

The key for Sustainable Development Metrics: What to measure, not how to measure it

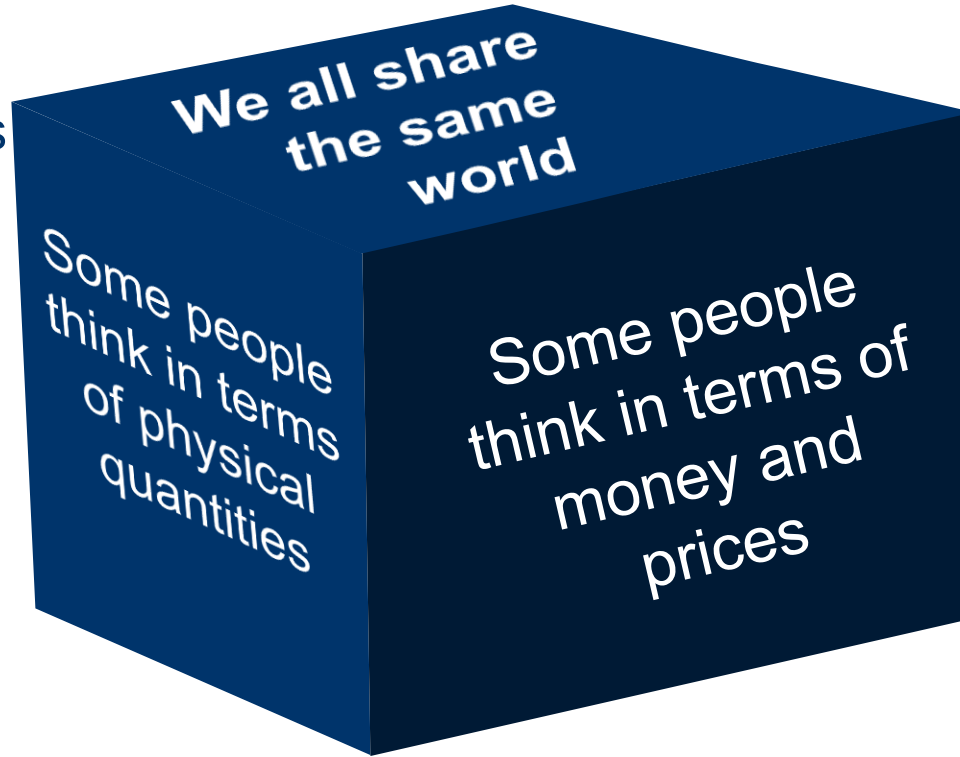
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Physical quantities

- The data are becoming vast.
- If we can explain the units to electrical engineer, we can build a sensor.
- The challenge is wrangling the data not that we don't have it.



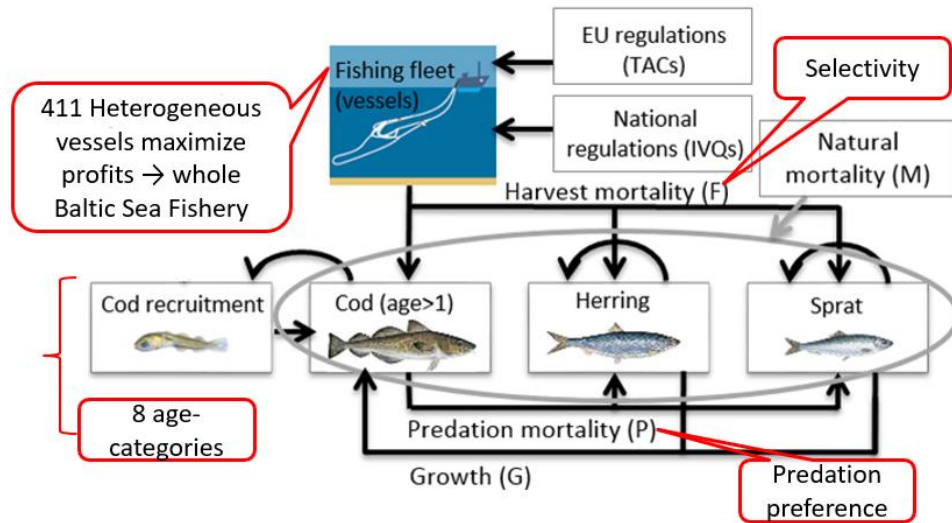
Prices

- Concepts remain confusing.
 - Value v price (price is the derivative of value).
- Reflect substitution opportunities and complementarities.
- “Optimized” v “Realized” prices.
- Measurement of realized prices for a conversation, which is different than forecasting possibilities.

*How to deal with changing quantities and prices in an accounting framework (index numbers theory without a market)?

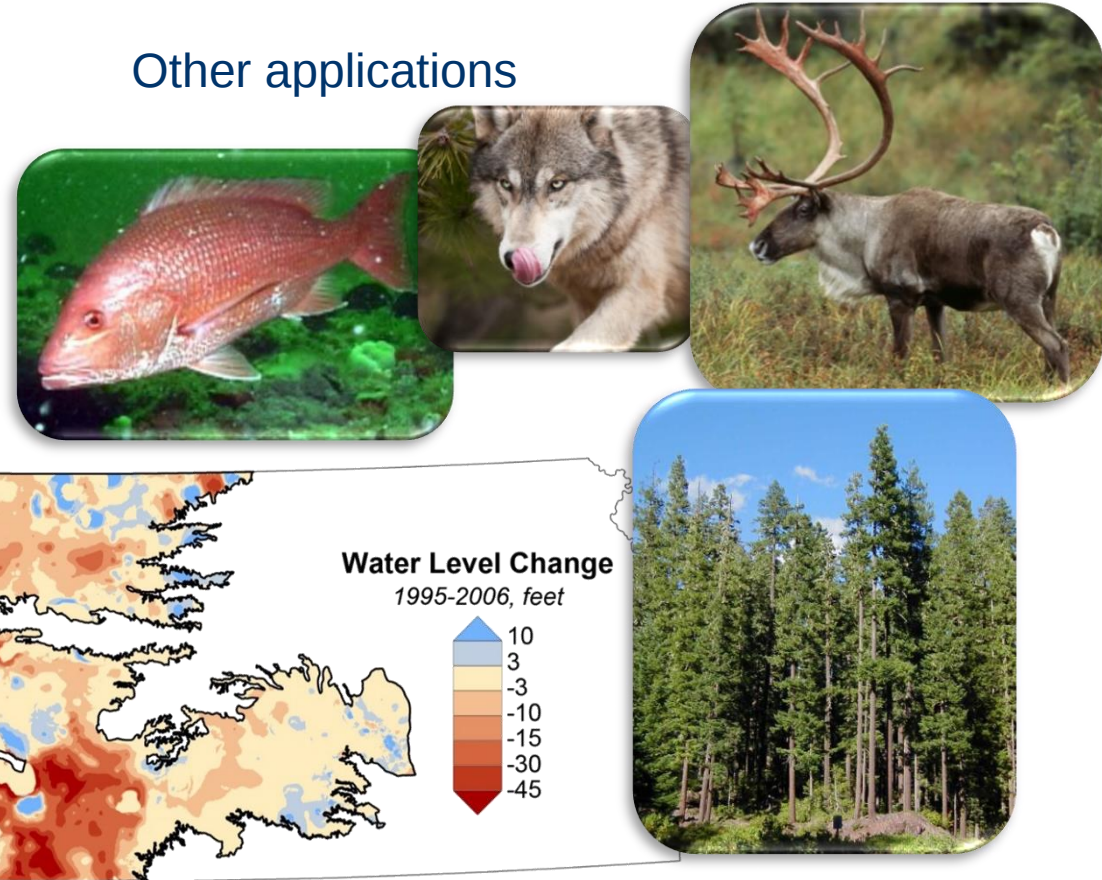
Measuring quantities and prices to measure changing wealth & shape the conversation

Measure changes in natural capital wealth, in Euros, in the
Baltic Sea Cod-Herring-Sprat Fishery accounting for
species interaction and fisher behavior



From: Yun et al., 2017. Ecosystem based management and the wealth of ecosystems. Proc. Natl. Acad. Sci. U. S. A. 114, 6539-6544.

Other applications

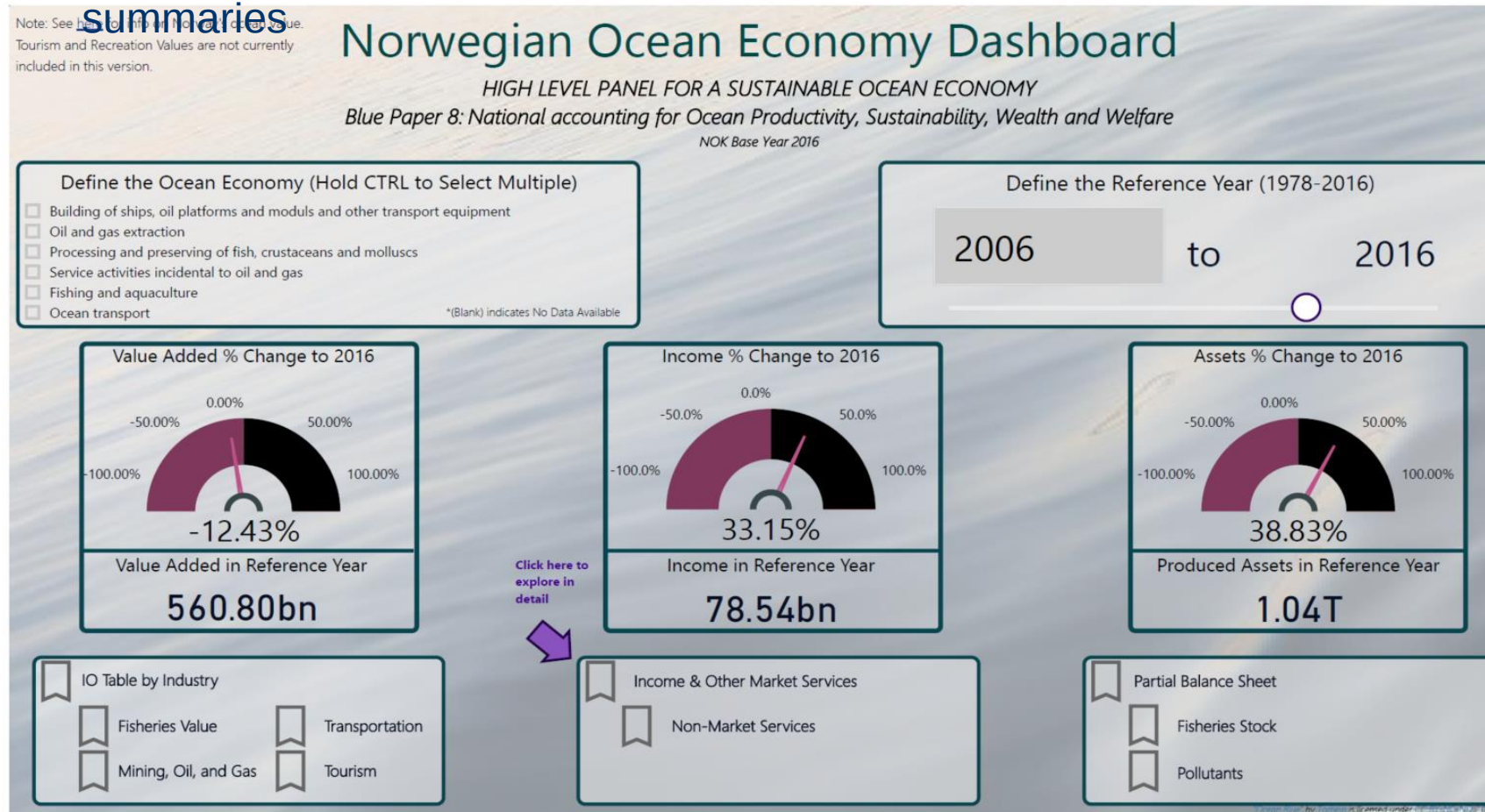


Applications that change the conversation.

What is the use case? and How to aggregate?

1. What is in and what is out? -- a question of boundaries
2. Stiglitz et al - Measurement needs to lead to an information system not

summaries



Fenichel et al., 2020. Modifying national accounts for sustainable ocean development. *Nature Sustainability* 3, 889-895.

AND

Fenichel et al., 2020. National Accounting for the Ocean and Ocean Economy, Washington, DC. Blue Paper for the High Level Panel on the Sustainable Ocean Economy, <https://oceanpanel.org/blue-papers/national-accounting-ocean-and-ocean-economy>

We can solve the technical measurement challenges.

The bigger challenges are:

What to measure?

How to aggregate measurements?

These are not a scientific question – but needs to be a science enabled question.