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***Footprint Futures***

**Mini-Assignment**

**in preparation for class on Dec 1, 2014**

**Note:** This assignment should not take you more than 15 minutes to complete. In addition, this brief provides you with more background if you wish to further explore the ideas underlying the *Footprint Futures* module.

**Objective:** This mini-homework assignment is intended to prepare you for the *Footprint Future* module to be held during class December 1 and 3.

**Assignment:** We want you to explore to what extent economies can escape their physical constraints. The assignment consists of making two predictions and explaining, or at least arguing, for your choice **in one paragraph**.

Here are the two questions for you to answer:

1. According to you, what is the likelihood (percentage) that humanity over the next 50 years will be able to fully decouple from its dependence on nature? In other words, what is the percentage likelihood, in your view, that the human economy (or generating economic value) can be fully decoupled from ecosystem productivity within 50 years? (i.e., is it realistic to assume that healthy ecosystems will not be a precondition for thriving economically and socially?)
2. According to you, what is the likelihood (percentage) that humanity will be able to reduce its demand on the planet to a level **that is well within ecological limits** within the next 50 years, **without feeling a loss in wellbeing**?

What are your answers?

To stimulate your thinking, the pages below have links to opposing perspectives.

1. **Background on commonly held opposing views about ecological constraints**

There are starkly opposing views on the significance of material constraints for economic performance. You have certainly been exposed to the various views. Some use labels to distinguish the views: Neo-Malthusians, Technological Optimists, Cornucopians. Some even offer tests to put you into a label box -

<http://www.colorado.edu/AmStudies/lewis/ecology/futuresurvey.pdf>

We question the utility of these labels. There is some truth in each perspective, and labels do not due them justice. But you may find some perspectives more persuasive than others.

Since your future depends on the answers we pose in this exercise, you should dig a bit deeper and understand different perspectives.

Below are some links to some representative short views from these three (overlapping but distinct) perspectives.

***Ecosystems as foundation for economic activities (sometimes called “Neo-Malthusian”)***

Most ecology and environmental science textbooks

Millennium Ecosystem Assessment (2005) addresses ecosystem health and its implication for human wellbeing

<http://www.millenniumassessment.org/en/About.html>

<http://www.millenniumassessment.org/en/index.html>

Planetary Boundaries (Rockström et al. 2009) identify areas in which the human demand has exceeded what nature can renew.

<http://www.stockholmresilience.org/21/research/research-programmes/planetary-boundaries.html>

<http://en.wikipedia.org/wiki/Planetary_boundaries>

Herman Daly (www.steadystate.org)

<http://steadystate.org/what-is-the-limiting-factor/>

<http://steadystate.org/krugmans-growthism/>

Limits to Growth (Dartmouth edition)

<https://collections.dartmouth.edu/teitexts/meadows/diplomatic/meadows_ltg-diplomatic.html>

<http://en.wikipedia.org/wiki/The_Limits_to_Growth>

Jeremy Grantham (financial analyst)

<http://www.gmo.com/websitecontent/GMO_QtlyLetter_3Q14_full.pdf>

***Hyper-efficiency: Technological ability to decouple from material dependence (sometimes called “Techno-Optimists”)***

Amory Lovins

<http://e360.yale.edu/feature/amory_lovins_clean_energy_guru_presents_his_master_plan/2496/>

<http://en.wikipedia.org/wiki/Amory_Lovins>

Ernst von Weizsäcker

<http://www.naturaledgeproject.net/factor5.aspx>

UNEP Resource Panel

<http://www.unep.org/resourcepanel/Publications/Decoupling/tabid/56048/Default.aspx>

<http://www.unep.org/resourcepanel/new/ResearchPublications/AssessmentAreasReports/tabid/133328/Default.aspx>

European Commission – Resource Strategy

<http://ec.europa.eu/resource-efficient-europe/>

<http://ec.europa.eu/resource-efficient-europe/pdf/resource_efficient_europe_en.pdf>

***We can create solutions faster than we create problems… (sometimes called “Cornucopians”)***

Matt Ridley (author of the “rational optimist”)

<http://online.wsj.com/articles/SB10001424052702304279904579517862612287156>

<http://www.footprintnetwork.org/en/index.php/GFN/blog/as_rational_optimists_we_believe_we_can_overcome_ecological_overshoot>

<http://en.wikipedia.org/wiki/Matt_Ridley>

Peter Diamandis (author of Abundance)

<http://www.nytimes.com/2012/04/01/books/review/abundance-by-peter-h-diamandis-and-steven-kotler.html?pagewanted=all>

Ray Kurzweil (author of “The singularity is near”)

<http://en.wikipedia.org/wiki/The_Singularity_Is_Near>

<http://www.technologyreview.com/view/425818/kurzweil-responds-dont-underestimate-the-singularity/>

Bjorn Lomborg (author of “the skeptical environmentalist”)

[www.lomborg.com](http://www.lomborg.com)

<http://en.wikipedia.org/wiki/Bj%C3%B8rn_Lomborg>

<http://www.lomborg-errors.dk/>

Breakthrough Institute – think tank offering contrarian views

<http://thebreakthrough.org/index.php/voices/energetics/iea-acknowledges-rebound-effects>

1. **Preview: Background on Ecological Footprint**

To get more out of *Footprint Futures*, it may be useful to make yourself already a little familiar with Ecological Footprint accounting.

Here some simple links:

<http://www.footprintnetwork.org/en/index.php/GFN/page/footprint_basics_overview/>

<http://www.footprintnetwork.org/en/index.php/GFN/page/methodology/>

Country examples:

<http://www.footprintnetwork.org/en/index.php/GFN/page/trends/united_states_of_america/>

The Method Paper on the National Footprint Accounts is available here:

<http://www.footprintnetwork.org/images/NFA%20Method%20Paper%202011%20Submitted%20for%20Publication.pdf>