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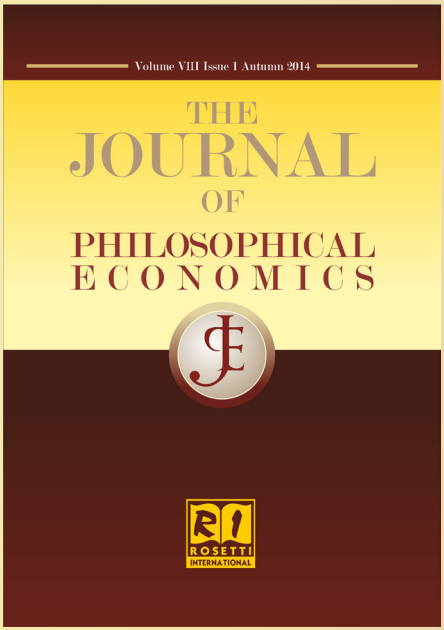

A comment on scarcity

M. Northrup Buechner

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Abstract: Modern economics is based on the idea that every good and service is scarce, but the standard defenses of this premise by reference to zero prices and infinite resources are invalid. The concept of scarcity is defined and used to show that ordinary scarcities are not economic scarcities. The errors regarding scarcity are traced to the methodology of modern economics, and an alternative method is suggested for a science whose subject matter is real human beings. The concept of *relative* scarcity is explained, and used to illuminate some important aspects of the functioning of a market economy. Some of the consequences are identified for economics if economists recognized that universal scarcity is not a fact.

Keywords: scarcity, Robbins, rationing, relative, subjectivism, reason

Introduction

The application of economics to more and more fields has superseded the traditional definition of economics. As Colander says, 'If the study of 'the allocation of scarce resources among alternative ends' ever was the defining nature of what economic science was, it no longer is' (2009, p. 437).

Nevertheless, scarcity remains as a basic premise. This is confirmed by the fact that most economists think that scarcity is the fundamental cause of economic activity, and that without scarcity there would be no production, no exchange, no economizing, and no choice. Further confirmation is the fact that the definition of economics as the study of choice under scarcity is still widespread [1].

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Lionel Robbins put scarcity at the center of economic thought in his *Essay on the Nature and Significance of Economic Science*, in which he defined economics as 'the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses' (Robbins 1932, p. 15). Over the next thirty years, Robbins' definition achieved general acceptance, '*without there having been any serious arguments in its favor*' (Backhouse and Medema 2009a, p. 486; emphasis in the original). More important for our purpose, none of the arguments against Robbins' definition of economics objected to his concept of scarcity.

This paper is primarily an analysis of the meaning of scarcity, and of the consequences for economics of putting scarcity at the foundation of economic thought. It begins with a brief overview of how Robbins dealt with scarcity, and considers the arguments of modern economists for the premise that every good and service is scarce (i.e. the premise of universal scarcity). It then defines the concept of scarcity implicit in both Robbins and in modern economics, and shows that goods and services in a market economy are not scarce. The methodologies at the base of these two opposing views of scarcity are critically evaluated. The concept of *relative* scarcity then is taken up and used to show how it deepens our grasp of the functioning of a free economy. Following the conclusion, an appendix identifies some of the possible consequences for economics of giving up the idea of universal scarcity.

The meaning and defense of scarcity in modern economics

The year 2007 was the 75th anniversary of Robbins' *Essay*. It was celebrated by a conference at LSE, a special issue of *The Journal of the History of Economic Thought*, a special issue of *Economica*, and an outpouring of new research. As a result, there is a much more extensive literature on Robbins' *Essay* today than there was just seven years ago. None of it, however, examines Robbins' concept of scarcity.

What does Robbins mean by scarce? This was the key concept in his definition of economics, and the astonishing fact is that he never explained or analyzed or defined it. Perhaps more surprising, in all the articles that have been written about Robbins' *Essay*, I have found no one who noticed that he did not define scarcity. Nobody commented on it in the reviews of his essay in the 1930s. Nobody has commented on it in the new research launched by the 75th anniversary. What could be the explanation? Only one seems likely: Robbins and his readers thought

they knew what 'scarcity' meant. They thought the meaning was obvious, and so the absence of an explicit definition did not trouble them.

This practice is widespread. David Stern (1999) repeatedly complains that scarcity has not been defined, and people do not know what it means. His subject is 'natural resource scarcity', and natural resource economists have been just as derelict in defining scarcity as other economists. In the classic work on this subject, *Scarcity and Growth, The Economics of Natural Resource Availability* (1963), Barnett and Morse do not define the first word of their title.

The failure to define scarcity presents a deeper problem. It means that what guided Robbins— and what continues to guide modern economists in applying scarcity to economics— was not a concept, but a feeling, a non-verbal emotion that summed up the meaning of scarcity in their minds. This is the feeling Ayn Rand called 'I kinda know what I mean' (Rand 1990, p. 21). But thinking guided by that feeling is necessarily imprecise. If we want to know what we are talking about, we need definitions fully spelled out in words, and in particular, we need definitions of key words like scarcity.

Two radically different concepts of scarcity have to be distinguished for economic thought: scarcity and relative scarcity. Scarcity is the concept that dominates modern economics, but instead of a definition, we have a general agreement on what it means for something to be scarce. The standard of scarcity in modern economics is *the satisfaction of people's subjective wants*. Since everyone cannot have all they want of everything they want, whenever they want it, economists hold that the supply of every good and service is scarce (e.g., Baumol and Blinder 1985, p. 35; Mankiw 2015, p. 4; Parkin 2014, p. 2).

The standard proof of this alleged universal scarcity is that if we imagine the price of any good reduced to zero, the quantity demanded would exceed the quantity supplied (Boyes & Melvin 2013, pp. 4–5; Kohler 1990, p. 5; Ruffin and Gregory 1983, p. 24; An anonymous referee wrote, 'Scarcity is referenced to a price of zero'.) If the price of *every* good and service were reduced to zero, the quantity demanded would exceed the quantity supplied for all of them. Consequently, economists conclude that everything that has a price is scarce.

There are three things wrong with this argument.

First, and by far most important, economists are not entitled to ignore the fact that if the price of everything were zero (imposed, let us imagine, by some

extraterrestrial tyrant), nothing would be produced, there would be no goods to consume, we would all starve to death, after which nothing would be scarce. (If there were a few survivors, they would have to live in self-sufficient settlements, the way people lived in the Dark Ages, when there was no money, no prices, and nothing that could be called an economy.)

Second, this approach confuses scarcity with shortage. Economists define a shortage of a good as an excess of the quantity demanded over the quantity supplied at the current price. This definition does not require a positive price, that is, a price above zero. If the demand exceeds the supply, the excess is a shortage— not a scarcity— whatever the price is.

Third, this approach obliterates the differences in the scarcity of goods. There is no way to compare the quantity of cars that people would want if cars were free with the quantity of computers or candy bars that people would want if they were free, and no intelligible meaning that could be given to that quantity if it could be calculated. In a fantasy world where the price of everything is zero, and goods somehow continue to be available, everything would have to be taken as equally scarce or equally abundant.

An alternative argument for the universality of scarcity appears in many microeconomic texts. To be scarce, these authors say, is the equivalent of being limited. The quantity of productive resources is limited and this fact, combined with the allegedly unlimited wants of human beings, is what makes it necessary to choose what to produce and in what quantities (e.g. Besanko and Braeutigam 2005, p. 3; Case and Fair 2002, p. 2; Chiang and Stone 2014, p. 4; Mateer and Coppock, 2014, p. 6). By implication, if resources were unlimited, everything could be produced for free in whatever quantities people wanted. We are not told who is going to do all this production for free so the rest of us do not have to work. But observe that again, an imaginary world— this time of unlimited resources— is used as the base from which to explain the world that exists.

In reality, everything is limited, including the stars in the heavens and the number of atoms in the universe. The proper designation for the opposite of limited is infinite, and if infinity can be said to exist at all, it is only as a potential. For example, it is the nature of the cardinal numbers that, no matter how large the number, one more can always be added. In that sense, the cardinal numbers can be said to be infinite. But an infinite *thing*, an infinite *resource*, is unintelligible (Aristotle 1941, pp. 713–15; Peikoff 1991, pp. 31–2).

Modern economists consider any item as scarce if there is not enough to supply everyone (that is, the whole human race) with all they want for free. This concept of scarcity is a dead end. The purpose of a definition is to isolate a particular class of existents for special attention. The modern concept of scarcity applies to every single good or service produced anywhere in the world. It embraces everything and, consequently, isolates nothing.

Scarcity and its irrelevance to economics

Economics needs a definition of scarcity that performs a definition's proper function. Therefore, let us derive one.

What facts of reality give rise to the concept of scarcity? This is Ayn Rand's unique method for grasping the meaning of a concept— to identify the facts of reality which are its cause (Rand 1990, p. 51). Consider these concrete examples: (1) Soldiers have a scarcity of bullets on the battlefield; (2) A hunter encounters a scarcity of game; (3) Firemen have a scarcity of water to fight a fire; (4) Doctors have a scarcity of medicine following an earthquake; (5) A young lady has a scarcity of suitors; (6) A weekend sailor faces a scarcity of wind.

Each of these scarcities depends on the same fundamental facts. First, there are ends or values at stake that people want to gain and/or keep. Second, the means these people possess are insufficient to reach their ends. Sometimes when means are insufficient, it is easy to rectify the insufficiency, and sometimes it is difficult or impossible. Scarcity is defined as *an insufficiency of means that is either difficult or impossible to rectify.*

This concept of scarcity can be called *absolute scarcity* because scarcities of this kind stand alone. None of the six instances of scarcity listed above requires reference to any other scarcity in order to be understood. In each case, (1) there is a clear end that the means is insufficient to reach; (2) the end is the standard for identifying the insufficiency; and (3) the insufficiency is hard or impossible to fix. This is the concept of scarcity embraced by modern economists. It goes back at least to David Hume (1739, pp. 487–95; Robbins 1979). We have seen that economists typically do not define scarcity, but when they use the term, they mean scarcity as defined here. Indeed, this is what everyone means by scarcity when they know what they are talking about. But such scarcities are not economic scarcities.

Economic scarcity has to be defined in the context of a normally functioning economy. In that context, an economic scarcity would be *a good or service that is insufficient in supply when the insufficiency is difficult or impossible to repair*. But defined thus, economic scarcities appear in an exchange economy only under emergency conditions. In a modern economy, nobody complains that there is a scarcity of salt to season his dinner— because he can go out and buy more salt. The same reasoning is valid for any product for sale at a price. Whatever the goods and services that people have become accustomed to consuming, their complaint that any of them are scarce would strike us as strange, because any insufficiency is easily rectified. If one does not have as much as he needs, he buys more. A woman may cry "I have nothing to wear," when she receives an unexpected invitation. But then she finds something to wear. She does not have a scarcity of clothes.

The concept of scarcity is most often used in connection with natural resources, and natural resource economists have long struggled with its meaning. They have wanted to compare the known deposits of natural resources with the expected future need for them, identifying those that are most scarce, and therefore most worthy of public concern. Their problem has been that when a price is put on the resource, the disparity between supply and demand disappears [2]. The solution to this problem is to recognize that the concept of scarcity is not applicable to goods that exist in a price system.

When the quantity supplied equals the quantity demanded at the going price, the supply is sufficient. If the supply is sufficient, it is not scarce. In the real world, as opposed to the Garden of Eden, you cannot ask for more than that.

Consider this commonsense description of ordinary business practice. First, the owner of the business sets a price at which he expects to sell a quantity sufficient to yield a profit. Selection of this price takes account of his unit costs at the quantity he expects to sell, of the prices charged by competing firms, of the quality of his product relative to theirs, and potentially of many other things. Having set the price, the owner supplies whatever quantity people want to buy at that price. There is likely to be a particular level of sales the firm must reach in order to cover its costs. But there is no single, ideal 'profit-maximizing quantity.' The seller wants to sell whatever he can sell at the price he has set. If his customers want to buy more than he is offering for sale, he increases output to meet the demand, and his profits rise. If his customers want to buy less, he reduces output to meet the demand, and his profits fall. Usually, the seller does not change his price when demand changes. Since he chose the price to yield a profit, and it is yielding a profit, he has no reason

to change it. The result of this process is that everyone who is willing to pay the price is able to get the product. If they are unwilling or unable to pay the price, then they cannot be said to demand the good.

It is a platitude among modern economists that prices are the means of rationing scarce goods and services among buyers. But if goods and services are not scarce, then price is not a rationing device. The case for viewing the price system as a system of rationing depends on another fantasy, on viewing the economy in the imaginary world of comparative statics, where everything takes place at a point in time. Viewed from that perspective, the whole economy consists of stocks of goods for sale, which somehow must be distributed to customers. In that context, we can imagine prices going up or down to adjust the quantity demanded to the quantity supplied. But what we can imagine does not exist.

In the real world, usually prices do not rise and fall to equate the quantity demanded to the quantity supplied. Instead, the most likely response to a change in demand is adjustments in supply at the going price, as described above. That is not the only possible response to a change in demand, but that response is probably more frequent than any other response. The primary function of a price system in an economy is *not* to ration a fixed quantity among many grasping hands. On the contrary, the most important functions of a price system are (1) to reward producers for making their goods and services available, (2) to distribute those goods and services to the customers willing to offer the highest rewards in exchange, and (3) to provide producers with the means to go on producing. *Mobilizing continuous production through time is probably the most important contribution of a price system to an economy's participants.*

Rationing is like censorship. Properly understood, it is something only the government can do. The price system of a free economy is not a system of rationing. It has nothing in common with the threats of fines and imprisonment that are the stock-in-trade of any rationing system.

A clash of methods

The concept of scarcity has been the foundation of economic orthodoxy for over fifty years. It has survived because it has been supported by the premise at the base of modern economics, a premise that acts as an intellectual scaffold, holding up ideas which would otherwise fall to the ground. That premise is subjectivism.

Economic subjectivism holds that consumer emotions are the foundation of an economic system— emotions such as desires, wishes, wants, yearnings, longings, preferences, and utility. The subjectivist conception is that the entire economic system is an evolving emergent product of what people want and how much they want it. The value of a particular kind of labor is derived from the value to consumers of the product that labor produces. The base is consumers' desires, which radiate throughout the economic system, directly and indirectly causing everything about the economy.

In its economic iteration, subjectivism has evolved with the moral imperative that everyone *should* have all they want of everything they want. Since that condition could be fulfilled only if wishing made it so, the implicit normative premise is that *wishing should make it so.* At root, economists hold that the supply of everything is scarce because wishing does *not* make it so. The underlying conception is the Garden of Eden. If the supply of everything were not scarce, we could pick whatever we wanted off a tree or a shelf. There would be no work, no production, no exchange, no economizing, and no necessity for choice. It was the expulsion of Adam and Eve from the Garden of Eden, the Bible says, that made it necessary for man to earn his bread by the sweat of his brow, and the Garden of Eden is the implicit frame of reference economists have used to analyze scarcity [3].

This is an instance of the method, universal in modern economics, of imagining some unreal, impossible, out-of-this-world condition, and then using that condition as a platform from which to explain, evaluate, or criticize the world that exists. The fantasies of zero prices and unlimited resources are minor instances. The outstanding example is the perfectly competitive model.

The theoretical construction on which economics has erected universal scarcity is largely hidden from view. It is a world in which anyone can have any economic value at the price of a wish. The essence of the argument is that *since wishing does not make it so, we have this problem of scarcity to deal with.* If everything we want is not available to us for free, without effort, then the quantity of everything is scarce. But scarce by what standard? By the standard of the priority of wants, the standard that everyone should have everything they want without regard to means, the standard that wishing should make it so.

In their understanding of scarcity, as in their understanding of everything else in economics, modern economists are true to their subjectivist premise— they take emotions as the starting point. As a consequence, the issue of man's nature and what

he requires in order to survive does not come up. If we take men's desires as the root of economic activity, we cut loose from reality the entire realm of economics. Emotions are not a means to knowledge. What people feel about something cannot tell us anything about the world except what they feel [4].

The error in the standard approach is fundamental. To understand the world, one must look at the world. If one looks at the world, what does one see? The cause of *production* is the fact that everything that people need in order to survive has to be produced. The enormous advantages of the division of labor are the cause of *exchange*. The cause of *economizing* is the increase in the standard of living that human beings achieve by the careful management of their resources. Nor is scarcity the cause of *choice*; even if wishing made it so, we would still have to choose what to wish for. For modern economists, the answer to these points is embedded in their subjectivist premise: 'the reason everything has to be produced is that everything is *scarce*', they would say. But we have seen that in an economy governed by a price system, goods and services are not scarce.

For the economic scientist, the fundamental issue should be: what are the relevant economic facts? The fact at the base of economic activity is man's nature as a rational animal. Because of his faculty of reason, man is able to produce the things he needs to survive, to trade the product of his work for the product of the work of others, and to manage his economic means to reach his most important ends. The proper standard for judging the functioning of an economy is not the satisfaction of consumer desires; it is man's nature as a rational being and what he needs to live on earth [5].

What do human beings need to live on earth? Everything that contributes to the successful enjoyment of their lives: dishwashers and microwaves, cars and trucks, green beans and lemonade, iPads and iPods, toothpaste and movies and symphony orchestras and football games— every life-affirming, life-supporting, life-enhancing, effort-saving, entertaining good or service that has ever been discovered or is yet to be discovered— everything that is a value on the standard that it makes better man's life on earth.

Relative scarcity and its role in economic thought

The concept of scarcity that economics cannot do without is relative scarcity. Economic scarcity *is* relative scarcity. All goods are scarce, but only relative to the

scarcity of other goods. If a good is extremely scarce, we can make that assessment only by comparison to the scarcity of most other goods. Similarly, a good can be abundant, but only relative to the abundance of other goods. Abundant means much less scarce than most goods.

The concept of relative scarcity exactly parallels the concept of relative prices. Economists hold that all prices are relative prices. The meaning of each individual price to human beings depends on its relation to the network of other prices in which it exists. In an economic system, there are no absolute prices. No price stands alone. Alternatively, every price is an absolute, but its absolutism consists of its relation to other prices. No scarcity stands alone in exactly the same way and for the same reason that no price stands alone. Every good's relative scarcity can be grasped only by comparing its price to the price of some other good or goods.

There are three relationships involved in every case of relative scarcity: (1) there is the demand relative to the supply of one good, and (2) the demand relative to the supply of another good, and (3) the prices of both relative to each other. This is clarified by comparing the relative scarcity of cars and dishwashers. (1) The relative scarcity of cars is measured by their price, and that price reflects not just the supply (the number of cars offered for sale), but that supply relative to the demand (the number of cars customers want to buy at that price). (2) The relative scarcity of dishwashers is measured by their price, which reflects the number of dishwashers offered for sale relative to the number of dishwashers consumers want to buy. The relative scarcity of cars and dishwashers is measured by their relative prices, but neither price alone tells us anything. It is their prices in relation to each other that reveals, for example, that cars are twenty to thirty times more scarce than dishwashers.

It is widely recognized by economists that the prices in a capitalist economy constitute a network of relative prices. Less widely recognized is the fact that the network of relative prices simultaneously constitutes a network of relative scarcities. As Heyne noted, 'relative prices . . . function as indexes of scarcity' (1997, p. 121). Relative prices tell us the scarcity of every good and service relative to the scarcity of every other good and service. The evaluation of a good as abundant or scarce, or very scarce, or extremely scarce depends on the scarcity of the goods to which one is comparing it, and it is only by comparison that a good's scarcity can be estimated. Thus, the high price of diamonds compared to rhinestones means that diamonds are much more scarce than rhinestones. The high price of houses compared to bicycles

tells us that houses are many times more scarce than bicycles, but relative to the scarcity of Gulfstream jets or super-yachts, houses are abundant.

When the demand for a good changes relative to its supply, or the supply changes relative to its demand, that is a change in the relative scarcity of that good, and normally the price changes to reflect that fact. Relative scarcity is measured by the price necessary to equate the quantity demanded to the quantity supplied. A higher price indicates greater relative scarcity; a lower price indicates less relative scarcity (or greater relative abundance)— that is, relative to any other good whose price has not changed. For example, suppose the lumber industry sells two million board feet of lumber a day at 17 cents a board foot, and lumber customers increase their demand to three million board feet a day. If the lumber industry is unable to increase its output, speculators in the commodity markets will bid up the price of lumber and demand will fall. Let us say, at 23 cents a board foot, the demand returns to two million board feet a day and the quantity supplied again equals the quantity demanded. Lumber is now more scarce, and the increase in price from 17 cents to 23 cents a board foot measures the increase in its relative scarcity.

The relation between relative prices and relative scarcity is auspicious for a market economy. Since the scarcest goods have the highest prices, business firms are motivated to economize on those goods. In doing so, they minimize their costs and simultaneously release factors of greater relative scarcity to those businesses that value them more highly. When a business firm weighs the price of a factor in deciding on its purchase, it is simultaneously weighing the factor's relative scarcity. The firms who purchase a factor have the most important use for that factor, in their judgment. Those with less important uses, also in their judgment, buy less expensive factors. Thus, the value in production that firms receive from the factors they buy exceeds the value that would have been received by the firms who do not buy, both in the judgment of the people involved. This is the principle by which a free economy distributes the factors of production among the businesses of an economy.

The principle of economizing on the use of scarce factors also determines the method of production that businesses choose. They choose the method that uses the least scarce or most abundant factors, which means that, other things equal, they choose the lowest cost method.

Another consequence of the identity between scarcity and price is that producers treat with greater care goods that are relatively more scarce because such goods are

more expensive. Business firms buy copy paper and paper clips routinely, as needed. But it is completely different with a machine tool or a turbine engine which cost millions of dollars. Then the product will be bought (or not bought) only after scrupulous calculation and consideration. This means that expensive items get more thought than inexpensive items, which is a requirement for a rationally functioning *business*. At the same time, it means that more scarce items get more thought than less scarce items, which is a requirement of a rationally functioning *economy*.

This final point could be made only after the preceding explanation of relative scarcity. The purpose of this paper is *not* to replace scarcity with relative scarcity in economics. Scarcity means an aspect of individual goods considered in isolation, that is, the *quantity* of a good is insufficient to reach one's end. Relative scarcity is about the *prices* of goods in relation to one another. Replacing either concept with the other is not a meaningful idea. The purpose rather is to move scarcity to the sidelines of economics and to give relative scarcity a central place. Relative scarcity is a much more sophisticated and difficult concept than scarcity. Much work remains to be done to elaborate it, and this paper concludes by urging economists to take up that work. What has been done here is only the beginning, i.e., an explanation of the meaning of relative scarcity, and some indication of how it can be used to help explain the functioning of an economic system.

Conclusion

Modern economics takes the following facts as proof of universal scarcity. Considering the totality of a modern market economy, there are not enough factors of production to produce more of every consumer good, and there are not enough consumer goods to satisfy every life-enhancing use. What is the name for this condition? It is not a shortage because the quantity demanded equals the quantity supplied. It is not scarcity because there are no insufficiencies that cannot be remedied. What is it? It is an irrelevant social fact.

Wishing does not make it so. The fact that we could wish for more goods and we could do something useful with them is irrelevant in this world. We could wish that dragons existed and flew to the rescue of people in trouble. We could wish for angels to give us comfort and support when life is hard. Scarcity is no more the cause of production and exchange than the absence of dragons and angels is the cause of human suffering.

Following Robbins (1932), economists have believed that scarcity is the cause of their science for over half a century. This paper has argued that in a modern economy, there are no scarce goods or services because at the going price of every product, the quantity supplied is sufficient to satisfy the demand. In opposition, modern economics has a standard by which *everything* is insufficient, 'the satisfaction of men's subjective wants.' They argue that since everyone cannot have all they want of everything they want regardless of means, everything is scarce. This viewpoint presupposes the metaphysical value judgment that everyone *should* have all they want of everything they want regardless of means, that is, wishing should make it so. But wishing does not make it so; ergo, economists conclude that everything in the economy is scarce.

The implied model is the Garden of Eden where we can have whatever we want at the price of picking it off a tree. In such a world there would be no production or trade, or any other trace of economics. But such a world is a fantasy and by its nature, there is no necessary relation between a fantasy and reality. In this case, the fantasy is not just different from reality; it is the opposite of reality.

If we want to understand the world, we have to start by looking at the world. Why do human beings produce? Not because everything is scarce, but because if we want to live, we have to produce the means. Why is there trade and exchange? Not because this is *not* the Garden of Eden, but because of the enormous advantages of the division of labor. A scientist should begin with one question: what are the facts? The fact at the base of economic activity is man's nature as the rational animal.

The concept of scarcity should not be jettisoned from economics, but its general irrelevance should be made clear. Its relevance is limited to the fact that sometimes, in emergencies, important goods and services are scarce. Alternatively, as we have seen above, *relative* scarcity is important to economics. It should be embraced by economists and its implications for understanding the operation of a free economy should be tracked down, recorded, and taught. When the time is reached that economists are talking and writing about relative scarcity rather than scarcity, economics will be moving in the right direction.

Appendix: some implications of the preceding analysis

If economists were to become convinced that their idea of universal scarcity is false, what would take its place? The answer is not obvious. Consequently, this appendix

gives a few leads to some of the more likely implications for economics, if the analysis of scarcity presented here were to be accepted.

1) Man's nature as the rational animal would replace consumer wants as the starting point of economics.

2) The foundation of this paper is its method. In order for economists to accept the analysis, they would have to accept the method, and if they accepted the method, the results would be revolutionary for all of economics. The only method permitted in modern economics is mathematical model-building. Accepting the method of this paper would mean giving up that method.

3) If economists abandoned the method of model-building, the first theory to disappear would be perfect competition. The perfectly competitive model is the foundation for all of modern microeconomics. Giving it up would mean that the entire theory of price would have to be reconceived. And since the perfectly competitive model is the source of the supply curve, the law of supply and demand also would have to be reconceived [6].

4) Welfare economics depends on perfect competition for both of its fundamental theorems. It is hard to see what the content of welfare economics would be without the perfectly competitive model.

5) Economists would stop viewing the price system as a rationing system. This is the most important *practical* implication of rejecting universal scarcity. Modern economists see no difference between the 'rationing' allegedly accomplished by the price system and the rationing imposed by states after they have wrecked the economy by wage and price controls. They see no difference because they are blinded by the concept of prices as rationing devices. In fact, there is no more fundamental difference in human affairs. Price controls and rationing are the product of physical force and fear. In more civilized countries, so-called 'price-gougers' go to jail. In less civilized countries, they are shot in the street (e.g., Saigon during the Vietnam War). The idea of universal scarcity ends up equating voluntary trade with the rule of brute force.

6) *Every price is set by somebody.* This is the premise that could replace universal scarcity as the starting point for economic thought. It is not literally true (some prices are negotiated), but it is close enough, and in one fell swoop, it eliminates all the mumbo jumbo about 'impersonal market forces' in the determination of price [7].

7) Finally, a few comments on the effects of this analysis outside the field of economics: The author is not an expert on any other social science, but the view that scarcity is the foundation of economics has dominated economic thought for the last fifty years. It would be surprising, therefore, if this view had not penetrated the foundations of other social sciences. It seems more than likely that at least in some subjects (e.g., politics, sociology, anthropology), some considerable reorientation on a fundamental level would be required. Furthermore, other social sciences, like economics, whose purpose is to analyze some of the myriad of activities in which human beings engage, would have no alternative but to begin with the fact of man's rational nature.

Endnotes

[1] For evidence of the pervasiveness of scarcity in modern economics, see Backhouse and Medema (2009b, pp. 223-27.).

[2] For instances of their difficulty, see Barnett and Morse 1963, Cairns 1990, Heal 1981, and Stern 1999.

[3] Sometimes this is explicit. See, for example, Alchian and Allen 1972, p. 3; Prager 1993, p. 7; Samuelson and Nordhaus 1995, p. 4; Waldman 2004, pp. 2–3.

[4] Harrod (1938) argues hard for the opposite viewpoint.

[5] I can do no more than mention here some of the paraphernalia of behavioral economics, such as the ultimatum game, framing, anchoring, and arbitrary coherence that are alleged to show the failure of reason. Properly understood, those results presuppose and confirm the validity of reason in every detail, beginning with the origin of the analysis in somebody's reasoning mind.

[6] Indeed, for all practical purposes, modern economists have abandoned the law of supply and demand, and it does not appear in most graduate microeconomics textbooks. See, for example, Jehle and Reny 2011; Kreps 2013; Mas-Colell, Whinston, and Green 1995; Riley 2012. The standard diagram appears on the first page in Kreps, but not again.

[7] For more along these lines, see Buechner (2011).

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M. Northrup Buechner is Associate Professor of Economics at St. John's University, New York. (buechnen@stjohns.edu)