What Are the Economic Implications of Overshoot, if Any?

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BI Norwegian Business School
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How much nature we have and use: The Ecological Footprint

- CARBON footprint
- FOREST PRODUCT footprint
- GRAZING land
- CROP land
- FISHING grounds
- URBAN land
Measurement Unit: global hectare (g ha)

For example, if this hectare is twice as productive as a world average, biologically productive hectare. Then it is worth 2 g ha.

For example, if this hectare is half as productive as a world average, biologically productive hectare. Then it is worth ½ g ha.
South Korea

Japan

China

Viet Nam

www.footprintnetwork.org
Egypt: Footprint and Biocapacity per person

Data: Global Footprint Network
Egypt's per capita income (ppp $)

Data: IMF
Economic Situation in Egypt after the revolution

**Washington Post:**
Caroline Freund (a senior fellow at the Peterson Institute for International Economics and former chief economist for the Middle East and North Africa at the World Bank). the country's ailing economy is at the heart of political unrest.

**www.dailynewsegypt.com:**
Egypt’s economy over three years of turmoil

**english.alarabiya.net:**
President Sisi: Egypt’s economic situation is ‘very difficult’
Ecological Creditors and Ecological Debtors – 1961
Ecological Creditors and Ecological Debtors – today

Global Footprint
Global Biocapacity = 1.5
Biocapacity is not everything. But do you have the $$$ to buy it from somewhere else?

Source: Global Footprint Network
Natural vs financial capital

1. OK, externalities
2. Liquidity
3. Subsidies – gov want to secure resource access
4. Brand takes all – NC furthest removed from customer
5. Proactive liquidation policies – as income strategy
Economic Impact of Resource Overuse

<table>
<thead>
<tr>
<th>Income (short term, flow)</th>
<th>Over Biotic Resources</th>
<th>using Abiotic Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>INCREASES ↑</td>
<td></td>
</tr>
<tr>
<td>Wealth (long-term, stocks)</td>
<td>DECREASES ↓</td>
<td></td>
</tr>
</tbody>
</table>
Switzerland: Footprint and Biocapacity per person

Footprint per person

Biocapacity per person

Data: Global Footprint Network
How many Switzerlands do we have?
How many do we use?

16
Which view serves you best?
Conclusion

Physical trends can be measured and do not look pretty

Conventional economic measures as used now are blind to any of them …

… even though same measures could be used to identify growing risks.
What I would expect

If Overshoot (vs. biocapacity deficit) persists, meaning technology or markets do not compensate:

1. Effort to get everyday supplies increases (“inflation”).

2. Value of existing assets that depend on supplies decreases (“deflation”).

3. Labor loses vis-à-vis natural capital owners.
What is the material bottleneck?

- Rare earths?
- Fossil fuel?
- Biocapacity!
Five Factors

\[ \frac{\text{PER CAPITA CONSUMPTION}}{\text{RESOURCE EFFICIENCY}} = \text{PER CAPITA ECOLOGICAL FOOTPRINT (DEMAND)} \]

\[ \text{AREA} \times \text{BIO-PRODUCTIVITY} / \text{POPULATION} = \text{PER CAPITA BIOCAPACITY (SUPPLY)} \]
Norway: Footprint and Biocapacity per person

Data: Global Footprint Network
World: Footprint and Biocapacity per person

Data: Global Footprint Network

Biocapacity per person

Footprint per person
The Preferred Factor: Can We Decouple?

Decoupling of resource use from economic growth

Decoupling of environmental impact from resource use

Economic activity (GDP)

Resource use

Environmental impact

2005

2030

Source: EC/EEA
Biocapacity Deficit and Global Income Share (1985 – 2009)

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