The philosophical foundations of Keynes's taxonomy and its contribution to economic pluralism

As bases filosóficas da taxonomia de Keynes e a contribuição ao pluralismo econômico

TAINARI TAIOKA*

RESUMO: Este artigo busca resgatar as bases da ciência moral e da filosofia ética, subjacente ao pensamento de John Maynard Keynes, na tentativa de compreender a construção da nova taxonomia proposta por ele. Neste particular, destaca-se a notoriedade da influência do método filosófico de George Edward Moore no pensamento de Keynes, permitindo a ele reexaminar a sua formação inicial, cuja primeira aproximação com a economia foi a de base ortodoxa enquanto aluno de Alfred Marshall. Assim sendo, pode-se dizer que Keynes utilizou uma metodologia e um historicismo "não padrão", ao importar elementos de fora da disciplina do campo econômico possibilitando uma discussão mais pluralista dentro da ciência econômica.
PALAVRAS-CHAVE: John Maynard Keynes; George Edward Moore; moral; ética; pluralismo econômico.

ABSTRACT: This article seeks to recover the foundations of moral science and ethical philosophy underlying the thought of John Maynard Keynes in an attempt to understand the construction of the new taxonomy he proposed. In this regard, the influence of George Edward Moore's philosophical method on Keynes' thinking is noteworthy, allowing him to re-examine his initial training, whose first approach to economics was orthodox as a student of Alfred Marshall. As such, it can be said that Keynes used a "non-standard" methodology and historicism, importing elements from outside the discipline of economics, enabling a more pluralistic discussion within economic science.
KEYWORDS: John Maynard Keynes; George Edward Moore; morality; ethics; economic pluralism.
JEL Classification: B4; B22.

* Universidade de São Paulo – FEA/USP, São Paulo/SP, Brasil. E-mail: tainaritaioka@gmail.com. Orcid: https://orcid.org 0000-0001-9035-0626. Submitted: 18/April/2024; Approved: 20/May/2024.

1. INTRODUCTION

The majority current of thought within economic science, which stands out from the minority currents of thought, can be called mainstream (Dequech, 2007; Colander, 2000). This term denotes an essentially sociological element within the dominant thinking of its time. Nowadays, the mainstream has been more open to new approaches with some degree of commensurability with orthodox economics, such as game theory, experimental economics, and general equilibrium. However, many so-called heterodox schools of thought are engaged in different approaches that are commensurable with each other but incommensurable with mainstream economics.

More broadly, it can be said that at the beginning of the 20th century, there was greater openness to pluralism in economics as a whole, allowing schools such as institutionalism, Keynesian, and neoclassical economics to compete for space within economic science (Davis, 2007). Subsequently, this pluralist tendency lost momentum because, on the one hand, there was greater formalization in economic models and, on the other hand, the political context resulting from the Cold War strengthened the ideas of neoclassical economics that best suited neoliberal political ideology – in other words, there was a monist tendency (Davis, 2007; Fernandez, 2011; Colander, 2000). However, in the 1960s-1970s, the debate between monetarists and Keynesians again opened space for a more pluralist economic discussion. Methodological, epistemological, and ontological differences from different schools of thought are understood as necessary for successful communication and, therefore, for the benefits of pluralism (Dow, 2004; Lee, 2011).

In this context, in the year 2000, a movement of students and professors began in France, organizing themselves around the demand for a more pluralist economy in universities, reaching many students worldwide. A year after the manifesto started in France, twenty-seven postgraduates (PHDs) from Cambridge University issued a petition arguing in favor of more pluralist teaching; this movement became known as the "Cambridge 27". The petition spread to several countries, including Harvard, in 2003, and the result was a manifesto published at an international meeting of economists and students in Kansas (USA). The manifesto outlined a series of elements that an economist should learn in undergraduate and postgraduate courses, aiming to break away from orthodox dogmatism to follow a more pluralistic line of knowledge closer to the complexity of economic reality (Fullbrook, 2008; Sent, 2006).

In this sense, pluralism in modern methodological thinking, as described by Hands (2001) in what he calls the "new economic methodology," suggests that pluralism is being adopted more widely in economic methodology and within economic practice itself. Proof of this is that around 40 international organizations are currently part of the International Confederation of Associations for Pluralism in

Economics (ICAPE) at theoretical and political levels[1]. In this regard, the various schools of thought play a fundamental role in defending a more pluralistic economy.

According to Waller (2013), convergences between theories can be fruitful as they stimulate thinking by contrasting different ideas. In the case of economic theory, convergence with other approaches, often outside economic science itself, can serve as a disaggregated underlying theory of economic behavior. Therefore, it is understood that, in a way, pluralism for heterodox economics is expressed in a political and humanist claim rather than just an epistemological stance: "Pluralism is here related with respect, dignity, and engagement in conversation, not with truth" (Marqués and Weisman, 2013, p. 80).

Bearing in mind the importance of a pluralist debate within economic science, which is open to various areas of knowledge other than economics, it can be said that Keynes, by focusing on philosophical issues, promoted a pluralist discussion within economics. This paper, therefore, seeks to analyze the philosophical foundations that influenced the taxonomic changes made to Keynes as the promoter of a revolution in the thinking of economic science. It focuses on questions of the real world, having as its central concern the search for knowledge within philosophical and economic conceptions, whose backdrop is moral science and ethical philosophy. According to Davidson (2011), Keynes, a "philosopher-economist," sought to develop a theory whose language was concerned with explaining the significant flaws in the economic system, comprising the problems of "unemployment and the arbitrary and unequal distribution of income and wealth" (p. 24). Therefore, this paper aims to analyze Keynes' contributions to pluralism; in particular, the incorporation of theoretical elements from outside the economic sciences is emphasized, above all through the introduction of philosophical concepts that allowed him to reformulate the basic assumptions of conventional theory.

The article has four additional sections in addition to this introduction. Section 2 seeks to understand the philosophical foundations of the economic ethics that gave rise to Keynes' thinking. Section 3 examines the historical and political context of Keynes' works; more specifically, it investigates the philosophical elements of his main works. Section 4 discusses how Keynes contributes to a pluralist economy, followed by the final considerations.

2. PHILOSOPHICAL BASIS OF THE ORIGIN OF KEYNES' THOUGHT

Keynes' criticisms of (neo)classical theory[2], especially concerning monetary relations, provide clues as to the real consequences for society's material and ethical

---

[1] Available at: <https://icape.org/icape-associates/>. Accessed on: 16 January 2024.

[2] In the history of economic thought, the neoclassical school is understood as an offshoot of the classical school, and its main forerunners were authors such as Leon Walras, William Jevons, Alfred Marshall,

development. Keynes' philosophical foundations can be found in his early reflections on George Edward Moore's work, *Principia Ethica* (1903). "What Keynes principally inherited from Moore was the view that one could intuit, or grasp, in an act of individual judgment, general a priori relationships" (Davis, 1991a, p. 92).

In addition to Moore, the philosophers Bertrand Russell and Ludwig Wittgenstein strongly influenced Keynes' thinking. Both met at Cambridge in the Bloomsbury group of which they were members. The group centered around a community of intellectuals classified as non-conformists, and their beliefs were initially influenced by Moore (Keynes, 1938; Davis, 1994; Carvalho and Lima, 2006). Russell[3], in his book *Principles of Mathematics* (1903), provides a mathematical method that includes the same philosophical bases proposed by Moore. Wittgenstein, in his work *Tractatus Logico-Philosophicus* (1921), emphasizes the importance of social nature, which includes rules and conventions whose philosophical conceptions, to a certain extent, influenced those of Keynes. However, this work will focus on the influence of Moore's method on Keynes, as it is understood that this was the philosopher of most significant relevance in his career, from the young Keynes to his mature phase, as discussed below[4].

For Moore, the good could only be a result (*sui generis*) since simple concepts hide a certain complexity (Davis, 1991a; Mini, 1991). This must have been the most significant contribution to Keynes' thinking: that general actions could be intuited *a priori* from individual judgments. This way, the method becomes more important than the conclusions reached, even if they do not lead to insightful and satisfactory conclusions. "A true philosopher should ask precise questions, make distinctions if necessary, and analyze each term exhaustively" (Cardoso and Lima, 2006, p. 296, translated by the author).

For Keynes (1930), the love of money, a fundamental element of the capitalist economy, stems from the functionality of the stimulus to accumulation once the fundamental economic problem has been overcome, namely survival in satisfactory conditions; henceforth, society would come to understand money as it essentially is: a pathology. This perception attributes a moral and ethical approach to economics, giving it a somewhat optimistic view of human nature. In this sense, once economic problems had been overcome, society would turn to what matters: the art of living and dedicating oneself to beautiful and pleasant things.

In this way, we can see Moore's philosophical basis in Keynes, even though he had a background in (neo)classical theory that did not limit his questioning. It re-examines the essential elements of (neo)classical theory. It contains various contra-

---

John Hicks, and George Stigler. However, Keynes retained the term classical school for this new school of thought. For this reason, for didactic purposes, the term (neo)classical is used in this article.

3 In Keynes' words (CW, X, p. 438-439): "Russell's Principles of Mathematics came out in the same year as Principia Ethica; and the former, in spirit, furnished a method for handling the material provided by the latter. Let me give you a few examples of the sort of things we used to discuss".

4 To understand Keynes' other philosophical axes, see Dostaler (2007, ch. 2).

dictions of a system based on an illogical structure, with the conclusion that his simple deductions were based on an analytical and rhetorical method (Cardoso and Lima, 2006).

Ethics was not a science for Moore since ignorance is part of all human decisions. The effects of an action or choice last for a certain period; therefore, knowledge about the future is unknown, and there is no certainty which of these actions or choices will result in what is good. In the words of Moore (1998):

> However, the primary purpose of Ethics, as a systematic science, is to give correct reasons for thinking that this or that is good, and unless this question is answered, such reasons cannot be expounded. Therefore, leaving aside the fact that a false answer leads to false conclusions, this inquiry is the most necessary and essential part of the science of Ethics (p. 103, translated by the author).

According to Carvalho and Lima (2006), ethics can provide rules shared by common sense. For Moore, practical action can lead to inaction since the consequences of this action can be infinite. For Keynes, even if the future is uncertain, it is still possible to use judgment or intuition to assess the best choice or action to take.

In his early works[5], the young Keynes believed that ignorance was insufficient to make it impossible to understand a rational judgment about action and that rational judgment was possible even in an environment of uncertainty. For Mini (1991), Moore's philosophy provided Keynes with the understanding that analysis need not lead to certainty but rather the avoidance of error.

Dequech (2004) argues that double dimensionality, ontological and epistemological, does not oppose the vision of the young and mature Keynes so that rational judgment can occur even in conditions of uncertainty. This perception forms his understanding of probability, a property on which individuals think about the world, which can be defined in Keynesian terms as the degree of rational belief. We can understand that the concept of rational belief carries a double dimensionality. These elements, inherited from Moore, can be found in the extract taken from the original,

> Whatever view one takes about the particular case of vengeful punishment, it is clear that we have two distinct things here about which (either) separate questions can be asked in the case of each organic unit. The first of these two things can be expressed as the difference between the value of the whole thing and the sum of the value of its parts. Moreover, it is clear that where the parts have little or no intrinsic value [...], this difference will be approximately, or absolutely, identical to the value of the whole thing (Moore, 1998, p. 297-298, emphasis in original, translated by the author.

---

[5] Treatise on Probability (1921); The end of "laissez-faire" (1926); Economic possibilities of our grandchildren (1930).

In Keynes' conception, there is a direct relationship between ethics and world disorder. Virtues such as the individual's sense of justice and creativity and perceptions that seem logical within the rationality of a selfish nature can lead to destructive historical states, wars, and economic crises. "An action can improve someone's chances from a selfish point of view, but it can result in a worse situation when analyzed from the perspective of organic unity, i.e., society as a whole" (Cardoso and Lima, 2006, p. 303, translated by the author). Society is the whole that interacts with the parts and affects each other because individuals are part of this society; therefore, "the state in which the latter also influences the state of individuals" (op. cit., p. 303, translated by the author).

For Moore, there is no connection between ethics and behavior because political or economic action does not have an ethical justification since the commitment is imposed from the outside in, i.e., it is not contained in ethics. Moore criticizes the concept of utilitarian calculation as a form of conduct because "in practice, it is impossible because we cannot calculate the consequences in a complex world in which the consequences of our actions continue infinitely." (Cardoso and Lima, 2006, p. 297, translated by the author). In the words of Moore (1998):

> Many utilitarian arguments involve the logical absurdity that what is here and now never has any value in itself but is only to be judged by its consequences, which, again, of course, when they happen, would have no value in themselves, would only mean to a still distant future, and so on ad infinitum (p.195, emphasis in the original, translated by the author).

Realizing that actions cannot be guided by good conduct, Moore (1998) proposes following conventions as a kind of conformity since many individuals in society follow them; therefore, conformity in following them would be the best thing for society as a whole. In this respect, Keynes (1926, 1936, 1936b) defends the functionality of the use of conventions by emphasizing the concept of uncertainty and the abandonment of the rationality of *homo economicus*, whose rationality is complete; in this sense, he resinifies the conception of the rational being. The influence of Moore's method is noticeable throughout Keynes' works. If we look at the historical context of each period, we realize that the young Keynes was more concerned with philosophical arguments, and his more mature works show more significant concern with economic and political outcomes; on the other hand, he does not abandon the methodological and ethical foundations of his early works. This will be the subject of the next section.

3. HISTORICAL CONTEXT AND CHANGES THROUGHOUT KEYNES' WORKS

According to Caldwell (1994), analyzing the historical moment is fundamental to understanding the emergence of a school of thought since experiment or empirical experience cannot form a particular theory in isolation. In this sense, "The reproduction of ideas involves the social, political, and economic structures of the academic and policymaking establishments in which ideas are developed and transmitted" (Colander et al., 2004, p. 488)[6]. On the other hand, for John Stuart Mill (*On Liberty*, 1869), commitment to pluralism involves defending plurality and the individual pluralist attitude. Mill argues that diversity is crucial for pluralism, and his main concern is not with knowledge but political and humanist freedoms (Marqués and Weisman, 2013).

Given this, Keynes developed his theory and wrote his main work, *The General Theory of Employment, Interest, and Money* (henceforth GT), in the context of the economic crisis (1930s crisis). Thus, his concern was to solve the problem of the situation at the time, in which the (neo)classical theory did not provide the necessary answers. According to Ferrari Filho and Terra (2016, p. 72, translated by the author), Keynes "focussed on economic phenomena by observing the historical time of the real world." Keynes' method corroborates the idea of the real world. For him, the conventional method of normal science does not contemplate his pragmatism "because time and change, in short, historicity and uncertainty, ended up conditioning decision-making" (p. 73).

This new conception allowed Keynes to modify the (neo)classical assumptions for describing the economy. One of his main reinterpretations was the inversion of the logic of production, from the supply side to the demand side, and the reconstruction of the foundations of the capitalist economy. As a result, he presented an alternative to the methodological and epistemological bases of (neo)classical economics, broadening the economic debate. In Mill's terms, Keynes presented a pluralist attitude when describing economic complexity. In Keynes' own words:

> The celebrated optimism of traditional economic theory has led to economists being looked upon as Candides, who, having left this world for the cultivation of their gardens, teach that all is for the best in the best of all possible worlds provided we will let well alone, is also to be traced, I think, to their having neglected to take account of the drag on prosperity which an insufficiency of effective demand can exercise, for there is a natural tendency towards the optimum employment of resources in a Society which was functioning after the manner of the classical postulates. The classical theory may represent how we should like our economy to behave. However, assuming that it does so is to assume our difficulties away (Keynes 1936, p. 33-34).

For Carabelli (1991), Keynes's method does not dissociate theory from economic practice. For this reason, his theory is motivated by understanding and

[6] At a particular political moment, such as the Cold War, the school that best represented political interests prevailed over other approaches, as was the case with the neoclassical school.

transforming reality, which occurs due to changes in a society's beliefs, conventions, opinions, and behavior. According to Cardoso and Lima (2008), Moore's influence can be seen in formulating the savings paradox, forming expectations, and analyzing the multiplier effect. These concepts will be revisited below.

It is worth emphasizing again that, besides Keynes' economic conceptions, his theoretical foundations include philosophical perceptions about monetary relations in the production process and his concerns about promoting society's well-being. In his work *The End of Laissez-Faire* (1926), the ethical basis of Keynes' philosophy and his understanding of economics as a moral science is evident. In Keynes' own words:

> [...] the conclusion that individuals who act independently for their own good produce more wealth depends on a series of unrealistic assumptions regarding the inorganic nature of production and consumption processes, the existence of sufficient prior knowledge of their conditions and requirements, and the existence of adequate opportunities to obtain this prior knowledge (p. 117, translated by the author).

According to Keynes (neo)classical[7] Economists start from an ideal assumption and then analyze whether the facts match reality, i.e., they start from the model they would like to represent reality rather than building the model from reality. However, "the world is not governed from above in such a way that private and social interests always coincide" (op. cit., p. 120, translated by the author). For Keynes, individuals acting with particular objectives will not achieve the common good since their objectives are highly ignorant; acting separately does not make individuals more enlightened than acting together.

Keynes stated that the state should correct market failures and regulate the market; to do this, he proposed a social organization that would link individual interests with the public welfare, which would give the state the guarantee of promoting progress and development. In addition, Keynes believed that the state's agenda should serve social interests, i.e., "those decisions that nobody takes if the state does not" (op. cit., p. 123, translated by the author). It is up to the state to act

[7] The individual rights presumed by the social contract, the new ethics, which was no more than a scientific study of the consequences of rational self-love, placed the individual at the center of the world" (Keynes, 1926, p. 106). Inspired by the Enlightenment, such as Hume and Locke, the divine origin of sovereign power and morality inspired by Christian philosophy gave way to the concept of the individual and made room for utilitarian calculations. This promoted the idea of freedom with guarantees for property rights. Individualism and political liberalism tended towards laissez-faire; anything the state did beyond its minimum functions would be more harmful than virtuous for society. The doctrine was well aligned with the interests of 18th-century business people, that of free trade. "I do not know which makes a man more conservative: knowing only the present, or knowing only the past" (Keynes, 1926, p. 111, translated by the author). Darwinist concepts were added to laissez-faire to strengthen the concept of competition. For the (neo)classics, the love of money will ensure that economic resources are distributed in the best possible way, with the most skillful achieving the best results given the individual efforts they expend.

where the private initiative has no interest – these are the "technically social" services. In his words,

> Many of our time's most significant economic evils result from risk, uncertainty, and ignorance. It is because specific individuals, fortunate in their situation or aptitudes, can take advantage of uncertainty and ignorance, and also because, for the same reason, big business is often a lottery, that significant inequalities of wealth arise. These same factors also cause workers' unemployment or disappointment in the reasonable expectations of the business community, as well as a reduction in efficiency and production. However, the cure lies outside the activities of individuals; it may even be in their interest for the disease to worsen (Keynes, 1926, p. 123, translated by the author).

As such, economics should be part of political science and placed at the service of society to build an ethical and moral rationality in which the common good takes precedence over individual interests. The central point of his work, *Economic Possibilities for our Grandchildren* (1930), emphasizes that when wealth accumulation is overcome, society's concerns can be directed towards well-being; at this stage, the love of money can only be recognized as a pathology.

Understanding the function of money in society from the moral aspect of the economy is precisely what led Keynes to abandon the idea of the neutrality of money. In this respect, the relationship established between individuals and money involves, in addition to practical aspects, a psychological foundation; it is from this motivation that the notion of preference for liquidity and the ability of money to remain with specific stability over time arises. The love of money would then be based on its power, allowing the individual to manipulate certain fundamental elements to modify social relations in a way that suits them best. Therefore, the consequences of individual choices can be made for the good or ill of the others who make up society.

Nevertheless, Keynes (1930) believed that the efficiency of capital accumulation and rapid technological changes would increase progress, making it possible to improve society as a whole. However, human needs seem insatiable, given that consumer desires. In addition to satisfying absolute needs, they have the purpose of maintaining social status, and this will be increasingly unattainable the higher the general level of social welfare; he nevertheless believed that when absolute needs are satisfied, human beings will prefer to devote their time to non-economic activities.

When wealth accumulation is no longer the central concern, it will be possible to overcome social inequalities, and the love of money will only be seen as a pathology. However, to make this possible, individuals must eliminate old social customs, conventions, and economic practices that are only useful when promoting capital accumulation. As Keynes (1930) emphasizes, "[…] life will only be tolerable for those who have something to do with singing – and how few of us there are who can sing" (p. 156, translated by the author). Society will have to relearn how to live, devote fewer hours to work, and understand that there is no harm in experimenting with the arts of life. It would then be possible to worry about the "leisure that science and compound interest will have won for you to live well, wisely and pleasantly" (p. 156, translated by the author).

On the other hand, leaving the market to act by its mechanisms, in which each individual acts according to their interests, will not lead to a state of well-being for society, as (neo)classical economics wants. The moral conception attributed by Keynes to the economic sciences, to a certain extent, aims to mitigate the instabilities of the capitalist system in order to achieve a state of well-being. In this respect, Keynes believed that rational individuals are not only those who act selfishly but that one can be rational within an altruistic understanding – underlying the organic whole.

In *The General Theory of Employment* of 1937, Keynes explains the paradox of savings, in which he modifies the (neo)classical logic, considering savings as the part allocated to non-consumption, its increase can reduce aggregate demand; therefore, it can be said that excess savings is one of the causes of unemployment. According to Keynes, "Only a form of consequentialism open to a non-numerical form of probability and guided by the 'weight of argument' and 'moral hazard' could serve as a general theory of rational behavior" (Cardoso and Lima, 2006, p. 302, translated by the author). Calculation presents a limitation since reason seeks alternatives that include intuitive judgment.

In this sense, understanding economics involves perceiving it as an extension of ethics and morality[8]. According to an extract from *The General Theory and After* (CW, XIV):

> I also want to emphasize strongly the point about economics being a moral science. I mentioned before that it deals with introspection and with values. I might have added that it deals with motives, expectations, and psychological uncertainties. One has to be constantly on guard against treating the material as constant and homogeneous (p. 300).

The way of thinking about economics must include the principles of logical extension, which includes inductive, intuitive, and probabilistic thinking, "as against Robbins, economics is essentially a moral science and not a natural science. That is to say, it employs introspection and judgments of value" (op. cit., p. 297). Thus, for Keynes, economics is an inexact science that presents a series of difficulties in formulating a numerical measurement of aspects observed in the real world, such as motivation and expectations. Keynes' understanding of economics as a moral

---

[8] According to O'Donnell (1989), the sciences are united by the department of philosophy, which is divided into two levels: moral science and natural science. The first refers to the mind and behavior, understanding individuals as subjects and thinking beings. The second utilizes matter and life, verifying individuals as inanimate beings without consciousness.

science is fundamental to formulating his theory, as he breaks with utilitarian theory and laissez-faire.

In *My Early Beliefs* (1938), Keynes admits to the influence of the philosopher Moore in shaping his expectations of the world. In his words: "I went up to Cambridge at Michaelmas 1902, and Moore's Principia Ethic a came out at the end of my first year [...] But, of course, its effect on us, and the talk which preceded and followed it, dominated, and perhaps still dominate, everything else" (p. 435)[9]. According to Davidson (2011), this taxonomy enabled Keynes to modify his thinking in opposition to the (neo)classical assumptions, which were the basis of his training at Cambridge as a student of Alfred Marshall. "The influence of Moore's method led Keynes to his revolutionary formula for thinking about economics" (op. cit., p. 23, translated by the author).

Although the (neo)classical approach deals with the individual as the central element, moral issues are disregarded, and the analysis of society is given a similarity to the atoms contained in the natural sciences. Thus, by confronting economics with the real world, economic reality is given an inseparable element that permeates its definition: uncertainty. According to Cardoso and Lima (2006), the atomistic method attributed to the natural sciences seems limited in economic science. Keynes relies on intuition and judgment as an alternative in which incorporating moral aspects does not lead to an irrational theory. "More than logical deductions from models are required, and here one enters the field of Political Economy, full of empirical uncertainties and where the selection and weight given to important facts are affected by value judgments" (op. cit., p. 301, translated by the author). The following section seeks to deepen the essential elements that Keynes attributes to economics, understanding it as a moral science. Therefore, it is understood that he contributed to a more pluralistic discussion.

4. KEYNES' CONTRIBUTIONS TO A PLURALIST ECONOMY

Methodological pluralism has become a well-accepted practice among methodologists. For Hands (2001) and Davis (2007), the old practices of finding general rules to delimit science from non-science have been superseded and have given way to a new economic methodology. This movement occurred not only within scientific methodology but also within economic theory itself.

In this sense, Davis (2007) categorizes methodology into three revolutions: i) positivism, ii) the rejection of positivism, and iii) descriptive logic. In the first, Popper's positivist logic of synthetic analysis was unable to provide adequate answers

---

[9] "It was all under the influence of Moore's method, according to which you could hope to make essentially vague notions clear by using precise language about them and asking exact questions. It was a method of discovery by the instrument of impeccable grammar and an unambiguous dictionary" (Keynes, CW, X, p. 440).

to the new methodological questions. The second is characterized by post-modern criticism of the scripting of science and proposes finding predictable solutions within paradigms; in this respect, science and its methods evolve, opening up space for new paradigms. In the third revolution, the paradigm becomes contingent, i.e., a set of broad tools is needed to carry out analyses to include social issues, which leads to a double movement between science and society in which both mutually influence each other. The concept of a single paradigm gives way to a new economic methodology (Hands, 2001).

However, Davis (2007) still works with the idea of overcoming the third revolution since economic theory has changed, and new research programs seek elements from other sciences. In this respect, Keynes falls within the third methodological revolution by including social aspects in his theory (Hands, 2001). Furthermore, by bringing in new elements from other sciences, he broadened the axis of scientific inquiry, which, in turn, fit in with the overcoming of the third revolution, as described by Davis (2007).

Furthermore, according to Dow (2004), in addition to methodological pluralism, structural pluralism has also become fundamental to the economic discussion by incorporating the analysis of the existence of systems that can be classified into two types: open systems and closed systems. Structural pluralism follows the specific argument of the language used, which derives from a particular understanding of schools of thought and pluralism.

On the one hand, Keynes' epistemology developed based on the ontology of open systems described by the characteristics of structural pluralism. Understanding reality through mechanisms involving human actions carries individual beliefs that affect the conception of the world. In this sense, open systems are essentially social systems that evolve by incorporating human knowledge: "Human action in turn (whether at an individual or social level) requires reasoned justification, just as do the conclusions of scientific inquiry" (Dow, 2004, p. 284). However, these are not chaotic systems, as institutions and habits of behavior show specific stability within systems.

On the other hand, it is argued that economists can only test their theories without experimentation by assessing whether there is internal consistency. However, this can only be assessed in a closed system. A consistent system does not mean it includes a theory ontologically corresponding to social reality.

> If there is no check on the realism of the assumptions/axioms, the method of theory construction, the applicability of the type of logic employed (always classical logic in these cases) or the closure chosen, the result can be a structure which can equally easily either illuminate or falsify the characteristics of the real world (Chick and Dow, 2001, p. 6).

The structures of open models, such as Keynesian models, are often unstable since observing phenomena in practice involves a series of variables that move simultaneously, generating unstable systems that change as new elements are added or altered. In the words of Chick and Dow (2001),

> If human nature and the social world more generally are understood as an open system, in the sense that economic agents learn and innovate and that the institutions and conventions which shape economic actions evolve through time, it is necessary to explore the relationship between results obtained under conditions of closure to this open-system reality (Chick and Dow, 2001, p. 7).

It can be seen that within the Keynesian conception and the post-Keynesian school, systems are complex and dualistic. That is, theory affects reality in the same way that reality affects theory. Furthermore, systems are dynamic and change over time. Changes in society's reality bring new problems that need new solutions.

Similarly, it can be understood that the third methodological revolution has allowed economics to be understood as a social and human science and that it must be read incorporating new elements that may come from other fields of science – this plurality of ideas helps in explaining and understanding social reality (Davis, 2007). Keynes contributes to pluralism in economics since, throughout his works, he builds his thinking by rescuing elements from a philosophical base that allowed him to create a new taxonomy capable of countering (neo)classical theory.

According to Corazza (2009), Keynes was based on the ontology for which reality is only the result of isolated individuals' interaction and abstract concepts involving social aspects such as classes, religion, and tradition. In this conception, the holistic method[10], as used by Keynes, is opposed to methodological individualism; in this method, the reality is interpreted as something complex about the parts that make it up – moral and ethically based aspects[11]. The whole cannot just be the sum of the parts because it is something more significant and depends on them: the whole makes up the parts. In this respect, the importance of Moore's philosophy in Keynes' holistic method is again evident and can be identified throughout his early and more mature works.

In *A Treatise on Probability* (hereafter TP) of 1921, Keynes adds to the discussion the concept of the weight of the argument, which would determine the relationship between absolute relevant knowledge and relevant ignorance. Keynes makes it clear in the first pages of his book how premises are formed,

---

[10] According to Bresser-Pereira (2012), Keynes used the historical-deductive method since he did not share the Platonic belief that there is an intrinsic rationality to the individual. In this sense, Keynes was an Aristotelian because he believed in an external and contradictory reality, and the interpretation of reality is not perfect, so rationality is limited. This conception becomes clear in GT when Keynes (1936) defines the concept of uncertainty and works with probability, adding subjectivity to it. In this respect, probability is formed by the degree of rational belief about the available knowledge.

[11] Chick (1992), in their twelve essays, discusses Keynes's method and historical particularities.

> Given the body of direct knowledge which constitutes our ultimate premisses, this theory tells us what further rational beliefs, certain or probable, can be derived by valid argument from our direct knowledge. This involves purely logical relations between the propositions which embody our direct knowledge and the propositions about which we seek indirect knowledge. What particular propositions we select as the premisses of our argument naturally depends on subjective factors peculiar to ourselves; but the relations, in which other propositions stand to these, and which entitle us to probable beliefs, are objective and logical (op. cit., p. 3).

For Davis (1991a), Keynes presents two aspects of thought that help shape the degree of rational belief based on individual perceptions within humanist logic: subjective and objective. He develops the theory of probability based on the knowledge that is obtained through the experience of individuals, in which the weights of arguments are submitted to logical intuition; in this, objective and subjective elements are incorporated. This crucial concept separates moral science, which has an ethical, philosophical basis, from natural science, whose underlying axis of analysis is atomistic nature.

Under these conditions, new evidence can change not the probability outcome but its degree of belief, that is, the degree of confidence in a premise. In this way, uncertainty is defined by the degree of "completeness," or the more significant body of direct knowledge related to the body of information available during decision-making.

> Formal logic can sustain robust expectations only if we trust the premises to be correct. When we know some (perhaps most) of the premises to be no more than figments of imagination, human logic comes to the fore, the weight of arguments becomes relevant, and uncertainty finds its place alongside probability in Keynes's sense (Carvalho, 1988, p. 76).

Formal logic, in the sense of human rationality and the role of the weight of the argument, reappears in the GT when Keynes (1936) defines the state of confidence. Therefore, The social world is non-deterministic since social reality, or social logic, exists outside the observer's mind but not of the agents themselves. Uncertainty is rooted in the social process, which guides agents and evolves.

This logic appears in investment decisions. Entrepreneurs risk their monetary resources to increase their wealth in the future; "a large proportion of our positive activities depend on spontaneous optimism." Investment decisions can only occur as "the result of animal spirits – of a spontaneous urge to action rather than inaction, and not as the outcome of a weighted average of quantitative benefits multiplied by quantitative probabilities" (Keynes, 1936, p. 161-162).

However, given that the future is uncertain, even with a high degree of confidence, expectations can still be frustrated because new events, impossible to predict, can frustrate these expectations. "But, as Keynes pointed out, to do that, they [businessmen] face uncertainty, and, for that reason, they have no alternative but to resort to a mix of reasoning and intuition, courage and ambition, which he called "animal spirits" (Bresser-Pereira, 2012, p. 10).

Therefore, social wealth can only be increased if entrepreneurs are encouraged to mobilize their resources in new ventures. "Entrepreneurs, however, are participants in a transient organic unit, which affects their mood and decisions" (Terra and Ferrari Filho, 2011, p. 282, translated by the author). Furthermore, the trajectory of the product and the level of employment, essential elements for well-being, depend on the motivations of entrepreneurs given the historical trajectory of society, which is contained in the philosophical construction between the individual and society.

In investment decisions, social logic dominates formal logic, and induction is impossible, as it is impossible to know precisely whether production expectations will be met. On the other hand, the premises are more specific in production decisions. In this way, formal logic can excel in forming expectations, preserving the possibility of induction. Production decisions are continuous and more accessible to predict since the plant, machinery, and equipment are known; thus, long-term decisions reduce uncertainty through the formal logic of probability (Carvalho, 1988).

Keynes (1921) argued that the atomistic hypothesis is suitable for the natural sciences but does not apply to the social sciences and, consequently, does not apply to economics, given that economic science is understood as a moral science, a la Moore. For Keynes, when experience resulting from repetition and uniformity leads to a belief in the inductive hypothesis, confidence in individualism grows – this refers to the weight of the argument. He also rejects the proposition of objective probability and criticizes attempts to reduce the subjective probability to the mercy of mathematical probability (Carabelli, 1988).

However, it should also be emphasized that the organic system in Keynes' conception understands that the nature of the individual is interconnected with the actions of other individuals and can also change when there is a change in the group's actions. It is argued, based on Keynes' organicist view, that there is no way of knowing what the impact of an individual decision will be on the level of aggregate demand without first knowing the effect of all the decisions, in other words, the effect, on the whole, will only be known once aggregate demand is known: "the organic interdependence between the individual decision and the aggregate decision is established" (Corazza, 2009, p. 5, translated by the author).

Furthermore, according to Oreiro and Ono (2007), economics is a social science that deals with human behavior and is, therefore, unable to explain reality accurately using models. Such models are simple and open-ended with limited predictive power because individuals can choose in a world full of uncertainties.

It is worth returning to the concept of uncertainty in Keynes, which is fully defined in his article published in *The Quarterly Journal of Economics* (1936b). The concept of uncertainty is based on the inability of individuals to predict future events. According to Herscovici (2002b), when investing, entrepreneurs formulate their expectations of future gains; their actions depend on the degree of confidence in their expectations, and they follow a path of dependence.

In this way, the existence of path-dependence processes refers to the irreversible nature of the system given the historical process. In this sense, the past becomes irrevocable, as it cannot be reproduced precisely since the initial conditions are no longer the same. The future, in turn, belongs only to the imagination of the agents – ex-ante, the future doesn't exist yet. Nevertheless, recognizing the existence of path dependence implies assuming the non-ergodicity of the economic system, which is, therefore, the ontological magnitude of uncertainty (Davidson, 1982-83, 1987, 1988).

In short, knowledge is essential for a proper understanding and clear perception of the origins of the theoretical elements taken as truths within a given theory. However, a monistic tendency can lead to losing certain conceptions because there are no opposing views. "Rival theories and points of view are, then, something valuable by themselves, even when we know that they are wrong. Plurality not only should be tolerated; it must be systematically promoted" (Marqués and Weisman, 2013, p. 80). In this respect, it can be seen that Keynes made a significant contribution to economics by presenting a new theoretical concept. As such, it can be defined that Keynes contributed to pluralism by being sympathetic to other views and open to listening to them. These new elements he achieved resulted from a fruitful conversation with other approaches to science.

5. CONCLUSION

Keynes was concerned with understanding and explaining the history of the real world. The holistic method inherited from Moore and his conception of science as an underlying framework of moral and ethical philosophy was defended and used by Keynes to investigate rationality and human epistemological behavior. These aspects of his vision can be seen in his initial works, in which there is an author more focused on philosophy, but also in his more mature works, especially in his GT, in which the author ultimately defines the essential concepts of Keynesian theory: uncertainty, animal spirits, and conventions. Historicism is built from the capitalist structure itself and the real world. In this particular, its method differs from methodological individualism, in which reality results from the interaction of isolated individuals and abstract concepts that involve social aspects. He modifies the notion of rationality by admitting human ignorance regarding future events and attributes to the notion of probability the weight of the argument that, in addition to objective issues, also involves issues of human subjectivity.

Furthermore, the impacts that the Keynesian theoretical framework, especially GT, was capable of causing in terms of scientific revolution are undeniable. This approach achieved internal changes in mainstream economics despite the language of both schools presenting incommensurable elements with each other. Still, some hypotheses from Keynes' theory were translated into the language of traditional economics, as is the case with the IS/LM approach proposed by Hicks. Later, the uncertainty factor was also incorporated, one of the landmarks of Keynesian economics, which was translated by mainstream economics as a risk factor.

However, the attempt to incorporate Keynes' ideas into mainstream economics distances itself from the fundamental philosophical principles underlying the young Keynes' taxonomy of moral economy contained in his first impressions of Moore's work, as well as the organicity of the system that encompasses the notion of ignorance as the inability to know what is yet to come, that is, the future. It is also essential to highlight the variety of schools of thought that evolved from Keynes, such as the studies by Cambridge authors, such as Robinson-Kaldor-Pasinetti, from which demand-led growth models originated; neo-Keynesians, neo-Kaleckians, Sraffians, and structuralists, in addition to the entire post-Keynesian framework that encompasses several macroeconomic themes, including the monetary system, inflation theory, income distribution, and inequality.

Therefore, Keynes's most significant contribution to a pluralistic economy was as a philosopher-economist, as it was within this worldview that he expanded the economic debate by incorporating elements from other sciences. In this way, Keynes promotes a change in the field content of economic sciences by modifying the "non-standard" methodology and historicism, importing elements from other areas of knowledge, and breaking with the bases of his formation, essentially (neo)classical; and formulate a new taxonomy that inverts the economic logic based on laissez-faire to the notion of aggregate demand, therefore modifying the notion of savings and investment and the determinants of the level of employment. Furthermore, he sought to deeply understand the monetary economy and the currency paradox, the love of money, and making money.

REFERENCES

BRESSER-PEREIRA, L. C. (2012). "Why Economics should be a modest and reasonable Science" Journal of Economic Issues, v.XLVI, nº2: 291-301, June.

CALDWELL, B. (1994) Beyond Positivism: Economic Methodology in the Twentieth Century. London: Routledge (Cap. 13).

CARABELLI, A. (1991). "The methodology of the critique of the classical theory: Keynes on organic interdependence". In: Bateman, Bradley W.; Davis, John B. (eds.), Keynes and philosophy. Edward Elgar.

CARABELLI, A. (1988). On Keynes's method. London: Macmillan Press.

CARDOSO, F.; LIMA, G. T. (2008). A visão de Keynes do sistema econômico como um todo orgânico complexo, Anais Eletrônicos do XXXIII Encontro Nacional de Economia (Anpec), Natal, Dezembro.

CARDOSO, F.; LIMA, G. T. (2006). "Diagnosticando Patologias Monetárias: Seus Impactos sobre a Atividade Produtiva na Visão de Keynes e Veblen". Estudos Econômicos, São Paulo, v. 36, n. 2, p. 293-321, ABRIL-JUNHO.

CARVALHO, F. J. C. (1988). "Keynes on probability, uncertainty and decision making". Journal of Post-Keynesian Economics, v. 11, nº1: 66-81.

CHICK, V.; (1992). On Money, Method and Keynes. Palgrave Macmillan London. 1 ed, XVI, 227.

CHICK, V.; S. DOW (2001). "Formalism, logic and reality: a Keynesian analysis." Cambridge Journal of Economics, v. 25, nº 6: 705-721.

COLANDER, D.; HOLT, R.; AND ROSSER, J.B. (2004) "The Changing Face of Mainstream Economics". Review of Political Economy, vol. 16, n.4, p. 485–499.

COLANDER, D. (2000) "The Death of Neoclassical Economics" Journal of the History of Economic Thought, 22 (2):127-143
CORAZZA, G. (2009). "Aspectos metodológicos do pensamento de Keynes". Anais do 37° Encontro Nacional de Economia. Foz do Iguaçu: ANPEC.
DAVIDSON, P. (2011). John Maynard Keynes. Grandes pensadores da economia. São Paulo: Actual Editora.
DAVIS, J.B. (1989-1990). "Keynes and organicism". Journal of Post Keynesian Economics, v. 12, nº 2: 308-315.
DAVIS, J.B. (1991a). "Keynes's view of economics as a moral science". In: Bateman, Bradley W.; Davis, Jonh B. (eds.), Keynes and philosophy. Edward Elgar,1991a.
DAVIS, J.B. (2007). "The turn in economics and the turn in economic methodology". Journal of Economic Methodology, vol.14, n.3, p. 275-290.
DEQUECH, D. (2004). "Uncertainty: individuals, institutions and technology". Cambridge Journal of Economics, v. 28, n. 3, p. 365-378.
DEQUECH, D. (2007) "Neoclassical, mainstream, orthodox, and heterodox economics". Journal of Post Keynesian Economics, 30(2): 279-302
DOSTALER, G. (2007). Keynes and his Battles – Edward Elgar – Cheltenham (UK).
DOW, S. (2004) "Structured Pluralism". Journal of Economic Methodology, vol.11, n.3, p. 275–290
HANDS, D. W. (2001). "Economic Methodology is dead – Long live to economic methodology". Journal of Economic Methodology, vol. 8, n.1, p.49-63.
KEYNES, J. M. (1921). Treatise on Probability. London: MacMillan and Co.
KEYNES, J. M. [1926]. "O fim do 'laissez-faire'". In: Szmrecsányi, Tamás (org.), John Maynard Keynes. Editora Ática, 1984
KEYNES, J. M. [1930]. "As possibilidades econômicas de nossos netos". In: Szmrecsányi, Tamás (org.), John Maynard Keynes. Editora Ática, 1984.
KEYNES, J. M. [1936]. The General Theory of Employment, Interest and Money. Nova York: HBJ Book, 1964.
KEYNES, J. M. (1936b) "The general theory of employment", Quarterly Journal of Economics, 51 (2): 209-223.
KEYNES, J. M. [1937]. "A teoria geral do emprego". In: Szmrecsányi, Tamás (org.), John Maynard Keynes. Editora Ática, 1984.
KEYNES, J. M. [1938]. "My early beliefs". In: Moggridge, D. (ed.), The collected writings of John Maynard Keynes. V. X. London: Macmillan, 1972.
KEYNES, J. M. "The general theory and after". Part II: Defense and development. In: Moggridge, D. (ed.), The collected writings of John Maynard Keynes. V. XIV. London: Macmillan, 1973.
MARQUÉS, G.; WEISMAN, D. (2010) "Is Kuhnean incommensurability a good basis for pluralism in economics?" In Garnett, E.; K. Olsen, and M. Starr eds. Economic Pluralism. London: Routledge, p. 74-86
MINI, P. (1991). Keynes, Bloomsbury and the general theory. Basingstoke: Macmillan.
MOORE, G. E. (1998). Principia Ethica. São Paulo, SP: Ícone Editora.
O'DONNELL, R. M. (1989). Keynes: philosophy, economics & politics. London: Macmillan.
OREIRO, J.L; ONO, F.H. (2007). "Um Modelo Macrodinâmico Pós-Keynesiano de Simulação". Revista de Economia Política, Vol. 27, N.1.
ROTHEIM, R. J. (1989-1990). "Organicism and the role of individual in Keynes's thought". Journal of Post-Keynesian Economics, v. 12, nº 2: 316-326.
TERRA, F.; FERRARI FILHO, F. (2016). "Reflexões sobre o método em Keynes". Revista de Economia Política, v.36, n. 42 (142), jan-mar.
TERRA, F.; FERRARI FILHO, F. (2011). "As disfunções do capitalismo na visão de Keynes e suas proposições reformistas". Rev. Econ. Contemp., Rio de Janeiro, v. 15, n. 2, p. 271-295, mai-ago.
WALLER, W. (2010) "Is convergence among heterodox schools possible, meaningful, or desirable?" In Garnett, E.; K. Olsen, and M. Starr eds. Economic Pluralism. London: Routledge, p.48-60.