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POST-GROWTH ECONOMICS

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Introduction

Today's sustainability concepts are mostly based on ecological modernisation. Modern societies follow this trend and tend to shift the necessity of changing their consumption habits to a point later in time, or even deny the necessity of change completely. This is based on the hope that technological progress can solve the sustainability problem without having to go through difficult changes in lifestyle and a moderation of consumption habits. However, many of those 'Green' innovations intensify material and energy overexploitation by making use of previously unspoiled landscapes and untouched resources. As long as decoupling by technological means turns out to be impossible, sustainable development can only be understood as a programme for economic reduction rather than conjuring Green Growth solutions.

In this chapter I will explore an alternative to this popularised approach. That is a world that no longer clings to the growth imperative and makes the post-growth economy its goal. I start by defining what is meant by post-growth economics and how it has developed. This is followed by an exploration of the case for limits to growth and why decoupling runs into problems, including the rebound effect. I then outline some key aspects of a post-growth economy, before briefly identifying future directions and finishing with some concluding remarks.

The development and meaning of post-growth economics

Development of post-growth economics

The terms post-growth economics (as an analytical framework) and post-growth economies (as a concrete draft for the future) arose in debates over sustainability held at Carl von Ossietzky University in Oldenburg during 2006. Since then numerous publications, events and networks have devoted themselves to this topic, although they might have different foci and specific interests. Post-growth economics can be seen as a further development of a first wave of growth critical discourses. These include the works of Kohr (1957), Mumford (1967), Georgescu-Roegen (1971), Meadows et al. (1972), Illich (1973), Schumacher (1974), Daly (1977), Hueting (1980), and Gronemeyer (1988). This first wave arose in the late 1960s and peaked in the 1970s. However, since the turn of the century, a second wave of growth critical discourses has arisen

and is associated with a variety of terms and authors, including: “Ökosozialismus“ (Sakar, 2001), La Decrescita Felice (Pallante, 2005), Décroissance (Latouche, 2006/2009), Degrowth (Martínez-Alier, 2009), Postwachstumsökonomie (Paech, 2008, 2012), Managing without Growth (Victor, 2008), Prosperity without Growth (Jackson, 2009), Vorwärts zur Mäßigung (Binswanger, 2009), Exit (Miegel, 2010), Plenitude (Schor, 2010), and Postwachstumsgesellschaft (Seidl and Zahrt, 2010).

Definition of post-growth economics

Post-growth economics is a sub-discipline in the field of economics. Subject areas of post-growth economics are the connection between sustainable development and economic growth. In contrast to environmental economics which aims at the ecological decoupling of the Gross Domestic Product (GDP), post-growth economics focuses on economic systems, subsystems and even lifestyles with the aim of reducing the quantities of supply and demand. This field of economics aims to describe the rationales which justify the approach of an economy without growth (post-growth economy) and generates knowledge for action in order to practically implement the overcoming of the growth orientation.

There are three major topics within the study of post-growth economics, as shown in Figure 46.1, namely, limits to growth, growth mechanisms and the post-growth economy. First, limits to growth, or growth criticism, analyses several things including failures of decoupling, unjustified wealth, peak everything, social inequality, peak happiness and also financial crises. The approach makes clear that further growth of GDP is not an option for shaping modern societies. Second, supply side and cultural forces are analysed as part of the mechanisms that drive growth. One of the main concerns here are the factors leading to division of labour in

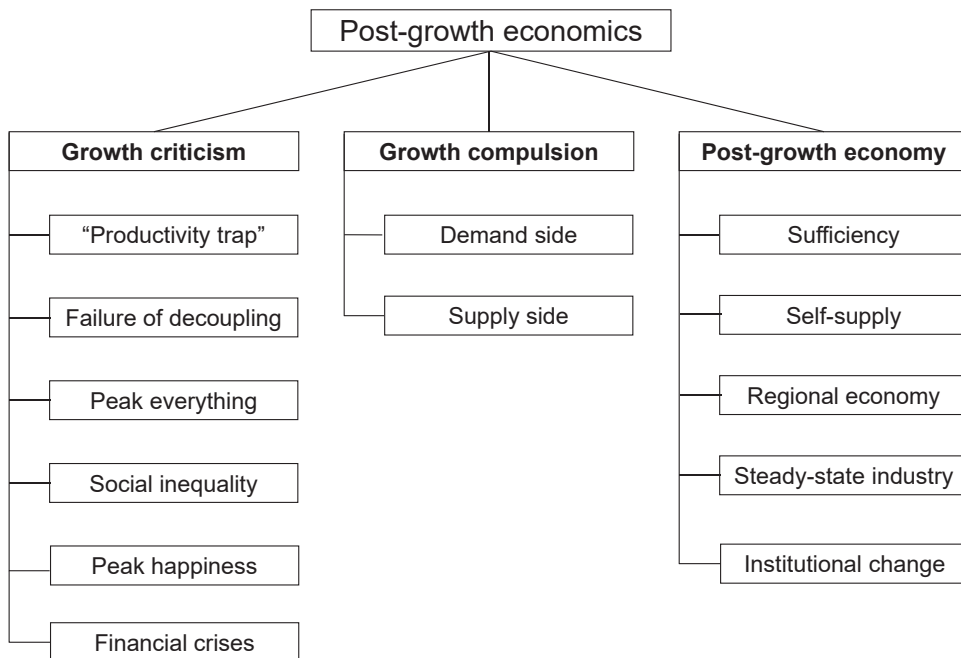


Figure 46.1 Understanding Post Growth Economics.

industrial societies. Third, the post-growth economy is analysed with a focus on concepts like sufficiency, subsistence, regional economies, zero sum games and institutional change. A major issue covered in this discussion is the derivation and justification of the conditions for an economy without growth (post-growth) as a combination of complementary supply systems, which are characterised by the different degrees of industrial division of labour and have to be stabilised without growth of GDP.

Limits to growth

Green Growth depends on decoupling modern consumption and mobility practices from ecological damages [see Chapter 20]. This fails due to the deeply rooted misconception that individual objects or activities can be linked with attributes of sustainability. For example, why should a three-litre car for example be more climate-friendly than a 25 litre guzzling Opel Admiral if the owner of the first one commutes 150 miles every day whereas the Admiral owner uses his vehicle only five times per year and the rest of the time cycles? To which extent does a passive house contribute to sustainable development if its inhabitants possess as many flat screens, computers, coffee-machines and hi-fi systems as they have rooms? How many human lifetimes would be required to compensate the carbon dioxide (CO₂) emissions of a single intercontinental flight through constant consumption of organic lemonade, waste separation and car-sharing? Only individual CO₂ balances are a reliable target value. The central question here is: what amount of material freedom can a single individual be allowed to appropriate without living beyond his or her means? In relation to a 2°C temperature target, this means that every individual can have an annual budget of 2.7 tons of CO₂ emissions (WBGU, 2009). In comparison, the current average rate of emissions per capita in Germany, for example, is about 11 tons (Umweltbundesamt, 2015).

Seemingly sustainable single practices and products increasingly reveal mere symbolism utilised to morally compensate for something else, unsustainable and pursued by the same individual: ‘Recently I’ve only bought organic T-shirts and participated in every climate-meeting, so I don’t also have to give up my vacation in India, do I?’ In the twenty-first century, whoever is unable to project his or her own lifestyle with respect to global transferability can never contribute to sustainable development, let alone to a post-growth economy. In order to encourage and enable sustainable lifestyles, companies could be obliged to label all their products and services with information about their lifecycle environmental impacts (e.g. CO₂ emissions, ecological footprint). Apart from the problem that Green Growth fails because it focuses on the wrong target, there are even more serious doubts to be raised about the decoupling strategy.

Decoupling is not an option

Increasing GDP requires additional production that, as an economic activity, has to be transferred from at least one provider to a demander, thereby inducing a cash-flow. Consequently, this added value splits up into a material origin side and a financial use side of the additional income [see also Chapter 40 on the real-real economy]. Both impacts would have to be neutralised in order to keep the economy growing without causing additional ecological damages. This means that, even if the generation of a monetarily measurable and hence GDP-relevant performance transfer could be technically dematerialised—which is not foreseeable as of now, apart from a few laboratory experiments—the problem of decoupling would remain unsolved as long the additional income can be used for purchasing any goods that are not completely dematerialised. Let me explain both issues a bit further.

Material rebound effects

What would goods look like that can be transferred from at least one provider to a demander as a service worth money, and that are, at the same time, free from any consumption of land, material or energy in production, physical transfer, use and disposal? All Green Growth solutions proposed up until now most evidently do not fulfil these requirements: Regardless of whether they are passive houses, electronic vehicles, eco-textiles, photovoltaic systems, organic food products, offshore wind power stations, heat and power cogeneration units, solar thermal heaters, cradle-to-cradle drink packages, car sharing, digital services, and so on. Nothing of all this can exist without physical input and new production capacities and in particular infrastructure.

Perhaps 'Green' efficiency or consistency solutions could simply replace any less sustainable output instead of causing a material addition? In order to achieve a substitution that actually reduces ecological impact, simply replacing output-flows is inadequate, as long as this goes along with increases in material stock sizes and land use (as is the case with passive houses and renewable energy facilities). In addition, the previous capacities and infrastructures would have to be dismantled and the embodied energy and material resources largely wasted. There seems no way that the materials of whole industries and building complexes can be made to disappear in an ecologically neutral manner.

On top of this comes a second dilemma: how could GDP permanently grow if the profit from each act of creating 'Green' value added is countered by a non-sustainable value added loss due to the deconstruction of old structures? This can be traced with the example of the German *Energiewende* (a government scheme that subsidises Green energy sources for electricity generation). For a start, the contribution of renewable energies to economic value added, which the Green Growth community is currently praising, on closer inspection turns out to be, at best, a flash in the pan. After the installation of additional energy capacity is finished, the contribution to the added value is reduced to an energy flow that, in comparison, does not create a great deal of value added and cannot be increased easily—unless the production of new facilities is continued without limits. In this case, there would be further environmental damages. For example, landscape destruction, which is already oppressive, would increase due to the expansion of material stock sizes. Here the problem of material relocation effects becomes obvious. In most cases Green technologies do not solve ecological problems, but rather they only transfer them to other physical, spatial, temporal and systemic dimensions. For this reason, the attempts to empirically prove the success of decoupling are only valid if they consider all such relocation effects.

Financial rebound effects

Even if dematerialised production increases were possible, someday, the unavoidable corresponding income increases would also have to be ecologically neutralised. Yet, keeping the basket of goods that those consumers who benefit by obtaining additional income—generated in the Green sectors—free from being spent on resource intensive, globally produced items has proven simply unthinkable. These people will buy homes, travel by plane, drive cars and pursue conventional consumption activities that increase in-line with the growth in available income. Another financial rebound effect lurks behind Green investments when they raise the overall level of output, owing to the fact that old capacities are not simultaneously deconstructed to the same extent—additional passive houses increase net dwelling area and new photovoltaic systems increase net energy output—a situation that tends to cause price reductions

leading to increases in demand. The fossil sector cannot be ruled out from also benefiting. A third financial rebound effect occurs wherever efficiency gains reduce the operating costs of certain objects (e.g., houses, cars, lights).

Theoretically, these rebound effects could be avoided by absorbing all the income increases that are generated by efficiency improvements and the income effect of investment, but then it would be needless to stimulate growth. What could be more absurd than generating growth just to neutralise the intended effects of growth, namely the increase of income? Accordingly, the assertion that through investment in Green technologies, growth could be associated with an absolute decrease in environmental burdens is not only flawed, but actually results in the exact opposite. That is, from the perspective of financial rebound effects, Green technologies can only relieve the ecosphere of environmental harm under conditions of non-growing GDP. Even this is not a secure condition, given the unaccounted for material effects on the generation side—especially the relocation impacts. Furthermore, the strategy of decoupling also brings an ethical problem. The fate of humanity would be at the mercy of a technological progress that has not yet been realised and whose future realisation is impossible to prove—notwithstanding that it might cause more additional problems than it is able to resolve.

Economic, psychological and social limits to growth

Material prosperity in modern industrial societies is based on endless availability of low price fossil energy sources and other essential resources. Already today the maximum extraction of crude oil (Peak-Oil [Chapter 41]) is foreseeable as well as the shortage of other production factors. Peak-Oil has already become ‘peak everything’. Against this background, an increase of the purchasing power of new middle classes, in countries like China and India, leads to an escalating demand meeting a stagnating supply of resources [Chapter 11].

Besides scarce resources, such as lithium for rechargeable batteries and coltan for mobile phones, there is increasing technological dependency on rare Earth metals [Chapter 10]. These are appearing in more products that we seem no longer to be able to do without and upon whose mass marketing modern economies have long become dependent. The recent waves of growth in demand can be traced back to innovative, sometimes even Green, technologies. Mobile phones, computers and flat screens cannot be produced without rare Earth metals, and the same applies to LED lamps, and electronic and hybrid cars. Similar to wind power generating facilities, such vehicles depend on neodymium for the production of permanent magnets. A hybrid vehicle contains up to 12 kilograms of rare Earth metals. Every social sub-system, product and infrastructural element is at least indirectly dependent on fossil fuel energy carriers, rare Earth and scarce metals. So, unleashing substantial growth in purchasing power by means of worldwide networked production chains that exploit cost differences is bought at the cost of unprecedented instability [see also Chapter 15]. External supply dependency maximises the risk of social decline—if jobs fall, price rises reduce purchasing power or the external provision of essential or critical inputs is interrupted. The term sustainability therefore can increasingly be interpreted as the requirement for increased resilience. These are precautions that could soften the expected fall. This perspective also shows that reducing the by now exorbitant level of external supply is the last chance we have. It is the only way to reduce the social drop from the height we have reached today.

Limits to growth are not only seen in production systems but also in the hedonic overstimulation of people, causing mental illnesses and stress. Important results from happiness research suggest that an increase of materialistic wealth at a certain level does not increase subjective well-being (Easterlin, 1995). Consumer activities are only beneficial if people devote

a minimum of their time to them. This causes psychological stress, because an individual's time budget cannot be exceeded, so an increase of the consuming option leads to overstimulation and stress instead of self-realisation [see Chapter 21]. Stress, disorientation and burn-out effects characterise the normal conditions of modern and wealthy societies. Reducing the number of potential consumer goods might then be understood as self-protection.

Causal mechanism of growth

Structural growth

Supply systems dependent upon imports into an economy are based on steadily increasing the distance between consumption and production. If production processes that were formerly bound to one location are dissected into many specialised production stages, their locations can be flexibly shifted, depending on cost and quality advantages. However, every stage of specialisation must finance the required input factors in advance, i.e., investment is needed upfront. Third party capital costs interest, while one's own capital assets demand a sufficient yield. In addition, the change in spatial boundary from local to global has led to a greater demand for physical infrastructure and facilities that are subject to constant wear. So for each period in each company that is part of an industrialised supply chain, an excess (after subtracting 'pure' production costs) must be achieved that is no lower than the sum of third party interest, own capital asset yield and costs for maintenance and reproduction of physical assets. Therefore, the minimum growth in the value added chain required to stabilise the overall process tends to increase with every specialisation, i.e., the number of separate companies and their relevant excess requirements.

Binswanger (2007) has analysed the structural growth compulsion in connection with the income and capacity effect of an investment. The income effect begins before the capacity effect, because initially capital is invested and the sale of production is only possible afterwards. Investment today immediately increases the income of households. However, the production volume resulting from the investment can only be bought later, in the following period. Households can only buy today what was produced yesterday. In this way, increased demand precedes an increased supply. Balancing the system of monetary payments within a single period is only possible if the payment gap on the demand side is balanced out by additional net investment to generate the appropriate income. The process described by Binswanger as a "growth spiral" would not be conceivable, or at least only in a much milder form, if corporate banks were unable to constantly generate new money to provide companies with credits for investment. This creation of money generation practically comes from nowhere because banks do not simply pass on savings one-to-one, but can instead transform debt into money. The debt money system allows unlimited increases in cash generation and turns money into materialised growth.

Another structural growth mechanism has already been mentioned, namely increased labour productivity. The less work necessary to create a specific output, the more output there must be to require all current employees to the same extent, at least under the same ownership conditions. Interestingly, the same conclusion follows, namely that reducing the structural growth compulsion means producing with less capital.

Cultural growth

Under which conditions does consumption create happiness? An unqualified answer to this key question cannot be made, owing to Gossen's famous first law (Gossen, 1854). This states that the utility an additional consumer good provides is reduced in relation to the increasing

quantity. That encourages constantly new increases in consumer self-realisation options through qualitative changes. The permanent reinvention of the consumer society protects it from saturation symptoms and boredom.

As mentioned, happiness research has shown that from a certain level onwards, increased per capita income does not lead to any further increase in happiness. Hirsch (1977) offers as an explanation that the use of many goods is symbolic or demonstrative, i.e. based on distinction, social prestige or membership of a specific social group. Consumption is therefore characterised by competition, whereby the aim is to attain a higher place in the social hierarchy. One person's gain can only be achieved through another person's loss. An initially achieved advantage erodes with the number of people who are initially overtaken but catch up as a result of further growth. The resulting dynamism is like an arms race, as ever higher consumption efforts are required to maintain or regain a specific, but by no means higher, level of happiness. From an abstract perspective, this logic of growth can be described as the dominant development principle in modern consumer society. The never ending source of a social political need to act is fed by uncovering social differences, which are then transformed into the imperative of their removal through additional action and growth. In this way, all political and economic activities achieve a perpetual, self-strengthening legitimisation. Enough is never enough. Growth creates differences that cause further growth in the attempts to remove those differences.

A post-growth economy

The alternative to an economy based on growth dependency would correspond to a socially acceptable dismantling and conversion of the industrial system. Mechanisms of growth, both on the supply and the demand side, would have to be overcome by supply infrastructures which would on the one hand be less capital-intensive, less specialised, and spatially confined (more subsistence) and on the other hand more frugal (more sufficiency). From this five transformation steps can be derived.

First is sufficiency. From the point of view of an individual who is overstrained by the variety of options available, reduction does not equal loss but an exemption from time demanding excess. Sufficiency comprises the identification and discarding of those burdens that use up time, money, space and ecological resources, but only gain a minimum of usefulness for the individual. Sufficiency therefore equals time economic optimisation (Paech, 2013). Simultaneously this results in more independence from volatile market developments, and therefore helps achieve economic resilience.

Second is subsistence. A readjustment of the interrelation between self-sufficiency and external resource supply would aim to gradually abolish industrial production systems. Different external supply levels exist between pure subsistence and consumption of industrial goods. An average of 20 weekly working hours would release time resources that could be dedicated to non-market activities, like crafting, parenting, neighbourly help, participation in community gardens, care and repair of goods, as well as sharing of products. Three de-commodified resources take the place of material resources being used for new production: (i) manual skills for own production and extension of product lifetimes, (ii) own time that is needed to accomplish (i), and (iii) social relationships for the purpose of joint use and exchange of services. With these inputs urban subsistence generates three output categories, consisting of own production, extension of product lifetimes and intensification of uses, which reduce the need for industrial production and thus capital requirements. The corresponding industrial deconstruction would have to be designed in a way that the free time could feed into those subsistence services, which can absorb the decline in production.

Third is the regional economy. In between the two extremes of local subsistence and global division of labour, regional economies can be developed as another complementary supply system. Complementary currencies could stabilise the regional economy and bind demand to the region. Entrepreneurial advantages due to specialisation could be used, but would be based on de-globalised and work intensive technologies.

Fourth is material zero sum games as a production mode. After a partial dismantling of industry the remaining industrialised production systems would have to be reshaped in a way that goods should only be newly produced if the old goods cannot be reused. Focus would be on preservation, conservation, optimisation, extension of lifetimes and intensification of benefits. Defective goods could be refitted by repair services. By following renovation strategies that have their focus on reconstruction, instead of new construction, existing goods would gain additional benefits by adjusting them to people's functional and aesthetic needs to keep them useful as long as possible. Markets for used, processed and overhauled goods would also add to the reduction of new production. If the average lifetime and intensity of use of some goods could be doubled, by combining long-life designs with urban subsistence and supplementing corporate services, then output could be halved without having to reduce the availability of the possibilities to consume.

Fifth is institutional innovation. Land, monetary and financial market reforms could mitigate the growth compulsion that is inherent in the system. Regional currencies could be combined with a circulation safeguard that brings the interest levels close to zero. Changed types of enterprises could have a dampening effect on the dynamics of profits. The present confusing structure of government subsidies could be revised to reduce ecological damages and public debts. Soil sealing moratoriums and programmes to deconstruct infrastructures would be most useful—especially industrial parks, highways, parking areas and airports would have to be unsealed and re-naturalised. Plants that use renewable energies could be installed in their place, to reduce the use of space and natural areas for these technologies. Sustainable development should be oriented towards the individual life cycle assessment and carbon footprint. Each person would have the right to emit a certain amount of CO₂ per year (approx. 2.7 t) and companies would have to label the carbon emissions on their products. Precautions against planned obsolescence should be taken and an education system, that would enable urban subsistence, implemented.

Further driving forces are social processes, which create platforms for testing resilient lifestyles. Resulting templates for lifestyles can be used for orientation by other members of the community as needed. An ecologically and socially sustainable economy must therefore be free from all dependency on growth and subsequent pressure for growth, including the innovation orientation of modern market economies, the present monetary and interest-earning system, expectations of high profit, external supplies of resources based on a model of global division of labour, and a culture of unquestioning pursuit of material self-actualisation.

Future directions

Further research should concentrate on the communication and diffusion of post-growth compatible lifestyles. Why? If the thesis described above is taken seriously, whereby no technical solution to the growth problem is in sight, there is no alternative except reduction strategies. They would inevitably affect our lifestyles since sufficiency cannot be delegated to machines nor the political system. Who would choose a policy that questions the continued execution of a lifestyle that one does not wish to give up voluntarily? Therefore, growth-critical models of the future that are completely dependent on political agendas for their implementation are

simply a waste of time. No democratically elected government is a pioneer of social change and instead always lags behind in order to avoid risk [see also Chapter 44 on degrowth democracy]. Political decision-makers will only feel encouraged to move towards a post-growth policy if there are enough convincing signals for the readiness and ability of society to cope with that change.

Concluding remarks

Could a life under the conditions of a post-growth economy, unburdened from excess, consisting of a paid 20-hour job, complemented by a wealth of subsistence practices, already be rewarding enough to begin now?

- Relieving the burden of as much third party supply as possible, which makes one needy and controllable, frees us from the fear of an increasingly insecure future. Needing little and being able to shape as much as possible by ourselves, or together with others, is an expression of strength and economic sovereignty.
- The almost overwhelming over-stimulation we are exposed to from all communication channels could be eased in a simpler, more easily manageable world. That allows concentrated enjoyment instead of pale superficiality.
- Modern subsistence creates success experiences, especially through self-production, by repairing objects or undertaking works of art. Completed results of work, which can be tangibly perceived as such, are positively distinct from the transience of abstract performance in a labour dividing sphere.
- Buying less and instead organising more together with others, exchanging, using or producing, means reintegrating the social into the economic. Reliable and stable social coherence can replace individualisation. If simple manual work regains its status then this will open up the possibility of integrating those who are ostracised due to a lack of money, education or communicative abilities. That gives greater self-respect to those whose contributions are no longer in demand in a specialised competitive environment.
- Extreme forms of social imbalance are a logical consequence of the third party supply model. Since only monetary performance can be infinitely increased, the differences in income and wealth can grow accordingly. A high degree of wealth that is no longer based on money, but instead on one's own ability to produce, levels out differences in material equipment, and we have long known that unfair distribution is detrimental to all happiness.

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