

CIRCULAR FLOW, AUSTRIAN PRICE THEORY, AND SOCIAL APPRAISEMENT

BARRY DEAN SIMPSON AND SCOTT A. KJAR

Traditional economic 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. The origins of the circular-flow diagram have been attributed to Frank Knight, who first published the modern interpretation, although different versions of the circular flow have appeared in many economic works (Patinkin 1973).

The circular-flow approach is decidedly Neoclassical, and suffers from many problems which traditional Austrians would notice. The circular-flow diagram's greatest problem is, in fact, its circularity. While real-world economic analysis has a beginning, an ending, and ever-changing processes, the circular-flow diagram 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.

The most important actor in the economic process for Austrians, and an element crucial to every single real-world market—the entrepreneur—is missing from the circular flow didactic. It is the entrepreneur who

- judges future expected consumer good prices,
- anticipates future market conditions,
- seeks new production techniques, and
- delivers the product to the consumer.

BARRY DEAN SIMPSON is assistant professor of economics at the University of South Alabama. SCOTT KJAR is an instructor of economics at Georgia Perimeter College. The authors would like to thank Roger Garrison, Guido Hülsmann, George Reisman, and James Swofford for comments on previous versions of this paper. Special thanks go to an anonymous referee for substantive contributions. The usual caveats apply.

Without a role for the entrepreneur, the circular-flow diagram loses all touch with reality.

Kirzner (1963) explicitly incorporates the entrepreneur into his price theory diagram. This incorporation allows one to explore the beginning of economic activity, the process of production, and the conclusion of the activity. It also explains inter-temporal changes in economic activity, as successful entrepreneurs acquire more resource control while unsuccessful entrepreneurs lose such resource control.¹

Thus, rather than a single circular-flow diagram that represents an entire economy, Kirzner's diagram presents multiple processes intertwined both temporally and intertemporally, a situation in which solid foundational microeconomic processes allow one to better understand macroeconomic aggregates. This paper adds to Kirzner's original formulation the social appraisal process and monetary calculation, and makes the role of time in markets even more explicit. The diagrammatic exposition of these concepts is developed into a solid pedagogy for explaining Austrian price theory.

THE CIRCULAR-FLOW DIAGRAM

The traditional circular-flow diagram (see Figure 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.

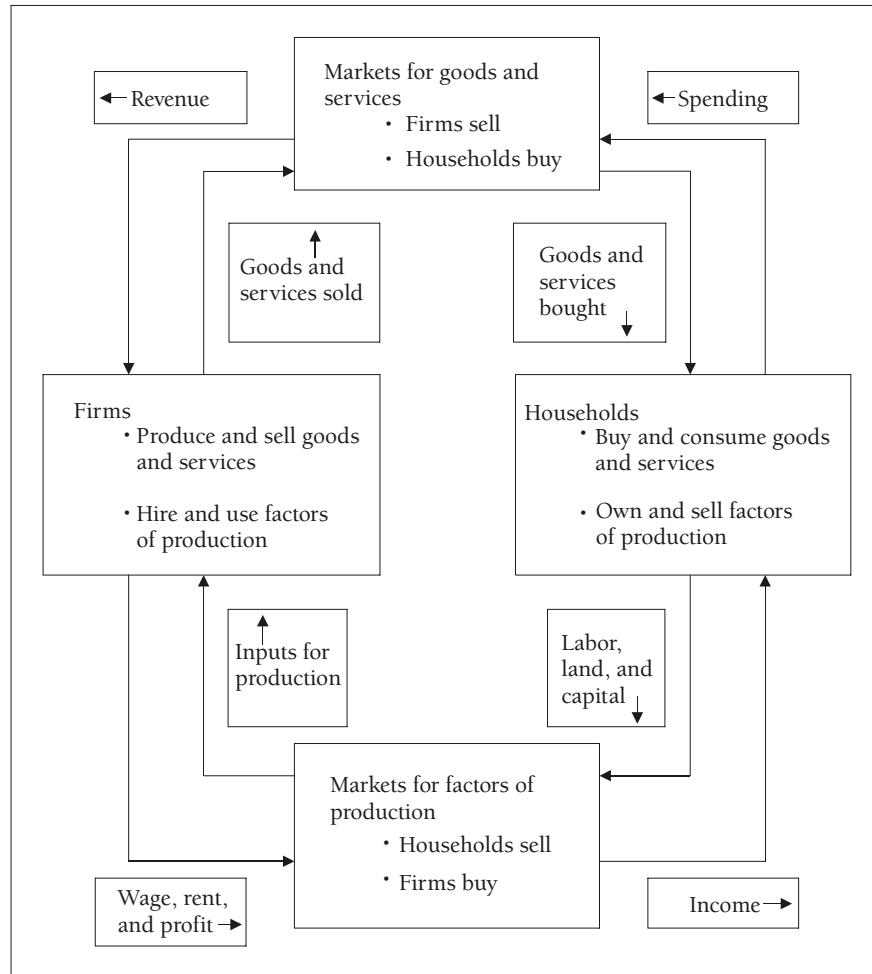
One of the problems with such circularity is that there is no beginning or end to the economic process. According to Menger's formulation of economics,² the beginning and end of economics is a human need. This human need or "feeling of uneasiness" (Mises 1998, p. 13) is a necessary cause of human action. 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 that economics deals with human beings, their needs, and the subsequent satisfaction of such needs.

The entrepreneur acts as a middle man who acquires resources and capital goods and transforms them into consumer goods that will satisfy the needs of humans. This element, crucial to the economic process, is also missing from the circular-flow diagram. By positing a beginning and an end to economic action, the intertemporal function of the entrepreneur comes to light. It takes time for the entrepreneur to create consumer goods by combining and

¹See Kirzner (1963, p. 19); and Simpson and Kjar (2005), for an elaboration of Kirzner's diagram.

²See below, "The Market Process View."

Figure 1
The Circular-Flow Diagram³



Source?

transforming resources and capital goods. Moreover, the entrepreneur receives feedback through market processes that guide him to the correct allocation of resources, including the time involved in the creation of consumer goods. The circular-flow diagram misses the entire role of time in the economic process by its very circularity.

The entrepreneur is also more attuned to the real world of economics than are firms in the neoclassical production function. Firms in the circular-flow diagram seem to be a mysterious black box into which resources flow and out of which consumer goods magically and instantaneously appear. In the real

³See Ekelund and Tollison (2000), Krugman and Wells (2005), Mankiw (2001), and O'Sullivan and Sheffrin (2003) for versions of the circular-flow diagram.

world, however, production has a beginning and an ending. Further, in the Circular Flow, there is no mention of time, opportunity costs, uncertainty, or mistakes—all features of real-world markets. While the circular-flow diagram pretends to explain economic interaction, it barely even explains the neoclassical model.

THE MARKET PROCESS VIEW

Consumers

Carl Menger described four prerequisites for a *thing*⁴ to become a good; 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.⁶

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 might 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 a 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 and transform* them in order
- to create the product in question.

Since factors of production are generally both 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

⁴Menger (1994, p. 54) defined “things” very broadly, including not just physical items but also services, and even human personal relationships. For a discussion of the four prerequisites, see Menger (pp. 51-55).

⁵On the idea of human needs, rather than human wants, see Kjar, et al. (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.

⁶Kirzner (1963, pp. 15-16) also begins with a discussion of consumers.

involved in the production process. The neat box labeled “firms” in the 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, prices, and market conditions, and considers various production techniques.⁷ The entrepreneur must acquire scarce resources, and then transform these resources into goods he expects will satisfy consumer wants. If the entrepreneur is correct in his anticipations of the future, then he is rewarded with financial profits, and thus more resource control in the future. If the entrepreneur errs in his calculations, then he is punished with financial losses and 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

For simplicity of exposition, the entrepreneur’s activities, in addition to production itself, are broken into two temporal stages: *ex ante* (entrepreneurial judgment before production) and *ex post* (feedback after production).

Ex ante, the entrepreneur must start with a *judgment* about the future demand for some particular good.⁸ Yet, while it is easy to describe such judgments, it is much harder to make them. The future is unknown, so any such decision is made in a world of uncertainty. Further, the task is compounded by the fact that consumers can change their preferences over time, other entrepreneurs could introduce new products that better meet consumer needs, or, in a world filled with governments, the regulatory or institutional environments in which an entrepreneur operates might change. The entrepreneur must anticipate future consumer prices as well as future market conditions. Anticipation of these possible future events and prices is part of monetary calculation. This process is greatly simplified in a system with pre-existing prices, since entrepreneurs can use their experience of prices from the immediate past to aid in understanding the future (Salerno 1990, p. 43).

A second feature of entrepreneurial judgment is to compute the costs of production for the substitutable materials and production techniques. The entrepreneur can now compare these costs of production to their anticipated consumer prices to judge which method will yield the greatest expected profit. This comparison cum calculation allows the entrepreneur to judge how much money can be bid for scarce resources while still maintaining an expected profit margin.

Another important element in monetary calculation is the time involved in alternative production techniques. Different techniques require different

⁷Our analysis of the entrepreneur is based on Salerno (1990a), (1990b), (1993), and Hülsmann (1997).

⁸See Hülsmann (1997, p. 35, p. 47). Kirzner (1963, pp. 17-18) uses the word “speculation.”

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 intertemporal component as well. For example, a particular production method may be both longer and more productive than an alternative method. The entrepreneur must weight the intertemporal opportunity cost involved in resource allocation as measured by the interest payments he would otherwise receive, and compare this to 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 intertemporal 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. The interest rate is decided by the supply and demand of loanable funds, which are in turn decided by individual time preferences. The interest rate—a reflection of society's time preference—aids the entrepreneur in his inter-temporal decision making. Moreover, the "capitalist" entrepreneur must add in an interest payment to himself to cover the opportunity cost he gives up over the time period of production. According to Mises:

Along with the prices of the material factors of production, wage rates, and the anticipated future prices of the products, interest rates are items that enter into the planning businessman's calculation. The result of this calculation shows the businessman whether or not a definite project will pay. It shows him what investments can be made under the given state of the ratio in the public's valuation of future goods as against present goods. It brings his actions into agreement with this valuation. It prevents him from embarking upon projects the realization of which would be disapproved by the public because of the length of the waiting time they require. It forces him to employ the available stock of capital goods in such a way as to satisfy best the most urgent wants of the consumers. (Mises 1998, p. 550)

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 (*ex post*).⁹ If consumers believe that the product in question meets their needs, consumers will purchase the product, exchanging

⁹Profit 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.

it for money. 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 entrepreneurs are those who turn a profit; the higher the profit, the more successful the entrepreneur is deemed to be. By generating profits, successful entrepreneurs have the financial wherewithal to acquire and control additional resources in the future. In other words, those individuals whose judgments please consumers are given additional opportunities to allocate resources in ways that further please consumers.

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 Such entrepreneurs have less financial wherewithal to acquire or control resources in the future, and thus are restricted from their ability to reduce consumer satisfaction in the future. The unsuccessful entrepreneurs that go out of business must sell their acquired resources and capital goods to cover their costs. Scarce resources and capital goods are thus reallocated, through the market process, to entrepreneurs who will correctly allocate such factors.

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

A DIAGRAMMATIC MODEL OF THE SOCIAL APPRAISEMENT PROCESS

Price Theory

Figure 2 builds on the work of Kirzner, and attempts to correct the problems of the circular-flow diagram (Kirzner 1963, pp. 2-31; Simpson and Kjar 2005).

¹⁰On the issue of advertising and its relationship to Menger's first prerequisite, see Ekelund and Saurman (1988).

¹¹We 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 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.

First, the economic process begins with an expected human need. These needs are subjective and potentially unlimited.

The entrepreneur attempts to combine resources in such a way to satisfy the needs of the consumer. Entrepreneurs supply the consumer with created consumer goods based on entrepreneurial judgments. Since the production process takes time, these judgments were made in the past. Entrepreneurs—engaged in monetary calculation—judged a particular line of production potentially profitable, obtained the factors of production, and created the good. Now, the good is being offered to consumers. This interaction between consumers and entrepreneurs forms current consumer good prices. The feedback of profit and loss will evaluate the previous judgments of the entrepreneurs.

Before the production process begins, however, the entrepreneur must first acquire the necessary scarce resources that go into creating the consumer good. Various entrepreneurs bid on the scarce resources according to their monetary calculations. Entrepreneurs willing to bid more for factors have judged their particular consumer good to be more valuable to consumers than have entrepreneurs making lower money bids.

Factor owners (other entrepreneurs and laborers) choose whether to supply factors of production based on their reserve prices for their resources. If the highest bid does not equal or exceed the factor owner's reserve price, then he will choose to consume the resource himself.¹² If the highest bid equals or exceeds the owner's reserve price, then the owner becomes a supplier by selling the resource to the highest-bidding entrepreneur. This interaction between entrepreneurs and factor owners forms prices for capital goods and resources.¹³

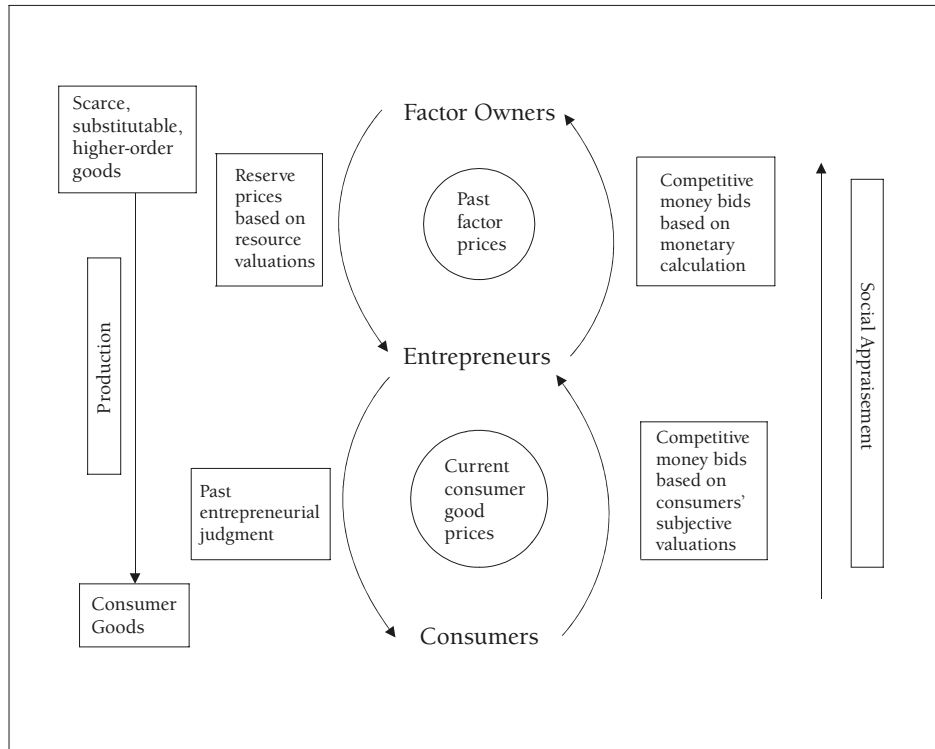
The exchanges between entrepreneurs and factor owners precede the exchanges between entrepreneurs and consumers. Current consumer good prices, therefore, have little if any direct connection to current factor prices. Instead, current consumer good prices come about when consumers, based on their subjective valuations of how the consumer goods will satisfy their wants, make money bids to entrepreneurs for consumer goods.¹⁴ By purchasing one product and not purchasing another, a particular consumer demon-

¹²Such consumption could include a laborer choosing to consume leisure rather than earn a money income, or a landowner choosing to consume the beauty of undeveloped land rather than sell it for development. In both cases, the factor owner makes a direct valuation of his resource.

¹³This diagram is, of course, an over simplification. Entrepreneurs engage resource owners at every step of the production process. The number of vertical markets that relate to each other in this way are potentially limitless. See Kirzner (1963, p. 20). See also Read (1998) for a pedagogical discussion of the production process.

¹⁴In this model, the typical notion of "households" is included in the categories of "consumers" and labor-supplying "factor owners." See Kirzner (1963, p. 19).

Figure 2
Price Theory and Appraisalment



Source?

strates his preference for the purchased product. We know that at the moment the good was purchased, it maintained a higher position of the consumer's preference scale than the good not purchased (Rothbard 1997, p. 212).

As we see then, current consumer good prices are based on past entrepreneurial judgments and current consumer valuations. Past factor prices are based on the past reserve prices of factor owners, entrepreneurial cost calculations (based on factor prices of the immediate past), and the past anticipation of future consumer good prices by entrepreneurs. The flow from past factor prices to current consumer good prices is reinforced time-wisely by the flow of production from higher-order factors to first-order consumer goods.

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

The Social Appraisalment Process

It is through these micro-processes that the macro-process of social appraisalment occurs. Social appraisalment is the process by which resources

are selected by entrepreneurs based on the expected profitability of the investment, and entrepreneurs are selected by consumers through the profit and loss mechanisms. Entrepreneurs anticipate future consumer good prices and compare these judgments to the production costs of various methods of production. These comparisons are then used to make money bids to resource owners. Thus, entrepreneurs *select* the investment projects that are deemed the most value-productive (Hülsmann 1997, p. 46). It is during the competition of entrepreneurs bidding for scarce resources that “each and every type of productive service is objectively appraised in monetary terms according to its ultimate contribution to the production of consumer goods” (Salerno 1990b, p. 54).

The feedback of profit and loss *selects* those entrepreneurs whom consumers deem as the most socially useful. Through profit, the market provides an ordinal rank of entrepreneurs who produce the most highly-valued goods at the lowest cost. In this manner, the allocation of scarce resources to unlimited needs occurs. The market is essentially a selective process both *ex ante* and *ex post*. Over time, then, the subjective valuations of consumers are imputed back to the factors in the form of factor prices. Therefore, imputation, the pricing of factors, resource allocation, and entrepreneurial cost and profit calculations are all part of the social appraisal process (Mises 1998, p. 308).

CONCLUSION

This paper highlights many of the weaknesses of the circular-flow diagram to correctly model markets and economic processes. The Diagram is hampered by making economic action seem instantaneous, and by replacing the real world entrepreneur with “the firm”—a substitute for the neoclassical production function. This ambiguity is corrected by Kirzner, who posits a beginning and ending to the economic process, and by explicitly incorporating the entrepreneur into the price-theory diagram. Showing the place of the entrepreneur in the time line of economic production overcomes one obstacle created by the circular-flow diagram.

The circular flow also misses the importance of market processes in allocating and reallocating scarce resources to satisfy unmet human needs. Incorporating the function of the entrepreneur in the allocation process overcomes another disability of the circular-flow diagram. It is the forecasting entrepreneur who allocates the scarce resources among the unlimited needs of human beings, and it is through market feedback and selection that allocation occurs in the most efficient manner.

Adding the social appraisal process to Kirzner’s diagram accomplishes two goals. This first goal is to create an Austrian pedagogy with respect to price theory. This diagram enables teachers to give students something to look at and relate back to when teaching Austrian price theory. The interactions of micro and macro processes are made somewhat tangible, and

these interactions are shown as an explicit part of the social appraisal process. The second goal is to show how the neoclassical foundations of the circular-flow diagram render it useless in describing real-world economies and economic activity. By adding appraisal to Kirzner's original didactic, this paper accomplishes these goals.

REFERENCES

- Ekelund, Robert B., Jr., and Robert D. Tollison. 2000. 6th ed. *Economics: Private Markets and Public Choice*. New York: Addison Wesley Longman.
- Ekelund, Robert B., and David S. Saurman. 1988. *Advertising and the Market Process*. San Francisco: Pacific Research Policy Institute.
- Hülsmann, Guido. 1997. "Knowledge, Judgment, and the Use of Property." *Review of Austrian Economics* 10 (1): pp. 23-48.
- Kirzner, Israel. 1963. *Market Theory and the Price System*. Princeton, N.J.: D. Van Nostrand.
- Kjar, Scott A., James W. Collins, and Roderick Long. 2003. "Menger, Maslow, and the Hierarchy of Needs." Unpublished Manuscript. Georgia Perimeter College and Auburn University.
- Krugman, Paul, and Robin Wells. 2005. *Microeconomics*. New York: Worth Publishers.
- Mankiw, N. Gregory. 2001. 2nd ed. *Principles of Economics*. New York: Harcourt.
- Menger, Carl. [1871] 1994. *Principles of Economics*. Translated by James Dingwall and Bert F. Hoselitz. Grove City: Libertarian Press.
- Mises, Ludwig von. [1949] 1998. *Human Action*. Scholars Edition. Auburn, Ala.: Ludwig von Mises Institute.
- . [1920] 1990. *Economic Calculation in the Socialist Commonwealth*. Auburn, Ala.: Ludwig von Mises Institute.
- O'Sullivan, Arthur, and Steven M. Sheffrin. [1998] 2003. *Macroeconomics: Principles and Tools*. 3rd ed. Upper Saddle River, N.J.: Prentice Hall.
- Patinkin, Don. 1973. "In Search of the 'Wheel of Wealth': On the Origins of Frank Knight's Circular-Flow Diagram." *American Economic Review* 63, no. 5 (December): 1037-046.
- Read, Leonard. 1998. *I, Pencil*. Irvington-on-Hudson, N.Y.: Foundation for Economic Education.
- Rothbard, Murray N. [1956] 1997. "Toward a Reconstruction of Utility and Welfare Economics." In *The Logic of Action One*, pp. 211-54. Cheltenham, U.K.: Edward Elgar.
- Salerno, Joseph T. 1993. "Mises and Hayek Dehomogenized." *Review of Austrian Economics* 6 (2): 113-48.
- . 1990a. "Ludwig von Mises as Social Rationalist." *Review of Austrian Economics* 4: 26-54.
- . 1990b. "Postscript: Why A Socialist Economy is 'Impossible'." In *Mises 1990*.
- Simpson, Barry Dean, and Scott A. Kjar. 2005. "Israel Kirzner's Didactic Rediscovered." Unpublished Manuscript. University of South Alabama and Georgia Perimeter College.