The Steady State Economy Conference

Working Towards an Alternative to Economic Growth

Policy Proposal

Workshop 9: Business and Production

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Question: In a steady state economy, what form would business and production take if markets are required to work within a system prioritising optimal scale and fair distribution?

1. Background

The Physical impact of current economic activity exceeds the Planet's ecological carrying capacity by all measures. Planetary carrying capacity can be determined by the ability of planetary sources (material and energy resources, land area, biomass) and sinks (atmosphere, water, soil) to regenerate themselves (to reproduce resources, to assimilate waste) in a given time period. The impact of economic activities on the Earth's ecosystem can be calculated by various means. One prominent measure is the so-called ecological footprint, relating economic activities with ecologically productive land area needed to supply the economy with resources and providing for sinks. According to this measure, economic activity today is exceeding the carrying capacity of the Planet by more than 30 percent e.g. humanity is using up resources faster than nature can regenerate them (c.f. Footprint Network). In other words, humanity has started to become an ecological debtor for roughly the last 25 years. Projections of the current development, if nothing changes, would lead to an overshoot of carrying capacity by 100 percent by around 2040 i.e. humanity would need two planets by then to fulfil their ecological demands from economic activities.

Several strategies can be thought of in order to tackle this challenge. The first strategy, and by far the most popular among policy makers and captains of industry, is eco-efficiency. Eco-efficiency is adhering to the dominating techno-economic paradigm of technological innovation and change within the market system of free enterprise and a growing monetary base ("business as usual" paradigm). More fuel efficient cars or cars with new engine technologies, like hydrogen fuel cells or batteries, are examples for this strategy. The other strategy, and by far the least popular, is in creating sufficiency. Sufficiency strategies are focusing on product use and product demand itself and has the tendency for less or "small is beautiful": less products, less material throughput, lower scale of economic activities that are in line with the limits of a finite Planet. When using a

simple spreadsheet calculation, the effects of both strategies can be estimated quite easily. If economic growth, the growth in numbers of products and services per year expressed in monetary terms, is set at a fixed rate of three percent (the desired rate of the so-called Lisbon Agenda of the European Union) and a similar rate for eco-efficiency innovation is taken into account (which is also a desired goal for the sustainability strategy of the European Union, but would mean an instant doubling (!) of energy and resource efficiency compared to the long-term average), then GDP will more than triple between 2010 and 2050, whereas total ecological impact only decreases by less than two percent. Although impact per GDP unit (per Euro e.g.) would be lower by more than two thirds compared to 2010, economic growth of total GDP will destroy almost all efficiency gains. The only option it seems, from this simple calculus, is a mixture of efficiency increases and reduction of economic growth in order to reduce ecological impact by economic activities towards a level which is sustainable in the long-term. This entails the call for *decroissance* or *degrowth*.

Degrowth is understood *as a voluntary transition towards a just, participatory, and ecologically sustainable society*. Its objectives *are to meet basic human needs and ensure a high quality of life, while reducing the ecological impact of the global economy to a sustainable level, equitably distributed between nations.* Although the demand for lowering material throughput i.e. physical degrowth can be seen as mutually accepted, the demand for economic degrowth remains controversial. The implications of full-scale degrowth for the economic enterprise, both physically as well as economically, remain unclear. It has been argued that there are at least two theories for corporate degrowth. The first sees the current model of shareholder-owned profit-making corporations as adaptable for a degrowth economy and that growth and profit are two different issues. The second, on the contrary, points to the connections between growth and profit, e.g. when it comes to economies of scale i.e. the more you produce the cheaper unit costs are and the easier you can reach the financial break-even point, implying of course that you sell all these units and thus grow.

I have been arguing that there is no economic necessity for growth beyond a certain point and that point is determined by capital costs. The minimum condition for a firm's economic well-being is its ability to pay off all capital costs including wages, R&D investments and all sorts of calculatory costs like employer's salary, and thus having an economic profit of zero. Everything beyond that is excess profit. Excess profit need not be a problem as long as the ecological impacts connected to it do not exceed what is ecologically allowable for a company. Such a situation can be termed "rightsize profits", profits that are just big enough to allow for economic sustainability of a company, as well as being small enough for ensuring ecological sustainability regarding the company's impact on the natural environment.

In short, whenever total revenue (TR) is equal or greater than capital costs (CC), long-term economic well-being (nWB) is ensured: nWB: TR ≥ CC. In a simple economic logic, the more TR the better might be the desired strategy i.e. there is only one strategic

decision: increase TR if below and even if above CC. When ecological constraints are taken into account, the strategic landscape is dramatically changing. TR is then connected to total ecological impact (TEI) by means of a technology factor (τ) and this impact can exceed what is ecologically allowable for a single firm. The concept of ecological allowance (EA) is parting from traditional concepts of e.g. lifecycle costing or footprinting insofar, as it tries to capture the question of "what size is just right?". Traditional concepts compare relative ecological performances i.e. they enable companies to estimate if a newly developed product or production process has a lower ecological impact than its predecessor. If this impact is "correct" on an absolute scale i.e. if it brings the company and its production within the limits of a finite planet is not calculated. For the moment, let us leave EA as a measure that can describe exactly that.

If so, then TEI can be higher or lower than EA, whereas ecological well-being (lWB) can be expressed as lWB: TEI ≤ EA. With these two minimum conditions of nWB and lWB, and the concepts of CC, TR, TEI and EA, four context situations can be formulated as shown in the table below.

ecological well-being / economic well-being	TEI ≤ EA	TEI > EA
TR ≥ CC	1. Rightsize Profits	2. Ecological Excess
TR < CC	3. Economic Loss	4. EcoEco Disaster

Rightsize profits are the long-term sustainable state of a company, when both minimum conditions are reached. In fact, rightsize profits are synonymous with what can be termed as a sustainable business or a sustainable company.

Ecological excess on the other hand requires a reduction in TEI or an increase in EA in order to become sustainable. Having said that TEI is connected via τ with TR, two strategic options arise for reducing it: first, change τ by increasing eco-efficiency, and second, reduce TR by means of lowering product sales. Changing τ might be the favoured strategy; however as has been shown in the example above, this is not sufficient for tackling ecological impact.[1] A degrowth strategy in product sales needs to accompany if not substitute an efficiency strategy. This might be implemented by refocusing on product use and getting revenue not from sales but from product maintenance and service, as well as product redesign and remanufacturing (extending product lifecycles).

[1] The limits to an efficiency strategy result from the so-called Jevons' Paradox (Alcott, 2005) stating, in brief, that any efficiency increase in resource use acts as a price cut for that resource which c.p. increases demand and thus "destroying" ecological efficiency gains.

Economic loss is a far more easy context, compared with ecological excess and can be addressed by either reducing CC or/and increasing TR as long as staying below EA ≥ τ*TR.

EcoEco disaster is the least favoured context situation, which implies both a reduction in CC as well as bringing down τ*TR below EA. However, this situation might yield the greatest transformational possibility towards sustainable business as it stresses the organization to question all its goals and missions, including what it actually produces and sells (a physical product or the option to fulfil a customer need).

2. Policy Proposals

I want to focus on two proposals, although many more will be necessary to tackle the issues of corporate degrowth. The first is:

2.1 You can only manage what you measure!

Corporate management needs a robust measure in order to decide what strategy it has to choose. As much as any measure is debatable, unless there is a sound and robust measure for answering the question "how big is enough" no acceptance for corporate degrowth can be gained within the CEO's boardroom. For policy makers, the implications are to finance, foster and assist practice-oriented research projects on developing such a measure, apply it to best-steady-state-practices and come up with a standard routine for application like ISO and/or BS, DIN and so on.

The ecological impact of economic activities can be measured with a number of approaches like lifecycle assessment (LCA) or different foot-printing approaches, like the ecological footprint, carbon footprinting or "virtual water". Almost all of these methods calculate ecological impact without defining a reference state which acts as a target. What you can say with e.g. LCA is, if one product is more ecologically sound than the other. The only measure that yields insight to it is the ecological footprint. Here, yields of primary products like cropland, forest, grazing land and fisheries are being used to calculate the area necessary to support a specific economic activity. However, what is missing is a measure for companies. The only examples you can find are for retail, energy and agricultural industries, that have a very low-complexity product. There appears to be a difficulty in defining a target for companies, which becomes obvious when thinking about the requirements for such a measure. The problem for allotting an ecological allowance is the unclear unit of reference or exchange value. With economic indicators it is quite easy; all measures can be expressed in terms of monetary units. The only appropriate measure on the material and energy level appears to be carbon dioxide. First, it is the main cause for anthropogenic climate change which in itself is the most pressing

problem today; second, carbon dioxide can very easily be connected to energy consumption to which it is tied in an almost fixed manner; third, we can estimate the maximum sustainable yield of carbon dioxide in the Earth's atmosphere that would cause global temperature not to rise beyond the two degrees goal; which gives us, fourth, the possibility to allot allowable carbon dioxide emissions for industry.

A carbon dioxide oriented measure for ecological allowance would need to work as follows:

- calculate global allowable per annum carbon dioxide emissions to uphold two degrees limit (decline over the next forty years, method already established as carbon foot-printing),
- calculate carbon dioxide contribution from world industry production, including necessary reduction,
- build a ratio of carbon dioxide and world income contribution of world industry production, which we call χ,
- use this ratio to calculate the individual EA for carbon dioxide for a company by multiplying χ with their individual TR.

In further steps, the carbon footprint of the company needs to be calculated by using existing footprinting methods.

The second proposal is:

2.2 Legalize it! The legal form of corporations

Here, I want to focus on three new (in fact sometimes rather old) forms for organizing business, that remove the growth impulse found in the standard shareholder corporation. The implications for policy makers would be to revise laws concerning the legal forms of organizations and make it easier to change legal forms, to set up an economic organisation under alternative legal forms and provide tax incentives for abandoning growth beyond ecological excess.

2.2.1 The co-operative organisation

Co-operative organisations are in fact very old legal forms, maybe first formalised in the 18th century in Scotland. Central to its character, the co-operative is built around the principles of self-help, self-responsibility, self-administration and identity of owners, investors and decision makers. Also, within a worker or production co-operative, ownership and employment go hand in hand i.e. the co-operative is owned by its staff

and there is a strong form of organisational democracy and joint decision making. In recent years, co-operatives have had a renaissance in economic life e.g. in Germany there has been a major overhaul of co-operative law in 2007 and since 2006 there is even a European Co-operative, the Societas Cooperativa Europaea SCE. Co-operatives are built around a common goal desired and/or beneficial for its members and based on equal control of organisational decisions by all members. In some countries, e.g. Germany, co-operatives have limited liability.

2.2.2 Foundations of economy

Foundations are another rather old legal form for organisations. By definition, a foundation is a non profit organisation, often with charitable purposes. Some corporations i.e. Robert Bosch GmbH (Ltd.) in Germany, are owned by foundations (in that case the Robert Bosch Stiftung (Foundation). Others i.e. Mozilla Corporation, have transferred their patents and copyrights to a foundation (the Mozilla Foundation). When there are excess profits below the ecological threshold, it might be an interesting food for thought to think of a corporation transferring these profits to a foundation that is working on social-ecological projects in local communities and developing countries.

2.2.3 L3C – Low-profit limited liability company

This is a rather new form, established in several states in the US in 2008. It marks a hybrid of a non-profit and classical profit organisation with limited liability, having an explicit charitable mission as a primary goal. In Germany, there is a similar legal form called "gemeinnützige GmbH" (public interest Ltd./PIL) and even a "gemeinnützige Kapitalgesellschaft" (public interest corporation). These legal forms often benefit from lower taxes or even no corporate taxes at all (in the German case). In Germany a gGmbh, as it is called, can also give donation receipts. A very similar form can be found in the UK with the so-called Community Interest Companies (CIC).

What I am arguing for, is providing companies with (a) a measure to understand, what their right size is and (b) the legal forms beyond the traditional shareholder model, which will place confidence in entrepreneurial spirit for steady state businesses and allow for societal experiments within the existing economic framework in order to transform it towards a sustainable steady state economy.

Information Resources

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