

## **Two Propositions of Heilbroner (1919-2005)**

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### **Abstract**

We present a contribution of Robert Heilbroner to classical stationary results that runs from Adam Smith, Ricardo, and Marx through neoclassical economics to the modern time. The analyses pivot on socioeconomic and historical forces. It is culled from several of his works scattered over half a century. They describe the path that capitalism took, based on underlying reality of economic relationships. Although Heilbroner does not express his thoughts mathematically, we cast some of his ideas in that terminology, because he does not avoid propositional statements, and the math we use is for heuristic purposes only.

### **1. Introduction**

The economic views of Heilbroner has received increased validation over time. The idea fits in with his history of views on economic thought, particularly with the classical economists that he used to explain economic reality for the 20<sup>th</sup> and 21<sup>st</sup> centuries. He has a vision of economic reality that is value-laden with worldly phenomena, a vision different from that of Joseph Schumpeter who leaned toward a more scientific approach. He is open about the influence that his socio-economic teacher, Adolph Lowe, had on him, and dedicated many of his works to him.

In his book *The Making of Economic Society*, he explains somewhat why he did not choose positive economics as his method. “When Auguste Comte classified the science of mankind in his general scheme of philosophy, he placed mathematics and the natural sciences at a lower stage of complexity than sociology or economics...They had to form their intellectual architecture out of the stuff of human behavior itself” (Heilbroner, 1962, pp. xi-xii). Perhaps it is that kind of reasoning that led Kenneth Galbraith to write, “To say our debt to Robert Heilbroner is in economics reduces it far below the reality. It is to a much larger, much more diverse current of thought. Going well beyond any denoted intellectual discipline, he has helped us achieve an understanding of the larger human process” (Galbraith, 1999, p. 16).

Heilbroner frames his works within economic history in order to “gain a sense of the evolution of the economic system” (p. ix), and within “a society that must organize a system to assure the

production...for its own survival...arrange the distribution ...so that more production can take place” (p. 12). Looking over the past, he found that “if tradition is the great brake on social and economic changes, so command can be the great spur to change” (p. 19). As for the market system, “it is not at all clear that the problems of production and distribution will be solved” (p. 22). In his most famous book, he noted that “the market provides no calculus for the ‘bads’ that often accompanies the production of the ‘goods’” (Heilbroner, 1972 [1953], p. 305).

With that backdrop, this paper looks at how Heilbroner saw economic problems. We start with a general proposition, and later investigate a particular proposition, which will be the main thesis of this paper.

## **2. Proposition I: (General Social and Economic Proposition)**

*Each stage of society has theories that solve the economic problem of that stage. As society evolves, there should evolve one or more theories that will solve the economic problems that arise.*

For Heilbroner, the “economic problem is simply the process of providing for the material well-being of society...how man earns his daily bread” (Heilbroner, 1970, p. 8). Society must devise social institutions of production and distribution to solve the problem (p. 13). Heilbroner became popular for expounding current problems. He was “...making a name for himself as one of the most respected commentators on contemporary economic problems and especially on the prospects for social betterment in the late-twentieth-century period of advanced capitalism” (Milberg, 2004, p. 235).

In his *The Worldly Philosophers*, we meet the progenitors of the dominant theory of capitalism. He called them “the worldly philosophers, for they sought to embrace in a scheme of philosophy the most worldly of all of man’s activities—his drive for wealth” (Heilbroner, 1972 [1953], p. 14). As he travelled the historic trajectory to the modern world, he “...no longer [has] the hallowed words of the worldly philosopher to fall back on but must interpret...the body of opinions (often at odds with itself) that deals with contemporary trends” (p. 9). He wrote that “economics is not a scientific discipline like the natural sciences, and that no cumulative advance describes its changeful form over the years... The chapter we call modern economics, compared with earlier chapters of our discipline, is shallow and poor rather than deep and rich, and the intellectual puzzle of some future time will be to account for the failure rather than the success of the period in which we have lived... The prestige accorded to mathematics in economics has given it rigor, but, alas, also mortis” (Heilbroner, 1979, p. 193;196).

Many socioeconomic and historical ideas lurk behind the main proposition. One can start with Marx’s idea of historical materialism, which “explains the formation of ideas by material practice” (Stockhammer, 1965). Production relations are at the core of the material condition of life and form the real foundation of society (Bottomore, Harris, Kernan, & Miliband, 1983, p. 207). In that core, we find the exploiter and the exploited. Reviewing the works of Thorstein Veblen and Antonio Gramsci makes that the necessary condition for production classes in an economy. A sufficient condition appears when class-consciousness develops (Hanappi & Hanappi-Eggers, 2013, p. 377).

In *Marxism: For and Against*, Heilbroner appears to be more for than against Marx. He thought that Marx's contribution "was the discovery of an unsuspected level of reality beneath the surface of history, above all beneath the history of the period that we call 'capitalism'... What Marx invented... was a mode of inquiry to reach that buried reality, a mode we call socioanalysis" (Heilbroner, 1980, pp. 16-17). For instance, everyday concepts of labor and capital have "declining outward appearances that we must learn to pierce" (Ibid.). The book has four chapters analyzing four important Marxian concepts: (1) a dialectical approach to philosophy; (2) a materialistic interpretation of history; (3) a socioanalysis of capitalism; and (4) a commitment to socialism. We note the importance of the first two as follows:

**2.1 Heilbroner on Dialectics:** He thought that "the task of dialectical inquiry is... to identify the particular contradictory tendency, if any, within a given social process" (p. 39). However, it is "an angle of vision, a lens through which to view society, but it does not predetermine what will be discovered there" (p. 40). Further, "a dialectical approach in itself sheds no light on the actual sequences of events through which contradictory tendencies work themselves out" (p. 40). After his analysis, Heilbroner defined dialectics as a process that "...emphasizes the 'activist' search for knowledge with its interdependence of theory and practice; the 'vision' of an imminently changeful reality; and the idea of contradiction within the categories and processes of social existence" (p. 44).

**2.1 Heilbroner on Materialist Interpretation of History:** Marx's materialist view contrasts with Hegel's idealist view (p. 63). It is anchored in the mode of production, where "...the overriding necessity of production, not because economic *motives*, as such, are presumed to dominate all others, or because economic *activities*, such as buying and selling, are supposed directly to dictate what men and women will think" (p. 65).

The mode of production is linked with the dialectical process to yield dialectic materialism (p. 68). This linkage differentiates Marx's stages of society from Smith's stages of hunting, pastoralism, settled agriculture, and commercial society (p. 67). Dialectic materialism is the lever of historical change in the production modes of society in which inequality causes class struggles. Thus, he was for Marx and Engels' pronouncement that "the history of all heretofore existing societies is the history of class struggle" (p. 49). He also agrees with Marx's concept of alienation, "... a social and psychological deformation through which humanity passes as a consequence of its historic experience" (p. 70).

We read that "Marxism tends to relegate questions of political power to a secondary role just as bourgeois thought tends to minimize or overlook the role of economic power" (p. 144). Heilbroner clarifies this by writing that there exists "...the propensity for an expansive and intolerant use of political power... within Marxist-oriented governments" (p. 145). He surmised that the "dialectical view of existence as inherently changeful is intuitively attractive, but intellectually elusive" (p. 52).

In the end, Heilbroner is for Marxism on an important economic thought. They both look for the "economic law of motion of modern society" (Marx, 1975 [1887], Volume 1, p. 10).

In his revised version of *The Worldly Philosopher* in 1999, Heilbroner was keen to mention that "...the process of social change was not merely a matter of new invention pressing old institutions: it was a matter of new classes displacing old ones" (Heilbroner, 1999, p. 146).

Accumulation of capital is a driver for capitalism in both concerns. For Marx, what distinguishes capitalism from other societies is that a "capitalist society employs more... of its available annual labor in the production of means of production (ergo, of constant capital), which are not resolvable into revenue in the form of wages or surplus-value, but can function only as capital" (Lenin, 2008, p. 89). The way Heilbroner explained it is as follows, "The key lies in that strategic branch we have identified: the machine tool branch. If we use our machine tools to make more machine tools, we will, after a while, be able to use these new machine tools to build larger stock of hoe-and-spade-making equipment. Then we will be able to bring labor in from the fields to man the new equipment and to turn out more spade and hoes" (Heilbroner, 1962, p. 93). The essence is to grow the machine tool sector, on which he cited Adolph Lowe's works on the same page (Lowe, 1952) (Lowe, 1956). We have expanded on Lowe's work in our book *Intellectual Journeys of Recent, Mostly "Defunct" Economists*.

In Marx's concerns on society, individuals are treated as "personations of economic categories, embodiments of particular class-relations and class-interests" (Marx, 1975 [1887], Volume 1, p. 10). For Heilbroner, "We are rich, not as individuals, but as members of a rich society, and our easy assumption of material sufficiency is actually only as reliable as the bonds that forge us into a social whole" (Heilbroner, 1970, p. 11).

In investigating the general proposition, we find Heilbroner to be overly concerned with Marxist vision. The dialectic materialism underscoring the discussion looked toward usurping the capitalist system. The next, main proposition as we call it, aims to show how the Smithian model will bring the system to a stationary state. As Heilbroner said in the revised *The Worldly Philosopher* (1999), he is "searching for a common structural core" (p. 312). The core will lay down rules for how what the 21<sup>st</sup> century worldly philosopher must do "to match that of the nineteenth and early twentieth, it will need to be both deepened and enlarged" (Heilbroner, 1999, p. 321). That will be necessary to confront the economic and moral decay he foresees.

### **3. Proposition II: (The Main Proposition about Business and Moral Decay)**

This proposition is set a vision of Adam Smith's economic development process to capture the growth of nations. One is tempted to compare this proposition with one of Einstein's identical twin experiments where one twin rides on a beam of light around the universe and returns to find his twin counterpart who stayed at home has aged. In Heilbroner's case, we can ask what one will encounter if one were to ride on a path or trajectory of capitalism evolution from the past, yesterday, the present, tomorrow, and into the future time. We take a quote from Heilbroner that captures the range of his works, relating to the main proposition. He wrote:

From Adam Smith through Marx to Keynes, powerful expositions have indicated the general direction of capitalist development, anchoring their analyses in the activities to which the participants in the market system find themselves driven by their own self-interest. In no case were the scenarios capable of

foreseeing the capitalist trajectory very far into the future...that are full of unpredictability ...yet far from being utterly unforeseeable (Heilbroner, 1994, p. 37).

Implicit in that quote is the dynamics of the capitalist system, its tendency toward growth, stability, or decline, and break up, and a vision that permits critical analysis. We now turn to his main economic proposition.

By referring to the main proposition, we mean one proposition that towers among some or many that will define the place of Heilbroner in economic theory or history of economic thought. Heilbroner looked at Schumpeter's vision but gave it a three-fold time perspective - past, present and future. For instance, in *21<sup>st</sup> Century Capitalism*, Heilbroner forged social movements in all directions—up, down, forward, and back, and not just in the traditional left and right view.

Over time a "... vision establishes the nature of the social drama--degenerative or ameliorative, progressive or tragic--and analysis writes the economic script to fit the foreordained plot" (Heilbroner, 1994, p. 327). Heilbroner's vision of the future fits in with how some major economists imagine the future of economics. He wrote "Adam Smith...envisaging a future of economic growth accompanied by the intellectual and moral decay of the laboring class (the latter not often mentioned when we speak of Smith's vision). Karl Marx; projecting a drama of self-destructive capitalism laying the basis for the constructive tasks of socialism" (Heilbroner, 1995, p. 5). Schumpeter's vision based on a "preanalytic cognitive act" preceded the work of analysis [1954, p. 42] - construed vision as a source of potential danger" (Heilbroner, 1994, p. 327). Heilbroner's vision places capitalism on a declining trajectory, which he identified in Smith's work, and gives significant amplification. The main proposition is the following.

### **3.1 Main Proposition [Heilbroner]:**

*Progress is paradoxical, leading to decline and decay in the Wealth of Nations* (Heilbroner, 1975, p. 524; 527); (Heilbroner, 1973, pp. 243-262).

Heilbroner saw that the evolutionary process depicted in Smith's model as suffering from both growth and decay, hence paradoxical. He investigated the tradition of Ricardo, Malthus and Marx to show that Adam Smith's hitchless growth process of a capitalistic society would come to a halt. This term hitches was coined by Joseph Schumpeter to characterize Smith's growth process (Schumpeter, 2006 [1954], pp. 539, 545,609), for which William Thweatt has given geometric expression (Thweatt, 1957).

The old tradition distinguished only external hitches to Smith's system. The broad concern was to show that forces exist that will prevent capitalism from growing continuously. The hitchless process shows that capitalism can increase wealth faster than any other system such as primitive society, slavery, command economy, feudalism, socialism, and communism, but some external hitches may prevent it from growing. The external hitch for David Ricardo was diminishing returns to scale, for Rev. T. R. Malthus a scientific prediction that growth in population will outpace growth in production especially of food supply, and for Karl Marx a dialectic process that will erupt in class conflict and synthesized by socialism and communism. One common characteristic of these processes is that they are "external" to the Smithian growth model.

Professor Heilbroner's contribution is in the direction of an "internal" hitch to the Smithian growth process, which is a milestone achievement in the history of economic thought.

To be clear, one is hard-pressed to find other competing external hitches to the Smithian growth process. This can be viewed as an external analogy with physics. Quantum theory posits an experiment where the release of a beam of light is observed as going through two slits, hence it is called the double slit experiment. If we were to place a sensor on one slit, the electron was observed to behave as though it does not choose the slit with the sensor. This can be termed a subject internal choice process of the electron. This is the kind of hitch that is depicted in the main proposition.

### **3.2 Textual Justification of the Proposition**

In the linguistic sign theory of Ferdinand de Saussure, one comes to the textual understanding of saying a tree, by being shown the picture of a tree (Saussure, 1986, p. 67). We have given more detail analysis on linguistic sign theory in one of our published works (Szenberg & Ramrattan, 2014, pp. 11-14). With this analogy in mind, one can ask what objects draw out Heilbroner's paradox for us. Several such possible images exist. He wrote of "the terminus of the economic journey", conjoined with both "decline and decay" in an evolutionary process (Heilbroner, 1975, p. 524). In many places he wrote of the coupling of economic stagnation with moral decay (pp. 524, 532-533). He wrote of transition from "cheerful" and "happy" states to "dull and "hard" states (p. 536).

A more general aspect of the sign view of Heilbroner's history of economic thought arises if the signifier is capitalism, and the signified is free society. Like Saussure, Heilbroner would like to scrub the sign,  $\uparrow$  (*Free Society/Capitalism*)  $\downarrow$ , of positive meaning. As society evolves from say tradition and command, the signifier to the signified will be related as in tropes, such as  $\uparrow$  (*Great Brake to Society/Traditional*)  $\downarrow$ , and  $\uparrow$  (*Great Spur to Society/Command*)  $\downarrow$ . This would be in contrast to what is now orthodox economics, where the sign is much like  $\uparrow$  (*Market Mechanism/Capitalism*)  $\downarrow$ , and tropes are like  $\uparrow$  (*Optimization/Scarcity*)  $\downarrow$ . Heilbroner's dynamic approach is one that emphasizes the study of human nature, while the orthodox dynamic approach analyzes demand and supply. For example, the latter analyzes the market mechanism where price adjusts to eliminate excess demand or excess supply (Samuelson, 1966, p. 1771). The human side of this approach requires moral restraints, and other birth control to slow the growth of population. If one were to impose orthodox dynamics on the humanistic to Malthusian dynamics, then the results will demonstrate unstable decay (Ramrattan & Szenberg, 2005, p. 24). Whatever limits can be placed on Malthusian population growth that will be a reference point for Heilbroner will deviate actual population growth in order to ascertain marginal population influence on the path to a steady state.

### **3.3 Moral Decay in the Proposition**

Heilbroner is concerned with morality, a very broad subject. We have summarized philosophical questions on morality in Chapter 5 of our forthcoming book on American exceptionalism (Ramrattan & Szenberg, 2019). From the middle Ages on, Edward Nell identified two moral codes for work. One code deals with customs and tradition, based on fairness and mutual help. The other deals with commerce and the market. In politics, the former was practiced by Pericles to govern Athens, based on the philosophy of Greece, while the latter was made practical by Machiavelli, based on the philosophy of Hobbes (Nell, 1996, p. 141).

A modern introductory text “Global Business Today” defines the sources of practical ethical behavior as personal ethics, social culture, decision-making processes, leadership, unrealistic performance goals, and organizational culture (Hill & Hull, 2018, p. 132). This approach distinguishes between Friedman’s strawman approach (p. 135), Utilitarian and Kantian Ethics (p. 137), Right Theories (p. 138), and Justice Theories (p. 139).

In his book *An Inquiry into The Human Prospect*, Heilbroner was concerned with the anxiety causing agents in one’s state of mind that drives economic changes. He gave us two categories--“topical” and “attitudinal” to study the historical path of capitalism (Heilbroner, 1994). A “barrage of confidence-shaking events” fits the topical description, while events that enter our daily lives through media that “have become part of our day-to-day existences...instilling in us a feeling of dismay, often bordering on despair” fits the attitudinal description (pp.12-14).

In *The Nature and Logic of Capitalism*, Heilbroner wrote that “the logic of a social formation refers to the movements of and changes in the “life process” and institutional configurations of a society (Heilbroner, 1985, p. 25). In Adam Smith’s society, “moral costs” must be “overbalanced by its material benefits” (p. 114). Heilbroner was willing to agree with Smith to the extent that a “subtle dialect” moderates material progress and moral decline. Smith’s moral process deals with moral sentiments, where simple and familiar facts on sympathy can help us predict and explain moral phenomena. If you can imagine putting yourself in the shoes of people, then you can approve of their conduct. Such a sense of feeling can be generalized to form moral laws. Heilbroner refrained from forming moral laws but looked at evidence of changes in mood over time. For instance, Jeremy Bentham replaced the “subtle dialect” with the greatest happiness for the most people (p. 115). Heilbroner questioned whether this replacement is better than the system of justice and virtue, say of Plato and Aristotle (Ibid). For him, “the term “goodness” is equated with *private* happiness, absolving all licit activities from any need to justify itself on other grounds” (p. 117).

According to Heilbroner, “The works of Smith and Mill and Marx and Keynes and Schumpeter describe the grand drama of accumulation” (Heilbroner R. , 1985, p. 142). One way in which society gets demoralized is through profit seeking. Profit revolves around the accumulation of capital, which drives growth in capitalism. In that process, the power to produce is expanded and ownership gets concentrated. As Edward Nell puts it, “Capital accumulation is an active force. It is an attack on our present ways of living and doing things, an attack that will rationalize and improve the lives of many—and make some people rich in the process, while ruining others” (Nell, 1993, p. 5). Another demoralizing aspect is “commercialization” as in commercialized sports and advertising (Heilbroner, 1985, p. 117).

Moral decay contributed to the “bounded future” of the accumulation system in capitalism (p. 143). Here is where Heilbroner identified the main proposition in Smith’s system. He wrote that Adam Smith described the system as reaching a plateau, when the accumulation of riches will be “complete” (p. 143). J. S. Mill called such a state a “stationary state,” where accumulation stops; Karl Marx saw a sequence of worsening crises; Keynes saw the need to socialize investments, and Schumpeter saw the coming of managerial socialism (pp. 143-144).

### **3.4 Business Decay in the Proposition**

Heilbroner examined Smith’s, Marx’s, and Schumpeter’s work in setting his concept of business. From Marx we see how his business concepts such as profits developed. For instance, he wrote, “It is the vision-derived consequence of perceiving the profit-generating system as composed of two antagonistic classes instead of one somewhat contentious but essentially united social order” (Heilbroner, 1994, p. 327). This differentiates his vision from Schumpeter’s “preanalytic cognitive act” view, to one that is “sociopolitical” where social order dominates natural order (Ibid., p. 327). Further, this vision puts him against some of the assumptions of Smith’s system he learned from his cherished teacher, Adolph Lowe, which involves private property, contractual agreement, free markets, and unequal distribution (p. 329). The economic historian, Robert Dimand, jettisoned his vision with Karl Polanyi’s version of Marx (Dimand, 2004).

In his *Business Civilization in Decay*, Heilbroner created three future visions for capitalism—the immediate future about the next 10 years; the middle range of about 25 to 50 years, and the long-run of 100 years (Heilbroner, 1976). In the immediate future, “capitalism is drifting into planning” (p.17). The growth in the political apparatus will dominate the economic sphere, which he surmised “will be a major factor in the extinction of the business civilization” (p. 17). He made three propositions about this—the development of “generalized disorder that requires government intervention,” development of “serious localized disorder,” and “the danger imposed by constricted environment” (pp. 32-33). The middle period will suffer Marx’s “apocalyptic view of capitalism” and “an ameliorative” view that “economic success does not guarantee social harmony” (p. 44).

The challenges of the middle period will be to confront the environmental constraint, (p. 50), to deal with the “common technology employed by capitalism all over the world”, (p. 54) and the “need to establish effective social controls over technologies that hold the capacity for enormous social mischief” (p. 56). All three of these challenges have now come to pass. We only have Coase’s Theorem to deal with diseconomies, taste and preferences are converging in the global economy as evidenced by McDonald’s and Starbucks, and problems with social media goes without the need to enumerate them.

Predicting the outlook for the longer period is harder. It is dependent on growth constrained by the environment. The demise of business civilization may not follow the fall of Rome but may “exhibit businesslike institution” (pp. 118-119), but a classical spirit might be lost. Religion in the form of Christian belief that nurtured capitalism may shift towards the deification of the state

(p. 199). Whether the philosophy of individualism that brings some uniqueness to the economy will remain is unsure (p. 124).

In an early book, *The Future as History*, Heilbroner wrote that the battle is not whether to have a “Plan or No Plan” (Heilbroner, 1960, p. 144). With planning, “the concentrated ownership of property, the profit motive, the market mechanism would certainly remain at the heart of the economy...limited planning will not be to undermine the surrounding main body of capitalism but to preserve it” (p. 145). It is not planning to radically transform American Capitalism. In a later piece, he was more concrete about how planning fits in his vision. He wrote, “In a word, vision makes it impossible to confuse a "system" of production functions and input-out-put matrices--even of contracts and property, technically defined--with capitalism, because such a system, however useful in our analytic work, takes no notice of the essentially unequal relationships of social classes, without which capitalism as we know it would not exist” (Heilbroner, 1994, p. 328).

In terms of ideology, Heilbroner wrote in his “*The Nature and Logic of Capitalism*” that commercialization is “perhaps the single most self-destructive process of modern capitalist civilization” (Heilbroner, 1985, p. 118). Feudal and earlier societies use religious ideologies (p. 195). With Thomas Hobbes and John Locke, we get individual forming groups for safety and protection, and the preservation of property (pp. 119; 112). Coming to the 19<sup>th</sup> century, Jeremy Bentham’s utilitarian view postulated that if happiness is good for the individual it will be good for society (p. 115). This extends morality to profit-and-loss activities in the market, over the old morals of virtue and justice (Ibid.). Self-interest now becomes respectable and leads to more commercialization of society.

In his book *Visions of the Future*, he characterized the time dimension of capitalism further, using the time categories of distant past, yesterday, today, and tomorrow almost like the different spirits that visited Scrooge (Heilbroner, 1995). He dated the Distant Past from the appearance of Homo sapiens 150,000 years ago to the last two or three hundred years ago. This era spans primitive society through Greece, Rome, and the middle Ages up to the seventeenth century. Here we find “Asian civilization superior in technology, social organization, and culture to those of the West” (p. 6-7). The vision in that period was mythical or religious (p. 8). But the period ended Yesterday when self-generating forces started capitalism (p. 10). Yesterday gave us science and the public mind that led to capitalism (pp. 46-49). In both economies, which was not present in the distant past, an appearance that replaced command with production, distribution, accumulation of capital, private money-making, and political will. (p. 50-51; 58).

Historically, the distant past up to yesterday, bequeathed today and tomorrow. Today bears the triad forces of yesterday—science, dynamics of capitalist economy, and mass politics (p. 70). The forces entering today appear as laws of man and law of things (p. 72). Science is the law of things. Today, we want to know the implication of science and innovation for politics and social structure (p. 76).

After WWII and a reconstruction boom, Heilbroner identified many malfunctions in capitalism, namely unemployment, recession, depreciation in workers’ earning, and poverty (p. 81).

Globalization brought international impersonal forces into play, and poor economic appearance created more anxiety (p. 83). It makes Today different from the world of Yesterday (p. 92).

Heilbroner admitted that it is difficult to predict the vision for Tomorrow but tried to imagine what might happen (p. 95). Above, we noted how he segmented the future over short and long periods. One problem is that it will be difficult to control international problems with science and technology (p. 97). On the badly negative side, we can imagine the danger of a nuclear attract for lack of diplomatic, economic or military means (p. 98). On the positive side, we can take some actions to forestall global warming (98).

In his *Beyond Boom and Crash*, he suggested the methodology of the doctor that is looking at “case histories...from 1950 to the early 1970s were the longest period of growth that capitalism had ever experienced” (Heilbroner, 1978, p. 12). Then crisis came around 1973 from many countries, but not of depression proportion (p. 13). For him the “oil shock can be blamed for the onset of the worldwide capitalist crisis, but not for its subsequent history” during the 1970s (p. 17). He likened the oil shock to a telling blow to an “overstrained structure” (p. 17). From Marx’s point of view, the system is one in which “money makes money and business capital expands” (p. 18). From an orthodox point of view, Roy Harrod’s knife-edge instability of the growth process between recession and inflation comes into play (p. 35). The historical pictures show that the inflation of the 1970s was a result of the more involvement of the government sector in the economy than during the pre-WWII years (p. 42). There was large expectation of entitlement, and big business and big labor unions were teaming up (p. 46).

Perhaps like bacteria, Heilbroner argued that modern inflation evolved into a new strain from the past. Government is a major cause of it, and its policies are now working well to contain it (pp. 50-51). Mild measures such as slowing the growth of money supply and budgets cuts were not effective. Harsher measures such as such as wage and price control or even the much-lauded trade-off of unemployment and inflation rates have led to recession.

It is interesting to note how crises change the structure of capitalism. From a crisis, capitalism tends to come back with bigger business (p. 73). Smaller businesses tend to be pushed out and their workers must rely on selling their services for a wage (p. 74), but this does not translate to class-consciousness as Marx expected. Here, Heilbroner sided with Veblen who foresaw that “the lower class will look to the upper classes as models to be aped, and not masters to be dethroned” (p. 75). Also, siding with David Gordon, new crises are like the “fulcrum point in the historical unfolding of capitalism...to allow the clogged circuit of production to open again.” These crucial turning points are...fifty years cycles...discovered by...N. D. Kondratief (p. 76-77). In that sense, counting from 1970s we may be at an inflection due for another historical unclogging. One likely characterization of it might be masses change in our institutional structure.

In his *The Crisis of Vision in Modern Economic Thought*, co-authored with William Milberg, we find arguments that seek to dismantle the orthodox vision in modern capitalism (Heilbroner, Robert and William Milberg, 1995). From the lenses of modern economics, we can discern two expectations, *E*, views—see (Harcourt, 1997) and (Shaikh, 2004), which we characterize in two

equations below. Reading the first equation backward indicated that Classical, Marshallian, and Keynesian economics were dominant modes of analysis for dynamic changes of the economy.

In his book, *The Great Ascent*, Heilbroner spotlighted how the dominant models of economic analysis listed in Equation 1 have performed in the world (Heilbroner R. L., 1963). He considered “Great Ascent as the first real act of world history... For over one hundred nations, economic development means the chance to become a national entity, to live in the chronicle of recorded events” (p. 9). It is an economic, political and social process (p. 16) that involves radical changes (p. 17) and creates a gap between expectation and achievements (18). So, success is not assured (p. 19), and the nations that embrace it will have to pay a price, namely “the exercise of authoritarian power, both political and economic” (p. 20).

By the 1970s, stagflation had dethroned the Keynesian model. A new economic vision should have taken the helm as a dominant mode of analysis. However, we find that “Monetarism, Rational Expectation, New Classical and New Keynesian economics alike, have all sought to provide such a new point of intellectual agreement, but without success” (Heilbroner & Milgate, 1995, p. 91). Equation 2 as extracted from Heilbroner’s writings by readers such as Anwar Shaikh foresee that the new vision has to recognize a passive private sector, and strategic public sector to be progressive.

***E(Do. MO. of Ana. ||Eco. Vis. |Classical, Marshallian, Keynesian) ... ... (eq. 1. Harcourt)***

***E(New Vision | Passive Private & Strategic Public Sector) ... ... (eq. 2. Shaikh)***

Overall, Heilbroner saw the modern vision of economics “as some kind of socially disembodied study.” (p. 6) Modern attempts to meet the challenge acted with precision than with explanations of reality (p. 101) and postulated behavioral laws that stand on “formidable analytical apparatus apply only partially” (pp. 124-125). A better stance would be to abandon the “the natural law conception of economics” and shift “from prediction to policy guidance” (p. 128).

To sum up, Heilbroner offered a historical mode of change that is highly plausible. It is not a positive model as the one used in the hard sciences, but one that can validate reality. It is based on boom and crash, or cycle if you will, that are not just trumped up, but has validation in the history of economic thought. “History has shown capitalism to be an extraordinarily resilient, persisting, and tenacious system” (Heilbroner, 1978, p. 89). Classical, neoclassical and Keynesian economics has lived up to past challenges in history, but the fall of Keynesian economics in the 1970s left a vacuum on the throne of the dominant mode of analysis.

In the next section, we summarize some of the essential features of modern attempts to provide a dominant economic model for the modern society.

#### **4. Modern attempt at a Dominant model for Capitalism**

A number of economic schools of thought exist vying for the dominant role in Heilbroner’s process of dynamic capitalism. The biggest name is neoclassical economics. It is not surprising to find self-criticism of decay in neoclassical theory. The Nobel laureate, Robert Solow, wrote

that “if you pick up an article today with the word ‘business cycle’ in the title, there is a fairly high probability that its basic theoretical orientation will be what is called ‘real business cycle theory’ and the underlying model will be...a slightly dressed up version of the neoclassical growth model” (Solow, 2003, p. 19). Solow is addressing the degenerating side of the neoclassical program.

One contender of modern high theory is rational expectation. A Nobel laureate and a sympathizer of it stated that the theory is based on “individual rationality, and mutual consistency of perceptions about the environment” (Sargent, 1993, p. 3). Sargent calls for replacing the assumption about perception, which places an undue burden of econometrician to possess too much knowledge. He would rather replace the modeler with an “artificially intelligent” agent (Ibid., p. 3).

A similar problem is found with general equilibrium model of the Arrow-Debreu type. Bad enough that it treats uncertainty with discount present value calculation, and expected value in the calculation of Arrow Securities in the face of the St. Petersburg and Alias paradoxes. An early criticism of the socialists include problem with distribution in the Arrow-Debreu model. Frank Hahn, a contributor to general equilibrium theory, adds that “distribution of preferences of agents is not God-given, and is different for different societies...what is needed is...a theory of preference formation and of the way endowments come to be what they are” (Hahn, 1991, pp. 67-68). Other general equilibrium theorists such as Gilboa and Schmeidler have proposed an analogical “case-based” decision theory that seek analogies with past successful cases (Gilboa & Schmeidler, 2001).

Randomness has taken a big place in neoclassical and new classical models. The old theories were modelled on a universe that is convex, because stability was a preferred goal, and convex behaviors are easy to explain and predict, i.e., deterministic. Otherwise, the model is made probabilistic based on stochastic processes, which include statistical models such as Martingale models, Markov processes, Brownian motion, and geometric random walk models. The assertion of determinism neglects chaotic behavior. It is naïve to think that the world will be the same today as it was yesterday, based on information that was filtered up to today, according to the Martingale models. Brownian motion imported to business assumes that an electron can behave the way a person does. Randomness does away with fixed factors, the pillar on which neoclassical economics rested. It is not hard, therefore, to make the prediction case for business decay as Heilbroner did for the classical and neoclassical program.

## **5. The Place of Heilbroner’s Proposition in HET.**

We present some information in the figure below to correlate some concepts relating to Heilbroner’s main proposition. We pick up the story with Heilbroner’s characterization of a stationary state. An economy in motion has initial conditions, which is positioned at  $C_0$ . In one place, Heilbroner wrote, “A stationary state defined in terms of an *unvarying level of output per capita* (quality of output assumed to be also invariant) might be attained with a rising level of

population, or might require a decline in population” (Heilbroner & Allentuck, 1972, p. 205). The term can be credited to John. S. Mill, who associated with it a stationary population.

### **5.1. Initial Condition of Motion for Heilbroner’s Proposition**

We read in Marx Capital VIII, “the ultimate reason for all real crises always remains the poverty and restricted consumption of the masses as opposed to the drive of capitalist production to develop the productive forces as though only the absolute consuming power of society constituted their limit” (Marx, 1975 [1894], p. 484). For this and other reasons, we break into the motion of society illustrated heuristically by Figure I below, at the initial level of consumption,  $C_0$ . The NW quadrant of the figure below indicates the process of growth, decline and saturation in consumption. To each flat line segment (saturated points) is associated a level of wages rate. As explained in the figure, many different explanations are given for a supply of labor curve. In particular, the historic one encompassing slave and indentured labor is akin to Heilbroner’s historic evolutionary and subtle dialectic perspective.

Models for which consumption is a bliss point is due to Frank Ramsey in 1928. A variable to optimize was utility from consumption, specified in utility form,  $u(C)$ , and the goal was to attain some bliss state. The aggregate production dependent on  $K$  for capital, and  $L$  for labor,  $F(K, L)$  (Koopmans, 1970, p. 552). Policy decision was whether to allocate output flow over time to consumption or net increase in the capital stock. Optimal path occurred either when  $C$  reached a bliss level of consumption, or when  $K$  reached a saturation level (Ibid., p. 553). When the marginal productivity of capital is equal to the growth rate, a golden rule of accumulation was realized (Ibid., pp. 497,499, 553).

We all know about the controversy of defining capital. Samuelson followed J. B. Clark’s homogenous definition of capital to frame a surrogate production function. He wrote that “the J. B. Clark parables were given rigorous form in Frank Ramsey’s 1928 production function,” and he proceeded to list a number of authors including himself that accepted it, and those who question it (Samuelson, 1966, Volume I, p. 206). Much confusion was to happen. What is not consumer is saved, which is channeled to change the capital stock exanti or expost. Also, the dual Pasinetti theorem invited the debate as to whether savings from capitalists or workers that are involved. What we focus on is the inter-temporalness of consumption, and the price of capital, the interest rate, is price of capital in these time periods.

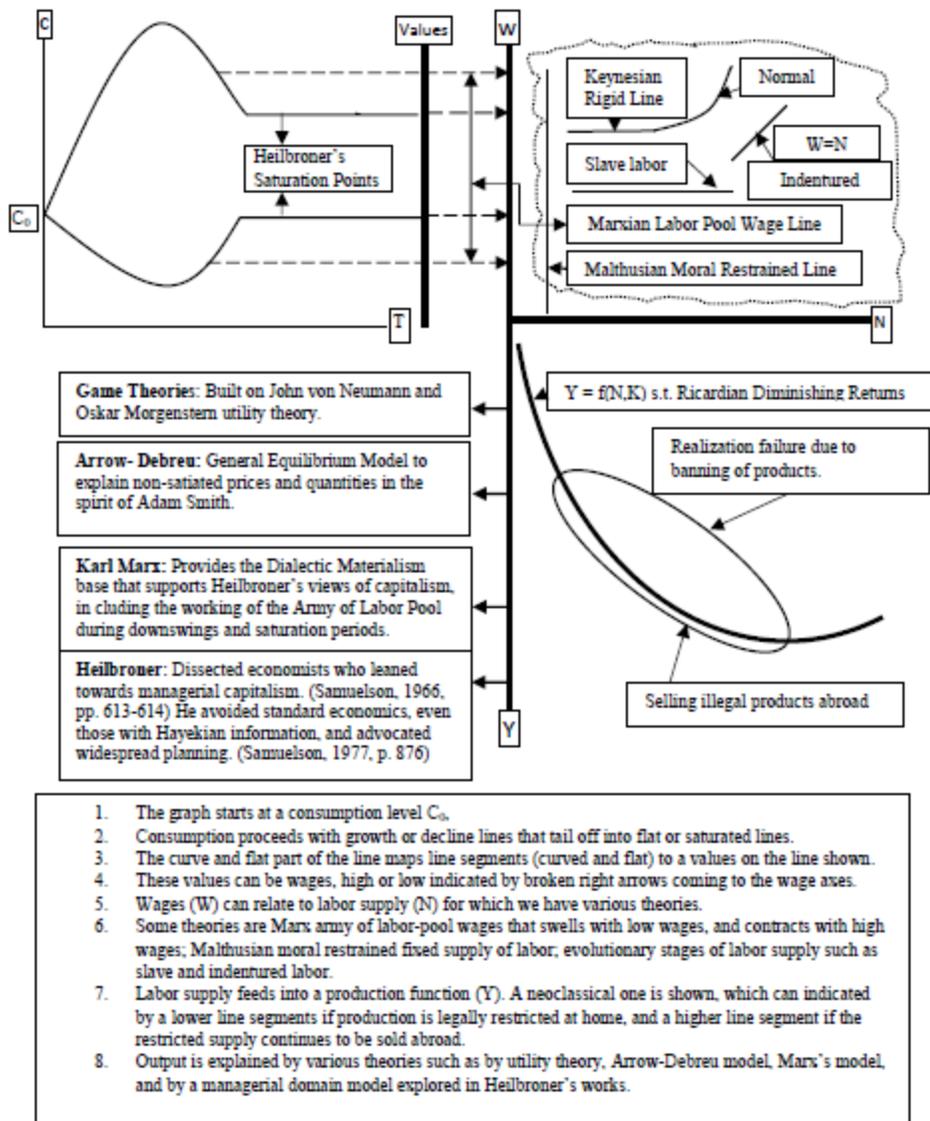


Figure 1: A Heuristic View of Models to Embed Heilbroner's Vision

## 6. Heilbroner on Saturation Point and its Implication

Heilbroner did not embrace the Ramsey maximizing of consumption model, or the Cambridge Controversy model. The latter was a surprise, as the Cambridge Controversy on capital is a main subject of study at the New School for Social Research, being taught there by Edward Nell. To spot some light on this point we had some email conversations with Professor Edward Nell that were very informative, and therefore we wish to include in this discussion.

Nell called our attention to some remarks in the book *Behind the Veil of Economics: Essays in the Worldly Philosophy* (Heilbroner, 1988). Basically, Heilbroner discussed some of Bohm

Bawerk concerns with Marxian transformation problem regarding how values became prices. Heilbroner underscored that Marx concept of value is anchored not in the Smithian world on how to distribute a beaver or deer catch in primitive society between the hunter and the capitalist (p. 120). This is distribution is exchange but without class structure. To reflect both, the output must become a commodity produced for exchange. Such a production and exchange process will allow abstract labor to generating profits in a capitalist system. “Smith’s hunters of beaver and deer would not create value, in Marx’s eyes, unless they undertook their tasks with exchange—not personal use--in mind” (p. 120). The Cambridge controversy here is to show how the factors will be rewarded their marginal products, which is still an unsettled question.

Nell other emails were about Heilbroner articulation of the Cambridge controversy. We present some direct quotes for Nell’s email on this as follows:

“Heilbroner...did not have anything much to say on the Cambridge Controversy, not because he didn’t know about it - I spent a lot of time explaining it in detail to him, which he didn’t really need because he had already read Harcourt’s book and other materials — but because he found it too technical - even esoteric - and he did not feel competent to discuss its significance. He could see it, and he found what I had to say, what Anwar said, what Harcourt said - and others, too - all reasonably persuasive: production functions showing alternative techniques and marginal productivity theory are flawed constructions. BUT HE DIDN’T FEEL HE COULD ARGUE THE CASE WITH SAMUELSON OR SOLOW.”

Heilbroner “feared...that the Cambridge Critique was a minor technical hitch that upset a popular and useful parable. But then...he understood you had to ask, why does modern mathematical economics and econometrics rely on PARABLES? Is marginal productivity theory just a parable? If so then it’s not a real theory, it falls apart when you try to make it precise - that’s what the critique says. It’s just a story, imaginary, and reality does not work that way - so economics has to start over to explain income distribution.”

“He understood this, and I think more or less accepted it, but at the same time he thought there were other reasons, institutional and maybe better ones -certainly easier to understand - to reject marginal productivity theory.”

Heilbroner “was proud of his textbook and wanted it to be a serious alternative to Samuelson, one that any economics teacher could use to present the basics of ‘accepted’ economics. Its distinctive features - an effort to shift accepted economics towards a better position - was that it took Institutions and history seriously - both the history of economics and the history of the economy. Samuelson, of course, does discuss these matters, breezily skimming thru what he considers the main points. For [Samuelson], however, the meat of the subject lay in analytics applied to statistical data - and [Heilbroner] wants to show that this is not enough, you also need history and institutions. They are necessary AND in many cases they are more important. He does not want to get involved in arguments about how the analytics work - that is Samuelson’s home territory and he does not want to contest it, even if he thinks [Samuelson] may be wrong. Instead he proposes to show the importance and utility of institutional analysis and historical thinking.” (Bracket items added)

“An interesting point is that the picture Heilbroner draws of Capital and the process of accumulation is really pretty close, it seems to me, to that presented by Joan Robinson, or for that matter Sraffa - except that Heilbroner avoids the technical side. But the idea that we have a definite economic structure that regularly renews itself, and pays profits on a portion of this structure, which is its ‘capital’ - according to a precise formula - where the rate of pay is determined by some sort of market process that also reflects power relationships — all that is common to both Cambridge UK and Heilbroner (and Lowe). It was always surprising to me that

he never became closer to the Sraffians. Personalities played a part, of course; I don't think he found Garegnani easy to talk to, but I think he liked Heinz Kurz and Harald Hagemann. In any case he was more interested in questions of economic history than in arguments over analytical points."

Getting back to an explanation of Figure 1, a number of variables in dynamic motion in the past may have brought the economy to the initial starting state and will cause it to reach its present and future state, including one that is stagnant and stationary. We specify the initial condition, heuristically, for the dynamic motion in equation 3 below.

$$C_0 = f\left\{\int_0^{\infty} [P_{(NIM+NNI)} - P_{(ML)}]dt\right\}; dK/dt, \Delta PEM, \Delta O\} \dots \dots (Eq. 3)$$

Where the P is population, NIM is net in-migration, NNI is net-natural increase, ML is Malthusian limits to population, K is capital, dt is time derivative,  $\Delta PEM$  represents changes due to historical operation of tension between political, economic and market forces, and  $\Delta O$  picks up other influences such as taxes and peace dividend.

### 6.1. Population

The terms under the integral sign measures the marginal influence of population on consumption. The PEM variable has a dialectal influence on profits, which in a capitalist economy is for the purpose of making more profits, and for pre-capitalistic societies shows up as accumulated wealth (Heilbroner, 1985, p. 34). One has to extract a labor force from population measure to exclude child labor, students, and unproductive labor.

Heilbroner wrote in various place about the state of the population. His views in a *Foreign Affairs* article on this matter are very remarkable. He wrote that with the "potential braking effect of birth control...demographers estimate that we will "only" have to cope with a global population of 15 billion by the year 2060. In fact, the number may be much larger" (Heilbroner, 1972b, p. 140). That makes up the demand side for which we must seek a "balance" against supply. A "...relentless burgeoning of populations--and the hope for a rise in their material consumption--makes inevitable the need for very large increases in physical output" (p. 145). About the "balance," we read that a "prime requirement is the attainment of a society in which both the size of population and of the capital stock are stable. In a word, the only solution for ecological equilibrium is the stationary, growthless state." This is followed by the statement that "'stationary' state...would not necessarily be a society in ecological balance. This is because a society can be 'stationary' and can still be polluting the environment" (p. 148).

He earlier advocated birth control. In his March 10, 1967 speech at Augsburg University on the Symposium's topic of "World Starvation: Disaster in the 70's?" (<https://www.youtube.com/watch?v=M5riTclbPKk>). He was for birth control in the form of IUDs, etc. because it was successful in Taiwan and South Korea and India in that order. The counteracting tendency will be modernization, which he did not foresee will be forthcoming. He saw communism as a regime in the Former Soviet Union, China, and Cuba that conducted a jihad like war against backwardness. Turkey, Egypt, Mexico, and Argentina indicated that communism is not the only regime to make that enormous change to bring about modern

economy, but some kind of revolution is needed. It needs the banner of nationalism to affect the strength to modernize the institutions, but a dilemma is involved. Western nations require this transformation peacefully—martial plan, Peace Corps. They do not see it as necessarily a revolution transformation. It seems the problem can only be postponed. All those statements did not have the full fledged hindsight of Hi Tech that spurred growth in many backward nations. However, the population bomb is still ticking.

## 6.2. On Capital

Heilbroner gave a general definition of capital in an early work. He wrote, “We can see that in a fundamental sense, capital consists of anything which can enhance man’s power to perform economically useful work” (Heilbroner, 1962, p. 89). Again, “capital gives men mechanical and physico-chemical powers of literally trans-human dimensions...capital facilitates the specialization of man’s labor” (p. 90).

The next term in the equation,  $dK/dt$ , represents what Heilbroner referred to as “capital-building or investment,” which is driven by savings (Heilbroner, 1962, p. 94). Due to capital formation, we get growth and cycles (p. 152). Capital expenditure tends to be unstable. While consumer goods are used up, capital goods endure. Society may be able to live on old capital goods. One problem is that  $dK/dt$  (change in capital over time) has more irregular demand than  $dC/dt$  (change in consumption over time), or the propensity to invest is more uncertain than the propensity to consume. The former depends on anticipated profits (p.153). When profits are not anticipated, confidence and financial integrity are impaired, such as in periods of crisis (p. 154).

Keynesians have that type of dynamics with technical coefficients. Roy Harrod and Evsey Domar’s model equalized the propensity to save in income,  $sY$ , to investment derived from the naïve acceleratory model of constant capital-output ratio,  $v = \frac{K}{Y}$ . The linear differential equation thus formed  $vY' - sY = 0$ , has a phase plane path growing at the rate  $s/v$ . Any displacement from that path leads to a knife-edged unstable situation. According to F. Hahn and R. Mathews, knife-edge occurs when “the warranted rate may itself be unstable, even without reference to the natural rate” (Hahn & Mathews, 1964, p. 806). Robert Solow’s modification for population growth and depreciation predicts a stationary state, which to his dismay, modern theories have treated as a business cycle theory (Solow, 2003, p. 19). Robert Solow provides a homogenous production where variables are in per capita (per worker) form. So, the steady-state value of consumption per worker depends on capital per head net of population growth ( $n$ ) and the rate of depreciation ( $\delta$ ). The consumption per head steady-state will reside in the interval  $0 < \frac{C}{L} < n + \delta$  (Chiang, 1992, p. 248).

Keynesians, underconsumptionists, and Marxists have rejected the capital accumulation theory of Harrod and Domar. Evsey Domar wrote “the possibilities of the so-called deepening of capital (in the sense of an increasing ratio of capital to output) are limited. Therefore, the amount of capital that the economy can absorb, at a given income level and over a given period of time, is limited as well. The more rapidly it accumulates, the sooner investment opportunities are exhausted, and a depression ensues” (Domar, 1957, p. 109).

Heilbroner is in on the rejection side but for social and institutional reasons. He continued his theme of capital as follows: “I think the central, the driving, characteristic is its (capitalism) need constantly to accumulate, to see avenues for the investment of capital in order to create more capital. In slightly different terms, it is a formulation every businessman would agree with. It’s the profit motive. It’s expansion. It’s business growth (Heilbroner, 1982, p. 33). He recognized Harrod and Domar mentioned above. However, he gave a different focus, namely, on capitalism in which “...the institutions that permit and generate that accumulation, institutions of technology, relations between government and private sectors, seem to lose their effectiveness and the system chokes up and has to see new channels...Crises occur when these existing institutions lose their thrust” (p. 34). At times he gets philosophical about this, saying that there is a veil between capital and capitalism that is concealed in drive to “get ahead”, “making money”, and “accumulate capital” (Heilbroner, 1994, p. 42).

One modern pragmatic attempt to measure capital states that claims some historic quality. According to Piketty, capital is “the sum total of nonhuman assets that can be owned and exchanged on some market” (Piketty, 2014, p. 46) Growth is related to “the annual increase in income or output” (Piketty, 2014, p. 25). If the return of capital ( $r$ ) exceeds the growth rate ( $g$ ), then wealth distribution becomes more unequal because ““wealth originating in the past automatically grows more rapidly, even without labor, than wealth stemming from work, which can be saved” (p. 378). He backs up this state with two equations. One equation is on distribution which states that  $\alpha = r\beta$ , and reads that the share of national income equals the rate of return on capital times the capital/income ratio. He stated that this is an accounting identity that “can be applied to all societies in all period of history, by definition (2014, p. 52). Because this equation does not go into social relations and institutions, it does not seem to be the capital concept that Heilbroner had in mind that will cause moral and economic decay. Another equation of Piketty is  $\beta = \frac{\text{capital}}{\text{income}} \text{ratio}$ , which varies in the long-run (p. 168). That ratio will vary with savings and growth. “A country that saves a lot and grows slowly will over the long run accumulate an enormous stock of capital (relative to its income), which can in turn have a significant effect on the social structure and distribution of wealth” (p. 166). While this motion is asymptotic (p. 168), Piketty did not postulate a saturation state as Heilbroner did.

### **6.3. On Political, Economic, and Market (PEM)**

Heilbroner is for the uniting of politics and economics. Their separation only tends to make economics a scientific discipline in the positive sense. He looked into solving the economic problem in history through tradition, command, and markets. Modern society appears too complex to follow those methods (Heilbroner, 1970, Chapter 1).

The PEM variable interacts with capital. Heilbroner separates capital from wealth. Wealth was not a cause of deep changes in non-capitalistic societies. It is not a virtue, but a symbol of “power and prestige” (Heilbroner, 1994, pp. 42-43). PEM defines the regime of capital. Heilbroner leans on Marx’s circulation for the economics aspect. Capital is first money, as in the

money-commodity-more-money circuit (p. 46). More money is not for itself but is ploughed back to start the process in another round. If such expansion gluts the market, then creative destruction advocated by Schumpeter can occur (p. 54). However, the process is “dialectical, two-sided, and contradictory” (p. 57). The political side is concerned with class relations, which is a driving force for change (p. 68).

The Classical economists have used a flexible wage assumption in specifying the labor market. Other have added tax and distribution concerns to it, but not as much as the post-Keynesians would like to see. Total taxes ( $T$ ) are on wage ( $wL$ ) and capital ( $rK$ ), which is proportional if  $T = (wL + rK)(1 + \text{tax rate})$ , or progressive if the tax rate varies over different levels of income. It has influence on the shape of the normal labor supply curve—income effect when taxes change income, and a substitution effect between taxed and non-taxed goods. Policies such as negative income tax, tax rebate, or peace dividend would increase the family income (Atkinson & Stiglitz, 2015, pp. 26-28).

In his book *The Economic Transformation of America*, Heilbroner traced how tax policies influenced the deficit of a mixed economy for the last half a century (Heilbroner & Singer, 1977). He wrote that a mixed economy was behind “The Decline of Laissez Faire” (p. 214). “In the mixed economy the government was recognized by all sectors, including business, as being charged with the responsibility for maintaining the *forward motion of the system*” (p. 215). That responsibility too root in the Employment Act of 1946, which shifted the government responsibility further, from being a promoter, then a regulator, and now a guarantor of growth and employment (p. 216). This led to promotion of welfare programs, which by 1962 led to a \$18.4 billion deficit, “the highest deficit incurred in peacetime years up to that point” (p. 216). Had Heilbroner lived to see the deficit today, we would have witnessed validation of decline by a deficit hovering around \$20 trillion.

## 7. On the Stationary State

The term stationary implies that the economy is static or in a steady state where the economy exists in a timeless dimension. The variables such as consumption or output per capita take on the same value for all times, for instance,  $C(t) = C(t + 1) = \dots = C$ , resulting in a plateau (Samuelson, 1977, Volume 4, p. 256). According to Knut Wicksell, “...what has been called the *static* aspect of the problem of equilibrium” is “the conditions necessary for the maintenance, or the periodic renewal, of a *stationary state of economics relations*” (Wicksell, 1934, p. 105). Wicksell wrote that a society from that point of view will have the same year-to-year population, the same territory, the same amount of capital, and the same level of technology (Ibid., p. 7).

Heilbroner mentioned output per capita as the stationary variable to focus on. However, Adam Smith urged us to focus on consumption. Smith wrote that “consumption is the sole end and purpose of all production; and the interest of producer ought to be attended to, only so far as it may be necessary for promoting that of the consumer” (Smith, 1976 [1776], p. 660). Smith contrasted this view with that of the mercantile system that puts the interest of the producer first (Ibid.). Later on, J. M. Keynes endowed consumption with a marginal propensity and made it a demand side driver in his system (Keynes, 1973 [1936], p. 115). Keynes’s

colleague, Frank Ramsey, sidestepped all economic theories by maximizing consumption over time (Ramsey, 1928). Also, Robert Lucas Jr. and Thomas Sargent have moved consumption theory in the rational expectation and bounded rationality directions (Sargent, 1993, pp. 2-3). As an alternative, this consumption model can be fully randomized as was done by Robert Hall (Hall, 1978; Hall, 1987).

For Heilbroner, the stationary conditions are achieved as the working of dynamic process. We read in his work *Marxism: For and Against* that “the ultimate and irreducible nature of all reality is motion, not rest, and that to depict things as static or changeless is to disregard or violate the essence of their being” (Heilbroner, 1980, pp. 32-33). If one were to look at American economics as different periods, then we can demarcate some periods with the following relative characteristics:

<b>Table 1: Heilbroner’s Dynamic Path of America From Colonial Times to Present</b>			
<b>Periods</b>	<b>Growth</b>	<b>Peak Event</b>	<b>Denouement</b>
Beginnings from Colonial Times to Independence	Not under-, but un-developed (p. 12)	Switched from Agriculture to Manufacturing p. 26.	Civil war (pp. 47, 55)
Post-Civil war	Society of farms and businesses (p. 50), an industrialization (p. 58)	Clothing, Milling, Coal, Iron, Steam. (pp. 59-61)	Business Cycles— recessions and depressions. (p. 106-107). Regulations. (p. 117, 124)
Urbanization up to 1929	Triumph of enterprise. (p. 162) Stock Market Boom (p. 169).	Advances in Medicine, Education, financial, industrial, and commerce. (pp. 160-161)	Stock Market Crash (Oct. 24, 1929) The Great Depression.
New Deal Era of the 1930s	Growth started out of the depression around 1933. (p. 201)	Strengthening Banking, (p. 192); Increase Federal Expenditure (p. 201)	WWII expenditure in 1942. (p. 205)
Post WWII Boom 1945-1970s	The Mixed Economy. (p. 216)	Government is not only a regulator but a	Inflation; MNC and Big Government substitute

		guarantor. (p. 216)	planning, which crowds-out the market mechanism. (p. 227)
Sources: (Heilbroner & Singer, 1977). In (Heilbroner, <i>The Nature and Logic of Capitalism</i> , 1985, pp. 150-153), we find a Table on “A Historical Schema” on accumulation, politics, ideology, Crises for sub periods between 1760-1973 that spotlight other events.			

Table I is in line with Heilbroner’s historical view of the evolution of capitalism. We expressed our thought on his methodology with a diagram in a previous publication (Ramrattan, L. and M. Szenberg, 2005, p. 19). For a summary view on fact, theory, and values of Heilbroner, one can follow the debate in Colander (Colander & Su, 2018, pp. 80-84). Here we wish to elaborate on his historical view for items in Table I.

For the triparty labels: growth, peak, and denouement in Table 1, Heilbroner would attach a technological dimension. In his book “Economics Explained,” we read: “Looking back over the history of capitalism we find periods of great prosperity, often lasting a decade or two, followed by equally extend periods of very slow, or even zero growth—periods we call depression” (Heilbroner & Thurow, 1994 [1984], p. 105). He cited his colleague, Edward Nell, who worked on transformation growth caused by technological innovation such as the industrial revolution, railroads, electrification, automobile, jet plane and computers as behind the triparty labels (p. 105). For the future, government is capable of more growth through infrastructure spending but somewhat constrained by inflationary pressure on the one hand, and national culture and institutions on the other hand (p. 128-129). Along with the logic of capitalism that he discerned in Adam Smith’s growth model, these conditions in a mixed economy still leave room for decay, which manifest in the paradox of growth and decay.

Information in Table I are referring to facts, and Heilbroner comments on them are taking reality as a paradigm, where the change can be catastrophic or nomological in the evolutionary domain. To expand a bit, T. Veblen wrote of changing machine process and business process that overlap with some of the periods in Table I (Veblen, 1958 [1904]). Keynes also wrote of business class emerging over industrial class, but both Veblen and Keynes did not rely on an evolutionary process. Veblen “did not begin, as Ricardo or Marx or the Victorians, with the clash of human interest; he began at a stage below, in the non-human substratum of technology” (Heilbroner, 1999, p. 234). Keynes explicitly wrote that his method was of the nature of a general theory, one that “... includes the classical theory ... as a special case” (Keynes, 1973 [1936], pp. xxii-xxiii). He argued “...important mistakes have been made through extending to the system as a whole conclusions which have been correctly arrived at in respect of a part of it taken in isolation” (Ibid., p. xxxii). Heilbroner read Keynes as “a profit of capitalist decline... an analytical pessimist... a visionary optimist...” who held that “a market-driven society could settle into a position of lasting underemployment” (Heilbroner, 1994, p. 125).

Relating to the Table 1, Heilbroner argued that agriculture and industry positioned the US as the most prosperous in the world by 1800 (Heilbroner, Interview, 1968). The revolution and its embargo set into motion industrialization, which lasted up to the Civil War. Between 1880-1890 much wealth was accumulated (p. 4), more than in Latin America because of US has mostly temperate climate. The Protestant culture was also more favorable to America, than the grandee culture was to Latin America (p. 6). Economics was an “epiphenomenon”. It followed politics up to the Great Depression (p. 9). The New Deal caused feedback from economics to politics. Ideologies were shaped by social reality. Economics emerge not as creator of policy but more as critics (p. 11).

Deflation was a big problem up and through the Great Depression. The labor force grew during the industrialization period mainly through in-migration, lowering the influence of demand-pulled inflation. Also, big unions were around to cause wage-push inflation (Ibid., p. 13). Government policy during the industrialization period was to help build the railroads, and policy oriented towards tariffs and regulation (pp. 14-15). The coming of WWI created a huge impact of capital formation more than the Civil War did, owing to former being more mechanized (pp. 15-16), but Government financing of WWI had little economic effect. (p. 16) Presidents Harding, Coolidge, and Hoover adopted neutral policy towards business, leading up to the Great Depression (pp.18-21). Heilbroner relied here on Friedman’s tight credit stance of the FED, and Galbraith’s emphasis of the flimsy structure of credit to characterize the Great Depression (pp. 21-22). Counter-factual measures of the government, such as the New Deal still left around 9 million unemployed at the start of WWII, with no restoration of growth momentum was forthcoming (pp. 24-25).

The New Deal and WWII expenditure caused the economy to come back to a trend (trimline) observed during the 1870-1929 period. It means that the New Deal was only partially successful (p. 25). It however, signaled the coming of mixed capitalism with new a linguistic vocabulary of income-investment-consumption and national income by Keynesian economics (p. 28). The banking system was secured by FDIC, better monetary management was followed, and more government involvement had happened (pp. 30-31). Planning mechanisms such as input-output matrices were different from the past but they were picked up and soon dropped (p. 33). Now state and business relationships had changed. Government function morphed from foreign affairs and the military focus to economic power in the 1950s and 1960s (p. 34). Government evolved through forces that no one controlled—urbanization, population density, industrial process, etc. (p. 35). Technological and managerial forces took hold of the economy (p. 36).

Management dominated business tycoons, effecting a shift from business acquisition towards administration. For a while, business concentration remained static, but conglomeration mergers seemed to pick up the slack (p. 37). One notices more amenities, more planning, and better allocating of capital in the big business, which appears to counterbalance market power (p. 44).

Mechanized force due to technology and innovation tends to shift the occupational structure of society. We have observed shifts from farms to factories to offices (p. 51). Heilbroner thinks that compute technology may impact the service sector by displacing worker to a larger public sector kind of employment or absorbing them by cutting the hours in a work week (p. 54). Large profits

will be generated for which it is not easy to find places to invest it. So, foreign investment may attract it, or it may go into non-competitive sector, sectors with “insatiable demand” such as the military (p. 60).

## **8. Other Arguments for Decay**

In the SE quadrant of the Figure I, we take up Heilbroner’s concern about profits in the production sphere. A strawman kind of production function of the classical and neoclassical type is given. We combine production and realization problems with an oval around the function. To justify the oval, we present some reasoning of Heilbroner in the pursuit of profit in capitalism.

Heilbroner wrote an article *In the Name of Profit* (Heilbroner, 1972). It is about misdeeds of American corporate in the name of profit. The misdeeds are on the moral side of businesses. Heilbroner asked “what rules of conduct we can apply to the exercise of corporate authorities” (p. 226). Rules that apply to the military are not to be found for corporation (p. 227). “Businesses vie with one another for market power...The errant businessman is punished...by society if he is caught; if he is not, he is congratulated by his fellow business” (p. 227). Within this general framework, Heilbroner asked if businesses should be “held responsible for the social consequences of its profitable product” (p. 228).

In his *The Nature and Logic of Capitalism* book, Heilbroner wrote, “Profit is the life blood of capitalism” (Heilbroner, 1985, p. 76). He continued to give it a historical dimension based on economic and politics. He wrote, “Profits are for capitalism the functional equivalent of the acquisition of territory or plunder of military regimes, or an increase in the number of believers for religious ones, or the legitimation of recognized authority for states” (Ibid.).

Profit takes different form in different stages of societies. In primitive societies we find social functions such as hunters and gatherers. In imperial and feudal societies are peasants and lords, and in capitalism are workers and capitalists (pp. 18, 24). Tensions between functionaries create “movement of and changes to the “life processes”, such as “changing profiles of material output, patterns of employment, or class distributions of income” (p. 25). In order to represent this in the figure, we use the term O, to represent interaction between political, and economic and market forces.

The SW quadrant of Figure 1 highlight some major models on the thinking about the economic process. Heilbroner chose the subtle dialectic process of history. In his article, (Heilbroner, 1980), he investigated the philosophical question as to the meaning of dialectic. Three versions came up, namely, Hericlitus version that because of change one cannot step in the same river twice; Hegelian dilectics about a the spirit, and Marxian dilectical materialism. We have already touched on his view of dialectic materialism above.

## **9. Other Arguments on the Stationary State.**

Many considerations for stationary states exist in the classical and neoclassical literature. Fritz Machlup has surveyed the main one under his chapter on “Static and Dynamic: Kaleidoscopic

Words” (Machlup, 1963). Heilbroner discussed the stationary state advocated by J.S. Mill, whose “model took a different turn from those of Ricardo and Smith” (Heilbroner, 1999, p. 132). Mill came to terms with Malthus’ dismal population prediction. He thought, “...the working class could be educated to understand their Malthusian peril” (Ibid.). So, as accumulation takes place, there would not be any population pressure to lower wages. As wages rise up and up it would eat into profits, and eventually bring about a stationary state.

In American economic thought, the famous neoclassical economist, John Bates Clark (1857-1938) also discussed stationary conditions. As Heilbroner wanted to link moral decay with economic decay, Clark wanted to link ethics with economic theory” (Barber, 2003, p. 243), but he was staunch in pure theory as well. His “innovative contributions to marginal productivity theory...won him a reputation as the first American to produce pure theory of world-class quality” (Barber, 2003, p. 234). Clark “independently developed the same range of ideas found in Jevons, Menger and Walras” (Mitchell, 1969, p. 238).

Clark discussed natural elements in economics, as well as distribution concerns as with Ricardo and Mills. He was a founder of neoclassical economics. Joseph Schumpeter glossed him as “the master of American marginalism,” and stood him alongside Böhm-Bawerk, Marshall, and Walras in some respects (Schumpeter, 2006 [1954], p. 836). Paul Samuelsson wrote, “With J. B. Clark we speak of a society with a production function that produces (aggregate) output out of its total labor, land, and capital. In this sense, a micro system of general equilibrium that is very simple become a macromodel” (Samuelson, 1986, p. 220 Volume 5). We are only concerned with the stationary and dynamic point of Clark’s works.

### **9.1 Clark’s Static, Stationary, and Dynamic**

For economic analysis Clark starts with a static model. It is likened to the method of David Ricardo and J. S. Mills (Mitchell, 1969, pp. 240-247). Mainly, the method holds labor, consumer, capital, technology, business organization constant. Labor and capital have mobility over production organized by groups (industries) and sub-groups whose elements are fixed. Mobility occurs in a static-state system. It is in this static system the agents of production will get a fair share based on their specific productivity.

Clark was involved in many rounds of the debate on the capital controversy. It is worth noting some of this because in a review of Heilbroner’s *Marxism: For and Against* book, Martin Bronfenbrenner wrote, “Our “capital controversies” and their persistence, Heilbroner views as evidence of guilty feeling---maybe property income is nothing but exploitation after all, in the various forms of rent, interest, dividends, or whatever” (Bronfenbrenner, 1980, p. 1099). Our comments are complementary to what Nell said on this issue as noted above.

One round of capital controversy debate occurred in 1930s between Frank Knight and the Austrians (Kaldor, 1937). Arguing for the Austrians were professors F. Machlup and F. Hayek (p. 202). Three important points were made by Knight against the Austrians: 1. It is impossible to distinguish between permanent vs. nonpermanent resources. 2. It is impossible to distinguish

between expenditures to maintain resource, and those expenditure to replace resources, and 3. The period of production is not correlated with the amount of capital (Ibid., p. 203).

Both Knight and Clark have similar objections to the Austrian view of the period of production or “time lapse between input and output”. Clark’s reservoir example implies that as a drop of water is added to a reservoir, another drop leaves, leaving no emphasis on the average age of the reservoir. Knight used a similar analogy for a Crusoe type economy where the old crops used by Crusoe is replace by the cultivation of new ones (Kirzner, 1996, p. 74). The significance of these arguments can be judged by the fact that modern Austrians have shifted from the average production period to human plans (Ibid., p. 71). It appears the human plans account for the *ex ante* concept of waiting, and not the *ex post* one that the Clark-Knight model entertains.

Another round of capital controversy started in the 1950s also piggy-backed on Clark’s view of capital. By this time, Keynesian economics was established, and the concept of growth dominated the literature. The profession was moving away from depression state economics towards more optimal concepts of growth. A variable to optimize was utility from consumption, which was specified in 1927 by Frank Ramsey in utility form,  $u(C)$ , and the goal was to attain some bliss state. in how to attain bliss state.

The debate then got to a round where economists were accustomed to write aggregate production as a function of  $K$  for capital, and  $L$  for labor,  $F(K, L)$  (Koopmans, 1970, p. 552). Policy decision was whether to allocate output flow over time to consumption or net increase in the capital stock. Optimal path occurred either when  $C$  reached a bliss level of consumption, or when  $K$  reach a saturation level (Ibid., p. 553). When the marginal productivity of capital is equal to the growth rate, a golden rule of accumulation was realized (Ibid., pp. 497, 499, 553). Clark comes in by way of the homogenous (fund) definition of capital. It was backed up by Samuelson’s construction of a surrogate production function, which sourced the production function to Clark and Ramsey. He wrote that “the J. B. Clark parables were given rigorous form in Frank Ramsey’s 1928 production function,” and he proceeded to list a number of authors including himself that accepted it, and those who question it (Samuelson, 1966, Volume I, p. 206). Now, Clark too postulated a system that goes into steady state. But it does not stay there and decay. Rather, it pulls itself out from that stationary condition back to a dynamic state. We have discussed this in our forthcoming book (Ramrattan & Szenberg, 2019). In brief, Clark’s stationary is “isolating” or “real laws...working” in “stationary state” and “movement and disturbance.” By dynamic state, he meant “laws” or “variation of actual income from ... natural standards” effecting “slow and steady change” caused by changes in population, capital, technology, business organization, and taste” (Clark, 1908 [1899], pp. 30, 36, 56, 60).

## 10. Conclusion

Heilbroner emphasized decay in his book “Business Civilization in Decline” (Heilbroner, 1976). He argued that “the claims of rents and interest and profits, the play of the market, or the right to conduct 'private' enterprise" will lead to the decay of business civilization (p. 111). These privileges do not stand on strong moral basis, and therefore, cannot last. What is necessary and sufficient to save capitalism is “...a new religious orientation, directed against the canons and precepts of our time, and oriented toward a wholly different conception of the meaning of life

and a mode of social organization congenial to the encouragement of that life" (p. 119). In another work, "the change lies in the absence of any recognition, explicit or not, of the fundamentally social and political nature of all economies - that is, the core of political and social norms that provide the drive and the acquiescence without which no economic system, especially if marked by great inequalities, would long exist" (Heilbroner, 1998, p. 4).

Heilbroner "looks backward to the particular way in which economics has served its historic purpose, before turning...to the problematic future" (Heilbroner, 1998, p. 2). One way relates to the "Vision of Analysis", another way relates to the "Vision of the Market Place", a third way relates to the "The Behavior of the Individual", and a fourth way relates to the "Redefining the Public Sector." Respectively, these four ways correspond to the mercantilist view of filling their countries coffers with precious metals; Adam Smith's "Society of Perfect Liberty"; the works of Jeremy Bentham best codified in Alfred Marshall "Principles of Economics", and John Maynard Keynes works on macroeconomics (pp. 2-4).

The general and main proposition we present in this paper envelopes Heilbroner's contribution to the history of economic thought. The proposition has not been collected systematically before. The general aspect of it has been popularized in various literature. The worldly philosophers spotlighted one aspect. The other aspect was based on broad opinions or survey of the literature. In the former, the analysis was endogenous. In the latter, various scenarios garnered through the looking glass from the present to the past. We seek to tighten the frame of looking at both aspects by the use of symbolic analysis, functions that display social and human relationships but do not make "as if" predictions and explanation. The reason is that one of us who had taken three graduate classes with Heilbroner, knows that he encouraged symbolic and mathematical analysis, and that, as Nell suggested, he only used them when he has mastered them.

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