Economic evaluation of multi-species HCRs in NAFO area 3M

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Task 4.2

- Period of simulation 2017-2050. (quite long)
- Prices and costs fixed. (complex to assume anything)
- Vessels operate in other areas than 3M. (assumptions)

- Uncertainty in the HCRs quite high. (100 iterations)
- Shrimp closed . How match can be fished if re-opened?
- Mix fisheries. Fishing effort has to be estimated

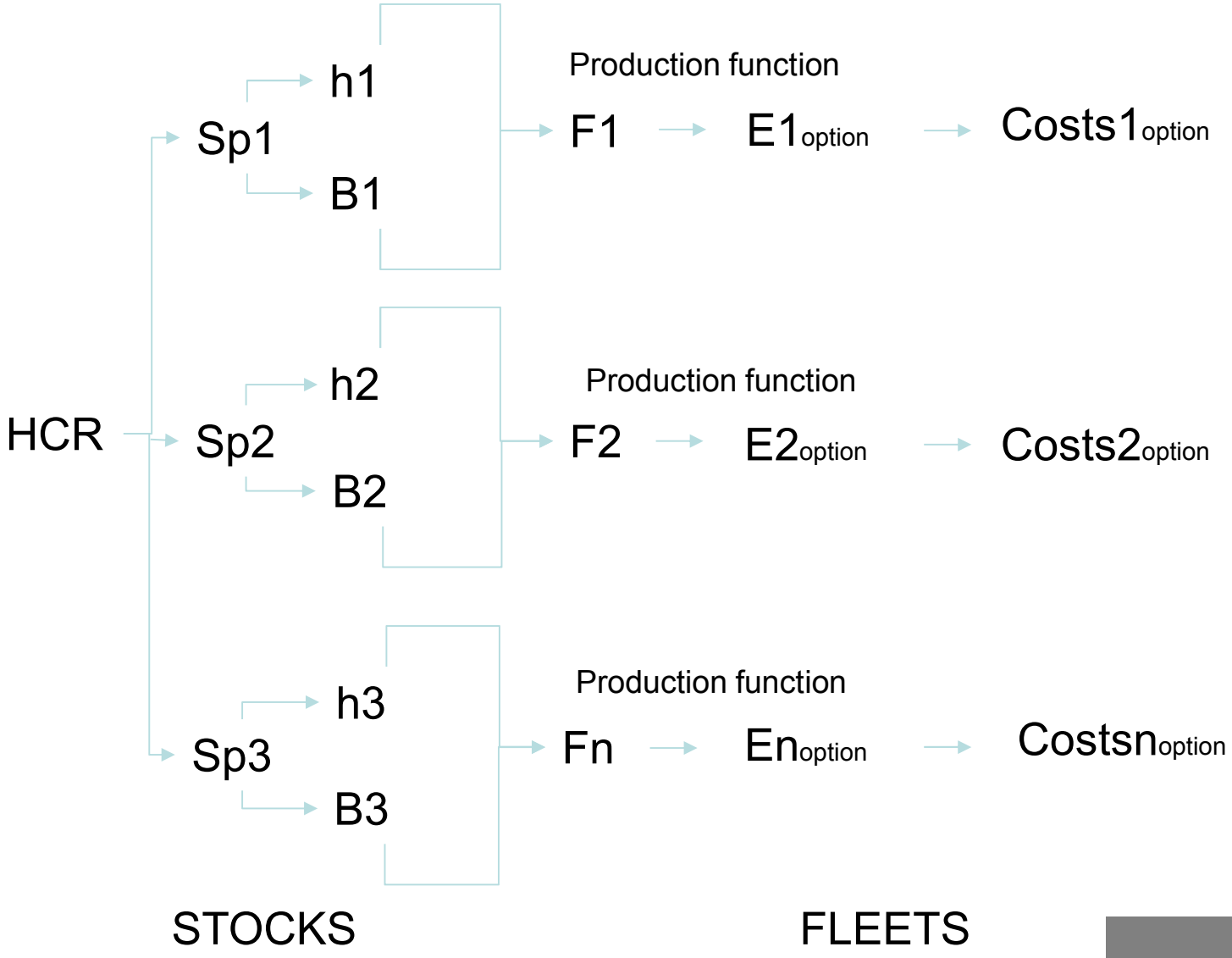
There is a flow of indicators

The comparisons are made in terms of the present value of the flow of one indicator (i.e. Gross revenues)

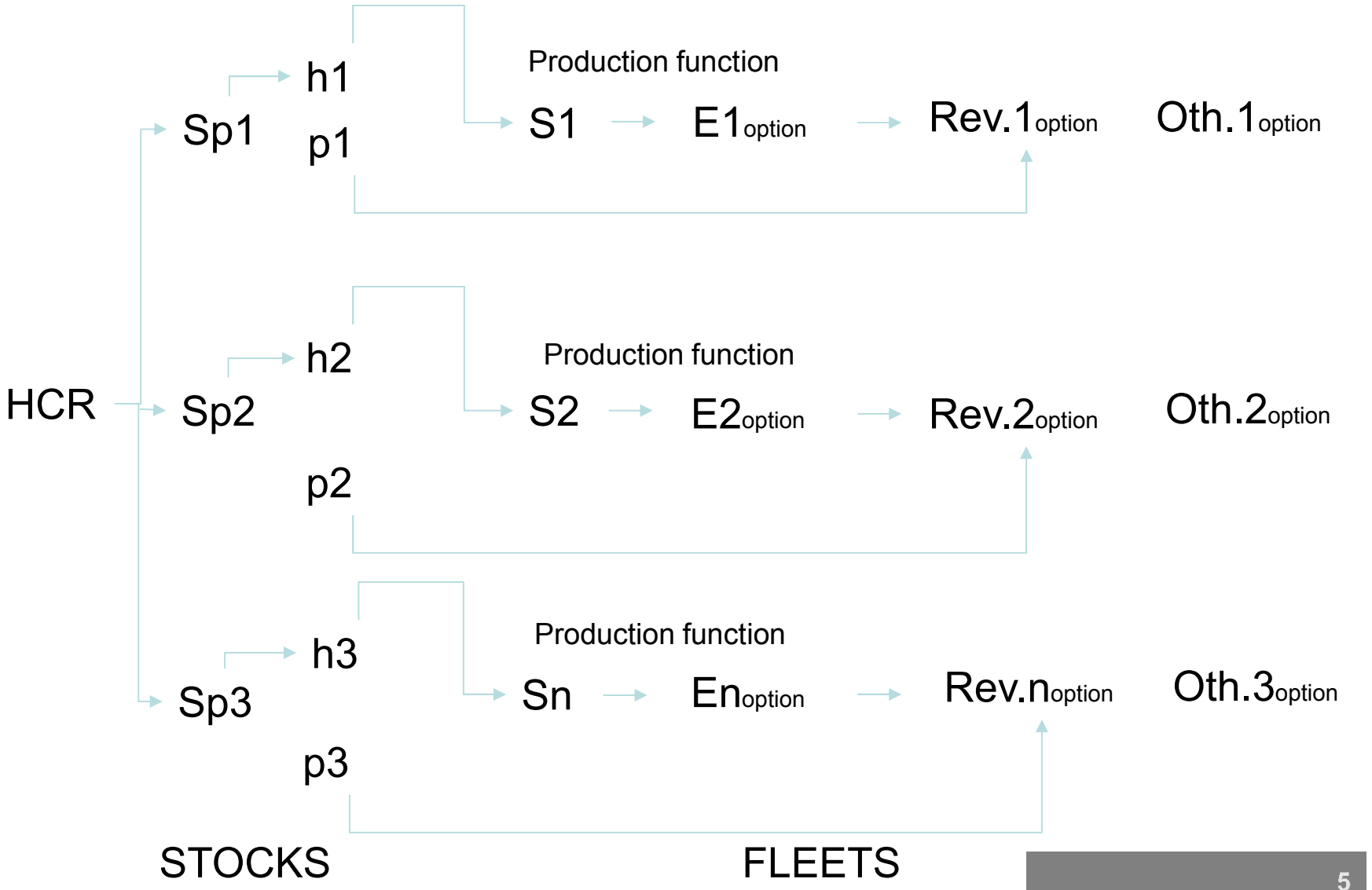
That is:

The sum of the value (discounted) from today's perspective.

Financial model 3M



Financial 3M

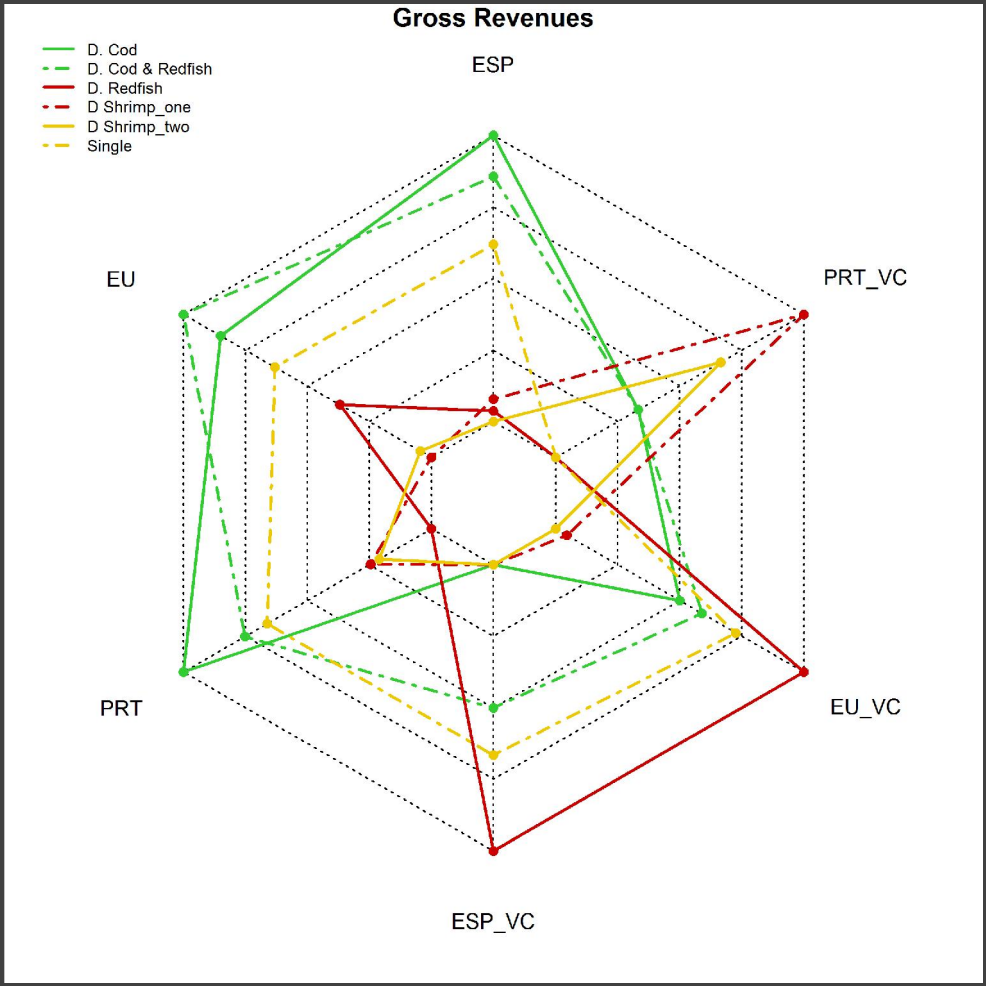


Financial model 3M

Variable costs +
Fixed costs +
Capital costs +
Revenues +

Create the Financial indicators

Trade-Offs among Fleets



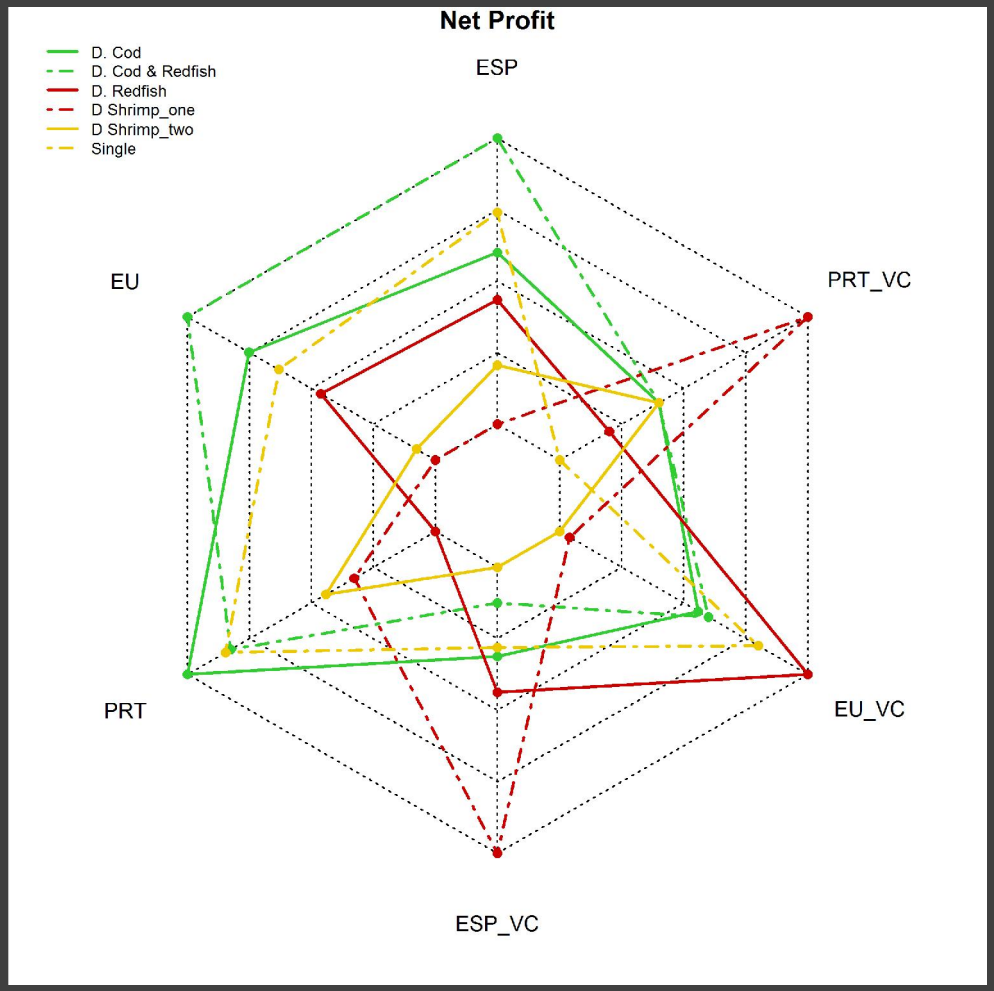
A HCR Good for one MS could be bad for other.

It will depend on their catch profile.

The mean value can be high but too variable.

UNCERTAINTY

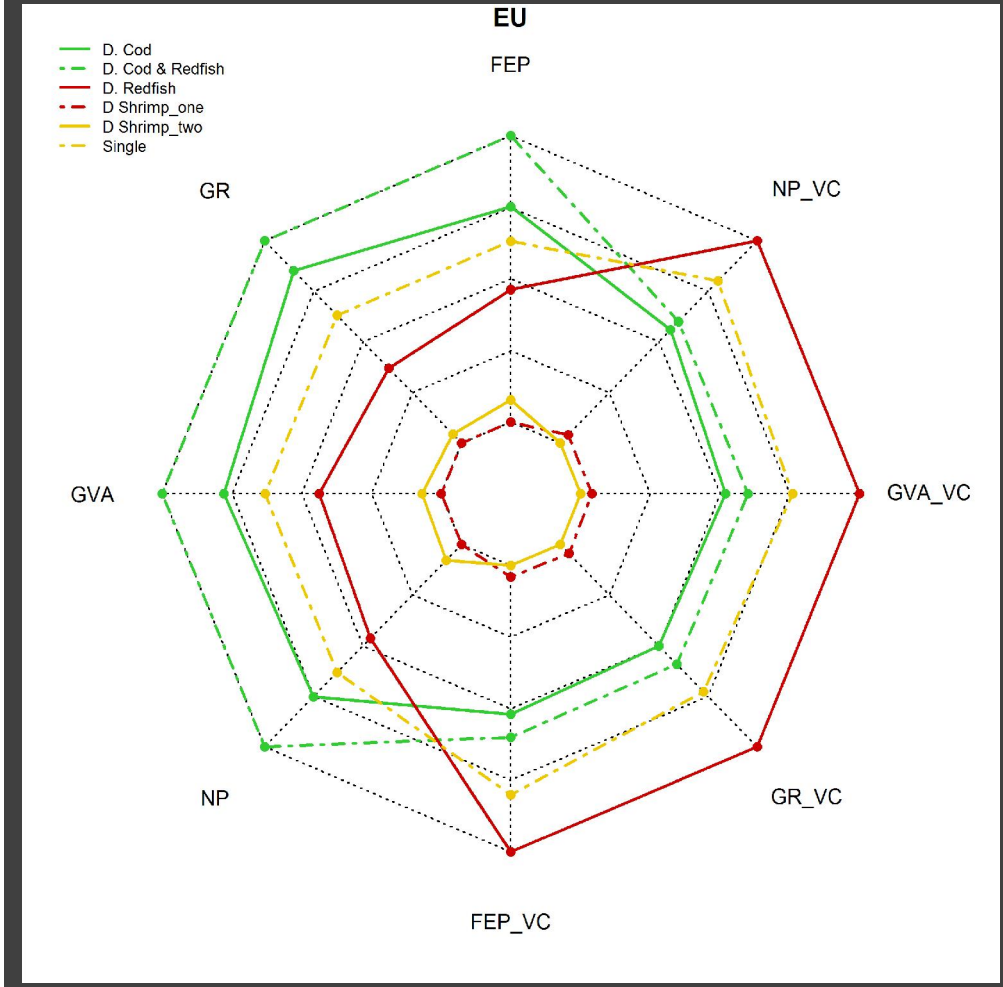
Trade-Offs among Fleets



While the individual operator could be interested on Gross Revenues, the EU can be more focused on resource rent

including economic costs –not expenses-.

Trade-Offs among indicators



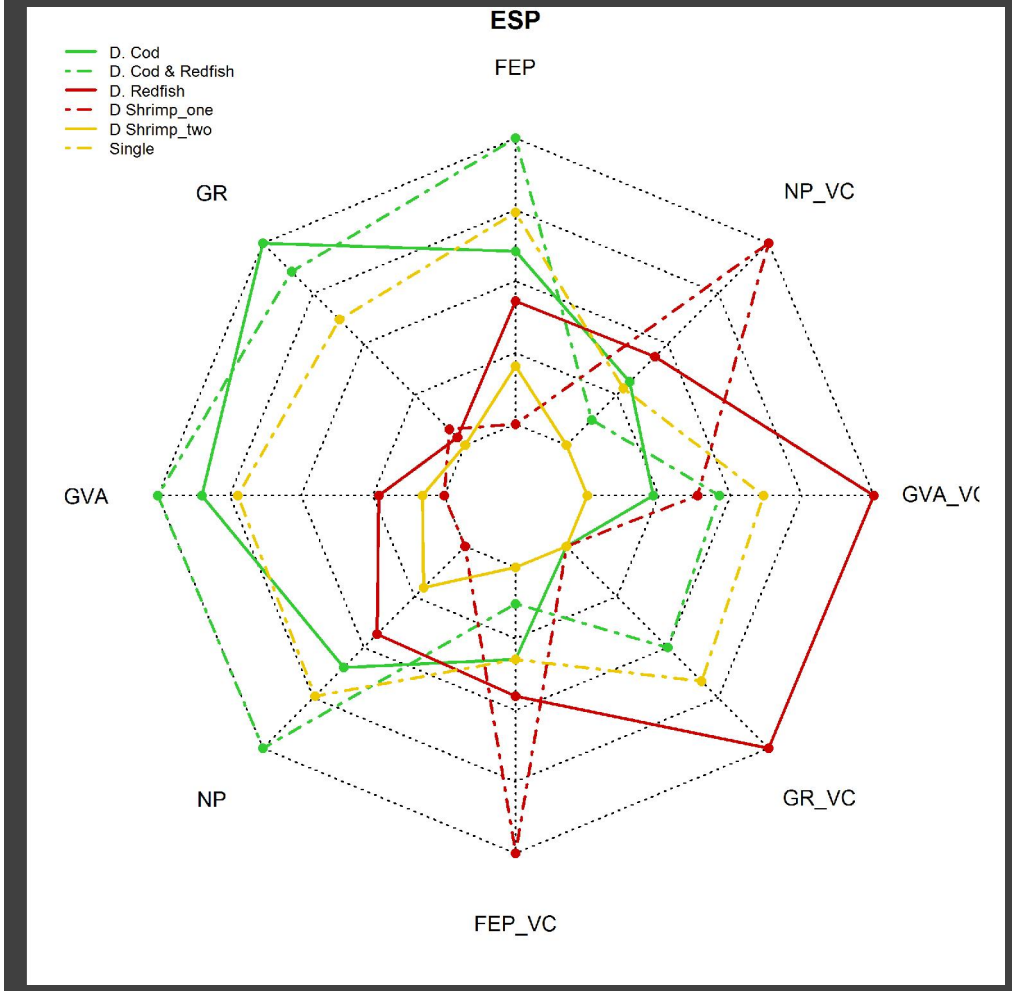
Gross revenues

Gross value added

FEP

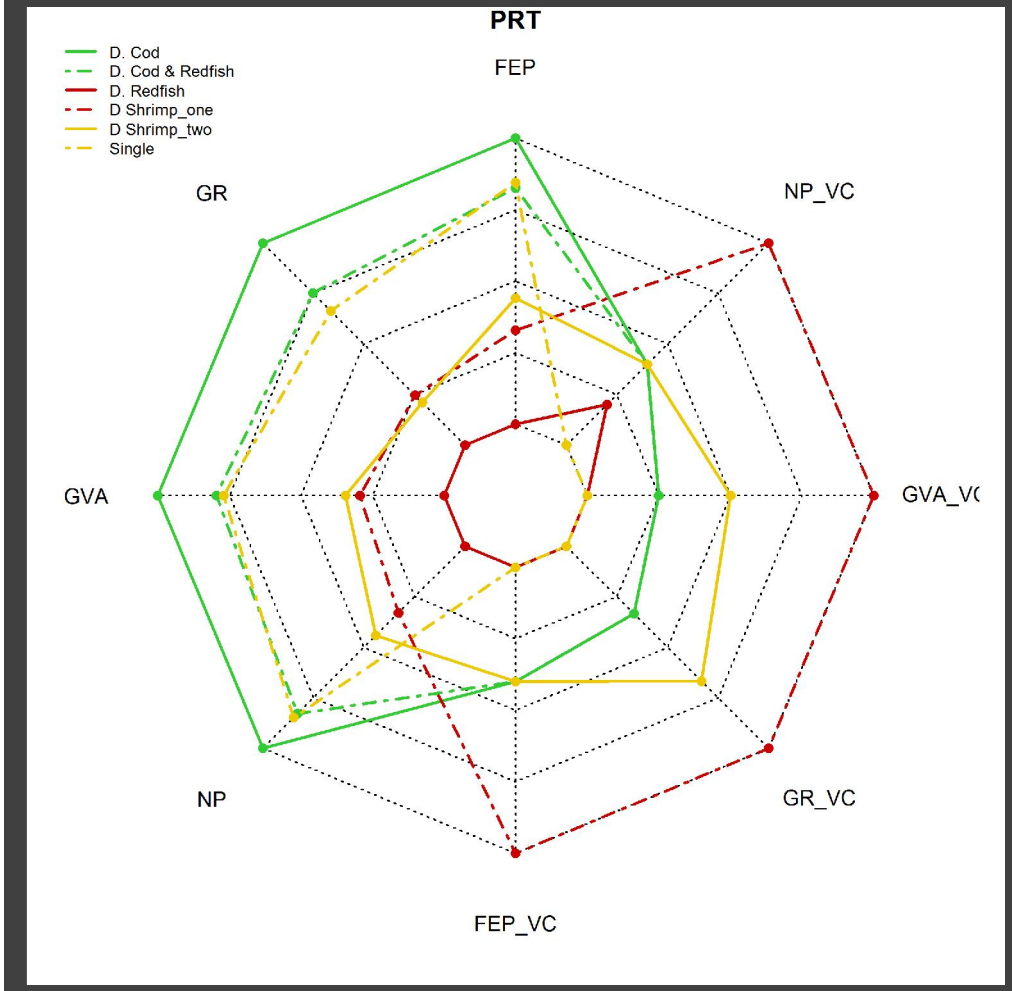
Net Profit = Resource rent

Trade-Offs among indicators



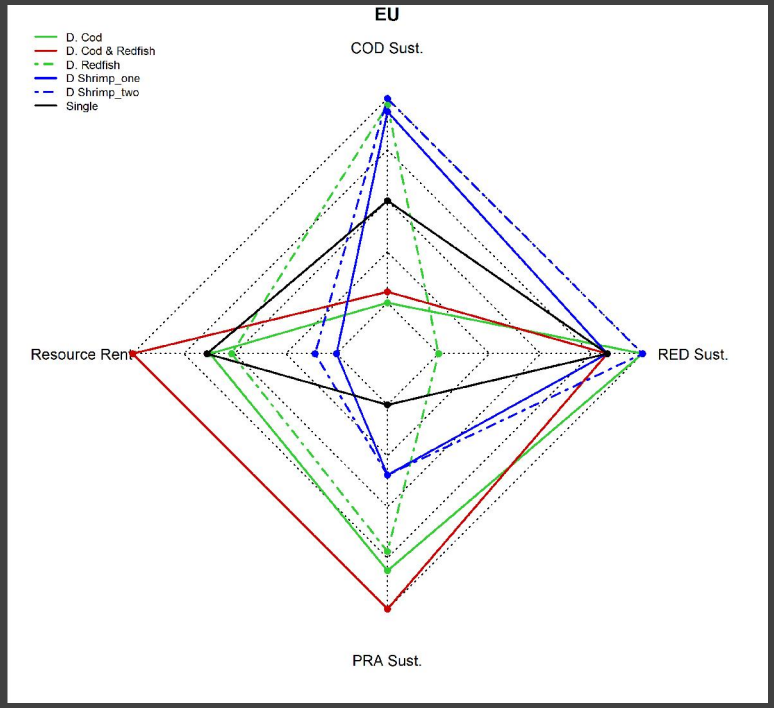
These trade offs are different depending on the fleet.

Trade-Offs among indicators



These trade offs are different depending on the fleet.

Trade-Offs among biology and economy



Economic Indicator				Biologic Risk			
Gross Revenues	GVA	FEP	Net Profit	Pr below Blim cod	Pr below Blim RED	Pr below Blim PRA	
2.644.008	2.294.651	1.746.370	1.745.035	52	13	99	
3.261.725	2.962.446	2.293.414	2.292.271	94	13	35	
2.558.803	2.251.580	1.722.689	1.721.516	99	0	47	
2.177.232	2.003.675	1.558.551	1.557.888	8	75	53	

Conclusions

- What is good for one MS it is not as good for other;
- It will depend on the catch profile of each fleet;
- Trade-offs arise in terms of MS, Indicators and bio-economy;
- Be careful with the mean… it can be too variable;
- Variability is always bad for investment decisions;
- Talk about long term in economy is always difficult;
- A good design of a HCR is always superior;
- No over-capacity is appreciated in NAFO 3M.

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