



Economic growth and sustainable development

Reading list

The course builds mainly on research published since 2010 in leading economics journals. However, this research builds on earlier research, for instance on growth theory from the 1950s (the Solow model) and then in particular the 1990s (endogenous growth theory), on the macroeconomics of non-renewable resources from the 1970s (the DHSS model), and on links between growth and pollution starting in the 1990s (the EKC hypothesis).

The lectures cover this published material, and the draft book [Hart \(2019a\)](#) provides written material, including mathematical derivations, that backs up the lectures. Both the draft book and the lecture notes provide many references to published papers and data sources which are highly relevant for the course. Here I list some of the most important papers in the economics literature on which the analysis builds, and give advice on what to read.

The book by [Aghion and Howitt \(2009\)](#) is not required reading.

1. Economic growth

[Aghion and Howitt \(2009\)](#) chapter 1 gives an overview of the Solow model. For more on Solow see [Robert Solow wiki](#) and links therein. [Aghion and Howitt \(2009\)](#) chapters 2–4 give an introduction to endogenous growth theory. The key original articles in endogenous growth theory are [Romer \(1990\)](#) and [Aghion and Howitt \(1992\)](#). These are not required reading. However, I strongly recommend that you read [Romer \(1994\)](#), a highly enlightening review of growth theory and the research process in general. [Paul Romer's wikipedia page](#) is also worth a look.

2. The DHSS model and Solow's mechanisms

For the original papers of the DHSS model see [Dasgupta and Heal \(1974\)](#), [Solow \(1974b\)](#), and [Stiglitz \(1974\)](#). However, these are not a particularly easy read! ([Solow \(1974a\)](#) is better in that respect.) See also the original Hotelling paper: [Hotelling \(1931\)](#). For a survey of (older) theory and evidence on Hotelling and resource prices see [Krautkraemer \(1998\)](#). And for a critique of the idea that resource prices are dominated by scarcity rent, see [Hart and Spiro \(2011\)](#). For critical discussions (very relevant for thinking about gobbets among other things) see [Daly \(1997\)](#) and [Sagoff \(1995\)](#). For the state-of-the-art in extending the DHSS to account for the actual nature of resource stocks and the extraction process see [Hart \(2016\)](#). But the math is tough! Finally, for a 'doomsday' analysis see [Meadows et al. \(1972\)](#) 'The Limits to Growth', and for Solow's riposte (inconsistent with the DHSS model!) see [Solow \(1973\)](#).

3. Natural resource demand and Solow's mechanisms

For models of DTC and resource efficiency see [Aghion and Howitt \(2009\)](#) ch. 16, and [Smulders and de Nooij \(2003\)](#). For a critique of assumptions typically made in these models see [Hart \(2013\)](#). Turning to DTC and alternative resource inputs see [Acemoglu et al. \(2012\)](#) for a much cited but misleading model; a very tough read, but look at pp.1–4. For a critique and

an alternative see [Hart \(2019b\)](#). Also a tough read after the introduction! For a very broad discussion see [Goeller and Weinberg \(1978\)](#). For structural change see [Binswanger \(2001\)](#) for a much-cited discussion of rebound, and [Fouquet and Pearson \(2006\)](#) and [Knittel \(2011\)](#) for evidence about increases in energy efficiency and structural change. For more recent analyses see [Hart \(2018\)](#) and [Sager \(2019\)](#).

4. Pollution

Here the seminal paper is [Grossman and Krueger \(1995\)](#), pointing out the empirical pattern and speculating about the underlying causes. [Selden et al. \(1999\)](#) is a good empirical paper which helps us narrow down the field of potential causes. The key theory papers are [Stokey \(1998\)](#) and [Hart \(2020\)](#).

5. Leisure and status

Regarding leisure and status see [Jackson \(2009\)](#) for an interesting book questioning the goals of current economic policy. For interesting background see [Keynes \(1930\)](#), and for a modern paper see [Aronsson and Johansson-Stenman \(2008\)](#).

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