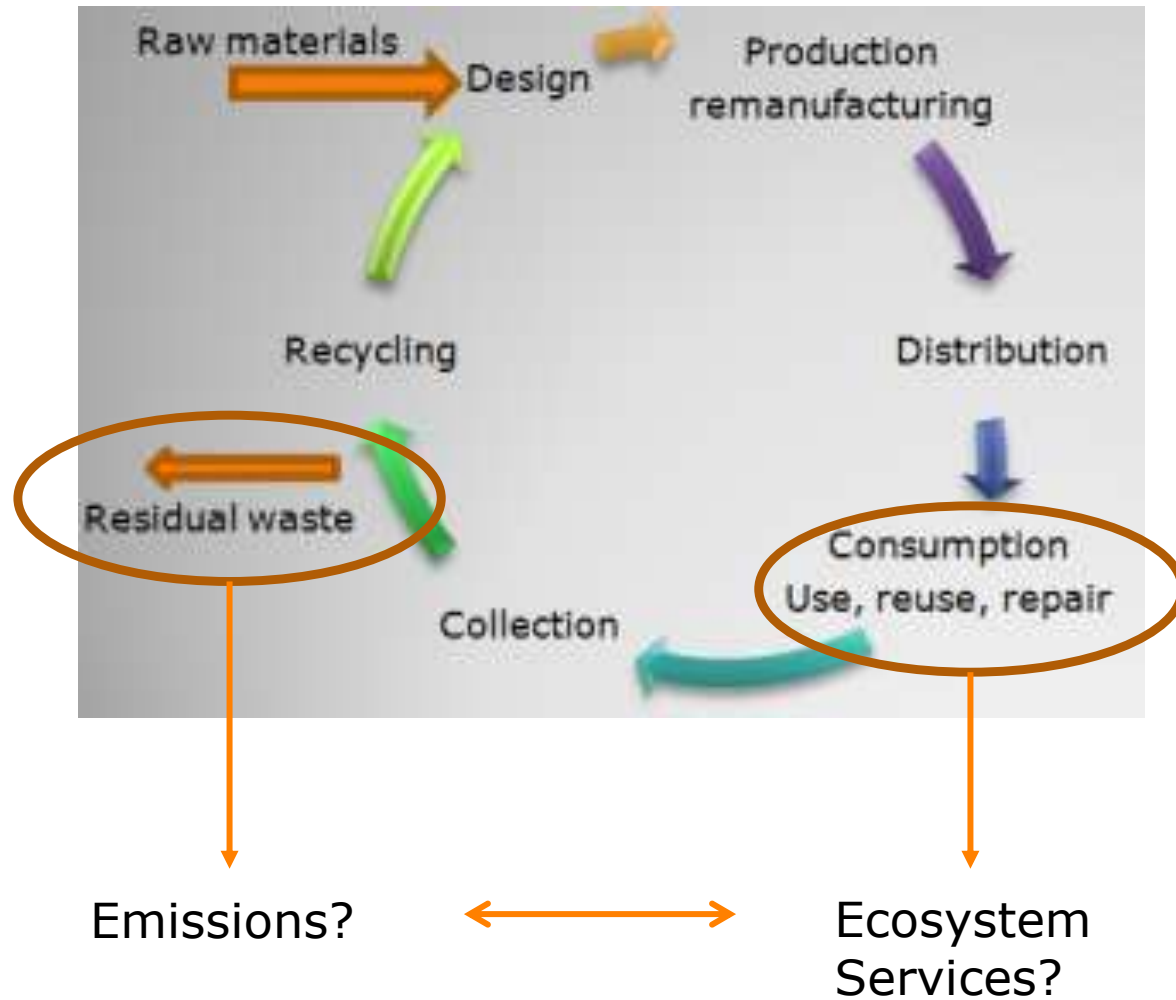


Total Economic Value

**Dimitris Skuras,
Department of Economics,
University of Patras**

«Circular economy and valorization/recycling: a potential way to reduce dependence on raw material and energy»

28/11/2016





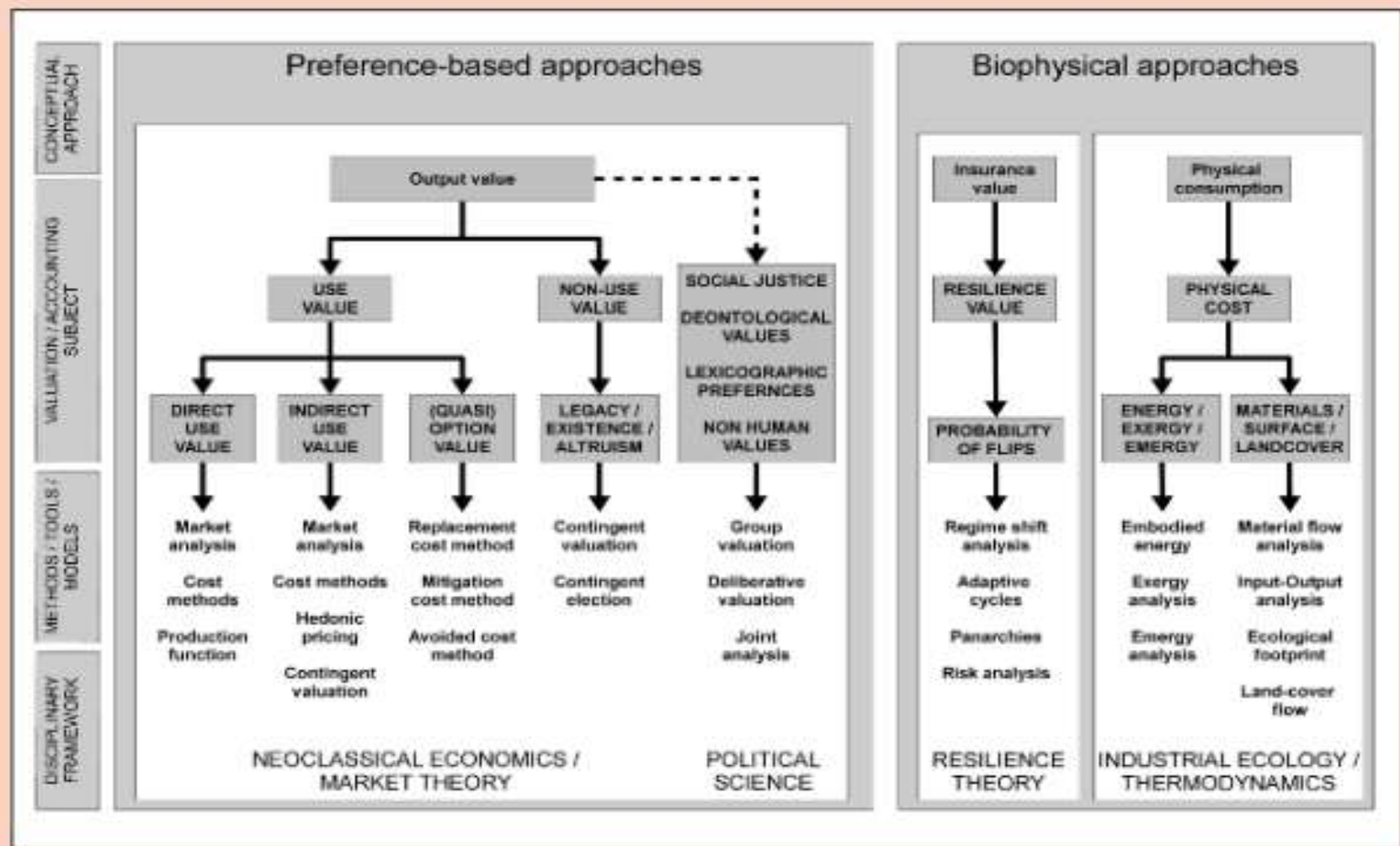
- Convention of Biological Diversity (CBD)
- Six targets of the European Biodiversity Strategy to 2020
- Target 2 aims to “maintain and enhance ecosystems and their services by establishing green infrastructure and restoring at least 15% of degraded ecosystems” (Maes, 2016)
- Action 5: the Member States of the EU are committed to map and assess the ecosystems and their services on their national territory

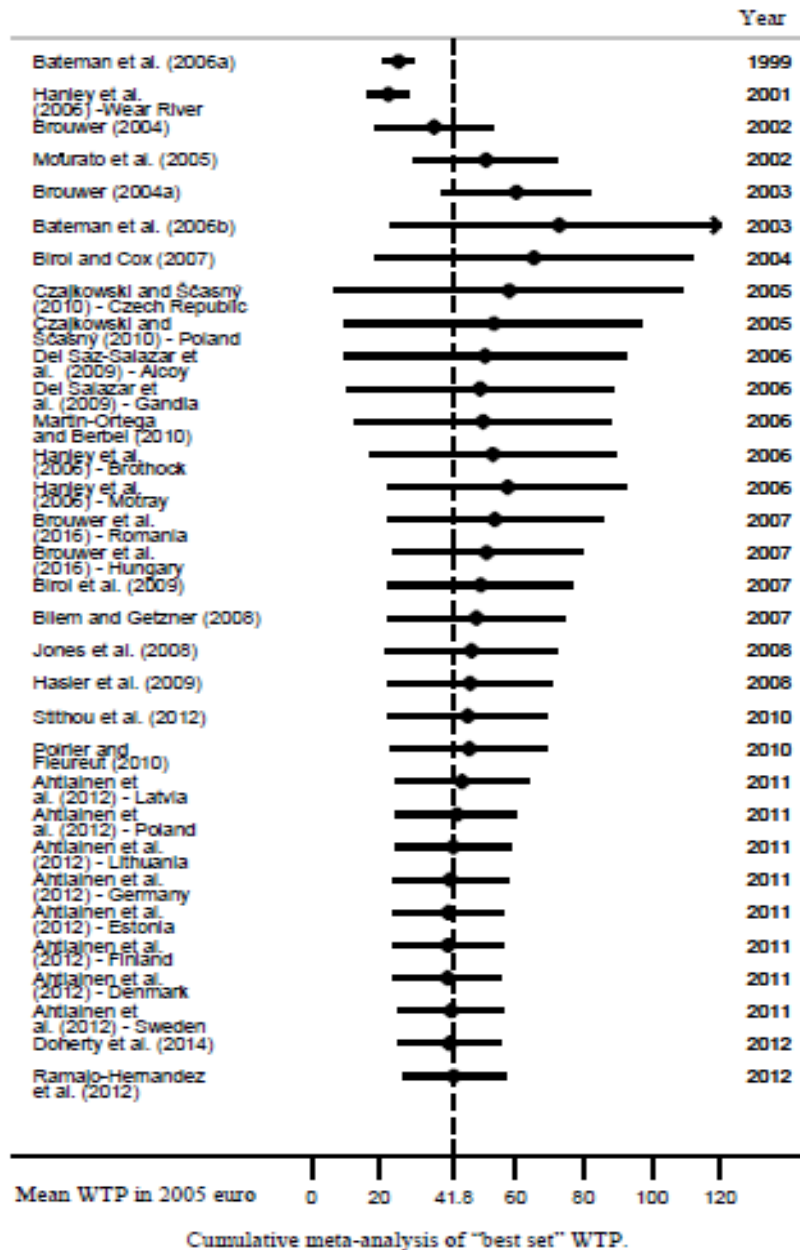
Total Value of Ecosystem Services

- **Provisioning services** – for example wild foods, crops, fresh water and plant-derived medicines;
- **Regulating services** – for example filtration of pollutants by wetlands, climate regulation through carbon storage and water cycling, pollination and protection from disasters;
- **Cultural services** – for example recreation, spiritual and aesthetic values, education;
- **Supporting services** – for example soil formation, photosynthesis and nutrient cycling.

→ **ecosystem services**

Figure 1: Approaches for the estimation of nature's values





Total economic Value of Ecosystem Services: sailing in uncharted waters

Estimates converge but it takes time and effort

Variability in:
Methodologies
Socio-economic contexts
Ecological status

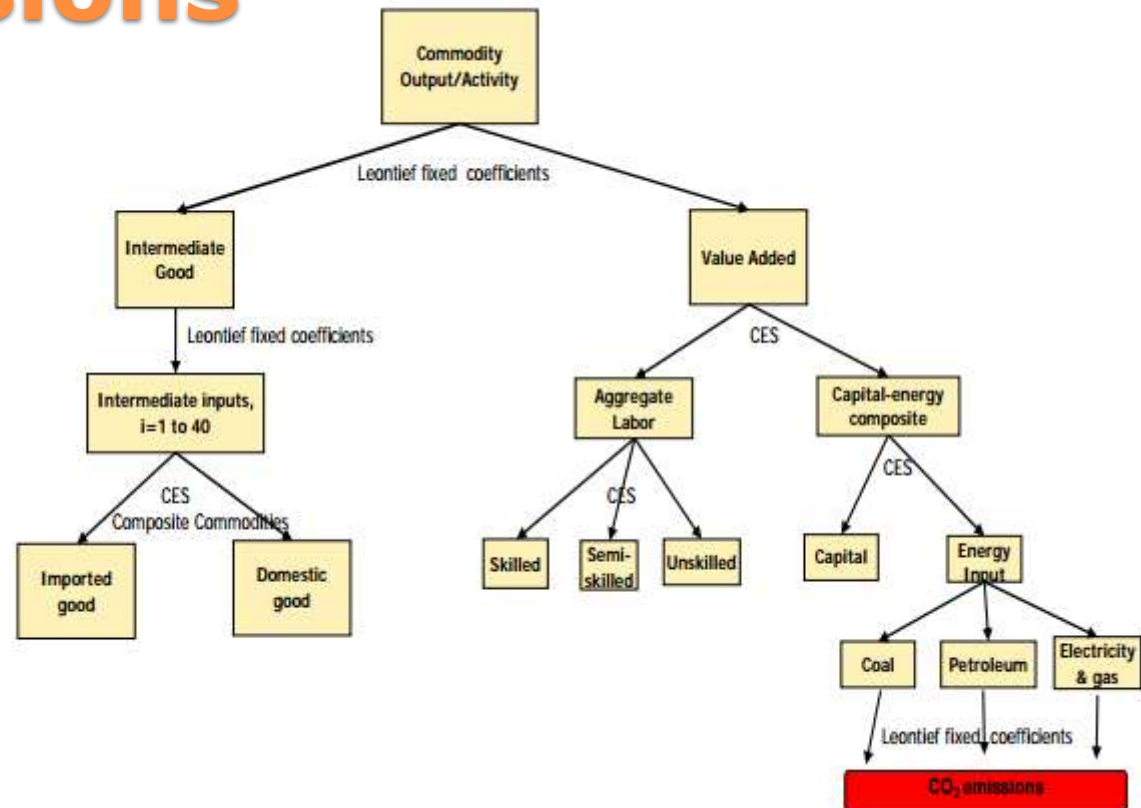
Tyllianakis, E. and Skuras, D. 2016. The income elasticity of Willingness-To-Pay (WTP) revisited: A meta-analysis of studies for restoring Good Ecological Status (GES) of water bodies under the Water Framework Directive (WFD). *Journal of Environmental Management*, 182, 531-541 .

Circular economy →
Avoiding emissions →
Cost forgone →
Benefit

- Estimating the impact of:
 - Economic activities on climate change
 - Economic policy on climate change
 - Climate change policy on climate change
 -
 -

Why to model emissions?

Economy wide modeling of emissions



Tax Policy and Carbon Emissions in South Africa¹

Shantayanan Devarajan, Delfin S. Go, Sherman Robinson, Karen Thierfelder²

Draft, March 27, 2009

www.fao.org/faostat/en/#data/GT

Data Country Indicators Compare Data Definitions and Standards FAQ

Search an Indicator or Commodity

Agriculture Total

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COUNTRIES REGIONS SPECIAL GROUPS

Filter results e.g. afghanistan

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- Greece
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- Grenada
- Guadeloupe

Select All Clear All

Greece x

ELEMENTS

Filter results e.g. emissions (co2eq)

- Emissions (CO2eq)
- Emissions (CO2eq) from CH4
- Emissions (CO2eq) from N2O

Select All Clear All

Emissions (CO2eq) x

Agriculture Total

Agriculture Total contains all the emissions produced in the different agricultural emissions sub-domains (enteric fermentation, manure management... Show More)

Food and Agriculture Organization of the United Nations (FAO)

Bulk Downloads

All Data	1.11 MB
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Oceania	60 KB

Last Update
June 13, 2016

Related Documents

[Agriculture Total](#)

Definitions and standards

Metadata

ITEMS ITEMS AGGREGATED

Filter results e.g. enteric fermentation

- Rice Cultivation
- Synthetic Fertilizers
- Manure applied to Soils
- Manure left on Pasture
- Crop Residues
- Cultivation of Organic Soils

Select All Clear All

Synthetic Fertilizers x

YEARS YEAR PROJECTIONS

Filter results

- 2014
- 2013
- 2012
- 2011
- 2010
- 2009

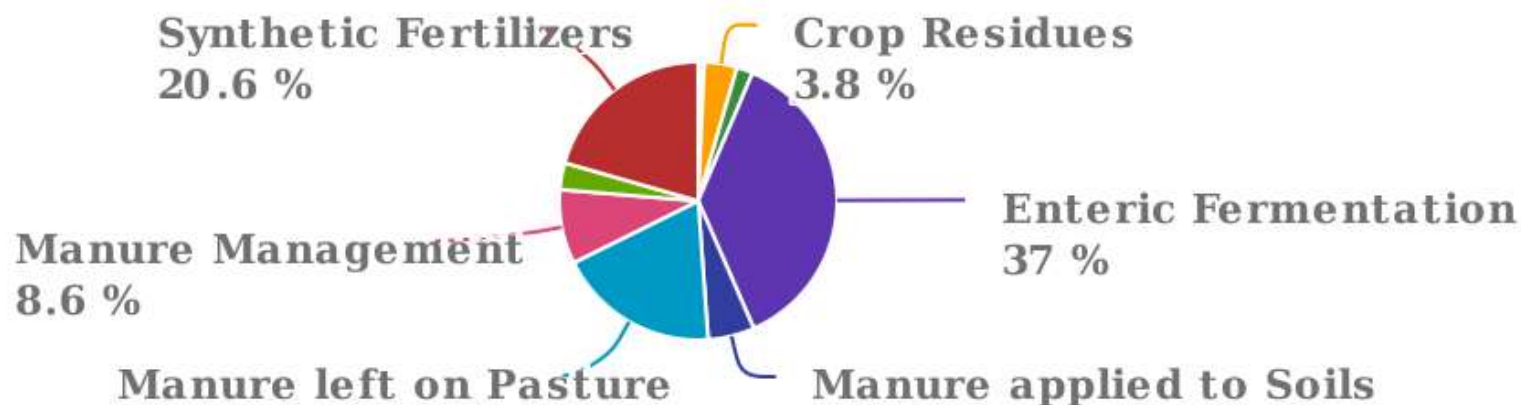
Select All Clear All

2014 x

Building reliable databases

Emissions by sector (CO₂ equivalent), Greece

Average 1990 - 2014



Ongoing work:

Incorporating agricultural emissions and estimating the effects of rural development policies in Greece