Economics of Sustainable Management

8a. Degrowth

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La Décroissance – Degrowth

Decrescita, Decrecimiento, Decreixement, Postwachstum, Nemnövekedés, etc...

Degrowth and alternatives in economy

Why economic growth is not ecologically sustainable

- The industrial economy depletes resources and overloads the sinks. Hubbert's peak oil is approaching. Carbon dioxide concentration in atmosphere increasing 2 ppm per year.
- Energy cannot be recycled, and materials are recycled only to a small extent.
- Therefore, continuous new search at the "commodity frontiers" to substitute for dissipated energy and materials, and for new supplies.
- Improvements in resource productivity might lead to Jevons' Paradox or rebound effect.

(adapted by Joan.Martinez.Alier 2012)

Physical Indicators

- Social Ecology, Human Ecology, and Ecological Economics provide figures on physical indicators.

- MATERIAL FLOWS : there is no dematerialization (no need to discuss any further Faktor 4). Now we know the numbers in Europe, and outside Europe.

- Quite often, not only the absolute amount of materials but also material intensity (tons of materials / GDP) is increasing! Indicates pressures on the environment.

- Convergence to a European average of 16 tons per person/year (only materials, water not counted here) would multiply Material Flows in the world by 3.

(adapted by Joan.Martinez.Alier 2012)

Material Flows, Ecological Conflicts

Economies can be characterized by such Material Flows. We see historic trends, we may analyze patterns of external trade (Latin America exports (directly) six times as many tons as it exports. The European Union imports (directly) four times as many tons as it exports). "Ecologically unequal exchange"?

We can understand characteristic patterns of social conflicts, for instance mining conflicts or oil conflicts, or international conflicts because of unequal access to carbon dioxide sinks (oceans) or temporary "reservoirs" (atmosphere).

(adapted by Joan.Martinez.Alier 2012)

Physical indicators, cont

We know that **energy use** per capita is increasing. Convergence towards 300 Gigajoules per capita/year would mean to multiply by 5 the present energy in the world economy. If gas and especially coal are used, also multiply by 4 or 5 the carbon dioxide produced. Also, danger of nuclear civil-military proliferation.

The **EROI** is declining (energy return on energy input) (e.g. oils sands and heavy oils, or agrofuels).

(adapted by Joan.Martinez.Alier 2012)

Physical indicators, cont

The **HANPP** is also increasing – human appropriation of net primary production of biomass. Population growth, soil sealing, meat eating, agro-fuels increase the HANPP.

The higher the HANPP, the less biomass available for other species. Indicates loss of biodiversity.

(adapted by Joan.Martinez.Alier 2012)

Monetary and Physical indices that try to describe reality with

only one number

Some well-intentioned attempts to have a **"greened" GDP**, in a weak sustainability framework. They were useful for early discussions. Hueting's proposal to deduct from GDP the expenses of adjusting the economy to environmental limits established by scientific and social consensus. Other proposals, ISEW or GPI.

On the physical side, the Ecological Footprint adds in hectares, a) surface for food, b) surface for wood, c) space built over, d) surface virtually needed to absorb the carbon dioxide produced by fossil fuels. Author: William Rees (1992), building on ideas of *ghost acreage* (G. Borgstrom), environmental space. **EF per capita closely correlates with CO2 emissions per capita.**

An important point is that calculations of the excessive EF of humans require a previous collective human decision on how large the HANPP should be.

Non-equivalent descriptions of the economy

- The economy is seen as a carroussel between consumers and producers. They encounter each other in markets for consumer goods or in markets for the services of production factors (like selling labour time for a wage). Prices are formed, quantities are exchanged.

This is CHREMATISTICS. Macroeconomic accounts (GDP) aggregate the quantities multiplied by the prices.

- The economy may be described in a different way, as a system of transformation of (exhaustible) energy and materials (including water) into useful products and services, and finally into waste.

This is BIOECONOMICS / ECOLOGICAL ECONOMICS

(from N. Georgescu Roegen 1966, 1971, Herman Daly 1968, A. Kneese and R.U. Ayres, 1969, Kenneth Boulding, 1966).

Early debates on economy and environment

Proto-ecological-economists who looked at the economy in physical terms: S.A. Podolinsky, 1880 who calculated the EROI of agriculture, Patrick Geddes against Walras, 1884, W. Ostwald, 1909, Frederick Soddy, 1922 (Debts increase exponentially while the physical Economy declines entropically), Otto Neurath, 1920 (against Hayek and von Mises: *Naturalrechnung*), Lewis Mumford. K.W. Kapp (1950).

In the 1970s: Meadows (*Limits to Growth*), H.T. Odum, Roefie Hueting (economy grows but welfare does not), G. Nebbia, J. M. Naredo, René Passet (*L'économique et le vivant*, 1979) ... the Japanese "Entropy school" (Tamanoi, Tsuchida), and the better known Ivan Illich, André Gorz, Barry Commoner, Murray Bookchin (who started early)...

They saw the economy in physical terms, they attacked the economists, and many of them made social recommendations. Shall we have fights over who said something first, in which European (or non-European) language?

These people were writers, intellectuals. Then there was Sicco Mansholt, 1972, the German Greens, 1980, but now there is a social movement for Sustainable Degrowth! The slogan "Sustainable Degrowth" invented in France and Italy. (See for instance, S. Latouche, *La pari de la décroissance*, 2007).

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The definition of Degrowth

"*Political slogan with theoretical implications*." (Latouche 2010:519)

"*Socially equitable gradual reduction of production and consumption that increases human satisfaction and improving environmental conditions at local and global levels, in both the short and long term*." (Schneider et al. 2010:512)

"*Socially just (eqitable) and democratic transition to a smaller economy with less production and consumption*." Aliero-Martínez et al. (2010:1742)

"*Sustainability can be de-growth of ecological-economic perspective defined as socially equitable and sustainable reduction (and stabilization) [material and energy] flow at the level of society*." Kallis (2011:874)

(Flow is yet according to Daly (1996) defined as matter and energy, which the company / social system harvested, transported, redistributed, consume, and back into the environment as waste.)

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Sources of Degrowth arguments

- ecological / environmental ethics, spirituality, ethics, anti-utilitarianism
- psychology, criticism of lifestyle-based addiction or obsession growth critique of economism, Easterlin paradox
- Bio-Economy, ecological economics
- industrial ecology, Jevons paradox
- critique of development, including the developmentalism
- democracy, incl. issues of technological development
- issue equity, economic, social and environmental, intra-and inter-generational, degrowth of inequality

(adapted by Demaria et al. 2012)

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Possible interpretations of degrowth?

(According to van den Bergh 2011)

- degrowth, respectively. reduction in GDP
- degrowth in consumption (goods and services, and thus natural resources)
- degrowth of working time
- radical degrowth (full set of radical changes in the economy - preferences, markets, property, etc.)
- physical degrowth (reduction in the volume of the economy)
- degrowth GDP fetishism, a-growth

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Specifics of degrowth

- explicit opposition to the current mainstream economic system (X concept of sustainable development, green economy, etc.)

- ambitions also affect community-wide level (X voluntary modesty)

- first social movement, subsequently academic reflection (X individual ideas and arguments obviously older)

- overarching framework for reflection, not a specific program or set of measures, a paradigm shift

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Some policy proposals

- reduction of working hours
- institutions providing minimum health and economic security, such as basic income
- policy work to allow less pressure on productivity and higher employment in sectors such as education or health
- redistributive taxation, taxation of international capital transactions and greater control of tax havens, which will raise funds for the necessary changes in other sectors
- introduction of complementary local currencies
- decentralisation of banks and financial institutions
- taxation of environmental damage, CO2 emissions and nuclear energy
- introduction of caps on CO2 emissions, energy consumption, materials and pollution
- moratorium on further mining of some resources and building new infrastructure
- prohibition of certain very harmful activities, including advertising ban

(according to Kallis 2011)

Social difficulties with economic degrowth

1. Labour productivity goes up 2 or 3% per year, if the economy does not grow, then increase in unemployment.

2. Who will pay for the mountain of credit, the mortgages and the public debt, if the economy does not grow?

3. If a country does not grow, capitals will move to countries where profit-rates are higher.

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Resources

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web: http://nerust.wordpress.com/