



Impact of Ukrainian-Russian conflict on UK seafood sector

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Presentation to:

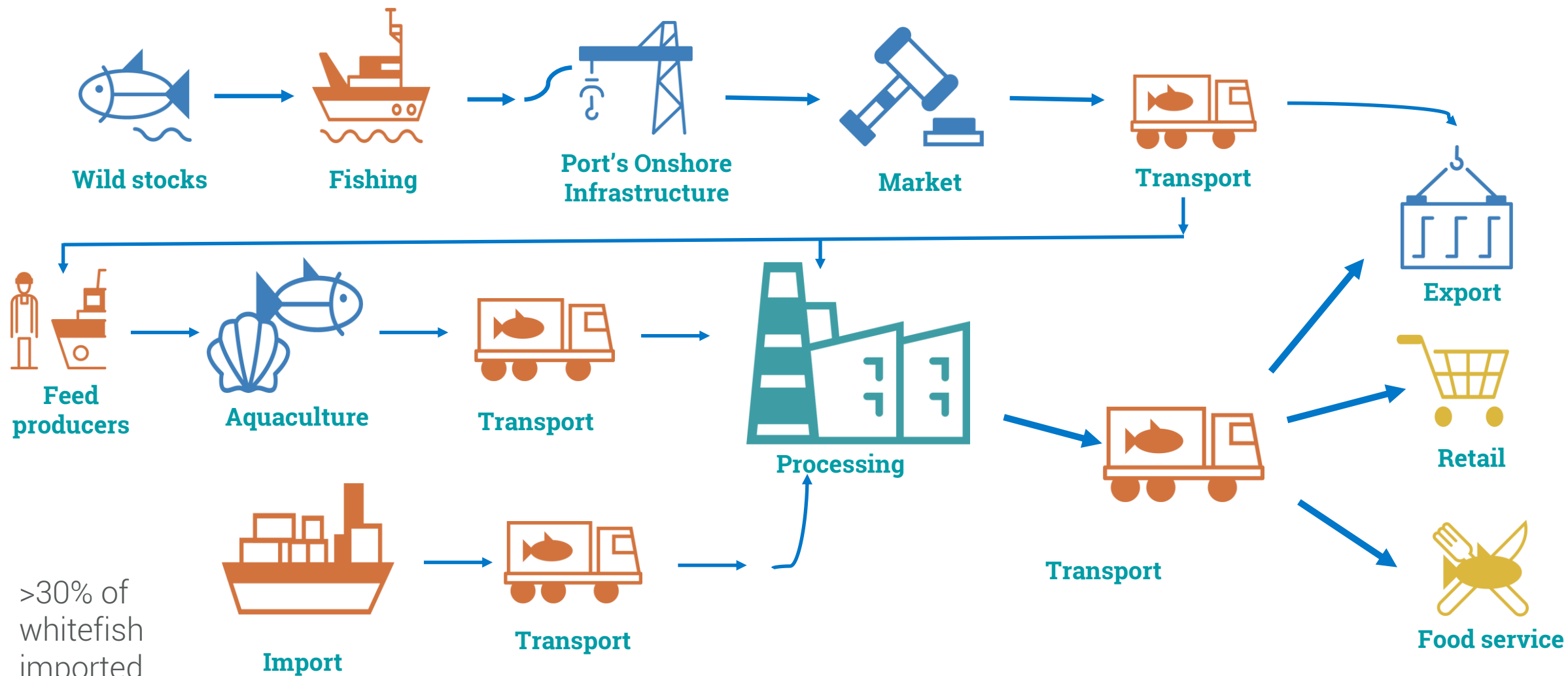
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Main parts of the supply chain affected



>30% of whitefish imported originate from Russia

Impact assessment of the fuel price increase on the fishing fleets

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Impact assessment of the fuel price increase on the fishing fleets

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Methodology

Short term prediction model based on 2017-20 time series estimates per fishing fleets

- Two baselines calculated:
 - B1:** 2017-2019 average;
 - B2:** 2019-20 average based on 2019 costs structure and 2020 forecast
- Three scenarios simulated for each baseline
- 31 UK fishing fleets are covered in the model

Main model assumptions:

- Income forecast is associated with effort assuming the same LPUE and avg. price as in baseline year
- Catch composition for income modelling is fixed to 2019
- Non fishing incomes are excluded from modelling and calculations of main economic indicators
- All costs items are fixed except effort, effort related costs variables and income
- Effort and fuel costs are modelled at a monthly basis using baseline effort by month in kwDas

Model & definitions: Area VIIA demersal trawl

Model variables	B1: 2017-2019 parameterisation	B2: 2019-20 parameterisation	S1	S2	S3	
Crew share	28%	27%	1.00	1.00	1.00	Crew share is based on value of landings as non fishing
Avg. DAS per vessel	136	126	0.97	0.97	0.97	Evolution of effort in Days at sea and kwDas is the same
Avg. kW/DAS per vessel	44,008	44,503	0.97	0.97	0.97	
LPUE, kg/kwday	3.86	3.31				
Avg. fish price (£/tonne)	2,093	1,949	1.00	1.00	1.17	
Fuel consumption per kW/DAS (l)	2.47	2.33				
Fuel price*	£0.51	£0.48				Fuel price is modelled in the assumptions page
Other fishing costs, £/kW/DAS	1.5	1.2	1	1	1	
Vessel costs (£'000) (fixed per vessel)	109.2	116.7	1	1	1	
Total capital & financial costs (£'000)	14.5	16.5	1	1	1	
Employment (FTE) per per kW DAS	0.00008134	0.00005816				
Number of vessels	12	9				

Forecast per vessel	Baseline (2017-2019 avg.)	Baseline (2019-20)	B1-S1	B2-S1	B1-S2	B2-S2	B1-S3	B2-S3
Employment (FTE)	3.58	2.59	3.47	2.51	3.47	2.51	3.47	2.51
Fishing Income (£'000)	355.3	286.7	344.9	278.33	344.9	278.3	403.3	325.5
Non fishing income (£'000)	46.6	58.6	46.6	58.56	46.6	58.6	46.6	58.6
Fuel costs (£'000)	54.8	49.6	89.7	85.86	72.0	68.7	72.0	68.7
Crew share (£'000)	100.5	78.0	97.6	75.76	97.6	75.8	114.1	88.6
Other Fishing Costs (£'000)	66.0	51.3	64.1	49.76	64.1	49.8	64.1	49.8
Vessel costs (£'000)	109.2	116.7	109.2	116.70	109.2	116.7	109.2	116.7
Total Operating Costs (£'000)	330.6	295.6	360.6	328.08	342.89	310.95	359.42	323.79
Total capital & financial costs (£'000)	14.5	16.5	14.5	16.50	14.5	16.5	14.5	16.5
Gross Value Added (£'000)	125.2	69.1	81.9	26.01	99.55	43.14	157.98	90.31
Operating Profit (£'000)	24.7	-8.9	-15.7	-49.76	1.97	-32.62	43.87	1.70
Net Profit (£'000)	10.2	-25.4	-30.2	-66.26	-12.50	-49.12	29.41	-14.80

Est. maximum fuel price to break even	£0.56	£0.20	£0.56	£0.20	£0.96	£0.54
Modelled mean fuel price	£0.85	£0.86	£0.68	£0.69	£0.68	£0.69
Fuel costs as % of fishing income	15%	17%	26%	31%	21%	21%

Total fleet indicators:

Scenario:	Baseline (201)	Baseline (201)	B1-S1	B2-S1	B1-S2	B2-S2	B1-S3	B2-S3
Total income for fleet (£ million)	4.14	2.58	4.02	2.50	4.02	2.50	4.71	2.93
Total GVA (£ million)	1.46	0.62	0.96	0.23	1.16	0.39	1.84	0.81
Total operating profit (£ million)	0.29	-0.08	-0.18	-0.45	0.02	-0.29	0.51	0.02
Total net profit (£ million)	0.12	-0.23	-0.35	-0.60	-0.15	-0.44	0.34	-0.13
Total employment (FTE)	42	23	41	23	41	23	41	23

Methodology

Indicators used for parametrisation

Model & definitions: Area VIIA demersal trawl

	B1: 2017-2019 parametrisation	B2: 2019-20 parametrisation	S1	S2	S3	
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Crew share	28%	27%	1.00	1.00	1.00	Crew share is based on value of landings as non fishing
Avg. DAS per vessel	136	126	0.97	0.97	0.97	Evolution of effort in Days at sea and kWDas is the same
Avg. kWDas per vessel	44,008	44,503	0.97	0.97	0.97	
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Total capital & financial costs (£'000)	14.5	16.5	1	1	1	
Employment (FTE) per per kW DAS	0.00008134	0.0000816				
Number of vessels	12	9				

Economic indicators are simulated as average per vessel

Forecast per vessel	Baseline (2017-2019 avg.)	Baseline (2019-20)	B1-S1	B2-S1	B1-S2	B2-S2	B1-S3	B2-S3
Employment (FTE)	3.58	2.59	3.47	2.51	3.47	2.51	3.47	2.51
Fishing Income (£'000)	355.3	286.7	344.9	278.33	344.9	278.3	403.3	325.5
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Est. maximum fuel price to break even modelled mean fuel price	£0.56	£0.20	£0.56	£0.20	£0.96	£0.54
Fuel costs as % of fishing income	15%	17%	26%	31%	21%	25%
	£0.85	£0.86	£0.68	£0.69	£0.68	£0.69

Outputs are calculated based on averages produced and average number of vessels in the baseline years

Total fleet indicators:	Scenario: Baseline (201	Baseline (201	B1-S1	B2-S1	B1-S2	B2-S2	B1-S3	B2-S3
Total income for fleet (£ million)	4.14	2.58	4.02	2.50	4.02	2.50	4.71	2.93
Total GVA (£ million)	1.46	0.62	0.96	0.23	1.16	0.39	1.84	0.81
Total operating profit (£ million)	0.29	-0.08	-0.18	-0.45	0.02	-0.29	0.51	0.02
Total net profit (£ million)	0.12	-0.23	-0.35	-0.60	-0.15	-0.44	0.34	-0.13
Total employment (FTE)	42	23	41	23	41	23	41	23

Scenario definitions

In all scenarios for modelling purposes we assume that the effort of all the fleets will reduce by 20% in March and April compared to baseline years in order to mitigate the fuel price increase.

- **Scenario 1 (pessimistic):**

The average fuel price reach maximum of £0.90 in April and remains at the same level till the end of the year. No other changes expected.

- **Scenario 2:**

The average fuel price peaks in April at a level of £0.90 and goes back to £0.68 in May (or 50% above the average price in 2021).

- **Scenario 3 (optimistic):**

The fuel price evolution is as in scenario 2, plus prices increase by 30% for cod and haddock and 20% for hake compared to baseline years.

	Fuel prices modelled					
	Scenario 1		Scenario 2		Scenario 3	
2021 average price	£	0.45	£	0.45	£	0.45
January	£	0.53	£	0.53	£	0.53
February	£	0.59	£	0.59	£	0.59
March	£	0.84	£	0.84	£	0.84
April	£	0.90	£	0.90	£	0.90
May	£	0.90	£	0.68	£	0.68
June	£	0.90	£	0.68	£	0.68
July	£	0.90	£	0.68	£	0.68
August	£	0.90	£	0.68	£	0.68
September	£	0.90	£	0.68	£	0.68
October	£	0.90	£	0.68	£	0.68
November	£	0.90	£	0.68	£	0.68
December	£	0.90	£	0.68	£	0.68

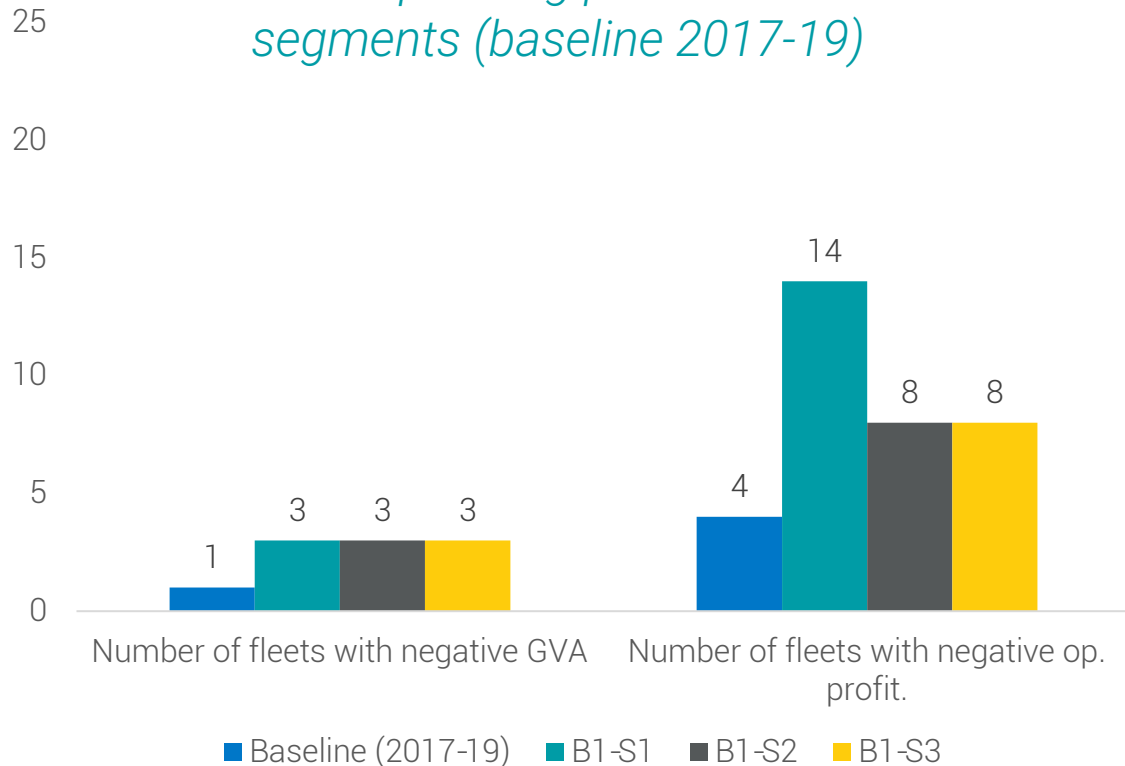
Results

Economic viability of the UK fishing fleets has been affected by the pandemic in 2020, therefore fuel price increase would drive more fleets to operational losses when the most recent economic performance baseline is used.

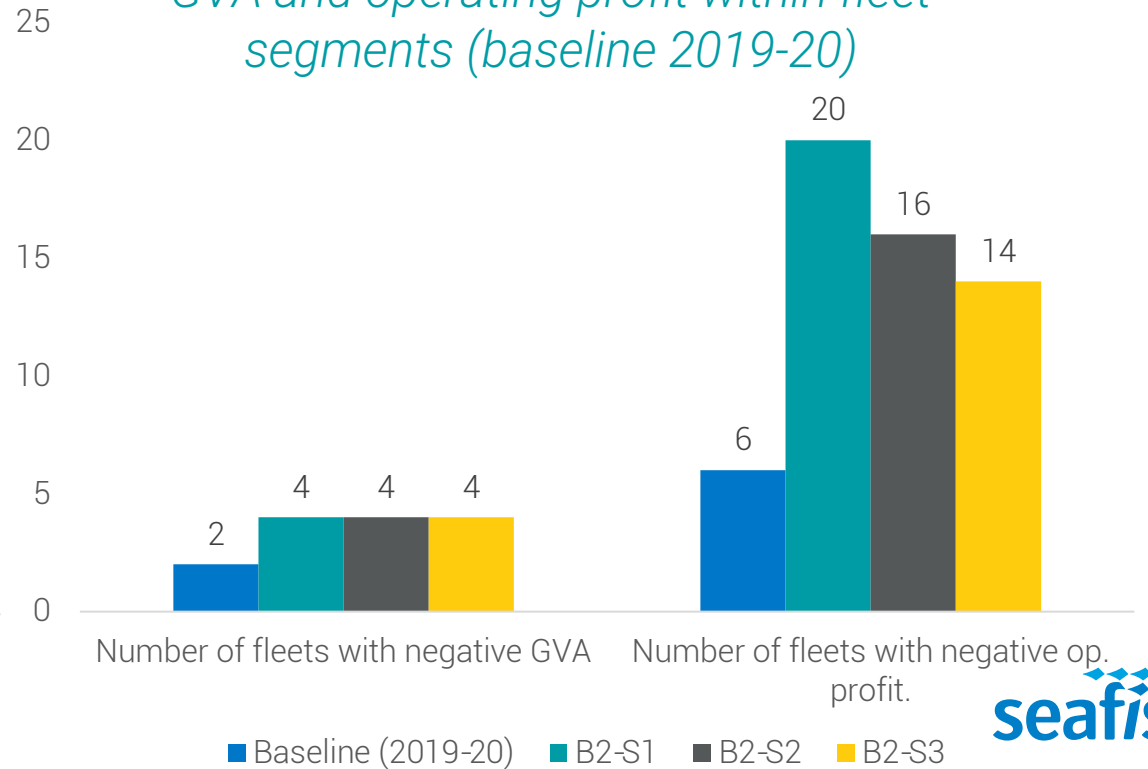
In the worst-case scenario of the most recent baseline 2/3 of the fishing fleets might not be able to cover operational costs by income.

In the optimistic scenario (B2-S3) almost half of the fishing fleets operating profit might drop to negative values.

GVA and operating profit within fleet segments (baseline 2017-19)



GVA and operating profit within fleet segments (baseline 2019-20)



Results (UK fleet totals)

Estimated drop of UK fishing fleet GVA (due to increase of fuel price) is 16-24% compared to 2019-20 baseline years.

Pelagic fishing fleet is the main contributor to overall UK fishing fleets GVA (by 43%) and operating profit (by 65%), therefore if that fleet is excluded from calculations overall operating profit of the rest of UK fishing fleets might be negative.

Overall GVA and operating profit estimated for all scenarios (pelagic excluded) might drop to lowest levels in 2008-2020.

Employment is modelled depending on the effort, therefore the evolution of employment is as for effort.

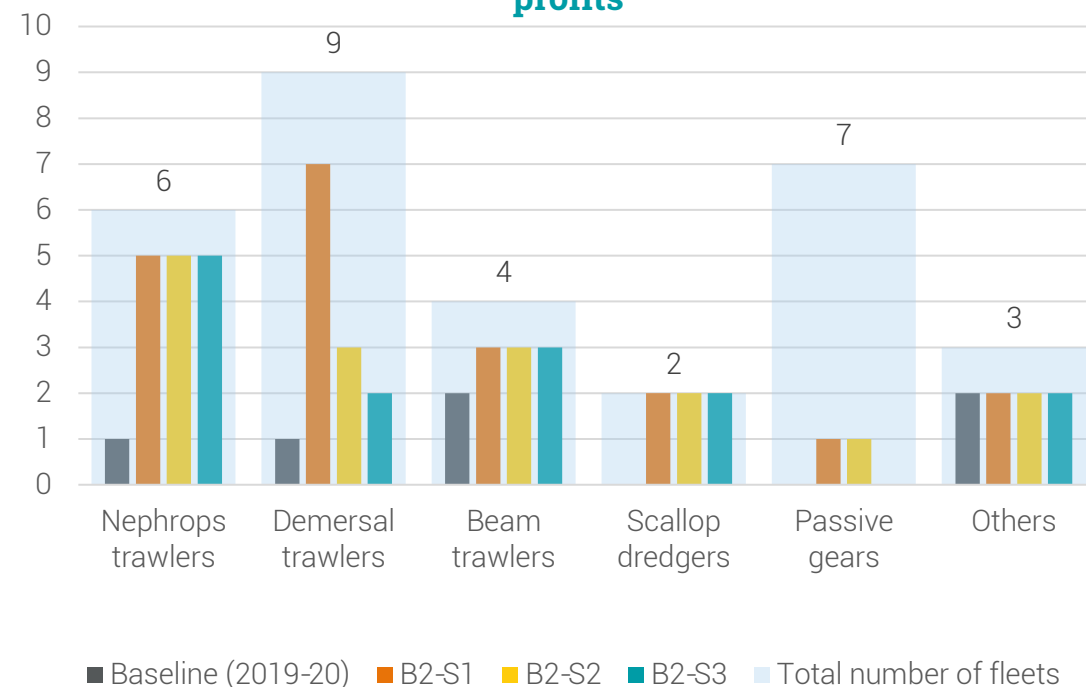
	Baseline (2019-20)	B2-S1	B2-S2	B2-S3	% change compared to baseline		
					S1	S2	S3
GVA	447.79	339.78	376.56	406.41	-24%	-16%	-9%
Operating profit	209.39	109.04	145.82	167.36	-48%	-30%	-20%
Employment (FTE)	6,138.64	5,939.91	5,939.91	5,939.91	-3%	-3%	-3%
Without pelagic fleet:							
GVA	252.68	163.11	195.21	225.06	-35%	-23%	-11%
Operating profit	71.37	-12.30	19.79	41.33	-117%	-72%	-42%
Employment (FTE)	5,924.72	5,732.59	5,732.59	5,732.59	-3%	-3%	-3%

Results (by fleet groups)

Nephrops trawlers, beam trawlers and scallop dredgers are expected to be affected the most by modelled scenarios. Only 2 segments in this group of 12 segments are expected to retain positive operating profits.

Passive gears using fleets expected to be the least affected by the fuel price change, as fuel costs in this group of segments normally lower as a share of total costs and income. However larger (>10m) Longliners are expected to experience operating losses.

Number of fleet segments with negative operating profits



Operating profit estimates modelled by fleet

	Baseline (2019-20)	% change compared to baseline		
		S1	S2	S3
Nephrops trawlers	1.9	-733%	-439%	-399%
Demersal trawlers	24.2	-124%	-77%	2%
Beam trawlers	2.3	-529%	-320%	-320%
Scallop dredgers	5.1	-169%	-105%	-105%
Passive gears	40.0	-45%	-28%	-24%
Others	135.9	-13%	-9%	-9%

>100% change indicates that fleets total operating profits under scenario turn to negative

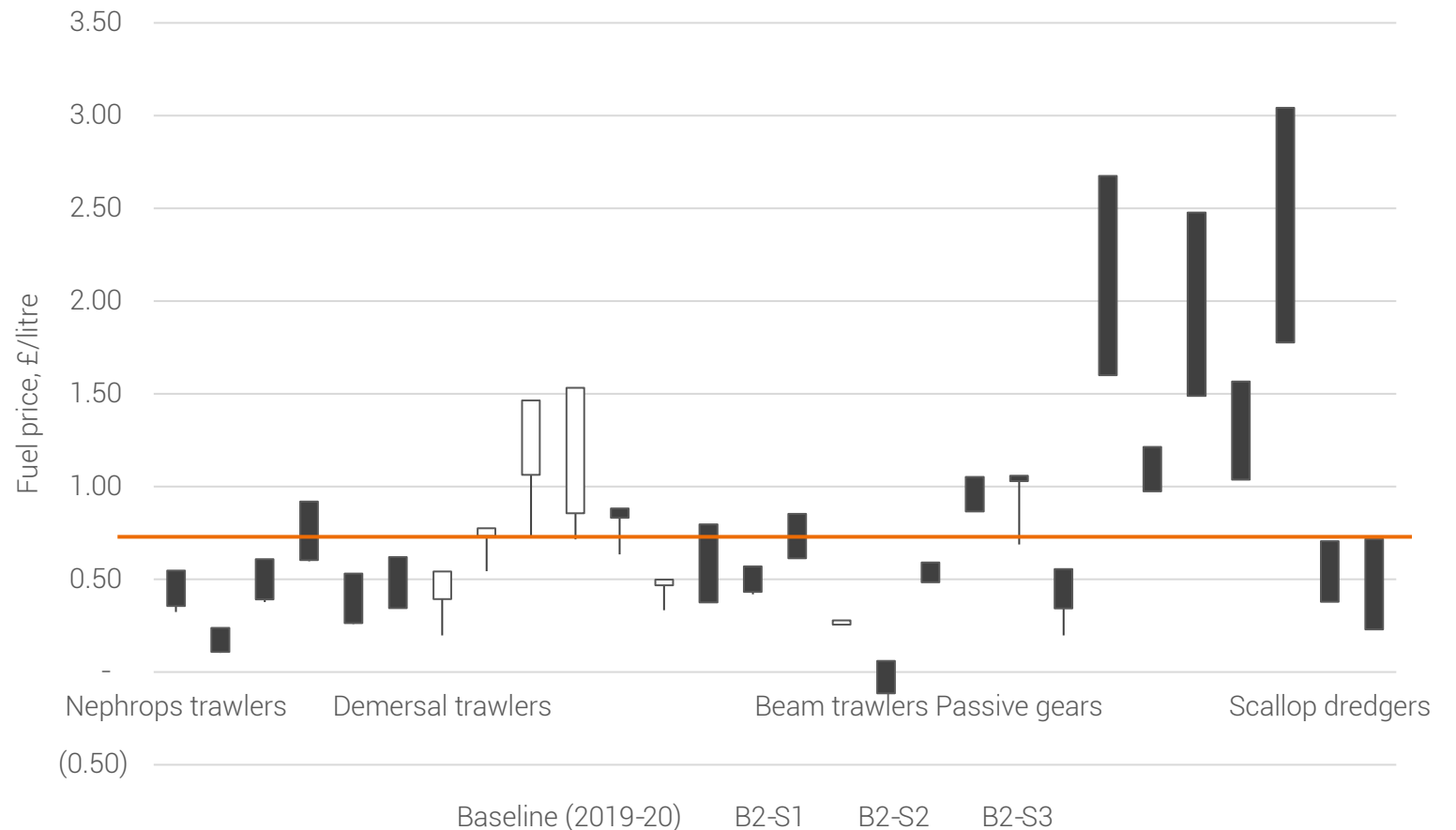
Results (fuel price sensitivity)

Break even fuel price ranges show sensitivity of some of the fleet segments to price fluctuations and reveals that some fleets are on the edge of profitability if the price increases over 68p per litre

Break even price shows at what level of the fuel price operating profit would be 0.



Break even fuel price ranges by fleets in the scenarios analysed



Summary

- The UK fishing fleets economic viability was significantly affected by the pandemic, therefore fishing fleets economic performance is more sensitive to fuel price increase when using 2019-20 baseline years for the parametrisation.
- If the fuel price remains at the highest level of £0.90 per litre (S1), 2/3 of fishing fleets might drop to negative operating profits and won't be able to cover their operating costs.
- Even more fleet segments would not be able to cover capital and financial costs as net profit indicator was not presented in this analysis.
- Reduction of the fuel price to £0.68 per litre after shock in March-April (S2), would help 4 demersal fleet segments to keep fishing operations profitable.
- While increase of whitefish prices (S3) is expected to improve economic situation of 2 additional demersal fleet segments.
- Nephrops trawlers, beam trawlers and scallop dredgers are the most vulnerable fleet segments. In all modelled scenarios only two fleets, in this group of 12, operations remain profitable. Some of these fleets, e.g. scallop dredgers might be even more affected if price for luxury seafood goes down due to reduction in customers purchasing power.

Notes

- This modelling exercise is performed to conduct scenario analysis comparing those with baselines, without intention to provide precise predictions.
- Possible operational changes, such as fishing closer to the coast to save on fuel, reduction of repair and maintenance costs and reduction of the crew share to compensate increase of fuel costs were not modelled in this exercise.
- Other factors affecting economic performance of the fishing fleets, such as availability of quota and fishing rights for 2022, stock abundance and status were not considered at all.
- Operating profit indicator presented in the analysis covers only variable and some fixed costs, however capital costs, such as interest paid and amortisation of the capital as well as financial costs are excluded from the analysis.
- The accounts collection for 2020 is still undergoing, therefore 2020 costs estimates are based on 2019 costs structure. The model could be potentially updated when new fleet economic estimates for 2020 with the forecast for 2021 are available.

Potential impacts on processing sector

Potential impact on processing sector

- Processing sector is operating on a very low margins. Demersal fish processors in 2018 had 2.9% operating profit margin, while their raw material costs compared to total income reached 72%.
- If raw material costs increased by 20-30% for demersal fish processors, their operating profit, net profit and GVA margins would drop to negative (margins in orange minus estimated impact on raw material costs in blue).
- Processors might try to increase seafood products prices and pass raw material costs increase to the consumers. But with a decrease of consumers purchasing power due to inflation and global oil price/gas increase consumers might shift to lower price proteins, such as e.g. chicken and pork.

	Demersal fish processors 2018	Mixed fish processors 2018
Sites	60	170
Full Time Equivalent (FTE) Jobs	1,105	12,596
Total Income (€M)	294	2,680
Raw Material Costs (€M)	213	1,670
<i>Raw material costs as % of income</i>	72%	62%
Gross Value Added (GVA) (€M)	41	708
Operating profit (€M)	8	397
Net Pretax Profit (€M)	5	295
GVA margin, %	14.0%	26.4%
Operating Profit Margin, %	2.9%	14.8%
Net Profit Margin, %	1.6%	11.0%
<i>Additional costs as % of Income if raw material costs increased by 20%</i>	14.5%	12.5%
<i>Additional costs as % of Income if raw material costs increased by 30%</i>	21.7%	18.7%

Thank you

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