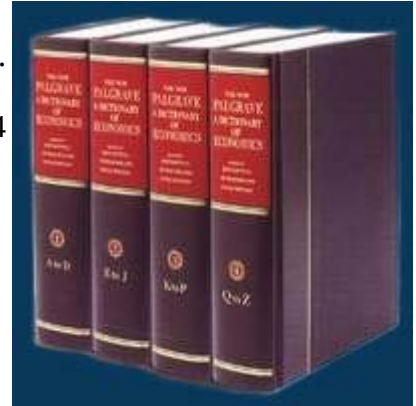
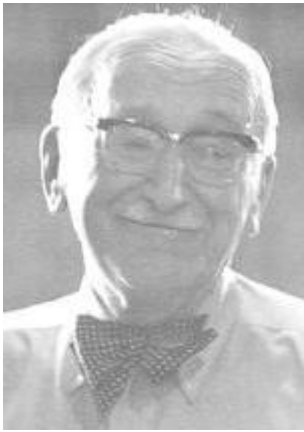


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Friedrich August von Hayek

by Roger W. Garrison and Israel Kirzner



I. Introduction

Friedrich August von Hayek (1899-), a central figure in twentieth-century economics and foremost representative of the Austrian tradition, 1974 Nobel laureate in Economics, a prolific author not only in the field of economics but also in the fields of political philosophy, psychology, and epistemology, was born in Vienna, Austria on May 8, 1899. Following military service as an artillery officer in World War I, Hayek entered the University of Vienna, where he attended the lectures of Friedrich von Wieser and Othmar Spann and obtained doctorates in law and political science. After spending a year in New York (1923-24), Hayek returned to Vienna where he joined the famous Privatseminar conducted by Ludwig von Mises. In 1927 Hayek became the first director of the Austrian Institute for Business Cycle Research. On an invitation from Lionel Robbins, he lectured at the London School of Economics in 1931 and subsequently accepted the Tooke Chair. Hayek soon came to be a vigorous participant in the debates that raged in England during the 1930s concerning monetary, capital, and business-cycle theories and was a major figure in the celebrated controversies with John Maynard Keynes, Piero Sraffa, and Frank H. Knight.

During the late 1930s and early 1940s Hayek's research focused on the role of knowledge and discovery in market processes, and on the methodological underpinnings of the Austrian tradition, particularly subjectivism and methodological individualism. His contributions in these areas were an outgrowth of his participation in the debate over the possibility of economic calculation under socialism.

In 1950 Hayek moved to the United States joining the Committee on Social Thought at the University of Chicago. His research there engaged the broader concerns of social, political and legal philosophy. He returned to Europe in 1962 with appointments at the University of Freiburg, West Germany, and then (1969) at the University of Salzburg, Austria. Since 1977 Hayek has resided in Freiburg.

Hayek's scholarly output spans more than six decades. Still growing in the mid 1980s, his bibliography (Gray, 1984) includes eighteen books, twenty-five pamphlets, sixteen books edited or introduced, and two hundred thirty-five articles. Although these publications have brought Hayek international renown and honors in several disciplines, his contributions to other social sciences emerged, to a significant degree, as extensions of his scholarship in the field of economics and its methodological foundations. The following survey refers rather narrowly to the career and contributions of Hayek the economist.

II. Economics as a Coordination Problem

Throughout all of Hayek's writings, both the questions asked and the answers given reflect his general conception of economics as a coordination problem (O'Driscoll, 1977). Thoughtful observation of market economies suggests that they are characterized by order more complex and intricate than can be explained in terms of deliberate efforts to achieve coordination among

individual activities. According to Hayek (1952, p. 39), it is precisely the existence of this "spontaneous order" that provides the subject matter for the science of economics.

While market economies are better coordinated than can be accounted for by references to deliberate planning, they are always less than fully coordinated, hence the coordination problem. In one important sense, coordination failures are an integral part of an ongoing market process that iterates towards a greater degree of coordination. An oversupply or undersupply of some particular good, for instance, is evidence that the plans of producers and consumers of that good are not well coordinated one with the other. But the discoordination itself provides both an indication of the inconsistency in plans and the incentive for producers and consumers to make the appropriate adjustments.

But market economies do occasionally experience profound economywide coordination failures. Much of Hayek's research has been aimed, either directly or indirectly, toward discovering the set of circumstances or, more appropriately, the sequence of events that could cause such failures, i. e., that could cause an economy to collapse into economic depression. The focus of his research is *intertemporal* discoordination. The coordination of activities over time is inherently more difficult, more problematic, than the coordination of activities in a given period. Producers must make decisions now in anticipation of decisions that other producers and, ultimately, consumers will make sometime in the future. The fact that production is time consuming, the more so the more well developed the economy, figures importantly in Hayek's theorizing. This essential time element increases the likelihood of erroneous investment decisions and gives scope for cumulative investment errors. A spate of intertemporally discoordinated investments, whether triggered by a real or a monetary disturbance, can increase employment opportunities producing an artificial boom. But the eventual realization of the discoordination will necessitate a partial liquidation, which constitutes a bust. In this context, the Austrian theory is differentiated from other macroeconomic theories by its attention to the problem of intertemporal coordination *within* the investment sector. The more conventional treatments of macroeconomic coordination problems focus on the general *level* of investment in comparison with the level of saving or the size of the labor force.

Hayek adopted a two-tier approach to the study of business cycles. Prerequisite to the question of how an economywide coordination failure could occur is the question of how any degree of intertemporal coordination can be achieved at all in market economies. In Hayek's words, "before we explain why people commit mistakes, we must first explain why they should ever be right" (1937, p. 34). His account first of how a market economy works to coordinate activities over time and then of what can go wrong draws from several different fields of study within the science of economics. In particular, it draws in fundamental ways from price theory, capital theory, and monetary theory.

Each of these fields required further development before becoming part of Hayek's account. Price theory had to be recast so as to emphasize the role of the price system as a communications network and as the most efficient means of making use of economic information. Capital theory had to be detailed so as to give play to the individual elements of the capital structure, which is made up of heterogeneous pieces of capital of various degrees of specificity and durability and related to one another by various degrees of intertemporal substitutability and complementarity. And monetary theory had to be extended in scope so as to allow the identification of systematic relative-price effects associated with the process of monetary expansion or contraction.

While Hayek contributed importantly to each of these fields of study, his ultimate achievement consists in the integration of price theory, capital theory, and monetary theory. Hayek integrated his own developments in these fields into a cohesive account of a market process that tends towards intertemporal coordination and of central-bank policies that can interfere with that process in such a way as to cause artificial economic booms which are inevitably followed by economic busts. Hayek's business-cycle theory provided a basis for interpreting much of nineteenth- and twentieth-century economic history, for evaluating alternative macroeconomic theories—especially those of John Maynard Keynes, and for promoting institutional reform of the kind that will prevent or minimize intertemporal discoordination.

III. Subjectivism and Methodological Individualism

The methodological norms adopted by Hayek are a direct reflection of his perception of the subject matter: economic phenomena as spontaneous order. Fundamental institutions in society owe their existence to no identifiable creator. They are the "results of human action but not of human design." The most obvious examples of spontaneous order are the use of language and, among economic phenomena, the use of money. Money, the most commonly accepted medium of exchange, came to be accepted, commonly accepted, and then most commonly accepted as a result of a long sequence of actions on the part of a multitude of individual traders none of whom *intended* to create the institution of money. Other economic phenomena—from the simple division of labor to the more broadly conceived organization of industry—are to be understood as instances of spontaneous order.

If there were no order in society except for what was consciously designed, Hayek argued, there would be no scope and no need for the social sciences. The task of these sciences in a world characterized by spontaneous order is precisely to account for those aspects of social order that were not consciously designed. A central methodological theme that has consistently pervaded Hayek's investigation of spontaneous order stems from his insistence that it is inappropriate to apply uncritically the methods of the physical sciences to the phenomena of the social sciences. Hayek used the term *scientism* to refer to the slavish imitation of the methods of the physical sciences without regard for the innate differences between physical and non-physical reality. Scientism, which unavoidably overlooks crucial aspects of social reality, such as perception, intent, and anticipation, was the focus of two long and critical articles published by Hayek during World War II. In these articles, which constitute the central core of his 1952 book, *The Counter-Revolution of Science: Studies on the Abuse of Reason*, Hayek spelled out the case for subjectivism and methodological individualism in the social sciences. "It is probably no exaggeration," according to Hayek, "to say that every important advance in economic theory during the last hundred years was a further step in the consistent application of subjectivism" (1952, p. 31).

Classical economists had focused their attention on the *objects* being valued and had looked for common denominators of value in terms of labor input or costs of production. The Austrian economists, particularly Menger, Mises, and Hayek, are to be credited with shifting attention from the objects being valued to the subjects engaged in valuation. The value attributed to the various objects of economic actions, Hayek emphasized, can be accounted for only with reference to human purposes and in terms of the views that people hold about those objects.

Hayek's thoroughly subjectivist outlook and his adherence to the strictures of methodological individualism were mutually reinforcing. Methodological individualism is not a prescription of how to engage in economic research but rather a recognition of what counts as an economic explanation. To explain the undesigned aspects of a spontaneous order is to trace those aspects to the consciously taken individual actions that gave rise to that order. In Hayek's own words, "it is the concepts and the views held by individuals which are directly known to us and which form the elements from which we must build up, as it were, the more complex phenomena..." (Hayek, 1952, p. 38).

The contention that Hayek's crusade against scientism has consistently informed his substantive work is at least partly in conflict with a recent argument by T. W. Hutchison, who has sought to establish that Hayek's 1937 article "Economics and Knowledge" marked a sharp change in his methodology towards a "falsificationist" approach to economic science (Hutchison, 1981). This argument has been effectively disputed by John Gray (1984, pp. 16-21), who recognizes that the 1937 article was intended to persuade Mises that, contrary to Mises' own "praxeology," there is an essential empirical element in our understanding of economic phenomena. Further, Hayek's 1952 commitment to subjectivism and methodological individualism, and his emphasis on the fallacies of scientism suggest in fact a deepening, rather than an erosion, of his recognition of the extent to which economic theory is independent of—in fact a prerequisite to—empirical economic observation.

IV. The Price System as a Communication Network

It is a short step from Hayek's appreciation of the phenomenon of spontaneous order to his understanding of the price system as a communication network. The key contribution of the price system to social well-being consists, Hayek demonstrated, is the system's capacity to transmit

information from one part of the market to another. In the event of a natural disaster which has curtailed the availability of a specific raw material, for example, the fact of a reduced supply will be effectively communicated to potential users through the medium of a higher price—which also provides the incentive for the socially desirable economizing of the particular raw material (Hayek, 1945, p. 85-86). The need for such a communication network arises out of the fact that the information to be communicated is dispersed throughout the society. This insight into the nature of prices as *signals* has, during the past decade and a half, come to be fairly widely recognized and expounded in modern textbooks.

In his treatment of the use of knowledge in society, Hayek made a sharp distinction between two kinds of knowledge: (1) scientific, or theoretical, knowledge and (2) the knowledge of the particular circumstances of time and place. The first-mentioned category is the proper concern of the economist; the second-mentioned category is the proper concern of the market participant. Failure to recognize this "division of knowledge" can lead to one of two serious errors. The assumption that economists can assimilate both kinds of knowledge leads to the conclusion that "rational planning" can outperform—or at least duplicate—the market itself. The assumption that *market participants* can assimilate both kinds of knowledge leads to the conclusion that "rational expectations" can nullify the systematic effects of monetary manipulation.

Hayek recognized and emphasized that if a fully adjusted system of prices—one corresponding to attained equilibrium—can be held to offer a system of coordinated and mutually reinforcing signals, such a system must depend on some prior groping process of market *discovery*. Hayek saw this process as consisting of market *competition*—which meant for him not the state of affairs consistent with the conditions for so-called perfect competition, but rather the rough-and-tumble process of market agitation kept in motion by complete freedom for competitive entrepreneurial entry. What such a competitive process can accomplish, Hayek argued, is the discovery of possibilities and preferences that no one had hitherto realized (Hayek, 1968).

These insights concerning knowledge and discovery articulated by Hayek in a number of profound papers from the late 1930s to the mid-1940s (Hayek, 1948) were partly responsible for, and partly emergent from, Hayek's participation in the celebrated interwar debate over the possibility of economic calculation under a socialist system. In deepening and widening the case originally presented by Mises in 1920, which challenged the feasibility of such calculation in the absence of market prices for factors of production, Hayek came to perceive the market process itself as crucial for the generation of that very knowledge which it would be necessary for a central planning authority to possess before it could hope to achieve a successful and efficient allocation of societal resources.

It was especially this Hayekian appreciation for the market as a discovery process that has significantly contributed to the contemporary revival of interest in the Austrian paradigm. In this context the Austrian contribution is to be distinguished from the more formal, or mathematically tractable, theories by its emphasis on the role of the entrepreneurial discovery in those systematic market processes upon which we must depend, in a world of ignorance and disequilibrium, for any possible tendency toward mutual coordination among the market participants. What Hayek showed was that much modern economics misconstrues the nature of the economic problem facing society by assuming away the problems raised by the fact of dispersed information. To imagine (as earlier critics of Mises and Hayek had proposed) that it would be possible to run a socialist system by simulating the market and promulgating non-market "prices" for the guidance of socialist managers is to ignore the extent to which market prices—both of consumer goods and of the capital goods that constitute the economy's capital structure—*already* express the outcome of an entrepreneurial discovery procedure that draws upon scattered existing knowledge.

V. The Intertemporal Structure of Capital

Hayek's contribution to the development of capital theory is commonly regarded as his most fundamental and pathbreaking achievement (Machlup, 1976). His early attention (1928) to "Intertemporal Price Equilibrium and Movements in the Value of Money" (English translation in Hayek, 1984) provided both the basis and inspiration for many subsequent contributions in this area, most notably for those of John R. Hicks. The widely recognized but rarely understood Hayekian triangles, introduced in his *Prices and Production* (1935), provided a convenient but

highly stylized way of describing changes in the intertemporal pattern of the capital structure. The formal and comprehensive analysis in *The Pure Theory of Capital* (1941) fleshed out the earlier formulations and established the centrality of the "capital problem" in questions about the market's ability to coordinate economic activities over time.

The essential element of time in the economy's production process coupled with the inherent complexities of the capital structure gives special significance to the problem of intertemporal coordination. Individual producers must commit resources in the present on the basis of some production plan. Intertemporal coordination in the strictest sense requires that all such plans be mutually compatible and that they be jointly consistent with resource availabilities. The extent to which such compatibility and consistency actually exists is determined only through the market process in which each producer attempts to carry out his own plan. The individual production plans take shape as non-specific capital (e.g. raw material) is committed to a specific use (e.g. a particular tool or machine); the passage of time and the efforts of each producer to secure the additional capital needed to complete his own production plans reveal the extent to which the capital structure is intertemporally coordinated or discoordinated. The actual availability of some raw material complementary to already-committed capital may be less, for instance, than the amount needed for each producer to carry out his plan. As such discoordination is revealed (by an increase in the price of the raw material), production plans are revised. In Hayek's formulation, the capital goods that make up the production process are neither so specific that such plan revision is impossible nor so non-specific that it is costless.

In his *Pure Theory of Capital*, Hayek provides a detailed treatment of capital goods in terms of reproducibility, durability, specificity, substitutability, and complementarity. These multifaceted characteristics of various capital goods and of relationships among them cause the structure of production, taken as a whole, to be characterized by a longer or shorter "period of production," a greater or lesser degree of "roundaboutness." The degree of roundaboutness, the extent to which the production process ties up resources over time, is determined by the market rate of interest—with the "market rate" broadly conceived as the terms of trade between goods available in the present and goods available in the future. The market process works to translate intertemporal preferences into production plans. For instance, a fall in the rate of interest reflecting an increased willingness to forgo present goods for future goods creates incentives for engaging in production processes of greater degrees of roundaboutness. The characteristics, mentioned above, of the individual capital goods and of the relationships among them determine the extent to which the existing capital structure is actually adaptable to changes in intertemporal preferences.

VI. Money and Its Effects on Prices

Hayek's contribution to monetary theory and to trade-cycle theory are intertwined, a circumstance that reflects the nature of his contribution in both areas. In summary terms, Hayek's monetary theory consists of integrating the idea of money as a medium of exchange with the idea of the price system as a communication network. His trade-cycle theory consists of integrating monetary theory and capital theory—in which a particular aspect of the price system, namely the system of intertemporal prices, is emphasized.

Both in his *Monetary Theory and the Trade Cycle* and his *Prices and Production*, Hayek argued against the then-dominant (and still-prevalent) idea that the appropriate focus of monetary theory is on the relationship between the quantity of money and the general level of prices. The kernel of truth in the quantity theory of money was not to be denied, but progress in monetary economics was to be made by moving beyond the simple proportionalities implied by a relatively stable velocity of circulation. According to Hayek (1935, p. 127), the proper task of monetary theory requires a thorough reconsideration of the pure theory of price determination, which is based on the assumption of barter, and a determination of what changes in the conclusions are made necessary by the introduction of indirect exchange. Hayek introduced the concept of "neutral money" in part as a means to contrast his own view of money with the more aggregative views. By definition, neutral money characterizes a monetary system in which money, while facilitating the coordination of economic activities, is itself never a source of discoordination. According to the aggregative views, money is neutral so long as the value of money (as measured by the general level of prices) remains unchanged. Thus, increases in economic activity require proportionate

increases in the quantity of money in circulation. According to Hayek, monetary neutrality requires the absence of "injection effects." When the quantity of money is increased, the new money is injected in some particular way, which temporarily distorts relative prices causing the price system to communicate false information about consumer preferences and resource availabilities.

The contrasting views on the requirements for monetary neutrality had important implications for U.S. monetary policy during the prosperous decade of the 1920s. The rate of monetary growth during that period was roughly equivalent to the rate of real economic growth, a circumstance which resulted in a near-constant price level. The absence of price inflation was taken by most monetary economists to be a sign of monetary stability. Hayek's contrary assessment (1925) that the injection of money through credit markets must result in a misallocation of resources despite the price-level stability was the basis for his prediction that the money-induced boom would eventually lead to a bust.

It should be noted that in other writings, both early and late in his career (e.g. 1933 and 1984), Hayek was ambivalent about the choice between a monetary policy that avoids injection effects (a constant money supply despite a positive real growth rate) and a monetary policy that avoids price deflation (a money growth rate that "accommodates" real growth).

VII. The Trade Cycle as Intertemporal Discoordination

Hayek's contribution to the theory of the trade cycle consists in his developing the idea that monetary injections can have a systematic effect on the intertemporal pattern of prices. The Austrian theory of the trade cycle was first formulated by Mises (1912), who showed that money-induced movements in the interest rate (as identified by the Swedish economist Knut Wicksell) have identifiable effects on the capital structure (as conceived by Eugen von Böhm-Bawerk). Hayek's major contribution to the theory (1935), as well as many subsequent developments of it, was based on an extremely stylized portrayal of the economy's time-consuming production process. The relevant characteristics of the "structure of production" were identified with the dimensions of a right triangle. One leg of the triangle represents the time dimension of the structure of production, the degree of roundaboutness; the other leg represents the money value of the consumer goods yielded up by the production process. Slices of the triangle perpendicular to the time leg represent stages of production; the height of individual slices represents the money value of the yet-to-be-completed production process.

Resources are allocated among the different stages of production as a result of entrepreneurial actions guided by price signals. But because of the distinct temporal dimension of the structure of production, the supplies and demands for resources associated with the different stages are differentially sensitive to changes in the rate of interest: the demand for the output of extraction industries, for example, is more interest elastic than the demand for the output of service industries. Changes in the rate of interest will have a systematic effect on the pattern of prices that allocates resources among the different stages of production. A fall in the rate of interest, for instance, will strengthen the relatively interest-elastic demands drawing resources into the early stages of production. This modification is represented by a relative lengthening of the temporal dimension of the Hayekian triangle.

A crucial distinction is made between interest-rate changes attributable to changes in the intertemporal preferences of consumers and interest-rate changes attributable to central-bank policy. In the first instance (Hayek, 1935, pp. 49-54), entrepreneurial actions and resulting changes in the pattern of prices allow the structure of production to be modified in accordance with the changed consumer preferences; in the second instance (Hayek, 1935, pp. 54-62), similar changes in the pattern of prices induced by the injecting of new money through credit markets constitute "false signals," which result in a misallocation of resources among the stages of production. The artificially low rate of interest can trigger an unsustainable boom in which too many resources are committed to the early stages of production. The market process triggered by the injection of money through credit markets, Hayek showed, is a self-reversing process. More production projects are initiated than can possibly be completed. Subsequent resource scarcities turn the artificial boom into a bust. Economic recovery must consist of liquidating the "malinvestments" and reallocating resources in accordance with actual intertemporal preferences and resource availabilities.

Hayek (1939) recognized that expectations about future movements in the rate of interest and entrepreneurial interpretations of intertemporal price movements can have an important effect on the course of the trade cycle. That is, prices are signals, not marching orders. But Hayek did not assume, as some modern economists do, that falsified price signals plus "rational" expectations are equivalent to unfalsified price signals. Such an equivalence would require that market participants make use of knowledge of the kind that they cannot plausibly possess; it would require that they have knowledge of the "real" factors independent of the price system that supposedly communicates that knowledge.

VIII. Critique of Keynesianism

Hayek's critique of Keynesian theory and policy followed directly from his own theories of capital and of money. Hayek argued that by ignoring the intertemporal structure of production and particularly the intertemporal complementarity of the stages of production, Keynes failed to identify the market process that could achieve intertemporal coordination: "Mr. Keynes's aggregates conceal the most fundamental mechanisms of change" (Hayek, 1931, p. 227). And by shifting the focus of analysis from money as a medium of exchange to money as a liquid asset, Keynes failed to see the harm caused by policies of injecting newly created money through credit markets or of spending it directly on public projects.

Hayek had emphasized that in functioning as a medium of exchange, money "constitutes a kind of loose joint in a self-equilibrating apparatus of the price mechanism which is bound to impede its working—the more so the greater the play in the loose joint." Keynesian theory and policy were the specific targets of Hayek's criticism when he warned that "the existence of such a loose joint is no justification for concentrating attention on that loose joint and disregarding the rest of the mechanism, and still less for making the greatest possible use of the short-lived freedom from economic necessity which the existence of this loose joint permits" (Hayek, 1941, p. 408).

In the decades that followed the debate between Hayek and Keynes, economic theory was dominated by Keynesianism, and the corresponding macroeconomic policies consisted precisely of those measures that Hayek had warned against: monetary manipulation for political advantage. Monetary injections during the Great Depression, conceived as "pump priming," soon gave way to a more broadly conceived policy of "demand management." The short-run trade-off between inflation and unemployment were treated in the political arena—and in some academic circles—as a societal menu from which elected officials, and hence voters, could choose; deviations of the economy from some conception of full-employment or from some long-run growth path were taken as mandates for macroeconomic "fine tuning" to be implemented by the central bank in cooperation with the fiscal authority.

As Hayek clearly recognized in his critique of Keynes's theories and his analysis of the actual effects of Keynesian policies, the political exploitation of the monetary loose joint contains an inherent inflationary bias. Newly created money can be used to hire the unemployed and to finance politically popular spending programs. Monetary injections through the commercial banking system can stimulate the economy by triggering an artificial economic boom. The undesirable effects of inflating the money supply, the eventual collapse of the artificial boom and the general increase in the level of prices, are removed in time from the initial, politically desirable effects and are less conspicuously identified with the elected officials who engineered the monetary expansion (Hayek, 1960, pp. 324-39). As the political process continues, elected officials face the choice of monetary passivity which would permit the market to undergo the painful adjustments to earlier monetary injections or further monetary injections which would reproduce the desirable effects in the short run while staving-off the eventual adjustment. The cumulative effects of the play-off between political advantage and economic necessity is the theme of Hayek's critique of Keynesianism. Excerpts of "a forty years' running commentary on Keynesianism by Hayek," compiled by Sudha Shenoy, is appropriately entitled *A Tiger by the Tail* (1972).

IX. Denationalization of Money

Hayek as a monetary reformer is interested in minimizing the potential for discoordination that is inherent in monetary mechanisms and precluding the manipulation of money for political advantage. He has long doubted that the government has either the will or the ability to manipulate

the money supply in the public interest.

In his early writings Hayek took for granted the existence of a central bank and focused his analysis on the consequences of different policy goals, e.g. the goal of stimulating economic growth or the goal of stabilizing the general price level. In his later writings, he began to see the monopolization of the money supply as the ultimate cause of monetary disturbances. As early as 1960, though still "convinced that modern credit banking as it has developed requires some public institutions such as central banks, [he was] doubtful whether it is necessary or desirable that they (or the government) should have the monopoly of the issue of all kinds of money" (1960, p. 520, n2).

In the mid 1970s Hayek's interest in the denationalization of money (1976) was renewed. Having lost all hope of achieving monetary stability through the instruments of highly politicized monetary institutions, Hayek suggested—by his own account, almost as a "bitter joke"—that the business of issuing money be turned over to private enterprise. Soon taking this suggestion seriously, he began to explore the feasibility and the consequences of competing currencies.

Hayek's proposal for competition in the issue of money is not subject to the standard objection based on the so-called common-pool problem. The proposal is not that private issuers should compete by issuing some generic currency. Clearly, competition on this basis would produce an explosive inflation. The proposal, rather, is that each competitor issue his own trade-marked currency. Under this arrangement, each issuer would have an incentive to maintain a stable value of his own currency and to minimize the difficulties of using this currency in an environment where other currencies are used as well.

In spelling out just how such a system of competing currencies would or could work, Hayek has had to walk the fine line between constructivism on the one hand and blind faith in the market process on the other. His discussions of possible outcomes of the market process should not be taken as prescriptions for the provision of competing currencies, but rather as a basis for believing that competition between private issuers is feasible. Individuals may choose one currency over another on the basis of the issuer's demonstrated ability to achieve purchasing-power stability for that currency. Their choice may be influenced, Hayek has suggested, by what particular price level serves as the issuer's guide for managing the currency. Or it may be that public confidence can be maintained only by a currency that is convertible at a fixed rate into some stipulated commodity or basket of commodities. Hayek does doubt that a gold standard would re-emerge as result of the competitive process, largely because the confidence and stability of gold was based upon beliefs and attitudes on the part of the public that no longer exist and cannot easily be recreated. But if gold did prevail in a competitive environment, there would be no basis for objection.

More importantly, Hayek's proposal for monetary reform should be seen not as an aberration from but as thoroughly consistent with his view of economics as a spontaneous order. Markets serve to coordinate the activities of individual market participants. The use of money, while greatly facilitating economic coordination, contains an inherent potential for discoordination. Competition in the market for money holds that potential in check and allows market participants to take the fullest advantage of the remaining elements of the spontaneous order.

Bibliography

Gray, J. (1984). *Hayek on Liberty*, Oxford, Basil Blackwell, Inc.

Hayek, F. (1925 in German). "The Monetary Policy of the United States after the Recovery from the 1920 Crisis," in F. A. Hayek. *Money, Capital, and Fluctuations: Early Essays*, edited by Roy McCloughry, Chicago, University of Chicago Press, 1984.

_____. (1928 in German). "Intertemporal Price Equilibrium and Movements in the Value of Money," in F. A. Hayek. *Money, Capital, and Fluctuations: Early Essays*, edited by Roy McCloughry, Chicago, University of Chicago Press, 1984.

_____. (1931). "Reflections on the Pure Theory of Money of Mr. J. M. Keynes," Part 1, *Economica*, 11, August.

_____. (1933 in German). "On 'Neutral Money'," in F. A. Hayek. *Money, Capital, and Fluctuations: Early Essays*, edited by Roy McCloughry, Chicago, University of Chicago Press, 1984.

- _____. (1933). *Monetary Theory and the Trade Cycle*, New York, Augustus M. Kelley, 1975.
- _____. (1935). *Prices and Production*, 2nd ed., New York, Augustus M. Kelley, 1967.
- _____. (1937). "Economics and Knowledge," *Economica*, n.s. 4, February.
- _____. (1939). "Price Expectations, Monetary Disturbances, and Malinvestments." in *Profits, Interest, and Investment*, Clifton, NJ, Augustus M. Kelley, 1975.
- _____. (1941). *The Pure Theory of Capital*, Chicago, University of Chicago Press.
- _____. (1945). "The Use of Knowledge in Society," *American Economic Review*, September.
- _____. (1948). *Individualism and Economic Order*, London, Routledge and Kegan Paul.
- _____. (1952). *The Counter-Revolution of Science: Studies on the Abuse of Reason*, Glencoe, Illinois, The Free Press.
- _____. (1960). *The Constitution of Liberty*, Chicago, Henry Regnery and Company, 1972.
- _____. (1968). "Competition as a Discovery Procedure," published in *New Studies in Philosophy, Politics, Economics and the History of Ideas*, Chicago, University of Chicago Press.
- _____. (1972). *A Tiger by the Tail*, ed by Sudha Shenoy, London, Institute for Economic Affairs.
- _____. (1975) *Full Employment at Any Price*, Occasional Paper 45, London, Institute of Economic Affairs.
- _____. (1976). *Denationalization of Money*, London, Institute of Economic Affairs.
- _____. (1984). "The Future Monetary Unit of Value," in B. Siegel, ed., *Money in Crisis: The Federal Reserve, the Economy, and Monetary Reform*, Cambridge, MA, Ballinger Publishing Company.
- Hutchison, T. W. (1981). *The Politics and Philosophy of Economics: Marxians, Keynesians, and Austrians*, New York, New York University Press, chapter 7.
- Keynes, J. (1936) *The General Theory of Employment, Interest, and Money*, New York, Harcourt, Brace, and Company, Inc.
- Machlup, F. (1976). "Hayek's Contribution to Economics," in F. Machlup, ed., *Essays on Hayek*, Hillsdale Michigan, Hillsdale College Press.
- Mises, L. (1912). *The Theory of Money and Credit*, New Haven, CT, Yale University Press, 1953.
- O'Driscoll, G. *Economics as a Coordination Problem: The Contribution of Friedrich A. Hayek*, Kansas City, Sheed Andrews and McMeel, 1977.
-