

# Institutions, Economics, and the Economy

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## Abstract

Neoclassical economics, which forms the foundations of mainstream economic analysis, is institution-free. But the economy is not a group of people or a set of prices and quantities. It is an institutional framework within which people interact to improve their economic well-being. The institution-free framework of neoclassical economics engages in economic analysis while assuming away the economy. When teaching the neoclassical framework, it is worth emphasizing not only that the framework uses simplifying assumptions, as all models do, but that those assumptions hide the mechanisms that produce the neoclassical equilibrium outcomes. How much faith should one place in policies derived from economic models that do not take the economy into account?

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## I. Introduction

The economy is a set of institutions within which people interact to improve their well-being. Neoclassical economics, which forms the foundations of mainstream economic analysis, describes a constellation of prices and quantities that would exist if all economic forces played out, resulting in an equilibrium. It does not describe the processes that lead the economy to an equilibrium set of prices and quantities, and it does not describe how participants locate each other to engage in economic activity. Institutions serve those functions. Neoclassical economics undertakes economic analysis without taking the economy into account.

The economy is not a set of prices and quantities. It is an institutional structure that allows people to interact productively. Those institutions *are* the economy. The interaction of people within the economy does generate prices and quantities, but those prices and quantities are the result of economic activity. They do not describe an economy. Mainstream economics began squeezing the economy out

of economic analysis as the neoclassical theory of value was developed in the late 1800s, and by the mid-twentieth century, the foundations of mainstream economic analysis had completely eliminated the economy from its theories.<sup>1</sup>

All models make simplifying assumptions. Instructors teaching the neoclassical framework can help students understand the limitations of that framework by emphasizing that omitting institutions from the model is more than just another simplifying assumption. It omits the economy that generates the prices and quantities the model depicts. One should be wary of drawing policy conclusions from an economic model that omits the economy. After reviewing the factors that led political economists to develop institution-free models, the paper discusses the policy relevance of this omission.

## **II. Equilibrium Models**

The Marginal Revolution was the prelude to neoclassical economics, with major works by Menger ([1871] 2007), Jevons (1871), and Walras ([1874] 2014), who showed that marginal adjustment by market participants would lead to an equilibrium in which the marginal utility consumers received from each good would equal the good's price. Menger and Jevons described utility-maximizing behavior that would lead to this outcome. Walras imagined a hypothetical auctioneer who called out a vector of prices, iterating toward a general equilibrium in which the quantity supplied equaled the quantity demanded for all goods.

Walras's goal was not to explain how markets work, but to demonstrate that there is a vector of prices that will clear all markets. This was a matter of dispute at the time. Say ([1802] 1880, p. 133) stated what is known as Say's law: "It is production which opens a demand for products." He continued, "A product is no sooner created, than it, from that instant, affords a market for other products to the full extent of its own value. . . . Thus, the mere circumstance of the creation of one product immediately opens a vent for other products" (p. 134).

Other economists, including David Ricardo and James Mill, agreed. But Malthus (1836, p. 316) said, "M. Say, Mr. Mill, and Mr. Ricardo, the principal authors of these new doctrines, appear to me to have fallen into some fundamental errors in the view which they have taken on the subject." He added that with wages held at a

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<sup>1</sup> References to the foundations of economic analysis that occur throughout the paper are references to Samuelson (1947). Samuelson codified the increasingly mathematical formalization of mainstream economic theory.

subsistence level, an increase in productivity will produce more goods than people will be able to afford to purchase, and “there may be an universal glut of commodities” (p. 320).

Walras addressed this controversy by demonstrating that there was a vector of prices that would cause the quantity supplied to equal the quantity demanded in all markets, which means there would be no gluts.<sup>2</sup> He did not describe the process that would lead to that equilibrium vector of prices; his objective was just to show that there is such a set of prices.

Neoclassical economics begins with Marshall ([1890] 1936), who described economic activity in dynamic terms, but then said, “But to prepare the way for this advanced study we want first to look at a simpler balancing of forces which corresponds rather to the mechanical equilibrium of a stone hanging by an elastic string, or of a number of balls resting against one another in a basin” (p. 323). Marshall’s comparative static method, his depiction of supply and demand, and his portrayal of competitive and monopoly market structures remain as a part of basic economics into the twenty-first century.

Marshall’s comparative static method was augmented by Hicks ([1939] 1946) and Samuelson (1947), who extended and developed those ideas into a more mathematically rigorous general equilibrium framework that Samuelson called the foundations of economic analysis. Hicks (p. 2) cited Walras, Vilfredo Pareto, and Knut Wicksell as antecedents to his approach, and wrote, “The method of General Equilibrium, which these writers elaborated, was specially designed to exhibit the economic system as a whole, in the form of a complex pattern of interrelations of markets.” He called out Marshall, saying (pp. 2–3), “It is a pity that the authority of Marshall has confirmed so many people in the belief that it *can* do no more than the counting of equations.”

Hicks ([1939] 1946, p. 7) noted some limitations of his work, writing that “this is a work in Theoretical Economics, considered as the logical analysis of an economic system of private enterprise,

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<sup>2</sup> The controversy resurfaced with Keynes (1936: 18), who wrote, “From the time of Say and Ricardo the classical economists have taught that supply creates its own demand;—meaning by this that in some significant, but not clearly defined, sense that the whole of the costs of production must necessarily be spent in the aggregate, directly or indirectly, on purchasing the product.” Keynes disagreed, noting that some income leaks out of the expenditure flow in the form of saving, which does not create demand.

without any inclusion of reference to institutional controls.” After commenting on the importance of institutions, he continued, “It is only when both these tasks are accomplished that economics begins to near the end of its journey.” Institutions are important but omitted in his exposition of the theory of value, Hicks said.

Samuelson (1947, p. 8), describing his treatise, said, “This, in brief, is the method of *comparative statics*, meaning by this the investigation of changes in a system from one position of equilibrium to another without regard to the transitional process involved in the adjustment.” Samuelson (p. 9) dismissed the idea of causation in an equilibrium framework, saying, “Once the conditions of equilibrium are imposed, all variables are simultaneously determined. Indeed, from the standpoint of comparative statics equilibrium is not something which is attained; it is something which, if attained, displays certain properties.” The “if attained” caveat is appropriate because, as Samuelson recognized, his method proceeds “without regard to the transitional processes involved in the adjustment.” He described one aspect of *what* an economy does—it produces equilibrium prices and quantities—but did not explain *how* an economy does it.<sup>3</sup>

By the mid-twentieth century, the general equilibrium framework was taken by mainstream economics to be a description of the economy. Debreu (1959, p. 74) said, “To be precise, an economy is defined by  $m$  consumers (characterized by their consumption sets and their preferences),  $n$  producers (characterized by their production sets), and the total resources. A state of the economy is a specification of the action of each agent, and a state is said to be attainable if the action of each agent is possible for them and if their  $(m + n)$  actions are compatible with the total resources.” The  $m + n$  agents have possible actions that would lead to an equilibrium, but how do they know which actions they should take?

Debreu (1959, p. 74) explained, “Each agent chooses an action. These  $(m + n)$  actions are not necessarily compatible with the total resources. Can one find a price system which makes them compatible? The answer is given . . . in the form of an existence theorem . . . This fundamental theorem of the theory of value explains the prices of all commodities and the actions of all agents in a private ownership economy.” Debreu was saying that there exists a

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<sup>3</sup> An economy does much more than just generate prices and quantities, of course, starting with the production of goods and services that enable those within the economy to survive.

set of prices that makes all agents' actions compatible with each other and that explains "the actions of all agents" in the economy.

The general equilibrium model does not explain the prices of all commodities in the economy, nor does it explain any of the actions of the agents in the economy. It only demonstrates that there is a vector of prices that would clear all markets if there were no impediments to making mutually advantageous exchanges. It does not explain the prices, because the way that prices are determined is not in the model. As Samuelson stated, the equilibrium framework just compares one equilibrium with another. And it does not explain the actions of agents in the economy. It describes how much they would like to supply or demand of all goods at equilibrium prices, but it does not explain how suppliers find buyers for their goods or how demanders locate sellers for the goods they demand.

The model does not describe or explain market transactions. It only describes an equilibrium vector of prices. If transaction costs were zero, so that suppliers and demanders could costlessly locate each other, the transactions could take place, although the model does not explain how. Transaction costs are anything that stands in the way of a mutually beneficial exchange. If nothing was impeding exchanges, they could take place. Williamson (1985, p. 19) said, "Transaction costs are the economic equivalent of friction in physical systems." As Furbotn and Richter (2005, p. 12) explained, "The neoclassical model is based squarely on the assumption that transaction costs are zero."

Transactions occur in an economy. Equilibrium models do not describe the economy within which transactions occur. They assume away the economy to describe a set of prices and quantities that would clear markets. Equilibrium models address the question of *what* prices and quantities would exist in a market order. They do not address the question of *how* the economy generates that order. In an economy with transaction costs, institutions facilitate a market process that leads markets to clear.

### III. The Role of Institutions

Consider the general equilibrium model as a framework for analysis. Two big questions arise for market participants. First, how do they discover equilibrium prices? Second, even if they know equilibrium prices, how do they find others in the economy with whom to trade? North (2005, p. 48) states that "all organized activity by humans entails a structure to define the 'way the game is played,' whether it is

a sporting activity or the working of an economy. That structure is made up of institutions—formal rules, informal norms, and their enforcement characteristics.”

Firms and consumers in a neoclassical competitive market are price takers. The obvious problem with this assumption is that for prices to change, someone has to act to change their prices. The assumption may not be bad for some purposes, if it is taken to mean that economic forces require firms to set their prices at the competitive equilibrium. Still, the assumption does not address how prices change.

Smith ([1776] 1937, p. 57) provides an answer. Smith defines the natural price of a good as the price that just covers the cost of production, including a normal profit, and explains, “When the quantity brought to market exceeds the effectual demand, it cannot be all sold to those who are willing to pay the whole value of the rent, wages, and profit, which must be paid in order to bring it thither. Some part must be sold to those who are willing to pay less, and the low price which they give for it must reduce the price of the whole.” Similarly, he explains that when the quantity supplied falls short of the quantity demanded, some will be willing to pay more, initiating a competition that causes the market price to rise.

Kirzner (1973) provides a similar answer, depicting entrepreneurs as spotting profit opportunities when markets are in disequilibrium. Acting on those profit opportunities equilibrates the market. As Smith described, entrepreneurs notice opportunities to raise their prices when the quantity demanded exceeds the quantity supplied, and they recognize the necessity of lowering their prices when the quantity supplied exceeds the quantity demanded.

The common element in these explanations is that when there are shifts in supply or demand, trades take place at disequilibrium prices, and the resulting difference between the quantity supplied and quantity demanded sends a signal to sellers that they should adjust their prices. That market process is not depicted in equilibrium models. Trades at disequilibrium prices are the catalyst that leads markets toward equilibrium. Because economic conditions are always changing, and because each participant in the market has only incomplete knowledge about market conditions, markets are in a continual process of adjustment, in which suppliers and demanders are groping toward what they perceive as their best economic options.

Hayek (1945) explains that market institutions allow individuals to make best use of the knowledge held by others, without having to

acquire that information themselves. Market participants look at price signals, and in response adjust their own prices, in a process that leads toward the equilibrium outcome described in equilibrium models. Equilibrium prices are approached as people interact within market institutions—institutions that are not depicted in equilibrium models. In contrast to Debreu's claim, a general equilibrium model does not describe or explain any of the actions of market participants.

When everyone is a price taker, all trades occur at the equilibrium price that somehow appears in the market. The process of adjustment leading toward equilibrium requires that some trades be made at disequilibrium prices to signal market participants that prices should change. Equilibrium prices are not just given, as it would appear in equilibrium models. The economic activity of market participants generates them.

Now assume that there is an auctioneer who calls out equilibrium prices so that everyone knows the equilibrium prices of all goods. Even if they know the equilibrium prices, market participants will face the challenge of locating trading partners. Someone who wants to buy milk does not just wander into the economy hoping to find someone who wants to sell milk. That person can go to a grocery store, an organization that facilitates matching suppliers of edible goods with demanders. Similarly, someone who wants to borrow money does not just wander into the economy hoping to find willing lenders. Banks and other financial institutions facilitate the matching of suppliers and demanders for loanable funds.

Institutions play the role of lowering transaction costs to facilitate mutually advantageous exchange. Market institutions enable suppliers and demanders to locate each other. North (1991, p. 98) writes, "In transaction cost terms, institutions reduce transaction and production costs per exchange so that the potential gains from trade are realizable. Both economic and political institutions are essential parts of an effective institutional matrix." Because equilibrium economics omits institutions, it omits the economic activity that generates equilibrium outcomes.

Furbotn and Richter (2005, p. 1) say, "The central message of the New Institutional Economics is that institutions matter for economic performance." An economic analysis without institutions cannot give an accurate representation of economic activity, because it omits an analysis of the economy.

#### **IV. The Economy Is a Set of Institutions**

The economy is the set of institutions within which people interact to improve their well-being. The economy is the set of organizations within which people interact, along with the rules that govern those interactions. It is the businesses, the government organizations, and the formal and informal institutions that enable people to interact. The economy is not a group of people. People interact within the economy. The economy is not a set of prices and quantities, as equilibrium theories would depict it. Economic activity generates a set of prices and quantities that are determined by the interactions of people within the economy, but the economy is the set of institutions within which people interact to generate those prices and quantities.

Equilibrium theories of the type described by Hicks ([1939] 1946) and Samuelson (1947) are examples of economic analysis undertaken without taking into account the economy. These theories do not even imply that an economy exists, because they do not explain price formation and do not describe exchange. They show a set of equilibrium prices that, if attained, would clear all markets if there were no transaction costs. They show the prices and quantities that would exist if transaction costs were zero, so that no economy would be necessary to facilitate mutually advantageous exchange.

In the real-world economy, suppliers and demanders locate each other by interacting within a set of institutions that reduces transaction costs to facilitate mutually beneficial exchange. Those institutions—absent from equilibrium models—are the economy. When conditions change, equilibrium prices may change, and the evidence that prices are not at their equilibrium values is generated through disequilibrium exchanges. An economy is a set of institutions that enable people to transact for their mutual benefit. The general equilibrium model does not contain an economy.

#### **V. Defining Economics**

Textbook definitions of economics tend to follow the one Lionel Robbins offered in the 1930s. Robbins (1935, p. 16) defines economics as “the science which studies human behavior as a relationship between ends and scarce means which have alternative uses.” This definition makes it appear that economics studies the way people and groups choose to allocate scarce resources to best satisfy their many wants. Definitions like this correspond with the use of equilibrium models for economic analysis because they omit the role of the economy.

Many textbooks on neoclassical economic theory make reference to a Robinson Crusoe economy—an economy in which Crusoe is the only individual in the economy, who then must choose how to allocate his scarce time among many different uses.<sup>4</sup> The economic problem Crusoe faces is depicted as analogous to the economic problem an entire society faces. A simple but common example is the trade-off between producing guns and butter. In the Crusoe example, it is obvious, but never stated, that there is no economy. Crusoe is just making decisions himself about how to spend his time. Robbins's definition of economics opens the possibility of economic analysis in the absence of an economy.

Robbins's definition may be appropriate for describing equilibrium economics because it is compatible with the constellation of prices that tend to emerge in a market economy. Those prices represent the opportunity cost of choosing one thing over another. If, however, the subject matter of economics is the economy, those trade-offs exist regardless of whether there is an economy. One can talk about a Crusoe economy within Robbins's definition only because Crusoe faces choices, and there is an opportunity cost to those choices. But there is no economy in Crusoe's solitary existence—no institutional structure within which people transact to improve their material well-being.

North (1991, p. 97) says, "Institutions are the humanly devised constraints that structure political, economic, and social interaction." There are no institutions in Crusoe's world, because Crusoe has the option of doing whatever he chooses. He faces natural constraints, but no institutional constraints. The economy is a set of institutions within which people interact—something that is not captured in Robbins's definition of economics.

## **VI. Markets and Choices**

The equilibrium framework makes it appear as if individuals have utility functions and, when faced with alternatives, reference those utility functions to make their choices. The general equilibrium framework relies on "well-behaved" utility functions to generate the unique stable equilibrium described by Arrow and Debreu (1954). The direction of causation actually goes the other way. People do not reference their utility functions to make choices. They make choices,

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<sup>4</sup> Varian (1990) is an example, but this is so common that one cannot point to the definitive reference.

and the choices they make define their utility functions. Buchanan (1964, p. 217) writes:

If the utility function of the choosing agent is fully defined in advance, choice becomes purely mechanical. No 'decision,' as such, is required; there is no weighing of alternatives. On the other hand, if the utility function is not wholly defined, choice becomes real, and decisions become unpredictable mental events. If I know what I want, a computer can make all of my choices for me. If I do not know what I want, no possible computer can derive my utility function since it does not really exist.

Reiterating this point, Buchanan (1999, p. 245) says, "Individuals do not act to maximize utilities described in *independently existing functions*. They confront genuine choices, and the sequence of decisions taken may be conceptualized, *ex-post*, (after the choices) in terms of 'as if' functions that are maximized. But those 'as if' functions are, themselves, generated in the choosing process, not separately from the process."

Buchanan (1999, p. 244) says that "the 'order' of the market emerges *only* from the process of voluntary exchange among the participating individuals. The 'order' is, itself, defined as the outcome of the process that generates it. The 'it,' the allocation-distribution result, does not, and cannot, exist independently of the trading process." Buchanan's point bears directly on the main theme of this paper. The market outcome—the prices and quantities that are produced through market exchange—are the product of the process that produces the outcome. The outcome of the process cannot be known without the process. The general equilibrium model describes an outcome, leaving out the process. It describes *what* the economy does, but not *how* the economy does it.

Taking an institutional approach to economics, Buchanan (1964, p. 214) says, "Man's behavior in the market relationship, reflecting the propensity to truck and to barter, and the manifold variations in structure that this relationship can take, these are the proper subjects for subjects for the economist's study."<sup>5</sup> Buchanan continues, "In Robbins [*sic*] vision, our subject field is a problem or set of problems, not a characteristic form of human activity." If economics is the study of the economy, its focus should be on the institutions within

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<sup>5</sup> See also Buchanan (1969).

which people interact—that is, the economy—rather than on the way that people and societies make choices.

Buchanan's methodological approach supports the arguments made in this paper, but this paper goes a step further by observing that with its focus on equilibrium prices and quantities, the neoclassical approach does not even recognize that there is an economy. An economy—the institutions within which people interact to improve their material well-being—does not even show up in neoclassical economics.

## **VII. Implications for the Classroom and for Public Policy**

All models make simplifying assumptions, but the omission of institutions from equilibrium models is more significant from a public policy perspective than most simplifying assumptions. The economy is the set of institutions within which people interact to improve their well-being, so students should be aware that the economy is omitted from the model. Far from being just another simplifying assumption, the omission of the economy from economic analysis is worth special emphasis.<sup>6</sup>

It matters because depicting the economy as a set of equilibrium conditions makes it appear that resource allocation is a computational challenge that is addressed by satisfying those equilibrium conditions. But as Hayek (1945) and Buchanan (1999) explain, the data used to satisfy those conditions are generated by the interactions of people within market institutions. The data to solve the computational problem do not exist absent the institutions that generate them.

From a policy perspective, the view that general equilibrium is a representation of the economy led to the socialist calculation debate in which Lange (1936) argued that central planners could solve the

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<sup>6</sup> This paper earlier discussed the assumption that participants in competitive markets are price takers. For another example, the neoclassical model of perfect competition assumes that firms in an industry produce homogeneous products. One might discuss in class the fast food industry, which is very competitive, although one of the competitive strategies firms use is to differentiate their products. But if consumers view the firms' offerings as close substitutes, the assumption may not be a bad one if the goal is to understand competitive equilibrium. A burger from one firm may be viewed as a close substitute for a burger from another, and many consumers may view fried chicken or tacos as close substitutes for burgers. Only a significant minority of consumers need to think this, because market adjustment occurs at the margin. By discussing the impact of assumptions rather than just presenting them as assumptions, students gain a greater appreciation of their role in economic models.

computational problem at least as effectively as competitive markets. Hayek's (1945) response was to describe the functions of market institutions that are omitted from the model. The problem is not just computational, because the data needed for the computations do not exist absent the market process that generates them.

The institution-free view of the economy also provides the foundation for the extensive literature on market failure that recommends government correctives for perceived shortcomings in markets and offers a foundation for industrial policy in which government planners direct resources to more productive uses. Omitting the economy from economic models is more than just an academic point. It has real policy implications.

All models are unrealistic in some manner, and a model's assumptions are always subject to criticism.<sup>7</sup> This particular criticism—that the economy is omitted from the economic model—seems more fundamental. Williamson (1990) explains that the motivation underlying the New Institutional Economics is to understand the way that the economy—the economic institutions within which people interact—addresses policy issues ranging from “market failures” to macroeconomic fluctuations. One should expect that economic policy recommendations will contain more insight when the framework within which those policy recommendations are developed actually takes account of the economy.

The classroom lesson is that omitting institutions from economic analysis is not just another simplifying assumption. It is omitting the economy from economic analysis. This is a more powerful lesson than treating the omission of institutions as just another simplifying assumption.

### **VIII. Conclusion**

The economy is a set of institutions within which people interact to improve their well-being. As economic theory developed in the twentieth century, its focus was increasingly on the prices and quantities that would exist in an equilibrium state in which all markets cleared. Hicks ([1939] 1946) and especially Samuelson (1947) were very influential in establishing the general equilibrium framework as the foundations of economic analysis. In that institution-free

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<sup>7</sup> Friedman's (1953) response is that the test of a model is its ability to predict. His response is subject to the Lucas (1976) critique that when conditions change, people may change their behavior so they no longer act as assumed in the model. Holcombe (1989) discusses the role of assumptions in more detail.

framework, economic analysis takes place without any analysis of the economy. The economy is omitted from that general equilibrium framework. Hicks and Samuelson said so explicitly.

One might wonder, as Kaldor (1972) and Kohn (2004) do, about the value of economic analysis that does not include the economy. Kohn (p. 306), criticizing the institution-free neoclassical equilibrium framework, says, "It is difficult to see how a 19<sup>th</sup> century economist, or even one from the 18<sup>th</sup> century, would have made a less useful policy adviser than a tooled-up modern theorist." Without doubting the contributions of individual economists to public policy, Kohn says, "Their advice has relied more on economic common sense than on high theory."

Heterodox economists have been critical of the neoclassical framework since its inception. Marx's (1906) critique predates neoclassical economics, and the importance of institutions was emphasized by early twentieth-century institutionalists like Veblen ([1899] 1973, 1904), Mitchell (1913), and Commons (1924, 1934). No economic model incorporates every feature of the economy. Simplifying assumptions make a model easier to understand than the complex real-world economy, with the hope that the relationships among the components of the model mimic the relationships among their real-world counterparts. If so, then by understanding the model, one can gain a better understanding of the real-world economy.

The message of this paper goes beyond saying that the assumptions incorporated into neoclassical equilibrium models leave out some relevant aspects of the real world, as many critics of the neoclassical framework have argued. The economy is not a group of people who engage in economic activity, and it is not a set of prices and quantities. The economy is the institutional structure within which people interact to improve their well-being. Equilibrium models assume away the economy—the institutional structure—to describe the prices and quantities the economy generates. Economic models are often used to make public policy recommendations. How much faith should one place in policies derived from economic models that do not take the economy into account?

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