

Chapter 1 Diversity in economics as a necessary condition for post-growth

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Introduction

The promise of rising prosperity fuelled by continued economic growth still serves as the dominating paradigm, not only in the so-called highly industrialized countries (HIC) but globally. The vision has become an ubiquitous concept in politics, business, the media and in economics, where economic growth is stylized as the main economic and political troubleshooter for almost any problem.

In recent years increased criticism of the pursuit of an ever expanding economy as the main economic and political goal suggests that this has to be reconsidered and that new concepts for development are required¹. Yet most politicians cling to the myth of the next economic boom lurking just around the corner as an easy way out of the current economic crisis. This situation, however, is highly problematic: crucial issues for society such as social security, public debt or pensions are based on the assumption of ever increasing GDP levels and fall apart in the absence of growth². Assuming that a non-growing GDP may very well become a probable case, new concepts are absolutely essential, otherwise social cohesion is in danger. But does economic theory, including political consulting, provide any concepts to handle a situation with a constant or contracting GDP?

The main thesis of the paper is that mainstream economic theory, by focusing only on the special case of growing economies, structurally hooks society on growth. Opening up economics to concepts that imply limits to growth, for example ecological economics, is therefore a necessary condition to enable society to adapt to the post-growth circumstances.

The paper is structured as follows: part one focuses on the question whether further economic growth is still a desirable and realistic policy-option. In part two the contribution of mainstream economics delivering the intellectual basis of the growth path is highlighted, followed by an introduction to an alternative economic approach. The conclusion summarizes the paper and gives an outlook to further steps.

¹ Whether the arguments formulated in this paper are transferable to the global south goes beyond the scope of the paper. With the concepts of “buen vivir” or “sumak kawsay” a Latin-American version of the debate with interesting overlapping contents is taking place.

² Throughout the paper growth and GDP growth are used synonymously.

1 Beyond growth?

The critique of economic growth is quite broad and probably as old as the idea of growth itself. Because it inhabits many different dimensions, an extensive debate goes beyond the scope of this paper. As a first approach, the critique can be structured around four different dimensions:

1. Is economic growth delivering what it promises?
2. Is economic growth still tolerable from an ecologically perspective?
3. Is economic growth the right means to enhance welfare in HIC?
4. Is continued economic growth feasible?

....1.1 Economic growth is disappointing

In November 2009 Chancellor Angela Merkel gave her first government declaration as the elected leader of the conservative-liberal German government. She stated that:

„Wachstum zu schaffen, das ist das Ziel unserer Regierung. [...] Ohne Wachstum keine Investitionen, ohne Wachstum keine Arbeitsplätze, ohne Wachstum keine Gelder für Bildung, ohne Wachstum keine Hilfe für die Schwachen. Und umgekehrt: mit Wachstum Investitionen, Arbeitsplätze, Gelder für die Bildung, Hilfe für die Schwachen und – am wichtigsten – Vertrauen bei den Menschen.“³

In a nutshell this means that growth is the essential strategy of the government to foster investment, jobs, education, help for the poor and confidence. The list can be extended at random, for instance the reduction of debt or the mitigation to climate change. In the book *Managing Without Growth*, P. VICTOR analyses different promises of growth and comes to the conclusion that since 1980, growth *“has not eliminated unemployment or poverty. The distributions of income and wealth have become more unequal, economic growth has exacerbated, not been a panacea, for environmental problems...”* (Victor, 2008: p. 168)

Authors⁴ from a broad political spectrum come to similar conclusions stating that the effectiveness of economic growth is questionable. To clarify; growth can indeed correlate with certain positive outcomes - it certainly did during the post-war era, but for the last 30 years the correlation becomes weaker, sometimes negative – as in the example of global CO₂-emissions, which in 2007 were *“almost 40 per cent higher than they were in 1990”* (Jackson, 2009: p. 71).

It would seem that growth is not always the appropriate strategy; indeed with regard to climate change, a closer look reveals quite the contrary.

....1.2 Economic growth is ecologically harmful

Since the beginning of the industrial revolution, global GDP has been growing tremendously, more than 20-fold in the last 100 years alone. At the same time, both the inputs of material and energy into the economic system and the *corresponding outflows of waste and emissions* grew, augmenting the environmental pressures. KRAUSMANN, leading to phenomena like the massive extinction of species and climate change. To avoid the devastating consequences of unmitigated climate change the Intergovernmental Panel On Climate Change (IPCC) calls for an immediate and radical reduction in global emissions (Pachauri and Reisinger, 2007). Following Tim Jackson's arguments (Jackson, 2009), the

³ <http://www.bundesregierung.de/Content/DE/Regierungserklaerung/2009/2009-11-10-merkel-neue-Regierung.html> [accessed 30 May 2011].

⁴ For example (Bartmann, 1996; Daly, 1996; Thomas, 2000; Hinterberger et al., 2009; Miegel, 2010; OECD, 2011).

required technical improvements to decouple GDP and greenhouse gas emissions seem quite unrealistic. The rebound effect and rising population make it almost impossible to reduce emissions on the scale necessary. As a result the likelihood of unchecked climate change increases. The International Energy Agency's (IEA) chief economist Fatih Birol seems to share this view, stating that in the face of all-time record rising emissions in 2010 the possibility of holding global warming to safe levels is likely to be just “*a nice Utopia*”⁵. Of course there is always the possibility of surprising technical improvements, leading to the needed decoupling, but, given the actual patterns, scepticism is recommended. The implication is bitter at a first glance: if ecological sustainability is desired, GDP should not increase. Hereby the Green New Deal – the core strategy of RIO +20 – is put into a new perspective. Green Growth denies the limits of a decoupling strategy and pretends additional consumption can be sustainable. Another view seems more plausible: sustainable consumption means less consumption.

For a modern society this seems odd. Also from its underlying economic perspective where more goods stand for more choices and possibilities to foster welfare. Here a new perspective is helpful. What if a growing GDP – after a certain level – is not increasing welfare?

....1.3 GDP is not equal to welfare

Many authors (Binswanger, 2006; Daly and Cobb, 1989; Layard, 2005; Victor, 2008; Abdallah et al., 2009; Diefenbacher and Zieschank, 2010) have shown that for rich countries the positive correlation between GDP and happiness fades out. Figure 1 is an example for the United States showing the decoupling of income and happiness for the United States on an individual level.

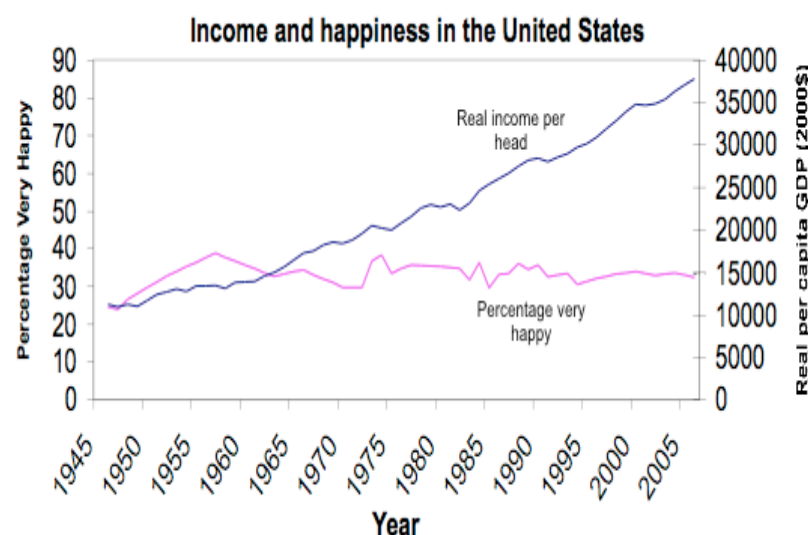


Figure 1: Income and happiness in the United States⁶

M. BINSWANGER (BINSWANGER, 2006) gives an explanation. He describes how the “*treadmills of happiness*” prevent a rising income from making any substantial contribution to individual happiness, for example the positional treadmill: individuals compare their status

⁵ <http://www.guardian.co.uk/environment/2011/may/29/carbon-emissions-nuclearpower> [accessed 30 May 2011].

⁶ Source: Layard (2005).

to that of their neighbours, colleagues or family members – changes in income do not make individuals happier, once all income rises. Another explanation is provided by the hedonic treadmill, which argues that individuals become accustomed to their consumption level, constantly generating new demands which then leads to the multi-option treadmill: as a result of growth consumers have to decide between a huge variety of products. Since time is limited this leads to a tyranny of consumption and frustration. Altogether the treadmills prevent rising GDP levels from enhancing welfare. As a promising perspective for a post-growth society, it is not the level of income then, but rather other factors like the distribution of income within society that are crucial (Wilkinson and Pickett, 2009).

It is not only from the individual perspective that GDP is not the right indicator but also from a macro perspective. DIEFENBACHER and ZIESCHANK developed the National Welfare Index (NWI), a successor of the Index of Sustainable Economic Welfare (ISEW) and the Genuine Progress Indicator (GPI), which take into account the fact that GDP omits central aspects of welfare, such as income distribution or the condition of the environment. Taking these and other factors into account, a decoupling of GDP and welfare can be shown, i.e. an increase in GDP is not automatically connected to an increase in welfare. The first three arguments dealt with the effectiveness of GDP, arguing that growth was not always the right tool. The last point states that capitalist societies sooner or later run out of growth. Keeping in mind that almost crucial parts of society depend on growth, severe consequences arise.

....1.4 The end of growth

Three arguments can be used to show the implausibility of further growth. One is *statistical*, the second argument is rooted in the history of economic thought and the third argument takes a look at the resources needed for growth. Altogether one has to be very optimistic – if not a dreamer – to believe in further growth for HIC. In other words: the following data would seem to indicate that we are approaching the end of the growth era; Indeed, with growth rates near zero or even less, we might already be living in a post-growth era.

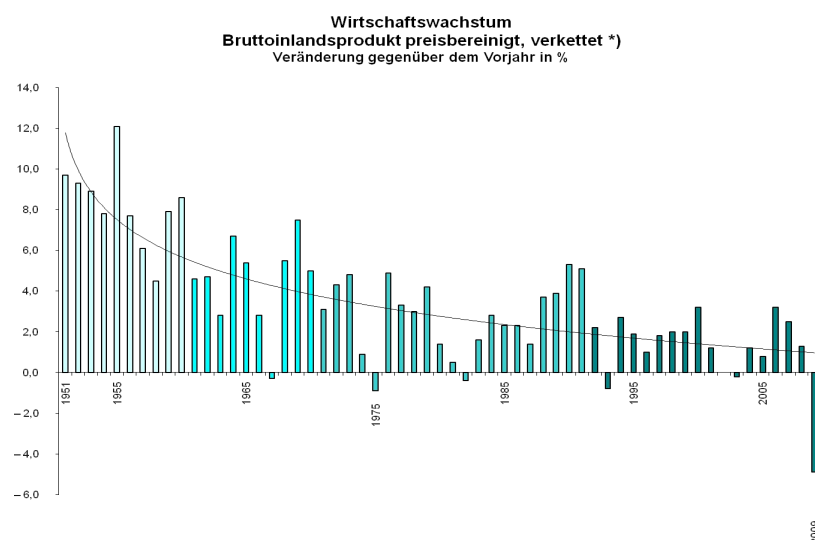


Figure 2: Growth rates GDP, Germany 1950-2008 (price adjusted, chain-linked)⁷.

Figure 1 shows, representative for a HIC, the growth rates of the German economy for the last 60 years illustrating that the relative rates approach asymptotically towards zero. The

⁷ Source: Federal Statistical Office Germany.

explanation is easy: to grow at a constant rate – let's say three per cent per year – exponentially growing absolute increments were necessary, which is not the case. On average the German GDP grows around €20 billion per year (Diefenbacher and Zieschank, 2010: p. 22) which means that in the long run the growth rates approximate zero, a relationship that was quite familiar to all classical economists from A. Smith over D. Ricardo or J.S. Mill up to J.M. Keynes. They assumed that because of declining profit rates the accumulation process would come to an end sooner or later (Luks, 2001). The question was not if economic growth was coming to an end – that much was clear – but rather when this would happen and whether people would be scared of it or embrace it.

The last reason for the implausibility of growth is taking into account that prosperity as it is known today is based on the occurrence of cheap resources, especially oil. Peak oil is not somewhere in the future, but now (Heinberg, 2005; Murray and King, 2012). Certainly substitutes for oil and other resources can be found but regarding the entropic intensity, renewable resources score by far not as well as oil, which makes it unrealistic to sustain the level of consumption and production the global economy has reached. Furthermore, the short supply of scarce resources combined with ever increasing demand in developing countries might cause such huge price increases that economic activity will probably cool down.

Altogether, continued economic growth seems rather unrealistic: for modern societies addicted to growth, this is certainly not good news.

To sum up the critique: it is questionable whether economic growth is the adequate tool for meeting essential goals of society. Furthermore, evidence suggests that HIC seem full-grown with a high probability of low or negative growth rates. Given the difficulty of decoupling GDP and resource consumption, non growing or declining GDP levels would seem like a promising direction to follow in order to meet the requirements of the IPCC. Bearing in mind that the correlation between GDP and welfare is questionable, GDP-independent strategies [including $\Delta Y \leq 0$] need to be developed, supplemented by the introduction of new (welfare) indicators.

Although evidence is strong, most policies still focus on GDP growth. One reason can be found in mainstream economics, which provides the foundation of growth based development. The thesis introduced here is that post-growth development can not be pursued until economics opens up and gives more space to heterodox theories, for example ecological economics to develop perspectives which are not dependent on growth.

2 The role of mainstream economics

“The ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist.” (Keynes, 1936, chapter 23)

Looking at the role of economics regarding the ongoing financial crisis, it becomes clear that the prevailing world view is part of the problem: the belief that free markets are efficient and lead to the best results once they are unleashed have provided the intellectual basis for politics at least since the late 70s, early 80s. W. STREECK, Managing Director of the Max Planck Institute for the Study of Societies (MPIfG), points out that the efficiency of markets is part of most politicians and citizens world-view, preparing the ground for the crisis. An earlier questioning of mainstream economic theories, especially when they serve as guiding principles for societies, might have prevented the present crisis (Streeck, 2009).

Concerning growth the situation is quite similar. Here, it is not the belief in efficient markets but the faith in unlimited economic growth which is *“both possible and desirable”* (Kerschner, 2010: p. 1) and is persistent in most people's minds. (Welzer, 2011).

Although certain elements of the link between growth and welfare, for example the focus on increasing exports, can be found in mercantile thinking, the systematic analysis began with Adam Smith in the late 18th century. He described the importance of the division of labour and industrialization for the wealth of nations and emphasized the importance of individual self-interest as a precondition for market economies to deliver prosperity (the invisible hand). This worldview was further developed by David Ricardo who elaborated the central importance of free trade; by specializing on certain products and trading them with other countries more goods and consequently more welfare were created. Altogether three central elements of modern economics can be identified which led to the central position of continued economic growth: selfish individuals acting in a market economy with the division of labour and free trade as leading concepts. The resulting production and exchange of more and more goods is thought to improve welfare at least since Adam Smith and is seen as a synonym for progress. It is this causal relationship that is omnipresent in politics and most economic theories down to the present day. Not only in neoclassical economics, which began to unfold in the late 19th century, but also in Keynesianism.

...2.1 The mechanistic foundations of economics

In order to understand just how economics influences society's belief in growth, a look at the emergence of neoclassical economics is helpful, especially the orientation towards physics (Mirowski, 1991) and the attempt to become a hard science. Looking closer at the theory of general equilibrium (TGE), a core piece of neoclassical economics, reveals central points of criticism. The TGE serves as the mathematical proof of Adam Smith's invisible hand proving that the individual maximization of utility in a market economy leads to an optimal result (Mas-Colell et al., 1995). The concept of equilibrium is symbolic for neoclassical economics following the tradition of mechanistic philosophy, which was very popular among *"scientists and philosophers until well into the last half of the 19th century"* (Georgescu-Roegen, 1977). The intrinsic problem here is that the theory of general equilibrium inhabits a mechanistic view that leads to the structural exclusion of natural foundations and an overemphasis of technology. Why is that?

First of all the mechanistic perspective underlying the general equilibrium states that every process is predicable and reversible if only there were enough information (Laplace's demon). By integrating the laws of thermodynamics into economics (Georgescu-Roegen, 1971) it can be deduced that every process using energy and material is unidirectional and not reversible. BAUMGÄRTNER ET AL. (Baumgärtner et al., 2001) apply this conclusion to the industrial production of consumer goods, stating that every production including fossil fuels inevitably generates (high entropy) waste materials. With this concept of joint production they emphasize the structural blindness of mainstream economics, where the main focus lies on the circulation of consumer goods and money as its main category.

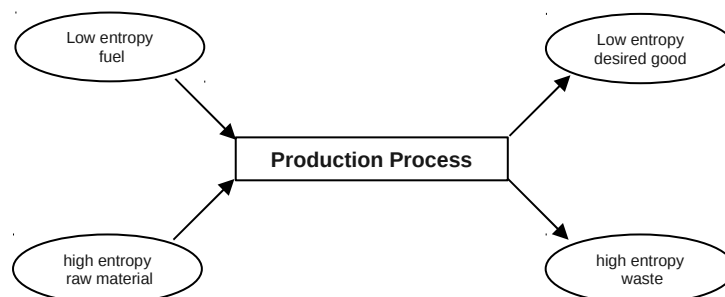


Figure 3: Joint production⁸

⁸ Source: (Baumgärtner et al., 2001: p. 366).

From a thermodynamical point of view the perspective changes drastically highlighting the natural foundations of the economic process. External effects appear as structurally part of the production process, revealing the systemic negation and violation of natural boundaries. From this perspective it becomes clear that the ex-post internalization of external effects is not at all sufficient.

The TGE also illustrates the omnipresence of physics in neoclassical economics with attendant consequences for society. Concepts like equilibrium, monotonicity or elasticity are all metaphors borrowed from mechanical physics. The ramifications for society become clear by looking first of all at the monotonicity of preferences, which states that more (of a good) is always better (Duffie and Sonnenschein, 1989), hereby implying a strong consumerist attitude. One real-world consequence can be seen in daily life. More of a good, namely, more income (GDP), suggests a better life. Four per cent growth is better than three per cent, regardless of the generation or distribution of the additional income, regardless of the questionable correlation between well-being and income. Another potentially problematic assumption is the elasticity of substitution between natural and man-made capital. As SOLOW underlines, it should not be less than unity if an economy is to grow forever (Solow, 1974): the so called weak sustainability. This belief in technological solutions is part of the discourse on sustainable development which inevitably leads to the dominating technical optimism. A good example is the current campaign “*Growing Sustainable*”⁹ by the Initiative for a New Social Market Economy (INSM), a market-orthodox think-tank. Showing a polar bear sitting on an ice float they state that “*less CO₂ needs more growth*” because “*technical progress helps saving resources, reduces energy consumption and makes environmental protection affordable*”.

Having looked at some central assumptions of neoclassical economics, the contribution of economic theory to the development of society becomes obvious: a structural ignoring of natural boundaries combined with a strong belief in technology. But does that mean economics is not able to react to the critique raised in part one of the paper?

....2.2 Critique of growth and mainstream economics

This section deals with whether mainstream economics is able to react adequately to the critique raised in chapter two. Firstly, regarding the end of growth, the orientation on physics is problematic: by formulating putatively all-time valid concepts, economics became a mathematical science, out of context from historical, cultural or ecological circumstances (Manstetten, 2002). Growth became an “*axiomatic necessity*” (Georgescu-Roegen, 1977: p. 266) playing a central role in informing policy, especially through the widespread use of Computable General Equilibrium Models (CGE-Models). This way the described structural negation of nature and the faith in technological solutions are fed into society. The handling of the current transition into post-growth times not only seems impossible from this point of view: economics is structurally producing the societal dependence on growth. Additionally, by cutting off the historical roots, classical reflections on the long-term limits to growth were abandoned (Luks, 2001). As a result, not only is modern economics incapable of providing any substantial analysis, even worse: it claims to have found the sole explanation of human behaviour, thus preventing other (heterodox) approaches from being incorporated into the research and teaching of economics. The orientation on 19th century physics has led economics and with it western society into a dangerous dead-end street not capable of reacting adequately to the current historical circumstances.

Secondly, with regard to the focus on GDP as the main strategy for development and indicator of progress, it becomes clear why, despite all persisting criticism, no other perspective is possible. The explanation can be found in what DALY described as the

⁹ <http://www.insm.de/in-sm/ueber-die-in-sm/INSM-Anzeigen/Anzeigen-Wachstum-2012.html> [accessed 6 March 2012].

preanalytical vision (Daly, 1996). This concept, originally called vision by SCHUMPETER (Schumpeter, 1965), describes a basic set of assumptions or worldview everybody has, before the analysis starts. Focusing on efficiency and utility maximization using monetary categories as the main describing category ignores the described connection between industrial production, depletion of the resources and pollution, in other words the systemic violation of natural boundaries. The focus is on the economy with a growing GDP as the main indicator of success. Nature is not part of the market system from the very beginning and can, if at all¹⁰, be internalized ex post through adequate prices. In this logic natural limits are secondary and growth can continue forever. This explains why the focus remains on GDP – at the expense of the ecological foundations.

Such one-sidedness becomes obvious looking at current textbooks, for example G. MANKIWS Principles of Economics (Mankiw, 2008). The word *growth* appears 87 times, whereas *ecology* not at all. Growth is described as one central category of an economy, without discussion as to whether it is the right tool for achieving certain goals like full employment, fair incomes or sustainable development. A reaction to the critique raised in part one is not visible, limitations to growth is not even seen as a problem.

To sum up, prevailing (mainstream) economics is delivering the theoretical base for the societal belief in continued growth combined with an unquestioned faith in market and technical solutions. One reason can be found in the orientation towards physics that economics has taken. Research is one-sided not only delivering the basis for society's belief in continued growth but preventing other theoretical approaches, for example ecological economics, from becoming part of the agenda. 20 years after the Earth Summit in Rio concepts like green growth, technical engineering or emissions trading still dominate the discourse. The massive extinction of species and the ongoing climate change, both irreversible processes, are being tackled with instruments coming from mechanistic economics (Pigouvian tax, certificates etc.) suggesting that technical solutions, in other words an internalization of external effects, render the solution. There is no doubt that these concepts can be part of a solution but only up to a certain degree. That the reliance on growth might be part of the problem is not being discussed, neither in economics nor in politics. On the contrary: thousands of economists are (mis)educated year by year repeating the prevailing dogma of growth forming the future politicians, businessmen, policy advisers, journalists et cetera. Here, Einstein's timeless quotation shows the dilemma we are in: *"We can't solve problems by using the same kind of thinking we used when we created them."*

3 Alternatives

It has been argued that there is a strong connection between society's belief in the benefits of continued economic growth and economics, impeding an adequate reaction to the above formulated critique. Therefore restructuring the research agenda and the curriculum of economics is a necessary condition for society to abandon its dependence on growth and to be able to function in a post-growth era. Ecological Economics¹¹ seems to be an adequate answer to the critique raised in part one of the paper¹² and will therefore be introduced in more detail at the beginning of this chapter. The second step illustrates how the history of economic thought not only gives interesting insights into a post-growth perspective but also helps as a means for self-reflection and must therefore be part of the curriculum. Finally, the outlines of a macroeconomic model are presented as an example of how new indicators and alternative policies need to be brought into economics.

¹⁰ Various authors criticise the limits of this approach. Compare (Bruns, 1995; Bartmann, 1996; Daly, 1996; Common and Stagl, 2005).

¹¹ For example (Georgescu-Roegen, 1971; Daly, 1996; Common and Stagl, 2005).

¹² The consideration of other theoretical approaches like Postkeynesianism or Evolutionary Economics goes beyond the scope of this paper, but might nevertheless lead to a productive restructuring of economics.

....3.1 Adjusting the analytical framework

In the last part of the paper the blindness of mainstream economics (including Keynesianism) towards nature was highlighted. It was described how the belief in technical solutions is part of economics and consequently of societal approaches to solving the prevailing ecological crisis. Broadening the analytical framework of economics with regard to the interaction of the economic and the ecological system is therefore mandatory to overcome both the structural negation of natural boundaries and the technological optimism. A promising approach can be found within ecological economics with H. DALY's metaphor of a *"full world"* (Daly, 1999). It illustrates that the economy can only expand until it reaches the natural limits and underlines the significance of the preanalytical vision. It is important to remember that mainstream economics sees the ecosystem as a subsystem of the economic system. While the focus is on the production of goods and services and the analysed unity is money (GDP), nature is – if at all – ex post internalised into the market. Combined with an elasticity of substitution between natural and man-made capital not less than unity infinite growth is possible. Ecological economics takes a different approach: here the economic system is embedded into the ecosystem, natural boundaries are structurally included. As the world is limited, the economic system sooner or later reaches its natural limits leading to a *"full world"*. Combined with a certain technological pessimism (elasticity of substitution between nature and capital less than one) endless growth is obsolete. Consequently the focus is not on monetary flows but on (stocks and) flows of matter and energy from one system to the other. By using the analytical framework of ecological economics the focus on GDP-growth is abandoned. Instead the perspective of a development within the natural limits of the ecosystem is taken.

....3.2 History of economic thought

Theoretical diversification by including present theories like ecological economics into the curriculum is not enough and must be accompanied by the study of the history of economic thought. It is helpful for two reasons:

First of all, there are many treasures to be found in the history of economic thought. As LUKS (2001) describes, all classical economists from Smith to Keynes were aware of the end of growth. The question was whether they would be afraid of it or embrace it, like J.S. Mill and J.M. Keynes who have a positive attitude to such a state. Studying their texts might be instructive for economists and society and can give useful insights into the direction society can take in the current era of low growth rates. A good example is KEYNES' essay on The economic possibilities for our grandchildren: he describes his vision of our time, where 3 hours a day or 15 hours a week¹³ should be enough to *"to satisfy the old Adam in most of us!"* who *"will be so strong in us that everybody will need to do some work if he is to be contented"* (Keynes, 1931: p. 369). From his point of view the main challenge lies in using the spare time wisely: *"I see us free, therefore, to return to some of the most sure and certain principles of religion and traditional virtue-that avarice is a vice, that the exaction of usury is a misdemeanour, and the love of money is detestable, that those walk most truly in the paths of virtue and sane wisdom who take least thought for the morrow. We shall once more value ends above means and prefer the good to the useful. We shall honour those who can teach us how to pluck the hour and the day virtuously and well, the delightful people who are capable of taking direct enjoyment in things, the lilies of the field who toil not, neither do they spin"* (p. 371).

Secondly, by looking at the roots of the discipline, economists will become aware of the limits of the prevailing doctrine. The history of economic thought is characterized by ever changing theories and methods. The unidirectional approach modern economics has

¹³ A contemporary publication of the New Economics Foundation recommends 21 hours a week (Coote, 2010).

developed into is misleading: the marginal, neoclassical framework is only one among many others. A vivid science accepts all kinds of theories and looking at its own history broadens the horizon – an essential quality for economists – potentially leading to an open minded attitude where problems and not methods are central.

....3.3 Macroeconomic alternatives: first steps

The challenge lies in finding answers to the question, how society must develop to function on a sustainable level and which indicators can measure such a state. Concerning the GDP it can only serve as a first approach, as SCHNEIDER ET AL. put it: *“what happens to GDP is of secondary importance; the goal is the pursuit of well-being, ecological sustainability and social equity”* (Schneider et al., 2010: p. 512).

From a macroeconomic point of view there is an urgent need to develop models implying these indicators and mapping possible perspectives of steady-state and/or degrowth development¹⁴. One approach is presented by the Canadian economist P. VICTOR (2008) who, in his book *“Managing Without Growth – Slower by Design, not Disaster”*, explores different scenarios of a transition to a post-growth society. Lacking comprehensive data he uses *“GDP as the measure of the size of an economy”* (p. 203). He shows how under certain conditions like the radical shortening of the working week and a shift in investment from private to public goods a stable development with a non growing or even declining GDP is possible. Since the focus is still on GDP it is only a first approach to the macroeconomics of post-growth, more research integrating the ecological footprint¹⁵ or indicators of well-being is pending. But, for illustrating that a stable development is possible with a constant or contracting GDP and exploring the yet unknown post-growth world it is indispensable.

4 Conclusion

This paper has argued that society is hooked on economic growth despite the fact that its deficits are becoming more and more obvious and although the era of continued growth is coming to an end. It was shown that one reason for this dependency lies in economics as a science which delivers the theoretical foundations of the ongoing societal belief in economic growth and spreads this doctrine into society. For society to be capable of adapting to a post-growth reality the underlying economic doctrine has to diversify and integrate approaches like ecological economics and the history of economic thought both into the curriculum and into research programmes. It is important to understand that the foundation of economics – utility-maximising individuals acting in a market economy with the division of labour and free trade as main categories – led to continued economic growth becoming one of the main tenets within society. The ongoing economic crisis is at the same time a crisis of non growing market economies including the economic foundations society is leaning on. Therefore approaches beyond growth, markets and technological solutions seem promising, for example ecological economics, the rediscovery of the commons (Ostrom et al., 1999) or the regionalisation of global value chains resulting in the decommercialisation of daily life (Paech, 2012). It's the leisure time, beyond consumer goods and the struggle for status, which has to be filled with life. Certainly a challenge but not impossible to cope with. It looks like Keynes' grandchildren will have to live the 15 hour week – in the end they might even enjoy it.

¹⁴ For example (Kerschner, 2010; O'Neill, 2011).

¹⁵ The ecological footprint stands for an “ecological accounting” comparing the human demand for resources with the capacities of the ecosystem. <http://footprintnetwork.org/de> [accessed 23 March 2011].

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