2021 ANNUAL REPORT LITHUANIA

On sustainable balance

between fishing capacity and fishing opportunities

May 2023

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.

The report presents the current state of Lithuanian national fisheries fleet management measures and actions to achieve sustainable balance between fishing capacity and fishing opportunities.

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 coastal area 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 110 kW or less.

The second group of Lithuanian fishing fleet operates outside the Baltic Sea coastal area with vessels of 12 meters in length and more (Baltic fleet) which dominant main engine power is 165 – 220 kW.

The third fishing fleet group operates mainly in waters of Eastern Arctic, North-Western waters, CECAF, SPRFMO, NAFO and NEAFC (Distant fleet). This group is composed of fishing vessels with length more than 40 meters.

1.2 Development of fishing capacity

By the end of 2022 Lithuanian fishing fleet consisted of 125 (6 vessels – Distant fleet, 18 – Baltic fleet and 101 – Coastal fleet) vessels with total capacity of 35029 GT and 40135 kW.

During the reporting period Lithuanian fishing fleet has decreased in total by 6 vessels with accumulative capacity of 408 GT and 686 kW. Statistics of specific group of the fishing fleet shows that:

- no changes in total fishing capacity or in total number of the Distant fleet;
- four (4) fishing vessels belonging to the Baltic fleet has been registered out with the total capacity of 413 GT and 738 kW;
- although the Coastal fleet lost in total 2 vessels (6 vessels have been registered out and 4 vessels have been registered in), however the fishing capacity has slightly increased by 4 GT and 51 kW.

The distribution of total fleet capacity by the three basic segments is shown in Figure 1.2.

1.3 Impact of fishing effort reduction schemes

During the year of 2022 there were no fishing effort reduction schemes introduced either for Lithuanian fisheries fleet or in the waters of jurisdiction of Republic of Lithuania.
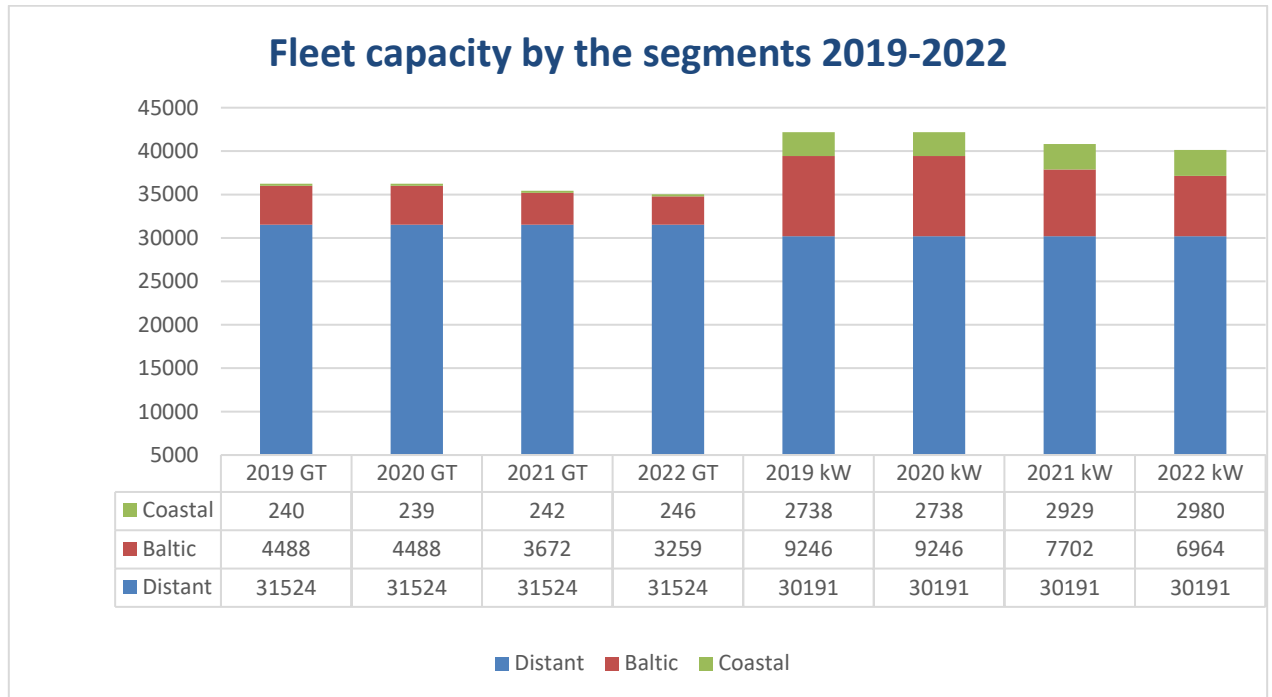
Fleet capacity by the segments 2019-2022

	2019 GT	2020 GT	2021 GT	2022 GT	2019 kW	2020 kW	2021 kW	2022 kW
Coastal	240	239	242	246	2738	2738	2929	2980
Baltic	4488	4488	3672	3259	9246	9246	7702	6964
Distant	31524	31524	31524	31524	30191	30191	30191	30191

Distant ■ Baltic ■ Coastal

Figure 1.2. Fishing fleet capacity by fishing grounds 2019 – 2022.

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

Lithuania applies entry/exit scheme as defined in Regulation (EC) No 1380/2013 Article 23. The ceiling set out in Annex II of the said Regulation has not been exceeded.

In 2021 and 2022, as in the previous years, no public aid was granted for entry of new fishing capacity into the fleet. However, one fishing vessel (117 GT and 220 kW) has been withdrawn in 2021 and two fishing vessels (total of 178 GT and 297 kW) have been withdrawn in 2022 from the Fishing fleet with the public aid. Withdrawn fishing capacity has not been replaced.

In the reporting period no engines of fishing vessels of a length of 12 meters or more have been modified or replaced with public aid.

2. Biological Indicators

2.2. Sustainable harvest indicator (SHI)

The SHI (sustainable harvest indicator) was used to assess whether fishing vessels are relying on overfished stocks.

The SHI indicator, Festimated/Ftarget, is 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 since 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 prep. 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 2021 consisted of 6 segments as defined in the Fleet economic data call as follow: PG VL0010, DFN VL1012, TM VL1824, DFN VL2440, TM VL2440, 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 and other ICES areas 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 2021 (Table 2.2.1). Due to eastern cod values removing from SHI indicator calculation, SHI values have been unlike since 2013. Dynamics of SHI values provided in Figure 2.2.1.

Table 2.2.1. Calculated SHI values for Baltic sea (NAO) segments in 2021.

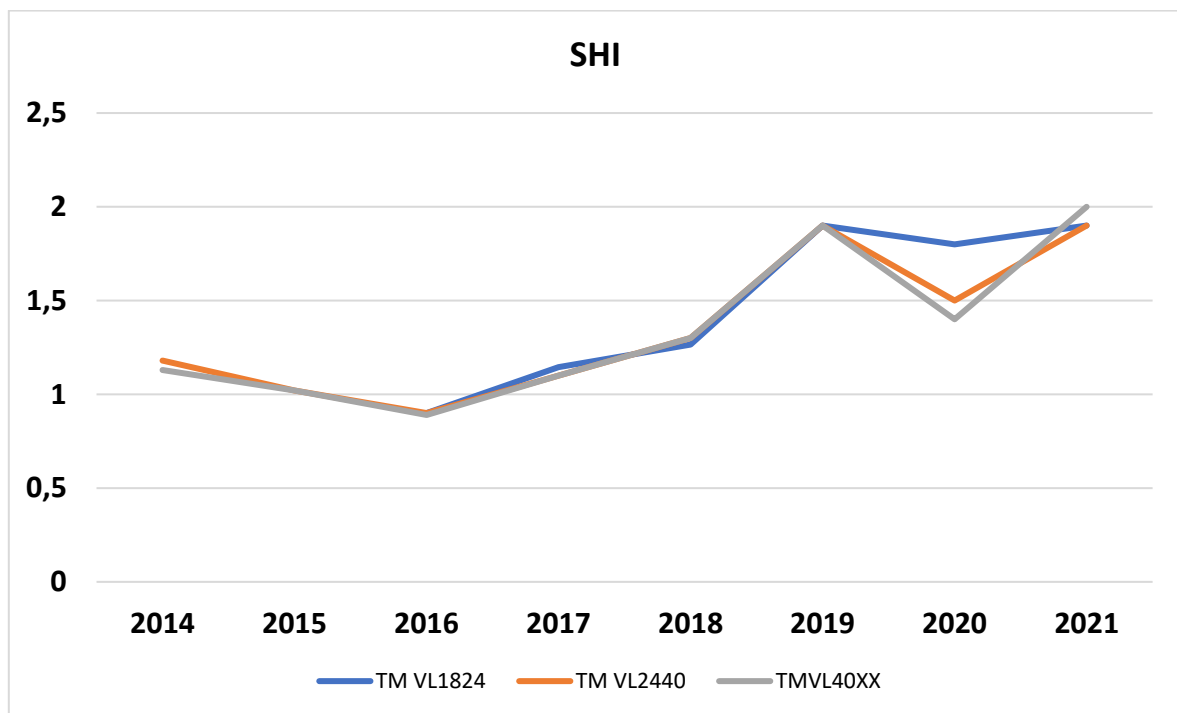| Fleet segment	SHI value
TM VL1824	1.886
TM VL2440	1.951
TM VL40XX	1.990

Figure 2.2.1. Dynamics of SHI values for fleet segments operated in the Baltic Sea for 2014-2021.

Dynamics of SHI values show increasing trend for segments TM VL1824, TM VL2440 and TM VL40XX in the Baltic Sea in 2021. **All fleet segments take less than 10% of its catches from a pelagical fish stock**. The important non-quota fish stocks exploited by the Lithuania fishing fleet include gobies nei, 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 critical state. Lithuanian fishing quota for the Baltic eastern cod decreased from 3710 tonnes to 33 tonnes respectively from 2014 to 2021. For 2021 the Commission proposed and the Council adopted a TAC corresponding to a 71 % reduction compared to the 2020 Baltic eastern cod stock TAC, which was exclusively for by-catches. No directed fisheries are permitted under this quota. Lithuanian fleet segments strongly

(more than 50 percent of income was gaining from the cod fisheries) depended on cod landings DFN VL1012 and DTS VL2440 focused on mixed or pelagic species fishing and DFN VL2440 changed activities to non-quota species fishing. Later vessel from the DFN VL2440 segment has been withdrawn from the fishing vessel register with public aid. ICES advises that when the precautionary approach is applied, there should be zero catch of cod in 2022. This advice applies to all catches from the stock in subdivisions (SDs) 24–32. ICES assesses that spawning-stock size is below Blim and Bpa in 2021. No reference points for fishing pressure have been defined for this stock.

The Long distance fishing fleet in 2021 consisted of 2 segments as defined in the Fleet economic data call as DTS VL40XX and TM VL40XX. The most recent ICES, NEAFC, CECAF and other Regional fisheries management organisations stocks assessment parameters for fleet segment operating in those areas were used as data sources. Dynamics of SHI values provided in Figure 2.2.2.

Table 2.2.2. Calculated SHI values for Long distance fisheries (FAO) segments in 2021.

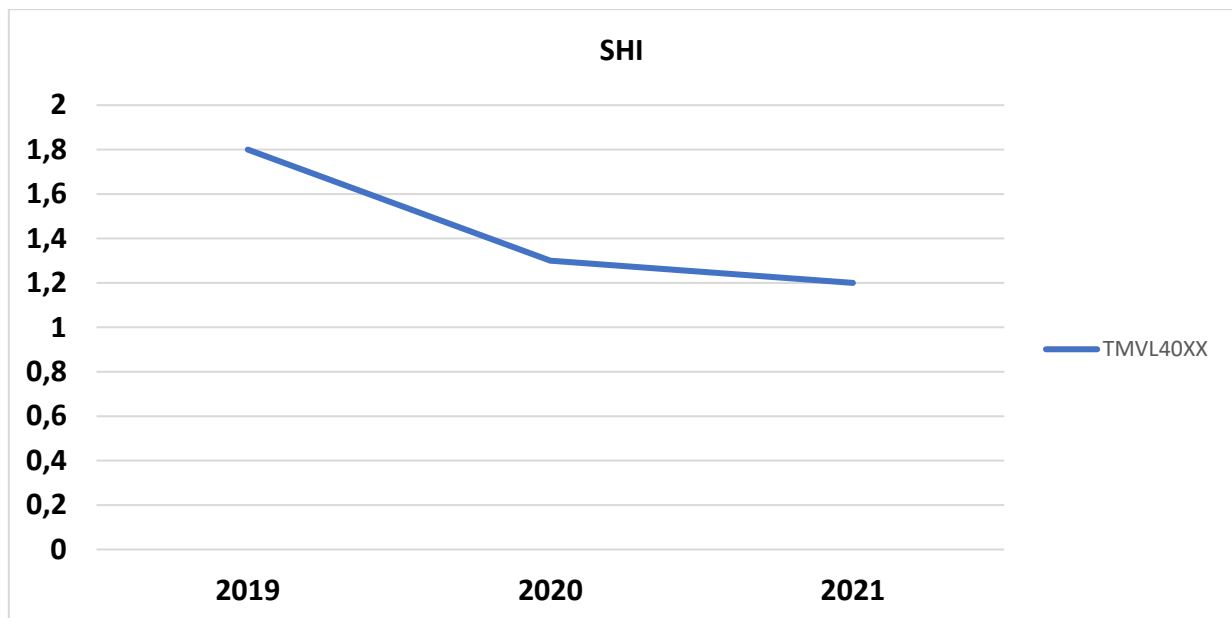| Fleet segment	SHI value
TM VL40XX	1.249

Figure 2.2.2. Dynamics of SHI values for Long distance fisheries fleet for 2019-2021 period

Dynamics of SHI values show decreasing trend for segment TM VL40XX since 2019 until 2021. In 2021 SHI calculation was based on 6 stokes where values of the 3 indicators were above 1.

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.

2.3 Stocks-at-risk indicator

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 low growth, poor condition, and high natural mortality of cod are related to changes in the ecosystem that include: i) poor oxygen conditions that can affect cod both directly through altering their metabolism and indirectly through a shortage of benthic prey, as well as the survival of offspring;

ii) reduced availability of fish prey in the main distribution area of cod. Sprat and herring have had a more northerly distribution in recent years, and there is less overlap with the distribution of the cod stock. It is, however, unclear whether the small remaining cod stock would be impacted by this shift of distribution. iii) high levels of parasite infestations; these coincide with an increased abundance of grey seals. It is unknown whether the parasite infection is the cause or an effect of the poor condition of cod.

The stocks at risk indicator (SRI) aims 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 and based by ICES advice reports a cod stock in the Baltic Sea subdivisions 24–32 and Beaked redfish in subareas 5, 12, and 14 (Iceland and Faroe grounds, North of Azores, East of Greenland) and in NAFO subareas 1 and 2 (deep pelagic stock > 500 m) at risk was indicated as assessed as being below the B_{lim} biological level. However, in 2021 no catches of Beaked redfish in subareas 5, 12, and 14 were obtained by Lithuanian fleet. The SAR indicator for pelagic species under the jurisdiction of Committee for Central for Eastern Atlantic (CECAF) was obtained from the CECAF-FAO reports.

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 ($C_i > 0.1\ C_t$) or ($C_i > 0.1 T_i$); otherwise 0),

where C_i – catch from stock i, C_t – total catch of all stocks taken by the fleet segment, T_i – 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 Table 2.3. below.

Feet segments	SRI indicator by years for cod.27.24-32 stock		
	2019	2020	2021
VL0010 PG NAO	0	0	0
VL1012 DFN NAO	1	0	0
VL1824 DTS NAO	1	n/a	n/a
VL1824 TM NAO	0	0	0
VL2440 DFN NAO	1	0	0
VL2440 DTS NAO	1	n/a	n/a
VL2440 TM NAO	1	0	0
VL40XX TM NAO	0	0	0
SRI indicator by years for reb.2127dp stock			
VL40XX DTS OFR	0	0	0
VL40XX TM OFR	1	1	0
SRI indicator by years for hom.34-47 stock			
VL40XX DTS OFR	0	0	0
VL40XX TM OFR	1	1	1

Table 2.3. The SRI values

Since 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, VL2440 DFN) met the first condition regarding reliance on catch from stocks at risk. Since 2020 the Eastern Baltic cod stock was fished exclusively for by-catches. No directed fisheries were permitted under this quota. As such, catch from the cod considered at risk was less than 10% of the fleet segment's catch in 2021. Moreover, segments VL1824 DTS NAO and VL2440 DTS NAO were no longer existed since 2020 as fisheries were reduced and partly switched on pelagic species. ICES cannot assess the stock Beaked redfish (reb.2127dp) stock and exploitation status relative to the maximum sustainable yield (MSY) and precautionary approach (PA) reference points because the reference points are undefined; the stock is considered to be below any potential reference point. In 2021 SRI for Long distance fisheries fleet was only for Atlantic horse mackerel. Based on FAO Working group on the assessment of small pelagic fish of Northwest Africa 2021 the status of the two stocks of horse mackerel (T. trecae and T. trachurus) has improved, and these stocks are now considered fully exploited. This improvement is likely due to a decrease in fishing mortality in 2016 and 2017 as well as an improvement in the recruitment index for the Atlantic horse mackerel. One fleet segment is targeting the Atlantic horse mackerel which catches were exceeded over 10% of segment catches.

3. Economic indicators

3.1. Fleet segment description

Lithuanian fishing fleet is subdivided by fleet segments based on Commission Delegated Decision (EU) 2019/110 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 when insufficient number of enterprises represents segment.

Fleet segments:

OFR TM-40XX – segment consists of distant fleet vessels operating predominantly in CECAF. Depending on allocated fishing opportunities, segment has also effort in SPRFMO, NAFO and NEAFC. Landings are composed mainly of small pelagic species, such as HMZ, MAS, JAX and PIL, as well as PRA and PCR. Due to confidentiality reasons, economic data 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 – clustered segment includes pelagic trawlers 18-24 m, 24-40 m and over 40 m, which are operating in Baltic Sea and targeting HER and SPR. Segment may also contain vessels using demersal trawler as second gear, but dominant effort is with pelagic trawlers. *In 2019 due to confidentiality reasons (economic data from two companies, four vessels) segment includes demersal trawler vessels from NAO DTS 24-40.*

NAO DTS 24-40 – Till 2019 segment consisted of 18-24 m and 24-40 m demersal trawlers, fishing in Baltic Sea. Fleet is mainly targeting COD and FLE with demersal trawler as the main gear. Segment has included vessels using pelagic trawler as second gear but having dominant effort with demersal gear. In 2019 after cessation of cod fisheries in Baltic Sea, due to confidentiality reasons (data from two fishing companies from demersal segment) is clustered with NAO TM 24-40. From 2020 NAO DTS 24-40 is not operating.

NAO DFN 10-12 – Due to confidentiality reasons this segment is clustered from passive gear coastal vessels 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.

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 considering intangibles assets, since transferable fishing rights were available from 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 with 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.

The net profit of distant fleet increased from negative margins in 2017 to 14 million in 2021. Consequently, returns on fixed tangible assets improved from -10,8% in 2017 to 9,2% in 2021. Distant fleet economic performance depends on the agreements with third countries for the fishing opportunities in CECAF area. Weight of landings started to decline in 2017 and in 2018 the termination of fishing agreement with Morocco resulted significant drop of production and revenues. From 2019 quota for small pelagic species in CECAF was restored with new agreements and economic performance recovered. In 2021 the distant fleet shows balanced capitalization (table 3.2.1).

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

Values	2017	2018	2019	2020	2021
Net profit (thousand €)	-12019,11	-7322,50	1518,44	12303,92	14017,76
Fleet tangible asset value (replacement) (thousand €)	87954,62	81033,63	108156,43	99344,42	97255,01
Estimated value of fishing rights (thousand €)	45855,5	46670,3	46407,4	47229,8	51002,9
ROFTA= Net profit / Vessel replacement value (%)	-13,67	-9,04	1,40	12,4	14,41
ROFTA minus risk free long-term interest rate* (%)	-15,51	-10,17	0,76	12,0	14,15
ROI = Net profit / Capital asset value (%)	-9,0	-5,7	1,0	8,4	9,5
ROI minus risk free long-term interest rate* (%)	-10,8	-6,9	0,3	8,0	9,2

Data source: ADC, ECB

* - arithmetic average of long-term interest rate for the previous 5 years in relation to reference year.
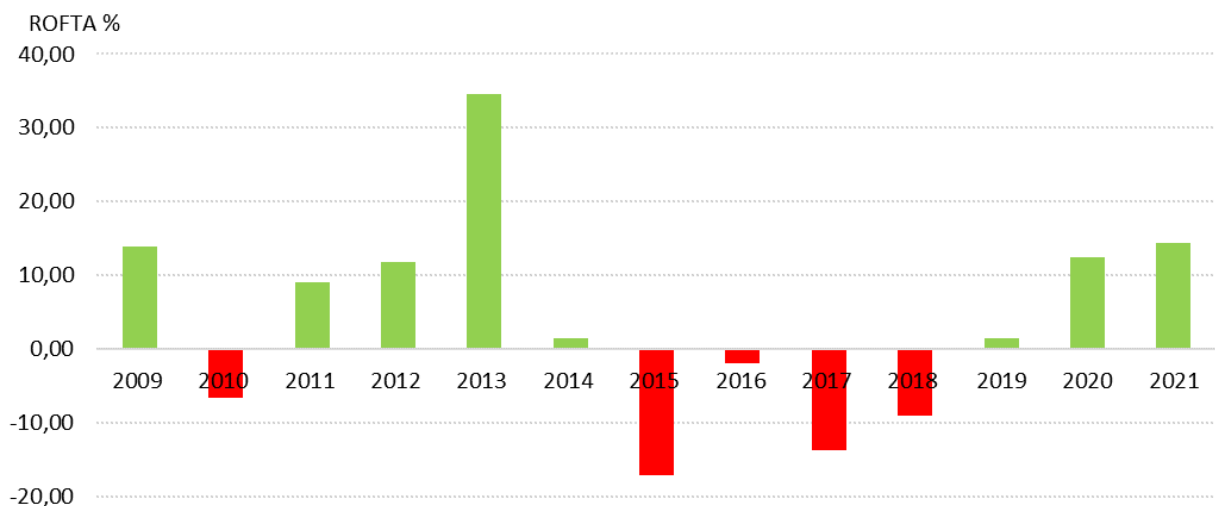
ROFTA for the fleet segment OFR TM- 40XX (Distant fleet)

From 2018 the decline of profitability and capital productivity in pelagic trawler segment, operating in Baltic Sea, was related to the transformation of fleet in Baltic Sea after closure of Eastern cod fisheries. Part of the capacity from demersal fleet segment was transferred to the pelagic fisheries, whereas fishing opportunities for pelagic species has a decreasing trend. From 2018 weight of landings from Baltic Sea trawlers constantly declining driven by reductions in quotas of target species. Decline in fishing opportunities has an impact on revenues and economic performance. In 2020 negative returns form Baltic pelagic trawler segment was affected by COVID19 measures which hampered various stages of fishery business, from lockdown and availability of employees to the sales of production. In 2021 the NAO TM 24-40 segment continued with negative returns mainly driven from significantly increased capital depreciation costs (estimations form PIM model) and repairment-maintenance costs. Negative ROFTA in NAO TM 24-40 segment, operating in Baltic Sea has first indications of possible overcapacity of capital (table 3.2.2).

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

Values	2017	2018	2019	2020	2021
Net profit (thousand €)	-680,74	350,80	156,37	-99,56	-205,07
Fleet tangible asset value (replacement) (thousand €)	4703,16	4578,16	4731,71	3391,93	5166,38
Estimated value of fishing rights (thousand €)	2641,0	3392,8	4038,9	3936,1	3770,9
ROFTA= Net profit / Vessel replacement value (%)	-14,47	7,66	3,30	-2,9	-3,97
ROFTA minus risk free long-term interest rate* (%)	-16,32	6,52	2,66	-3,3	-4,23
ROI = Net profit / Capital asset value (%)	-9,27	4,40	1,78	-1,36	-2,29
ROI minus risk free long-term interest rate* (%)	-11,11	3,26	1,14	-1,77	-2,56

Data source: ADC, ECB

* - arithmetic average of long-term interest rate for the previous 5 years in relation to reference year.
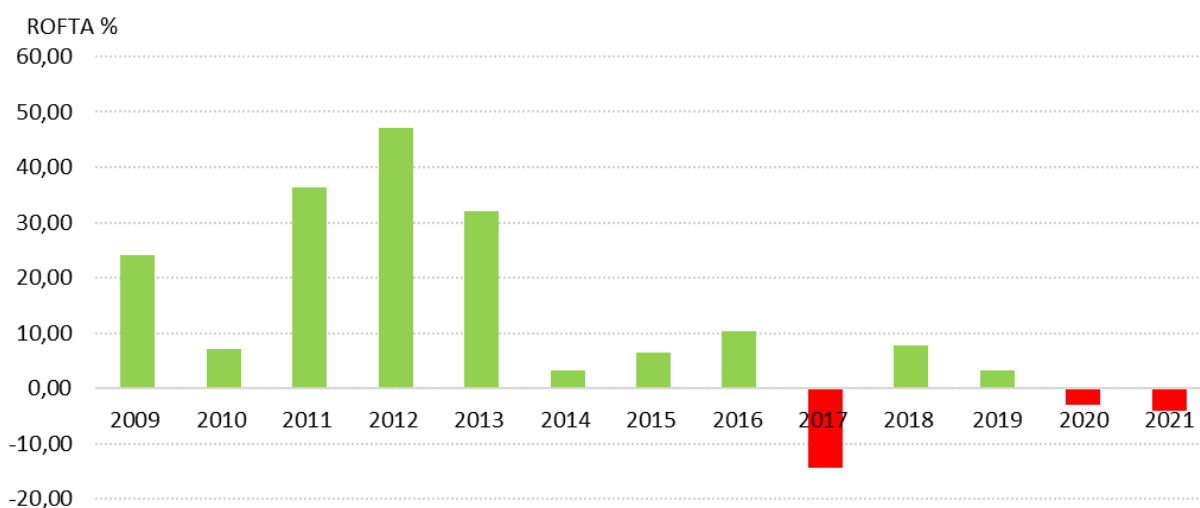
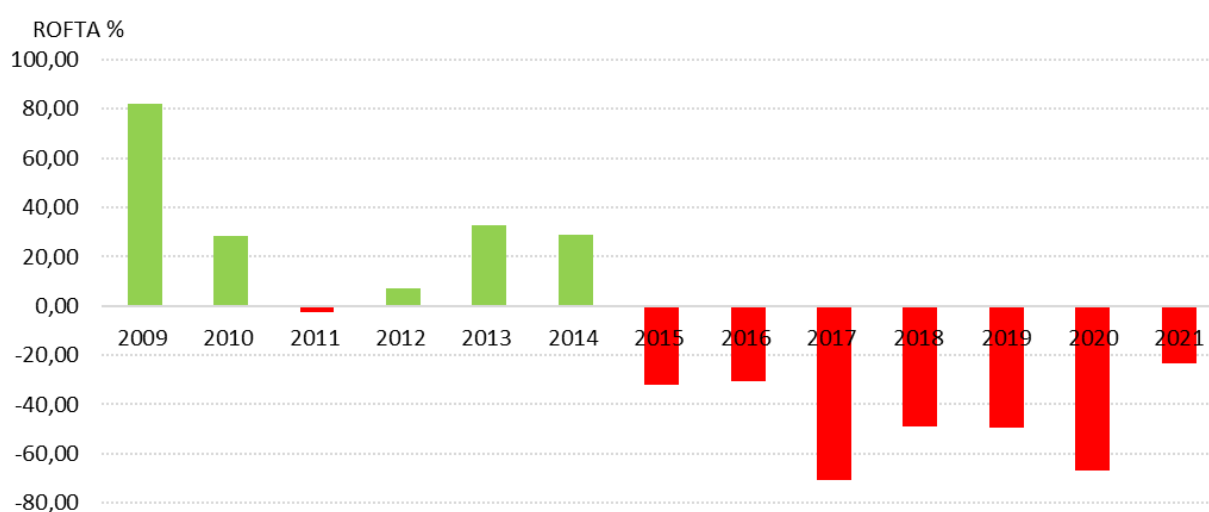ROFTA for the fleet segment NAO TM 24-40 (Baltic Sea)

NAO DFN 10-12 segment has constantly negative capital productivity from 2015. In 2021 the segment generated negative returns with ROFTA at -23,4% indicating unbalanced fleet segment with capital overcapacity (table 3.2.3). This fleet segment is dependent on the cod stocks, which fisheries are closed due to poor stock status. Capital productivity of the segment highly depends on the performance of 24 m netters which have much higher landings and fishing effort compared to 10-12 m length coastal vessels. However, due to segment's the long term imbalance between fleet capacity and fishing opportunities, netters are applicable for the management measures of permanent fleet cessation from 2020. In 2022, 24 m netters using the compensations of permanent cessation, terminated fishing operations.

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

Values	2017	2018	2019	2020	2021
Net profit (thousand €)	-134,19	-159,09	-132,19	-113,94	-85,85
Fleet tangible asset value (replacement) (thousand €)	189,62	323,76	267,04	170,79	366,32
Estimated value of fishing rights (thousand €)	233,1	191,9	101,6	71,8	58,3
ROFTA= Net profit / Vessel replacement value (%)	-70,77	-49,14	-49,50	-66,7	-23,44
ROFTA minus risk free long-term interest rate* (%)	-72,61	-50,28	-50,14	-67,1	-23,70
ROI = Net profit / Capital asset value (%)	-31,75	-30,85	-35,85	-46,97	-20,22
ROI minus risk free long-term interest rate* (%)	-33,59	-31,99	-36,50	-47,38	-20,48

Data source: ADC, ECB

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

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

Small scale fleet segment NAO PG 00-10 after negative returns in 2020 recovered to 47,4% of ROFTA in 2021. Capital productivity indicators show the balanced capacity and fishing opportunities in small scale fleet segment. Compared to other segments in Lithuanian fishing fleet, coastal vessels (0-10 m) have a relatively higher ROFTA due to the lower capital costs and expenditures on energy products. NAO PG 00-10 segment operating in coastal area indicate balanced capitalization in 2021 (table 3.2.4).

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

Values	2017	2018	2019	2020	2021
Net profit (thousand €)	75,42	207,76	101,37	-67,62	65,91
Fleet tangible asset value (replacement) (thousand €)	275,45	141,58	153,30	149,90	138,98
Estimated value of fishing rights (thousand €)	810,1	617,1	448,9	340,0	254,9
ROFTA= Net profit / Vessel replacement value (%)	27,38	146,75	66,13	-45,1	47,42
ROFTA minus risk free long-term interest rate* (%)	25,54	145,61	65,48	-45,5	47,16
ROI = Net profit / Capital asset value (%)	6,95	27,38	16,83	-13,80	16,73
ROI minus risk free long-term interest rate* (%)	5,10	26,25	16,19	-14,21	16,47

Data source: ADC, ECB

* - arithmetic average of long-term interest rate for the previous 5 years in relation to reference year.
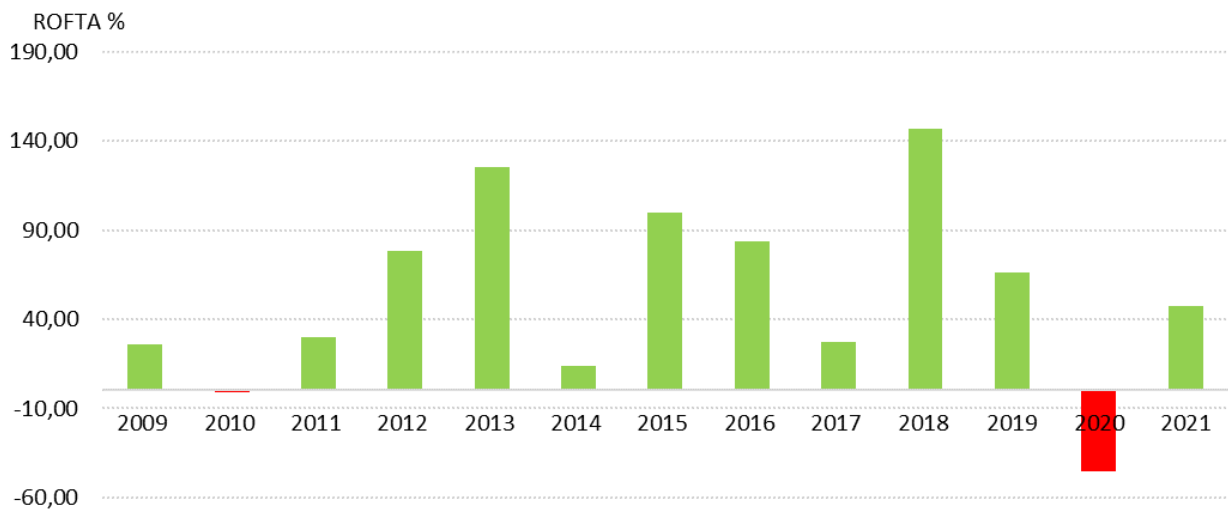
ROFTA for the fleet segment NAO PG 00-10 (coastal area)

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

The ratio between CR and BER shows the financial viability of fleet and indicates 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.

The distant fleet in 2021 generated CR/BER indicator above 1, indicating a balanced economic capability (table 3.3.1).

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

| Values	2017	2018	2019	2020	2021
Current revenue (CR) (thousand €)	54474,94	58916,31	79249,73	82483,26	88270,53
Break-even revenue (BER) (thousand €)	219798,29	87751,18	75696,84	59441,16	62141,87
CR/BER	0,25	0,67	1,05	1,39	1,42

Data source: ADC
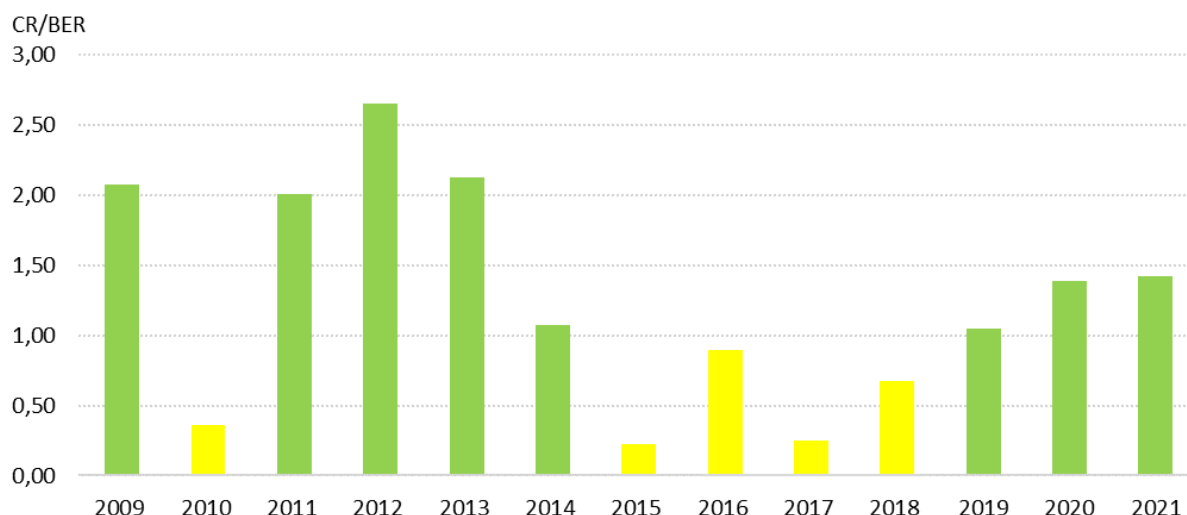
Ratio between CR and BER for the segment OFR TM- 40XX (Distant fleet)

For pelagic trawlers operating in Baltic Sea, CR/BER ratio in 2021 decreased to 0,88 indicating that segment has a decrease of economic capability. As decline of profitability was related with periodical increase of costs for repairment and maintenance costs as well as depreciation costs from PIM estimations, decline of CR/BER ratio in pelagic trawler segment shall not be considered an indication of overcapacity in 2021 (table 3.3.2).

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

Values	2017	2018	2019	2020	2021
Current revenue (CR) (thousand €)	3162,45	4973,45	5243,16	4896,62	4473,15
Break-even revenue (BER) (thousand €)	13171,23	3937,24	4828,71	5157,61	5088,33
CR/BER	0,24	1,26	1,09	0,95	0,88

Data source: ADC
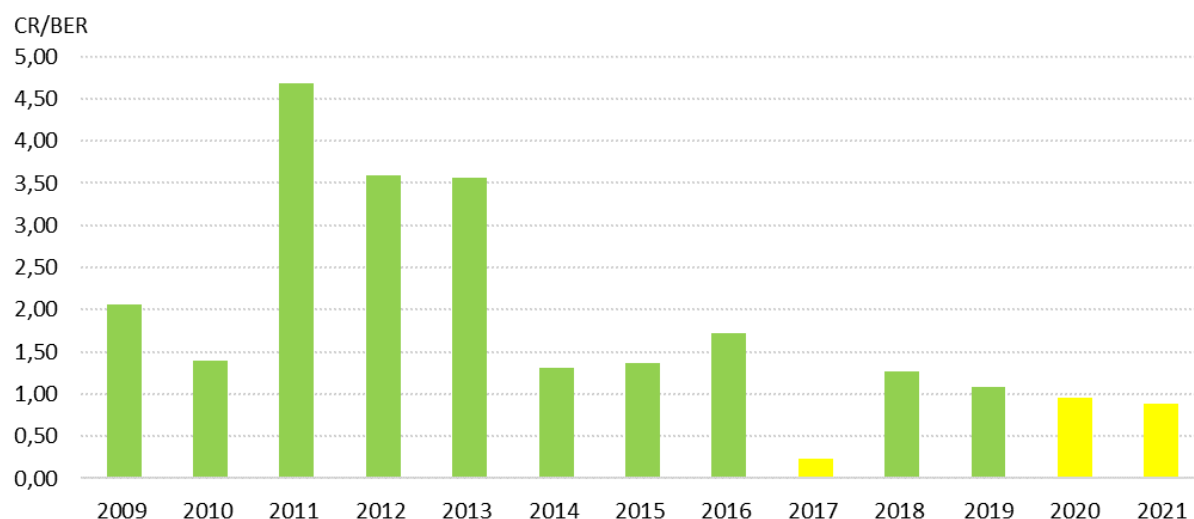
Ratio between CR and BER for the segment NAO TM 24-40 (Baltic Sea)

* - in 2019 includes economic data from two fishing companies from NAO DTS 24-40 segment

In 2021 CR/BER value of fleet segment NAO DFN 10-12 had a trend of improvement but remained negative, indicating disbalance in economic capability of netters, operating in Baltic Sea (table 3.3.3).

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

Values	2017	2018	2019	2020	2021
Current revenue (CR) (thousand €)	192,43	149,58	39,79	34,90	29,56
Break-even revenue (BER) (thousand €)	-176,25	-123,36	-46,75	-53,75	-208,78
CR/BER	-1,09	-1,21	-0,85	-0,65	-0,14

Data source: ADC
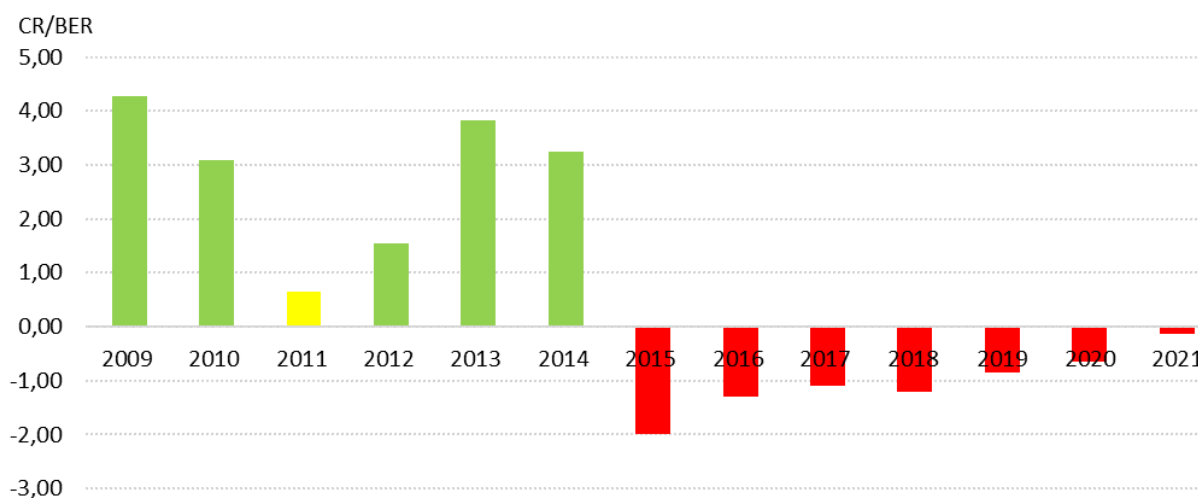
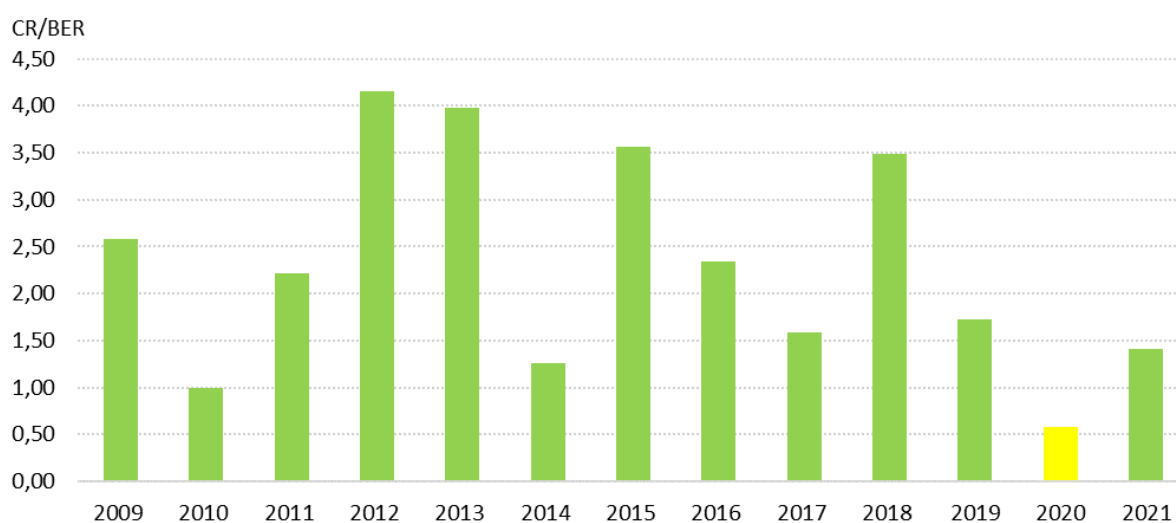Ratio between CR and BER for the segment NAO DFN 10-12 (Baltic Sea (24-40 m) and

coastal area (10-12 m)

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 2021 (table 3.3.4).

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

Values	2017	2018	2019	2020	2021
Current revenue (CR) (thousand €)	486,18	637,55	575,41	427,50	551,12
Break-even revenue (BER) (thousand €)	307,02	182,58	333,42	735,70	389,49
CR/BER	1,58	3,49	1,73	0,58	1,41

Data source: ADC

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

3.4. Methodology

Calculations of balance indicators are based on EUMAP 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. Economic data of fishing fleet is collected by State enterprise Agricultural Data Centre (ADC).

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 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 long-term trend of indicators is shown in graphs.

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 is used from European Central Bank data base.

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

Period	Average interest rate %
2013-2017	1,84
2014-2018	1,14
2015-2019	0,64

| 2016-2020 | 0,41 |
| 2017-2021 | 0,26 |

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!

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[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)

4.1 Inactive fleet indicator

The vessel "Inactive fleet" indicator was calculated for the period 2016-2022 aggregated by vessel length segments. Figure 4.1.1. shows the proportion of inactive vessels aggregated by year and length segments of the total fleet (%). Data for calculation is taken from date collection programme. Figure 4.1.2. and Figure 4.1.3 demonstrates of inactive fleet share of specific segment by GT and kW respectively.

Inactive fleet indicator by numbers   2016-2022

	2016	2017	2018	2019	2020	2021	2022
VL0010	27,45	26,85	24,49	23,97	29,08	31,43	33,33
VL1012	2,61	4,03	3,4	4,11	4,26	3,57	3,7
VL1218	0,65	0,67	0,68	0,68	0,71	0,71	0,74
VL1824	0,65	0,67	0,68	1,37	1,42	1,43	0,74
VL2440	3,27	4,03	6,12	6,85	8,51	9,29	5,93
VL40XX	1,96	3,36	2,72	2,05	0	0	0
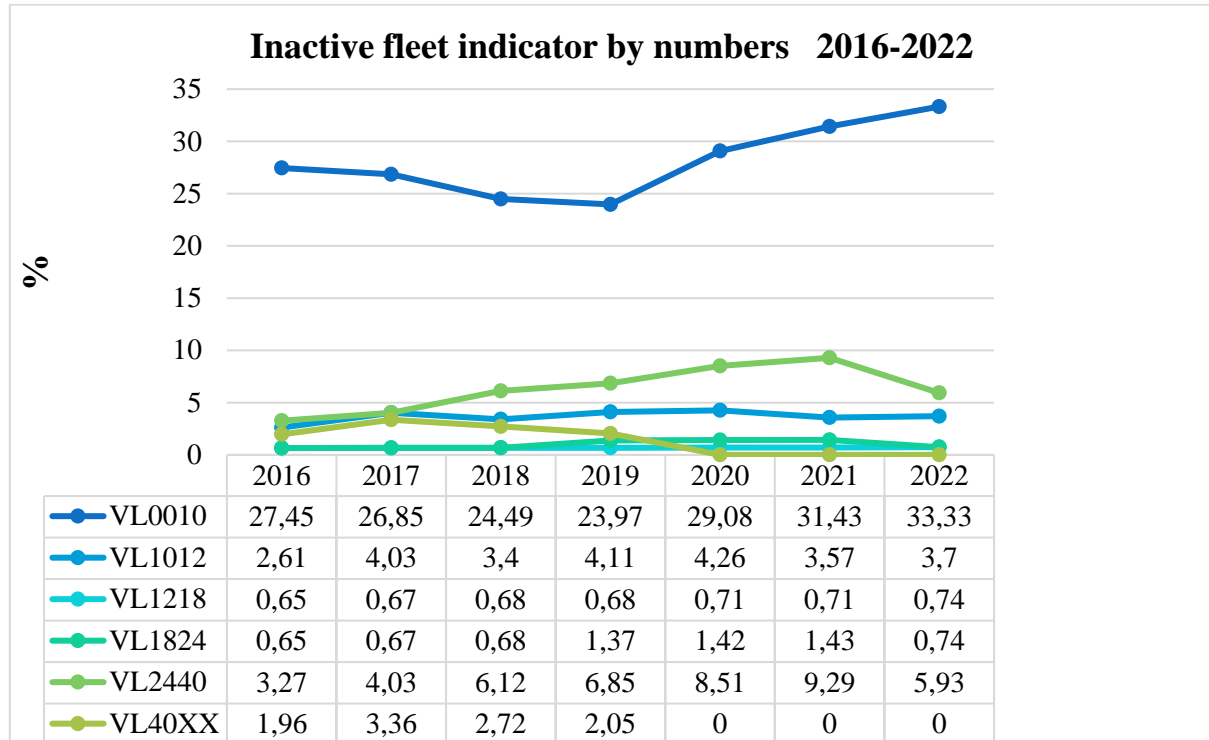
Figure 4.1.1. Inactive fleet indicator 2016-2022 by vessels number share from all fleet.

Inactive fleet indicator by GT   2016-2022

	2016	2017	2018	2019	2020	2021	2022
VL0010	0,16	0,17	0,15	0,15	0,2	0,21	0,21
VL1012	0,1	0,15	0,13	0,15	0,17	0,15	0,16
VL1218	0,05	0,05	0,05	0,06	0,06	0,06	0,06
VL1824	0,16	0,18	0,18	0,47	0,53	0,53	0,21
VL2440	0,98	1,4	2,24	2,63	3,51	3,83	2,14
VL40XX	14,93	16,77	15,61	5,23	0	0	0
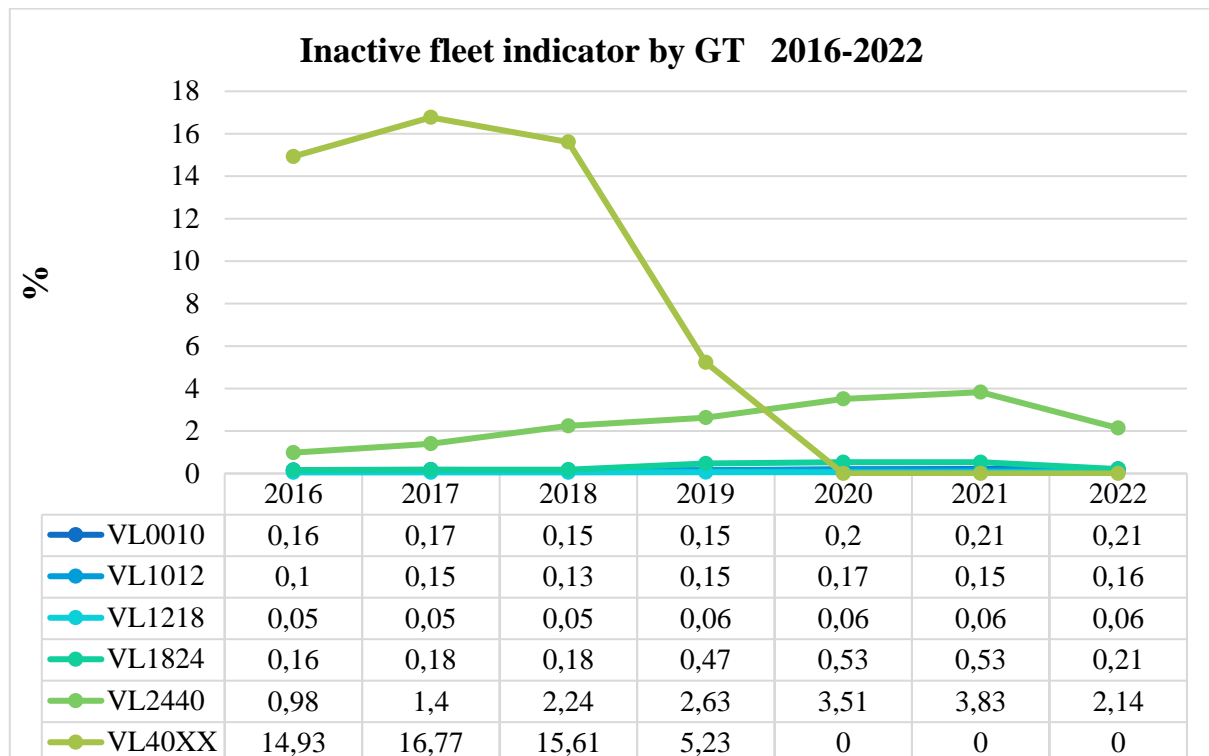
Figure 4.1.2. Inactive fleet indicator 2016-2022 by vessels GT share from all fleet.

Inactive fleet indicator by kWt   2016-2022

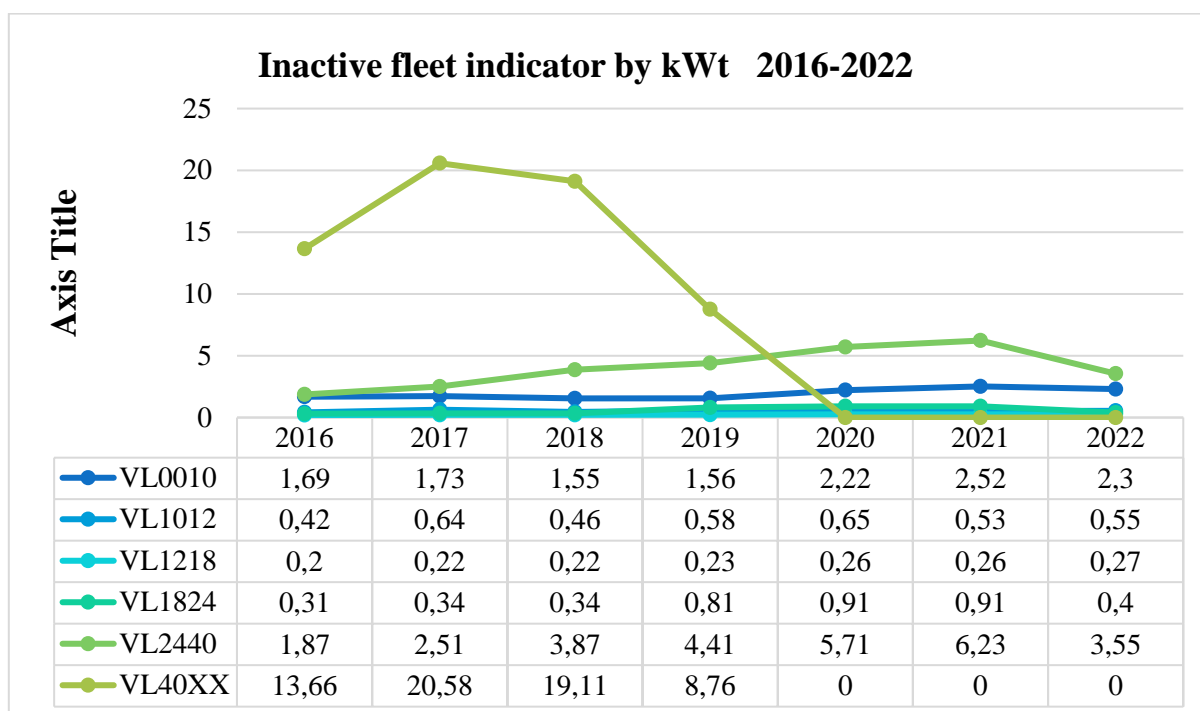|	2016	2017	2018	2019	2020	2021	2022
VL0010	1,69	1,73	1,55	1,56	2,22	2,52	2,3
VL1012	0,42	0,64	0,46	0,58	0,65	0,53	0,55
VL1218	0,2	0,22	0,22	0,23	0,26	0,26	0,27
VL1824	0,31	0,34	0,34	0,81	0,91	0,91	0,4
VL2440	1,87	2,51	3,87	4,41	5,71	6,23	3,55
VL40XX	13,66	20,58	19,11	8,76	0	0	0

Figure 4.1.3. Inactive fleet indicator 2016-2022 by vessels kW share from all fleet.

Inactive fleet indicator analysis shows that indicators of VL40XX segments of the fleet have dropped in values, some remain stable, other segments 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 supplemented by other work usually unrelated to fishing and in most cases 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 in the last three years. The main reasons: the segment is partly contained by vessels registered in the Lithuanian fleet register and operated in the fishing activities on temporal base under charter agreement. As such, based on the agreement expiry vessels were withdrawn from the Lithuanian fleet register. The slight inactivity increases in VL1012 segment which was occurred due to in 2020 the adopted additional remedial measures for cod stocks in the Baltic Sea to ensure the rapid return of the stock to levels above the level capable of producing. Covid-19 is also likely to have an impact on fisheries management. Measures to support the different elements in the supply chain extend through compensations to fish suppliers to ensure the smooth pass of 4-month fishing stop and impact of Covid-19 in 2020 and 2021. However, other fleet segments inactivity is decreased compering 2022 to previous year.

4.2. The vessel utilization indicator

In the Table 4.2.1. the vessel utilisation fleet indicator was calculated for each fleet segment for the period 2016-2022 aggregated by year and fishing gear.

Table 4.2.1. Vessel Utilisation Indicator 2016-2022

Vessel segment	2016	2017	2018	2019	2020	2021	2022	Trend (5%) 2018/22
VL0010 PG	0.29	0.25	0.37	0.47	0.44	0.39	0.38	no trend
VL1012 DFN	0.44	0.34	0.54	0.8	0.74	0.77	0.65	no trend
LV2440 DFN	0.85	0.84	0.86	1	1	1	-	no trend
LV1824 DTS	1	0.97	0.83	1		-	-	-
LV1824 TM	0.98	1	1	1	0.99	0.85	0.77	decreasing

VL2440 DTS	0.77	0.64	0.74	1	1	-	-	increasing
VL2440 TM**	0.58	0.69	0.66	0.93	0.73	0.53	0.66	no trend
VL40XX TM*	0.63	0.71	0.77	0.86	0.74	0.81	0.83	no trend

* Due to low number of vessels VL40XX DTS and VL40XX TM segments have been clustered.

** Due to low number of vessels VL40XX TM (NAO) segment has been clustered with VL2440 TM (NAO) segment.

The calculated technical indicator is based on 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. The calculation has been done either in kW-days for fleet segments with active gears (TM and DTS) and GT-days for fleet segments with active gears with passive gears (DFN and PG) as recomended in guidance. The Vessel Utilisation Indicator per fleet segment in traffic light system showed as status: indicator <0,7 is out of balance (red light); indicator > 0,9 is in balance (green light). For the trend of the period 2018-2022 was using the slope equation 5% threshold to indicate significance, as follow: Slope > 0.05 increasing; Slope < -0.05 decreasing; -0.5 < Slope < 0.5 no significant trend.

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 2020 and 2021 Covid-19 is also likely to have an impact for particular segment differently. When in 2022 to rise the SSF efforts was challenging due to increasing the fuel price and reducing catches. Fleet seems to be within balance limits (0,7 and more), except small VL0010 PG and VL1012 DFN coastal fleet and VL2240 TM segments. For VL0010 PG segment is partly due to statistical bias. In coastal fishing (vessels less than 12 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. Additionally, in 2022 were observed reduces in catches of VL0010 PG and VL1012 fleet segments which affected profitability. As such, fishing activities reduced. Also, another of activities factor for fleet segments during COVID-19 pandemic period was depending on recruiting the crew and fulfilling all preventions on board which were not so successful for small scale fisheries segments. Due to appropriate remedial measures have been adopted to ensure a rapid return of the Baltic Sea cod stock concerned and no directed fisheries of cod were permitted as consequences no demersal fisheries dominate in segments since 2020. The fishery sectors have been particularly hit by market disruption, as demand has seen a sudden decline as consequences of the coronavirus outbreak. Should be highlighted that the impacts of COVID-19 on the segments are vary in 2020-2021. Fish and fish products that are highly dependent on international trade suffered quite early in the development of the pandemic from the restrictions and closures of global markets, whereas fresh fish supply chains were severely impacted by the closure of the food service sectors (e.g. hotels, restaurants and catering facilities, including school and work canteens). Therefore, the trends were affected by abovementioned causes. The main part of vessel utilisation indicators by segments were observed with no trends.

5. Traffic light

Table 5.1 shows traffic light data for the year 2021.

No.	Length	Gear code	ROFTA	Current/B reak even Incl. opp. costs	SHI	SRI	Technical indicators		Overall Conclusion on balance
							Inactivity	Utilization	
1.	<10 m	PG	47,42	1,41		0	31,43	0,39	
2.	10-12 m	DFN	-23,44	-0,14		0	3.57	0,77	
3.	12-18 m	-	-	-	-	-	0,71	-	-
4.	18-24 m	TM	-3,97	0,88	1,886	0	1,43	0,85	
5	24-40 m	TM			1,951	0	9,29	0,53	
6.	18-24 m	DTS	-	-		n/a	1,43	-	-
7	24-40 m	DTS				n/a	9,29	-	-
8	>40m (OFR)	TM	14,41	1,42	1,249	1	0	0,81	
	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

In 2021 fully balanced capital productivity and financial viability of fishing fleet was observed in the distant fleet segment, which demonstrated a yearly growth since 2017. Distant fleet operates outside EU waters and depends on the conditions and agreements with third countries. In 2021 the distant fleet segment demonstrated balanced capacity and fishing opportunities generating positive ROFTA and sufficient CR/BER.

Fishing opportunities in the Baltic Sea for large scale trawlers and netters had a decreasing trend, recently facing a challenge to generate positive earnings from fisheries. Declining TAC for Baltic herring, sprat, closure of cod fisheries and facing external factors as COVID19 management restrictions resulted in net losses for NAO TM 24-40 fleet segment in 2020 and 2021, termination of fisheries for NAO DTS 24-40 segment from 2019 and long-term losses for NAO DFN 10-12 segment. 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 fleets, including distant fisheries. According to the existing practice, transferable fishing rights have been found as an effective policy instrument to control the balance between fleet capacity and fishing opportunities. Declining Eastern cod biomass and respectively applied management measures closing demersal fisheries has led to the overcapacity in the fleet segments depending on the demersal fisheries. After closure of cod fisheries in 2020, segment NAO DTS 24-40 terminated demersal fishing activities and part of capacity was reallocated to pelagic fisheries, particularly NAO TM 24-40 segment. In 2018-2019 management measures of transferable fishing rights enabled better share of resources and segment NAO TM 24-40 generated profitability and positive returns on capital.

Not only cod fishery ban, but COVID19 impacted the fishing industry and control measures decreased profits for NAO TM 24-40 in 2020 and 2021. However, 2021 losses were associated with temporary increase in repair and maintenance costs for some companies in NAO TM 24-40 segment as well as rise in costs of depreciation of capital, estimated by PIM methodology. Estimated rise in

capital costs is based on model assumptions of periodical restoration of vessel components for fishing operations. Therefore, a periodical increase in model-based depreciation costs resulting a decline in 2021 profitability of NAO TM 24-40 segment is not necessarily an impact from disbalance between fishing opportunities and fleet capacity.

Small scale fleet segment NAO PG 00-10 in 2021 showed an increased returns of fixed tangible assets and growth of CR/BER indicator, compared to 2020. In 2020 small scale fleet was strongly affected by the decline of economic performance related to the COVID19 lockdown and other strict measures to control pandemics resulting in negative ROFTA first time since 2011, however, profitability was restored in 2021 to the balanced capitalization and economic viability.

Overcapacity of capital in terms of negative ROFTA and CR/BER indicators was determined in the NAO DFN 10-12 (consists of NAO DFN 24-40 and NAO DFN 10-12). These segments are dependent on cod stocks and limited fishing opportunities after closure of cod fisheries in Baltic Sea resulted in constantly deteriorating capital productivity indicators. Due to segment's the long term imbalance between fleet capacity and fishing opportunities, netters are able to apply for the management measures of permanent fleet cessation. In 2022, 24 m netters using the compensations of permanent cessation, terminated fishing operations and only coastal vessels NAO DFN 10-12 composed the segment. NAO DFN 10-12 targets a variety of coastal species, for instance, European smelt which could generate income and higher profit margin in future.

The measure "Permanent cessation of fishing activities" had been implemented in accordance with Regulation (EC) No 508/2014 Article 34. It was determined that 9 vessels (about 20% GT of the total capacity) could meet the requirements for the cessation of fishing activities with public aid - they carried cod fishing and had been fishing enough days in 2017 and 2018. There were two stages for submission of support applications under the measure "Permanent cessation of fishing activities": in 2021 and 2022. The number of applications for support for permanent cessation of fishing vessels was lower than expected: 4 vessels (9,25% GT of the total capacity) applied for permanent cessation with public aid. Finally, 3 fishing vessels has been withdrawn from the Fishing fleet with the public aid (6,6 % GT of the total capacity).

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 was observed.