

Scarcity as the Foundation of Economics

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The article gives an overview of scarcity (deficiency) as the most important economic principle, the change of its understanding in economic theory. The impact of this principle to modern economic thought is analyzed. According to the authors, several key concepts, such as property and value, are strongly related or even derived from scarcity. Following the economists Thomas R. Malthus and Lionel Robbins absolute and relative scarcity are distinguished. It is shown how economist Carl Menger, using criteria of scarcity, grounded ownership and origin of property, explained the need for innovation. Finally, the article classifies the actions people take to respond to scarcity.

Keywords: absolute scarcity, relative scarcity, Thomas Malthus, Lionel Robbins, Carl Menger, property, wealth, innovation, value.

The natural scarcity of the means of sustenance forces every living being to look upon all other living beings as deadly foes in the struggle for survival, and generates pitiless biological competition. But with man these irreconcilable conflicts of interests disappear when, and as far as, the division of labor is substituted for economic autarky of individuals, families, tribes, and nations. ... They become cooperators in striving after ends common to all of them.

(Mises, 1949, p. 667)

1. Notions of Scarcity

1.1. History of the Concept of Scarcity. A Brief Overview

It is obvious that “scarcity” (or “scarcities”) as a term was first used long ago. In some cases “scarcity” has a more fundamental meaning, while in others “scarcity” simply means “a lack of something”. This paper discusses the importance of scarcity in economic thought, so it is instructive to examine which economists were the first to start using the term and what they meant by this term. By contrasting the use of the term “scarcity” by Malthus (and his contemporaries) with that of Menger, we can see two different scopes of the meaning of scarcity.

Although Thomas Robert Malthus was not the first to recognize shortage or scarcity, he is regarded to have attributed the term of “dismal science” to eco-

nomics¹. The source of Malthus' dismay is a simple notion that physical goods are ultimately limited, as Malthus explains in *An Essay on the Principle of Population* in 1798 (Malthus, [1798]1976). Sooner or later, Malthus asserted, the world's human population will increase to the point that the earth will not be able to provide enough food for them. This will result in famine. According to Malthus, "the increase of the human species can only be kept down to the level of the means of subsistence by the constant operation of the strong law of necessity, acting as a check upon the greater power" (Malthus, [1798]1976, p. 11). He noted that the strong drive to reproduce and the weak growth of food production will inevitably lead to a situation where scarcity and hunger will prevail.

To Malthus' credit, he understood that scarcity of physical goods has a fundamental impact on human existence. At the same time Malthus' interpretation of scarcity is similar to that of his contemporaries. Consider Cantillon and his *Essay on the Nature of Trade in General*:

"It is not within my subject to explain the reasons of Ministers for lowering the coinage suddenly nor the reasons which deceived them in their project of the augmentation of 1726. I have mentioned the increases and decreases in France only because their results seem sometimes to clash with the principles I have established that abundance or scarcity of money in a State raises or lowers all prices proportionably [sic]" (Cantillon & Murphy, 1755)

Note that Cantillon sounds very modern for he seems to be pondering the effects of money supply on price. (Of course, people were quite familiar with the effects of the debasement of coinage.)

Adam Smith frequently uses the word "scarcity" in his seminal work. In some instances, it simply means "lean times": "Both in years of plenty and in years of scarcity, therefore, the bounty necessarily tends to raise the money price of corn somewhat higher than it otherwise would be in the home market" (Smith, 1776). In other cases, by "scarcity" Smith clearly means the lack of a particular product. "The present high rent of enclosed land in Scotland seems owing to the scarcity of enclosure, and will probably last no longer than that scarcity. (Chapter V. Of Bounties)" (Smith, 1776). Or, "In the one state, therefore, there is always a super-abundance of those materials, which are frequently, upon that account, of

¹ Actually it was thought that the term dismal science was coined by Thomas Carlyle, a Scottish writer and philosopher, called economics "the dismal science" in reference to Thomas Malthus and the idea that population growth would always strain natural resources and bring widespread misery. However, it turns out that Thomas Carlyle was referring to the then supposed economic justification for slavery. Source *The Atlantic*, <http://www.theatlantic.com/business/archive/2013/12/why-economics-is-really-called-the-dismal-science/282454/>

little or no value. In the other there is often a scarcity, which necessarily augments their value” (Chapter XI. Of the Rent of Land)” (Smith, 1776).

Smith clearly recognizes that scarcity does have an effect on the price of certain goods (albeit a limited one). But in these (and other) instances he classifies scarcity as a lack of specific material goods, or even as a device to explain economic logic. Scarcity may influence price, but it is not the source of it.

It seems that Malthus and his contemporaries here speak about scarcity as “a shortage” or “a lack of things.” Malthus is talking about the scarcity of specific goods or factors, rather than the finiteness of resources as such. In *An Essay on the Principle of Population*, Malthus uses “scarcity” and “scarcities” nearly one hundred times. All these instances can be split into three broad categories: first, a lack of material goods (e.g., potatoes) or even people (e.g., a lack of women); second, times of shortage, or times of economic hardship; and third, the word “scarcity” is used to denote shortage in general.

In two out of three cases the word “scarcity” is used, it very clearly denotes either a lack of something or a time period during which material goods (usually food) are in short supply.

Malthus’s idea that basically means that essential natural resources have a finite physical limit is reinforced by others (Baumgärtner, Becker, Faber, & Manstetten, 2006).

By contrast, Carl Menger is credited by some scholars as an economist who recognized the fundamental importance of scarcity. He is credited with having correctly identified that scarcity is the source of property (rather than being a result of property) and distinguishing between economic and non-economic goods based on the criterion of scarcity.

And of course, Menger was not the first to identify scarcity as important:

“Economists had long recognized, at least to some extent, the role played in economic phenomena by the factor of scarcity. The physiocrats had excluded from their subject matter “free goods” (such as air) because, being abundant, they were not objects of exchange.... most of the classical economists succeeded, in one way or another, in excluding from the scope of the science of “wealth” those goods whose supply was unrestricted. In the classical use of the “law of supply and demand,” what was relevant was the scarcity of the supply” (Kirzner, [1960] 1976).

But, according to Kirzner, Menger was central in connecting scarcity with the human behavior of economizing.

“A clear understanding of the fundamental character of scarcity as a condition of human action began with the work of Carl Menger. Menger still considered economics

as concerned essentially with goods, but his definition of “economic goods” and of “economizing” placed the condition of scarcity in the forefront.” (Kirzner, [1960] 1976).

Similarly, in his introduction to Menger’s *Principles of Economics*, Hayek expresses this idea:

“It is somewhat difficult to believe now that Menger was the first to base the distinction between free and economic goods on the idea of scarcity. But, as he himself says, while the very concept was not known in the English literature, the German authors who had used it before him, and particularly Hermann, had all been trying to base the distinction on the presence or absence of cost in the sense of effort. But, very characteristically, while all of Menger’s analysis is grounded on the idea of scarcity, this simple term is nowhere used. “Insufficient quantity” or “das ökonomische Mengenverhältnis” are the very exact but somewhat cumbersome expressions which he uses instead” (Menger, 2007).

In other words, it seems that before Menger, scarcity was a feature of economic goods (e.g. based on a lack of goods (e.g., there are goods, and some of these goods are scarce sometimes). With Menger this idea is turned around. It is scarcity that determines whether a good is an economic good. What this might have allowed is to advance thinking about scarcity in the abstract, scarcity in general.

This enabled the determination of the sources of value and helped to pave the way for subjective value and other important aspects of what later developed into a whole school of economic thought, known as the Austrian school of economics. Observe the precision and elegance of Bohm-Bawerks’ thought in explaining the source of value:

“All goods have usefulness, but all goods have not value. For the emergence of value there must be scarcity as well as usefulness—not absolute scarcity, but scarcity relative to the demand for the particular class of goods. To put it more exactly: goods acquire value when the whole available stock of them is not sufficient to cover the wants depending on them for satisfaction, or when the stock would not be sufficient without these particular goods” (von Böhm-Bawerk, 1891).

This brief enquiry allows us to identify several ideas in relation with scarcity. In its simplest meaning it is merely a lack of things. However, the concept of scarcity has evolved. In a more profound sense scarcity is a fundamental element of economic understanding. We will draw on this notion in the following chapters.

1.2. Absolute Scarcity and Relative Scarcity

Another important distinction with regard to scarcity is the difference between absolute scarcity and relative scarcity. Absolute and relative scarcity were described by Thomas Robert Malthus and Lionel Robbins respectively² (Daoud, 2010, p. 1207).

Just as scarcity was important to Malthus, Menger and their contemporaries, the discussion about the concepts of economic scarcity continued. In the second half of the 20th century, Daly ([1977]1991, p. 39) was first to introduce the notion of absolute scarcity and to distinguish it from the notion of relative scarcity. Later this distinction was also used by other authors (e.g., E. B. Barbier (1989), Underwood and King (1989), E. Barbier, Burgess, and Folke (1994), Sahu and Nayak (1994) in the fields of ecological economics.

In contemporary versions of absolute scarcity (the neo-Malthusian approaches) the analysis is not restricted only to food but embraces other goods too. For example, the ultimate limitation to common resources (Hardin, 1968), the carrying capacity of nature (Meadows, 1972), and the availability of low entropy resources (Georgescu & Roegen, 1971). Fears about population growth in the 1970s led to a limited resurgence of some ideas that could be traced to Malthus, or, more precisely, the idea that earth as a whole has a limited carrying capacity that can be overwhelmed by population growth.

Neoclassical economics offered a different notion of scarcity, which did not specifically mean an overall scarcity of natural resources. The focus was more on subjective human desires and subjective preferences. Walras ([1926]1954, p. 65) called economic goods scarce if they are “capable of satisfying a want and do not exist in such quantities that each of us can find at hand enough, completely to satisfy his desires”.

This shift from overall scarcity to scarcity in connection with human desires took place roughly in the second half of the 19th century. That is when the dependency of mankind on nature changed to understanding that wealth comes from the exchange of goods and produced commodities (Baumgärtner et al., 2006).

The abovementioned concept of relative scarcity is found in one of the best known definitions of economic science, formulated by Lionel Robbins in his essay on the nature and significance of economic science (Robbins, 1932). He defined

² See comment on other differences in the 1st paragraph of 1.2.

economics as a “science which studies human behavior as a relationship between ends and scarce means which have alternative uses” (Robbins, 1932, p. 15).

According to this view, scarcity is not only an inescapable reality of life, it is the building block of the definition of economics. In economics, the conditions of human existence have three fundamental characteristics (Robbins, 1932, p. 12): first, people have various subjective ends, objectives of their conduct; second, the time and means for achieving these ends are always limited, or scarce, thus it is never possible to fulfil all the ends that people desire; and third, human choice is a factor, since economic goods can have alternative applications. Lionel Robbins describes this situation in a poetic way:

“Here we are, sentient creatures with bundles of desires and aspirations, with masses of instinctive tendencies all urging us in different ways to action. But the time in which these tendencies can be expressed is limited. The external world does not offer full opportunities for their complete achievement. Life is short. Nature is niggardly. Our fellows have other objectives. Yet we can use our lives for doing different things, our materials and the services of others for achieving different objectives” (Robbins, 1932, p. 13).

The key to understanding the notion of relative scarcity is realizing that scarce goods have opportunity costs (Debreu, 1959, p. 33), (Baumgärtner et al., 2006). In order to obtain one additional unit of the good one must give up something else – some amount of another good, or an opportunity to do something (Baumgärtner et al., 2006). This is where the definition of relative scarcity comes from – the good is always scarce *in relation* to other scarce goods.

The basic problem is how to allocate limited resources in a way that would best suit the needs of humans. Relative scarcity describes situations where there are limited resources under consideration and they have different alternative uses. “When time and the means for achieving ends are limited and capable of alternative application, and the ends are capable of being distinguished in order of importance, the behavior necessarily assumes the form of choice. Every act which involves time and scarce means for the achievement of one end involves the relinquishment of their use for the achievement of another. It has an economic aspect” (Robbins, 1932, p. 14).

The notion of relative scarcity recognizes that any human choice between different uses of his limited time and resources has an economic aspect. These choices require economizing. So a relative notion of scarcity relies on the assumption that there are alternatives to the application of means and people’s subjective preferences over ends.

Therefore, according to the view of relative scarcity, scarcity in economics is not an “absolute” quality. Economics only deals with the kind of scarcity that is related to *alternatives* in the application of scarce means and that is important for human ends.

Scarcity is always related to demand and human ends (Robbins, 1932, p. 45). Technically, there are limited quantities of all forms of material substances on earth. But it is important to note that only scarcity that limits the achievement of subjective human ends can explain the economic behavior of people. Therefore, only those goods or means have economic value which are connected with ends. It follows that there is generally no scarcity of air, which is in most circumstances abundant. There is also no scarcity of something which is not considered desirable, for example, bad eggs. “There is no quality in things taken out of their relation to men which can make economic goods” (Robbins, 1932, p. 45).

It is importantly noted by Robbins (1932, p. 13) that the multiplicity of ends in itself does not yet pose an economic problem. There might be cases when an actor has only a few ends, and he might have the time and resources to fulfil all of them. Such a situation is unlikely, since humans tend to have numerous ends of differing importance, but if we can conceive of a situation where the fulfillment of an actor’s ends is not restricted by the scarcity of means, his situation does not pose any economic question.

“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. Nirvana is not necessarily single bliss. It is merely the complete satisfaction of all requirements” (Robbins, 1932, p. 13).

The mere limitation of means by itself also does not raise economic questions. It might be the case that a particular economic good is limited and scarce, but if there are no alternative uses to which it can be put or choices to be made, then no economization can take place. Rain might be a scarce good, but if there is no way to control it and no alternative uses for it in the field of crops, then it does not have an economic aspect.

If we could think of a situation, albeit an unrealistic one, where there are no alternatives on how to employ scarce resources (land, capital, labor) because only one good can be produced using only one possible combination of the resources, this situation would not involve any economic problem. The absence of alternatives would mean no relative scarcity and therefore no economic problem.

Therefore, human behavior, which has to do with the fulfillment of human ends using scarce means that have alternative uses, offers the possibility of choice and has an economic aspect. “Economics is a science that studies human behavior as a relationship between ends and scarce means which have alternative uses” (Robbins, 1932, p. 15).

It is impossible to eliminate relative scarcity altogether, because it is impossible to conceive of a situation where a human being would not be faced with a choice of taking an action or not acting at all. And any decision to act or not act means having made a choice between alternatives related to scarcity. If not material resources, time is always limited and scarce. One could not do everything one wished to do at the same time even if one had all the material resources needed to fulfill one’s aims.

In this rather long introduction we have established a couple of important definitions with regard to scarcity. First, we do not use the concept of scarcity in a simplistic notion, i.e. a shortage of something. Second, we are concentrating on relative scarcity rather than absolute scarcity.

2. Importance of Scarcity for Economics

The following sections continue analyzing the importance of relative scarcity for the development of economics. Relative scarcity lies at the heart of key economic concepts such as opportunity cost and price. If there were no scarcity, or, more precisely, if every man had enough goods and time, there would be no need for choice, no opportunity cost or price. Without scarcity the fundamentals of modern economic thinking would not exist. This chapter will show that scarcity is a very important element in many fundamental concepts of economics.

2.1. Scarcity and Nature of Economic Science

An understanding of scarcity played an important role in considerations of the nature of economic science and its significance. Lionel Robbins argued against the notion of what he called the materialist definition of economics, according to which economics is the study of the causes of material welfare. According to Robbins, this definition is untenable for various reasons, one of them being that it is impossible to distinguish between material and non-material welfare. This definition does not reflect the purpose of economics. Rothbard explains the problem of differentiating between material and non-material wealth:

“Economics, therefore, is not a science that deals particularly with ‘material goods’ or ‘material welfare.’ It deals in general with the action of men to satisfy their desires, and, specifically, with the process of exchange of goods as a means for each individual to ‘produce’ satisfactions for his desires. These goods may be tangible commodities or they may be intangible personal services. The principles of supply and demand, of price determination, are exactly the same for any good, whether it is in one category or the other” (Rothbard, [1962]2009, p. 162).

Robbins proposed another definition, that economics is a science that studies human behavior as a relationship between ends and scarce means which have alternative uses. This definition negates the common misconception that the object of economics is the material welfare of human beings and the purpose of the science of economics is to explain how material welfare is created. To some degree it is true that economics explains the mechanisms through which the welfare of human beings arise. But the object of economics is not in itself *material* welfare. Any human choice related to material or spiritual activities involving the use of scarce means is the object of economics.

There is another difference between the materialist definition of economics as the study of the causes of material welfare and the scarcity definition of economics. The former deals with scarcity as something to be overcome by increasing material welfare and with the science of economics as a means of finding ways to do so. The latter views scarcity as a natural phenomenon, an inescapable condition of human beings. It recognizes that “the scarcity of means to satisfy given ends is an almost ubiquitous condition of human behaviour” (Robbins, 1932, p. 15). The purpose of economics, according to this definition, is to try to explain human behavior under conditions of scarcity.

The significance of economics in the realm of scarcity and human choice is that economic laws are able to explain the outcomes of people’s choices and of public policy. Economics cannot determine whether the ends people seek are the right ones, but economics explains the laws that govern human actions and can explain the connection of human actions with their results. As Lionel Robbins puts it: “And it is just here that Economics acquires its practical significance. It can make clear to us the implications of the different ends we may choose. It makes it possible for us to will with knowledge of what it is we are willing. It makes it possible for us to select a system of ends which are mutually consistent with each other” (Robbins, 1932, p. 136).

The laws of economics can explain what choice should be made individually or on the level of public policy to achieve a more satisfactory state of affairs, howev-

er one defines that more satisfactory state. Understanding economic laws, which are the result of studying the interrelationships of human ends and the scarcity of means, can guide individual choices and public policies in the direction where results do not depart from aims. Therefore, understanding economic laws enables people to understand the far-reaching implications of alternative possibilities of economic policy. It does not remove the limitations of scarcity, but it enables one to act consistently within these limitations (Robbins, 1932, p. 140).

2.2. Scarcity is Impossible to Abolish

Having established that we are concentrating on a broader concept of relative scarcity, we have to understand that it is essentially impossible to abolish such scarcity. Not only do we lack things in the real world, but even if things were available in larger quantities we might still lack them and experience scarcity. To put it simply, even if we managed to overcome simplistic absolute scarcity (which is still a difficult task as evidenced by the fact that absolute poverty still exists), we would still experience relative scarcity.

Furthermore, given that human needs are limitless, we might never experience a world in which scarcity is non-existent. As Menger puts it:

“A further point that must be taken into consideration here is the capacity of human needs to grow. If human needs are capable of growth and, as is sometimes maintained, capable of infinite growth, it could appear as if this growth would extend the limits of the quantities of goods necessary for the satisfaction of human needs continually, indeed even to infinity, and that therefore any advance provision by men with respect to their requirements would be made utterly impossible” (Menger, 2007, p. 83).

In other words, even if we were to increase the amount of goods available, it is quite possible that needs would increase even more, and the amount of goods available would still be smaller than the amount of goods desired by individuals.

In addition, Menger reminds us that even goods available in large absolute quantities are scarce, because “no part of the available quantity, in any way practically significant, may lose its useful properties or be removed from human control without causing some concrete human needs... to remain unsatisfied” (Menger, 1976, p. 95). He then also adds that “men become aware... that under all circumstances a part of their needs for the good will remain unsatisfied” (Menger, 1976, p. 95). This is a further illustration that when it comes to economic goods, men experience scarcity even when goods are abundant.

2.3. Scarcity as the Precondition for Human Action

The means to achieving human ends are always limited. But if this were not the case, there would be no human action at all. When man is not limited nor restrained by the insufficiency of things, there is no need at all for human action, so scarcity can also be understood as a force for achievement and fulfilment. The fact that there is scarcity allows people to act. Scarcity points to the imperfection of our life, but at the same time it enables action and choice – it enables the existence of man as we know it:

“Action is a display of potency and control that are limited. It is a manifestation of man, who is restrained by the circumscribed powers of his mind, the physiological nature of his body, the vicissitudes of his environment, and the scarcity of the external factors on which his welfare depends. ...the mere possibility that a change can occur is incompatible with the concept of absolute perfection. But the absence of change – perfect immutability, rigidity and immobility – is tantamount to the absence of life. Life and perfection are incompatible, but so are death and perfection” (Mises, 1949, p. 70).

2.4. Scarcity as a Source of Opportunity Cost

In his *Principles of Economics*, Menger reveals the fundamental role that scarcity plays in opportunity cost. As Menger puts it, the numbers of any goods compared to the requirements of people is either too small or too large (Menger, 1976, p. 94). Of course, there is also a possibility that the number of goods required is equal to the number of goods existing, but Menger does not elaborate further on this idea.

Menger elaborates further that he is not talking about luxury items, “...even the coarsest pieces of clothing, the most ordinary living accommodations and furnishings, the most common foods... even earth, stones, and the most insignificant kinds of scrap are, as a rule, not available to us in such great quantities, that we could not employ still greater quantities of them” (Menger, 1976, p. 95).

Menger is essentially developing the concept of “opportunity cost” without explicitly stating it. This concept will be developed later by Friedrich von Wieser (although Wieser called it alternative cost). But note the subjectivist undertones in Menger’s writing. When talking about the removal or “inappropriate employment” of a good, Menger laments not the loss of the good itself, but the fact that some needs will remain unsatisfied.

Here we can see a profound connection between subjective value and scarcity. First, all goods that are scarce are economic goods. Second, all economic goods have some sort of value because some people could find some use for them; and if goods are used for one purpose, they cannot be used for another purpose.

This lays the ground for subjective value and opportunity cost to be developed into what neoclassical economics uses as one of the pillars of economic thought. While a deeper discussion of the acceptance of subjective value and measurement of opportunity cost in mainstream neoclassical economics falls outside the scope of this paper, at the same time, it is clear that the concept of scarcity, as developed by Menger, has proven invaluable to modern economic thought.

2.5. Scarcity as a Source of Property

One of the most profound insights regarding scarcity is that scarcity is strongly connected with property; yet, not in manner that most people would expect.

In his theoretical examples Menger also provides a possibility that the requirements of good are smaller than available quantities. In Menger's framework, such goods fall outside the scope of "economic goods". To be a "non-economic good", the quantity available has to exceed demand and men have to be sure they will not experience a lack of the good in the future. In practice this means that the resource is so overwhelmingly plentiful that no one would ever lack it.

Under such conditions, as Menger puts it, "goods are therefore neither objects of economy nor objects of the human desire for property" (Menger, 1976, p. 100). This reveals the fundamental role of scarcity in property. Establishment of property, according to Menger, is the way in which men act in the face of scarcity. This fundamentally contrasts with the view espoused by Rousseau, where property, broadly speaking, is a source of scarcity and inequality. In Menger's view, the causation is precisely opposite – property is the effect of scarcity, not vice versa. "Property, therefore, like human economy, is not an arbitrary invention but rather the only practically possible solution of the problem that is, in the nature of things, imposed upon us by the disparity between the requirements for, and available quantities of, all economic goods" (Menger, 1976, p. 97).

2.6. Scarcity as a Cause of Wealth

According to Menger, scarcity, as he defines it, occurs when the number of goods is smaller than the demand for the good by people. In this sense, wealth is a means

of sheltering oneself from current or future scarcity. Just as economizing individuals take actions to secure the needed numbers or amounts of goods they require, the same individuals also acquire wealth (in whatever form).

Conversely, the amount of wealth an individual possesses also depends on scarcity. If the wealth of the individual is expressed as, say, a house, the amount of wealth the individual has depends on the scarcity of houses in that community. If an individual stored wealth as aluminum, and due to technological advances aluminum became less scarce, that individual's wealth would decrease.

As Menger puts it: "If there were a society where all goods were available in amounts exceeding the requirements for them, there would be no economic good nor wealth" (Menger, 2007, p. 109).

One interpretation of this idea could be that in a society without scarcity there would be no need for wealth and no wealth *per se*. Truly, if there were no scarcity, again using houses as an example, if everyone had as much living space as one wanted (or would ever want), owning a house (or multiple houses) would not be a sign of wealth.

Of course there is another way to interpret this idea. If there were no stimuli to create wealth, no wealth would be created.

2.7. Scarcity as a Source of Innovation

According to Menger, men "economize" in the face of scarcity. In modern terms, economizing can be explained as consisting of these actions.

First is saving goods (preservation of quantity) and conserving the useful properties of goods. As Menger puts it "men...strive (1) to maintain at their disposal every unit of good standing in its quantitative relationship, and (2) to conserve its useful properties" (Menger, 2007, p. 95).

Second is choice, i.e., deciding which needs to satisfy and which to forgo, "to make a choice between their more important needs, which they will satisfy with the available quantity of the good in question, and needs that they must leave unsatisfied" (Menger, 2007, p. 95).

Third, men strive to use goods efficiently, "to obtain the greatest possible result with a given quantity of the good or a given result with the smallest possible quantity."

In this framework, the existence of scarcity is a prerequisite for people to start investing into means and methods to obtain more resources, use resources more efficiently, etc. As Menger himself puts it, if a village has such an overwhelming

supply of water that no man is expected to experience scarcity now or in the future, three things will not happen. First, men will not engage in economizing behavior. Second, men will not invest resources into the creation of higher order goods. Third, property rights will not be established. Obviously, consequences might be different for different economic goods, but in general scarcity leads to economizing behavior.

2.8. Lack of Scarcity as a Source of Socialist Behavior

In an interesting detour, Menger observes that when there is overwhelming abundance, people adopt a socialist stance towards property, “for men are communists whenever possible under existing natural conditions.” However, note that the so-called primitive or “natural” communism here results from a simple fact, that the good is overwhelmingly available to such a degree that it ceases to be an economic good.

3. Human Conduct under the Conditions of Scarcity

There can be no human action without scarcity; all actions of humans are directed towards alleviating their uneasiness stemming from scarcity. Every human action can be considered to be directed towards change. When people act, they are trying to exchange a less satisfactory state of affairs for a more satisfactory one. Human action, as previously noted, is concerned with making choices in an environment of scarcity. All of these choices are directed at trying to fulfill the subjective ends of people. Scarcity is the incentive for a person to act.

“We call contentment or satisfaction that state of a human being which does not and cannot result in any action. Acting man is eager to substitute a more satisfactory state of affairs for a less satisfactory. His mind imagines conditions which suit him better, and his action aims at bringing about this desired state. The incentive that impels a man to act is always some uneasiness. A man perfectly content with the state of his affairs would have no incentive to change things. He would have neither wishes nor desires; he would be perfectly happy. He would not act; he would simply live free from care” (Mises, 1949, p. 13).

In order to understand human action in the context of scarcity it is instructive to classify human action into categories according to criteria of its relationship with nature and other people, as well as according to the invasiveness or noninvasiveness of the action. The importance of these criteria will be made clear in the

subsequent explication of these different classes of action. Human action can first be divided into two categories: action in isolation and interpersonal action (see table below). Since interpersonal action always involves other people, it can be further split into invasive action and noninvasive action. Different classes of action and their relationship to scarcity will be discussed below.

Table No. 1. Classification of human action

<i>1. Action in isolation</i>
Hunting, gathering of resources from nature for consumption
Production for own use
<i>2. Interpersonal action</i>
<i>a. Invasive action</i>
<i>i. Autistic intervention</i>
Murder; assault; prohibition of speech, religious observance, possession of specific items, etc.
<i>ii. Binary intervention</i>
Robbery, theft, slavery, war, taxes, etc.
<i>iii. Triangular intervention</i>
Price control, prohibition of products, licensing, tariffs, etc.
<i>b. Noninvasive action</i>
Gifts
Voluntary exchange (specialization)

Source: Compiled by authors based on Rothbard, [1962]2009)

3.1. Action in Isolation (Autistic Action)

Action in isolation (autistic action) consists of any exchange that does not involve some form of interpersonal exchange of good or services. Examples of action in isolation would involve basic use of natural resources, e.g., hunting, and gathering food like fruits, berries, nuts, etc. for consumption. Production for one’s own use is also an autistic action. The activity of production for one’s own use means that an actor uses his own labor in various production processes. His labor is dedicated not only to gather resources from nature for consumption, but also to cultivate land, produce tools and instruments, and engage in longer production processes. In this case his labor is more productive, since it involves transforming nature using tools and technologies. Basically, there are two ways to increase production of consumer goods: to increase the available supply of factors of production or to improve the technology (Rothbard, [1962]2009, p. 12). Production includes both of them.

But production for one's own use is limited, because it is isolated and therefore affords no opportunity for specialization, division of labor and production for exchange. Also, action in isolation cannot be invasive, since only one actor is involved – nature by definition is a non-actor.

3.2. Interpersonal Action

When there is action involving at least two actors there is interpersonal action. Interpersonal actions can be invasive and noninvasive.

3.2.1. *Invasive Interpersonal Action*

Violence, intervention or invasive action is the introduction of aggressive physical force or the threat of it into human relationships and society. It is the antipode of voluntary actions. The intervener is an individual or group of individuals that initiates violent intervention in the free actions of people. Self-defense is the only exception where violent action cannot be classified as aggression. Protection of one's life or property is not aggression even if force is used.

Compulsory exchange is when only one of two actors is making a free choice to participate in the exchange. When the other party is under the threat of violence in order to be induced to make the exchange, clearly this party loses from the exchange (Rothbard, MES, p. 84). Violence occurs when someone gains at the expense of another person, who suffers a material or psychic loss as a result. So violence as a way to achieve one's ends also pertains to gain at the expense of another.

All violent actions and interventions can be classified into three categories (Rothbard, [1962]2009).

- Autistic intervention occurs when an intruder restricts another person's use of his body or property in a certain manner. The intervener commands an individual subject to do or not to do certain things even when these actions directly involve only that individual's person or property. The intervener restricts that person's use of his property and no exchange is involved; he coerces the subject without receiving any good or service. Examples of autistic intervention are murder, assault, prohibitions to possess certain items, the prohibition of free speech or religious practice, etc.
- Binary intervention occurs when an intruder forcibly establishes a relationship or forces a trade between himself and another person. The intervener enforces a coerced exchange between another individual and himself or coerces a "gift" to himself from the subject. Examples of binary interven-

tions are robbery, theft, slavery, war, taxation, compulsory purchase of goods, etc.

- Triangular intervention occurs when an intruder forcibly establishes or forbids a relationship between two or more economic actors. The invader either compels or prohibits an exchange between two or more other subjects. Examples of triangular intervention are price controls, the prohibition of certain products, licenses, tariffs, etc.

All these interventions involve a hegemonic relationship of command and obedience, in sharp contrast with a contractual voluntary exchange with mutual benefit. All types of interventions can be understood as actions through which the initiating actor tries to alleviate some type of scarcity. However, in binary interventions one party tries to alleviate scarcity at the expense of the other party.

In any type of invasive action only one party benefits, the other party necessarily loses. This loss is the source of the unproductiveness of invasive actions. Invasive actions involve a transfer of goods from one party to another. They do not involve an act of creation.

3.2.2. *Noninvasive Interpersonal Action*

Noninvasive interpersonal action is when both actors engaging in the interaction do it voluntarily. The major form of voluntary interaction is voluntary interpersonal exchange. Exchange is immensely important for the development of productivity and the economic system.

The condition for the voluntary exchange to happen is the reverse valuation of the goods. Each party has to value the good that is gained through exchange more than the good that is forgone. Also, both parties have to know about each other's existence in order to engage in the exchange.

All that can be said *a priori* about the value of human choices and actions is that if they are made voluntarily, they will be directed towards improving the situation of the one who is choosing to engage in the action. In a voluntary exchange both parties benefit, they are getting something which they value more and give away something which they value less. Any involuntary action or exchange is *a priori* harming at least one of the parties. The essence of voluntary exchange is that both actors act because they expect that the action will benefit them; otherwise they would not have agreed to the exchange (Rothbard, [1962]2009, p. 85).

The existence of voluntary exchange in the market allows for any good to obtain higher value, because it is valued not only on the basis of its usefulness to the owner. The possibility of exchanging the good enables it to have exchange-value,

not only direct-use value. Exchanges let people produce goods not only for themselves, but also to exchange them for other goods with others. If there was no exchange, a person could not produce goods in large numbers or amounts, since the direct-use value of the good would go down (the law of diminishing marginal utility³). When exchange is introduced it opens a new source for the utility of goods. Now it is possible to produce a good in large numbers or amounts and exchange the good for other goods that are valued more. Therefore we can see that exchange enables specialization and an increase in productivity.

Specialization and the division of labor is a natural result of exchange. Specialization increases productivity in three ways: 1) differences in nature-given factors, 2) differences in capital and 3) differences in skill and the desirability of different types of labor. These differences enable persons, companies, countries, regions to specialize in the production of some goods, while getting other needed goods through exchange. Exchange enables people to incorporate the value of the product for others in their actions, to specialize, to increase their productivity and to fulfil their needs through selling goods to other people. This leads to the emergence of a contractual, co-operative society. Each person specializes in the task for which he is best fitted, and fulfils his needs through exchange and serving people around him.

The division of labor and engagement in exchange allows people to benefit themselves by benefiting others. And the benefit to others occurs regardless of the motives of the participants of the exchange. People may want to benefit others or may not, but in a peaceful society based on contractual relationships and exchange the best way to benefit oneself is by engaging in specialization and exchange. By benefiting themselves, as an indirect consequence of their actions, people benefit others as well. The usefulness of exchange and the division of labor is a very important reason why voluntary exchange promotes peace. As Rothbard ([1962]2009, p. 100) puts it:

“Thus, in explaining the origins of society, there is no need to conjure up any mystic communion or “sense of belonging” among individuals. Individuals recognize, through the use of reason, the advantages of exchange resulting from the higher productivity of the division of labor, and they proceed to follow this advantageous course. In fact, it is far more likely that feelings of friendship and communion are the effects of a regime of (contractual) social co-operation rather than the cause. Suppose, for example,

³ The law of diminishing marginal utility states that as an actor acquires more and more units of a good, he devotes them to successively less and less urgent ends (i.e., ends that are lower on his scale of values). Therefore the marginal utility of a good declines as its supply increases.

that the division of labor were not productive, or that men had failed to recognize its productivity. In that case, there would be little or no opportunity for exchange, and each man would try to obtain his goods in autistic independence. The result would undoubtedly be a fierce struggle to gain possession of the scarce goods, since, in such a world, each man's gain of useful goods would be some other man's loss. It would be almost inevitable for such an autistic world to be strongly marked by violence and perpetual war. Since each man could gain from his fellows only at their expense, violence would be prevalent, and it seems highly likely that feelings of mutual hostility would be dominant. As in the case of animals quarreling over bones, such a warring world could cause only hatred and hostility between man and man. Life would be a bitter "struggle for survival." On the other hand, in a world of voluntary social co-operation through mutually beneficial exchanges, where one man's gain is another man's gain, it is obvious that great scope is provided for the development of social sympathy and human friendships. It is the peaceful, co-operative society that creates favorable conditions for feelings of friendship among men" (Rothbard, MES, 100).

Exchange not only enables specialization and growth of productivity, but it also allows for goods and services to find their way to where they are valued most. Free exchange and prices transfer the same goods and services to the places where they are scarcer and therefore have higher value. So even if the amount of goods were fixed (which is not the case, exchange also increases the amount of available goods), voluntary exchange would still increase the overall satisfaction by making these goods appear in the hands of people that value them most.

Individuals who engage in voluntary exchange and specialization realize that their benefits outweigh the advantages that war or any other violence might bring. The productivity and value stemming from free exchange is the basis of a free society, responsibility for oneself and freedom from violence.

Conclusions

From this work we can draw several conclusions. Understanding that scarcity is an unavoidable condition of human existence has immense importance for economic science. People have various subjective ends, the objectives of their conduct. The time and means for achieving these ends are always limited, or scarce. It is never possible to fulfil all the ends that people contemplate, thus choice is inevitable – means at one's disposal or economic goods can have alternative applications.

It is impossible to eliminate scarcity altogether. This is because it is impossible to conceive of a situation where a human would not have to act, and any act means choosing between alternatives related to scarcity. Even when material resources are

unlimited, time is always limited and scarce. The primary task of reason is to cope consciously with the limitations imposed upon man by nature, to overcome scarcity.

Only by having a profound awareness of scarcity as the action-shaping condition of human existence can we really understand the nature of our material world. Ignoring the fact of scarcity would be disastrous for human existence. It would mean ignoring a crucial part of reality, namely, that every decision, choice or action of a human being always means forgoing all the other possibilities or ends. There can be no human action where scarcity does not play a role. All actions of humans are directed towards alleviating their uneasiness stemming from scarcity. Every human action can be considered as directed towards change.

In any type of invasive action only one party benefits, the other party necessarily loses. This loss is the source of the unproductiveness of invasive actions. Invasive actions involve the transfer of goods from one party to another. They do not involve an act of creation.

There are two ways to increase the production of consumer goods: to increase the available supply of the factors of production or to improve the technology. To produce something requires both. Individuals who engage in specialization and voluntary exchange realize that their benefits outweigh the advantages that war or any other violence might bring. The productivity and value stemming from free exchange is the basis of a free society, personal responsibility and freedom from violence.

Even though people possess a practical understanding of what it means to lack something, scarcity plays an even larger role in fundamental economic thinking. Scarcity is not so much a “necessary evil” of material life or a nuisance that can be overcome by utopian solutions. Yes, scarcity is a fact of the material world, but understanding what it means and encompasses allows us to fundamentally grasp the material world. Ideas and concepts that economists (or at least Austrian economists) hold dear, e.g., the positive nature of private property, can be traced to scarcity and attempts by men to overcome it. In this view, private property is not an arbitrary invention, as the critics of private property claim it to be. The foundation and meaning of its value become clear and transparent. Once we realize that people value things that they need or desire but that are scarce, we get a simple (but not simplistic) understanding of how value originates and why value is subjective.

We begin to see why popular political slogans to end scarcity, or even utopian economic recipes to abolish scarcity, are unrealistic. We begin to understand that the problem lies not in the lack of tools, will or some yet undiscovered miraculous technology, but rather in human nature.

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Stoka kaip ekonomikos mokslo pagrindas

Santrauka

Straipsnyje apžvelgiama stoka (trūkumas) kaip svarbiausias ekonomikos principas, jo raida ekonomikos teorijose, analizuojama, kokią įtaką šis principas turi moderniai ekonomikos minčiai.

Autorių teigimu, kelios esminės koncepcijos, pavyzdžiui, nuosavybė ar vertė, yra stipriai susijusios, ar net kildinamos iš stokos. Remiantis ekonomistais Thomu Malthusu ir Lioneliu Robbinsu, absoliuti stoka atskiriama nuo santykinės. Parodoma, kaip ekonomistas Carlas Mengeris, naudodamas stokos kriterijų, pagrindė nuosavybės, turto kilmę, paaikškino inovacijų poreikį. Galiausiai straipsnis klasifikuoja, kokių veiksmų žmonės imasi, atsiliepdami į stoką.

Raktiniai žodžiai: absoliuti stoka, santykinė stoka, Thomas Malthusas, Lionelis Robbinsas, Carlas Mengeris, nuosavybė, turtas, inovacijos, vertė.

STUDIJŲ
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