THE MICRO-MACRO DIVIDE OF NEOCLASSICAL ECONOMICS VS. THE MACRO-MICROSCOPIC CLASSICAL POLITICAL ECONOMY APPROACH[1]

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ABSTRACT

This paper analyzes the historical and theoretical origins of the micro-macro division in neoclassical economics, contrasting it with the integrated framework of Classical Political Economy (CPE). Neoclassical economics, emerging in the late 19th century, replaced the Labor Theory of Value (LTV) with a subjective framework based on individual preferences. This shift created the basis for the bifurcation of the discipline, which was solidified by the monopolistic competition and Keynesian revolutions of the 1930s. However, the stagflation of the 1970s exposed the limitations of neoclassical theory, and attempts to address them via microfoundations proved largely inadequate. In contrast, CPE views capitalism as an interconnected system defined by class relations and capital accumulation. By grounding aggregate variables in labor values, CPE provides a

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07_TSOULFIDIS-CHATZARAKIS_vf26.indd 158 13/04/2026 10:52:03 a. m.

unified macro-microscopic perspective capable of coherently explaining effective demand, growth, and stagnation.
Keywords: microfoundations, Classical Political Economy, Labor Theory of Value, utility, marginal productivity.
JEL Classifications: B21, B22, B51, D01, E10, E11.

LA BRECHA MICRO-MACRO DE LA ECONOMÍA NEOCLÁSICA FRENTE AL ENFOQUE MACRO-MICROSCÓPICO DE LA ECONOMÍA POLÍTICA CLÁSICA

RESUMEN

Este trabajo analiza los orígenes históricos y teóricos de la división micro-macro en la economía neoclásica, en contraste con el marco integrado de la Economía Política Clásica (EPC). La economía neoclásica, surgida a finales del siglo XIX, sustituyó a la teoría del valor-trabajo (TVT) por un enfoque subjetivo basado en las preferencias individuales. Este giro sentó las bases de la bifurcación de la disciplina, que se consolidó con las revoluciones de la competencia monopolística y del keynesianismo en la década de 1930. Sin embargo, la estanflación de la década de 1970 puso en evidencia las limitaciones de la teoría neoclásica, y los intentos por superarlas mediante las microfundamentaciones resultaron en gran medida inadecuados. En contraste, la EPC concibe al capitalismo como un sistema interconectado definido por las relaciones de clase y la acumulación de capital. Al fundamentar las variables agregadas en los valores-trabajo, la EPC ofrece una perspectiva macro-micro unificada, capaz de explicar de manera coherente la demanda efectiva, el crecimiento y el estancamiento.
Palabras clave: microfundamentos, Economía Política Clásica, teoría del valor-trabajo, utilidad, productividad marginal.
Clasificación JEL: B21, B22, B51, D01, E10, E11.

1. INTRODUCTION

Economic theory, from Adam Smith onwards, was initially conceived as a unified framework centered on the theory of value and distribution. Specifically, Smith and his successors pointed that all value is created, almost exclusively, by labor, with profits and other

07_TSOULFIDIS-CHATZARAKIS_vf26.indd 159 13/04/2026 10:52:03 a. m.

related incomes appearing unjustified in this paradigm[2]. The Labor Theory of Value (LTV) served as the cornerstone for addressing a broad spectrum of economic issues, ranging from the establishment of equilibrium prices and the determination of the price level to understanding the equilibrium level of output and employment, economic growth dynamics, the intricacies of international trade and matters of public finance. At its core, there existed no disconnect between individual price determination and the broader price level, eliminating the need for an entirely different theoretical foundation and perspective. This unified approach persisted through the era of classical economists, was further developed in the works of Marx and continued to influence the first generation of neoclassical economists, extending its relevance at least until the interwar period. Neoclassical economics began its analysis by focusing on the choices made by representative agents or individuals, who were assumed to engage in optimizing behavior. However, it took several decades for this approach to extend beyond the traditional confines of value theory and address broader economic issues. This expansion led to the division of economics into two distinct fields: Microeconomics, which examines how individuals and firms allocate resources and macroeconomics, which focuses on the overall performance of economies. Macroeconomics analyzes phenomena such as changes in total output, inflation, interest rates, foreign exchange rates and the balance of payments, among others.

The 'binary divide' between microeconomics and macroeconomics is so deeply entrenched in the current economic literature that any attempt to dismantle it often appears futile. The purpose of this paper, therefore, is not simply to challenge this schism, but to provide further insight into its historical evolution, to elucidate the conditions that led to its emergence and to argue for the necessity of its unification within a single theoretical framework. Additionally, the paper advocates for the development of a cohesive economic theory, reminiscent of the unity found in Classical Political Economy (CPE), that is the approach of core classical economists (Smith and Ricardo) and Marx. Our argument

[2] Nature may also be considered as a source of use values and therefore value (*Capital* I, pp. 30-31, *inter alia*).

07_TSOULFIDIS-CHATZARAKIS_vf26.indd 160 13/04/2026 10:52:03 a. m.

posits that the micro-macroeconomics division was already immanent with the emergence of neoclassical theory, since the latter suffers from a unifying theory of value that could explain how wealth is created, how commodities are priced and how the economy evolves. As a result, the neoclassical school finds itself trapped between two grindstones: a theory of individual decisions on the 'lower' level and a theory of output, inflation, *etc.* on the 'higher' level, which must be connected but ultimately cannot be. In contrast, we argue that the CPE approach contains a similar but radically different analytical approach, which we term the 'macroscopic' vs. the 'microscopic' analysis. This approach is founded on different layers of abstraction, most clearly found in Hegel's and Marx's theory of a 'hidden' reality underlying the surface of observable phenomena.

The subsequent sections of this paper are organized as follows: section 2 delves into the origins of the micro-macro schism in economic theory. Section 3 explicates the meaning and implications of microfounding macroeconomics, indicating that the neoclassical thought cannot overcome this internal to its theoretical core divide. Section 4 discusses and critically evaluates some heterodox attempts to provide microfoundations in macroeconomic analysis. Section 5 explores the unified classical and Marxian viewpoints, emphasizing the interconnectedness arising from differing levels of abstraction. Finally, Section 6 provides a summary of key points and offers concluding remarks on the imperative need for a more integrated approach in contemporary economic thought.

2. THE ORIGINS AND EVOLUTION OF THE MICRO-MACROECONOMICS DIVIDE

The term 'neo-classical' economics was coined by Thorstein Veblen (1857-1929) in 1900 to delineate the concepts put forth by marginalist economists emerging from the 1870s onward. Specifically, Veblen applied this term to the works of Alfred Marshall (1842-1924), whose influential 1890 book became the standard reference textbook for teaching economics. Marshall sought to ease the transition from CPE to neoclassical economics by downplaying the theoretical rupture, retaining classical terminology (such as "cost of production") and presenting marginal analysis as a synthesis, most famously through the "scissors" analogy, rather than an altogether rejection of earlier theory. By contrast, William Stanley Jevons (1835-1882) portrayed marginalism as a revolutionary break with

07_TSOULFIDIS-CHATZARAKIS_vf26.indd 161 13/04/2026 10:52:03 a. m.

Ricardian political economy, explicitly rejecting Ricardo's framework and presenting utility-based analysis as an entirely new foundation for economic theorization. Thus, the debate surrounding the characterization of neo-classical economists centers on whether their ideas signify an evolution of classical thought or a more radical departure from.

Both CPE and neoclassical economics use a long-period analytical approach and focus on the determination of 'natural' or equilibrium prices. Their key differences lie in their underlying principles and in the foundational data that structure their analyses. According to Garegnani (1970), this data consists of neoclassical analysis are:

a) individuals' preferences, characterized by specific properties;
b) the initial endowment of resources; and
c) the alternative techniques of production.

With the above data the neoclassical theory can determine demand and supply curves for goods and derive their equilibrium price and quantities in an economy without production. The trouble with the neoclassical theory was the theorization of production and in particular the estimation of cost and the price of factors of production. The major contribution of the neoclassical trio Jevons, Menger and Walras is their conceptualizing production costs as disutility. This insight allowed a direct comparison between the utility gained from consumption and the disutility of effort or abstinence, offering a symmetrical, subjectively grounded explanation of market equilibrium through the interplay of supply and demand. More specifically, wages, interest and rent correspond to the prices of labor, capital and land, respectively, all of which reflecting relative scarcities quantified through their marginal productivities. Hence, it is important to emphasize that the consumer demand, grounded in subjective valuations of utility, drives the whole equilibrating process; in particular, the supply of goods is effectively activated by this demand in the economy with no production, while the demand for factors of production is derived from consumers' demand for goods. Consequently, contrary to the common conception the neoclassical theory is essentially a demand driven theory.

Neoclassical economics faced criticism from early on. Veblen (1900) argued it failed to capture real human behavior, while Hilferding (1920)

07_TSOULFIDIS-CHATZARAKIS_vf26.indd 162 13/04/2026 10:52:03 a. m.

and Bukharin (1972) saw it as masking capitalism's exploitative nature by replacing the LTV with marginalist principles. Its limitations became most apparent during the 1930s Great Depression, when it could not explain mass unemployment or persistent economic slowdown. As Keynes (1972, p. 350) commented sarcastically that "many people are trying to solve the problem of unemployment with a theory which is based on the assumption that there is no unemployment". In response to these challenges, Keynes's theory of effective demand emerged as a solution during this tumultuous period.

According to Keynes (1936), the equilibrium level of output is determined by the level of effective demand, extending beyond the output of individual firms to encompass the totality of the economy. This perspective introduced a comprehensive approach, incorporating total investment, consumption and various aggregate variables that were often overlooked in neoclassical analysis at the time. The inclusion and quantification of these variables through the system of national income and product accounts marked the inception of what is now recognized as macroeconomics. Ragnar Frisch (1933) is credited with introducing the terms 'micro-dynamic' and 'macro-dynamic' analysis, drawing a parallel to the later terms microeconomics and macroeconomics. Michal Kalecki (1935) initially used the term 'macrodynamic' in an article published in *Econometrica*[3]. *Pieter de Wolff* (1941) is (to the best of our knowledge) the first that used the terms 'micro-economics' and 'macro-economics' in an article published in an economic journal with the current textbook meaning. The terms seem that were already well-known but they did not appear in scientific journals until the year 1946, when Lawrence Klein used the term "macroeconomics" for the first time in the title of a scientific journal article, apparently influenced by its widespread usage and understanding of the term within the academic community. Long before these terms were standardized, Keynes had already drawn a definitive demarcation line. He clarified that he labeled his framework *The General Theory* precisely because it encompassed the entire spectrum of economic activity, dealing with output as a whole. In his view, the neoclassical focus on individual markets was merely a

[3] Interestingly, this was the terminology adopted by many Post-Keynesians and Neo-Ricardians.

07_TSOULFIDIS-CHATZARAKIS_vf26.indd 163 13/04/2026 10:52:03 a. m.

"special case", valid only under the rare condition of full employment, whereas his "general" approach was designed to analyze the economy at all levels of capacity utilization. For Keynes, a much clearer statement of the dichotomy between macro and micro is already present in *the General Theory*, where he observes:

> The division of Economics between the Theory of Value and Distribution on the one hand and the Theory of Money on the other hand is, I think, a false division. The right dichotomy is, I suggest, between the Theory of the Individual Industry or Firm and of the rewards and the distribution between different uses of a given quantity of resources on the one hand, and the Theory of Output and Employment *as a whole* on the other hand. So long as we limit ourselves to the study of the individual industry or firm on the assumption that the aggregate quantity of employed resources is constant, and, provisionally, that the conditions of other industries or firms are unchanged, it is true that we are not concerned with the significant characteristics of money. But as soon as we pass to the problem of what determines output and employment as a whole, we require the complete theory of a Monetary Economy (*General Theory*, p. 293).

Microeconomics, on the other hand, was really shaped during the interwar period following Sraffa's (1926) critical analysis, challenging the Marshallian theory of the perfectly competitive firm in its partial equilibrium analytical framework. Sraffa highlighted inconsistencies in the existing theory, necessitating its abandonment with the suggestion that the inquiry must turn towards either the exceedingly more difficult task of general equilibrium (GE) or the more attainable goal of monopolistic competition. The intellectual debates and controversies of the 1930s, particularly between economists at the Universities of Chicago and Harvard, played a decisive role in shaping the foundational principles of microeconomics. We should note that the debate was exhausted on the question of homogeneity and the form of the agent (Shaikh, 2016, chs. 12 and 13). The 'orthodox' approach (that eventually prevailed) emphasized the assumption that agents are infinitely many and infinitesimally small relative to the size of the market, technologically identical, passive 'price-takes', that produce homogenized products; on the other hand, the 'heterodox' economics emphasized the presence of on non-passive

07_TSOULFIDIS-CHATZARAKIS_vf26.indd 164 13/04/2026 10:52:03 a. m.

agents that differ in terms of size, capacity, technology and produce differentiated products. Since then, the discipline has remained relatively stable, with no major substantive issues at stake. While the fundamental principles have persisted, it is crucial to emphasize that within neoclassical economics, there are no alternative or competing microeconomic approaches. Any changes observed are typically related to the evolution of analytical techniques (mainly calculus and game theory) employed in microeconomics over the years.

Macroeconomics transformed significantly after WWII with the dominance of the Keynesian-Neoclassical synthesis, supported by strong postwar growth that seemed to validate government intervention in a mixed (market cum government) economy (Bronfenbrenner, 1969). This consensus collapsed with the stagflation of the 1960s and 1970s, leading to the rise of monetarism and new classical economics, while Keynesianism lost credibility. Governments, once viewed as stabilizers, were blamed for the crisis, prompting deregulation and easy money policies. These shifts, alongside advances in information technology, gave rise to the so-called "new economy," initially considered recession-proof (Chatzarakis, Tsaliki, and Tsoulfidis, 2024). However, the prolonged recession since 2007 has undermined this belief, much as stagflation did with the earlier mixed economy.

3. ON MICROFOUNDING MACROECONOMICS

Microfoundations aim to explain macroeconomic phenomena through the behaviors and interactions of individual economic agents. This approach is deeply rooted in neoclassical theory, which emphasizes individual decision-making, optimality and the inherently subjective nature of economic choices. Consequently, the subjective nature of the neoclassical theory of value and distribution is reflected at the aggregate level. The stagflation crisis of the late 1960s to early 1980s, combined with the prolonged economic slowdown following the 2007-2009 Great Recession, led neoclassical economists to grow increasingly dissatisfied with their models' ability to account for economic realities. They attributed this failure to an inadequate integration of individual behavior into macroeconomic analysis.

Recognizing the need to enhance their macroeconomic analysis and following Lucas's (1976) critique on traditional macroeconomic theo-

07_TSOULFIDIS-CHATZARAKIS_vf26.indd 165 13/04/2026 10:52:04 a. m.

ry and forecasting, they sought to incorporate individual preferences and optimization behavior, aiming to align their models more closely with reality. In short, to provide microfoundations in their macroeconomic analysis. A common theme of all macroeconomic approaches is their shared acknowledgment of the vital need for microfoundations in their analyses. As Felin and Foss (2005) stated "organizations are made up of individuals and there is no organization without individuals", dictating the necessity of such binding. Emerging theories in the 1970s, like Real Business Cycles (RBC) and New Keynesian economics, along with the use of Dynamic Stochastic General Equilibrium (DSGE) models, became central to this effort, which is based on two main assumptions. First, there is the possibility of establishing an empirically adequate theory of individual behavior. Second, it assumes the existence of an aggregation process that allows individual behaviors to be integrated into a unified economic model without requiring substantive assumptions about the latter. Despite efforts commencing in the 1970s and continuing to the present day, tangible results have yet to materialize (Hoover, 1981).

Walras's (1874) theory of GE is widely considered by and large as the first systematic neoclassical attempt to model the economy as a whole by linking individual behaviors across interdependent markets. Building on consumer utility maximization and firm profit maximization, Walras showed how decentralized decisions could be coordinated into a simultaneous market-clearing equilibrium through a system of interdependent prices. Although rooted in microfoundations, the framework connected the line between micro- and macroeconomics. His static model required the introduction of perfect competition, not as an observation of the operation of competition in actual economies but rather as a theoretical requirement for the attainment of GE. Later extensions by Arrow, Debreu, and McKenzie in the 1950s incorporated uncertainty, production, and welfare theorems, proving the existence of a Pareto-efficient GE (Debreu, 1959)[4].

[4] A referee of this journal noted that the standard interpretation of Walras, largely shaped by Hicks (1939), became canonical in postwar economics. However, scholars closer to Walras's own writings, such as Lallement (2017), argue that his position was more synthetic, combining methodological individualism with elements of holism. Similar views appeared in early marginalism; for example, John Bates Clark (1886, p. 36) described individuals as

07_TSOULFIDIS-CHATZARAKIS_vf26.indd 166 13/04/2026 10:52:04 a. m.

The uniqueness and stability of GE are challenged by the Sonnenschein-Mantel-Debreu (SMD) theorem, which posits that the aggregate excess demand function in an economy can assume almost any shape, even when individual preferences are well-behaved (*i.e.*, rational, continuous, monotonic and convex). This result implies that economies with perfectly rational agents may still exhibit multiple equilibria, unstable price dynamics, or other so-called paradoxical behaviors at the aggregate level[5]. Consequently, the SMD theorem undermines key assumptions in traditional GE analysis, with profound implications for economic modeling, policy prescriptions and the limits of equilibrium-based predictions (Sonnenschein, 1972; Mantel, 1974; Shafer and Sonnenschein, 1982; Milgate and Eatwell, 2021).

In fact, social theorists have repeatedly argued against both reductionist extremes of atomism (everything is founded on and caused by the micro-level or the individual) and holism (everything is founded on and caused by the macro-level or the larger whole). More specifically, Denis (2016) pointed that the very center of this approach is methodological individualism, *i.e.*, the conception of the representative agent (firm or consumer) as the fundamental unit of the real economies. Nevertheless, this perspective is wrong both conceptually and analytically. On the one hand, individuals are not isolated and insulated actors, whose actions can be reduced to a simple maximization principle; they are social and political beings, whose actions are inter-dependent with (caused by and causing) the actions of others (Heath, 2005). Thus, reductionism to the individual is deeply flawed as a theorization of reality. On the other hand, aggregation from individuals to the entire economy is not possible, as is substantiated by the SMD theorem (Shafer and Sonnenschein, 1982; Milgate and Eatwell, 2021). Therefore, efforts to use average or representative agents and the results derived from them to generalize

socially embedded within a "social organism." These strands, however, remained marginal, as neoclassical theory increasingly consolidated a strictly individualistic and formalistic methodological framework.

[5] Neoclassical economics faces persistent empirical and theoretical inconsistencies, often dubbed 'paradoxes.' Yet, the blame is typically placed on the phenomena themselves, while the core assumptions of the theory remain largely untouched, as if nothing had happened.

07_TSOULFIDIS-CHATZARAKIS_vf26.indd 167 13/04/2026 10:52:04 a. m.

for the entire economy are deeply flawed. This is further supported by the evidence of non-computability of the GE provided by Richter and Wong (1999) and Velupillai (2005). This ultimately explains the persistent failure of New Classical, RBC, DSGE and New Keynesian microfounded macro models to accurately describe the motion of the real economy.

It is important to note that there are clear parallels between the SMD theorem and the Sraffian (1960) critique of the aggregate production function. The Sraffian analysis demonstrates that the same technique of production can be optimal at multiple rates of profit, a phenomenon known as *reswitching* and that capital intensity, as measured by the capital-labor ratio, is not a monotonic function of the rate of profit (Sraffa, 1960; Garegnani, 1970). In short, what holds in a one-commodity world does not necessarily generalize to a multi-commodity setting, as we know from the Cambridge capital theory controversies. This challenges the neoclassical notion that relative prices reflect underlying scarcities. Similarly, the SMD theorem reveals that aggregate excess demand functions need not exhibit the well-behaved properties assumed in representative-agent models (Sonnenschein, 1972; Mantel, 1974; Debreu, 1974), thereby undermining the microfoundations of neoclassical GE theory. Both critiques thus highlight the limitations of aggregation and its potential to disrupt the logical consistency between individual behavior and macroeconomic outcomes, a cornerstone of neoclassical economics. On the other hand, Mean-Field Approaches (MFA) model the average effects of many agents' interactions, capturing behavioral distributions rather than a single representative agent (Lasry and Lions, 2007). While offering stronger microfoundations, they remain a-theoretical, rely on statistics and do not resolve the micro–macro divide.

Both orthodox and heterodox economists criticized the Walrasian framework for microfounding macroeconomics, noting the absence of a true representative agent, the irrationality of optimization, and the impossibility of aggregating heterogeneous capital in line with neoclassical theory (Weintraub, 1977; Rizvi, 1994; Garegnani, 1970; Robinson, 1971; Tsoulfidis, 2021a). While some accepted the need for microfoundations, they rejected the Walrasian basis, emphasizing that economies cannot be reduced to individual agents' behavior (Solow, 1986; Shaikh, 2016). A counter-approach instead sought to embed macrofoundations into microeconomics, stressing the influence of the macro environment on

07_TSOULFIDIS-CHATZARAKIS_vf26.indd 168 13/04/2026 10:52:04 a. m.

individual decisions (Hahn, 2003; King, 2008), though this effort failed to yield a workable model.

4. SOME HETERODOX ATTEMPTS TO PROVIDE MICROFOUNDATIONS TO MACROECONOMICS

While neoclassical economists have long sought to provide microfoundations for macroeconomic theory, similar efforts have also emerged within heterodox traditions. These efforts typically draw on Sraffian, Kaleckian, Marxian and even evolutionary approaches of value and distribution and attempt to integrate them with a Keynesian theory of effective demand. Notable among these is the work of Eatwell (1983), Eatwell and Milgate (2011), who advocated for a synthesis between the classical theory of value and distribution which takes the output as given and Keynes's theory of effective demand which does not depend on prices. Such a synthesis while desired nevertheless, this line of inquiry has not seen substantial development in recent decades. Similarly, Kriesler (1996), working within a Kaleckian framework, develops microfoundations grounded in class distribution and markup pricing, modeled through cost-plus formulas that reflect market power. Output and employment are determined by effective demand under the assumption of class homogeneity, expressed in uniform markups. This approach, however, abstracts from firm-level heterogeneity, innovation and finance, leaving the micro-macro link somewhat mechanical and with limited consideration of institutional or historical specificity. John Roemer's (1982) game-theoretic reformulation of Marxian exploitation models class formation as the outcome of strategic interactions among agents with unequal assets, producing Nash equilibria that represent class structures. While innovative, it reduces class struggle to a static equilibrium of hyper-rational actors, departing from Marx's historical and dialectical view and retains neoclassical methodological individualism, making it vulnerable to critiques of determinism and excessive abstraction. While Shiozawa, Morioka, and Taniguchi (2019) adopt an evolutionary economics framework to move beyond neoclassical equilibrium, their model introduces its own constraints. By conceptualizing firms as primarily routine-driven entities, the authors present a vision of constrained agency where strategic flexibility is limited. Furthermore, the model inadequately incorporates

07_TSOULFIDIS-CHATZARAKIS_vf26.indd 169 13/04/2026 10:52:04 a. m.

the path-dependent nature of contingent historical events and overlooks crucial macro-to-micro feedback loops from institutions and demand shifts. The central critique, therefore, is that their method risks substituting the rigidity of hyper-rationality with a new rigidity of routinized adaptation, thereby limiting its explanatory power.

The above discussion and examples suggest that heterodox efforts to construct microfoundations, while motivated by the limitations of neoclassical theory, often remain trapped within its core assumptions, particularly the commitment to methodological individualism and initially givens (preferences, endowment and technology). In particular, the distinction between an 'orthodox' and a 'heterodox' approach on microfoundations does not rely on the question of methodological individualism, but often reduces to whether this reduction would lead to a representative agent or to a distribution of agents displaced from the ideal representative one. Thus, a Post-Keynesian (*e.g.,* Kriesler, 1996), Neo-Marxist (Roemer, 1982), or evolutionary (Shiozawa, Morioka, and Taniguchi, 2019) approach to microfoundations is equally flawed so long as it relies on the same principle of reduction. In our view a truly alternative heterodox holistic approach of the totality of the economy, must move beyond simply substituting representative agents with disaggregated actors. It must question the very premise that macroeconomic behavior can be grounded in any universal and stable micro-level foundation.

Our perspective contends that when a logically consistent theory with high explanatory content and predictive power and therefore well-established in both logic and practice, nevertheless is suppressed for reasons of 'political correctness', it comes as no surprise that elements of that theory inevitably resurface, albeit in a disguised and largely flawed form. A notable example is the case of productive and non-productive labor of CPE, which Marshall (1890, p. 54) proposed abandoning gradually and silently. The rationale behind his suggestion apparently stemmed from the prevailing distinction of his time, deeply entrenched in economic theory and business prudent practices which were exceedingly difficult to overcome overnight. The consequence was the eventual resurgence of this theory, assuming new forms such as Baumol's (1967) cost disease of the service sectors, Bacon and Eltis's (1976) dichotomy between marketed and non-marketed sectors (Tsoulfidis and Tsaliki, 2019, ch. 13 and the literature cited therein).

07_TSOULFIDIS-CHATZARAKIS_vf26.indd 170 13/04/2026 10:52:04 a. m.

This stands in stark contrast to CPE, where labor is the fundamental generator and evaluator of value. CPE places significant emphasis on analyzing the labor process, capital accumulation, reproduction on a simple or expanding scale and the trajectory of capitalism influenced by pragmatic competition and long run downward movement in the rate of profit. Consequently, CPE's analyses revolve around aggregated variables and the incomes of social classes, whose actions are shaped by profit motives as the means to survive in real competition, rather than being guided solely by optimization criteria grounded in subjective preferences.

5. THE MACROSCOPIC-MICROSCOPIC ECONOMIC ANALYSIS OF CPE

The CPE breaks away from the very start from the schism between micro an macroeconomics by employing different levels of abstraction giving rise to what we argue is a much more promising unified economic theory, at both macroscopic and microscopic levels of analysis. It is important to stress that Maurice Dobb (1900-1976) was the first to draw these terms from thermodynamics and employ them in economic discourse. Despite the usual misinterpretation and forced adoption of physical notions in economics, Dobb's intuition, as we will argue below, is absolutely justified. In thermodynamics, a 'macroscopic' analysis considers the system as a whole, focusing on fundamental principles where variables refer to observable and quantifiable quantities. On the other hand, a 'microscopic' analysis considers multiple statistical ensembles (distributions of particles) that, when aggregated, yield the same picture as the former. Interestingly, the link between 'microscopic' ensembles and 'macroscopic' variables is what biologists call the 'emergent properties of the system,' or what amounts to the same 'dialectics of the system'.

In our analysis, these terms are employed in a manner akin to Dobb's (1925; 1937, ch. 2) conception. Specifically, 'macroscopic' denotes an analysis conducted at a high level of abstraction, encompassing the totality of the economy, while 'microscopic' refers to a more concrete point of analysis, where individual discrepancies become important. The former includes the economy viewed as a single entity, wherein commodities are produced as products of abstract labor time, enabling aggregation and evaluation into a singular quantity representing the output and wealth of the entire economic system. After all the salient

07_TSOULFIDIS-CHATZARAKIS_vf26.indd 171 13/04/2026 10:52:04 a. m.

feature of capitalism is the production of commodities which must be evaluated, an evaluation that takes place from the start in the production process and realized in the sphere of exchange. Evaluations imply equilibrium prices and incomes and so the theory of value and distribution becomes the starting point of analysis of capitalism. It is only after the initial presentation of this 'nature' of capitalism that the economy can be disaggregated to industries, firms, individuals, *etc.*, whose different features seemingly distort the 'hidden' reality. In Hegel's philosophical framework, which Marx knew well, every facet of reality is intrinsically linked to another, posing the challenge of comprehending a deeply interconnected reality. Marx addresses this predicament by directing attention towards the conditions governing socio-economic reproduction as an integral entity, rather than dissecting reality into ostensibly independent components. In this context, he reinterprets CPE as an examination of the comprehensive process of socio-economic reproduction, a concept initially systematically expounded by Quesnay in his *Tableau Economique*.

Marx begins his analysis by investigating commodity production, comparing the role of the commodity in the study of capitalism to that of a cell in the examination of the human body[6]. Any alternative point of departure will ultimately expose a web of interconnections that can be unraveled only by returning to the fundamental unit of analysis: the commodity, interwoven with all core relations of capitalism. For capitalism is not merely theorized but functions in reality as a system of generalized commodity production. Thus, in the examination of capitalism, the logical starting point for analysis is the production of use values with the aim of exchange for profit, which gradually unravels the complexities inherent in the capitalist economic system. Thus, the theory of value and distribution, which would be classified as 'microeconomics' in the neoclassical approach, in CPE is considered macroscopic analysis, since it starts from the first constituent component of capitalism, the commodity whose analysis is carried out at the highest level of abstraction separating from variables of second- or even lower-order

[6] A commodity is one of the cells of capitalism. The accumulation of capital refers to the whole body, that is, capitalism. Capital is a body that tries to increase its size by letting labor produce commodities that are sold on markets so that capital grows (Fuchs, 2015).

07_TSOULFIDIS-CHATZARAKIS_vf26.indd 172 13/04/2026 10:52:04 a. m.

determination. Subsequently, as the study becomes successively more concrete, which is another way to say that it is conducted at a lower level of abstraction; that is, the analysis becomes 'microscopic' focusing on different sectors and different production processes and gradually adding fresh determinations. For example, the introduction of real-world competition makes visible the laws of motion of the capitalist economy, starting with the equalization of interindustry rates of profit and the establishment of prices of production. The analysis initially operates at the average level, but progressively becomes even more concrete by examining the regulating conditions of production and the regulating capitals with their respective prices of production and rates of profit. The law of the tendentially falling rate of profit is understood only in conditions of pragmatic or real-world competition. In all cases, the analysis is unified; that is, the microscopic reinforces (not negating) the macroscopic and, in so doing, enhances the understanding of the dynamics of the economy without arriving at any inconsistent results, as might be the case going from micro- to macroeconomics and falling into the fallacy of composition.

Ricardo and Marx utilized the LTV as their starting point in their study of the long-run tendencies of the capitalist system, because, on the one hand, it served as the most efficient accounting system (the closeness of relative prices to relative embodied labors) and, on the other hand, it revealed that the foundation of the system is the production of commodities. It is important to note that Marx, in *Capital* I, assumes that the LTV holds at both the firm level and the entire economy. That is, the (exchange) value of a commodity is measured in terms of embodied labor time and so do the major variables describing the economy (total and net output, wages, profits, *etc.*). At this level of analysis, the transition from the micro to the macro level is a simple addition, while the converse is a mere division; the two seemingly separate fields are unified; and, thus, the theory of value and the theory of output constitute aspects of the same unified economic theory. This idea is maintained even in *Capital* III, as the LTV can connect the 'personal experience' of the workers to the evolution of the entire economy, even if competition seemingly distorts the clearness of this picture. It is not the field that changes as we move from the workers' experiences to the national and international level (from micro- to macro-economics), but rather the depth and concreti-

07_TSOULFIDIS-CHATZARAKIS_vf26.indd 173 13/04/2026 10:52:04 a. m.

zation of the analysis. The often-cited 'disconnect' between micro- and macroeconomics does not apply in the CPE approach and it can even be ambiguous if applied in any strict and absolute sense.

The theory of value and distribution in CPE is characterized by a set of essential data that remain relatively constant over the long run. These data (or initially givens) underlie the surface-level market phenomena and form the hard core of the CPE approach. They are considered the underlying, relatively stable factors that provide the basis for understanding long-term economic outcomes, such as equilibrium prices and the mechanisms of value creation and distribution in an economy. This kind of data includes:

a) the size of output and its inter-industry distribution;
b) the real wage or the income distribution; and
c) the technology with no or minimal substitutability[7].

With these data, the CPE approach starts with the LTV as a way to show the source of value added, that is, the labor employed in the production of commodities and then demonstrate that the labor time is the principal determinant of prices (relative and absolute). It is true that Smith thought that the presence of capital necessitates the use of labor commanded and adding-up theories of value, which are usually taken as a departure from the LTV, while Ricardo argued that the presence of capital, turnover time and changes in income distribution make the LTV somewhat less accurate in determining relative prices[8]. Furthermore he argued that the market prices and natural prices of commodities tend to be equalized in the long run and the principal

[7] This set of data appears most clearly in the schemes of expanded reproduction where we have a given real wage and rate of surplus value, given composition of capital (technology) and known level of output and its allocation in industries (Departments I and II). It goes without saying that *Capital* I and III are consistent with this view.

[8] At first sight, Smith confines the LTV to the "rude and early state of society." On closer inspection, this stage functions as a methodological abstraction, analogous to Marx's "simple commodity production" (Tsoulfidis, 2024b). Smith's turn to an "adding-up" account of wages, profit, and rent reflects an unresolved attempt to accommodate capital and does not constitute a theory of value creation but a distributional identity presupposing value as produced by labor and divided among revenue classes.

07_TSOULFIDIS-CHATZARAKIS_vf26.indd 174 13/04/2026 10:52:04 a. m.

determinant of their changes is the labor time spent on the production of commodities (Tsoulfidis, 2021b; 2024a). While Marx shares with Smith and Ricardo a long-period analytical method and a reliance on the LTV, he introduces a fundamental epistemological break with his Classical predecessors. Marx re-centers political economy on social relations of production, demonstrating that surplus value is not a "natural residue" of the production process but is extracted through the specific social organization of capitalism itself. Although labor is the sole source of all new value, Marx draws a crucial distinction between labor and labor-power. Workers sell their labor-power for a money wage; for example, agreeing to work eight hours, yet the value of the commodity bundle required to reproduce that labor-power corresponds (by assumption) to only four hours of socially necessary labor time. The difference, surplus labor, constitutes the exclusive source of surplus value and reveals the social reality of exploitation concealed beneath the formal equality of the wage contract. Critically, Marx introduces a historical dimension absent in Smith and Ricardo, who tended to naturalize capitalist categories. For Marx, capitalism is a historically specific mode of production, governed by its own laws of motion and therefore destined to transform and ultimately perish. Thus, building on classical foundations, Marx decisively shifts the focus toward exploitation, class struggle, and historical transience (see Tsoulfidis 2024a, chs. 5-6). Furthermore, unlike Smith or Ricardo, Marx does not move directly from labor values to prices by assuming a uniform rate of profit. His transformation problem explicitly addresses the complex mediation between labor value and their monetary expression with the prices of production that govern capitalist competition. For this reason, he adds fresh determinations to his analysis, allowing the revealing power of competition to enter the picture at a later stage (in *Capital* III) without altering its LTV foundations. Thus, he examines the labor process, capital accumulation and the industrial reserve army of labor, whose fluctuations are reflected in the movement of real wages (*Capital* I), the schemes of reproduction and turnover time (*Capital* II). Competition (distinct from neoclassical perfect or imperfect competition) is introduced in *Capital* III, leading to the tendentially equalization of rates of profit between industries and the formation of prices of production. The latter are analogous to the natural prices in

07_TSOULFIDIS-CHATZARAKIS_vf26.indd 175 13/04/2026 10:52:04 a. m.

Smith and Ricardo, only appear in *Capital* III, wherein Marx elucidates the economy-wide falling rate of profit and the associated depressive stage of capitalism. Additionally, more concrete components of surplus value are incorporated, such as the interest and rent, in this unfinished work, which is still unfolding and awaits further exploration.

The CPE differs characteristically from the neoclassical approach and its method of analysis. It commences its analysis at a high level of abstraction, focusing on the LTV. The macroscopic analysis then progressively zooms in, to more concrete levels of abstraction examining phenomena that in neoclassical economics are typically considered microeconomics. In so doing, the LTV forms a solid theoretical and analytical framework paving the way to proceed with the study of both the entire economy and its particular constituent components. Hence, unlike neoclassical economic theory facing really challenging issues related to the 'aggregation problem' which appeared foremost in the famous 'capital theory controversies'. Hence, becomes visible the Hegelian principle of interconnectedness of parts which CPE with the use of the LTV and having solved the issues of income distribution. By contrast, neoclassical economics faces open issues of inconsistency dealing with the measurement of capital goods and the application of the marginal productivity theory of income distribution. Specifically, the marginal productivity theory of income distribution posits that the factor payments must be equal to their marginal product of their respective factors of production. The CPE approach, by starting from a broader perspective and progressively probing into specific levels of abstraction, avoids such shortcomings and provides a solid foundation for economic analysis.

Thus far we outlined the basic features of macroscopic and microscopic analysis as perceived by classical economists. In classical theory, equilibrium or natural prices and quantities are conventionally determined independently, whereas in neoclassical theory, they are concurrently established through the interplay of demand and supply forces. Since in CPE the LTV plays the role of aggregator, it follows that this may turn out to be extremely important in dealing with aggregate variables such as total output, employment, price level and the like rendering the LTV a macroscopic and microscopic analytical device.

07_TSOULFIDIS-CHATZARAKIS_vf26.indd 176 13/04/2026 10:52:04 a. m.

6. SUMMARY AND CONCLUSIONS

The schism between micro and macroeconomics can be traced back to the formation of neoclassical economic theory, which emphasized individual preferences and given endowment of resources, inevitably leading to the concept of optimization and the use of calculus. In this framework, equilibrium prices were intrinsically tied to equilibrium quantities. However, Keynes and his *General Theory* challenged this notion by arguing that the equilibrium level of output could be determined independently of prices. The acceptance of Keynesian ideas resulted in what appeared a quite expected division between microeconomics, focused on price determination and macroeconomics, primarily concerned with determining the level of output. Initially, this division was not only accepted but also considered constructive for the further development of neoclassical economic theory, a view strengthened by the postwar golden age of capital accumulation. However, the stagflation crisis of the late-1960s prompted a reevaluation of this division. Second thoughts arose among neoclassical economists about the desirability of such a separation in economic theory. The neoclassical synthesis version of Keynesianism experienced a loss of credibility due to the lack of microfoundations of macroeconomic theory, prompting endeavors in the early 1980s to reconcile the disconnection between micro and macroeconomics. Neoclassical macroeconomists in their efforts to establish microfoundations for macroeconomics led to a gradual shift towards emphasizing microeconomic principles and marginalizing Keynes's theory of effective demand, which is at the core of his economic analysis. Unfortunately, this focus on microfoundations not only undermines macroeconomic policy but also rationalizes the adoption of austerity measures, exacerbating depressions like the one currently unfolding.

The CPE, in contrast, raises objections to the proposed approach by underscoring the necessity to distinguish between government and households. It draws attention to the well-known 'fallacy of composition', a concept widely discussed in introductory macroeconomics textbooks, which highlights that what holds true for individual parts may not necessarily apply to the whole, especially in the absence of complete homogeneity among all parts or individuals, a point exemplified by Keynes's 'paradox of thrift'. In the same way, Smith's metaphor of 'invisible hand' and Marx's

07_TSOULFIDIS-CHATZARAKIS_vf26.indd 177 13/04/2026 10:52:04 a. m.

notion of "accumulation for accumulation's shake" emerge as outcomes derived from interactions and therefore real competition among individuals, each and every one of them striving for outcomes distinct from those actually established. In these cases, the whole transcends the mere sum of its parts. The final outcome is not what the individual actions sought to attain and it can be considered "independent of men's will" to invoke Quesnay's famous phrase. Moreover, the CPE disapproves of the representative agent concept for oversimplifying individual differences and rejects Rational Expectations due to the inherent uncertainty and neglect of the temporal dimension. Therefore, any analysis which equates government and households must first acknowledge these fundamental distinctions.

The preceding discussion neither advocates the perpetuation of the division between micro and macroeconomics nor endorses the oversimplified amalgamation of the CPE theory of value and distribution with Keynes' theory of effective demand. While Keynes's ideas introduce innovation, they provoke crucial inquiries, which the CPE not only addresses competently but also illuminates deficiencies in Keynes' concepts. More specifically, Keynes tends to over-stress monetary autonomy and introduces elements like 'animal spirits' or 'expectations' as if they were a mere *deus ex machina* to explain economic behavior. In contrast, within the CPE theory, effective demand is comprehended as both cyclical and structural in character, emanating from the foundational process of capital accumulation and profitability. This conceptual framework provides an opportunity to redefine the parameters through which effective demand shapes the economy. Consequently, this sets the stage for a more profound comprehension and refinement of the theory of capital accumulation and cyclical growth (see Chatzarakis, Tsaliki, and Tsoulfidis, 2024). Contrary to Keynesian notions of complete independence between savings and investments, CPE challenges this perspective. It contends that savings are entirely endogenous, suggesting a zero long-run multiplier. By assuming that the multiplier, according to CPE, functions optimally when the savings rate remains constant. Under these circumstances an increase in effective demand yields two outcomes: a short run one according to which we have an increase in production and employment and a long-run one, in which the increase in employment leads to higher wages and reduces profits and the profit and growth rates. By accounting for both short-run and long-run effects, these opposing dynamics are likely to offset each other. ◄

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