,0	3 392,8
ROFTA= Net profit / Vessel replacement value (%)	3,2	6,5	10,4	-14,5	9,4
ROFTA minus risk free long-term interest rate* (%)	-1,2	3,0	7,6	-16,3	8,2
ROI = Net profit / Capital asset value (%)	-	-	-	-9.3	5.3
ROI minus risk free long-term interest rate* (%)	-	-	-	-11.1	4.1

Data source: AIRBC, ECB

* - arithmetic average of long-term interest rate for the previous 5 years in relation to reference year.



ROFTA for the fleet segment NAO TM 24-40 (Baltic Sea)

In 2018 fleet segment of large scale pelagic trawlers, operating in Baltic Sea restored capital productivity to 9.4% ROFTA from temporarily negative values in 2017. Moreover, in 2018 this segment has a record high income from landings as well as the highest capacity in terms of GT. Enlargement of the segment was related to the allocation of capacity and efforts from segment of

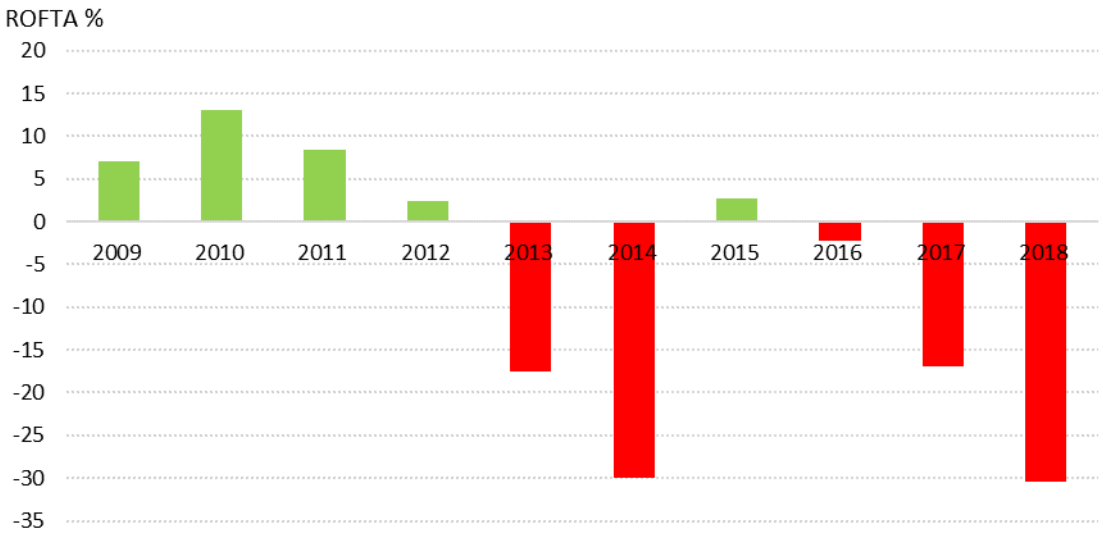
demersal trawlers segment, where vessels can operate with demersal or pelagic trawler selectively. Pelagic fleet in Baltic Sea show balanced capitalization.

3.2.3. ROFTA and ROI for the fleet segment NAO DTS 24-40 (Baltic Sea)

Values	2014	2015	2016	2017	2018
Net profit (thousand €)	-966,6	58,6	-55,9	-398,1	-504,1
Fleet tangible asset value (replacement) (thousand €)	3 220,3	2 224,2	2 448,2	2 346,0	1 659,8
Estimated value of fishing rights (thousand €)	-	-	-	981,2	1 114,8
ROFTA= Net profit / Vessel replacement value (%)	-30,0	2,6	-2,3	-17,0	-30,4
ROFTA minus risk free long-term interest rate* (%)	-34,5	-0,96	-5,0	-18,8	-31,5
ROI = Net profit / Capital asset value (%)	-	-	-	-12,0	-18,2
ROI minus risk free long-term interest rate* (%)	-	-	-	-13,8	-19,3

Data source: AIRBC, ECB

* - arithmetic average of long-term interest rate for the previous 5 years in relation to reference year.



2009-2018 ROFTA for the fleet segment NAO DTS 24-40 (Baltic Sea)

Demersal trawler segment, operating in Baltic Sea in 2018 has a record low profitability and capital productivity indicators; ROFTA has a continuously declining tendency. Demersal trawler segment has evident unbalanced overcapacity. Decline in ROFTA was observed since 2010 till 2014 and then fleet management measures were applied in 2015. Measures were related to restructuring quota allocation rules allowing better distribution of pelagic species quota to other large scale fleet segments. Measures improved profitability results for short term (2.64% ROFTA in 2015) but constant and steep decline of eastern cod stocks in Baltic Sea, and increase the costs per effort unit, reversed profitability indicators to negative ROFTA values in 2016. New measures were applied introducing Transferable fishing rights system from 2017 (legislation approved at

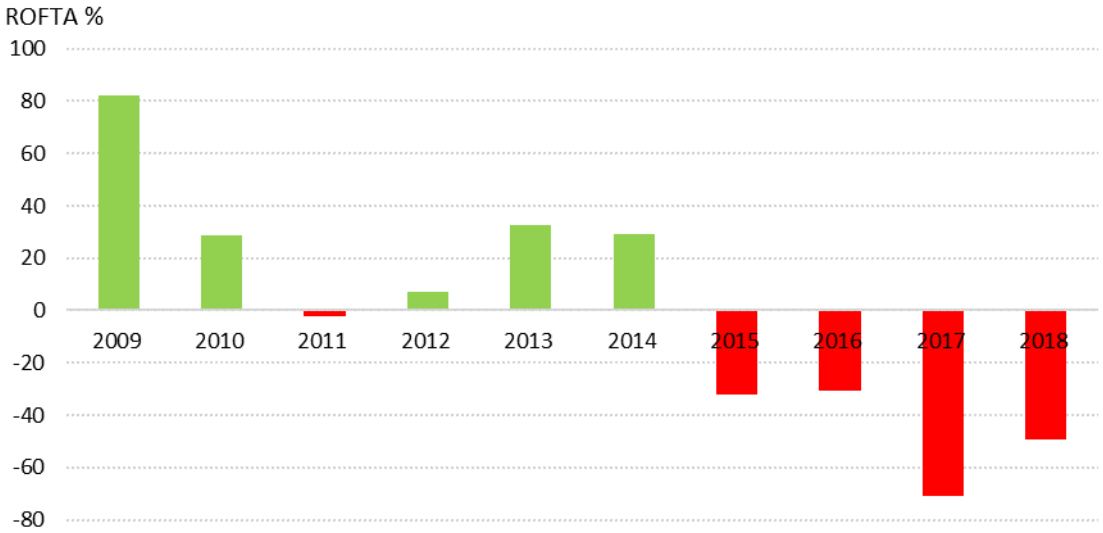
the end of 2016). However, considerably poor Eastern cod stocks and following temporary termination of cod landings in 2019 plunged profitability to new lows.

3.2.4. ROFTA and ROI for the fleet segment NAO DFN 10-12 (Baltic Sea (24-40 m) and coastal area (10-12 m))

Values	2014	2015	2016	2017	2018
Net profit (thousand €)	69,5	-117,7	-104,1	-134,2	-159,1
Fleet tangible asset value (replacement) (thousand €)	239,0	365,8	340,6	189,6	323,8
Estimated value of fishing rights (thousand €)	-	-	-	233,1	191,1
ROFTA= Net profit / Vessel replacement value (%)	29,1	-32,2	-30,6	-70,8	-49,1
ROFTA minus risk free long-term interest rate* (%)	24,7	-35,8	-33,3	-72,6	-50,3
ROI = Net profit / Capital asset value (%)	-	-	-	-31,7	-30,9
ROI minus risk free long-term interest rate* (%)	-	-	-	-33,6	-32,0

Data source: AIRBC, ECB

* - arithmetic average of long-term interest rate for the previous 5 years in relation to reference year.



2009-18 ROFTA for the fleet segment NAO DFN 10-12 (Baltic Sea (24-40 m) and coastal area (10-12 m))

From Eastern cod stocks dependent another fleet segment, NAO DFN 10-12 has a significantly low capital productivity values in 2018, accounting for -49.1% ROFTA. Due to confidentiality, fleet segment is composed from two different segments – NAO DFN 10-12 small scale coastal vessels and NAO DFN 24-40 large scale netters, operating in Baltic Sea. Clustered fleet segment has a continuously negative ROFTA from 2015 indicating evidently unbalanced with overcapacity. Both segments have a strong dependency on Eastern cod stocks, therefore current situation of stock status is the one of the main drivers for imbalance. For example, in 2018 around

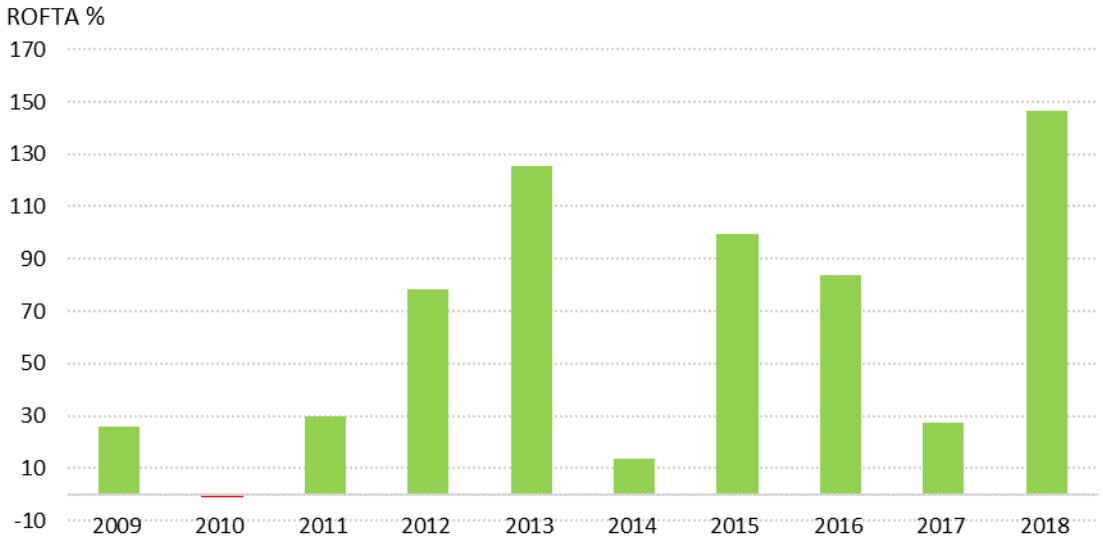
95% of revenues in NAO DFN 24-40 segment were from cod, NAO DFN 10-12 income from cod was 58% from total revenues.

3.2.5. ROFTA and ROI for the fleet segment NAO PG 00-10 (coastal area)

Values	2014	2015	2016	2017	2018
Net profit (thousand €)	10,9	90,0	101,6	75,4	207,8
Fleet tangible asset value (replacement) (thousand €)	79,2	90,3	121,2	275,5	141,6
Estimated value of fishing rights (thousand €)	-	-	-	810,1	616,1
ROFTA= Net profit / Vessel replacement value (%)	13,7	99,7	83,9	27,4	146,7
ROFTA minus risk free long-term interest rate* (%)	9,3	96,1	81,1	25,5	145,6
ROI = Net profit / Capital asset value (%)	-	-	-	6,9	27,4
ROI minus risk free long-term interest rate* (%)	-	-	-	5,1	26,3

Data source: AIRBC, ECB

* - arithmetic average of long-term interest rate for the previous 5 years in relation to reference year.



2009-2018 ROFTA for the fleet segment NAO PG 00-10 (coastal area)

Capital productivity indicators show the well-balanced capacity and fishing opportunities in small scale fleet segment with vessels 00-10 m overall length operating in coastal area of Baltic Sea. ROFTA is positive from 2011. Relatively high ROFTA value in small scale fleet segment is due to the relatively moderate capital value compare to large scale fleet.

3.3. The ratio between current revenue (CR) and break-even revenue (BER)

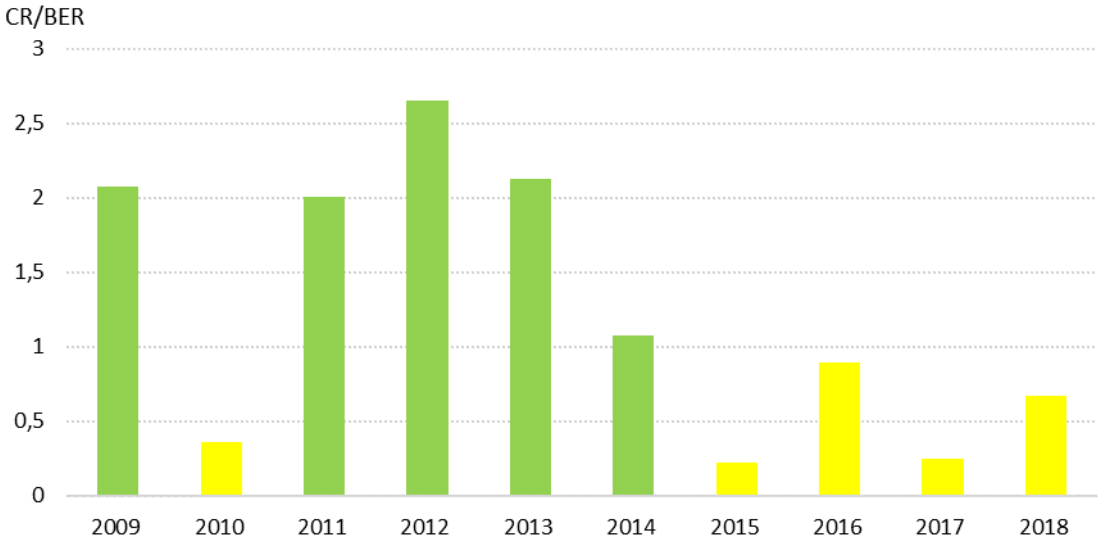
The ratio between CR and BER shows a financial viability of particular fleet segment and how close the current revenue is to the income required to break even in the short term. According to

the methodology, if the ratio is greater than 1, then enough income is generated to cover variable, fixed and capital costs, indicating that the segment is profitable, with potential undercapitalization. If the ratio is less than 1, means that insufficient income is generated to cover variable, fixed and capital costs, indicating that the segment is unprofitable, with potential overcapitalization. In the case of negative CR/BER values variable costs alone exceed current revenue, indicating that the more revenue is generated, the greater the losses will be achieved.

3.3.1. Ratio between CR and BER for the segment OFR TM- 40XX (Distant fleet)

Values	2014	2015	2016	2017	2018
Current revenue (CR) (thousand €)	96 480,1	53 583,2	64 459,5	54 474,9	58 916,3
Break-even revenue (BER) (thousand €)	89 752,0	241 885,2	72 347,1	219 798,3	87 751,2
CR/BER	1,1	0,2	0,9	0,3	0,7

Data source: AIRBC



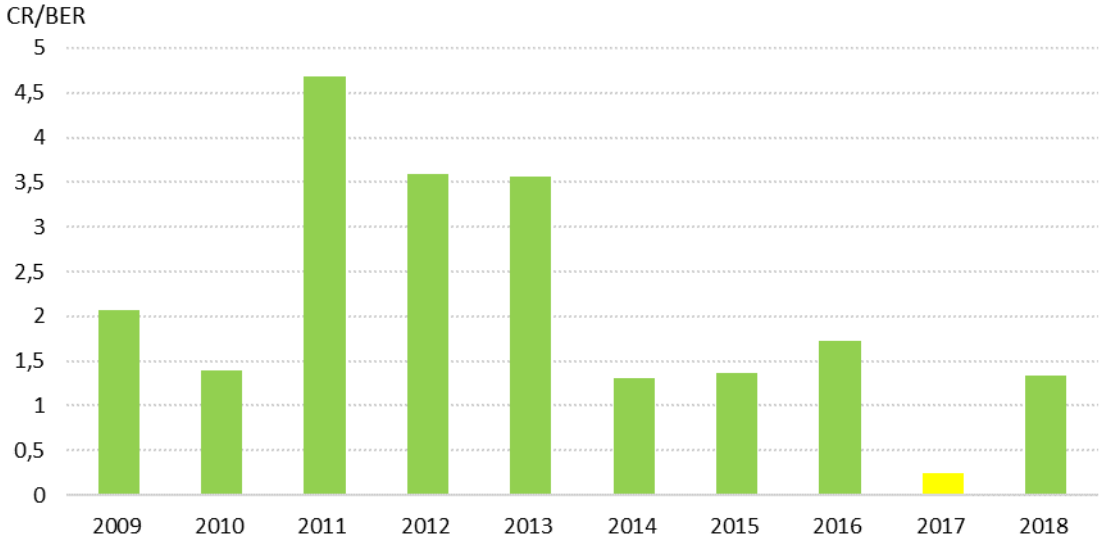
2009-2018 Ratio between CR and BER for the segment OFR TM- 40XX (Distant fleet)

Distant fleet since 2015 were constantly generating CR/BER indicator between 0 and 1, indicating a possible imbalance of economic capability.

3.3.2. Ratio between CR and BER for the segment NAO TM 24-40 (Baltic Sea)

Values	2014	2015	2016	2017	2018
Current revenue (CR) (thousand €)	2 362,0	2 930,8	3 377,3	3 162,5	4 547,8
Break-even revenue (BER) (thousand €)	1 804,8	2 147,6	1 967,0	13 171,2	3 407,3
CR/BER	1,3	1,4	1,7	0,2	1,3

Data source: AIRBC



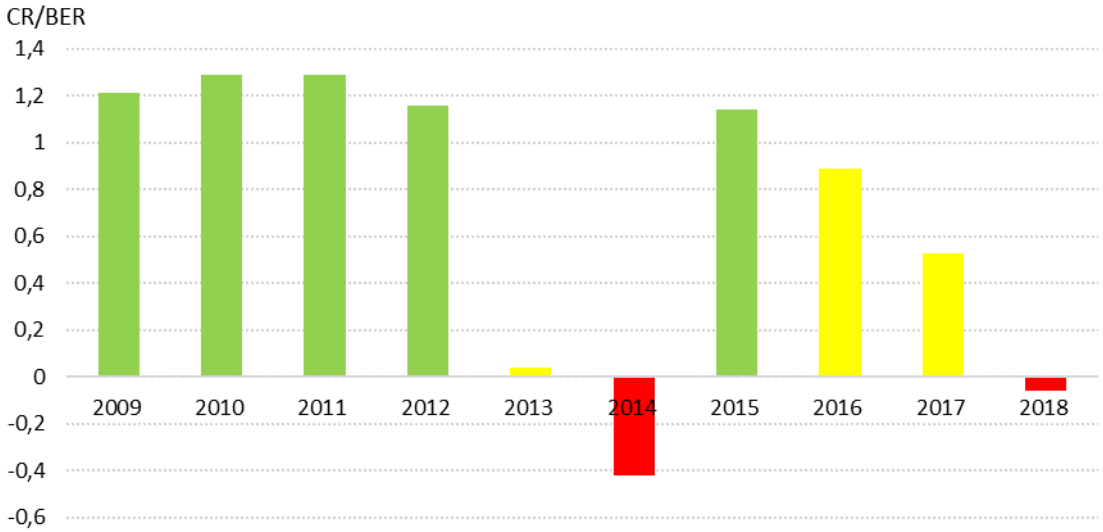
2009-2018 Ratio between CR and BER for the segment NAO TM 24-40 (Baltic Sea)

For pelagic trawlers, operating in Baltic Sea CR/BER ratio in 2018 was above 1, indicating that segment has a balanced economic capability. Such tendency was observed in the long term.

3.3.3. Ratio between CR and BER for the segment NAO DTS 24-40 (Baltic Sea)

Values	**2014**	**2015**	**2016**	**2017**	**2018**
Current revenue (CR) (thousand €)	1 644,2	1 702,8	1 848,8	1 710,0	1 336,1
Break-even revenue (BER) (thousand €)	-3 909,4	1 493,0	2 074,2	3 252,8	-22 264,8
CR/BER	-0,4	1,1	0,9	0,5	-0,1

Data source: AIRBC



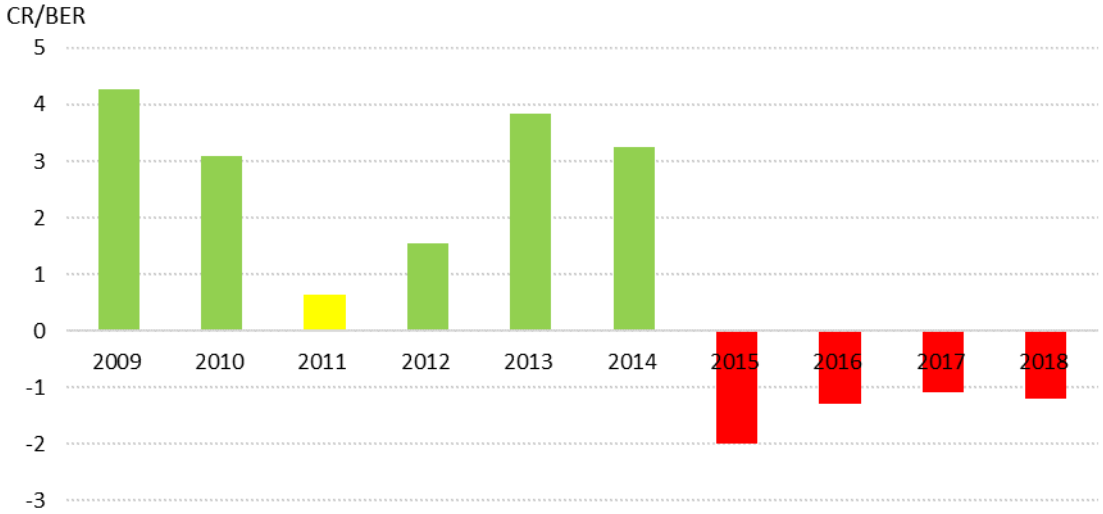
2009-2018 Ratio between CR and BER for the segment NAO DTS 24-40 (Baltic Sea)

Break-even point analysis shows that demersal trawler segment in 2018 turned to the unbalanced status, generating negative CR/BER value.

3.3.4. Ratio between CR and BER for the segment NAO DFN 10-12 (Baltic Sea and coastal area)

Values	2014	2015	2016	2017	2018
Current revenue (CR) (thousand €)	279,9	255,0	239,6	192,4	149,6
Break-even revenue (BER) (thousand €)	86,4	-128,4	-185,0	-176,3	-123,4
CR/BER	3,2	-2,0	-1,3	-1,1	-1,2

Data source: AIRBC



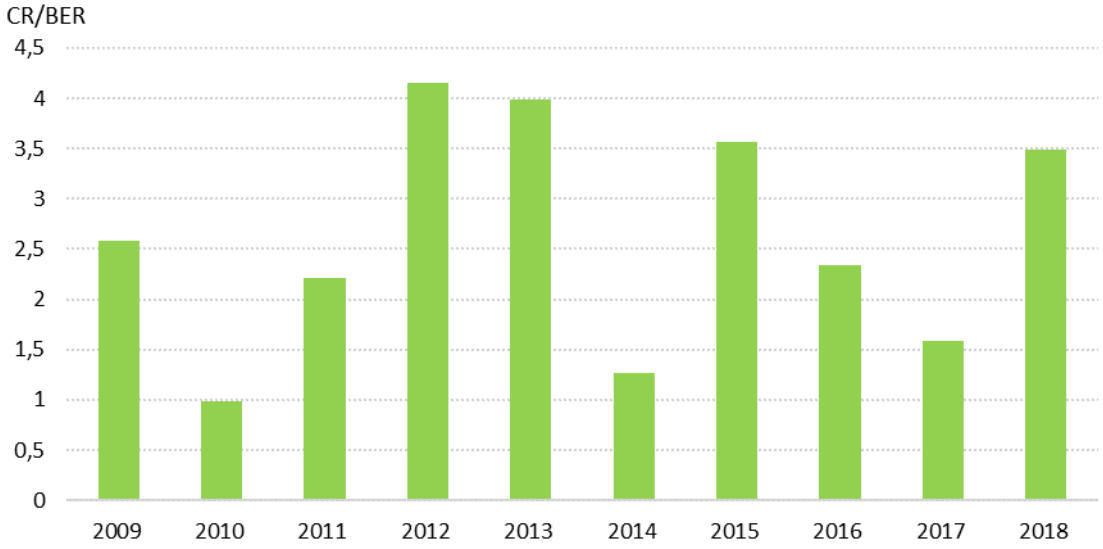
2009-2018 Ratio between CR and BER for the segment NAO DFN 10-12 (Baltic Sea (24-40 m) and coastal area (10-12 m))

Continuously negative CR/BER value was observed in clustered fleet segment NAO DFN10-12, which composed from two different segments – NAO DFN 10-12 small scale coastal vessels and NAO DFN 24-40 large scale netters, operating in Baltic Sea. Break-even analysis shows evident misbalance in economic capability of netters, operating in Baltic Sea. Income generated from netters, mostly large scale, did not cover variable costs and even increased volume of catches will result in higher losses.

3.3.5. Ratio between CR and BER for the segment NAO PG 00-10 (coastal area)

Values	2014	2015	2016	2017	2018
Current revenue (CR) (thousand €)	259,3	359,7	450,3	486,2	637,6
Break-even revenue (BER) (thousand €)	205,6	100,9	192,3	307,0	182,6
CR/BER	1,3	3,6	2,3	1,6	3,5

Data source: AIRBC



2009-2018 Ratio between CR and BER for the segment NAO PG 00-10 (coastal area)

Small scale fleet segment NAO PG 00-10 operating in coastal area generated sufficient amount of revenues to cover costs and to earn profits. CR/BER ratio was higher than 1 in the 2018 and for the period of 2009-2018.

3.4. Methodology

Calculations of balance indicators are based on DCF data and presented at fleet segment level. Primary data are collected by annual census survey, using questionnaires, approved by the Order of the Lithuanian Minister of Agriculture No 3D-707 on 4-th August of 2010. Institution, responsible for economic and social data collection, processing and dissemination is State enterprise Agricultural Information and Rural Business Centre (AIRBC). Data collection quality is ensured by application of principles of European Code of Practice. The data collection processes in AIRBC complies the ISO 9001 requirements for data quality and ISO 27001 requirements for data security.

The balance between capacity and fishing opportunities in terms of economic indicators were measured by Return on Fixed Tangible Assets (ROFTA), Return on Investments (ROI) and The ratio between Current Revenue (CR) and Break-even Revenue (BER). As indicated in the guidelines, data is analyzed in long term period. Tables with economic variables for calculation balance indicators are provided in tables for 5 years, whereas trend of indicators is showed in graphs for 10 years period.

ROFTA, ROI and CR/BER for comparison purposes is additionally reduced by harmonized 5 year average long-term interest rates for convergence assessment calculated by the European Central Bank, as it recommended by the Commission. Long term interest rate data for Lithuania was downloaded from European Central Bank data base and it and is defined as: “Long-term interest rate for convergence purposes - Unspecified rate type, Debt security issued, 10 years maturity, new business coverage, denominated in Euro.

Average long-term interest rates for 5-year period are provided in the table below:

Period	Average interest rate %
2008-2012	7,03
2009-2013	6,68
2010-2014	4,44
2011-2015	3,60
2012-2016	2,75
2013-2017	1,84
2014-2018	1,14

Data source: ECB

All economic variables *have not been adjusted* for inflation based on Consumer Pirce Index (CPI)!

Calculation of indicators:

ROFTA = Net profit / Vessel replacement value

Where: *Net profit = (Income from landings + other income) – (crew costs + unpaid labour + energy costs + repair and maintenance costs + other variable costs + non variable costs + depreciation)*

For the estimation of *Vessel replacement value*, Perpetual Inventory Method (PIM) was used according to the advice from the PGECON[1] working group on best practices for calculating fleet depreciated replacement values.

ROI = Net profit / Capital asset value

Capital asset value = Vessel replacement value + estimated value of fishing rights

For the estimation of *Value of fishing rights*, Discounted cash flow (profitability) method (DCM) was used according to the advice from the PGECON[2] working group.

Data on direct income subsidies was excluded from the calculation.

CR = income from landings + other income

BER = (Fixed Costs) / (1- [Variable costs / Current Revenue])

Where: *Variable costs = Crew costs + Unpaid labour + Energy costs + Repair and Maintenance costs + other variable costs*

And where: *Fixed costs = Non variable costs + depreciation*

Opportunity cost of capital is not included!

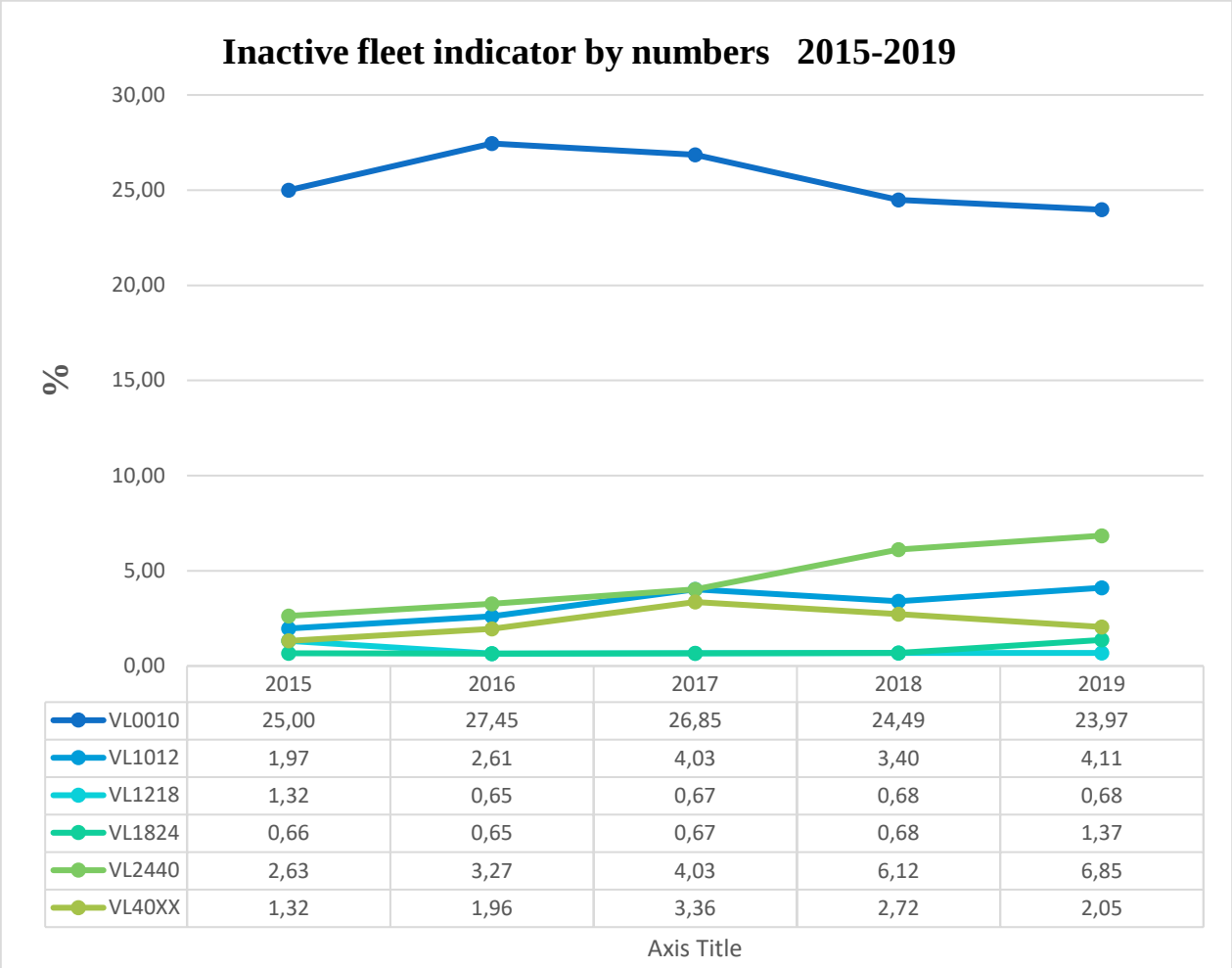
[1]Planning Group on Economic Issues (PGECON 2012), 16th – 19th April 2012, Salerno (Italy)

[2]Planning Group on Economic Issues (PGECON 2019), 6th – 10thMay 2019, Ljubljana (Slovenia)

4. Vessel Use Indicators

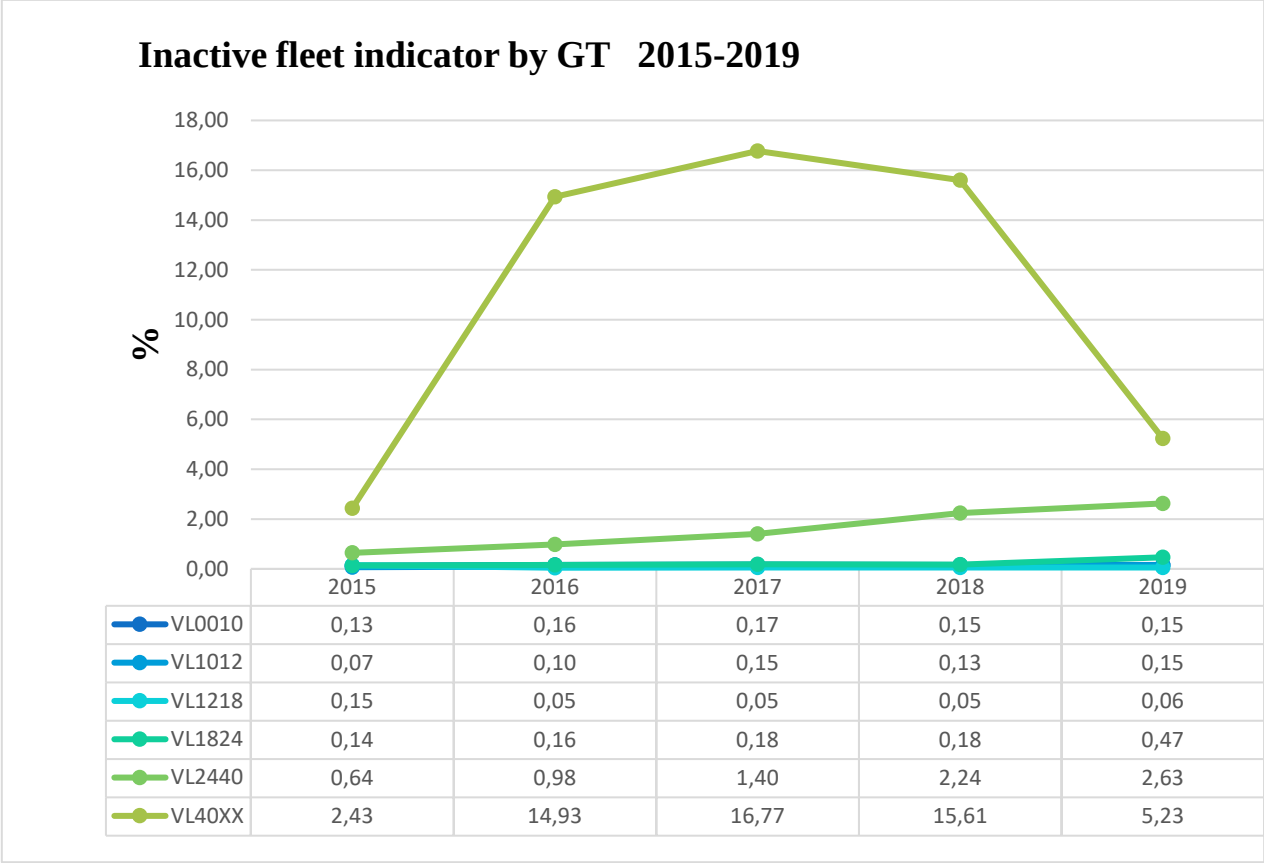
4.1 Inactive fleet indicator

The vessel “Inactive fleet” indicator was calculated for the period 2015-2019 aggregated by vessel length segments. Figure 3 shows the proportion of inactive vessels aggregated by year of the total fleet (%). Data for calculation is taken from date collection programme. Figure 4 and Figure 5 demonstrates of inactive fleet share of specific segment by GT and kW respectively.



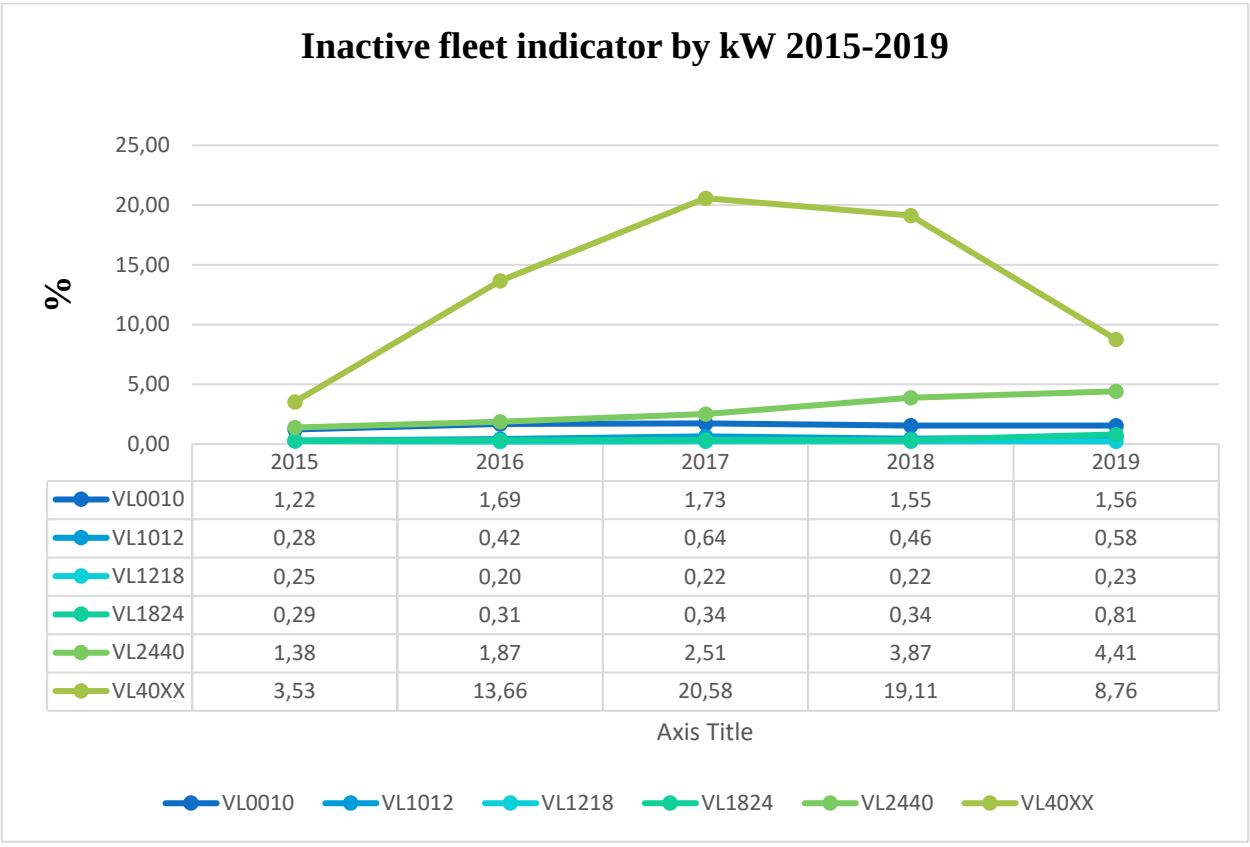
	2015	2016	2017	2018	2019
VL0010	25,00	27,45	26,85	24,49	23,97
VL1012	1,97	2,61	4,03	3,40	4,11
VL1218	1,32	0,65	0,67	0,68	0,68
VL1824	0,66	0,65	0,67	0,68	1,37
VL2440	2,63	3,27	4,03	6,12	6,85
VL40XX	1,32	1,96	3,36	2,72	2,05

Figure 3. Inactive fleet indicator 2015-2019 by vessels number share from all fleet.



	2015	2016	2017	2018	2019
VL0010	0,13	0,16	0,17	0,15	0,15
VL1012	0,07	0,10	0,15	0,13	0,15
VL1218	0,15	0,05	0,05	0,05	0,06
VL1824	0,14	0,16	0,18	0,18	0,47
VL2440	0,64	0,98	1,40	2,24	2,63
VL40XX	2,43	14,93	16,77	15,61	5,23

Figure 4. Inactive fleet indicator 2015-2019 by vessels GT share from all fleet.



	2015	2016	2017	2018	2019
VL0010	1,22	1,69	1,73	1,55	1,56
VL1012	0,28	0,42	0,64	0,46	0,58
VL1218	0,25	0,20	0,22	0,22	0,23
VL1824	0,29	0,31	0,34	0,34	0,81
VL2440	1,38	1,87	2,51	3,87	4,41
VL40XX	3,53	13,66	20,58	19,11	8,76

Figure 5. Inactive fleet indicator 2015-2019 by vessels kW share from all fleet.

Inactive fleet indicator analysis shows that indicators of some segments of the fleet have reduced in values, some remain stable, some of them have increased, however data not shows any tangible or substantive trends. There is observed higher inactivity in VL0010 fleet segment. The main reasons: small vessels only operate part time and often on a seasonal basis; operators own several boats, some of which are used as stand-by vessels for various reasons. Also, there is a decrease of inactivity in VL40XX segment. The main reasons: inactive vessels were placed for other than fisheries purpose.

4.2. The vessel utilization indicator

In the Table 3 the vessel utilisation fleet indicator was calculated for each fleet segment for the period 2015-2019 aggregated by year and fishing gear. The calculated technical indicator is based on observed technical activity.

Vessel segment	2015	2016	2017	2018	2019
VL0010 PG	0.34	0.29	0.25	0.37	0.47
VL1012 DFN	0.49	0.44	0.34	0.54	0.8
VL2440 DFN	0.91	0.85	0.84	0.86	1
VL1824 DTS	0.77	1	0.97	0.83	1
VL1824 TM		0.98	1	1	1
VL2440 DTS	0.81	0.77	0.64	0.74	1
VL2440 TM	0.55	0.58	0.69	0.66	0.93
VL40XX TM	0.55	0.63	0.71	0.77	0.86

Table 3. Vessel utilisation indicator 2015-2019

Calculation methodology where used as follows: “The ratio between the average effort per vessel in a fleet segment and the observed maximum effort actually expended by a vessel in the segment (in kW-days or GT-days) in the reference year.” Theoretical maximum DAS of 220 days cannot be used due to small scaled fleet segments part time/seasonal fishing activities.

VL0010 and VL1012 fall under polyvalent passive gear segments. Major part of these vessels is not full-time engaged in the fishery. However, it could be noted that for vessel utilisation indicator calculated for 2019 has improvement trend. Fleet seems to be within balance limits (0,7 and more), except small VL0010 PG coastal fleet segments. This is partly due to statistical bias. In coastal fishing (vessels less than 10 m), commercial fishermen usually own a number of vessels, not all of which are used actively. It is typical in the sector in Lithuania to own one or two reserve vessels.

5. Traffic light

Table 4 shows traffic light data for the year 2018.

No.	Length	Gear code	ROFTA	Current/ Break even Incl. opp. costs	Sustainable Harvest Indicator	Stocks at Risk indicator	Technical indicators		Over all Conclusion on balance
							Inactivity	Utilisation	
1.	<10 m	PG	146,7	3,5	-	0	23.97	0,47	
2.	10-12 m	DFN	-49,1	-1,21	-	1	4.11	0,8	
3.	12-18 m	-	-	-	-	-	0.68	-	n/a
4.	18-24 m	TM	-	-	1,127	0	1.37	1	
5	18-24 m	DTS	-	-	-	1			
6.	24-40 m	DTS	-30,4	-0,1	-	1	6.85	1	
7	24-40 m	TM	9,4	1,3	1,126	0		0,93	
8	>40 m (OFR)	TM	-9,0	0,7	-	0	2.05*	0.86*	
	COM guideline		>0	>1	<0,95	-	0-10	>0,9	
				>0<1	0,95-1,05	-	10-20	0,7-0,9	
			<0	<0	>1,05	-	>20	<0,7	

*calculated for fleet segment despite the vessel activities area

6. Summary report on the weaknesses and strength of the fleet management system and general level of compliance with fleet policy instruments

Fishing opportunities of Lithuanian large scale fishing fleet, operating in Baltic Sea are fixed in accordance with the objectives and targets of Multiannual plan for the stocks of cod, herring and sprat in the Baltic Sea and the fisheries exploiting those stocks, approved by the Regulation (EU) 2016/1139. Implementation of Management plan affects large scale pelagic trawlers, demersal trawlers, netters and with less extent small scale segments under 10 m length. Economic performance of these segments during analyzed period has different trends of developments depending on the target species. Segments mostly exposed to losses are those who depend on cod fisheries.

As it was mentioned earlier Baltic eastern cod stock is in a poor state. Lithuanian fishing quota for the Baltic eastern cod decreased from 3710 tonnes to 1597 tonnes from 2014 to 2018 at the same time substantial part of Lithuanian fleet segments strongly (more than 50 percent of income is gaining from the cod fisheries) depending on cod landings. It is scientifically proved that the eastern Baltic cod stock suffers from an unsustainably low biomass due to a combination of declining recruitment, environmental factors and changes in the ecosystem leading to a high natural mortality and an excessive fishing mortality given the status of the stock. The stock is distressed and is expected to have reduced reproductive potential; therefore, since 1 June 2019 targeting cod fishery was stopped.

In 2018, Western and Eastern Baltic cod became a stock at risk. Due to the significance of this stock in terms of the catch taken by the fleet, four segments (VL1012 DFN, VL1824 DTS, VL2440 DTS and VL2440 DFN) met the first condition regarding reliance on catch from stocks at risk. The indicator is calculated as the number of stocks exploited by a given segment which meet the following conditions: catch from the stocks considered at risk makes up more than 10%

of the fleet segment's catch. However, the Lithuanian fleet takes less than 5 % of the catches of the stock.

Recently declining Eastern Baltic cod stocks and poor quality catches turned significant part of Baltic fleet to economic losses. For example, NAO DTS 24-40 segment has a negative ROFTA with small exceptions from 2013 to 2018 with the largest decrease of capital productivity reaching -30,4% in 2018. The same tendency was observed in the clustered segments NAO DFN 10-12 (consists of NAO DFN 24-40 and NAO DFN 10-12). These cod dependent segments show evident overcapacity with negative ROFTA and CR/BER values in 2018 (table "Traffic light"). In 2015 fleet management measures were applied with the amendment of quota allocation rules allowing better share of sprat and herring quota among large scale Baltic fleet segments. These measures had a positive short-term outcome, with increased profitability for the entire large scale fleet, especially demersal trawlers, which were supplied with more profitable pelagic species. However, it was not sufficient for long-term as cod stock deterioration continued till the current cessation of cod fisheries. Nevertheless, the management measures taken in 2015 transformed part of large scale fleet to pelagic trawler segment, operating profitably and efficiently. For example, capacity of pelagic fleet segment increased from 1.5 thousand GT in 2014 to 2.5 thousand GT in 2018. Pelagic large scale fleet show well balanced capacity indicators as 9.4% ROFTA and 1.33 CR/BER in 2018. Small scale fleet segment NAO PG 00-10, operating in coastal area sustained the balanced capital productivity in terms of ROFTA and balanced economic capability in terms of CR/BER, showing the strengths of applied management measures.

The latest data shows that Lithuanian Distant fleet is affected by low capital productivity and weak economic efficiency indicating development of overcapacity. Distant fleet operates outside EU waters and often depends on the conditions and agreements with third countries. From 2014 to 2018 fleet significantly declined profitability and since 2015 is exposed to net losses. During the period of 2014-2018 fleet reported significantly reduced fishing effort, partly affected by the prolonged procedures of bilateral agreements with third countries for fishing opportunities. Long term negative economic performance was retained by debt. For example, five year average financial position during 2009-2013 was 50%, whereas in the period of 2014-2018 it reduced to 85%. CR/BER ratio is at transitional level to overcapacity.

Inactive fleet indicator analysis shows that indicators of some segments of the fleet have reduced in values, some remain stable, some of them have increased, however data not shows any tangible or substantive trends. There is observed higher inactivity in coastal fleet segment. The main reasons: small vessels only operate part time and often on a seasonal basis; operators own several boats, some of which are used as stand-by vessels for various reasons.

At the end of 2016 and starting at 2017 system of transferable fishing rights was introduced as fleet capacity management system. It is applicable to all fleet, including distant fisheries. Results of implemented system so far are early to assess as it takes time to implement and evaluate properly. However, according to the existing practice, transferable fishing rights have been found as an effective policy instrument to increase profitability of the fishing industry and reduce overcapacity.

7. Changes to the administrative procedures relevant to the management of the fleet

No changes in administrative procedures relevant to the management of the fleet are observed.