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*Economic values, environment and technology**

Abstract

Growing ecological problems, manifest in scarcities of natural resources and heavy economic burdens need reflections on the prevailing dynamics of economic growth. Whereas economic growth results in many cases to environmental problems, there is no general contradiction between growth and natural resources. There exist many opportunities to harmonise more economic welfare and protecting nature by a „smart growth". However, this needs a broader understanding of the role of economic development. Economic growth is not a value in itself, but a „service" for the societal well-being. This requires a change of technologies for less use of nature and more employment. Technological innovation, supported by more basic and applied research, a change of live-styles as well as more social responsibility of productive firms can contribute considerably. Relaying on an evolutionary competition, including public regulation, can lead to changes of the value systems of the economic actors and to a socio-economic market economy.

Discussing economic values, we have to refer to its origins in the Age of Enlightenment. The basic values for modern market economies grew out mainly from Scottish moral philosophy, where Adam Smith – the founding father of economics – argued, that enlarged freedom for all individuals will enhance economic activities and its coordination by free markets will augment economic wealth rapidly. As since then, economic development has seen numerous crises the original ideal of harmonious market coordination has been sup-

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plemented by the societal values of equality and solidarity. Freedom, equality and solidarity are presently the core triangle for societal values and they are the main pillars for the Universal Declaration of Human Rights and since the recent adoption of the Lisbon-Treaty the overarching principles of the Charta of the European Union.

As we experience, that societal evolution is largely influenced by economic development, the European Union has – at least programmatically – transformed the societal values into economic values. Accordingly, economic freedom should lead to an efficient allocation of resources, stability be guaranteed by monetary and fiscal policies and solidarity has to be accomplished by some redistribution of wealth to the less advantaged. Many European countries adopted since the 19th century these economic values and established different forms of social market economies and welfare states. And also the early stages of European integration aimed to such a specific European Economic Model. However, since a few decades these traditional European values are challenged by the world–wide growing influence of the so-called „Neoliberalism", mainly coming from the United States and questioning European prosperity and wealth. Although the US-interpretation of the universally accepted values of freedom, equality and solidarity might be adequate for the US-society, it does not fit into European societies. Neoliberalism in Europe did not alleviate unemployment – expected to augment soon to 30 Million – and create a nature protecting growth path with a stable and sustainable financial system.

The recent financial crises demonstrate very clearly the dominating role of financial markets toward the real sector and the labor market. In face of this dominance the over-boarding state aids for the banking sector are certainly questionable and they have little positive effects on the real economy. And the slump on the commodity markets entails growing unemployment. Therefore state aids would be much more effective, if they were directed toward the real sector and to a much lesser degree to the financial sector. All basic economic values since the industrial revolution voted for a strictly controlled financial sector in favor of real capital accumulation and high employment. At the same time, we have to recognize, that also a flowering real sector runs into difficulties, if it does not take into account the limits of natural resources and the negative effects on income distribution. A narrow understanding of economic efficiency may lead to high growth rates, but negative external effects can diminish the growth of wealth and even reverse it. The same applies to an unequal income distribution, which leads to widespread poverty, especially for those without employment. Therefore, we have to reconsider the value of efficiency in the context of economic stability and the limited possibility of public redistribution.

In economized societies, were most of societal decisions are taken under economic criteria, the „economic machine" (Schumpeter) tends to separate itself from available natural and human resources, visible in ecological problems and unemployment. To re-harmonize nature, economy and society, the key variable is restructuring economic development toward qualitative and „smart" growth. In the past, economic wealth was created to a large extent by using „free" nature without prices and permanent substitution of labor by capital. To prevent further deteriorations of nature and create employment the future smart growth has to be efficient in nature-saving and labor-augmenting. What is actually called a socio-ecological market economy is much more appropriate than any form of planned economies. However, market coordination needs a regulative framework to minimize market failures and strong democratic structures. Market economies are intimately connected to democracy, which is politically responsible for economic efficiency, stability and fair redistribution. The European Union has successively made progress in this direction and preventing a further spread of Neoliberalism will enable the European Union to develop its European Economic Model.

For this, it is not so much to find a new value system for the economy, but to rely on the existing values of efficiency, stability and fair redistribution and to implement them by public regulation into entrepreneurial decision making. No doubt, the introduction of a variety of codices of good corporate governance (CG) and concepts corporate social responsibility (CSR) European business contributes to a more sustainable economy. But at the same time shareholder governance contradicts in most cases long-range sustainability and a broader understanding of economic efficiency. Emerging social and ecological side effects of production and consumption are often repaired still by new markets and environmental taxes are normally charged on the consumer. Where business is reluctant, is the development and application of nature-saving and labor-augmenting technologies. Even high prices of energy and rare materials give not sufficient incentives to switch to new „disruptive" technologies in housing, mobility and industry. On the contrary, in most cases new technologies are chosen for their labor–saving effects and augments unemployment, not fully out- weighted by the growing service sector. By this, economic growth has high capital intensity and results in a growing burden on nature and public budgets. Whereas narrowly understood economic efficiency leads to growth for individual business, the costs of natural deterioration and unemployment are mainly charged to the society.

In a market economy, based on private property and profit incentives a fundamental change to a socio-ecological market economy depends mainly on the technology of the production apparatus, which itself depends on education and research. The European Union promotes since the start of the Lisbon-strategy both pillars of the European Knowledge Society, but has not fully acknowledged the positive effects of a nature-saving and employment-augmenting technological progress. In terms of basic economic values it could augment simultaneously economic efficiency of business, stability of a smart growth and prevent a further growth of public debts. Otherwise said: If we succeed to switch to a new path of technological progress, were we need for the production of a given level of wealth less capital inputs and more labor inputs as a substitute, we generate more employment without a reduction of the rate of return on capital. Additionally, if capital-saving takes not only place by economic rationalization, but also by nature-saving technologies many ecological problems can be solved.

A move into a capital-saving and labor-augmenting technical progress is not in contradiction to efficiency, stability and fair redistribution. In principle, the knowledge society has the means to redirect the actually dominating capital-augmenting and labor-saving technologies. However, the developing knowledge society of the European Union has its main priority to augment labor productivity without giving sufficiently attention to its capital-augmenting effect. Whereas the European Knowledge Area is organizationally well designed, the content is mainly the result of manifold interventions and pressure groups and has no general orientation toward capital- and nature-saving technologies. Although progresses have been made in the 7th Framework Programme, including environmental policies, technology assessment, integrated product policy etc., there is no clear evaluation of its employment effects. As far as actually known, also the 8th Framework Programme and its relations to ERC, EIT etc. will not explicitly refer to its overarching effects on nature and employment. It seems mainly be based on the idea, that quantitative economic growth and marginal structural change can be the problem-solver for the majority of environmental problems. But if we look back to history and basic economic values, it was structural change of the economy, which was a precondition for a new path of economic growth and societal welfare.

The basic economic value system for the beginning century should not contain quantitative economic growth as the main criteria for economic success. Although the augmentation of economic wealth will be important for social cohesion, a harmonious interrelation between nature, economy and society can only be expected by nature-saving and labor-augmenting technologies. Then the basic economic values of efficiency, stability and fair redistribution will lead to a smart growth, which will produce tolerable environmental and employment problems. This needs regulations of the financial-, commodity- and labor markets, adequate money and fiscal policies and makes possible less public debts. Then the traditional European Economic Model will contribute much more to a socio-ecological market economy than the concept of Neoliberalism. And finally, the combination of market economy and welfare state correspondents not only to economic values, but also to the basic political values of freedom, equality and solidarity.