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## THE THERMO-ECONOMIC 'PROGRESS' of SOCIAL/GLOBAL POVERTY

### **-Unveiling a Sisyphian Paradox-**

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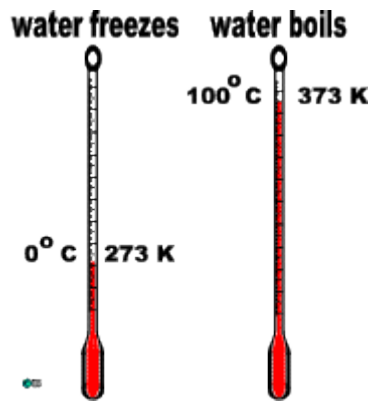
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The quantitative observation of economic waves, cycles and spirals in human history is not canonical part of academic social science; while economics evolved from private book-keeping as archeological evidence from early human scripts documents, most other parts of social science are far from the scientific program of Auguste Comte, i.e. hermeneutic interpretation reigns over observable quantities. However, the monetary accounts of society follow the ancient civilizational book-keeping techniques of privatizing nature and its economic returns. Thus, it is not to wonder, that the age old social phenomenon of human poverty, despite all technological progress, came again to the surface of 'modern' society; the Sisyphian paradox has finally caught the information bastion of financial capitalism which turned into a rent-seeking economy. Much of this economic problem has to do with the neglect of basic physical laws by the economics profession, except some very successful financial service firms, e.g. at Wall Street. It is time to irrigate this special type of economic knowledge, the physical direction of economic value flow, towards main street and to create an earth sharing economy, without confiscating private property or causing public warfare, i.e. the great societal conflict of our time has a definite solution or remedy.

Energy, matter, mass, money, capital, rent, thermo-economics, earth sharing, remedy.

JEL: B41



### Our Point of Embarkation

The understanding of a paradox is very deeply connected to perceive *observable* dimensions or quantities of human social life praxis, that is the distribution of human living chances, according to key resources like education, health, liquidity, and private property assets. What we do not mean here are hermeneutic narratives (ideas, ideals, interpretations, imaginations) of social phenomena, as scientifically interesting and exciting they are, but the material point of this study project is the realm of the vital role that the access to physical resources means for human health and wealth, i.e. the research focus are natural, human and technical resources as physical interplay on planet earth. It shall also be very precisely stated that the natural sciences are factually far from perfection, because many concepts are only applicable in narrow fields of investigation, concerning non-human systems. For example, the working assumptions of physical thermodynamics, evolutionary biology and information theory are totally incompatible, by the standards of logic, time-scales and measurement availability/scalability. In any case, the descriptive tools of science will be applied in this exploration, but our point of destination is explanatory, because natural and social science are treated as equals, concerning human-made systems like our social economy, which is primarily based on physical energy/matter (entropy), and secondarily on human information (ambiguity/'bitropy').

### The physics of poverty

The last two decades have seen an enormous explosion of wealth and management literature, consulting and advising people to build their Ark of Noah; the meltdown of financial resources into assets in the last 20 years is indeed of mega quantity and most books are written, of course, by economists. Contrary to this literary production for economic literacy and material well-being stays the empirical fact that the most successful financial firms are employing physicists, statisticians, data scientists, and private estate planning lawyers. This may be contra-intuitive, but the motion of economic conjuncture (a term from astronomy)

performs in mass quantities of waves (high/low frequency), cycles (in cycles) and spirals (forward/backward), i.e. mass *attracts* more mass in phase space-time, and the exponential probability behavior of economic resource distribution in time (energy) and space (matter) looks never like a Maxwell-Boltzmann-distribution, but as an intertwined pattern of a Boltzmann (Gibbs) distribution and Pareto power law. The Gini-coefficient (a Lorenz curve) actually measures energy dispersal in a given territory of a social population, i.e. the distribution or flow of money to the economic agents in an eco-system follows a thermodynamic behavior which *attracts* mass, e.g. purchasing power parity. This observable and quantifiable process of wealth re-distribution (from the bottom to the top) started statistically at the half-time when the post WW2 economic miracle period (1950-2000) ended and the yield or gain from capital stagnated, at least; in such times of diminishing economic return from capital formation, monetary liquidity is driven to privatized natural assets (land/rent) like the location of real estate, key natural resources and today renting out cyberspace, i.e. liquidity is buried into assets and not invested into further productivity of human labor/wages and technical capital/interest. Economic rent-seeking from privatized nature outperforms the productive growth ( $r > g$ ) of labor and capital, the Sisyphean economy is back again. We will later on discuss the root cause of increasing and decreasing temperatures in an economic system of boom-bust-cycles. In any case, the two class structure of current income distribution (as share of total income) in the US, EU and the 'developed' world follows the same and similar thermo-economic 'logic' that 1-3% of the given population in a defined territorial entity of land belong to the upper class which *attracts* more economic mass, and 97-99% belong to the lower class which cannot *attract* more economic mass, due to the socio-physical conditions of 'room-temperature' (entropy) in the eco-system. Of course, this is an artificial human system, based on information (which is neither energy nor matter = 1<sup>st</sup> natural order, i.e. information = 2<sup>nd</sup> natural order); it is also very important to note here that the advent of the monetary production economy and the rise of the industrial capitalist society have reinforced this thermo-economic paradox, but since the inception of human economic civilization in Sumer, also natural economies were plagued by this non-natural and human-made phenomenon of energy-mass-behavior, based on information; however with longer during periods of waves and cycles, i.e. the upward motion in the spiral of development was slower, since the societal energy consumption of matter was lower, in terms of mass conversion of resources. In the course ('curse') of civilizational history and a growing human population, this economic mass behavior of energy and matter unfortunately accelerated; economic singularity (dynamic efficiency) or static equilibrium did never exist in the real physical existence of living matter and human life, according to the cybernetic study of economic systems history.

### Human Progress without Poverty

The *root cause* of all economic systems failures in human civilizational history is the *excessive* privatization of nature (land/earth), the resulting capture of economic value for no performance in return and the inevitable (thermodynamic) concentration of the monetary flow into a few pockets (asset holding) when economic crisis sets in, i.e. the return from economic rent exceeds the return from labor and capital combined, since  $P - R = W + I$  (P=production; R=rent; W=wages; I=interest); the canonic formula reads:  $P = R + W + I$ . Free private property is

the foundation stone of human civilization, if it is not turned legally into a non-productive mass accumulation of assets; no command economy can achieve what free human enterprise and association can offer, but today's financial/monetized command economy is an alternative road to serfdom, neo-feudalism and rentier (crony) capitalism. Besides authoritarian and totalitarian systems control of economic policy, the only liberal, economic and democratic road to a just third way is to **tax** economic rent, to make it public revenue, with the additional *option* of paying out a citizen's dividend from this rental value taxation; no confiscation of private property or public war (revolution) is needed for the peaceful and legal introduction of the **least bad or ultimate tax**. There are enough economic tools available for this kind of **taxation** and even Mr. Gorbachev received in 1990 an open letter from a notable list of economists that asked him to introduce this kind of fiscal technique for a successful perestroika (restructure) of the Soviet body economic. The territorial nature of the human being, mostly peaceful, but in existential tension not, makes this economic policy looking like a tall order for mortal human beings (who may prefer the whole 'cake' of the animal kingdom on the 'monkey planet'), but economics was always about sharing territorial resources (natural inputs), despite all that human ingenuity and creative imagination has to offer as cultural surplus value. However, money has to be directed towards productive labor and capital (and there are indeed a lot of jobs to be done, to meet unmet human needs), not towards non-productive gambling with assets which only deepens/prolongs the cycle of economic crisis and buries surplus into assets. Poverty is a man-made social affair, it is not existent in nature; all deficits in human education and health cannot be explained by this geo-physical thermo-economic approach, but the extreme and exponential concentration and flow of economic resources/living chances in times of recessive conjuncture is due to the above mentioned thermo-economic effect of mass motion and can be checked via macro-prudent policy-making, i.e. to re-capture economic value via the ultimate tax on rent-seeking behavior.

### The Point of Destination

The thermodynamic 'progress' of socio-economic poverty on this globe is due to lacking rational and ethical policies of earth sharing, despite all waves of tech-know-logical innovation. This economic process accelerated, since 2000, when the post-WW2 capital formation cycle yielded definitively no more returns, while the remaining surplus values disappeared rapidly into economic rent-seeking like an ongoing arctic meltdown. An optimized distribution of human living chances can be *technically* achieved via an **earth sharing economy**, where the privatization of the world resources will be *taxed* by ethically fair rational means. Economic knowledge is about predictability, but real-world-outcome is about wisdom; the physics of wall street has to be channeled to main street, if the human race wants to survive on this planet in relative peace.

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