An Austrian View of the Circular Flow Model

Incorporating the Role of the Entrepreneur

By Scott A. Kjar (Middle Georgia College)

and Barry Dean Simpson (Auburn University)

simpson@business.auburn.edu

March 21, 2003

The authors would like to thank Guido Huelsmann and Roger Garrison for comments on a previous version of this paper. The usual caveats apply.

Introduction

Traditional economics analysis frequently begins with a circular flow diagram showing an on-going relationship between firms and households, connected through markets for goods and services on the one hand and markets for factors of production on the other hand.

However, the circular flow model's greatest problem is, in fact, its circularity. While real-world economic analysis has a beginning (consumer preference) an ending (consumption), and an ever-changing process (entrepreneurship), the circular flow model has no beginning or ending. It is drawn as though entire macroeconomies sprang into existence from whole cloth. While the circular flow appears to be dynamic, it allows no room for change on any margin: consumer preference, production technique, or availability of factors of production.

Missing from the circular flow model is an element crucial to every single real-world market: the entrepreneur.[1] It is the entrepreneur who judges future expected consumer preferences, the entrepreneur who explores past and present factor prices, the entrepreneur who seeks new production techniques, and the entrepreneur who delivers the product to the consumer. Without a role for the entrepreneur, the circular flow model loses all touch with reality.

In this paper, we seek to correct the circular flow model by explicitly incorporating the entrepreneur into it. This allows us to explore the beginning of economic activity, the process of production, and the conclusion of the activity. It also allows us to understand inter-temporal changes in economic activity, as successful entrepreneurs acquire more resource control while unsuccessful entrepreneurs lose such resource control.

[1] Our analysis is based on Joe Salerno, "Postscript: Why a Socialist Economy is 'Impossible'," to *Economic Calculation in the Socialist Commonwealth* by Ludwig von Mises (Auburn, Ala.: Ludwig von Mises Institute, 1990), pp. 51-71, and Israel Kirzner, *Market Theory and the Price System* (NY: Van Nostrand, 1963), pg. 19.

Thus, rather than a single circular flow model that represents an entire economy, we see multiple process intertwined both temporally and inter-temporally, a situation in which solid foundational microeconomic processes allow us to better understand macroeconomic aggregates.

The Circular Flow Model

The tradition circular flow model (see Appendix, Diagram 1) shows the relationship between households and firms. Firms use labor (from households) and other factors of production to create goods which are sold in the market for goods. Households buy these goods, and own the factors of production which are sold to firms in the factor market. The flow shows a continuous relationship and is therefore circular.

One of the problems with such circularity is that there is no beginning or end to the economic process. According to Menger's formulation of economics[2], the beginning and end of economics is a human need. This human need or "feeling of uneasiness"[3] is a necessary cause of human action. Without a human need, there is no reason for the human to act to quell this uneasiness. The economic process ends with the satisfaction of the human need. Menger's formulation highlights the fact the economics deals with human beings, their needs, and the subsequent satisfaction of such needs.

It is the entrepreneur who acts as a middle man to change resources and acquire capital goods to form the consumer goods that will satisfy the needs of humans. This element, crucial to the economic process, is also missing from the circular flow. By positing a beginning and an end to economic action, the inter-temporal function of the entrepreneur comes to light. It takes time for the entrepreneur to create consumer goods by changing and combining resources and capital goods. Moreover, the entrepreneur receives feedback through market processes that guide him

[2] See below.
[3] See Mises, *Human Action*, page 13.

to the correct allocation of resources, including the time involved in the creation of consumer goods. The circular flow model, then, misses the entire role of time in the economic process by its very circularity.

The Austrian View of Market Processes

Consumers

Carl Menger described four pre-requisites for a *thing*[4] to be a good, and the first is that humans possess needs.[5] Absent needs, there is no point in economic analysis, and no circular flow of any sort. It is only because humans must fulfill their needs in order to live and thrive that any economic behavior even occurs. Thus, any model purporting to show how economic activity occurs must necessarily start here.

Likewise, if economic activity begins with an unmet human need, then it necessarily ends with the meeting of that need. To be sure, humans have more than one need, and they may experience the same need again at some time in the future, so it is likely that they will be engaged in multiple economic activities simultaneously. However, this does not change the fact that a given economic process has a beginning and an ending, and both lie with the consumer.

In between this beginning and ending, production occurs. Yet, production is not merely some black box into which resources flow and out of which finished goods flow. Rather, production itself is a process with a beginning and an ending. Some decision-maker must *decide* to produce a particular product, *gather* together the necessary factors of production, and then *combine* them to *create* the product in question. Since factors of production are generally both

[4] Menger defined "things" very broadly, including not just physical items but also services, and even human personal relationships. See Carl Menger, *Principles of Economics*, trans. James Dingwall and Bert F. Hoselitz (Grove City, Penn: Libertarian Press, 1994), p. 54. He discusses the four pre-requisites on pp. 51-55.

[5] On the idea of human needs, rather than human wants, see Scott A. Kjar, James W. Collins, and Roderick Long, "Menger, Maslow, and the Hierarchy of Needs" (paper delivered at the Austrian Scholar's Conference, Auburn Alabama, March 2003). It should be noted that human needs are both subjective and personal. The utility and cost associated with human needs, therefore, cannot be measured or compared interpersonally.

scarce and substitutable, since more than one method of production is generally possible for a particular output, since production processes take time, and since future states of consumer desires are not exactly known, there is substantial uncertainty involved in the production process. The neat box labeled "firms" in a circular flow diagram does not account for any of this uncertainty or forward-looking behavior.

The missing element in the traditional analysis is the entrepreneur. It is the entrepreneur who judges future consumer demand, examines past and current factor prices, considers various production techniques, and adds interest. If the entrepreneur is correct in combining these items—a process known as economic calculation—then the entrepreneur is rewarded with financial profits and, thus, more resource control in the future. If the entrepreneur is erroneous, the entrepreneur is punished with financial losses and a reduced resource control in the future.

Thus, *each individual process requires an entrepreneur, and is part of an inter-temporal process*; there is no single circular flow.

The Function of the Capitalist-Entrepreneur

The entrepreneur's activities fall generally into two stages: the "decision stage" (*ex ante*) and the "feedback stage" (*ex post*).

In the decision stage, the entrepreneur must start with a *judgment* about the future demand for some particular good.[6] Yet, while it may be easy to describe such judgments, is much harder to make them. The future is unknown, and any such decision is made in a world of uncertainty. Further, the task is compounded by the fact that consumers may change their preferences over time, other entrepreneurs may introduce new products that better meet

[6] Guido Huelsmann, "Knowledge, Judgment, and the Use of Property," *Review of Austrian Economics*, Volume 10, No. 1 (1997), pp. 23-48.

consumer needs, or, in a world filled with governments, the regulatory or institutional environments in which an entrepreneur operates may change.

This fact was realized by some of history's great economists. Say and Cantillon recognized that the entrepreneur does not know the demand for his good. After all, a demand curve is a precarious thing, existing at a moment in time and under the *ceteris paribus* rule. It is a pedagogical device for explaining economics, not a guide for the entrepreneur. French econo-engineer Jules Dupuit went further, arguing that the entrepreneur doesn't even know what his product is—economic goods are subjective to consumers, or may meet different needs for different consumers.[7] A sweater, for example, may meet a social need to look pretty to one consumer, while to another it meets the need of keeping warm.

Once the entrepreneur judges that people will have some future demand for a particular good or service, then economic calculation occurs. The entrepreneur must explore past and present prices of factors of production, as well as alternate production techniques. Different techniques may require different quantities of inputs, or even different inputs themselves. Since factors of production are both scarce and substitutable, and production processes are substitutable, the entrepreneur must not only decide *which* product to make, but *how* to make it, and *what* factors to employ. Thus, temporal opportunity costs must be considered.

Since all production requires time, there may be trade-offs between productivity and temporality. This brings in the issue of interest rates. Tying up resources over time can only be done by recognizing that opportunity costs have an inter-temporal component as well. For example, a particular production method may be both longer and more productive than an

[7]See Robert B. Ekelund, Jr., and Robert F. Hebert, "Alternate Visions of the Entrepreneur: Cantillon, Say, Dupuit," in *Perspectives on the History of Economic Thought*, ed. D.E. Moggridge, vol. 3, pp. 117–23; and Robert B. Ekelund, Jr., and Robert F. Hebert, "Dupuit's Characteristics-Based Theory of Consumer Behavior and Entrepreneurship," *Kyklos* 44, no. 1 (1991), pp. 19–31.

alternative method. The entrepreneur must weight the inter-temporal opportunity cost involved in resource allocation as measured by the interest payments, and weigh this against the increase in production from the longer technique.

It is trivial to point out that a shorter and more productive method, *ceteris paribus*, is preferred to a longer and less productive method when discussing the issue of inter-temporal opportunity costs. In real life, however, the actual choices are more likely to be between methods that are shorter and less productive, on the one hand, and methods that are longer and more productive, on the other hand. Thus, interest becomes a crucial factor in economic calculation.

Once an entrepreneur makes these decisions, produces the product, and brings it to the market, consumers will provide feedback to the entrepreneur in terms of sales revenues.[8] If consumers believe that the product in question meets their needs, consumers will purchase the product, exchanging it for money.[9] On the other hand, if consumers do not believe that the product meets their needs, or if they are unaware that the product meets their needs, then consumers do not exchange the good for money.[10]

Successful entrepreneurs, then, are those who have correctly judged the future consumer demand for a particular product, and have combined resources into a productive method that had opportunity costs (as proxied by the money costs associated with that method) lower than the benefits received by consumers (as proxied by sales revenues). In short, successful

---

[8]Profit is, ultimately, the motivating factor, but at this stage, the entrepreneur has already borne most of the money costs involved, so sales revenue becomes the appropriate measure. In simplest terms, higher sales revenue is preferred over lower sales revenue.

[9] The same situation would obtain under barter, but the profit calculation becomes more difficult. See Salerno (1990), pp. ??.

[10] On the issue of advertising and its relationship to Menger's first prerequisite, see Scott A. Kjar, "Title forthcoming." See also Robert B. Ekelund and David S. Saurman, *Advertising and the Market Process* (San Francisco: Pacific Research Policy Institute, 1988).

entrepreneurs are those who turn a profit; the higher the profit, the more successful the entrepreneur is deemed to be.

It should be made explicit here that successful entrepreneurs are providing social benefits. After all, they are taking lower-valued factors of production and transforming them into higher-valued outputs. Since the value of both the factors and the outputs is based on the social appraisement process initiated by consumers, the successful entrepreneur has increased the utility derived by consumers over the utility they expected to derive from the alternative uses of these resources.

Further, by generating profits, successful entrepreneurs have the financial wherewithal to acquire and control additional resources in the future. To phrase that another way, those individuals whose judgments and skills increase the overall utility derived by society are given additional opportunities to further increase overall societal utility.

By contrast, unsuccessful entrepreneurs have incorrectly judged future demand, or incorrectly combined resources to meet that demand. Thus, unsuccessful entrepreneurs are those who suffer a financial loss.[11] In so doing, the unsuccessful entrepreneurs reduce the utility that society could have derived from the resources utilized, and are punished by taking the financial loss. Such entrepreneurs have less financial wherewithal to acquire or control resources in the future, and thus are restricted from their ability to reduce overall societal utility in the future.

We see that this is both an individual process with a beginning and an ending, and an on-going process in which successful entrepreneurs continue to expand their resource control while

[11]We could, of course, substitute economic loss for financial loss here. If, e.g., one use of a set of resources would generate a financial profit of $100, while a second use of that set of resources would generate a financial profit of $60, an entrepreneur who opted for the second would still make a financial profit, even while suffering an economic loss. Since the financial profit allows the entrepreneur to continue to acquire and control resources, we are merely using the financial evaluation. Obviously though, the entrepreneur who opted for the first would make a larger financial profit, and could go on to control even more resources.

unsuccessful entrepreneurs continue to reduce their resource control. A single circular flow model fails to account for either the *micro* or the *macro* aspects of this process.

A Diagrammatic Model of the Austrian Social Appraisement Process

Our diagram attempts to correct the problems of the Circular flow model. First, the economic process begins with a human need. These needs are subjective and potentially unlimited. It is the entrepreneur who attempts to combine resources in such a way to satisfy the needs of the consumer. The entrepreneur must first acquire the necessary scarce resources that go into to creating the consumer good. Various entrepreneurs bid on the scarce resources according to their calculations of how much they will receive for the consumer good they produce. The interactions between the entrepreneurs and the factor owners (who are other entrepreneurs and labor-owning consumers) beget the market for capital goods and resources. The prices of these goods aid the entrepreneurs in their calculations. Moreover, the prices of the factors of production, through the feedback of market processes, contain information about past valuations of consumers, which in turn allow entrepreneurs to allocate the scarce resources to their highest valued uses.

Once the factors of production are acquired, the entrepreneur engages the consumer with the created consumer good. In the market for consumer goods, prices arise which the entrepreneur will use for future calculations. The feedback of profit and loss aides the entrepreneurs with their calculations. Profit tells the entrepreneur he has done correctly anticipated consumer needs; loss tells him he has made a mistake in his evaluation of consumer needs.

These are what the current authors refer to as micro-processes. The interactions between entrepreneurs and consumers, and entrepreneurs and factor-owners, create the very markets that

the circular flow takes for granted. These interactions reflect humans trading private property. Private property is necessary for trade to occur, and trade is necessary for markets and prices to come into existence.

It is through these micro-processes that the macro-processes of imputation and allocation occur. Through markets and the feedback of market processes, the subjective valuations of consumers are imputed back to the factors in the form of prices for factors of production. These prices are necessary for the entrepreneur to perform economic calculation. It is through economic calculation, based on imputed consumer values, that the allocation of scarce resources to unlimited needs occurs. Without the objective, cardinal numbers of factor prices, the entrepreneur would be at a loss to allocate resources efficiently, that is, to move resources from lower-valued needs to higher-valued needs. It is also through the feedback of market processes that the entrepreneur finds out whether his calculations are correct, or whether the resources should be reallocated to more higher-valued uses.

Conclusion

This paper shows the inability of the Circular flow model to correctly model markets and economic processes. The Circular Flow is hampered by making economic action seem circular from a time standpoint. The current authors correct this ambiguity by positing a beginning and end to the economic process. The Circular Flow also leaves out the most important actor in economics—the entrepreneur. By showing the place of the entrepreneur in the time line of economic production, we hope to overcome the obstacle created by the Circular flow model.

The Circular flow model also seems to miss the importance of market processes in allocating and reallocating scarce resources to satisfy unmet human needs. By incorporating the function of the entrepreneur in the allocation process, we overcome another disability of the

Circular flow model. It is the entrepreneur who allocates the scarce resources among the unlimited needs of human beings, and it is the market that gives the entrepreneur the information, in the form of prices and the feedback of profit and loss, to allocate the scarce resources in the most efficient manner.

Appendix--Diagrams

Diagram 1—The Circular Flow Model

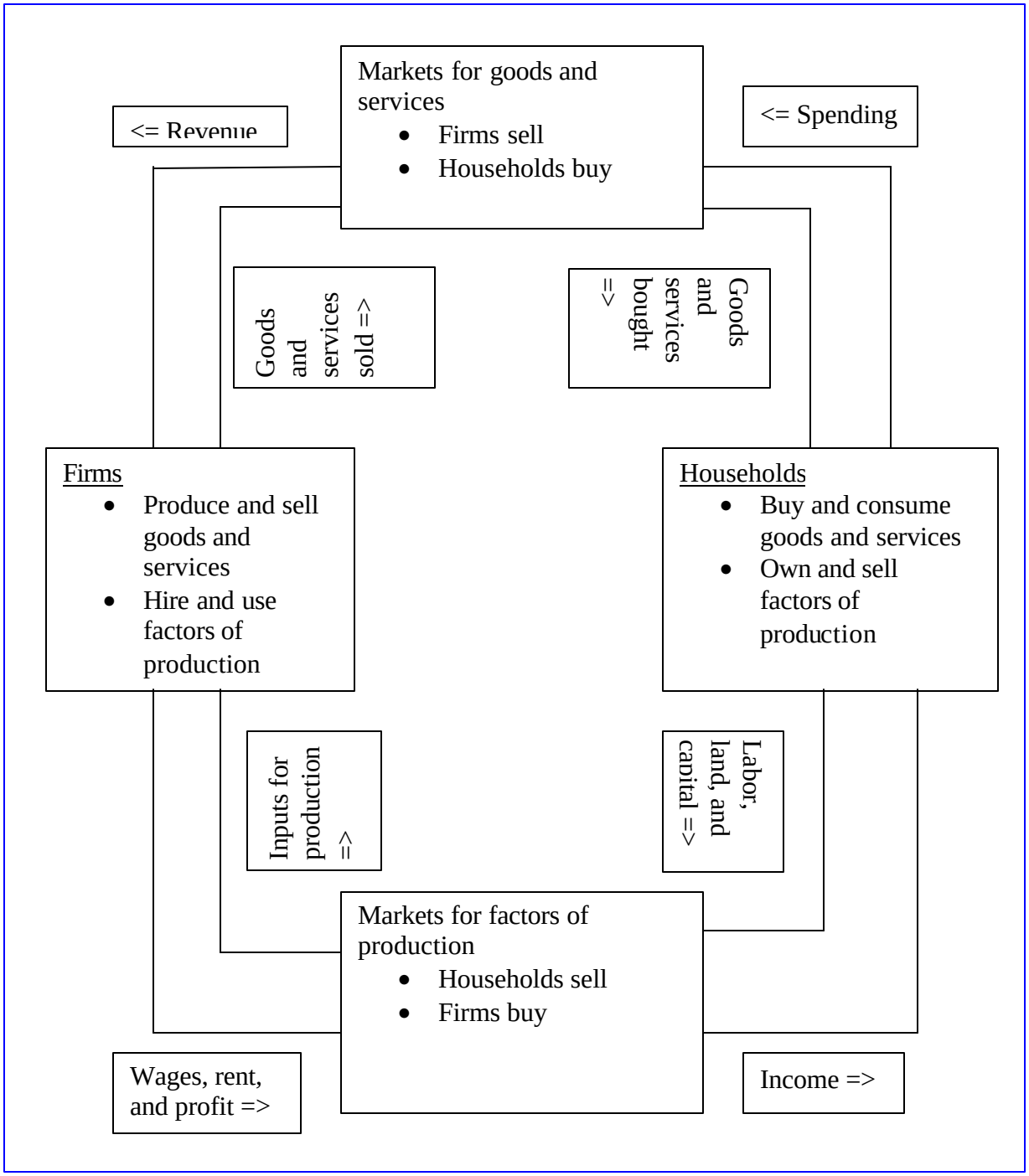


Diagram 2—Consumer Exchange

A's Preference Scale	B's Preference Scale
1. 1 Coconut	1. 100 berries
2. 1 Fish	2. 1 Coconut
3. 100 berries	3. 1 Fish
…	…
n. Potentially limitless wants	n. Potentially limitless wants

A and B trade due to *opposite preference scales.* The cost is the foregone utility and the benefit is the utility derived from the good obtained. Each person values (in terms of subject utility) the good they give up *less than* the item they obtain. This is called a positive sum game, and it occurs in all voluntary exchanges (*ex ante*). Each person exhibits diminishing marginal utility, which leads to the concept of a demand curve. The exchange ratio is the price of each good (e.g., the price of 1 coconut is 100 berries and vice-versa). A nexus of these exchanges and prices is referred to as a market.

Markets are processes. Within these processes, the feedback of inventory or queues occur to steer entrepreneurs in the direction of the equilibrium price. Thus, markets tend toward equilibrium.

Diagram 3—Stages of Production

Nth order good
…
3rd order good
2nd order good
1st order good

A first-order good is a good consumed by a consumer, such as an apple, a car, or a pair of shoes. Second-order goods are goods used to make first-order goods, e.g., for shoes, the second-order goods might include leather, cobblers, shoe-making equipment, time, and an entrepreneur. Third-order goods are goods used to make second-order goods, such as the factory where the shoe-making equipment is produced, the factory employees, the natural resources involved in making this equipment, time, and an entrepreneur. This process of looking at ever-higher orders of good continues until we reach the "original" factors of production for any given process. Some production processes may have only a few orders, while others may stretch for dozens, hundreds, or even thousands of stages. In his classic *I, Pencil,* Leonard Read shows just how many orders there may be for something as simple and common as a mere pencil:

"My family tree begins with what in fact is a tree, a cedar of straight grain that grows in Northern California and Oregon. Now contemplate all the saws and trucks and rope and the countless other gear used in harvesting and carting the cedar logs to the railroad siding. Think of all the persons and the numberless skills that went into their fabrication: the mining of ore, the making of steel and its refinement into saws, axes, motors; the growing of hemp and bringing it through all the stages to heavy and strong rope; the logging camps with their beds and mess halls, the cookery and the raising of all the foods. Why, untold thousands of persons had a hand in every cup of coffee the loggers drink!"[12]

These "higher-order goods" are scarce and substitutable. Note that all production requires time, and entrepreneurship is required to transform goods from each higher-order to the next lower order.

[12]For an excellent and simple example of the many stages that might be involved in a simple first-order good, see Leonard Read, *I, Pencil* (Irvington-on-Hudson, N.Y.: Foundation for Economic Education, 1998), p. 6.

Diagram 4—Functions of the Capitalist Entrepreneur

Ex Ante (Decision/Planning Stage)

1. Judge Demand

2. Add/Compare past and present factor prices

3. Add interest

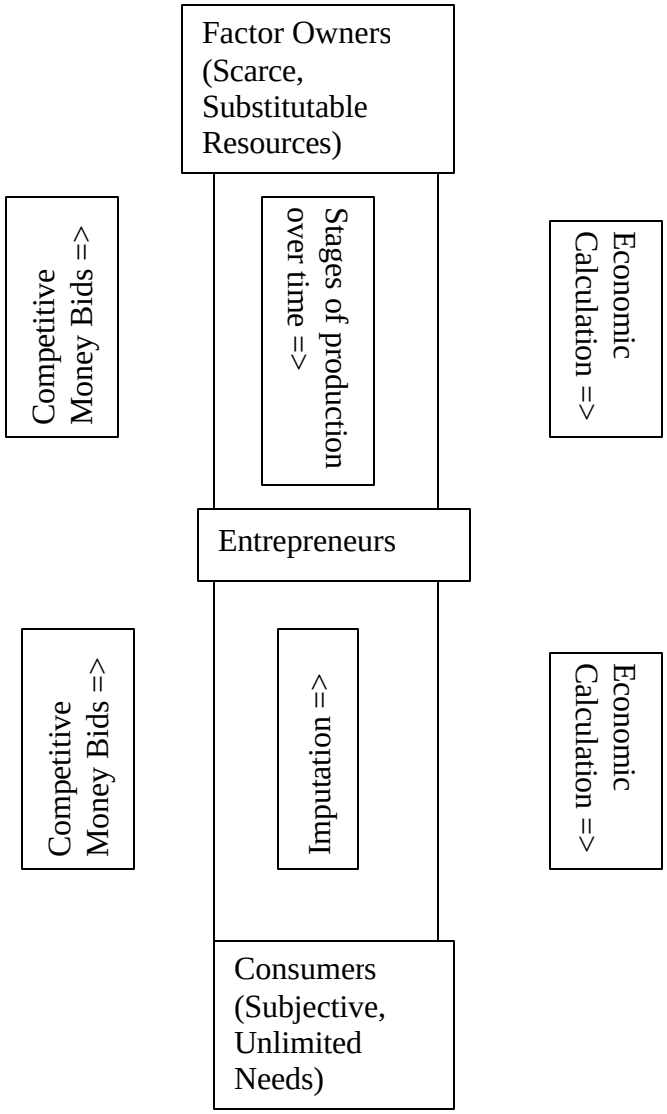
(Referred to as "economic calculation")

Ex Post (Feedback Stage)

1. Evaluate the previous decision with profit or loss.

Successful entrepreneurs are rewarded with profit for correctly anticipating consumer wants (profit is due to the uncertainty of the future). They are also rewarded with more allocating decision-making ability. Incorrect entrepreneurs suffer loss, thus they lose allocating decision-making ability. Entrepreneurs who continually suffer loss are weeded out of the system. Therefore, the feedback of market processes works to give consumers what they want in the long run.

Diagram 5—An Austrian Version of the Circular Flow



The Social Appraisement Process (above) objectifies consumer's subjective wants over time through market processes. Each resource is appraised (in terms of money prices) according to its ultimate contribution to consumer welfare.

Bibliography

Ekelund, Robert B., Jr., and Robert D. Tollison. 2000. Sixth edition. *Economics: Private Markets and Public Choice*. NY: Addison Wesley Longman, Inc.

Ekelund, Robert B., Jr., and Robert F. Hebert. 1990. "Alternate Visions of the Entrepreneur: Cantillon, Say, Dupuit," in *Perspectives on the History of Economic Thought*, ed. D.E. Moggridge, vol. 3, pp. 117–23;

Ekelund, Robert B., Jr., and Robert F. Hebert. 1991. "Dupuit's Characteristics-Based Theory of Consumer Behavior and Entrepreneurship," *Kyklos* 44, no. 1 (1991), pp. 19–31.

Ekelund, Robert B., and David S. Saurman. 1988. *Advertising and the Market Process*.

Huelsmann, Guido. 1997. "Knowledge, Judgment, and the Use of Property." *The Review of Austrian Economics*. Volume 10, No. 1, pp. 23-48.

Kjar, Scott A., James W. Collins, and Roderick Long. 2003. "Menger, Maslow, and the Hierarchy of Needs." Working Paper: Middle Georgia College and Auburn University.

Kjar, Scott A. 2003. *Title Forthcoming*. Working Paper: Middle Georgia College.

Mankiw, N. Gregory. 2001. Second edition. *Principles of Economics*. NY: Harcourt.

Menger, Carl. 1994. [1935]. *Principles of Economics*. Grove City: Libertarian Press.

Mises, Ludwig von. 1998. [1949]. *Human Action*. The Scholars Edition. Auburn: LVMI.

Mises, Ludwig von. 1990. *Economic Calculation in the Socialist Commonwealth.* LVMI: Auburn.

Read, Leonard. 1998. *I, Pencil.* Irvington-on-Hudson, NY: Foundation for Economic Education.

Joe Salerno. 1990. "Postscript: Why A Socialist Economy is 'Impossible'." In Mises (1990).