

The Imaginary Constructions of Economics

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In his 1966 treatise *Human Action* (HA) Mises bolstered his contention that economics is a science by making the evaluation of intervention arguments the ultimate goal of economists. The proponent of an intervention assumes a sphere of capitalism and she proposes an intervention that she predicts will have particular consequences. She proposes some change in the actions of government agents that she expects to affect market interaction. She may argue that the intervention will raise the amounts of material consumer goods over what they otherwise would have been. Or she may argue that the intervention will not sufficiently reduce these amounts to offset other specified benefits. In accord with the goal of evaluating intervention arguments, the economist aims to build theorems about the effects of government agents using their monopoly over coercion and compulsion to influence some action or set of actions under the conditions of capitalism.

Before the economist can build an image of the impure capitalism that prevails in everyday life, he must build a reference image of pure capitalism. I use the term “pure capitalism” to refer to Mises’s image of the pure market economy (HA: 237-8). To build this image, he must first build economic theorems. An economic theorem is a deduction about how the actions of a number of actors each contributes to a specific composite outcome or set of outcomes. It is a statement

Economic theorem: a statement that describes:

1. A sequence of actions that are undertaken by a number of individual actors under the conditions of capitalism in anticipation of money profit.
2. A specific final outcome of that sequence.

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that describes a sequence of entrepreneur actions under the conditions of capitalism. Each action is motivated by the profit incentive. To build an economic theorem, an economist assumes that some event provokes entrepreneur action by making some set of actions profitable that were not so prior to the event. He refers to a starting point before the action-provoking event occurs. At this starting point, he assumes that the functions required to satisfy the material wants of consumer-savers are performed routinely. He then introduces a specific factor that provokes a change. Due to complexity, he has no choice but to assume that only a single factor, or a small combination of factors, provoke the change. He assumes that no other factors provoke a change. In other words, he employs *ceteris paribus* assumptions.

Mises tells how to build an economic theorem in his chapter on scope and method. He writes that there

is no means of *studying the complex phenomena of [market interaction]* other than first to abstract from [interaction] altogether, then to introduce an isolated factor provoking [action], and ultimately to analyze its effects under the assumption that other things remain equal (HA: 248, italics added).

To “analyze its effects” means to abstract from all other changes in order to focus on a particular sequence of events that he assumes would tend to lead to some *endpoint*. To do this requires the use of *ceteris paribus* assumptions.

It is obvious that economic theorems are necessary to evaluate intervention arguments. An intervention argument is a proposal that if some factor provoking change is introduced, the resulting outcome is preferred to the situation that would exist in the absence of the change. It is not so obvious, however, that the only method available for producing an image of pure capitalism cannot be accomplished without theorem-building. Mises writes as much when he refers to the complex phenomena of market interaction. Complexity requires the economist to conceive interaction by referring to functions and roles. He cannot describe the actions of every specialist and employee who participates in the division of labor. So he creates the images of the roles of the entrepreneur, consumer-saver, and factor supplier to do what is required to enable the production and consumption of the consumer goods that yield utility to consumers. For the phrase “actions undertaken by a number of individual actors,” he substitutes “behavior caused by the entrepreneur role in relation to the consumer-saver and factor supplier roles.” His economic theorems consist of statements about the sequence of actions and behavior caused by the entrepreneur role under the conditions of capitalism that alter the behavior of factor suppliers and consumer-savers following the introduction of a factor provoking change. The sequence ends with a final outcome that changes the utilities of the consumer-savers and the incomes received by the factor suppliers. The economist builds the image of capitalism by introducing a series of factors provoking change and describing subsequent sequences of action. In other words, he builds it by combining a series of economic theorems, that he has built specifically for that purpose.

For the economic theorems that the economist uses to help build an image of pure capitalism, he assumes that only one factor provokes change. He assumes that the other factors that could possibly provoke change do not independently provoke change. He calls the assumptions in this class *ceteris paribus* assumptions. Theorem building requires the use of such assumptions due to the [interdependence and complexity of market phenomena](#).

The main aim of this essay is to introduce the imaginary constructions that Mises uses to build the theorems required, in turn, to build the image of pure capitalism. Part One tells why it is correct to say that economics consists of a system of theorems and distinguishes between pure and impure capitalism. Part Two introduces Mises's distinction between the images of direct and indirect exchange. The imaginary constructions described in this chapter are intended to help build the preliminary image of capitalism under direct exchange. Part Three briefly discusses the image of integrated functions, which is required to build the vocabulary to refer to actors and their incomes under capitalism. Part Four describes the constructs required to build the image of interaction under pure capitalism. Part Five describes three auxiliary constructs that Mises introduced.

1. ECONOMICS AS A SYSTEM OF THEOREMS

To achieve a position where he can evaluate an intervention argument, the economist must follow a four three-step procedure. He must first build a vocabulary that enables him to describe the action character of human beings – or the character of action in the abstract. Simply stated, he aims to label the prerequisites and necessary characteristics of abstract action.

Next he must produce vocabulary to help describe action under the specific conditions of capitalism.¹ On the one hand, he needs definitions of the words “private property rights,” “free enterprise,” the “use of money” and “contract enforcement.” On the other hand, he needs words to refer to the experiences of (1) satisfying wants for material consumer goods through time, (2) owning factors of production, and (3) identifying and directing the factors of production to supply consumer goods.

Step three is to produce theorems for [pure capitalism](#). The law of consumer sovereignty is, from this point of view, a set of theorems that the economist employs in order to comprehend interaction under capitalism and to develop a vocabulary to refer to how capitalism enables individuals to take advantage of the higher physical productivity of the division of labor. The vocabulary he needs refers to these functions.²

The step-by-step procedure of achieving a position to evaluate intervention arguments:

1. Build a vocabulary in order to be able to trace all economic theorems back to the prerequisites and necessary characteristics of action.
2. Produce vocabulary to help describe action under the specific conditions of capitalism.
3. Produce theorems to represent market interaction under the conditions of pure capitalism.
4. Modify the conditions of pure capitalism and make specific assumptions about ends and means and various non-market actions, as needed, in order to produce the theorems required to evaluate an intervention argument.

¹Mises uses the term “pure market economy” (HA: 237-8).

²Mises defined economics as the *system of theorems* that results from such theorem building (HA: 646). Regrettably, aside from failing to refer to the ultimate goal of evaluating intervention arguments, he hardly used the term “theorem” in his critical chapter 14 on scope and method. After first defining the scope of economics as the study of markets and prices, he introduced what he called “the method of imaginary constructions” (HA: 236). He chose to organize the rest of the chapter according to the names of the most fundamental imaginary constructions that he used in the treatise. Imaginary constructions are a necessary tool

Finally, he must produce the theorems required to achieve his goal of evaluating an intervention argument. It is possible that the intervention argument he aims to evaluate assumes a situation of pure capitalism. However, if it is for a system that already contains interventions or for a situation of impure capitalism, he will first have to modify his vocabulary to build an image that is suitable. Then, depending on the assumptions about ends and means made by the proponent of an intervention argument, he may have to assume that individuals have specific ends and/or means and perform various non-market actions.

Theorems for Pure and Impure Capitalism

The economist who builds an image of market interaction under pure capitalism does not aim to match the conditions he assumes with the conditions that exist in a real capitalist economy. In real capitalist economies, private property rights are incomplete. This implies that some actions have external effects on others for which payments are not made and rewards not received.³ Examples are pollution and congestion. Also, completely free enterprise is hardly ever present in real capitalist economies. Completely free enterprise implies that no one uses coercion to block another person from competing as a factor supplier or as a supplier of a consumer good. In real capitalist economies, business tactics may consist of vandalism and using coercion against rivals as profit-maximizing tactics. Moreover, legislation often restricts entry into particular occupations and businesses. Fraud and deception, too, are common characteristics of real capitalist economies. Finally, people may use different items as money in exchange and to calculate revenues and costs. In short, real market interaction occurs under conditions of impure capitalism.

The proponent of market intervention proposes to change a law that alters a condition of capitalism – private property rights, free enterprise, etc. She may assume in her proposal that the conditions of pure capitalism prevail or that some form of impure capitalism prevails. If the proponent's intervention pertains to the conditions of some form of impure capitalism, the economist must build an image that matches the conditions she assumes.

2. THE IMAGES OF DIRECT AND INDIRECT EXCHANGE

The first step toward producing economic theorems is to build an image of market interaction under the conditions of pure capitalism for the case of direct exchange. Direct exchange, strictly speaking, means barter. In a barter society, by definition, a person exchanges a good or factor for a good or factor without the use of the medium of money. As opposed to this, indirect exchange refers

in theorem building. However, they should not be the main focus. Mises probably emphasized them in order to answer critics. Nevertheless, it is best to present Misesian economics today by emphasizing theorem-building first and then showing why imaginary constructions are needed in order to build the theorems.

³Mises discusses the relationship between private property rights and external effects in HA (HA: 654-7).

to a person's exchange of a good or factor for money and then the person's exchange of money for a good or factor. In *indirect exchange*, a person must hold money for some period of time.⁴

The image of pure capitalism under direct exchange that Mises builds is not a barter society. It is an image in which all exchanges are direct yet in which there are money prices.⁵ The economist assumes that the money prices are employed by market participants to send and receive signals about their demands for consumer goods and factors of production and about their willingness to supply those demands. These signals enable individuals acting in the entrepreneur role to make decisions about whether to undertake a production project on the basis of expected money revenues and money costs. In other words, it enables them to engage in monetary calculation.⁶ Thus, the economist says that signaling and monetary calculation by entrepreneurs, or economic calculation, are characteristics of the image of pure capitalism under direct exchange.

When the economist builds theorems about market interaction under direct exchange, he assumes a division of labor. He also assumes that supply chains exist for at least some of the factors of production. For example, the flour used by a baker can be traced up a supply chain to wheat grain, and to raw wheat produced by the farmer. The factor, raw wheat, has a supply chain that leads to baked bread. In addition it has supply chains that lead to pancakes and spaghetti pasta. Due to profit-seeking by the entrepreneur role, the prices of the factors are related to the prices of the consumer goods they help to produce. Individuals acting in the entrepreneur role have incentives to shift from projects that they expect to earn lower profit to projects that they expect to earn higher profit. If entrepreneurs change one price, they tend to change every price of every factor of production and every product.⁷ The assumption of supply chains also opens the way toward a

Image of pure capitalism under direct exchange: an image of pure capitalism in which all exchanges are direct yet in which there are money prices. The money prices are signals of demand and willingness to supply. They enable individuals acting in the entrepreneur role to calculate the money profitability of embarking on various production projects.

Choices based on monetary calculation: Choices in which individuals decide which actions to take by comparing expected money revenues with expected money costs.

⁴When Mises used the term "indirect exchange" in his 1912 book, he referred to Knut Wicksell (TMC: 30).

⁵Mises called this image the "barter fiction" (HA 201). This is probably not a wise use of terms. There is no need to employ an historical synonym.

⁶Monetary calculation is important because it enables a decision maker to employ the powerful tools of arithmetic and more complex mathematics.

⁷The division of labor is represented by the proposition that entrepreneurs who produce each material consumer good and factor of production at each juncture along the supply chains possess specialized knowledge that may not be possessed by anyone else. Mises writes that the inventors of this theory used the barter fiction to show how "to trace back the phenomena of the market to the universal category of preferring *a* to *b*..." (HA: 201). What he means is that by focusing on the relative prices at which goods are exchanged instead of the absolute prices, the economist can easily recognize that the entrepreneur's profit incentive can

theorem that there is a tendency for the sum of the prices of the factors of production required to produce each product to equal the price of the product.⁸

Another way to say the same thing is that building the image of pure capitalism enables the economist to present the [law of consumer sovereignty](#). In building this image, Mises disregards changes in the demand for and supply of money balances. He assumes “neutral money.”⁹

The overarching function of the image of direct exchange is to enable the economist to depict two essential characteristics of market interaction in the simplest possible way. These are the [division of labor law](#) and the actions required to [deal with scarcity](#). Scarcity is represented by the proposition that as the entrepreneurs bid more of a factor of production away from a particular use, *ceteris paribus*, its price in that use tends to rise.

3. THE IMAGE OF INTEGRATED FUNCTIONS

I described the image of integrated functions in my essay “[The Basic Functions and Roles of Economics](#).” There is no need to repeat the description here. The economist conceives of this image by identifying the function of capitalism and then creating roles to perform those functions. Thus, he creates the roles of the entrepreneur, consumer-saver, and factor supplier and the incomes of pure profit and loss, pure interest, and pure wages. When he uses these roles to build theorems for pure capitalism, he is assured that his image will contain a complete panoply of functions. The image of integrated functions is an imaginary construction because, in real market interaction, roles do not interact. Similarly, the pure incomes received by these roles are imaginary constructions.

4. THE IMAGINARY CONSTRUCTIONS NEEDED TO PRODUCE AN ECONOMIC THEOREM

The economist possesses only one set of mental tools to build the theorems required to produce the image or theory of capitalism that incorporates his special knowledge, as described in my essay

be traced to the demands for material consumer goods which, in turn, can be traced to the use of means – earning income and buying material consumer goods – to attain the end of removing the felt uneasiness associated with consuming fewer goods. He neglects to say, however, that the profit incentive can also be traced back to the specialized knowledge that the economist assumes is possessed by entrepreneurs at each “junction” along the various supply chains. In other words, he neglects in this statement to refer to the specialized knowledge possessed by the entrepreneur role.

Mises used the term “connexity” to express this relationship among the various prices (HA: 391-4). The term did not attract a following and I will not use it here.

⁸Thus Mises writes that the “prices of the goods of higher orders are ultimately determined by the prices of the goods of the first or lowest order, that is, the consumers’ goods” (HA: 333). A higher-order good is a factor of production that is farther up the supply chain (e.g., raw wheat) than some other factor (e.g., baking flour) and that is used to help produce the lower-order factor.

⁹HA: 416-9; 534; 538.

“[The New Science of Economics in Mises’s Treatise](#).” These tools dictate a single procedure. It consists of (1) conceiving of a system containing a division of labor and the allocation of the scarce factors of production in which no change occurs and in which individuals perform only routine behavior, (2) introducing a factor provoking change in one of the conditions, and then (3) conceiving of the entrepreneur actions and behavior that is required to take full advantage of the higher physical productivity of the division of labor and to deal with scarcity in accord with the [law of consumer sovereignty](#) in light of the change, and then (4) conceiving of the new set of routine behavior that would occur when the entrepreneurs no longer had an incentive to change their actions further. Mises called an image representing the routine production of goods to satisfy wants an “evenly rotating system.” I adopt this terminology here. Before describing that system, however, I depart from Mises’s procedure in order to show why the conceptions of the routine performance of functions are needed.¹⁰

The Initial and Final States of Rest

Before introducing a factor provoking change, the theorem-building economist needs an image of function-performing robot routines. These routines contain assumptions about the various factors that can provoke a change in action. Following Mises, I call this image an *initial state of rest*. In the image of an initial state of rest, there is no action. There are no entrepreneurs; the consumers and suppliers of factors of production perform the same behavior again and again. Elements are present which, if they changed, would provoke a change in action. But they are dormant. Consider an economist who wants to study the effects of a change in the weather. He begins by assuming a capitalist system that is in an *initial state of rest*. Next, he introduces some change in the weather, assuming that there are no simultaneous changes in the other factors that can provoke a change in actions. He assumes that the change in weather is permanent. He also

assumes that other elements, or factors, that could provoke entrepreneur action remain dormant. They are his *ceteris paribus* assumptions. Then he describes the profit-seeking actions taken by individuals acting in the entrepreneur role and the new responding behaviors performed by the consumer-saver and the factor supplier roles.

The change is first perceived by some entrepreneur whose actions cause a change in a price. That price change is perceived by other entrepreneurs as a signal. The signal incentivizes the other entrepreneurs to take actions and to send additional price signals that differ from the prices in the initial state of rest. The combination of signals incentivizes further entrepreneur action.

Procedure for producing economic theorems:

1. Specify the initial state of rest of routine behavior by the roles of the consumer and factor supplier.
2. Assume an initiating factor that provokes a profit-seeking entrepreneur action (e.g., a change in consumer wants, a change in the environment, or an invention).
3. Describe the competitive response that occurs during a period of adjustment (a series of entrepreneur actions that tends toward a final state of rest).
4. Describe the routine behavior in final state of rest at which the entrepreneur action has ended.

¹⁰My procedure is a superior means of teaching modern students, I believe, because it focuses on theorem building.

The collection of entrepreneur actions constitutes a *competitive response*, which occurs during a hypothetical *period of adjustment*. The adjustment actions end with a different set of routines performed by robots. The economist calls the set of new routines the *final state of rest*.

The prices and quantities in the final state of rest are called “final prices” and “final quantities,” respectively. Such final prices and quantities can be compared with the initial prices and quantities. In addition, the economist can compare the factor suppliers, consumer-savers, and others by referring to the incomes they receive and the prices they pay in the final state of rest with those of the initial state of rest. I summarize the procedure for producing an economic theorem in the attached box.¹¹

Analogy with the Study of Change in Isolated Action

The best way to comprehend the functions of the initial state of rest, the final state of rest and evenly rotating system as necessary aids in producing an economic theorem is to show first how analogous constructs can be used to help produce a theorem in a simpler situation of the isolated actor. Consider a person who wants to build a theorem pertaining to a single individual – say Crusoe on an island. To use the same example, suppose that she wants to tell you her beliefs about how Crusoe will respond to a permanent change in weather conditions. To do this, she adopts the role of the praxeologist. Only one method will achieve her goal. Like the method described for pure capitalism, it has three steps. The first is to assume a starting point at which Crusoe had established some thoughtless routine of action. The routine expresses her assumptions about Crusoe’s ends, his perceived means of achieving them, and the behavior she assumes that he performs to adjust to the environment he faces. The routine includes her assumptions about how Crusoe has adjusted not only to the weather but also to every other environmental condition that he is assumed to regard as relevant to attaining his ends. The second step is to introduce the change in weather. This is the factor that she assumes provokes action. The third step is to conceive of a set of adjustment actions

¹¹In describing this method, Mises used the term “static.” This is the term used by J. B. Clark (Mises 1933: 117-8). The “static method,” wrote Mises, is “precisely the proper mental tool for the examination of change (HA: 247-8). It is “logically incontestable.” He goes on in the treatise to refute objections to this method (HA: 248). Nevertheless, Mises did not like the term “static.” He was concerned that it is based on a false analogy between the study of distinctly human action and the study of material phenomena. His point is that, in economics, there is no “dynamic method” with which to contrast it. He does not again use the term “static method” in the treatise. He does, however, use the term “static” a number of times, including in his critique of the notion of mathematical economists that a “dynamic theory” should be substituted for the “static theory” in the study of economic change (HA: 356-7).

Guido Hülsmann (2003: 89-93) has challenged Mises’s statement about the static method. He asserts that Mises could not use such a method to produce economic laws. One of Hülsmann’s reasons is that “Mises seems to assume that, under stable conditions, all effects of the change will sooner or later be exhausted. Yet, nowhere does he give a reason why this should be so” (*ibid.*: 91). It is true that, in describing the tendency toward a final state of rest, Mises does not explain why action would end. However, in writing that the final state of rest is a mental tool for comprehending action, he implies a reason. He implies that there is no other way to study action than by studying specific actions. Since a specific action cannot be studied without positing an endpoint, the simple logic implied by the task requires one to use the imaginary construction of the final state of rest. When the economist uses this method, he necessarily *assumes* that “all effects are exhausted.” To effectively counter Mises, Hülsmann would have to show that there is some other method of studying action.

leading to an endpoint at which Crusoe will have established a new routine, assuming that there are no changes in other factors that could independently provide an incentive for Crusoe to change his action. At that endpoint, he no longer is motivated to act and reverts to thoughtless routine behavior.

The praxeologist may know or believe that a real human actor in Crusoe's situation would never actually settle into a routine. She may believe that he would always be adjusting to unexpected changes. Moreover, she may know that every real actor is an inventive being. A real actor may continually aim at improving his conditions by seeking out new means of achieving his ends and by experimenting. Nevertheless, she assumes a beginning routine and an ending routine because she wants to tell you about the effects, *ceteris paribus*, of a change in the weather. The economist develops an analogous set of tools to study the effects of a change in one of the conditions facing individuals under capitalism.

Evenly Rotating System

The evenly rotating system is a robot system designed to simulate (1) a division of labor in the supply of different material consumer goods and (2) dealing with scarcity according to the principle of consumer sovereignty. It is an image of the routine supply of factors of production to the various production projects. In building it, the economist specifies supply chains and prices of each factor and material consumer good. He assumes robot factor suppliers, robot producers who direct the production and cause the goods to be produced and sold, and robot consumers who consume the consumer goods. The evenly rotating system simulates the roles and routine performance of functions described in the image of integrated functions. The exception is the entrepreneur role, which is not present in the system. The system does not contain a driving force, innovation, or uncertainty-bearing.¹² Mises writes that the initial and final states of rest are evenly rotating systems.

¹²Mises describes the evenly rotating system as an image of automatons.

The evenly rotating economy is a fictitious system in which the market prices of all goods and services coincide with the final prices. There are in its frame no price changes whatever; there is perfect price stability. The same market transactions are repeated again and again. The goods of the higher orders pass in the same quantities through the same stages of processing until ultimately the produced consumers' goods come into the hands of the consumers and are consumed. No changes in the market data occur. Today does not differ from yesterday and tomorrow will not differ from today. The system is in perpetual flux, but it remains always at the same spot. It revolves evenly round a fixed center, it rotates evenly. The plain state of rest is disarranged again and again, but it is instantly reestablished at the previous level. All factors, including those bringing about the recurring disarrangement of the *plain state of rest*, are constant. Therefore prices – commonly called static or equilibrium prices – remain constant too (HA: 247, italics added).

Mises's use of the term "economy" here is unfortunate. Since such a system cannot contain actors, I prefer the term "system." Mises uses the term "system" several times in the treatise. But he more frequently uses "economy."

In writing about the purpose of the evenly rotating system, Mises says that it helps deal with "the problem of the relation between the prices of products and those of the factors required for their production..." (HA: 248). He is referring here to the set of theorems that comprise the [law of consumer sovereignty](#). To present these theorems, the economist conceives of the evenly rotating system as the outcome of entrepreneur interaction. The economist imagines that the entrepreneurs continue to interact until they determine all of the final-state-of-rest prices and other market phenomena. At that point entrepreneur action ceases and there is an evenly rotating system.

Accordingly an exposition of this imaginary construction will help the reader better understand the beginning and ending routines that are assumed by the economist in his theorem building.

Division of Labor and Scarcity

The evenly rotating system cannot represent the signaling and economic calculation that interactors employ to determine prices and other market phenomena. These actions are performed by the entrepreneur role. But it can help the economist assure that the division of labor law and the assumptions employed in the law of consumer sovereignty are incorporated into every economic theorem. It can also help assure that scarcity is taken account in theorem-building. This is because the evenly rotating system possesses the characteristic that all consumer goods are being produced as efficiently as possible. There are no opportunities to profit by shifting a factor from one use to another. The evenly rotating system thus represents the endpoint of a tendency toward an allocation or set of allocations of the factors of production that is optimal from the standpoint of consumer sovereignty.¹³

The Image of a Non-market Action

Another necessary imaginary construction is that of *non-market interaction*. To build the image of interaction under pure capitalism, the economist needs a vocabulary that refers exclusively to market actions. To produce this vocabulary, he divides action into two imaginary constructions: that of non-market action and that of market action. When he eventually turns to the task of evaluating intervention arguments, he may have to account for non-market actions because the proponent of such an argument may assume that these actions are present. But he must have an image of market action in order to build economic theorems.

The Image of the Socialist Commonwealth

The image of the socialist commonwealth implies that all production and allocation of material consumer goods is carried out according to the central plan of a single individual or a small planning committee. One goal of the planner is to identify and employ all of the factors of production at each link in the various supply chains so that they meet the “most urgent” wants of consumers.¹⁴ This image is entirely hypothetical. No single individual could possess the knowledge that would be required of individuals in a capitalist economy along each supply chain. It helps the economist appreciate the intellectual division of labor that must underpin the actual division of labor that can be observed in real capitalist economies.¹⁵

A second function of the socialist commonwealth is to help the economist appreciate how the central planner is limited in his effort to motivate individuals to acquire knowledge and apply

¹³HA: 127-8.

¹⁴Mises uses the term “most urgent” to signify that wants for consumer goods exist in a time dimension. Due to scarcity, the satisfaction of wants in the nearer future compete with the satisfaction of wants in the more distant future.

¹⁵Mises summarizes this fact by writing that the central planner, “in his endeavors to direct production activities, is not aided by the division of intellectual labor...” (HA: 709).

abilities to help produce goods for consumers. In the socialist commonwealth, all rewards for acquiring and using knowledge are controlled by the central planner. Consumers cannot reward those who take advantage of the higher physical productivity of the division of labor or who deal efficiently with scarcity. They cannot reveal their true competing desires to consume the different types of consumer goods. The planner would have to decide which goods are worth producing and which factors of production should be used in the various ways to produce them.

The Evenly Rotating System as a Counterfactual

Mises recognized a second purpose for the evenly rotating system that is not as a final state of rest. It is to help elucidate, by means of contrast, the entrepreneur role. The satisfaction of consumer wants in the evenly rotating system occurs automatically, as it were. People behave routinely. In real market interaction, the driving force is the entrepreneur role, acting according to consumer sovereignty.¹⁶

Theorems to Elucidate the Conditions of Capitalism

To elucidate the conditions of pure capitalism, the economist needs to study each condition separately from the others. That is to say, he must build *ceteris paribus* theorems about interaction assuming that one of the conditions is not fully present. For example, assuming completely free enterprise, the use of money in exchange, and complete enforcement of contracts, he builds theorems about interaction under private property rights that do not hold a person fully accountable for his harmful actions or that provide no means for a person to be fully rewarded for an action that causes more material consumer goods to be produced and consumed by others than otherwise.

He follows the same procedure for situations in which freedom of enterprise is blocked by government coercion or by other coercive actions that are not deterred by the government. He assumes a complete set of private property rights and full enforcement of contracts.

5. AUXILIARY CONSTRUCTS OF THE STATIONARY, PROGRESSING AND RETROGRESSING SYSTEMS

The evenly rotating system, initial state of rest and final state of rest must be used to present an economic theorem. Three other imaginary constructions, however, are unnecessary yet useful in describing particular historical events or in dealing with particular intervention arguments. The economist may employ them in order to represent an assumption about the effects of an increase in capital goods. These are the stationary, progressing and regressing systems. These systems contain

¹⁶He wrote that

the only problems for whose treatment [the evenly rotating system]...is both appropriate and indispensable [are (1)] the problem of the relation between the prices of products and those of the factors required for their production, and [(2)] the implied problems of entrepreneurship and of profit and loss" (HA: 248).

what one might call simulated entrepreneurs, or robot entrepreneurs, who direct the shifting of the factors of production and the supply of consumer goods.¹⁷

The main purpose of inventing the image of the stationary economy is to introduce two kindred images: the progressing and retrogressing systems. In the case of the stationary system, the economist assumes that the amounts of capital goods are fixed in money value. The amount of saving, either by consumer-savers or by technological advance is such that it allows for the replacement of capital goods that are used up in production and that have the same money value as the initial capital goods. But it does not allow for the addition or subtraction of the total money value of capital goods.¹⁸ There are robot entrepreneurs but they cannot cause the money value of capital goods to rise. And they cannot earn additional *total* profit.¹⁹ In the progressing system, saving and/or technological advance cause the money value of capital goods to rise and income and wealth to rise.²⁰ In the retrogressing system, the money value of capital goods, income and wealth are falling. The main use of these constructs is to describe historical events.

Stationary, progressing and retrogressing systems: images of direct exchange in which robot entrepreneurs employ additional consumer saving or technological change to alter the composition of capital goods. The image is called stationary, progressing or retrogressing, depending on whether the hypothetical total money value of capital goods is constant, rising or falling.

Who receives the additional income and wealth in a progressing system? At first, it is received by the simulated entrepreneurs, who are motivated by profit to employ the new capital goods. But then it is distributed to the owners of the capital goods and the workers whose factors increase in price due to the increased bidding by the entrepreneurs.²¹

¹⁷In this discussion I replace Mises's term "economy" with "system." I also use the term entrepreneur, which Mises does not use in his initial HA description of the three systems. He does use it in his later discussions of them.

¹⁸Mises calls this "money capital" (HA: 505).

¹⁹Mises writes that as changes occur,

capital from those branches of production which are to be restricted in accordance with them [is slowly transferred] into those to be expanded...by not replacing equipment used up in the shrinking branches and instead investing in the expanding ones (HA: 251).

Simulated entrepreneurs may earn profit or loss. However, "the total sum of all profits and of all losses is zero" (HA: 251, 294).

²⁰HA: 294-7. In his discussion of the progressing economy, Mises writes: "The injection of these additional capital goods is bound to increase the total sum of the income produced" (HA: 295). In his initial statement about the reason for the rise or fall, Mises cites only changes in capital goods (HA: 294). In a later statement, he includes the possibility that advances in technology could alter the amounts of capital goods (HA: 515-6). Frank Knight achieved a similar result by assuming his Crusonea plant (Knight 1941b: 417-19).

²¹Mises uses the image of the progressing economy for other purposes. One is to present the effects on the demand for money of an increasing population and division of labor (HA: 414-5). Another is to describe

There is no need to paraphrase Mises's discussion here. It is sufficient to note that these constructs are in a different class from those used to build economic theorems.

6. CONCLUSION

Constructs required to build an image of pure capitalism under direct exchange:

1. Image of direct exchange.
2. Image of integrated functions.
3. Roles of the pure entrepreneur, the passive material factor supplier, the passive worker, and the consumer-saver.
4. The incomes of pure profit, pure market interest, and pure wages.
5. Initial State of Rest.
6. Final state of rest.
7. Final prices.
8. Evenly rotating system.

It is not a simple matter to explain to a modern reader how the economist uses imaginary constructions to build the image of pure capitalism. No doubt this is one reason why Mises's chapter 14 on the method of economics has been so widely misunderstood. To appreciate the use of imaginary constructions, a reader must recognize (1) that the economist aims to do [economic science](#); (2) that to achieve this aim, he must start with the image of pure capitalism; (3) that he cannot build a complete image; yet (4) that he can comprehend interaction under pure capitalism by building *ceteris paribus* economic theorems; and (5) that to build such theorems, he must use a special vocabulary based on the image of integrated functions and he must use the imaginary constructions described in Part Two of this essay. Failure to appreciate these things introduces an unwarranted skepticism that is bound to lead to misunderstanding. This chapter was designed to make a more orderly and comprehensible presentation of the method of building the image of pure capitalism than Mises made. For convenience, I end the chapter by listing the imaginary constructions that are necessary in the attached box.

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the effects of credit expansion (HA: 557-9). Still another is to help present a history of capitalism (HA: 614-6, 664-5).

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