HOW TO RESTRUCTURE POLITICAL ECONOMY (AND WHY IT HAS TO BE DONE)

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Introduction

Political economy is a social science that studies production of economic wealth, trade (of goods and services), and distribution of income as well as their relationship with the political and legal system. Moreover, it is the study of the manner in which economic theories affect different socio-economic systems as well as the creation and implementation of public policy.

Like many other social scientists, I agree with Kurt Lewin's assertion that there is nothing as practical as a good theory. Theory is the intellectual spectacles through which one sees reality. We cannot reason without generalization (namely, intellectual or "scientific" laws), and, where matters are complex, the web of reasoning takes the form of a theory, namely, a system that consists of a set of generalizations, explanations of these generalizations, and possibly critical and/or normative arguments. In the philosophy of science, by the term "law," we mean a proposition that establishes a relation between variables, variables being concepts that can take different values.

My epistemological thesis is that we must reject both extreme idealism and extreme physicalism (naive materialism). Extreme idealism, as Vladimir Lenin has aptly pointed out in his book *Materialism and Empirio-criticism* (published in 1909), is based on two principles: (1) the complete detachment of the intellect from matter, and (2) the relativity of knowledge. Thus, in the context of extreme idealism, the intellect is in danger of falling into fantasy or even irrationality, and the fact is overlooked that, as Lenin has rightly pointed out in his aforementioned book, the sum total of relative truths underpins the knowledge of the absolute truth in a subject area, and, in every scientific truth, despite its relativity, one can find an element of absolute truth. In addition, Lenin, in his *Philosophical Notebooks* (originally published in 1916), rightly rejects "vulgar materialism," too, pointing out that the difference between the ideal and the material is not absolute, and that the thought of transforming the ideal into the real is very important for history. For instance, the process of mathematization of scientific knowledge shows that mathematical abstractions are linked to the actual development of all aspects of the material life of society (e.g., industry, technology, financial policy, and production planning), forming a vast and ever-expanding field of applications of mathematics. The generalized experience of these applications leads to the philosophical notion that mathematical representations of the properties of things exert an active influence on the real world, namely, the ideal is transformed into the real.

Knowledge and wisdom give humanity the authority to govern. Those who exercise this authority must be charismatic, rational, and far-sighted, and they must have a Project that will guide humanity towards wellbeing and happiness. On the contrary, at the dawn of the twenty-first century, humanity found itself subjugated to an international system dominated and managed by particular elites that implement *Realpolitik* and capitalist policies in a complacently nihilistic way. For instance, at the dawn of the twenty-first century, it became amply clear that, irrespective of their particular differences from each other, the ruling political, economic, and religious elites of the different great geopolitical and geoeconomic powers converge, each in its own way, to an essentially anti-humanistic

world conception (usually in the name of *Realpolitik* and particular interests and securitized issues), and, therefore, they reduce to particular manifestations of an intellectually and morally deficient model of authority, whose distasteful fruit is what the French philosopher Myriam Revault d'Allones has called a "crisis without end" (Myriam R. d'Allones, *La crise sans fin: essai sur l'expérience moderne du temps*, Paris: Seuil, 2012).

According to Myriam Revault d'Allones, the decade of the 2000s is marked by the beginning of a global crisis that affects finance, education, culture, the natural environment, and human relationships. Furthermore, according to Myriam Revault d'Allones, originally, the Greek word "krisis," from which the English word "crisis" derives, means a decisive moment that, during the evolution of an uncertain process, often associated with pity and fear, permits the decision-maker to make a diagnosis of one's situation and, therefore, to find a solution to the drama of one's suffering and attain "kātharsis" (purgation of emotions). But, Myriam Revault d'Allones argues, the nature of the multi-dimensional crisis that broke out in the beginning of the twenty first century is different, because, in this case, humans cannot envisage their orientation towards the future, namely, they cannot envisage an existential "telos" (ultimate purpose), and, therefore, they are incapable of making a diagnosis that can lead them to their "kātharsis" (ibid).

Stavros Mavroudeas (Professor of Political Economy at the Department of Social Policy of Panteion University, Athens, Greece), has highlighted the importance of a general theoretical framework and structuralism, and he has warned economists and political theorists not to get caught up in methodologies that prioritize "superficial features of reality," "fail to implement dialectical abstraction," and, ultimately, render social scientists incapable of grasping the "deeper roots" and "the actual course of historical evolution" (Stavros Mavroudeas, "Regulation Theory: The Road from Creative Marxism to Post-Modern Disintegration," *Science & Society,* vol.63 , no.3, 1999, pp. 310–37). Moreover, regarding a systematic study of the history of capitalism, one should read: N. S. B. Gras, "Capitalism—Concepts and History," *Bulletin of the Business Historical Society*, vol. 16, no. 2, 1942, pp. 21–42; Henry Heller, *A Marxist History of Capitalism*, Abingdon, Oxon: Routledge, 2019; and Stavros Mavroudeas, "Periodising Capitalism: Problems and Method – The Case of the Regulation Approach," *Research in Political Economy,* vol.17, 1999, pp. 310–37.

The primary purpose of this essay is to describe, annotate, and evaluate the main debates generated by the classical equilibrium models in economics and to propose a specific way of tackling the main problems of political economy. I have called this way of theorizing "critical rational socialism," and I first delineated it in my book entitled *Taking the Bull by the Horns: Causes, Consequences and Perspectives in Politology and Political Economy*, which was originally published in Greek, in March 2022, by the Greek publishing company Kapsimi: https://kapsimi.gr/pianontas-ton-tayro-apo-ta-kerata. In particular, in this essay—summarizing some of the main arguments that I put forward in my aforementioned book—I shall show the structural flaws of the capitalist political economy that dominated the modern West and, after the dissolution of the Soviet Union, in the 1990s, spread internationally as supposedly the embodiment of scholarly and

political "correctness" in the field of political economy, and I shall propose what I call "critical rational socialism" as a scientifically more correct and practically more effective option.

The number of positions that have to be handled here is quite considerable, and, to simplify the task, the material is largely gathered under three headings: "the optimization of income distribution," "the content of economic analysis," and "rational control of the production process."

Rationality

By the term "economic system," we mean a means by which societies or governments organize and distribute available resources (factors of production), goods, and services across a geographic region or country. An economic system can be mathematically modelled as an input-output system, and it is based on the principle of rationality. Rationality is attributed to *Homo Sapiens* in virtue of the ability to reason and act upon the consequences of deliberation. In general, "rationality" means that social behavior can be seen in terms of actors pursuing goals.

The "rationality postulate" implies the following: (i) actors have well ordered preference systems over the set of outcomes (of alternative actions), namely, for all pairs c_i and c_j, there is a preference relation R such that either $c_i R c_j$ (the actor prefers c_i to c_j), or $c_j R c_i$ (the actor prefers c_j to c_i), or both (the actor is indifferent); (ii) each actor's preference system is substantively independent of the other social variables; (iii) each actor acts to maximize one's utility index. In particular, one can formulate a decreasing sequence of numbers (these numbers are called "utilities," u_n) where the largest number is assigned to the most preferred outcome, the second largest number to the next outcome in the preference order, etc. The function that maps consequences to numbers representing an actor's preference over those outcomes is said to be a "utility function." The most well-known utility function is the von Neumann–Morgenstern utility function, which is defined as follows: the actor considers a set of all conceivable states of the world and assesses the likelihood of each state S by assigning a probability $p(S)$ to it, so that the expected utility $U_e(A)$ for an action A can be calculated by multiplying the probability $p(S)$ of each state's occurring by the utility $u\big(C(S,A)\big)$ of the outcome that results from the given state of the world and the given action, and then summing these products over all the possible states:

$$U_e(A) = \sum_{all\ S} p(S) u\big(C(S,A)\big);$$

the actor chooses A such that $U_e(A)$ is maximized (see: John von Neumann and Oskar Morgenstern, *Theory of Games and Economic Behavior*, Princeton, NJ: Princeton University Press, 1953).

In economics, "marginal utility" is the additional satisfaction or benefit that an economic actor derives from buying or consuming an additional unit of a commodity or service. Therefore, "marginal utility" (MU) can be defined as the derivative of "total

utility" (TU) with respect to the quantity bought or consumed (Q), symbolically, $MU = \frac{dTU}{dQ}$. Hence, given a marginal utility function $MU(Q)$, the total utility is given by $TU(Q) = \int MU(Q)dQ$, where integration is carried out over a certain interval of bought or consumed quantity Q. In general, in economics, the term "marginal" corresponds to the mathematical notion of differentiation, and the term "total" corresponds to the mathematical notion of integration.

Equilibrium Models in Political Economy

In political economy, the term "free competitive market" means a market that has the following fundamental characteristics (see: Paul A. Samuelson and William D. Nordhaus, *Economics*, fourteenth edition, New York: McGraw-Hill, 1992, pp. 54–57, 286–91, 732–36): (i) the number of actors in it is so large that none of them can decisively influence prices by changing their supply or demand, so any actor in such a market is forced to consider prices as given variables independent of their behavior; and (ii) entry into any profession or economic sector and exit from any profession or economic sector are free. A free competitive market is in a state of equilibrium if and only if the following three conditions are met (ibid):

(i) *Subjective equilibrium condition:* All members of the economic system (households, firms, public capital, etc.) achieve the maximization of the utility, the profit, or the income that they derive from the ownership of factors of production (i.e., land, labor, and capital) based on equilibrium prices. In particular, the consumer's effort to maximize total utility, subject to a number of constraints, the most important of which are the consumer's income and the prices of the goods and services that the consumer wishes to consume, is referred to as the "consumer's problem." The solution to the consumer's problem is referred to as "consumer equilibrium." Assume that a consumer cares about consuming n goods: $good\ 1, good\ 2, \dots, good\ n$. This consumer knows the prices of these n goods and has a fixed income or budget that can be used to purchase quantities of these n goods. The consumer will purchase quantities of goods $1,2, \dots, and\ n$ so as to completely exhaust the corresponding budget. The actual quantities purchased of each of these n goods are determined by the condition for consumer equilibrium, which is:

$$\frac{marginal\ utility\ of\ good\ 1}{price\ of\ good\ 1} = \frac{marginal\ utility\ of\ good\ 2}{price\ of\ good\ 2} = \cdots = \frac{marginal\ utility\ of\ good\ n}{price\ of\ good\ n}$$

subject to the constraint that the consumer's purchases do not exceed his/her budget. As long as consumer income and prices are given (in order to determine

the quantity of an economic good that can be purchased with one unit of income), the demand for consumer goods can be determined. With regard to producers, the subjective equilibrium condition means that producers maximize their profits by optimizing the combination of factors of production and by optimizing the scale of production. The optimization of the combination of factors of production is achieved by combining them in such a ratio that the marginal productivity of the quantity of each factor of production that can be purchased for one unit of money is equal to the marginal productivity of the quantity of any other factor of production that can be purchased for one unit of money; and, because the prices of the factors of production are assumed to be given, this condition determines the minimum production-cost curve. Given the minimum production-cost curve, production scale optimization is achieved when the marginal cost equals the price of the product (the price of the product is assumed to be given in the market). In general, producers will continue to produce for as long as they can sell the corresponding commodity at a price that exceeds the cost of producing an additional unit of output (i.e., the marginal cost of production), and consumers will continue to consume for as long the satisfaction that they derive from consumption exceeds the price that they pay (i.e., the marginal benefit of consumption). In this way, the production of each producer can be determined, but also the demand of each producer for factors of production. The aforementioned determination is inextricably linked to the first fundamental feature of a free competitive market (namely, to the assumption that the number of actors in it is so large that none of them can decisively influence prices by changing their supply or demand, so any actor in such a market is forced to consider prices as given variables independent of their behavior). The determination of the total demand of an entire sector of the economy is based on the second fundamental feature of a free competitive market (namely, on the assumption that entry into any profession or economic sector and exit from any profession or economic sector are free), and, therefore, the total output of any sector of the economy satisfies the following condition: the price of the corresponding good or service is equal to the average cost of production (per unit of production). Given each producer's output (quantity of production) and demand for factors of production and given the total output of each sector of the economy, the demand of each sector of the economy for factors of production can be determined. Hence, if the prices of products (goods and services) and the prices of the factors of production are given, then the supply of products and the demand for the factors of production can be determined. The owners of factors of production (i.e., of land, labor, and capital) maximize their income when they sell the services (specifically, the economic result of the employment and utilization) of the corresponding factors of production to those who offer the highest price. If the demand for the factors of production is given, then the distribution of the factors of production between the different sectors of the economy can be determined.

(ii) *Objective equilibrium condition:* Equilibrium prices are determined by the condition that demand equals supply for all goods and services. Classical economists such as Adam Smith (1723–90) have argued that the free market will always be in equilibrium: a shortage of any economic commodity would cause a higher price in general, which would reduce demand, leading to an increase in supply, given the right incentive; and a similar path to equilibrium would occur in the event of oversupply in a market.

(iii) *Organizational equilibrium condition:* Consumers' income is equal to their revenues from the sale of the factors of production (i.e., land, labor, and capital) that they hold plus business profits. In a state of equilibrium, business profits are considered to be equal to zero if they are understood to be substantively distinct from the money generated from the sale of factors of production, but this does not mean that profits disappear, since, in a state of equilibrium, profits are comprehended and counted as revenues from the sale of business-managerial skills. According to the aforementioned organizational equilibrium condition, ultimately, the only variables that determine the supply of and the demand for economic goods/services are prices. In this way, different price sets correspond to different supply and demand scales.

Based on the aforementioned objective equilibrium condition (according to which, equilibrium prices are determined by the condition that demand equals supply in every market), we can determine and select the set of prices that ensures that the plans of consumers and the plans of producers agree. This condition means that the supply of and the demand for each good/service are equal to each other. Any price that satisfies this condition is said to be an "equilibrium price."

The aforementioned economic model is the *theoretical* solution to the problem of economic equilibrium under the economic regime of the free competitive market. However, the *practical* solution to the problem of economic equilibrium under this economic regime is an approximation of the solution corresponding to the aforementioned model, and, in particular, in practice, the solution to the problem of economic equilibrium is based on the "method of successive approximations."

The solution of the problem of economic equilibrium with the method of successive approximations is based on the "parametric price function," namely, on the fact that prices derive from the behavior of all economic actors in the market, but each economic actor individually considers the actual market prices as given elements, that is, as structural elements, to which one must be adapted. In other words, in a free competitive market, every economic actor is faced with a market situation that every economic actor tries to exploit but no economic actor can individually control. From this viewpoint, market prices are parameters of an economic reality that no economic actor can individually control, and they determine the economic adjustment policy of economic actors. According to the French mathematician and economist Léon Walras (1834–1910), the equilibrium value of these parameters is determined by the objective equilibrium condition (according to which, equilibrium prices are determined by the condition that demand equals supply in every market) through a series of successive attempts (Léon

Walras, *Elements of Pure Economics*, trans. William Jaffé, Homewood, Illinois: Richard D. Irwin, Inc., 1954).

According to Walras's analysis, economic actors receive (from the market) a random set of prices, and, based on this random set of prices, they fulfill their subjective equilibrium condition and, thus, maximize their utility function (as mentioned above, the subjective equilibrium condition is the assumption that all members of the economic system maximize the utility, the profit, or the income that they derive from owning factors of production based on equilibrium prices). Since, to every economic good/service there correspond a quantity that is supplied and a quantity that is demanded, the objective equilibrium condition also plays a decisive role (as mentioned above, the objective equilibrium condition is the assumption that demand equals supply for all goods and services). Hence, if the demand for an economic good/service is equal to the supply of this economic good/service, then the overall equilibrium is restored, and market prices are equilibrium prices; whereas if the quantity demanded differs from the quantity supplied, then the competition of the sellers will change the price, pushing it towards a new equilibrium price.

The prices of the economic goods/services whose demand exceeds their supply will increase, while the prices of the economic goods/services whose demand falls short of their supply will decrease. Therefore, a new set of prices emerges, which is the new framework in which economic actors will once again try to satisfy the subjective equilibrium condition. As the effort to satisfy the subjective equilibrium condition is carried out, economic actors receive (from the market) a new set of quantities supplied and quantities demanded. If, for each good/service, supply and demand are not equal to each other, then prices will change again, and, therefore, another set of prices will emerge, which will again be a framework in which economic actors will try again to satisfy the subjective equilibrium condition. In this way, a new set of quantities supplied and quantities demanded will emerge. The aforementioned process will continue in the same way, until the objective equilibrium condition is fully met, and, finally, general economic equilibrium is reached. Hence, in practice, historically given prices constitute the framework for applying the method of successive approximations.

The above-mentioned model of economic equilibrium under the economic regime of the free competitive market and the related method of successive approximations lead to only a partially useful approach to economic analysis, as they are simplifications, and, for the most part, the assumptions on which they are based are not descriptions of real conditions prevailing in the economy (see: W. Harrison Carter and William P. Snavely, *Intermediate Economic Analysis*, New York: McGraw-Hill, 1961, pp. 266; John Kenneth Galbraith, *American Capitalism*, Boston: Houghton Mifflin, 1952). In particular, the above-mentioned model of economic equilibrium under the economic regime of the free competitive market and the related method of successive approximations ignore the following three issues and practical problems, which must be explicitly and rigorously addressed by economic analysis, if the latter is to be of sufficient empirical or operational importance: (i) the optimization of income distribution, (ii) the content of economic analysis, and (iii) rational control of the production process.

I. The Optimization of Income Distribution

The above-mentioned model of economic equilibrium and the related method of successive approximations ignore the fact that the existence of private ownership of factors of production implies that the distribution of income is determined by the distribution of ownership of factors of production (i.e., land, labor, and capital). The distribution of ownership of factors of production is a historical fact that arises regardless of the requirements of maximizing social welfare. For instance, the distribution of land ownership is very different in a country where large feudal lands survive (by maintaining the feudal privileges of certain families and ecclesiastical institutions) than in a country where the great feudal lands of the feudal era have been dissolved. It goes without saying that eliminating the feudal thrombosis of the economic circuit is not enough. In general, in capitalism, the ownership of the factors of production can be distributed in a very unequal way, and soon a large part of society can be found to possess nothing but its labor force. In such circumstances, the value of demand does not reflect how urgent the needs of economic actors are, and the distribution of the factors of production that is determined by the value of demand for the respective consumer goods and services is far from achieving the maximization of social prosperity.

In order to address the aforementioned problems, a **Central Economic Planning Authority (CEPA)** is needed, which, given the freedom of consumption and the freedom to choose a profession, will calculate the optimal distribution of income and will adjust the distribution of income accordingly. Thus, first of all, what is meant by optimal income distribution must be defined in a mathematically rigorous way. The term “optimal income distribution” refers to that income distribution which maximizes the overall wellbeing of society by satisfying the following two conditions: (i) the marginal utility of income must be the same for all consumers in order to achieve that income distribution which ensures that the price at which the different consumers are prepared to buy a good/service represents the same degree of urgency or need; (ii) the income must be distributed in such a way that the division of labor between the different professions ensures that the differences in the value of the marginal product of labor between the different professions are equal to the differences in marginal dissatisfaction that characterizes each of them. If we look carefully at the aforementioned definition of the optimal distribution of income, we observe that, since the curves of the marginal utility of income are supposed to be the same for all individuals, condition (i) is satisfied when all consumers have the same income, while condition (ii) entails a diversification of incomes, since, in order to ensure the required division of labor, the differences in the marginal dissatisfaction that characterizes the various professions must be compensated by differences in incomes. This contradiction between condition (i) and condition (ii) is not substantive, and the CEPA can easily overcome it by incorporating subjective factors into the utility functions of individuals, so that the dissatisfaction characterizing each profession is considered an

opportunity cost. Such subjective factors are, for example, the amount of leisure time that a profession allows its practitioners to have, the physical and mental energy expended by a worker to perform a task, the degree of security that is provided by a profession, the pleasure that someone derives from his/her profession, etc. Therefore, choosing an occupation A that offers a lower monetary income than another occupation B, but at the same time offers less dissatisfaction than occupation B, can be interpreted as a purchase (on the worker's side) of a subjective factor (either more leisure, or milder working conditions, or higher security, or more job satisfaction, etc.) at a price equal to the difference between the monetary income earned through occupation B and the monetary income earned through occupation A. In view of the foregoing, the income differences required by the aforementioned condition (ii) represent prices paid by workers to ensure different working conditions and different objectives.

Consequently, the CEPA can construct an approximate model of optimal income distribution as follows: initially, it allocates the same monetary income to all workers, and, then, it charges the pursuit of each profession with a price, having previously conducted the corresponding social research (thus knowing the attitudes and the opinions that workers have regarding each alternative professional choice). Based on the results of this approximate model of optimal distribution of income between the various professions, the CEPA can make the corresponding interventions in the market (through fiscal policy, monetary policy, and labor legislation) in order to maintain the real distribution of income in politically acceptable deviation thresholds with regard to the theoretically optimal income distribution calculated on the basis of the above approximate model. Hence, in parallel with the scientific perfection of the work of the CEPA, it is required to operate an effective system of decentralized social analysis and programming, in order for the CEPA to have effective mechanisms of social feedback at its disposal.

II. The Content of Economic Analysis

As pointed out by the English economist Arthur Cecil Pigou (1877–1959), who was a prominent representative of the neoclassical "school" of economics, an economic system based on private enterprise and, consequently, on free market theory is prone to serious errors in calculating the alternatives sacrificed or realized in the production process (A. C. Pigou, *The Economics of Welfare*, fourth edition, London: Macmillan, 1932). To a large extent, the life, the safety, and the physical and mental health of workers are sacrificed without being included in the total production cost. Thus, free competitive market theory is based on and leads to erroneous macroeconomic accounting and, consequently, causes significant social waste. As Pigou has shown, to avoid much of this social waste, social planning measures are needed, including, according to Pigou, appropriate legislation, appropriate taxation, and a system of social rewards (ibid).

In addition, private producers find it particularly difficult to assess the significant benefits and the significant costs associated with external economies of scale and external counter-economies of scale, respectively. External economies occur when the actions of an economic actor A cause a positive change in the wellbeing of another economic actor B, and B does not pay A and has no ability to control A's activity. External counter-economies occur when the actions of an economic actor A cause a negative change in the wellbeing of another economic actor B, and B is not compensated by A and has no ability to prevent the negative activity of A. External economies/counter-economies are called external economies/counter-economies of scale when they depend on the size of the corresponding sector of the economy or the corresponding enterprise.

According to the above definition of a free competitive market, in this economic regime, the number and the policy of firms producing an economic good/service give rise to a situation in which the price of the product is equal to the average cost achieved by private producers, and, therefore, neither that social benefit which is due to external economies nor that social cost which is due to external counter-economies is taken into account. These cases of inaccurate or even false macroeconomic accounting are exacerbated by the inherent contradictions of the capitalist system, which have been thoroughly analyzed by Karl Marx and Friedrich Engels (who have argued that the contradiction between the production and the circulation of capital is inherent in capitalism, because capitalist production is not only commodity production but also production of surplus value, namely, exploitation of labor).

Unlike private producers, the CEPA must take into account all alternatives and, therefore, all external economies and all external counter-economies. Specifically, the CEPA can construct a comprehensive economic analysis model for estimating social waste, external economies, and external counter-economies as follows: it determines that level of production of each sector of the economy at which the marginal cost of that economic sector for the production of a given quantity becomes equal to the price of the product, and, in this way, the CEPA can identify and estimate external economies and external counter-economies that may result from any change in the output of the economic sector under consideration. In this model, external economies and external counter-economies will appear in the form of a discrepancy between the average cost and the marginal cost of the economic sector under consideration (given that the model equates the marginal, rather than the average, cost with the price of the product). Thus, after identifying and assessing external economies and external counter-economies, the CEPA can implement a corrective mix of fiscal and monetary policy in order to achieve the politically desired result. Once again, we realize that the scientific perfection of the work of the CEPA must be combined with the existence and the utilization (by the CEPA) of effective mechanisms of social feedback. Moreover, it is clear that the system of critical rational socialism, which I propose, excludes the existence of the capitalist class and prevents the creation of capitalists, that is, economic agents who have income and full security of their livelihood without the *need* to work themselves.

In view of the foregoing, a socialist economic model based on central planning allows private enterprise to operate provided that, as the brilliant Russian-British economist Alec Nove (1915–94) has argued, private enterprise does not produce capitalist structures that

contradict the principles of efficiency and rationality governing central economic planning (Alec Nove, *The Economics of Feasible Socialism*, London: Allen and Unwin, 1983). According to Alec Nove, enterprises should be as small as possible to allow real participation on the part of the producers, but some must of necessity be larger because of the needs for economies of scale. Thus, Alec Nove envisages a whole range of enterprises including centralized state enterprises, state-owned enterprises directly managed by the labor force, co-operatives, small-scale private enterprises, and freelance self-employed workers, so that competition will continue to exist, but there will be no "wasteful" individual competition (ibid). However, there is no provision for any class of capitalists, since there is no unearned income arising simply from ownership of capital or land, and every existing private entrepreneur *works* (ibid).

As regards monetary policy, it should be mentioned that a major flaw of capitalism is that it tends to abstract the financial system from the overall economic reality and to embolden usurers and other financial speculators. Referring to the actual state of affairs in the capitalist world, Arthur M. Okun has argued that "the task of combining prosperity with price stability now stands as the major unsolved problem of aggregate economic performance" (A. M. Okun, *The Political Economy of Prosperity*, New York: Norton, 1970, p. 130).

Irving Fisher's equation (actually, identity) of exchange is the following formula:

$$MV = PQ$$

where M is the quantity of money, V is the velocity of the circulation of money (i.e., the amount of nominal Gross National Product each year divided by the money stock), P is the price level, and Q is aggregate output (i.e., the Gross National Product is equal to PQ). Thus, according to Fisher, if both V and Q are constant, then a change in the money supply, M, results in an equal percentage change in the price level P.

The above-mentioned equation implies that

$$M = \frac{1}{V}PQ.$$

Since V is constant, $1/V$ can be replaced by a constant k. Additionally, when the money market is in equilibrium, the demand for money, M_d, is equal to M. Hence,

$$M_d = kPQ,$$

which means that, according to Fisher's model, the demand for money is a function of income or output and does not depend on interest rates.

However, in practice, the velocity of the circulation of money, V, is not constant, even in the short-run, and especially during periods of recession. In fact, John M. Keynes extended Fisher's equation of exchange by pointing out that there are three motives of holding money: (i) Transactions motive: money is a medium of exchange, and, as income rises, people have more transactions and hold more money. (ii) Precautionary motive: people hold money for emergencies, and money demand is again expected to rise with income. (iii) Speculative motive: money is also a way for people to store wealth, and, under the speculative motive, the demand for money is negatively related to the interest rate. Moreover, Keynes modelled the demand for money as the demand for the real (as opposed to the nominal) quantity of money (i.e., real balances), M/P. According to

Keynes, the demand for real money balances is a function of both income and interest rates:

$$\frac{M}{P} = f(Q, r)$$

where Q is output or income and r is the interest rate (and, hence, the velocity of the circulation of money fluctuates with the interest rate).

The system of critical rational socialism, which I propose, implies that the monetary system should be based on labor (that is, on physical and mental work), which is the real source of value. In other words, the value of a country's currency or paper money should be directly linked to labor (physical and mental work). Indeed, we propose a "labor standard," namely, a monetary system in which the value of a currency is based on labor. Therefore, we should dismiss both the "gold standard" (i.e., a monetary system in which the value of a currency is based on gold) and any "fiat system" (i.e., a monetary system in which the value of a currency is not based on any physical commodity but is instead allowed to fluctuate dynamically against other currencies in the foreign-exchange markets, usually under the supervision of a banking elite); and, of course, in view of the foregoing, we do not believe that cryptocurrencies (namely, digital currencies based on blockchain technology) are a trustworthy and better alternative to previous monetary systems.

In fact, cryptocurrencies have shown that parody can be turned into a "real asset," and they give rise to a financial system of institutionalized insanity. Dogecoin is a characteristic case in point: this is a cryptocurrency that started off as a meme, but it soon became a mainstream digital currency. In 2013, two software engineers, Billy Markus and Jackson Palmer, used the image of a dog and created Dogecoin as a joke in order to make fun of how people would invest in anything, but people did exactly that, and, in April 2021, Dogecoin's market capitalization surged to more than fifty billion dollars (see: Avi Salzman, "Dogecoin Started As a Joke. Now It's Too Important to Laugh Off," *Barron's*, 5 May 2021, online: https://www.barrons.com/articles/dogecoin-started-as-a-joke-now-its-too-important-to-laugh-off-51620229273). Like any other cryptocurrency, Dogecoin has value because people have been made to believe that it has value due to online marketing campaigns and other means of carrying out psychological operations.

III. Rational Control of the Production Process

The huge economic progress that took place during the nineteenth and the twentieth centuries was mainly a consequence of scientific, technological, and organizational innovations that (as they were integrated into the production process) increased the productivity of a combination of factors of production or created new economic goods. However, given the contradictions of the capitalist system, the results of the integration of scientific, technological, and organizational innovations into the economy are not homogeneous: Companies that innovate make a direct profit or increase their profitability,

but this profit or increase in their profitability is a temporary phenomenon, as free competition will tend to equate the price of the product with the average cost of production, according to the above-mentioned model of the free competitive market. On the other hand, companies that use outdated factors of production or outdated production models, and companies that produce competitive economic goods that can be easily substituted with others (by competitors) in the market suffer losses and lead to a devaluation of the capital invested in them. In the free competitive market regime, due to the parametric function of price and the freedom of entry and exit enjoyed by private companies in every sector of the economy, any innovation is necessarily associated with a reduction in the value of some old investments, since, in principle, there is no way of reacting against a given innovation. What entrepreneurs can do to respond to their competitors' innovations is to try to innovate in their own companies, too, causing, in turn, losses for their competitors. Moreover, innovative companies need to constantly strive to innovate, because free competition tends to nullify the profitability of existing innovations (due to the freedom of entry of new competitors in each sector of the economy), so the more a company leads in the field of innovation the more profitable it becomes.

Nevertheless, as the prominent American economist, diplomat, and economic consultant John Kenneth Galbraith (1908–2006) has pointed out, industrial planning is inextricably linked to the size of the industrial complex, and size is not only a particular underpinning and provider of profits, but also the general underpinning and provider of technology and innovation (John K. Galbraith, *The New Industrial State*, with a new foreword by James K. Galbraith, Princeton, NJ: Princeton University Press, 2007). Furthermore, due to the inherent contradictions of capitalism, in the free competitive market, there emerge several phenomena that oppose free competition, such as the following: (i) monopolies, (ii) monopsonies, (iii) oligopolies, (iv) oligopsonies, and (v) groups of companies (i.e., gentlemen's agreements, cartels, concerns, pools, and trusts; see: Clive M. Schmitthoff and Frank Wooldridge, eds, *Groups of Companies*, London: Sweet and Maxwell, 1991).

When the size of business units increases so much that they can nullify the efficiency of the parametric price function (i.e., they can exert some control over prices) and the freedom of entry of new firms and, in general, new investors in a sector of the economy, then such companies develop a strong tendency to prevent any development that could bring about a devaluation of the capital already invested. Therefore, when a firm is not forced by market competition to innovate, it will only innovate when the old invested capital is depreciated or if the reduction in production costs that is achieved by the immediate implementation of an innovation exceeds the devaluation of the capital already invested. As Galbraith (ibid) has explained, this delay in actualizing available possibilities to improve the economy works to the detriment of social interest. In addition, the British economist Lionel Robbins (1898–1984), who was created a life peer as Baron Robbins of Clare Market in the City of Westminster in 1959, has pointed out that the attempt of certain capitalist elites to maintain the value of their invested capital may lead them to prevent the entry of new producers who find the prospects of one economic sector more attractive than the prospects of other economic sectors, as well as to postpone or cancel

the implementation of technical improvements that reduce costs and, consequently, reduce the price paid by the consumer (Lionel Robbins, *The Great Depression*, with a new introduction by Murray Weidenbaum, London: Routledge, 2017).

In any case, the ruling capitalist elite seeks to keep the general development of innovation under control and to manage innovations according to its own particular interests, thus coming into conflict not only with the social interest, but also with a rival capitalist elite, which wants to become the new ruling capitalist elite by displacing the previous one. As a result of the contradictions of the capitalist system, the protection of monopoly privileges and specific investments contradicts economic progress, in the sense that it hinders the reduction of prices and the improvement of the quality of economic goods and services, and it is a major source of imperialist rivalry between the great powers of the international system.

When the pressure of scientific, technological, and organizational innovations for structural change is far greater than the tendency of some capitalist elites to maintain the value of old investments and their control over economic dynamics, an economic crisis ensues. This crisis is exacerbated, at a later stage, by the intensification of stock speculation, which manifests itself through a bear market for old investments and a bull market for new investments (innovations).

In times of great capitalist crises, capital, as a structure and as a type of relationship, attacks a large number of capitalists. This statement may sound strange at first, but it is not; the capitalist system itself is strange, because the system of free competition invites and urges entrepreneurs to maximize their profits, acting according to the rationale of the definition of the free competitive market, but, if many entrepreneurs embrace and apply the definition and the rationale of the free competitive market in practice, then they will see their profits destroyed, and they will realize that this economic mode of thinking is appropriate for those who live in the world of Disneyland, and it belongs to Ayn Rand's ludicrous tales.

Indeed, the model of the free competitive market, in its ideal form, is useful for waging an intellectual war against the capitalist establishment using the ideological weapons and criteria of the capitalist establishment itself, namely, its own theoretical arsenal. The capitalist establishment itself is inconsistent, and, indeed, replete with contradictions: it espouses and wants the free competitive market as long as and to the extent that the free competitive market secures the privileges of the capitalist establishment, but the capitalist establishment opposes the free competitive market and violates its rules as soon as the free competitive market questions or threatens the privileges of the capitalist establishment. In *real capitalism*, the system deceives the entrepreneur (as free competition tends, in principle, to nullify profits), and the entrepreneur deceives the system (as he/she seeks to violate and distort the free market system to his/her advantage). This awareness is a "secret" of capitalism, but it is widely and dramatically revealed during the great capitalist crises. Therefore, another fundamental responsibility of the Central Economic Planning Authority (CEPA) under critical rational socialism is the rational control of the production process, in order for *innovations to be integrated into the production process in a way that maximizes social prosperity and, consequently, in order to optimize financial flows*.

Finally, it is imperative that the Central Economic Planning Authority (CEPA) exercises *full and strong control over the financial system* in accordance with the above-mentioned rationale. Peter Bond, in his volume entitled *Monetary Economics* (Worcester: Northwick Publishers, 1989, p. 24), has summarized and explained the system of financial intermediation as follows:

> In any economy there will be at any given time two groups of economic agents: (i) those we term *SURPLUS UNITS*, i.e. those whose revenue exceeds their current expenditure during the period under consideration . . . (ii) those we term *DEFICIT UNITS*, i.e. those whose expenditure exceeds their current revenue in a given time period. Given the existence of surplus units and deficit units, some mechanism is required to ensure that the surplus funds are channeled to the deficit units . . . it is very often the case that the individual with surplus funds will lend them to a financial institution or *financial intermediary* which will then on-lend these funds by itself buying company shares, government stocks or whatever assets it normally invests in.

Additionally, Peter Bond (ibid, p. 28) has explained the role of banks as follows:

> Amongst the many types of financial intermediary, the banks have a special place because they are the prime providers of money in a modern economy . . . One common feature of all banks is *the taking of deposits* . . . A second common feature is that of *the encashment of deposits* . . . The third (and in many ways the most distinctive) feature of banks is the transfer of deposits to third parties, for the most part by way of cheques but also via standing orders, direct debits and other transfer mechanisms.

The purpose of the control of the financial system by the CEPA is to optimize the allocation of capital between economic agents in accordance with the above-mentioned rationale for the rational control of the production process. To leave financial intermediation and especially banking to the forces of a deregulated market is equivalent to leaving the flows of capital to the forces of unfettered speculation and blind passion.

A Few Concluding Thoughts

In the context of my theory of critical rational socialism, the head of government (namely, the "supreme leader" of a socialist polity) and the Central Economic Planning Authority (CEPA) represent an updated, modern version of Plato's political vision. The vertical and technocratic hierarchical system that I propose stands in stark contrast to libertarian socialism, libertarian communism, and postmodern leftism, but it should not be confused with other historical models, such as those of the tyrant, the dictator, the monarch, and similar others. The CEPA is analogous with the government of

philosophers delineated by Plato in the *Republic*, and, of course, it is in agreement with Marx's, Engels's, and the Soviet cyberneticians' positions on and conceptions of scientific socialism. Moreover, the Italian philosopher Giuliano Di Bernardo's book entitled *The Future of Homo Sapiens* (2021; originally published in Italian, in 2020, by Marsilio Editori) has provided me with useful ideas and analyses about political leadership (Dr. Giuliano di Bernardo, with whom I maintain personal scholarly collaboration, was Professor of Philosophy of Science and Logic at the Faculty of Sociology of the University of Trento from 1979 to 2010).

If Plato's philosophers were the wisest of their times, in the era of modernity and globalization, the wisest persons will be the ones that have acquired the most knowledge in science, technology, economics, politics, ethics, and esthetics. If the tyrants of the past exercised power as intellectually and morally deficient men equating "political realism" with their own rules of thumb, mentalities, and personal readings of history, the supreme leader of a polity structured and organized according to the system of critical rational socialism will have the highest level of expertise in every field of human endeavor and will have fully endorsed and assimilated Alexander Bogdanov's vision of a "universal organizational science" and cybernetics.

Cybernetics is a transdisciplinary (and, indeed, "antidisciplinary") systematic study of regulatory and purposive systems (their structures, constraints, and possibilities). Hence, cybernetics has been defined as "the art of governing or the science of government" (André-Marie Ampère), "the art of steersmanship" (Ross Ashby), "the study of systems of any nature which are capable of receiving, storing, and processing information so as to use it for control" (Andrey Kolmogorov), "the science and art of the understanding of understanding" (Rodney E. Donaldson), as well as "a branch of mathematics dealing with problems of control, recursiveness, and information, focuses on forms and the patterns that connect" (Gregory Bateson).

Regarding my inquiries into mathematical modelling, mathematical programming, and cybernetics, I would like to acknowledge the contribution of the following persons to my scientific education: Dr. Themistocles M. Rassias (Fellow of the Royal Astronomical Society of London and Accademico Ordinario of the Accademia Tiberina in Rome), who taught me Advanced Calculus, Linear Algebra, and Differential Equations, and he supervised my research work in the foundations of mathematical analysis and differential dynamics at the University of La Verne, where I completed my studies in mathematics (a part of the research work and the dissertation that I completed at the University of La Verne under the supervision of Dr. Th. M. Rassias was published in 1998 as the volume no. 24 of the scientifically advanced Series in Pure Mathematics of the World Scientific Publishing Company); Dr. Christos Koutsogeorgis, who taught me Discrete Mathematics, Abstract Algebra, and Probability Theory (University of La Verne, 1994–96); and Dr. Chamberlain Foes, who taught me PASCAL (programming language) and introduced me to Management Information Systems (University of La Verne, 1995). Furthermore, during my studies at the University of La Verne, the historian Dr. Vassilios Christides (affiliated with the Institute for Advanced Study, Princeton, U.S.A.) taught me a comprehensive set of courses on the history of world civilization, and the historian Dr.

Paul Angelides taught me courses on modern political and intellectual history, which have helped me to place my research work within a rigorous historical context.

The human being is the only species endowed with creative reason, which distinguishes humanity from all other living beings. This ontological characteristic of humanity enables humans to develop science, which has an effect in the material universe in the form of technological progress. The rational socialists are wise because they follow the path of humanistic perfection and critical reasoning, and they try to overcome contradictions. They try to achieve the highest levels in all areas of human knowledge. They are similar to the Philosophers of Plato's Republic, who governed public affairs with wisdom and justice. Hence, Alexander Bogdanov, one of the acknowledged founders of the science of planning and organizational theory, argued that World War I underlined the cultural deficiency of the working class, in the sense that, "inadequately organized and hidebound by tradition, industrial workers had succumbed to the primitive nationalism of the petty-bourgeoisie and the peasantry" (see: John Biggart, "The Rehabilitation of Bogdanov," *academia.edu*, November 2018, pp. 11–12). In addition, according to Bogdanov, in Russia (during the 1910s), the socialist intelligentsia was not better equipped to effect a socialist transformation of society, because "the cultural development of the socialist planners themselves was a precondition of socialism, but most social scientists, as members of the ruling class, were imbued with the individualism of private enterprise" (ibid). Therefore, Bogdanov argued that socialism is meaningless without a "universal organizational science," which would "combine and coordinate all the individual disciplines" (ibid).

As opposed to liberal democracy, populism, romantic varieties of socialism/communism, and fascism/"alt-right," I believe in government by what Socrates has called the "epaiontes" (i.e., "those with real understanding," the "genuine experts," "those who perceive things according to their nature"). In particular, combining Platonism, scientific socialism (as defined by Proudhon, Marx, and Engels), Kantianism, structuralism, and cybernetics, and taking the rationalist tradition of the European Enlightenment to its logical conclusion, I propose a scientifically rigorous and morally noble theory of socialism founded on a rational and dynamic conception of historical action, scientifically rigorous economic planning, Alexander Bogdanov's vision of a "universal organizational science," a philosophically robust type of elitism, and the substitution of finance-driven models of economic development with labor-driven and science-driven models of economic development. I am a proponent of a variety of socialism that is essentially aristocratic, scientific, and technocratic. This is what I mean by "critical rational socialism."

Above: Dr. Nicolas Laos presents his research work in political economy and his theory of critical rational socialism at an event (actually, a public debate) that he organized for this purpose in the Ceremonial Hall of the Rectorate of the National and Kapodistrian University of Athens ("Ioannis Drakopoulos" amphitheater), on 17 May 2022. The panel members of that event from left to right: Ms. Christina Ch. Florou, who is an attorney-at-law accredited at the Supreme Court of Greece (member of the Athens Bar Association) and a graduate in criminology; Ambassador Leonidas Chrysanthopoulos, who has formerly served as the Ambassador of Greece to Armenia, Poland, and Canada; Mr. Nikos Karoutzos, who is an economic reporter (member of the Journalists' Union of Athens Daily Newspapers) and the editor-in-chief of the Greek business and economic portal bankingnews.gr; Mr. Michael Kavasis, who is an attorney-at-law accredited at the Supreme Court of Greece (member of the Athens Bar Association); Dr. Stavros Mavroudeas, who is a Professor of Political Economy at Panteion University of Social and Political Sciences (Athens) and was also visiting researcher in several universities (SOAS, City University London, Kingston University London, University of Siena, etc.); and Dr. Nicolas Laos.

Above: Dr. Nicolas Laos held the first public event for the presentation of his book entitled *Taking the Bull by the Horns: Causes, Consequences and Perspectives in Politology and Political Economy* (published in Greek by the Greek publishing company Kapsimi: https://kapsimi.gr/), thus delineating his theory for the reconstruction of political economy, at the Mediterranean Palace Hotel in Thessaloniki (Central Macedonia, Greece), on 13 April 2022. The panel members of that event (actually, a public debate) from left to right: Dr. George Koliakos, who is a Professor of Biochemistry at the Aristotle University of Thessaloniki Medical School; Dr. Spyros Kiartzis, who is the New Technologies and Alternative Energy Resources Manager at Hellenic Petroleum Group; Dr. Nicolas Laos; Mr. Aristotelis Kaditis, who is a financial consultant and a former bank manager; and Mr. Loukas Kavakopoulos, who is a journalist, communications consultant, and the director of the Greek news portal news.makedonias.gr.

This essay is based on Dr. Nicolas Laos's book entitled *Taking the Bull by the Horns: Causes, Consequences and Perspectives in Politology and Political Economy*, which was originally published in Greek, in March 2022, by the Greek publishing company Kapsimi: https://kapsimi.gr/pianontas-ton-tayro-apo-ta-kerata