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Lionel Robbins on the Definition and Subject-Matter of Economics: Some Critical Observations

Khandakar Elahi

Abstract. *In "An Essay on the Nature and Significance of Economic Science," Robbins challenged the classical conception of economics, which he called "materialist." He replaced this classical idea with the "scarcity" concept: "*Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses." The definitions of economics we find in modern textbooks are variants of Robbins' statement, and the catchphrase that has finally emerged from this controversially acclaimed definition is: "Economics is a science of choice." This paper represents a *critique that systematically examines Robbins' century-old adage to argue that Robbins' thesis is logically indefensible for many reasons, including the fact that the definition of science cannot be derived from its subject-matter, which expands as time passes; the subject matter of a science is supposed to be implied by the definition. However, the most damaging influence of Robbins' conception on modern economics is his submission that the discipline is free from all moral obligations because it is a science. Following this submission, some prominent economists have devoted their personal and private time and society's resources to research that serves little social welfare. Some of it indeed contradicts society's legal and judicial system.*

Keywords: *microeconomics, homo economicus, macroeconomics, health economics, health policy, medical care industry*

Introduction

One of the longest-lasting controversies in economics concerns its definition and subject-matter. In his controversial classic, *An Essay on the Nature and Significance of Economic Science*, Robbins (1932) introduced this debate by challenging the conventional wisdom about the definition and the subject-matter of the study. This conventional wisdom, according to Robbins, is the materialist definition, which argues that the main objective of studying economics is to promote the material welfare of society and its ordinary people. Thus, the subject-matter of economics is confined to the study of production, consumption, exchange and distribution of material goods and services. The most representative account of this view is Marshall's definition: "Political Economy or Economics is a study of mankind in the ordinary business of life; it examines that part of individual and social action which is most closely connected with the attainment and with the use of the material requisites of well-being (Marshall, 1890, p. 6)."

University of Guelph, PhD in Agricultural Economics, Guelph, Canada
E-mail: kelahi53@gmail.com
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Robbins rejected the Marshallian conception on two grounds. First, economics is free from moral judgements because it is a science. Second, the materiality constraint on the definition of economics is logically indefensible because many activities, performed in modern economies, do not directly involve material goods production. However, they satisfy all the criteria by which an activity is qualified as 'economic.' To Robbins, any activity is eligible for economic investigation if it meets those criteria.

This debate over a 'concise' definition of economics has created a sort of frustrating situation in the profession. For example, the famous Chicago economist Jacob Viner sarcastically said, 'Economics is what economists do.' This is simply a satire because it is a circular statement. Frank Knight converted this satire into a full circle by adding, 'economists are those who do economics (Buchanan, 1979). Nowadays, some economists downplay the importance of this disagreement under two pretexts (Backhouse & Medema, 2009a; 2009b). First, modern economics deals with so many issues that any 'concise' definition would be 'inadequate' to embrace them all. Second, this never-ending definitional disagreement does not necessarily pose a serious problem for the subject, because 'economists are generally guided by pragmatic considerations of what works, not by formal definitions.'

The view, which diminishes the importance of the long-standing disagreement, seems both inadequate and unclear. Economic activities in modern times are much more diverse and complex than they were when Adam Smith conceived the discipline. However, this fact does not suggest that the activities and events, which Smith qualified by the adjective 'economic,' are different today in terms of their fundamental features. There is no evidence that the denotation of the word has been substantially reformed through its connotation.

However, the fact that the debate has persisted for so long suggests that something is missing; critics as well as admirers of Robbins' conception seem to have overlooked critical points that have prevented them from reaching a satisfactory resolution of the controversy. This paper argues that there is at least one missing point that deserves our critical attention. Robbins has used the terms 'definition' and 'subject-matter' interchangeably, which is confusing because they are two different words that signify two different ideas. This paper examines this overlooked issue. The paper has been organised into four sections, including the present one. The next section summarises Robbins's chain of reasoning that led him to formulate and justify his definition. This chain of reasoning is critically examined in Section III in the light of the conceptual distinction between 'definition' and 'subject-matter' of economics. Finally, the paper is concluded in Section IV with some closing comments.

II. Robbins on the definition and the subject-matter of economics

In the preface to the first edition of the *Essay*, Robbins informs the readers that he has two purposes for writing this book. First, it furnishes the 'precise notions about the subject-matter of economic science and the nature of generalisations it consists of'. Second, it explains the limitations and the significance of these generalisations, which would help interpret the reality and serve as a guide for political practice.' To accomplish this purpose, Robbins divides the *Essay* into six chapters. In this paper, we are concerned with the first one, titled 'The Subject-Matter of Economics". The most important aspect of this chapter is that Robbins provides a "working definition" of economics, which, as mentioned above, has become a catchphrase in the discipline. The following paragraphs summarise the major points made by Robbins in this chapter.

The materialist definition of economics

The most common definition of economics, he states, is the one that considers it as an investigation aimed at identifying 'the causes of material welfare.' The works of such economic personalities as Edwin Cannan, Alfred Marshall, J. B. Clark and Vilfredo Pareto testify to the truth of this statement. From an ordinary standpoint, this definition makes good sense because the words "economic" and "material" are treated equivalently in everyday usage. However, this apparent harmony of the term with its daily usages does not fulfill the scientific requirement of constituting a discipline's subject-matter. When this definition is subjected to critical inquiry, it amounts to nothing less than a complete failure to exhibit either the scope or the significance of the most central generalisations of all, Robbins argues.

This argument is substantiated by the theory of wages, which is an integral part of economic generalisations. By 'wages,' economists usually understand labour incomes other than profits. However, in the 'strict' sense, the term refers to the sum earned for performing work at a stipulated rate under an employer's supervision. In other words, the wage is the price of labour paid for any kind of job performed, irrespective of its association with material production. For example, the theory explaining wage determination in industrial production is equally effective at describing it in the entertainment industry. Accordingly, the distinction, traditionally drawn between material and nonmaterial production, seems to have weakened the welfare objective attributed to the study of economics.

Although no serious economists have tried to delimit wage theory in this manner, the whole body of economics has been delimited nevertheless. This is because advocates of this definition deny the applicability of economic analysis to the examination of ends other than material welfare. For example, Cannan (1914) argues that 'Political Economy of War' is 'a contradiction in terms' on the ground that economics is concerned with the causes of material welfare. Since war does not serve this objective, it cannot be part of the subject-matter of Economics.

This argument seems confusing because modern economists have unanimously rejected Smith's classification of labour as productive or unproductive. More specifically, they hold that the labour used in the production of any object must be considered productive if there is a demand for it. By this argument, the entertainment industry's labour should be regarded as productive, just like in agriculture or manufacturing. However, the justification they offer for treating labour used in the entertainment industry seems all 'dilettantism and Wortspielerei.' (These are terms often used in academic, economic, or literary criticism to describe shallow, unscholarly, or overly playful approaches to serious topics.) It is often argued that labour used in entertainment is productive because it inspires people involved in material production to work harder. This opinion is criticisable because people are willing to pay for this service, as they derive utility from it. Therefore, Robbins claims that the conventional conception, which describes economics as the study of material welfare, is misleading. "The services of the opera dancer are wealth. Economics deals with the pricing of these services as much as with the pricing of a cook's services. *Whatever Economics is concerned with, it is not concerned with the causes of material welfare as such* [emphasis added] (Robbins, 1932, p. 9).

The leading cause of the persistence of the welfare-centred definition is historical, i.e., the 'last vestige of Physiocratic influence.' Nine out of ten of these definitions, Robbins claims, are taken quite uncritically from earlier works, suggesting that 'English economists are not usually interested in questions of scope and method' of economics. However, Cannan's case is different because his arguments seem to have some flavour of rationality.

It is a standard practice in everyday life to assign the meaning of a word in the context in which it is used. This point is vital to understanding Cannan's arguments. He has developed his conception of economics in the context of Chapter II of his book titled *Wealth: A Brief Explanation of the Causes of Economic Welfare*. In the chapter named 'The Fundamental Conditions of Wealth for Isolated Man and Society,' Cannan contemplates a man's activities isolated completely from society and enquires what conditions will determine his wealth—that is to say, his 'material welfare.' In this condition, dividing labour between "economic" and "non-economic" activities, intended to increase material and nonmaterial welfare, makes common sense. If Robinson Crusoe digs potatoes, he will pursue material or "economic" welfare, and if he talks to the parrot, he will seek "non-economic," i.e., nonmaterial welfare.

However, this distinction disappears when Mr. Crusoe is rescued from isolation and granted residence in a civilised society, where he pursues 'talking to the parrot' as a profession for income. It is no longer logical to treat Mr. Crusoe's trade as a non-economic activity in the new social environment. He is now earning an income by entertaining people with his parrot-talking skills, with some of it spent on basic necessities like food, clothing, housing, and medicine, and some on beautiful and entertaining items. Thus, Cannan's argument fails to explain how helpful it is for an exchange economy. After all, economics, a social science discipline, is founded on the idea of exchange in the market.

Even if we accept Cannan's use of the terms "economic" and "non-economic" as equivalent to material and nonmaterial welfare, some serious issues crop up. For example, given this distinction between economic and non-economic welfare, society should spend a greater proportion of its time on economic activities than on non-economic activities if it desires to enhance economic growth. From the perspective of conventional economics, this recommendation makes good sense because the whole purpose of economic science is to promote material welfare. However, executing the proposal creates an insurmountable problem: How would society as a whole distribute its members' 24 hours of time between the two kinds of activity, 'given the relative valuations of product and leisure and the opportunities of production?' In other words, an issue arises about the distribution of limited time and resources between economic and non-economic activities, which concerns the theory of production. By Cannan's definition, about half of this theory will lie outside the study of economics.

With these counterarguments, Robbins ends his examination of the materialist conception of economics by posing the following question: "Is not this in itself a sufficient argument for its abandonment?"

The scarcity definition of economics

Cannan's description of the conditions under which an isolated man divides his time between 'the production of real income' and 'the enjoyment of leisure' offers an excellent clue to resolving the controversy in economics. In the previous section, it has been observed that this division has an 'economic aspect.' Where does this aspect consist in?

The answer may be found in the formulation of the exact conditions which make such a division necessary. There are four. In the first place, an isolated man wants both real income and leisure. Secondly, he does not have enough of either to fully satisfy his wants. Thirdly, he can spend his time augmenting his real income or taking more leisure. Fourthly, it may be presumed that, save in the most exceptional cases, his wants for the different constituents of real incomes and leisure will differ. Therefore, he has to choose. He has to economise. Whether he chooses with deliberation or not, his behaviour has the form of choice. The disposition of his time and resources is related to his system of wants. It has an economic aspect (Robbins, 1932, p. 12).

The four labour allocation issues identified in this example are typical of the entire field of economic study. From the perspective of modern economics, 'the condition of human existence exhibits four fundamental characteristics.' These characteristics are (i) ends are various; (ii) time and means available to fulfill these ends are limited; (iii) these limited resources are capable of alternative applications; and (iv) finally, the ends have different importance. So, Robbins (Robbins, 1932, p. 12) concludes:

Here we are, sentient creatures, with bundles of desires and aspirations, with masses of instinctive tendencies all urging us in different ways to action. However, the time in which these tendencies can be expressed is limited. The external world does not offer full opportunities for complete achievement. Life is short. Nature is niggardly. Our fellows have other objectives. Yet we can use our lives to do different things, and our materials and the services of others to achieve different objectives.

However, none of these conditions is relevant to economic analysis on its own. Each condition has to be examined separately to demonstrate the unity of the generalisations achieved in economic science. First, consider the condition of the multiplicity of ends, which is of little interest to economists when treated in isolation from the others.

If I want to do two things, and I have ample time and ample means with which to do them, and I do not want the time or the means for anything else, *then my conduct assumes none of those forms which are the subject of economic science* [emphasis added]. Nirvana is not necessarily single bliss. It is merely the complete satisfaction of all requirements (Robbins, 1932, p. 12).

Second, the limitation of means by itself does not create economic phenomena.
If means of satisfaction have no alternative use, then they may be scarce, but they cannot be economised. The Manna, which fell from heaven, may have been scarce, but, if it was impossible to exchange it for something else or postpone its use, it was not the subject of any activity with an economic aspect (Robbins, 1932, p. 12).

Third, these limited means must have an alternative application opportunity. Every activity involving time and scarce resources is usually meant to achieve just one end, which means all other ends must be sacrificed to achieve it. This decision problem definitely involves conscious choice-making and is therefore the subject of economic analysis.

If, in a limited lifetime, I would wish to be both a philosopher and a mathematician, but my rate of acquisition of knowledge is such that I cannot do both completely, then some part of my wish for philosophical or mathematical competence or both must be relinquished (Robbins, 1932, p. 12).

Finally, the intensity one wants reflects its relative importance or priority, meaning it must be different from the others. If the importance of want is the same for the ends desired, then the decision-maker would be indifferent about which ends to choose. In other words, the issue of choice is irrelevant in this case.

In general, then, human activity, with all these conditions intimately interlinked, creates the situation of scarcity, which compels individuals and organisations to make choices based on the relative importance of their wants. 'Scarcity of means to satisfy given ends is an almost ubiquitous condition of human behaviour.' Thus, Robins concludes:

Here, then, is the unity of the subject of Economic Science, the forms assumed by human behaviour in disposing of scarce means. The examples we have discussed already harmonise perfectly with this conception. Both cooks' and opera dancers' services are limited relative to demand and can be put to alternative uses. The Theory of Wages, in its entirety, is covered by our current definition. So, too, is the Political Economy of War. The waging of war necessarily involves the withdrawal of scarce goods and services from other uses to be satisfactorily achieved. It has, therefore, *an economic aspect* [emphasis added]. The economist studies the disposal of scarce means. He is interested in the way different degrees of the scarcity of various goods give rise to varying ratios of valuation between them, and he is interested in the way in which changes in conditions of scarcity, whether coming from changes in ends or changes in means—from the demand side or the supply side—affect these ratios. *Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses* [emphasis added] (Robbins, 1932, p. 12).

Economics and the exchange economy

The distinction between the materialist and scarcity conceptions of economics may be better understood in light of Irving Fisher's (1987) distinction between classificatory and analytical definitions of capital. The materialist definition may be considered classificatory, because it marks off certain kinds of human behaviour, behaviour directed to the procuring of material welfare, and designates these as the subject-matter of Economics. On the other hand, the definition of scarcity is analytical in that it focuses on a particular aspect of behaviour: the form imposed by scarcity. Accordingly, any human behaviour that satisfies this general criterion falls within the scope of economic generalisations.

We do not say that the production of potatoes is an economic activity, and the production of philosophy is not. We say rather that, in so far as either kind of activity involves the relinquishment of other desired alternatives, it has its economic aspect. There are no limitations on the subject-matter of Economic Science save this (Robbins, 1932, p. 12).

Certain writers, however, while rejecting the conception of Economics as concerned with material welfare, have sought to impose on its scope a restriction of another nature: They have urged that the behaviour with which Economics is concerned is essentially a certain type of social behaviour, the behaviour implied by the institutions of the Individualist Exchange Economy. On this view, that kind of behaviour which is not specifically social in this definite sense is not the subject-matter of Economics. Professor Amonn, in particular, has devoted almost infinite pains to elaborating this conception (Robbins, 1932).

Indeed, the economist's attention is mainly focused on the problems of the exchange economy, but this does not mean that the definition of economics needs to be confined to exchange-economy topics. It is merely a matter of interest. The activities of Mr. Crusoe - both when he was forced to live in isolation and when he was rescued – are equally susceptible to the four conditions mentioned above. However, from the social point of view, economic analysis is unnecessary for investigating problems Crusoe faces in isolation, and it is undoubtedly *extra-marginal* from his perspective. So is the case with a 'closed communist society' because such an investigation is unnecessary to this society's rulers. According to Mises (1936), there are no prices for capital goods in a socialist economy because the government owns the primary means of production. Here, the price mechanism is out of order because all exchanges are internal transfers rather than the 'objects of exchange.'

Nevertheless, economic issues are very different in the exchange economy because it is founded on the institution of private property, which means that both individual and social welfare critically depend on how the private sector uses its limited resources in consumption and production.

However, it is not so easy to trace the effects of this decision on the whole complex of "scarcity relationships"—on wages, on profits, on prices, on rates of capitalisation, and the organisation of production. On the contrary, the utmost effort of abstract thought is required to devise generalisations, which enable us to grasp them. For this reason, economic analysis has the most utility in the exchange economy. It is unnecessary in an isolated economy. It is debarred from any but the simplest generalisations by the very *raison d'etre* of a communist society. However, where independent initiative in social relationships is permitted to the individual, their economic analysis comes into its own. Nevertheless, it is one thing to contend that economic analysis has the most interest and utility in an exchange economy. It is another to contend that its subject matter is limited to such phenomena (Robbins, 1962, p. 19).

The materialist and scarcity definitions compared

In this final section, Robbins pinpoints the distinction between the two definitions of economics explained above. Some people say that this distinction implies little material dissimilarity between the two conceptions because the "scarcity of means" and the "causes of material welfare" are more or less the same. This contention is misconceived. For, the scarcity of materials is a real limitation of conduct, but the scarcity of our own time and others' services is just as important. The scarcity of other people's services, like the schoolmaster's and the sewage man's, has an 'economic aspect' that cannot be ignored if economics is to be a social science discipline devoted to studying the 'economic aspect' of human behaviour from both individual and social perspectives. Thus, Robbins concludes:

Only by saying that services are material vibrations or the like can one stretch the definition to cover the whole field. However, this is not only perverse, but it is also misleading. In this form, the definition may cover the field, but it does not describe it. For it is not the materiality of even material means of gratification, which gives them their status as economic goods; it is their relation to valuations. It is their form rather than their substance, which is significant. The "Materialist" conception of economics, therefore, misrepresents the science as we know it. But, the practice of those who have adopted it fits in perfectly with our definition (Robbins, 1932, p. 21).

This conception of scarcity, Robbins underlines, rejects only the traditional materialist definition, not the body of knowledge it generates. This body of knowledge perfectly fits with the alternative definition. "There is no important generalisation in the whole range of Professor Cannan's system, for instance, which is incompatible with the definition of the subject-matter of Economics in terms of the disposal of scarce means (Robbins, 1932, p. 22)."

III. Definition vs. subject-matter: some critical observations

Robbins' definition has been debated for about a century. The continuation of the debate for so long indicates the nature of the difficulty one faces when daring to add new points to the discussion (Cowell & Witztum, undated; McKenzie, 2018; Oliveira & Suprinyak, 2018). This difficulty becomes particularly poignant when these new points do not involve updating the state of the art by surveying the relevant literature. With this challenge in view, the paper attempts to make some critical comments on Robbins' controversial thesis on the definition and the subject-matter of economics.

As discussed above, Robbins has treated the two terms- the definition of economics and subject-matter of economics– as synonymous. The title of Chapter I is 'The Subject-Matter of Economics.' However, this hyphenated word does not appear in the headings of sections 2 and 3, where he explains the difference between materialist and scarcity conceptions of economics. These sections are respectively titled 'The Materialist Definition of Economics' and "The Scarcity Definition of Economics."

A quick review of standard dictionaries may be good enough to argue that the meanings or significations of the two terms – definition and subject-matter – are distinctly different. For example, according to Merriam-Webster online (2020), a definition is a statement of the meaning of a word or word-group, while the subject-matter implies an issue or topic presented for consideration in a discussion, thought, or study. In other words, the term 'definition' expresses the essential features of any idea implied by a word or a word-group, while 'subject-matter' refers to the topics discussed in a book or debate. In our context, economics denotes the essential features that distinguish it from other branches of the social sciences, while the subject-matter of economics specifies the topics or issues that satisfy those essential features. Thus, there is a standard relation between the definition and the subject-matter of science. The definition implies its subject-matter, not in any other way. For example, natural sciences, which are concerned with the description, prediction, and understanding of natural phenomena, are first divided into two fundamental compartments - life science and physical science (Osler, 2019). After this compartmentalisation, both the life sciences and the physical sciences are divided into major branches, which are then further divided into fields and sub-fields. This system of scientific classification suggests that the definition of a discipline is not derived from what has been written about it. Quite on the contrary, its subject-matter is determined by the definition of science.

Robbins seems to have taken an opposite approach in defining the nature and significance of economic science, which is attested by the following quotation:

The efforts of economists during the last hundred and fifty years have resulted in the establishment of a body of generalisations whose substantial accuracy and importance are open to question only by the ignorant or the perverse. But they have achieved no unanimity concerning the ultimate nature of the common subject-matter of these generalisations. The central chapters of the standard works on Economics retail, with only minor variations, the main principles of the science. But the chapters in which the object of the work is explained still present wide divergences. We all talk about the same things, but we have not yet agreed on what it is we are talking about (Robbins, 1932, p. 1).

Both the admirers and critics of Robbins seem to be overlooking this aspect of Robbins' novel conception of economics. The following paragraphs highlight the implications of Robbins' approach from two perspectives – one empiricist and the other logical.

Empirical Perspective

Empiricism is an epistemological theory which argues that the primary source of ideas - the necessary raw materials of human knowledge - is experience (Markie & Folescu, 2023). Locke (1690) divides all types of ideas that the human mind can have into simple and complex categories. Simple ideas enter the human brain in an unmixed manner, with the mind's role passive. Once the human understanding engages with these ideas, it creates complex ideas by repeating, comparing, and uniting them in an almost infinite variety. Two distinct features distinguish the two categories. First, the mind is entirely passive in perceiving simple ideas, but fully active in conceiving complex ones. Second, the mind can neither create nor destroy simple ideas, but it can do both with complex ideas. Therefore, it is evident that complex ideas are the appropriate subjects of philosophical and scientific research.

Both categories of ideas remain hidden in the individual's mind until communicated publicly, meaning that human knowledge is created in two phases. In the first phase, the mind creates complex ideas, whose primary raw materials are simple ideas. The creation of complex ideas may be considered as 'private knowledge.' The second phase consists of communicating these complex ideas to the public, in which sense it may be called 'public knowledge.'

The most original and universal method of communicating personal knowledge is the sounds made by the tongue. These sounds, called words, become part of a language when they indicate our personal knowledge. Although all that exists in the universe is specific and different, the highest parts of words forming any language are general terms. 'Words' become general when they indicate "general ideas," and "ideas" become general when one is separated from the other based on some common qualities. Although this vocal communication is the most common and useful medium in personal interactions, communication among the intelligentsia is conducted through written languages that use both alphabets and mathematical signs.

There is little scope to doubt that the two words, definition and subject-matter, we are discussing here represent two complex ideas, which Robbins treats as synonymous or interchangeable. This practice is arguable. According to Locke, if two complex ideas are always interchangeable, then the mind would never have conceived them. Thus, the words, definition and subject-matter imply two different ideas, meaning they ought to be treated accordingly.

Second, Robbins's approach to determining the definition of economics from its so-called subject-matter appears anti-empiricist. All reasoning concerning matters of fact is founded on the cause-and-effect relations (Hume, 1739-1740). Economics is a perfect example of this empiricist theory. Quantity demanded depends upon its price and the consumer's income; investment is negatively related to the interest rate, and so on. Similarly, there is a causal relationship between the definition of a science and its subject-matter, where the definition is the cause while the subject-matter is the effect.

In the *Essay*, Robbins infers the definition of economics from the 'unity of economic generalisations.' Although this so-called unity was not in question in Robbins' time, as economic science was still in its formative stage, it is certainly a major issue in modern times. Viner's frustration, noted above, may be considered as evidence of this difficulty. For example, using Robbins' conception, Becker (1968) has developed the economic theory of crime, which argues that 'a criminal is a rational economic agent'. Agreeing to this view appears extremely difficult. An activity is considered a crime because it harms others, and it is illegal in a civilised society. The government maintains the necessary police force to prevent these activities and to punish their perpetrators through the legal system. Thus, Becker's (1976) economics, which is perfectly consistent with Robbins' definition, contradicts the legal and judicial systems of the societies in which they live.

This point needs further illustration. "Economics of assassination" is an exciting research topic among some economists (Center for a New American Security, 2019; Frey, 2007; Marshall, 1996; Gilbert, Sylwester and Gao, 2011). If we accept Robbins' view of economics, then this subject of economic research ought to be considered legitimate for two reasons. Firstly, economists, being social scientists, are free from any moral obligation. Secondly, the labour and skills an assassin employs in this profession have opportunity costs. These arguments make good sense if we can treat ourselves, natural persons, free from all obligations and constraints. However, problems arise because we live in a civilised society governed by the rule of law. Obeying the law is a legal necessity, even if we want to overlook our moral obligations.

Finally, like all other intellectuals, economists are employed in either private or public institutions and use research funds from public or charitable non-profit organisations. Thus, the opportunity costs of research on illegal activities are a subject of critical debate.

Logical Perspective

Logic is a science that investigates the general principles of good thought (Keynes, 1906). More specifically, it examines the characteristics of judgments regarding our knowledge and beliefs, which determine 'the conditions under which we are justified in passing from given judgments to other judgments that follow from them.' Accordingly, the study of logic may be viewed as an ideal, concerned with how we ought to think. In this sense, it is a normative or regulative science that is related to two other disciplines - ethics and aesthetics. Together, they form a unique trio that distinguishes the positive sciences from practical arts. Logic seeks to determine the general principles of valid thought; ethics attempts to determine the general principles of right conduct; and aesthetics aspires to set out the general principles of correct taste (Keynes, 1906).

The primary purpose of logic is to study the characteristics of the truth and falsity of thoughts. Propositions are the fundamental units of all logical analysis because truth and falsity are embodied in them. Accordingly, the doctrines of formal logic consist of three separate components. The first component, called 'terms,' consists of 'names' used to describe things. Depending upon the nature of the idea implied, the name could describe its essential feature or stand for a definition that suggests a proposition. For example, the word 'economics' may mean a branch of social science, or it could imply the very meaning of this science. In the second sense, it is a proposition which could be either true or false. Finally, determining the truth or falsity of a proposition means drawing a conclusion or inference. The method by which this inference is drawn is called syllogism, the third component of logical doctrine, which ordinarily consists of three sentences: the premise, the minor premise, and the conclusion.

Let us now employ this syllogistic system of logic to Marshallian and Robbinsian definitions to see their logical implications. The common term here is economics – a social science, and the two propositions here are two definitions of economics recommended by Marshall and Robbins. We will insert minor premises in the syllogistic system that are consistent with the major premises. In the case of Marshall's definition, two minor premises will be inserted in the formula to see the changes in the conclusions.

Marshallian definition
Major Premise: "Political Economy or Economics is a study of mankind in the ordinary business of life; it examines that part of individual and social action which is most closely connected with the attainment and with the use of the material requisites of well-being."
Minor Premise (1): Production of agricultural commodities is most closely connected with the attainment and use of material requisites of well-being.
Conclusion (1): Therefore, the production of agricultural commodities constitutes a valid subject-matter for economic inquiry.

Minor Premise (2): Activities like smuggling, human trafficking and assassination are not connected with the attainment and use of material requisites of well-being.
Conclusion (2): Therefore, these activities do not fall within the jurisdiction of economic inquiry.

Robbinsian Definition
Major Premise: "Economics is the science that studies human behaviour as a relationship between unlimited ends and scarce means that have alternative uses."

Minor Premise: Activities such as smuggling, human trafficking, and assassination satisfy this scarcity condition.

Conclusion: Therefore, these activities are acceptable topics for economic inquiry.

The syllogistic system used above is called "deductive" reasoning. In this system, we arrive at a specific conclusion from a general statement. Accordingly, the truth or falsity of the conclusion is determined by the truth or falsity of the major premise. In our case, the major premises are two definitions proposed by two renowned economists. From an empirical perspective, Marshall and Robbins are logically right in conceiving their respective propositions. However, the implications of their propositions differ markedly from a social perspective, reflecting the different motivations each author brings to the study of economics. Marshall emphasizes that economics must concern itself with legal economic activities that promote the general welfare. Robbins argues that economics is a science; therefore, practising this discipline should not be guided by moral motives. The logical implications of Robbins' definition are absolutely clear. He has helped free the professionals in the discipline from their moral and social obligations and has brought social issues into economic research that are either illegal or irrelevant from a welfare perspective.

Conclusion

Almost a century ago, Lionel Robbins, then a famous English economist, introduced a controversy in the discipline of economics about its definition and the subject-matter. This controversy still continues. Although his idea was not initially received respectfully, he has succeeded overwhelmingly in his campaign, as it forms the foundational premise of modern economics, taught and preached worldwide.

In a short treatise, *An Essay on the Nature and Significance of Economic Science*, Robbins challenged this conventional definition of economics, arguing that it unscientifically confines the subject matter of economic research to social activities connected with the community's common economic welfare. In other words, the common good of society is the fundamental criterion to determine what kinds of goods and services come under economic inquiry. Robbins rejected this conventional wisdom on two grounds. First, economics, because it is a science, is free from moral considerations. Second, the materiality constraint is logically indefensible because many social activities satisfy the qualifications by which any activity is identified as economic. He suggested an alternative definition, which has eventually become a famous catchphrase in the discipline: *Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses*.

To form some informed opinions about his challenge, this paper systematically walks through Robbins' articulation. It concludes that Robbins is correct in criticising many classical ideas, such as productive vs. unproductive labour and the materiality of economic issues. However, the approach he has taken to replace this classical wisdom is logically indefensible and unacceptable from a public policy perspective. Second, definition and subject-matter are two different words, which signify two different ideas. They cannot be used synonymously because the cause-and-effect relationship connects them. The definition is the cause, and subject-matter is the effect. Therefore, the subject-matter is implied by definition, not the other way round. Finally, the damaging influence of Robbins' conception on the evolving science of economics is that it has given some economists excuses to ignore their social responsibility. Following in Robbins' footsteps, some prominent economists have devoted their personal time and society's resources to research that serves little in the welfare interests of humanity. Some of this research even contradicts society's legal and judicial system.

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