


# Economics Like a Living: A Bio-Ecological Model for the 21st Century

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## ABSTRACT

An introductory SWOT-analysis of economic growth by neoliberalist economics concludes that within a few decennia the success of neoliberalism has turned upside-down with more severe threats to humanity whereof that of the greenhouse effect has top-priority. The bioecological approach—approaching economics as an encapsulated discipline between ecology and brain science—identifies a Pigovian carbon emission tax (CET) as most effective towards the top-priority threat to humanity that of the green-house effect. However, in the short-term, the democratic center coalitions are too weak to implement CET, due asymmetric levels of economic knowledge between the profession of economists and the public. An accelerated public dissemination of bioecological economics is crucial to provide the option of political implementation of CET.

## KEYWORDS

Carbon Emission Tax, Creative Class, Cybernetics, Ecology, Macroeconomics, Meditation, Microeconomics, Neuroeconomics, Stress Management, Sustainable Development, SWOT-Analysis, Universal Basic Income

## 1. INTRODUCTION

The discovery of the “Invisible Market Hand” (IMH) as organizer of economic development is an unprecedented success in human development history (Smith, 1776). Lately, the unequivocal success story of IMH is turned upside-down by the “Green-house effect”. This study explores options to correct such documented market failures.

## 2. SWOT-ANALYSIS OF MARKET ECONOMY (IMH)

The SWOT-analysis is based on the economic tools of demand and supply as applied to the industrialization of G7 in 2.1. G7 includes USA, Canada, Germany, France, UK, Italy and Japan with 10% of world population accounting for nearly half of the global gross domestic production (GDP). Industrialization originated in UK about 1750 and spread to Continental Europe and North America and after WWII to Japan. The SWOT-analysis is concluded in 2.2.

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## 2.1. The Basic Function of Market Economy (IMH)

### 2.1.1. What is Economic Growth?

According to classical behavioral economics are human needs infinite, however with a decreasing marginal utility of consumption. This means that the higher income the higher total satisfaction of consumers. The price of goods and services limits the level of satisfaction that given the income and the relative prices determine which of alternative buying options is chosen. In-summary, income and relative prices are the most important determinants of consumption as confirmed by empirical investigation. This means that in general, consumer options rise whenever the prices decline, or the income raises. For a certain period in a specific region e.g. a year in a specific country, the aggregate value of foods and services is accounted as the gross domestic product (GDP) representing the consumer option of that specific country in that period. Economic growth is the case of relative growth in GDP compared to prices, the growth in consumer options. This growth thesis is in the simple case - without either foreign trade, financial transactions or changes in stocks - operated at the level of nations as changes in GDP corrected for eventual changes in the level of baseline prices.

GDP started to grow in UK about 1800. The quantitative comparison of the Pre-industrial, Feudal Village – economy with the Post-industrial, digitalized economy is not straight-out due substantial changes in the composition of consumption. A simple indicator of over-all economic growth in G7 is employment in agriculture. In the Pre-industrial economy, about 80% of the working population was poor copyholders in agriculture. In Post-industrial digitalized economies with advanced agriculture, <5% of the working force is required directly in agriculture and indirectly in the agricultural refinery industries to feed the population. This indicates a gross 15-fold increase in labor productivity which corresponds to an average economic growth during ups and downs as well as peace and war of about 1.2% pro anno since 1800.

### 2.1.2. Economic Growth by Market Economy is Profit-Driven

At the social level, profit serves as a risk-premium for an extra effort to overcome initial obstacles and insecurity which is termed “Return on Investment”. The thriven for profit, affects that production factors are applied to an extent, where the proportion between all production factors and the corresponding price is the same and minimal (Pareto, 1906). The trick of Pareto-optimal allocation is that simultaneously with optimal allocation of resources for society is production costs for enterprises minimized, wherefore collective and private interests progresses hand by hand in this line of development.

## 2.2. Optimization of Technology to Minimize Unit Production Costs

The optimal combination of multiple factors of production e.g. land, labor, capital and enterprise, is that of equal marginal cost per utility unit:

$$\text{Pareto Optimal Allocation: } \frac{dX_1}{P_1} = \frac{dX_2}{P_2} \dots \frac{dX_i}{P_i} \dots \frac{dX_n}{P_n}$$

$X_i$  = Production Factor,  $P_i$  = Price of  $i$

Minimal Variable Production Costs:  $V_c = \sum X_i P_i$

The Pareto-optimal combination of production factors represents the *technical aspect of economic effectiveness*. So, economics is basically a multidisciplinary process, presupposing free and informed communication between economists and a diversity of production specialists.

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