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## A CRITIQUE OF MONETARIST AND KEYNESIAN THEORIES

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In this chapter we will criticize alternative theoretical developments aimed at explaining economic cycles. More specifically, we will consider the theories of the two most deeply-rooted schools of macroeconomics: the Monetarist School and the Keynesian School. According to the general view, these two approaches offer alternative, competing explanations of economic phenomena. However from the standpoint of the analysis presented here, they suffer from very similar defects and can thus be criticized using the same arguments. Following an introduction in which we identify what we believe to be the unifying element of the macroeconomic approaches, we will study the monetarist position (including some references to new classical economics and the school of rational expectations) and then the Keynesian and neo-Ricardian stances. With this chapter we wrap up the most important analytical portion of the book. At the end, as an appendix, we include a theoretical study of several peripheral financial institutions unrelated to banking. We are now fully prepared to grasp the different effects they exert on the economic system.

## 1

## INTRODUCTION

Though most textbooks on economics and the history of economic thought contain the assertion that the subjectivist

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revolution Carl Menger started in 1871 has been fully absorbed by modern economic theory, to a large extent this claim is mere rhetoric. The old “objectivism” of the Classical School which dominated economics until the eruption of the marginalist revolution continues to wield a powerful influence. Moreover various important fields within economic theory have until now remained largely unproductive due to the imperfect reception and assimilation of the “subjectivist view.”<sup>1</sup>

Perhaps money and “macroeconomics” (a term of varying accuracy) constitute one of the most significant areas of economics in which the influence of the marginalist revolution and subjectivism has not yet been noticeable. In fact with the exception of Austrian School theorists, in the past macroeconomic scholars have not generally been able to trace their theories and arguments back to their true origin: the action of human individuals. More specifically, they have not incorporated the following essential idea of Menger’s into their models: every action involves a series of consecutive stages which the actor must complete (and which take time) before he reaches his goal in the future. Menger’s most important conceptual

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<sup>1</sup>For example, when Oskar Lange and other theorists developed the neoclassical theory of socialism, they intended it to apply Walras’s model of general equilibrium to solve the problem of socialist economic calculation. The majority of economists believed for many years that this issue had been successfully resolved, but recently it became clear their belief was unjustified. This error would have been obvious had most economists understood from the beginning the true meaning and scope of the subjectivist revolution and had they completely imbued themselves with it. Indeed if all volition, information, and knowledge is created by and arises from human beings in the course of their free interaction with other actors in the market, it should be evident that, to the extent economic agents’ ability to act freely is systematically limited (the essence of the socialist system is embodied in such institutional coercion), their capacity to create, to discover new information and to coordinate society diminishes, making it impossible for actors to discover the practical information necessary to coordinate society and make economic calculations. On this topic see Huerta de Soto, *Socialismo, cálculo económico y función empresarial*, chaps. 4–7, pp. 157–411.

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contribution to economics was his theory of economic goods of different order (consumer goods, or “first-order” economic goods, and “higher-order” economic goods). According to this theory, higher-order economic goods are embodied in a number of successive stages, each of which is further from final consumption than the last, ending in the initial stage in which the actor plans his whole action process. The entire theory of capital and cycles we have presented here rests on this concept of Menger’s. It is a basic idea which is easy to understand, given that all people, simply by virtue of being human, recognize this concept of human action as the one they put into practice daily in all contexts in which they act. In short Austrian School theorists have developed the whole theory of capital, money and cycles which is implicit in the subjectivism that revolutionized economics in 1871.

Nevertheless in economics antiquated patterns of thinking have been at the root of a very powerful backlash against subjectivism, and this reaction is still noticeable today. Thus it is not surprising that Frank H. Knight, one of the most important authors of one of the two “objectivist” schools we will critically examine in this chapter, has stated:

Perhaps the most serious defect in Menger’s economic system . . . is his view of production as a process of converting goods of higher order to goods of lower order.<sup>2</sup>

We will now consider the ways in which the ideas of the Classical School have continued to predominate in the Monetarist and Keynesian Schools, the developers of which have thus far disregarded the subjectivist revolution started in 1871. Our analysis will begin with an explanation of the errors in the concept of capital proposed by J.B. Clark and F.H. Knight. Then we will critically examine the mechanistic version of the quantity theory of money supported by monetarists. Following a brief digression into the school of rational expectations, we will study the ways in which Keynesian economics, today

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<sup>2</sup>Frank H. Knight, in his introduction to the first English edition of Carl Menger’s book, *Principles of Economics*, p. 25.

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in the grip of a crisis, shares many of the theoretical errors of monetarist macroeconomics.<sup>3</sup>

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## A CRITIQUE OF MONETARISM

## THE MYTHICAL CONCEPT OF CAPITAL

In general the Neoclassical School has followed a tradition which predated the subjectivist revolution and which deals with a productive system in which the different factors

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<sup>3</sup>The following words of John Hicks offer compelling evidence that the subjectivist revolution sparked off by the Austrian School lay at the core of economic development until the eruption of the neoclassical-Keynesian "counterrevolution":

I have proclaimed the "Austrian" affiliation of my ideas; the tribute to Böhm-Bawerk, and to his followers, is a tribute that I am proud to make. I am writing in their tradition; yet I have realized, as my work has continued, that it is a wider and bigger tradition than at first appeared. The "Austrians" were not a peculiar sect, out of the main stream; they were in the main stream; it was the others who were out of it. (Hicks, *Capital and Time*, p. 12)

It is interesting to observe the personal scientific development of Sir John Hicks. The first edition of his book, *The Theory of Wages* (London: Macmillan, 1932), reflects a strong Austrian influence on his early work. Chapters 9 to 11 were largely inspired by Hayek, Böhm-Bawerk, Robbins, and other Austrians, whom he often quotes (see, for example, the quotations on pp. 190, 201, 215, 217 and 231). Hicks later became one of the main architects of the doctrinal synthesis of the neoclassical-Walrasian School and the Keynesian School. In the final stage of his career as an economist, he returned with a certain sense of remorse to his subjectivist origins, which were deeply rooted in the Austrian School. The result was his last work on capital theory, from which the excerpt at the beginning of this note is taken. The following statement John Hicks made in 1978 is even clearer, if such a thing is possible: "I now rate Walras and Pareto, who were my first loves, so much below Menger." John Hicks, "Is Interest the Price of a Factor of Production?" included in *Time, Uncertainty, and Disequilibrium: Exploration of Austrian Themes*, Mario J. Rizzo, ed. (Lexington, Mass.: Lexington Books, 1979), p. 63.

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of production give rise, in a homogenous and horizontal manner, to consumer goods and services, without at all allowing for the immersion of these factors in time and space throughout a temporal structure of productive stages. This was more or less the basic framework for the research of classical economists from Adam Smith, Ricardo, Malthus, and Stuart Mill to Marshall.<sup>4</sup> It also ultimately provided the structure for the

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<sup>4</sup>Alfred Marshall is undoubtedly the person most responsible for the failure of both monetarist and Keynesian School theorists, his intellectual heirs, to understand the processes by which credit and monetary expansion affect the productive structure. Indeed Marshall was unable to incorporate the subjectivist revolution (started by Carl Menger in 1871) into Anglo-Saxon economics and to carry it to its logical conclusion. On the contrary, he insisted on constructing a “decaffeinated” *synthesis* of new marginalist contributions and Anglo-Saxon Classical School theories which has plagued neoclassical economics up to the present. Thus it is interesting to note that for Marshall, as for Knight, the key subjectivist distinction between first-order economic goods, or consumer goods, and higher-order economic goods “is vague and perhaps not of much practical use” (Alfred Marshall, *Principles of Economics*, 8th ed. [London: Macmillan, 1920], p. 54). Moreover Marshall was unable to do away with the old, pre-subjectivist ways of thinking, according to which costs determine prices, not vice versa. In fact Marshall believed that while marginal utility determined the demand for goods, supply ultimately depended on “real” factors. He neglected to take into account that costs are simply the actor’s subjective valuation of the goals he relinquishes upon acting, and hence both blades of Marshall’s famous “pair of scissors” have the same subjectivist essence based on utility (Rothbard, *Man, Economy, and State*, pp. 301–08). Language problems (the works of Austrian theorists were belatedly translated into English, and then only partially) and the clear intellectual chauvinism of many British economists have also helped significantly to uphold Marshall’s doctrines. This explains the fact that most economists in the Anglo-Saxon tradition are not only very distrustful of the Austrians, but they have also insisted on keeping the ideas of Marshall, and therefore those of Ricardo and the rest of the classical economists as part of their models (see, for example, H.O. Meredith’s letter to John Maynard Keynes, dated December 8, 1931 and published on pp. 267–68 of volume 13 of *The Collected Writings of John Maynard Keynes: The General Theory and After*, Part I, *Preparation*, Donald Moggridge, ed. [London: Macmillan, 1973]. See also the criticism Schumpeter levels against Marshall in Joseph A. Schumpeter, *History of Economic Analysis* [Oxford and New York: Oxford University Press, 1954]).

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work of John Bates Clark (1847–1938). Clark was Professor of Economics at Columbia University in New York, and his strong anti-subjectivist reaction in the area of capital and interest theory continues even today to serve as the foundation for the entire neoclassical-monetarist edifice.<sup>5</sup> Indeed Clark considers production and consumption to be *simultaneous*. In his view production processes are not comprised of stages, nor is there a need to wait any length of time before obtaining the results of production processes. Clark regards capital as a *permanent fund* which “automatically” generates a productivity in the form of interest. According to Clark, the larger this social fund of capital, the lower the interest. The phenomenon of time preference in no way influences interest in his model.

It is evident that Clark’s concept of the production process consists merely of a transposition of Walras’s notion of general equilibrium to the field of capital theory. Walras developed an economic model of general equilibrium which he expressed in terms of a system of *simultaneous* equations intended to explain how the market prices of different goods and services are determined. The main flaw in Walras’s model is that it involves the interaction, within a system of simultaneous equations, of magnitudes (variables and parameters) which are not simultaneous, but which occur *sequentially* in time as the actions of the agents participating in the economic system drive the production process. In short, Walras’s model of general equilibrium is a strictly static model which fails to account for the passage of time and which describes the interaction of supposedly concurrent variables and parameters which never arise simultaneously in real life.

Logically, it is impossible to explain real economic processes using an economic model which ignores the issue of time and in which the study of the sequential generation of processes is painfully absent.<sup>6</sup> It is surprising that a theory

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<sup>5</sup>The following are J.B. Clark’s most important writings: “The Genesis of Capital,” pp. 302–15; “The Origin of Interest,” *Quarterly Journal of Economics* 9 (April 1895): 257–78; *The Distribution of Wealth* (New York: Macmillan, 1899, reprinted by Augustus M. Kelley, New York 1965); and “Concerning the Nature of Capital: A Reply.”

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such as the one Clark defends has nevertheless become the most widely accepted in economics up to the present day and appears in most introductory textbooks. Indeed nearly all of these books begin with an explanation of the “circular flow of income,”<sup>7</sup> which describes the interdependence of production, consumption and exchanges between the different economic agents (households, firms, etc.). Such explanations completely overlook the role of time in the development of economic events. In other words, this model relies on the assumption that all actions occur *at once*, a false and totally

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<sup>6</sup>Perhaps the theorist who has most brilliantly criticized the different attempts at offering a functional explanation of price theory through static models of equilibrium (general or partial) has been Hans Mayer in his article, “Der Erkenntniswert der funktionellen Preistheorien,” published in *Die Wirtschaftstheorie der Gegenwart* (Vienna: Verlag von Julius Springer, 1932), vol. 2, pp. 147–239b. Recently this article was translated into English at the request of Israel M. Kirzner and published with the title, “The Cognitive Value of Functional Theories of Price: Critical and Positive Investigations Concerning the Price Problem,” chapter 16 of *Classics in Austrian Economics: A Sampling in the History of a Tradition*, vol. 2: *The InterWar Period* (London: William Pickering, 1994), pp. 55–168. Hans Mayer concludes:

In essence, there is an immanent, more or less disguised, fiction at the heart of mathematical equilibrium theories: that is, *they bind together, in simultaneous equations, non-simultaneous magnitudes operative in genetic-causal sequence as if these existed together at the same time.* A state of affairs is *synchronized* in the “static” approach, whereas in reality we are dealing with a *process*. But one simply cannot consider a *generative process* “statically” as a *state of rest*, without eliminating precisely that which makes it what it is. (Mayer, p. 92 in the English edition; italics in original)

Mayer later revised and expanded his paper substantially at the request of Gustavo del Vecchio: Hans Mayer, “Il concetto di equilibrio nella teoria economica,” in *Economía Pura*, Gustavo del Vecchio, ed., *Nuova Collana di Economisti Stranieri e Italiani* (Turin: Unione Tipografico-Editrice Torinese, 1937), pp. 645–799.

<sup>7</sup>A standard presentation of the “circular flow of income” model and its traditional flow chart appears, for example, in Paul A. Samuelson and William D. Nordhaus, *Economics*.

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groundless supposition which not only avoids solving important, real economic issues, but also constitutes an almost insurmountable obstacle to the discovery and analysis of them by economics students. This idea has also led Clark and his followers to believe interest is determined by the “marginal productivity” of that mysterious, homogenous fund they consider capital to be, which explains their conclusion that as this fund of capital increases, the interest rate will tend to fall.<sup>8</sup>

After John Bates Clark, another American economist, Irving Fisher, the most visible exponent of the mechanistic ver-

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<sup>8</sup>For our purposes, i.e., the analysis of the effects credit expansion exerts on the productive structure, it is not necessary to take a stand here on which theory of interest is the most valid, however it is worth noting that Böhm-Bawerk refuted the theories which base interest on the productivity of capital. In fact according to Böhm-Bawerk the theorists who claim interest is determined by the marginal productivity of capital are unable to explain, among other points, why competition among the different entrepreneurs does not tend to cause the value of capital goods to be identical to that of their corresponding output, thus eliminating any value differential between costs and output throughout the production period. As Böhm-Bawerk indicates, the theories based on productivity are merely a remnant of the objectivist concept of value, according to which value is determined by the historical cost incurred in the production process of the different goods and services. However prices determine costs, not vice versa. In other words, economic agents incur costs because they believe the value they will be able to obtain from the consumer goods they produce will exceed these costs. The same principle applies to each capital good’s marginal productivity, which is ultimately determined by the *future* value of the consumer goods and services which it helps to produce and which, by a discount process, yields the *present* market value of the capital good in question. Thus the origin and existence of interest must be independent of capital goods, and must rest on human beings’ subjective time preference. It is easy to comprehend why theorists of the Clark-Knight School have fallen into the trap of considering the interest rate to be determined by the marginal productivity of capital. We need only observe that interest and the marginal productivity of capital become equal in the presence of the following: (1) an environment of perfect equilibrium in which no changes occur; (2) a concept of capital as a mythical fund which replicates itself and involves no need for specific decision-making with respect to its depreciation; and (3) a notion of production as an “instantaneous” process which takes no time. In the presence of these three conditions, which are as absurd as



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sion of the quantity theory of money, also defended the thesis that capital is a “fund,” in the same way income is a “flow.” He did so in his book, *The Nature of Capital and Income*, and his defense of this thesis lent support to Clark’s markedly “macroeconomic” view involving general equilibrium.<sup>9</sup>

In addition Clark’s objectivist, static concept of capital was also advocated by Frank H. Knight (1885–1962), the founder of the present-day Chicago School. In fact Knight, following in Clark’s footsteps, viewed capital as a permanent fund which automatically and synchronously produces income, and he considered the production “process” to be instantaneous and not comprised of different temporal stages.<sup>10</sup>

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they are removed from reality, the rent of a capital good is always equal to the interest rate. In light of this fact it is perfectly understandable that theorists, imbued with a synchronous, instantaneous conception of capital, have been deceived by the mathematical equality of income and interest in a hypothetical situation such as this, and that from there they have jumped to the theoretically unjustifiable conclusion that productivity determines the interest rate (and not vice versa, as the Austrians assert). On this subject see: Eugen von Böhm-Bawerk, *Capital and Interest*, vol. 1, pp. 73–122. See also Israel M. Kirzner’s article, “The Pure Time-Preference Theory of Interest: An Attempt at Clarification,” printed as chapter 4 of the book, *The Meaning of Ludwig von Mises: Contributions in Economics, Sociology, Epistemology, and Political Philosophy*, Jeffrey M. Herbener, ed. (Dordrecht, Holland: Kluwer Academic Publishers, 1993), pp. 166–92; republished as essay 4 in Israel M. Kirzner’s book, *Essays on Capital and Interest*, pp. 134–53. Also see Fetter’s book, *Capital, Interest and Rent*, pp. 172–316.

<sup>9</sup>Irving Fisher, *The Nature of Capital and Income* (New York: Macmillan, 1906); see also his article, “What Is Capital?” published in the *Economic Journal* (December 1896): 509–34.

<sup>10</sup>George J. Stigler is another author of the Chicago School who has gone to great lengths to support Clark and Knight’s mythical conception of capital. In fact Stigler, in his doctoral thesis (written, interestingly enough, under the direction of Frank H. Knight in 1938), vigorously attacks the subjectivist concept of capital developed by Menger, Jevons, and Böhm-Bawerk. In reference to Menger’s groundbreaking contribution with respect to goods of different order, Stigler believes “the classification of goods into ranks was in itself, however, of dubious value.”

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## AUSTRIAN CRITICISM OF CLARK AND KNIGHT

Austrian economists reacted energetically to Clark and Knight's erroneous, objectivist conception of the production process. Böhm-Bawerk, for instance, describes Clark's concept of capital as *mystical* and *mythological*, pointing out that production processes never depend upon a mysterious, homogeneous fund, but instead invariably rely on the joint operation of specific capital goods which entrepreneurs must always first conceive, produce, select, and combine within the economic process. According to Böhm-Bawerk, Clark views capital as a sort of "value jelly," or fictitious notion. With remarkable foresight, Böhm-Bawerk warned that acceptance of such an idea was bound to lead to grave errors in the future development of economic theory.<sup>11</sup>

He thus criticizes Menger for not formulating a concept of the production "process" as one in which capital goods yield "a perpetual stream of services (income)." George J. Stigler, *Production and Distribution Theories* (London: Transaction Publishers, 1994), pp. 138 and 157. As is logical, Stigler concludes that "Clark's theory of capital is fundamentally sound, in the writer's opinion" (p. 314). Stigler fails to realize that a mythical, abstract fund which replicates itself leaves no room for entrepreneurs, since all economic events recur again and again without change. However in real life capital only retains its productive capacity through concrete human actions regarding all aspects of investing, depreciating and consuming specific capital goods. Such entrepreneurial actions may be successful, but they are also subject to error.

<sup>11</sup>Eugen von Böhm-Bawerk, "Professor Clark's Views on the Genesis of Capital," *Quarterly Journal of Economics* IX (1895): 113–31, reprinted on pp. 131–43 of *Classics in Austrian Economics*, Kirzner, ed., vol. 1. Böhm-Bawerk, in particular, predicted with great foresight that if Clark's static model were to prevail, the long-discredited doctrines of underconsumption would revive. Keynesianism, which in a sense stemmed from Marshall's neoclassical theories, is a good example:

When one goes with Professor Clark into such an account of the matter, the assertion that capital is not consumed is seen to be another inexact, shining figure of speech, which must not be taken at all literally. Any one taking it literally falls into a total error, into which, for sooth, science has already fallen once. I refer to the familiar and at one time widely disseminated doctrine that saving is a social evil and the class of

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Years after Böhm-Bawerk, fellow Austrian Fritz Machlup voiced his strong criticism of the Clark-Knight theory of capital, concluding that

[t]here was and is always the choice between maintaining, increasing, or consuming capital. And past and “present” experience tells us that the decision in favour of consumption

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spendthrifts a useful factor in social economy, because what is saved is not spent and so producers cannot find a market. (Böhm-Bawerk quoted in *Classics in Austrian Economics*, Kirzner, ed., vol. 1, p. 137)

Mises reaches the same conclusion when he censures Knight for his chimerical notions such as “the self-perpetuating character” of useful things. In any event their teachings are designed to provide a justification for the doctrine which blames over-saving and underconsumption for all that is unsatisfactory and recommends spending as a panacea. (*Human Action*, p. 848)

Further Böhm-Bawerk criticism of Clark appears mainly in his essays, “Capital and Interest Once More,” printed in *Quarterly Journal of Economics* (November 1906 and February 1907): esp. pp. 269, 277 and 280–82; “The Nature of Capital: A Rejoinder,” *Quarterly Journal of Economics* (November 1907); and in the above-cited *Capital and Interest*. Moreover the fact that Böhm-Bawerk’s “average production period” idea was misconceived, a fact recognized by Menger, Mises, Hayek, and others, in no way justifies the mythical concept of capital Clark and Knight propose. The members of the Austrian School have unanimously acknowledged that Böhm-Bawerk made a “slip” when he introduced the (non-existent) “average production period” in his analysis, since the entire theory of capital may be easily constructed from a prospective viewpoint; that is, in light of actors’ subjective estimates regarding the time periods their future actions will take. In fact Hayek states,

Professor Knight seems to hold that to expose the ambiguities and inconsistencies involved in the notion of an average investment period serves to expel the idea of time from capital theory altogether. But it is not so. In general it is sufficient to say that the investment period of some factors has been lengthened, while those of all others have remained unchanged. (F.A. Hayek, “The Mythology of Capital,” *Quarterly Journal of Economics* [February 1936]: 206)

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of capital is far from being impossible or improbable. Capital is not necessarily perpetual.<sup>12</sup>

Realizing the debate between the two sides is not pointless, as it involves the clash of two radically incompatible conceptions of economics (namely subjectivism versus objectivism based on general equilibrium), Hayek also attacked Clark and Knight's position, which he felt rested on the following essential error:

This basic mistake—if the substitution of a meaningless statement for the solution of a problem can be called a mistake—is the idea of capital as a fund which maintains itself automatically, and that, in consequence, once an amount of capital has been brought into existence the necessity of reproducing it presents no economic problem.<sup>13</sup>

Hayek insists that the debate on the nature of capital is not merely terminological. On the contrary, he emphasizes that the mythical conception of capital as a self-sustaining fund in a production "process" which involves no time prevents its own proponents from identifying, on the whole, the important economic issues in real life. In particular it blinds them to variations in the productive structure which result from changes in the level of voluntary saving, and to the ways credit expansion affects the structure of production. In other words the mythical concept of capital keeps its supporters from understanding the close relationship between the *micro* and *macro* aspects of economics, since the connection between

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<sup>12</sup>Fritz Machlup, "Professor Knight and the 'Period of Production,'" p. 580, reprinted in Israel M. Kirzner, ed., *Classics in Austrian Economics*, vol. 2, chap. 20, pp. 275–315.

<sup>13</sup>F.A. Hayek, "The Mythology of Capital," *Quarterly Journal of Economics* (February 1936): 203. Several years later, Hayek added:

I am afraid, with all due respect to Professor Knight, I cannot take this view seriously because I cannot attach any meaning to this mystical "fund" and I shall not treat this view as a serious rival of the one here adopted. (Hayek, *The Pure Theory of Capital*, p. 94)

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the two is composed precisely of the temporal plans of creative entrepreneurs who, by definition, are excluded from the Walrasian model of the economic system, the model Clark and Knight incorporate into their theory of capital.<sup>14</sup>

Ludwig von Mises later joined the debate, showing his disapproval of the “new chimerical notions such as the ‘self-perpetuating character’ of useful things.”<sup>15</sup> Mises echoes Böhm-Bawerk’s<sup>16</sup> views when he points out that such notions are eventually put forward to justify doctrines based on the myth of “underconsumption” and on the supposed “paradox of thrift,” and to thus provide a theoretical basis for economic policies which foster increased consumption to the detriment of saving. Mises explains that the entire current structure of capital goods is the result of concrete entrepreneurial decisions made in the past by real people who on specific occasions opted to invest in certain capital goods, and on others, to replace them or group them differently, and on yet others to even relinquish or consume capital goods already produced. Hence “we are better off than earlier generations because we are equipped with the capital goods they have accumulated for us.”<sup>17</sup> Incredibly, it appears this theoretical principle and others equally obvious have yet to sink in.

In his more recent book, *An Essay on Capital*, Israel M. Kirzner emphasizes that Clark and Knight’s concept of capital rules out human, entrepreneurial decision-making in the

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<sup>14</sup>The negative consequences of disregarding the time factor and the stages involved in any action process were stressed by Hayek as early as 1928, when he pointed out that,

[I]t becomes evident that the customary abstraction from time does a degree of violence to the actual state of affairs which casts serious doubt on the utility of the results thereby achieved. (F.A. Hayek, “Intertemporal Price Equilibrium and Movements in the Value of Money,” originally published in German in 1928, chapter 4 of *Money, Capital and Fluctuations*, p. 72)

<sup>15</sup>Mises, *Human Action*, p. 848.

<sup>16</sup>See footnote 11 above.

<sup>17</sup>Mises, *Human Action*, p. 492.

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production process. Individuals' different *plans* regarding the specific capital goods they may decide to create and employ in their production processes are not even considered. In short Clark and Knight assume that the course of events flows "by itself" and that the future is an objective given which follows a set pattern and is not influenced by individual agents' microeconomic decisions, which they deem fully predetermined. Kirzner concludes that the view of Clark and Knight ignores "the planned character of capital goods maintenance," adding that their model requires acceptance of the notion that

the future will take care of itself so long as the present "sources" of future output flows are appropriately maintained. . . . The Knightian approach reflects perfectly the way in which this misleading and unhelpful notion of "automaticity" has been developed into a fully articulated and self-contained theory of capital.<sup>18</sup>

A CRITIQUE OF THE MECHANISTIC MONETARIST VERSION  
OF THE QUANTITY THEORY OF MONEY

Monetarists not only overlook the role time and stages play in the economy's productive structure. They also accept a *mechanistic* version of the quantity theory of money, a version they base on an equation which supposedly demonstrates the existence of a *direct* causal link between the total quantity of money in circulation, the "general level" of prices and total production. The equation is as follows:

$$MV = PT$$

where *M* is the stock of money, *V* the "velocity of circulation" (the number of times the monetary unit changes hands on average in a certain time period), *P* the general price level, and *T* the "aggregate" of all quantities of goods and services exchanged in a year.<sup>19</sup>

<sup>18</sup>Kirzner, *An Essay on Capital*, p. 63; italics deleted.

<sup>19</sup>This is the transaction version of the equation of exchange. According to Irving Fisher (*The Purchasing Power of Money: Its Determination and*

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Supposing the “velocity of circulation” of money remains relatively constant over time, and the gross national product approximates that of “full employment,” monetarists believe money is *neutral* in the long run, and that therefore an expansion of the money supply ( $M$ ) tends to *proportionally* raise the corresponding general price level. In other words, though in nominal terms the different factor incomes and production and consumption prices may increase by the same percentage as the money supply, in real terms they remain the same over time. Hence monetarists believe inflation is a monetary phenomenon that affects all economic sectors *uniformly and proportionally*, and that therefore it does not disrupt or discoordinate the structure of productive stages. It is clear that the monetarist viewpoint is purely “macroeconomic” and ignores the microeconomic effects of monetary growth on the productive structure. As we saw in the last section, this approach stems from the lack of a capital theory which takes the time factor into account.

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*Relation to Credit Interest and Crises* [New York: Macmillan, 1911 and 1925], p. 48 in the 1925 edition), the left side of the equation can also be separated out into two parts,  $MV$  and  $M'V'$ , where  $M'$  and  $V'$  denote respectively the supply and velocity of money with respect to bank deposits:

$$MV + M'V' = PT$$

A national income version of the equation of exchange has also been proposed. In this case  $T$  represents a “real” national income measure (for example, the “real” gross national product), which, as we know, only includes consumer goods and services and *final* capital goods (see, for instance, Samuelson and Nordhaus, *Economics*). This version is particularly faulty, since it excludes all products of intermediate stages in the productive structure, products *which are also exchanged in units of the money stock,  $M$* . Thus the equation more than halves the true, real value of  $T$  which  $MV$  supposedly influences. Finally, the Cambridge cash balance version is as follows:

$$M = kPT$$

where  $M$  is the stock of money (though it can also be interpreted as the *desired* cash balance) and  $PT$  is a measure of national income. See Milton Friedman, “Quantity Theory of Money,” in *The New Palgrave: A Dictionary of Economics*, vol. 4, esp. pp. 4–7.

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The English economist R.G. Hawtrey, a main exponent of the Monetarist School in the early twentieth century, is one whose position illustrates the theoretical difficulties of monetarism. In his review of Hayek's book, *Prices and Production*, which appeared in 1931, Hawtrey expressed his inability to understand the book. To comprehend this assertion, one must take into account that Hayek's approach presupposes a capital theory; but monetarists lack such a theory and therefore fail to grasp how credit expansion affects the productive structure.<sup>20</sup> Furthermore against all empirical evidence, Hawtrey declares that the first symptom of all depressions is a decline in sales in the sector of final consumer goods, thus overlooking the fact that a much sharper drop in the price of capital goods always comes first. Thus the prices of consumer goods fluctuate relatively little throughout the cycle when compared to those of capital goods produced in the stages furthest from consumption. Moreover, in keeping with his monetarist position, Hawtrey believes credit expansion gives rise to excess monetary demand which is *uniformly* distributed among all goods and services in society.<sup>21</sup>

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<sup>20</sup>To be precise, Hawtrey stated that Hayek's book was "so difficult and obscure that it is impossible to understand." See R.G. Hawtrey, "Review of Hayek's *Prices and Production*," *Economica* 12 (1932): 119–25. Hawtrey was an officer of the British Treasury and a monetarist who competed with Keynes in the 1930s for prominence and influence on government economic policy. Even today the Austrian theory of the cycle continues to baffle monetarists. Modern monetarists keep repeating Hawtrey's *boutade*: for instance, Alan Meltzer, in reference to Hayek's *Prices and Production*, has stated:

The book is obscure and incomprehensible. Fortunately for all of us, and for political economy and social science, Hayek did not spend his life trying to explain what *Prices and Production* tried to do. (Alan Meltzer, "Comments on Centi and O'Driscoll," manuscript presented at the General Meeting of the Mont Pèlerin Society, Cannes, France, September 25–30, 1994, p. 1)

<sup>21</sup>R.G. Hawtrey, *Capital and Employment* (London: Longmans Green, 1937), p. 250. Hayek levels penetrating criticism against Hawtrey in his review of Hawtrey's book, *Great Depression and the Way Out*, in *Economica* 12 (1932): 126–27. That same year Hayek wrote an article ("Das



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More recently other monetarists have also revealed their lack of an adequate capital theory and have thus expressed the same bewilderment as Hawtrey with respect to studies on the effects of monetary expansion on the productive structure. Milton Friedman and Anna J. Schwartz, in reference to the possible effects of money on the productive structure, state:

We have little confidence in our knowledge of the transmission mechanism, except in such broad and vague terms as to constitute little more than an impressionistic representation rather than an engineering blueprint.<sup>22</sup>

Furthermore, surprisingly, these authors maintain that no empirical evidence exists to support the thesis that credit expansion exerts an irregular effect on the productive structure. Therefore they disregard not only the theoretical analysis presented in detail here, but also the different empirical studies reviewed in the last chapter. Such studies identify *typical*,

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Schicksal der Goldwahrung," printed in the *Deutsche Volkswirt* 20 (February 1932): 642–45, and no. 21, pp. 677–81; English translation entitled "The Fate of the Gold Standard," chapter 5 of *Money, Capital and Fluctuations*, pp. 118–35) in which he strongly criticizes Hawtrey for being, along with Keynes, one of the key architects and defenders of the program to stabilize the monetary unit. According to Hayek, such a program, based on credit expansion and implemented in an environment of rising productivity, will inevitably cause profound discoordination in the productive structure and a serious recession. Hayek concludes that

Mr. Hawtrey seems to be one of the stabilization theorists referred to above, to whose influence the willingness of the managements of the central banks to depart more than ever before from the policy rules traditionally followed by such banks can be attributed. (Hayek, *Money, Capital and Fluctuations*, p. 120)

<sup>22</sup>See Milton Friedman, *The Optimum Quantity of Money and Other Essays* (Chicago: Aldine, 1979), p. 222, and the book by Milton Friedman and Anna J. Schwartz, *Monetary Trends in the United States and United Kingdom: Their Relation to Income, Prices and Interest Rates, 1867–1975* (Chicago: University of Chicago Press, 1982), esp. pp. 26–27 and 30–31. The mention of "engineering" and the "transmission mechanism" betrays the strong scientific leaning of these two authors.

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empirical features which largely coincide with those observed in all cycles from the time they began.

Friedrich A. Hayek stated that his

chief objection against [monetarist] theory is that, as what is called a "macrotheory," it pays attention only to the effects of changes in the quantity of money on the general price level and not to the effects on the structure of relative prices. In consequence, it tends to disregard what seems to me the most harmful effects of inflation: the misdirection of resources it causes and the unemployment which ultimately results from it.<sup>23</sup>

It is easy to understand why a theory such as the one monetarists hold, which is constructed in strictly macroeconomic terms with no analysis of underlying microeconomic factors, must ignore not only the effects of credit expansion on the productive structure, but also, in general, the ways in which "general price level" fluctuations influence the structure of *relative* prices.<sup>24</sup> Rather than simply raise or lower the general

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<sup>23</sup>Hayek, *New Studies in Philosophy, Politics, Economics and the History of Ideas*, p. 215. Near the end of his life, Fritz Machlup commented on the same topic:

I don't know why a man as intelligent as Milton Friedman doesn't give more emphasis to relative prices, relative costs, even in an inflationary period. (Joseph T. Salerno and Richard M. Ebeling, "An Interview with Professor Fritz Machlup," *Austrian Economics Newsletter* 3, no. 1 [Summer, 1980]: 12)

<sup>24</sup> The main fault of the old quantity theory as well as the mathematical economists' equation of exchange is that they have ignored this fundamental issue. Changes in the supply of money must bring about changes in other data too. The market system before and after the inflow or outflow of a quantity of money is not merely changed in that the cash holdings of the individuals and prices have increased or decreased. There have been effected also changes in the reciprocal exchange ratios between the various commodities and services which, if one wants to resort to metaphors, are more adequately described by the image of price revolution than by the misleading figure of an elevation or sinking of the "price level." (Mises, *Human Action*, p. 413)

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price level, fluctuations in credit constitute a “revolution” which affects all relative prices and eventually provokes a crisis of malinvestment and an economic recession. The inability to perceive this fact led the American economist Benjamin M. Anderson to assert that the fundamental flaw in the quantity theory of money is merely that it conceals from the researcher the underlying microeconomic phenomena influenced by variations in the general price level. Indeed monetarists content themselves with the quantity theory’s equation of exchange, deeming all important issues to be adequately addressed by it and subsequent microeconomic analyses to be unnecessary.<sup>25</sup>

The above sheds light on monetarists’ lack of a satisfactory theory of economic cycles and on their belief that crises and depressions are caused merely by a “monetary contraction.” This is a naive and superficial diagnosis which confuses the cause with the effect. As we know, economic crises arise because credit expansion and inflation first distort the productive structure through a complex process which *later* manifests itself in a crisis, monetary squeeze, and recession. Attributing crises to a monetary contraction is like attributing measles to the fever and rash which accompany it. This explanation of cycles can only be upheld by the scientific, ultra-empirical methodology of monetarist macroeconomics, an approach which lacks a temporal theory of capital.<sup>26</sup>

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<sup>25</sup> The formula of the quantity theorists is a monotonous “tic-tac-toe”—money, credit, and prices. With this explanation the problem was solved and further research and further investigation were unnecessary, and consequently stopped—for those who believed in this theory. It is one of the great vices of the quantity theory of money that it tends to check investigation for underlying factors in a business situation.

Anderson concludes:

The quantity theory of money is invalid. . . . We cannot accept a predominantly monetary general theory either for the level of commodity prices or for the movements of the business cycle. (Anderson, *Economics and the Public Welfare*, pp. 70–71)

<sup>26</sup>The Spanish monetarist Pedro Schwartz once stated:

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Furthermore not only are monetarists incapable of explaining economic recessions except by resorting to the effects of the monetary contraction;<sup>27</sup> they have also been unable to present any valid theoretical argument against the Austrian theory of economic cycles: they have simply ignored it or, as Friedman has done, have only mentioned it in passing, falsely indicating that it lacks an “empirical” basis. Thus David Laidler, in a recent critique of the Austrian theory of the cycle, had no choice but to turn to the old, worn-out Keynesian arguments which center on the supposedly healthy influence of effective demand on real income. The basic idea is this: that an increase in effective demand could ultimately give rise to an increase in income, and hence, supposedly, in savings, and that therefore the artificial lengthening based on credit expansion could be maintained indefinitely, and the process of poor allocation of resources would not necessarily reverse in the form of a recession.<sup>28</sup> The essential error

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There is no proven theory of cycles: it is a phenomenon we simply do not understand. However with money becoming elastic and expansions and recessions leaving us speechless, it is easy to see how we macroeconomists became unpopular. (Pedro Schwartz, “Macro y Micro,” *Cinco Días* [April 12, 1993], p. 3)

It is regrettable that the effects of credit “elasticity” on the real economy continue to befuddle monetarists, and that they still insist on disregarding the Austrian theory of economic cycles, which not only fully *integrates* the “micro” and “macro” aspects of economics, but also explains how credit expansion, a product of fractional-reserve banking, invariably provokes a widespread poor allocation of resources in microeconomic terms, a situation which inevitably leads to a macroeconomic recession.

<sup>27</sup>See, for instance, Leland Yeager, *The Fluttering Veil: Essays on Monetary Disequilibrium*, George Selgin, ed. (Indianapolis, Ind.: Liberty Fund, 1997).

<sup>28</sup> It is now a commonplace that, if saving depends upon real income, and if the latter is free to vary, then variations in the rate of investment induced by credit creation, among other factors, will bring about changes in the level of real income and therefore the rate of voluntary saving as an integral part of the mechanisms that re-equilibrate intertemporal choices.

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in Laidler's argument was clearly exposed by Hayek in 1941, when he explained that the *only* possible way for production processes financed by credit expansion to be maintained without a recession would be for economic agents to voluntarily save *all* new monetary income created by banks and used to finance such processes. The Austrian theory of the cycle suggests that cycles occur when *any portion* of the new monetary income (which banks create in the form of loans and which reaches the productive structure) is spent on consumer goods and services by the owners of capital goods and the original means of production. Thus the spending of a share on consumption, which is surely always the case, is sufficient to trigger the familiar microeconomic processes which irrevocably lead to a crisis and recession. In the words of Hayek himself:

All that is required to make our analysis applicable is that, when incomes are increased by investment, the share of the additional income spent on consumers' goods during any period of time should be larger than the proportion by which the new investment adds to the output of consumers' goods during the same period of time. And there is of course no reason to expect that more than a fraction of the new income, and certainly not as much as has been newly invested, will be saved, because this would mean that practically all the income earned from the new investment would have to be saved.<sup>29</sup>

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(See David Laidler, "Hayek on Neutral Money and the Cycle," printed in *Money and Business Cycles: The Economics of F.A. Hayek*, M. Colonna and H. Hagemann, eds., vol. 1, p. 19.)

<sup>29</sup>In other words, it would be necessary for economic agents to save *all* monetary income corresponding to the shaded area in Chart V-6, which reflects the portion of the productive structure lengthened and widened as a result of credit expansion. Understandably it is nearly impossible for such an event to occur in real life. The above excerpt appears on p. 394 of *The Pure Theory of Capital*. In short, credit expansion provokes a *maladjustment* in the behavior of the different productive agents, and the only remedy is an increase in voluntary saving and a decrease in artificially-lengthened investments, until the two can again become coordinated. As Lachmann eloquently puts it:

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It is interesting to note that one of today's most prominent monetarists, David Laidler, is forced to resort to Keynesian arguments in a fruitless attempt to criticize the Austrian theory of economic cycles. Nevertheless the author himself correctly recognizes that from the standpoint of the Austrian theory, the differences between monetarists and Keynesians are merely trivial and mostly apparent, since both groups apply very similar "macroeconomic" methodologies in their analyses.<sup>30</sup>

The above reflections on monetarism (its lack of a capital theory and the adoption of a macroeconomic outlook which masks the issues of true importance) would not be complete without a criticism of the equation of exchange,  $MV=PT$ , on which monetarists have relied since Irving Fisher proposed it in his book, *The Purchasing Power of Money*.<sup>31</sup> Clearly this

What the Austrian remedy—increasing voluntary savings—amounts to is nothing but a *change of data* which will turn data which originally were purely imaginary—entrepreneurs' profit expectations induced by the low rate of interest—into real data. (Lachmann, "On Crisis and Adjustment," *Review of Economics and Statistics* [May 1939]: 67)

<sup>30</sup>David Laidler, *The Golden Age of the Quantity Theory* (New York: Philip Allan, 1991). Laidler specifically concludes:

I am suggesting, more generally, that there is far less difference between neoclassical and Keynesian attitudes to policy intervention, particularly in the monetary area, than is commonly believed. The economists whose contributions I have analyzed did not regard any particular set of monetary arrangements as sacrosanct. For most of them, the acid test of any system was its capacity to deliver price level stability and hence, they believed, output and employment stability too.

Laidler adds:

The consequent adoption of Keynesian policy doctrines, too, was the natural product of treating the choice of economic institutions as a political one, to be made on pragmatic grounds. (p. 198)

Laidler's book is essential for understanding current monetarist doctrines and their evolution.

<sup>31</sup>Irving Fisher, *The Purchasing Power of Money*, esp. pp. 25ff. in the 1925 edition. Mises, with his customary insight, points out that defenders of the quantity theory of money have done it more damage than their

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“equation of exchange” is simply an *ideogram* which rather awkwardly represents the relationship between growth in the money supply and a decline in the purchasing power of money. The origin of this “formula” is a simple *tautology* which expresses that the total amount of money *spent* on transactions conducted in the economic system during a certain time period must be identical to the quantity of money *received* on the same transactions during the same period ( $MV = \sum pt$ ). However monetarists then take a leap in the dark when they assume the other side of the equation can be represented as  $PT$ , where  $T$  is an absurd “aggregate” which calls for adding up *heterogeneous*

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opponents. This is due to the fact that the great majority of the theory’s defenders have accepted the mechanistic equation of exchange which, at best, merely represents a tautology: that the income and expenditure involved in all transactions must be equal. Furthermore they attempt to supply a comprehensive explanation of economic phenomena by adding up the prices of goods and services exchanged in different time periods and assuming the value of the monetary unit is determined by, among other factors, the “velocity” of circulation of money. They fail to realize that the value of money originates with humans’ subjective desire to maintain certain cash balances, and to focus exclusively on aggregate concepts and averages like the velocity of money conveys the impression that money only fulfils its function when transactions are carried out, and not when it remains “idle” in the form of cash balances held by economic agents. Nonetheless economic agents’ demand for money comprises both the cash balances they retain at all times, as well as the additional amounts they demand when they make a transaction. Thus money performs its function in both cases and always has an owner; in other words, it is included in the cash balance of an economic agent, regardless of whether the agent *plans* to increase or decrease the balance at any point in the future. According to Mises, another crucial defect of the equation of exchange is that it conceals the effects variations in the quantity of money have on relative prices and the fact that new money reaches the economic system at very specific points, distorting the productive structure and favoring certain economic agents, to the detriment of the rest. Ludwig von Mises, “The Position of Money Among Economic Goods,” first printed in *Die Wirtschaftstheorie der Gegenwart*, Hans Mayer, ed. (Vienna: Julius Springer, 1932), vol. 2. This article has been translated into English by Albert H. Zlabinger and published in the book, *Money, Method, and the Market Process: Essays by Ludwig von Mises*, Richard M. Ebeling, ed. (Dordrecht, Holland: Kluwer Academic Publishers, 1990), pp. 55ff.

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quantities of goods and services exchanged over a period of time. The lack of homogeneity makes this an impossible sum.<sup>32</sup> Mises also points out the absurdity of the concept of “velocity of money,” which is defined simply as the variable which, dependent on the others, is necessary to maintain the balance of the equation of exchange. The concept makes no economic sense because individual economic agents cannot possibly act as the formula indicates.<sup>33</sup>

Therefore the fact that monetarists’ equation of exchange makes no mathematical or economic sense reduces it to a mere ideogram at most, or, as the *Shorter Oxford English Dictionary* puts it, “a character or figure symbolizing the idea of a thing without expressing the name of it, as the Chinese characters, etc.”<sup>34</sup> This ideogram contains an undeniable element of truth inasmuch as it reflects the notion that variations in the money supply eventually influence the purchasing power of money

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<sup>32</sup>Murray N. Rothbard argues that the “general price level,”  $P$ , is a weighted average of prices of goods which vary in quantity and quality in time and space, and the denominator is intended to reflect the sum of *heterogeneous* amounts expressed in different units (the year’s total production in real terms). Rothbard’s brilliant, perceptive critical treatment of monetarists’ equation of exchange appears in his book, *Man, Economy, and State*, pp. 727–37.

<sup>33</sup>“For individual economic agents, it is impossible to make use of the formula: total volume of transactions divided by velocity of circulation.” Mises, *The Theory of Money and Credit*, p. 154. The concept of velocity of money only makes sense if we intend to measure the general price level over a certain time period, which is patently absurd. It is pointless to consider the prices of goods and services over a period of time, e.g., a year, during which the quantity and quality of goods and services produced vary, as does the purchasing power of the monetary unit. It so happens that from an individual’s point of view prices are determined in each transaction, each time a certain amount of money changes hands, so an “average velocity of circulation” is inconceivable. Moreover from a “social” standpoint, at most we might consider a “general price level” with respect to a *certain point in time* (not a period), and thus the “velocity of circulation of money” concept is totally meaningless in this case as well.

<sup>34</sup>*The Shorter Oxford English Dictionary*, 3rd ed. (Oxford: Oxford University Press, 1973), vol. 1, p. 1016.



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(i.e., the price of the monetary unit in terms of every good and service). Nevertheless its use as a supposed aid to explaining economic processes has proven highly detrimental to the progress of economic thought, since it prevents analysis of underlying microeconomic factors, forces a mechanistic interpretation of the relationship between the money supply and the general price level, and in short, masks the true microeconomic effects monetary variations exert on the real productive structure. The harmful, false notion that money is neutral results. However, as early as 1912, Ludwig von Mises demonstrated that all increases in the money supply invariably modify the structure of relative prices of goods and services. Aside from the purely imaginary case in which the new money is evenly distributed among all economic agents, it is always injected into the economy in a sequential manner and at various specific points (via public expenditure, credit expansion, or the discovery of new gold reserves in particular places). To the extent this occurs, only certain people will be the first to receive the new monetary units and have the chance to purchase new goods and services at prices not yet affected by monetary growth. Thus begins a process of *income redistribution* in which the first to receive the monetary units benefit from the situation at the expense of all other economic agents, who find themselves purchasing goods and services at rising prices before any of the newly-created monetary units reach their pockets. This process of income redistribution not only inevitably alters the “structure” of economic agents’ value scales but also their weights in the market, which can only lead to changes in society’s entire structure of relative prices. The specific characteristics of these changes in cases where monetary growth derives from credit expansion have been covered in detail in previous chapters.<sup>35</sup>

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<sup>35</sup>Mises, *The Theory of Money and Credit*, p. 162 ff. Mises concludes:

The prices of commodities after the rise of prices will not bear the same relation to each other as before its commencement; the decrease in the purchasing power of money will not be uniform with regard to different economic goods. (p. 163)

Before Mises, the same idea was also expressed by Cantillon, Hume, and Thornton, among others. For instance, see “Of Money,” one of Hume’s essays contained in *Essays*, pp. 286ff.

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What policy do monetarists advocate to prevent and counter crises and economic recessions? They generally confine themselves to recommending policies that merely treat the symptoms, not the ultimate causes, of crises. In other words they suggest increasing the quantity of money in circulation, and thus reinflating the economy to fight the monetary contraction which, to a greater or lesser degree, always takes place following the crisis. They fail to realize that this macroeconomic policy hinders the liquidation of projects launched in error, prolongs the recession and may eventually lead to stagflation, a phase we have already analyzed.<sup>36</sup> In the long run, as we know, the expansion of new loans during a crisis can, at most, only postpone the inevitable arrival of the recession, making the subsequent readjustment even more severe. As Hayek quite clearly states:

Any attempt to combat the crisis by credit expansion will, therefore, not only be merely the treatment of symptoms as causes, but may also prolong the depression by delaying the inevitable real adjustments.<sup>37</sup>

Finally, some monetarists propose the establishment of a constitutional rule which would predetermine the growth of the money supply and “guarantee” monetary stability and economic growth. However this plan would also be ineffective in averting economic crises if new doses of money continued, to any degree, to be injected into the system through credit expansion. In addition whenever a rise in general productivity “required” increased credit expansion to stabilize

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<sup>36</sup>Hans F. Sennholz, *Money and Freedom* (Spring Mills, Penn.: Libertarian Press, 1985), pp. 38–39. Sennholz explains Friedman’s lack of a true theory of the cycle and his attempt to disguise this gap by designing a policy aimed simply at breaking out of a recession by monetary means, without accounting for its causes.

<sup>37</sup>F.A. Hayek, “A Rejoinder to Mr. Keynes,” *Economica* 11, no. 34 (November 1931): 398–404. Reprinted as chapter 5 of *Friedrich A. Hayek: Critical Assessments*, John Cunningham Wood and Ronald N. Woods, eds. (London and New York: Routledge, 1991), vol. 1, pp. 82–83; see also *Contra Keynes and Cambridge*, pp. 159–64.

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the purchasing power of money, this action would trigger and intensify all of the processes which inexorably lead to investment errors and crisis, and which monetarists are incapable of understanding, due to the obvious deficiencies in the macroeconomic analytical tools they use.<sup>38</sup>

## A BRIEF NOTE ON THE THEORY OF RATIONAL EXPECTATIONS

The analysis carried out here can also be applied to make some comments on both the hypothesis of rational expectations and other contributions of new classical economics. According to the hypothesis of rational expectations, economic agents tend to make correct predictions based on an appropriate use of all relevant information and on scientific knowledge made available by economic theory. Those who accept this hypothesis argue that government attempts to influence production and employment through monetary and fiscal policy are fruitless. Supporters therefore hold that, to the extent that economic agents foresee the consequences of traditional policies, these policies are ineffective in influencing real production or employment.<sup>39</sup>

Nevertheless there are serious flaws in the economic logic of these analytical developments in new classical economics. On the one hand, we must take into account that economic agents cannot possibly obtain all of the relevant information, both with respect to the particular circumstances of the current cycle (practical knowledge), and with respect to which economic theory best explains the course of events (scientific knowledge). This is due, among other factors, to a lack of unanimity as to which theory of cycles is the most valid: though the arguments presented here indicate that the correct explanation is the one provided by the Austrian theory of the business cycle, as long as the scientific community as a whole fails to accept it, we cannot expect all other economic agents

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<sup>38</sup>See section 9 of chapter 6, which covered the harmful effects of policies to stabilize the purchasing power of money.

<sup>39</sup>See the explanation on the evolution of the school of rational expectations in Garrison, *Time and Money*, chap. 2, pp. 15–30.

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to recognize it as an acceptable explanation.<sup>40</sup> Furthermore for exactly the same reasons the economic theory of socialism has proven it is impossible for a hypothetical benevolent dictator-scientist to obtain all *practical* information concerning his subjects, it is equally impossible for each economic agent to obtain all practical information concerning his fellow citizens, and all *scientific* knowledge available at any one time.<sup>41</sup>

On the other hand, even if, for the sake of argument, we allow that economic agents can obtain the relevant information and hit the mark with respect to the theoretical explanation of the cycle (unanimously understanding the essential elements of our circulation credit theory), “rational expectations” theorists are still incorrect when they conclude that government fiscal and monetary policies can produce no real consequences. This is the strongest argument against the theory of rational expectations. Even if entrepreneurs have “perfect” knowledge of events to come, they cannot shy away from the effects of an expansion of credit, since their very

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<sup>40</sup>As Leijonhufvud eloquently states:

When theorists are not sure they understand, or cannot agree, it is doubtful that they are entitled to the assumption that private sector agents understand and agree. (Axel Leijonhufvud, “What Would Keynes Have Thought of Rational Expectations?” UCLA Department of Economics Discussion Paper No. 299 [Los Angeles: University of California, Los Angeles, 1983], p. 5)

<sup>41</sup>This argument parallels the one we employ in *Socialismo, cálculo económico y función empresarial*, to explain the theoretical impracticability of socialism. This reasoning is based on the radical difference between practical (subjective) information or knowledge and scientific (objective) information or knowledge. Therefore rational expectations theorists commit the same type of error as the neoclassical theorists who sought to prove socialism was possible. There is only one difference: instead of assuming a scientist or dictator can obtain all practical information concerning his subjects, new classical economists start from the premise that the subjects themselves are capable of obtaining all relevant information, both *practical* (concerning the rest of the economic agents), and *scientific* (concerning the valid theories on the evolution of the cycle). See Huerta de Soto, *Socialismo, cálculo económico y función empresarial*, pp. 52–54 and 87–110.

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profit motive will inevitably lead them to take advantage of the newly-created money. In fact even if they understand the dangers of lengthening the productive structure without the backing of real savings, they can easily derive large profits by accepting the newly-created loans and investing the funds in new projects, *provided they are capable of withdrawing from the process in time and of selling the new capital goods at high prices before their market value drops, an event which heralds the arrival of the crisis.*<sup>42</sup> Indeed entrepreneurial profits arise

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<sup>42</sup>In light of the above considerations, the following remark Ludwig von Mises makes seems a bit exaggerated (see his article, "Elastic Expectations in the Austrian Theory of the Trade Cycle," published in *Economica* [August 1943]: 251–52):

The teachings of the monetary theory of the trade cycle are today so well known even outside of the circle of economists, that the naive optimism which inspired the entrepreneurs in the boom periods has given way to a greater skepticism. It may be that businessmen will in the future react to credit expansion in another manner than they did in the past. It may be that they will avoid using for an expansion of their operations the easy money available, because they will keep in mind the inevitable end of the boom. Some signs forebode such a change. But it is too early to make a positive statement.

Although it is obvious that "correct" expectations of the course events will take will hasten their arrival and make credit expansion less "effective" than it would be under other circumstances, even if entrepreneurs have "perfect" knowledge of the typical characteristics of the cycle, they cannot forgo the profits which, in the short run, credit expansion gives them, especially if they believe they are capable of predicting the appropriate time to sell their capital goods and avoid the corresponding losses. Mises himself, in *Human Action* (p. 871), makes the following clarification:

What the individual businessman needs in order to avoid losses is knowledge about the date of the turning point at a time when other businessmen still believe that the crash is farther away than is really the case. Then his superior knowledge will give him the opportunity to arrange his own operations in such a way as to come out unharmed. But if the end of the boom could be calculated according to a formula, all businessmen would learn the date at the same time. Their endeavors to adjust their conduct of affairs to this information would immediately result in the appearance of all the

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from knowledge of *specific* conditions with respect to time and place, and entrepreneurs may well discover significant opportunities for profit in each historical process of credit expansion, despite their theoretical knowledge of the processes which inexorably lead to a depression, a stage they may quite legitimately expect to escape from, due to their superior knowledge as to when the first symptoms of the recession will appear. Gerald P. O'Driscoll and Mario J. Rizzo make a similar observation:

Though entrepreneurs understand this [theory] at an abstract (or macro-) level, they cannot predict the exact features of the next cyclical expansion and contraction. That is, they do not know how the unique aspects of one cyclical episode will differ from the last such episode or from the "average" cycle. They lack the ability to make micro-predictions, . . . even though they can predict the general sequence of events that will occur. These entrepreneurs have no reason to forswear the temporary profits to be garnered in an inflationary episode. In the end, of course, all profits are purely temporary. And each individual investment opportunity carries with it a risk. For one thing, other entrepreneurs may be quicker. Or so many may have perceived an opportunity that there is a temporary excess supply at some point in the future.<sup>43</sup>

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phenomena of the depression. It would be too late for any of them to avoid being victimized. *If it were possible to calculate the future state of the market, the future would not be uncertain. There would be neither entrepreneurial loss nor profit.* What people expect from the economists is beyond the power of any mortal man. (Italics added)

<sup>43</sup>Gerald P. O'Driscoll and Mario J. Rizzo, *The Economics of Time and Ignorance*, p. 222. Further criticism of the theory of rational expectations appears in Gerald P. O'Driscoll's article, "Rational Expectations, Politics and Stagflation," chapter 7 of the book, *Time, Uncertainty and Disequilibrium: Exploration of Austrian Themes*, Mario J. Rizzo, ed. (Lexington, Mass.: Lexington Books, 1979), pp. 153–76. Along the same lines, Roger Garrison has remarked:

Feedback loops, multiple alternatives for inputs, and multiple uses of outputs . . . are complexities [that] preclude the hedging against crisis and downturn on a sufficiently widespread

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In addition rational expectations theorists still do not comprehend the Austrian theory of the cycle, and, like monetarists, they lack an adequate capital theory. In particular they fail to see how credit expansion affects the productive structure and why a recession inevitably results, even when expectations regarding the *general* course of events are flawless. After all, if entrepreneurs think they possess more (subjective) information than all other economic agents and believe themselves capable of withdrawing from an expansionary process before they sustain any losses, it would go against the grain for them to dismiss the possibility of making short-term gains in a market where such a process had been initiated. In other words, no one is going to turn his nose up at created money just because it will ultimately usher in a recession. One does not look a gift horse in the mouth, especially if one plans to get rid of the horse before the catastrophe hits.

The role of expectations in the cycle is much more subtle than new classical economists assert, as Mises and Hayek reveal in their treatment of the Austrian theory of the cycle, covered in chapter 6. Indeed Mises explains that there is often a certain time lag between the beginning of credit expansion

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basis as to actually nullify the process that would have led to the crisis. The idea that entrepreneurs know enough about their respective positions to hedge against the central bank is simply not plausible. It all but denies the existence of an economic problem that requires for its solution a market process. (Roger W. Garrison, "What About Expectations?: A Challenge to Austrian Theory," an article presented at the 2nd Austrian Scholars Conference [Mises Institute, Auburn, Alabama, April 4–5, 1997, manuscript pending publication], p. 21; see also *Time and Money*, pp. 15–30)

Our stance on the theory of rational expectations is, however, even more radical than that of O'Driscoll and Rizzo. As we have already stated, even if economic agents know not only the typical shape of the cycle, but also the specific moments and values at which the most important changes are to come about, they will still be inclined to accept the newly-created money to cash in on the myriad of opportunities for profit which crop up throughout the capital goods structure as the market process advances through the different stages in the cycle.

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and the appearance of expectations regarding its consequences. In any case the formation of realistic expectations merely speeds up the processes that trigger the crisis and makes it necessary for new loans to be granted at a progressively increasing speed, if the policy of loan creation is to continue producing its expansionary effect. Therefore, other things being equal, the more accustomed economic agents become to a stable institutional environment, the more damaging credit expansion will be, and the more maladjustments it will cause in the stages of the production process. (This particularly applies to the expansion of the 1920s, which led to the Great Depression). Moreover, *ceteris paribus*, as economic agents become more and more accustomed to credit expansion, larger and larger doses of it will have to be injected into the economic system to induce a boom and avoid the reversion effects we are familiar with. This constitutes the only element of truth in the hypothesis of rational expectations. (In the well-chosen words of Roger W. Garrison, it is "the kernel of truth in the rational expectations hypothesis."<sup>44</sup>) Nevertheless the assumptions on which the theory rests are far from being proven right, and entrepreneurs will never be able to completely refrain from taking advantage of the immediate profit opportunities which arise from the newly-created money they receive. Thus even with "perfect" expectations, credit expansion will always distort the productive structure.<sup>45</sup>

In short the underlying thesis behind the theory of rational expectations is that money is *neutral*, given that agents tend to

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<sup>44</sup>Garrison, "What About Expectations?", p. 1.

<sup>45</sup> The crucial question devolves around the source of errors in cyclical episodes. In Hayek's analysis, misallocations and errors occur as economic actors respond to genuine price signals. . . . Entrepreneurs are being offered a larger command over the real resources in society; the concomitant changes in relative prices make investing in these real resources genuinely profitable. There is surely nothing "irrational" in entrepreneurs grasping real profit opportunities. (O'Driscoll, "Rational Expectations, Politics and Stagflation," in *Time, Uncertainty and Disequilibrium*, p. 166)



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precisely predict the course of events.<sup>46</sup> Defenders of this hypothesis fail to realize that, as Mises correctly explained, the concept of neutral money is a contradiction in terms:

The notion of a neutral money is no less contradictory than that of a money of a stable purchasing power. Money without a driving force of its own would not, as people assume, be a perfect money; it would not be money at all.<sup>47</sup>

Under these circumstances it is not surprising that new classical economists lack a satisfactory theory of the cycle, as did their monetarist predecessors, that their only explanation for the cycle is based on mysterious, unpredictable, real shocks,<sup>48</sup> and that they are ultimately incapable of explaining

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<sup>46</sup>See Robert E. Lucas's recent, refined and concise exposition in his "Nobel Lecture: Monetary Neutrality," *Journal of Political Economy* 104, no. 4 (August 1996): 661–82. Lucas has described cycles as the real results of monetary shocks unanticipated by economic agents. Consequently various authors have pointed out supposed similarities between the theorists of the Austrian School and those of new classical economics. In view of the fact that new classical economists lack a capital and malinvestment theory, and that Austrians consider the equilibrium model, maximizing representative agent and aggregates their new classical economist colleagues use unrealistic and/or meaningless, we may reasonably conclude that the "similarities" are more apparent than real. See Richard Arena, "Hayek and Modern Business Cycle Theory," in *Money and Business Cycles: The Economics of F.A. Hayek*, M. Colonna and H. Hagemann, eds., vol. 1, chap. 10, pp. 203–17; see also Carlos Usabiaga Ibáñez and José María O'Kean Alonso, *La nueva macroeconomía clásica* (Madrid: Ediciones Pirámide, 1994), pp. 140–44. A detailed analysis of the profound differences between the Austrian approach and the neoclassical perspective, which constitutes the microeconomic basis for Lucas's views, appears in Huerta de Soto, "The Ongoing Methodens-treit of the Austrian School"; see also Garrison, *Time and Money*, esp. chaps. 10–12.

<sup>47</sup>Mises, *Human Action*, p. 418. We must emphasize that Austrians do not consider money neutral even in the long term, since the productive structure which remains following all of the readjustments credit expansion provokes bears no resemblance to the one which would have formed in the absence of inflation.

<sup>48</sup>See Finn E. Kydland and Edward C. Prescott, "Time to Build and Aggregate Fluctuations," *Econometrica* 50 (November 1982): 1345–70;

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why such shocks recur regularly and consistently exhibit the same typical features.<sup>49</sup>

## 3

## CRITICISM OF KEYNESIAN ECONOMICS

After our examination of monetarism, it seems appropriate to embark on a critical analysis of Keynesian theory. We have chosen this approach for two reasons. First, the “Keynesian revolution” erupted *after* old neoclassical monetarism (a mechanistic conception of the quantity theory of money, the lack of a capital theory, etc.) had gained a firm foothold. Second, nowadays Keynesian economics has undoubtedly been pushed into the background with respect to the Monetarist School. Despite these facts, we must emphasize that from the analytical viewpoint we adopt in our book, i.e., that of the Austrian School, monetarists and Keynesians use very similar approaches and methodologies. Like monetarists, Keynes held no capital theory to enable him to understand the division of economic processes into productive stages and the role time plays in such processes. Furthermore his macroeconomic theory of prices rests on such concepts as the general price level, the overall amount of money in circulation, and even the velocity of circulation of money.<sup>50</sup> Nevertheless

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and also “Business Cycles: Real Facts and Monetary Myth,” *Federal Reserve Bank of Minneapolis Quarterly Review* 14 (1990): 3–18. Authors of these and the other explanations for the economic cycle which are not based on the effects of credit expansion are obliged to acknowledge, at least implicitly, that credit expansion is always a factor and is a necessary element in any explanation for the sustained growth of an expansionary boom. See Mises, “The Fallacies of the Nonmonetary Explanations of the Trade Cycle,” in *Human Action*.

<sup>49</sup>Furthermore if rational expectations theorists are right and any government economic measure is “useless,” what sense is there in adopting expansionary policies again and again? The answer lies in the (seemingly beneficial) short-term effects, which always reverse, sabotaging the economy in the medium and long term.

<sup>50</sup>John Maynard Keynes, *The General Theory of Employment, Interest and Money* (London: Macmillan, 1936 and 1970), chap. 21, pp. 292–309. It is

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certain significant peculiarities of Keynesian thought warrant discussion.

Before we begin, however, let us remember that Keynes possessed only a very limited knowledge of economics in general, and of the market processes of entrepreneurial coordination in particular. According to F.A. Hayek, Keynes's theoretical background was limited almost exclusively to the work of Alfred Marshall, and he was unable to understand economics books written in foreign languages (with the possible exception of those in French). Hayek wrote:

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obvious in Keynes's book, *The General Theory*, that his macroeconomic theory of prices is simply a variant of the monetarist conception. In his book Keynes makes the following explicit assertion:

*The Theory of Prices, that is to say, the analysis of the relation between changes in the quantity of money and changes in the price-level with a view to determining the elasticity of prices in response to changes in the quantity of money, must, therefore, direct itself to the five complicating factors set forth above. (Keynes, *The General Theory*, pp. 296–97; italics are added)*

The best modern exposition of Keynes's theoretical framework is that of Roger Garrison (*Time and Money*, chaps. 7–9), who shows that Keynes was ultimately a socialist who did not believe in free markets for investment. Keynes himself acknowledged this fact when he wrote that his theories were "more easily adapted to the conditions of a totalitarian state" (*Collected Writings* [London: Macmillan, 1973], vol. 7, p. xxvi). This statement appears in the prologue (which Keynes wrote on September 7, 1936) to the German edition of *The General Theory*. The exact words follow:

Trotzdem kann die Theorie der Produktion als Ganzes, die den Zweck des folgenden Buches bildet, viel leichter den Verhältnissen eines totalen Staates angepasst werden als die Theorie der Erzeugung und Verteilung einer gegebenen, unter Bedingungen des freien Wettbewerbes und eines grossen Masses von *Laissez-faire* erstellten Produktion. (See John Maynard Keynes, *Allgemeine Theorie der Beschäftigung, des Zinses und des Geldes* [Berlin: Dunker and Humblot, 1936 and 1994], p. ix)

Footnote 76 of this chapter contains Keynes's explicit acknowledgement of his lack of an adequate theory of capital.

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Keynes was not a highly trained or a very sophisticated economic theorist. He started from a rather elementary Marshallian economics and what had been achieved by Walras and Pareto, the Austrians and the Swedes was very much a closed book to him. I have reason to doubt whether he ever fully mastered the theory of international trade; I don't think he had ever thought systematically on the theory of capital, and even in the theory of the value of money his starting point—and later the object of his criticism—appears to have been a very simple, equation-of-exchange-type of the quantity theory rather than the much more sophisticated cash-balances approach of Alfred Marshall.<sup>51</sup>

Keynes himself admitted there were gaps in his training, especially with respect to his inferior ability to read German. When referring to Mises's works in his book, *A Treatise on Money*, Keynes had no choice but to confess that his poor knowledge of German had prevented him from grasping their content as fully as he would have liked. He went on to say:

In German I can only clearly understand what I know already!—so that *new* ideas are apt to be veiled from me by the difficulties of language.<sup>52</sup>

## SAY'S LAW OF MARKETS

John Maynard Keynes begins his book, *The General Theory*, by condemning Say's law as one of the fundamental principles

<sup>51</sup>F.A. Hayek, *A Tiger by the Tail: A 40-Years' Running Commentary on Keynesianism by Hayek*, compiled and edited by Sudha R. Shenoy (London: Institute of Economic Affairs, 1972), p. 101.

<sup>52</sup>John Maynard Keynes, *A Treatise on Money*, vol. 1: *The Pure Theory of Money*, in *The Collected Writings of John Maynard Keynes* (London: Macmillan, 1971), vol. 5, p. 178, footnote 2. In the last piece of writing he published before his death, Haberler commented ironically on the weakness of the critical remarks Keynes directs at Mises in his review of the book, *Theorie des Geldes und der Umlaufsmittel*, printed in *The Economic Journal* (September 1914) and republished on pp. 400–03 of volume 11 of *Collected Writings*. See Gottfried Haberler, "Reviewing a Book Without Reading It," *Austrian Economics Newsletter* 8 (Winter, 1995); also *Journal of Economic Perspectives* 10, no. 3 (Summer, 1996): 188.

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upon which the classical analysis rests. Nonetheless Keynes overlooked the fact that the analysis carried out by Austrian School theorists (Mises and Hayek) had already revealed that processes of credit and monetary expansion ultimately distort the productive structure and create a situation in which the supply of capital goods and consumer goods and services no longer corresponds with economic agents' demand for them. In other words a *temporal* maladjustment in the economic system results.<sup>53</sup> In fact the entire Austrian theory of the economic cycle merely explains why, under certain circumstances, and as a consequence of credit expansion, Say's law repetitively fails to hold true. The theory also accounts for the spontaneous reversion effects which, in the form of a crisis and the necessary recession or readjustment of the productive system, tend to cause the system to again become coordinated. Thus upon receiving from Keynes a copy of *The General Theory*, Hayek responded that although

I fully agree about the importance of the problem which you outline at the beginning, I cannot agree that it has always been as completely neglected as you suggest.<sup>54</sup>

When members of the Austrian School developed the theory of capital, they shed light for the first time on the maladjustment process the productive structure often goes through. Hence the Austrians were the first to identify the microeconomic processes by which an increase in saving manifests itself in a lengthening and widening of the productive structure of

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<sup>53</sup> Say's law is violated in the short run by a fiat credit inflation. Of course, the short run may take some time to work itself out! True, the larger supply created by the fiat money also creates its own excessive demand, but it is the *wrong* kind of demand in the case of a business credit expansion, an ephemeral demand which cannot last. (Skousen, *The Structure of Production*, p. 325)

<sup>54</sup>Letter from F.A. Hayek to John Maynard Keynes, dated February 2, 1936 and printed on p. 207 of vol. 29 of *The Collected Writings of John Maynard Keynes: The General Theory and After: A Supplement* (London: Macmillan, 1979), p. 207.

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capital goods. Therefore it is not surprising that the absence of an elaborate capital theory in Marshallian economics and Keynes's ignorance of Austrian contributions led Keynes to criticize all classical economists for assuming that "supply must always *automatically* create its own demand." Indeed, according to Keynes, classical economists

are fallaciously supposing that there is a nexus which unites decisions to abstain from present consumption with decisions to provide for future consumption; . . . whereas the motives which determine the latter are not linked in any simple way with the motives which determine the former.<sup>55</sup>

Although this assertion may be justified with respect to the neoclassical economics of Keynes's time, it in no way applies to Austrian economics, if we consider the level of development Austrians had already reached with their theory of capital and cycles when *The General Theory* was published. Thus Keynes was mistaken when he called Hayek a neoclassical author.<sup>56</sup> Hayek came from a subjectivist tradition which differed sharply from Marshall's neoclassical background. Furthermore, aided by Mises's subjective theory of money, capital and cycles (a theory entirely compatible with the Austrian School), he had already closely analyzed the extent to which Say's law is temporally unsound and had studied the disruptive effect on the economic system of regular, credit-related attacks.

## KEYNES'S THREE ARGUMENTS ON CREDIT EXPANSION

Keynes conspicuously attempted to deny bank credit plays any role in disrupting the relationship between saving

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<sup>55</sup>Keynes, *The General Theory*, p. 21.

<sup>56</sup>John Maynard Keynes, *The General Theory and After*, part 2: *Defence and Development*, in *The Collected Writings of John Maynard Keynes*, vol. 14 (London: Macmillan, 1973), pp. 24 and 486. Here Keynes refers to "recent figures like Hayek, whom I should call 'neoclassicals'" (p. 24) and to "the neo-classical school of Professor Hayek and his followers" (p. 486).

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and investment. Indeed by the time Keynes published *The General Theory*, he had already debated enough with Hayek to identify Hayek's main argument: that credit expansion gives rise to a temporal, *unsustainable* separation between entrepreneurial investment and society's real, voluntary saving. If Hayek's thesis is correct, it deals a fatal blow to Keynes's theory. Thus it was crucial for Keynes to invalidate Hayek's argument. Nevertheless Keynes's reasoning on the issue of bank credit was too confused and faulty to refute Hayek's theory. Let us review his arguments one by one.

*First*, Keynes claims bank credit has no expansionary effect whatsoever on aggregate investment. He bases this assertion on the absurd accounting argument that the corresponding creditor and debtor positions cancel each other out:

We have, indeed, to adjust for the creation and discharge of debts (including *changes in the quantity of credit or money*); but since for the community as a whole the increase or decrease of the aggregate creditor position is always exactly equal to the increase or decrease of the aggregate debtor position, this complication also cancels out when we are dealing with aggregate investment.<sup>57</sup>

Nonetheless a statement like this one cannot obscure the strong distorting influence credit expansion exerts on investment. It is indeed true that a person receiving a loan from a bank is the bank's debtor for the amount of the loan, and creditor for the amount of the deposit. However, as B.M. Anderson points out, the borrower's debt with the bank is not money, whereas his credit is a demand deposit account which *clearly is money* (or to be more precise, a perfect money substitute, as Mises maintains). Once the borrower decides to invest the loan funds in capital goods and in services offered by the factors of production, he uses the money (created *ex nihilo* by the bank) to increase investment, while no corresponding increase in voluntary saving takes place. He does so without altering the stability of his debt with the bank.<sup>58</sup>

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<sup>57</sup>Keynes, *The General Theory*, p. 75; italics added.

<sup>58</sup>Anderson, *Economics and the Public Welfare*, p. 391.

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*Second*, Keynes, realizing the great weakness of his “accounting argument,” puts forward an even more preposterous one. He maintains that new loan funds the bank creates and grants its customers are not used to finance new investment above the level of voluntary saving, since the newly-created money borrowers receive could be used to purchase consumer goods instead. To the extent the new money is not used to purchase consumer goods and services, Keynes reasons, it is implicitly “saved” and thus when invested, its amount corresponds exactly to that of “genuine, prior” savings. This is how Keynes himself expresses this argument:

[T]he savings which result from this decision are just as genuine as any other savings. No one can be compelled to own the additional money corresponding to the new bank-credit, unless he deliberately prefers to hold more money rather than some other form of wealth.<sup>59</sup>

Keynes clearly relies on the *ex post facto* equivalence between saving and investment to ward off the harmful effects credit expansion exerts on investment and the productive structure.<sup>60</sup> Nevertheless all saving requires discipline and the sacrifice of the *prior* consumption of goods and services, not merely the renunciation of the potential consumption afforded by new monetary units created *ex nihilo*. Otherwise

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<sup>59</sup>Keynes, *The General Theory*, p. 83.

<sup>60</sup>Benjamin Anderson, in reference to Keynes’s theory that credit expansion does not lead to a disproportion between investment and voluntary savings, since new money invested could be spent on consumer goods and services instead and therefore must first be “saved,” concludes:

One must here protest against the dangerous identification of bank expansion with savings, which is part of the Keynesian doctrine. . . . This doctrine is particularly dangerous today, when we find our vast increase in money and bank deposits growing out of war finance described as “savings,” just because somebody happens to hold them at a given moment of time. On this doctrine, the greater the inflation, the greater the savings! (Anderson, *Economics and the Public Welfare*, pp. 391–92)



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any increase in the money supply via credit expansion would be tantamount to an “increase in saving,” which is sheer nonsense.<sup>61</sup> Even if we concede for the sake of argument that all investment financed by new credit has been immediately and simultaneously “saved,” a problem still faces us. Once the new money reaches its final holders (workers and owners of capital goods and original means of production), if these people decide to spend all or part of it on consumer goods and services, the productive structure will automatically be revealed as too capital-intensive and recession will hit. For all his sophistry, Keynes cannot deny the obvious fact that artificial credit expansion does not guarantee economic agents will be compelled to save and invest more than they normally would.<sup>62</sup> Furthermore it is paradoxical that Keynes should insist that voluntary saving does not guarantee more investment, while at the same time claiming all investment implies prior saving. If we admit that the agents who save and those who invest are different, and that a lack of coordination in their decisions may prevent equilibrium, then we must admit that such discoordination may exist not only on the side

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<sup>61</sup>George Selgin essentially bases his entire doctrine of monetary equilibrium on this second argument of Keynes’s (without specifically citing it). We will critically examine Selgin’s doctrine in the next chapter. It is paradoxical that Selgin, an economist from an Austrian background, should fall into the Keynesian trap in an attempt to prove that credit expansion in the context of a free-banking system would be harmless for the economic system. Perhaps this fact provides the clearest evidence that the Old Banking School has been reincarnated today in the figures of theorists like Selgin, defenders of fractional-reserve free banking. See George A. Selgin, *The Theory of Free Banking: Money Supply under Competitive Note Issue* (Totowa, N.J.: Rowman and Littlefield, 1988), esp. pp. 54–55.

<sup>62</sup>In other words, although *ex post facto* all invested resources have been saved ( $I=S$ ), Keynes overlooks the fact that, microeconomically speaking, saved resources can be invested either wisely or foolishly. In fact credit expansion misleads entrepreneurs with respect to the true rate of voluntary saving. Thus society’s meager savings are unwisely invested in processes which are excessively capital-intensive and cannot be completed or sustained, and society grows poorer as a result (see pp. 375–84 of chapter 5).

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of voluntary saving (more voluntary saving without investment), but also on that of investment (more investment without prior saving). In the first case there is an increase in the demand for money. As we saw in the last chapter, such an increase provokes several overlapping effects: both those characteristic of all voluntary saving (changes in the relative-price structure which lead to a lengthening of investment processes) and those due to a rise in the purchasing power of money.<sup>63</sup> In the second case (more investment without prior saving) an artificial structure of production is created. It is one which cannot be maintained indefinitely, since economic agents are not willing to save enough. It also accounts for the onset of crises and recessions following periods of credit expansion.

In his attempt to counteract the Austrian hypothesis on the harmful effects of credit expansion, Keynes puts forward a *third and final* argument. He alleges that credit expansion may ultimately be used to finance an increase in investment

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<sup>63</sup>Jacques Rueff has pointed out that in an economy on the gold standard, an increase in the demand for money (or "hoarding") does not push up unemployment at all. In fact, in accordance with the price system, it channels a greater proportion of society's productive resources (labor, capital equipment, and original means of production) into the mining, production, and distribution of more monetary units (gold). This is the market's natural, spontaneous reaction to economic agents' new desire for higher cash balances. Therefore it is not necessary to initiate a program of public works (even if, as Keynes ironically remarked, it consisted merely of digging ditches and then filling them in again), since society will spontaneously use its productive resources to dig deeper mines and extract gold, thus more effectively satisfying the desires of consumers and economic agents for higher cash balances. Hence an increased "liquidity preference" cannot possibly produce a situation of permanent, combined equilibrium and unemployment. A combination of equilibrium and unemployment can only stem from a rigid labor market in which the coercive power of the state, the unions or both, prevents flexibility in wages and other employment contract and labor market conditions. See Jacques Rueff's article, "The Fallacies of Lord Keynes' General Theory," printed in *The Critics of Keynesian Economics*, Henry Hazlitt, ed. (New York: Arlington House, 1977), pp. 239–63, esp. p. 244.

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which would lead to a rise in income and therefore eventually also boost saving. Thus Keynes believes entrepreneurs *cannot possibly* invest loaned funds at a rate faster than that at which the public decides to increase savings. In Keynes's own words:

The notion that the creation of credit by the banking system allows investment to take place to which "no genuine saving" corresponds can only be the result of isolating one of the consequences of the increased bank-credit to the exclusion of the others. If the grant of a bank credit to an entrepreneur additional to the credits already existing allows him to make an addition to current investment which would not have occurred otherwise, incomes will necessarily be increased and at a rate which will normally *exceed* the rate of increased investment. Moreover, except in conditions of full employment, there will be an increase of real income as well as of money-income. The public will exercise a "free choice" as to the proportion in which they divide their increase of income between saving and spending; *and it is impossible that the intention of the entrepreneur who has borrowed in order to increase investment can become effective . . . at a faster rate than the public decide to increase their savings.*<sup>64</sup>

Keynes clearly states that it is impossible for the rate of investment to exceed the rate of saving. His claim is conditioned by his tautological belief that investment and saving are always equal, a concept which keeps him from appreciating the disruptive effect investment financed by newly-created loans exerts on the productive structure. Nonetheless if a rise in investment leads hypothetically to an increase in real income, we may still wonder whether or not such an increase in income could stimulate enough growth in saving to permanently sustain new investments initially financed by credit expansion.

We must remember that Hayek showed it to be practically impossible for the income growth which arises from investment financed by new credit expansion to provoke enough voluntary saving to sustain initial investment. Indeed if such

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<sup>64</sup>Keynes, *The General Theory*, pp. 82–83; italics added.

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investment is to be upheld by a subsequent rise in voluntary saving, *economic agents will ultimately have to save absolutely all monetary income derived from the new investment*. In other words when the portion of gross income shaded in Chart V-6 reaches the pockets of consumers, they will have to save all of it. (The shaded portion reflects the artificial lengthening and widening of the productive structure, modifications made possible by new loans the bank creates from nothing.) Obviously consumers will almost never save all such income, since they will spend at least part (and usually the largest part) of the new monetary income created by banks on consumer goods and services. In accordance with the theory presented in detail in the last two chapters, such spending will necessarily reverse the new investment processes of monetary origin, and the crisis and recession will hit. In Hayek's own words:

[S]o long as any part of the additional income thus created is spent on consumers' goods (*i.e.* unless all of it is saved), the prices of consumers' goods must rise permanently in relation to those of various kinds of input. And this, as will by now be evident, cannot be lastingly without effect on the relative prices of the various kinds of input and on the methods of production that will appear profitable.

Elsewhere in the same work Hayek concludes:

All that is required to make our analysis applicable is that, when incomes are increased by investment, the share of the additional income spent on consumers' goods during any period of time should be larger than the proportion by which the new investment adds to the output of consumers' goods during the same period of time. And there is of course no reason to expect that more than a fraction of the new income [created by credit expansion], and certainly not as much as has been newly invested, will be saved, because this would mean that practically all the income earned from the new investment would have to be saved.<sup>65</sup>

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<sup>65</sup>Hayek, *The Pure Theory of Capital*, pp. 378 and 394. In the footnote on page 395 of the original English edition of *The Pure Theory of Capital*, Hayek emphasizes his thesis even more when he states:

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## KEYNESIAN ANALYSIS AS A PARTICULAR THEORY

As Austrian economists in general and Mises in particular demonstrated as early as 1928, in the specific event that idle resources and unemployment are widespread, entrepreneurs, relying on new loans, may continue to lengthen the productive structure without provoking the familiar reversion effects, until the moment one of the complementary factors in the production process becomes scarce.<sup>66</sup> At the very least, this fact shows Keynes's so-called *general* theory to be, in the best case, a *particular* theory, applicable only when the economy is in the deepest stages of a depression due to generalized idle capacity in *all* sectors.<sup>67</sup> However, as we saw in the last chapter, even under these conditions credit expansion will stimulate a widespread malinvestment of resources. This malinvestment will add to previous errors not yet liquidated owing to the institutional rigidity of the labor market and of the other productive resources. If holders of the new jobs created in these stages of acute depression begin to spend their earnings on consumer goods and services at a pace more rapid than that at which final consumer goods are arriving on the market (due to a relative shortage of some factor or to bottlenecks related to any of the complementary factors or resources of production), the familiar microeconomic processes which tend to reverse the initial expansionary effects of new bank-credit will be triggered. Under such conditions, it will be possible to create new jobs only if real wages fall, a phenomenon we observe

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[T]he essential thing . . . is that we must always compare the result of investment embodied in concrete goods with the money expenditure on these goods. It is never the investment which is going on at the same time as the saving, but the result of *past* investment, that determines the supply of capital goods to which the monetary demand may or may not correspond.

<sup>66</sup>Mises, *On the Manipulation of Money and Credit*, p. 125 (p. 49 of *Geldwertstabilisierung und Konjunkturpolitik*, the German edition).

<sup>67</sup>For Roger Garrison, the true general theory is that of the Austrians and "Keynesian theory [we would also say monetarist theory] becomes a special case of Austrian theory." See Garrison, *Time and Money*, p. 250.

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when the price of consumer goods and services begins to rise faster than wages.<sup>68</sup>

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<sup>68</sup>It is interesting to remember how Keynes defines “involuntary” unemployment:

Men are involuntarily unemployed if, in the event of a small rise in the price of wage-goods relatively to the money-wage, both the aggregate supply of labour willing to work for the current money-wage and the aggregate demand for it at that wage would be greater than the existing volume of employment. (Keynes, *The General Theory*, p. 15; italics deleted)

By this convoluted definition, Keynes simply means that “involuntary” unemployment exists whenever a drop in relative wages would give rise to an increase in employment. However there are two possible routes to a relative reduction in wages: either a worker may accept lower nominal wages, or he may agree to work in an environment where nominal wages remain unchanged, but the prices of consumer goods rise. The latter is the more indirect route. In neither case is unemployment involuntary: it is purely voluntary in both. In the first, a worker remains unemployed because he voluntarily chooses not to work for a lower nominal wage. In the second, he only agrees to work if he has deceived himself, since his real wages fall even though his nominal wages remain the same. (In other words, in the second case he agrees to work in an environment in which the prices of consumer goods and services increase faster than wages). In fact most of Keynes’s policy prescriptions amount to an attempt to reduce unemployment by lowering real wages via the indirect route of increasing inflation, and thus the prices of consumer goods, while maintaining nominal wages constant. This remedy has failed, not only because workers are no longer fooled by the money illusion and demand nominal wage increases which at least compensate for decreases in the purchasing power of money, but also because the proposed “medicine,” apart from being ineffective, entails the enormous social cost of the economic crises and recessions credit expansion provokes. Furthermore we must realize that to a great extent, Keynes’s own prescriptions, which consist of boosting effective demand through fiscal and monetary measures, are the main culprits in keeping labor markets rigid and even in making them gradually more so, since economic agents, specifically workers and unions, have come to believe that adjustments in real wages must always take the form of increases in the general price level. Hence Keynesian doctrine, rather than a “remedy” for the disease, has become an aggravating factor which worsens it. It will take much time and effort for economic agents to again become accustomed to living in a stable environment where the price system can again operate without the

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## THE SO-CALLED MARGINAL EFFICIENCY OF CAPITAL

We find another indication that Keynes's is a specific theory, rather than a general one, in his definition of the "marginal efficiency of capital," which he expresses as

that rate of discount which would make the present value of the series of annuities given by the returns expected from the capital-asset during its life just equal to its supply price.<sup>69</sup>

The most important error Keynes commits is to consider investment determined by the "marginal efficiency of capital" as defined above, *viewing the offering price of the capital good as a given, an unchanging, constant amount*, even when entrepreneurs' profit outlook varies. Indeed Keynes, succumbing to the classical "objectivist" tradition passed down by Marshall, believes the offering price of capital goods does not fluctuate when entrepreneurs' profit outlook improves or worsens. This belief is based on the implicit notion that such prices are ultimately determined by the historical cost of producing the capital good. Thus Keynes clings to a remnant of the old objective theory of value, according to which value is determined by cost. This doctrine, clearly on the decline in relation to the Austrian subjectivist conception, was partially revived by

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inflexibility that hinders it today. On this topic see Hans-Hermann Hoppe's article, "Theory of Employment, Money, Interest and the Capitalist Process: The Misesian Case Against Keynes," chapter 5 in *The Economics of Ethics and Private Property* (London: Kluwer Academic Publishers, 1993), pp. 111–38, esp. pp. 124–26.

Similarly, in the banking sector, as Jörg Guido Hülsmann has written,

[t]he public no longer perceives business cycles and breakdown of the entire banking system as upshots of the fractional-reserve principle run amok under the protection of the law, but as a "macroeconomic" problem requiring action by the central bank managers.

See his article, "Has Fractional-Reserve Banking Really Passed the Market Test?" p. 416.

<sup>69</sup>Keynes, *The General Theory*, p. 135.

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Marshall, at least regarding the supply side of price determination.<sup>70</sup>

Hayek has conclusively demonstrated that the entire Keynesian doctrine of the “marginal efficiency of capital” as the determining factor in investment is acceptable only if we assume that there is absolutely no shortage of capital goods, and hence that any quantity can be acquired at a constant, set price. However, this would only be conceivable in a mythical economy in which no shortage ever occurs, or in a hypothetical economy in the deepest stages of an extraordinarily severe depression, and thus where an immense degree of excess capacity exists. In real life at least some of the complementary goods necessary to produce a capital good will always become relatively scarce at some point, and entrepreneurs, in keeping with their profit expectations, will increase the amount they are willing to pay for the good in question until the marginal efficiency or productivity of capital becomes equal to the interest rate. In other words, as Hayek indicates, competition among entrepreneurs will ultimately lead them to push up the cost or offering price of capital goods to the exact point where it coincides with the present value (the value discounted by the interest rate) of the marginal productivity of the equipment in question. Hence the “marginal efficiency of capital” will always tend to coincide with the interest rate.<sup>71</sup> This is precisely the essence of the Austrian theory on the influence of the interest rate on the

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<sup>70</sup> Mr. Keynes . . . is presumably . . . under the influence of the “real cost” doctrine which to the present day plays such a large rôle in the Cambridge tradition, he assumes that the prices of all goods except the more durable ones are even in the short run determined by costs. (Hayek, *The Pure Theory of Capital*, p. 375, footnote 3)

<sup>71</sup> Entrepreneurs will still tend to bid up the prices of the various kinds of input to the discounted value of their respective marginal products, and, if the rate at which they can borrow money remains unchanged, the only way in which this equality between the price of the input and the discounted value of its marginal product can be restored, is evidently by reducing that marginal product. (Hayek, *The Pure Theory of Capital*, p. 383)



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productive structure, a theory we covered in chapter 5. In fact we know that the interest rate is the price of present goods in terms of future goods, and that it tends to manifest itself throughout the productive structure in the accounting profit differential which arises between the different stages in the production process. To put it another way, the interest rate expresses itself in the difference between income and costs at each stage, and there is always an inexorable tendency for the profits at each stage to match the interest rate (that is, for the cost of production at each stage to equal the present value of the stage's marginal productivity).

## KEYNES'S CRITICISM OF MISES AND HAYEK

In light of the above, the explicit criticism Keynes levels against Mises and Hayek on pages 192 and 193 of *The General Theory* is absurd. Keynes accuses Mises and Hayek of confusing the interest rate with the marginal efficiency of capital. As we know, the Austrians believe that the interest rate is determined independently by the value scales of time preference (the supply and demand of present goods in exchange for future goods), and that the marginal productivity or efficiency of capital merely affects the present value of capital goods. In the market, the price (cost) of a capital good *tends* to equal the value (discounted by the interest rate) of its future flow of rents, or the series of values corresponding to the marginal productivity of the capital equipment. The Austrians therefore consider that the marginal productivity of capital tends to follow the interest rate and not vice versa, and that only in equilibrium (which is never reached in real life) do the two become equal. Keynes's fundamental error lies in his failure to realize that the purchase price of capital goods will vary when expectations of the profit or productivity associated with them improve. This is how events unfold in real life, and Austrian economists have always taken this fact into account in their analysis. Hence when Keynes boldly claims Austrian economists "confuse" the interest rate with the marginal productivity of capital, he scandalously twists the facts.<sup>72</sup>

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<sup>72</sup>Denis H. Robertson, among others, agrees. When critically analyzing *The General Theory*, Robertson wrote the following directly to Keynes:

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## CRITICISM OF THE KEYNESIAN MULTIPLIER

Keynes commits such errors because he lacks a capital theory to help him grasp how saving converts into investment through a series of microeconomic processes he overlooks entirely. Therefore it is not surprising that Keynes is simply incapable of understanding the Hayekian argument, and that, when referring to the schools of economic thought which, like the Austrian School, analyze the effects credit expansion exerts on the productive structure, he concludes: "I can make

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I don't think these pages (192–93) are at all a fair account of Hayek's own exposition. In his own queer language he is saying that the fall in the rate of interest will so much increase the demand price for machines (in spite of the fall in the price of their products) as to make it profitable to produce more machines. (See the letter from Denis H. Robertson to John Maynard Keynes dated February 3, 1935 and reprinted on pp. 496ff of volume 13 of *The Collected Writings of John Maynard Keynes*. The above excerpt appears on page 504).

In his correspondence with Robertson (February 20, 1935), Keynes actually admitted that in the above-mentioned paragraphs of *The General Theory* he misinterpreted Hayek's words:

Thanks for the reference to Hayek which I will study. I do not doubt that Hayek says somewhere the opposite to what I am here attributing to him. (Ibid., p. 519)

Nonetheless Keynes lacked sufficient intellectual honesty to correct the manuscript prior to its definitive publication in 1936. Ludwig M. Lachmann also comments on the criticism Keynes directs at Mises and Hayek on pages 192 and 193 of *The General Theory*, where Keynes concludes that "Professor von Mises and his disciples have got their conclusions exactly the wrong way round." Lachmann responds:

In reality, however, the Austrians were merely following Wicksell in drawing a distinction between the "natural rate of interest" and the money rate, and Keynes' own distinction between marginal efficiency of capital and the latter is exactly parallel to it. The charge of simple confusion of terms is groundless. (Ludwig M. Lachmann, "John Maynard Keynes: A View from an Austrian Window," *South African Journal of Economics* 51, no. 3 (1983): 368–79, esp. pp. 370–71)

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no sense at all of these schools of thought."<sup>73</sup> Keynes's lack of an adequate theory of capital also explains his development of a mechanistic conception of the investment multiplier, which he defines as the reciprocal of one minus the marginal propensity to consume. Thus according to Keynes, the greater the marginal propensity to consume, the more an increase in investment will boost the national income. However the investment multiplier hinges on a purely mathematical argument which contradicts the most basic economic logic of capital theory. Indeed the multiplier indicates that any increase in credit expansion will cause a rise in real national income equal to the reciprocal of the marginal propensity to save (one minus the marginal propensity to consume). Hence according to Keynesian logic, the less people save, the more real income will grow. Nevertheless we know that the mathematical automatism which lies at the root of the multiplier concept bears no relation to the real processes at work in the productive structure. Credit expansion will stimulate investment that will drive up the price of the factors of production and bring about a subsequent, more-than-proportional increase in the price of consumer goods and services. Even if gross income in money terms rises as a result of the injection of new money created by the banking system, the multiplier, owing to its mechanical and macroeconomic nature, *is inadequate to depict the disruptive microeconomic effects credit expansion always exerts on the productive structure*. Consequently the multiplier masks the widespread malinvestment of resources which in the long run impoverishes society as a whole (rather than enriching it, as Keynes alleges). We agree with Gottfried Haberler when he concludes that the multiplier

turns out to be not an empirical statement which tells us something about the real world, but a purely analytical statement about the consistent use of an arbitrarily chosen terminology—a statement which does not explain anything about reality. . . . Mr. Keynes' central theoretical idea about

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<sup>73</sup>Keynes, *The General Theory*, p. 329. Monetarist writers such as Hawtrey, Friedman, and Meltzer have made the same explicit acknowledgement.

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the relationships between the propensity to consume and the multiplier, which is destined to give shape and strength to those observations, turns out to be not an empirical statement which tells us something interesting about the real world, but a barren algebraic relation which no appeal to facts can either confirm or disprove.<sup>74</sup>

Hayek, in his detailed critique of both volumes of Keynes's *A Treatise on Money* (1930), accuses Keynes of entirely ignoring the theory of capital and interest, particularly the work of Böhm-Bawerk and the other theorists of the Austrian School in this regard.<sup>75</sup> According to Hayek, Keynes's lack of knowledge in this area accounts for the fact that he overlooks the existence of different stages in the productive structure (as Clark had done and Knight later would) and that he ultimately fails to realize that the essential decision facing entrepreneurs is not whether to invest in consumer

<sup>74</sup>Gottfried Haberler, "Mr. Keynes' Theory of the 'Multiplier': A Methodological Criticism," originally published in the *Zeitschrift für Nationalökonomie* 7 (1936): 299–305, and reprinted in English as chapter 23 of the book *Selected Essays of Gottfried Haberler*, Anthony Y. Koo, ed. (Cambridge, Mass.: The MIT Press, 1985), pp. 553–60, and esp. pp. 558–59. It is interesting to note that Hawtrey, a monetarist, was a forerunner of Keynes in the development of the multiplier theory. See Robert B. Dimand's account in "Hawtrey and the Multiplier," *History of Political Economy* 29, no. 3 (Autumn, 1997): 549–56.

<sup>75</sup>Hayek wrote three articles in which he criticizes the monetary theories Keynes includes in his book, *A Treatise on Money*. The articles are: "Reflections on The Pure Theory of Money of Mr. J. M. Keynes (1)," published in *Economica* 11, no. 33 (August 1931): 270–95; "A Rejoinder to Mr. Keynes," pp. 398–403; and finally, "Reflections on The Pure Theory of Money of Mr. J.M. Keynes (continued) (2)," also published in *Economica* 12, no. 35 (February 1932): 22–44. These articles and Keynes's responses to them appear in *Friedrich A. Hayek: Critical Assessments*, John Cunningham Wood and Ronald N. Woods, eds. (London: Routledge, 1991), pp. 1–86 and also in *The Collected Works of F.A. Hayek*, vol. 9: *Contra Keynes and Cambridge: Essays, Correspondence* (London: Routledge, 1995). In the first of these articles (Wood and Woods, eds., p. 7), Hayek concludes that Keynes's main problem is methodological and stems from the fact that the macroeconomic aggregates which form the basis of his analysis conceal from him the microeconomic processes essential to understanding changes in the productive structure.

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goods or in capital goods, but *whether to invest in production processes which will yield consumer goods in the near future or in those which will yield them in a more distant future*. Thus Keynes's notion of a productive structure comprised of only two stages (one of consumer goods and another of capital goods) and his failure to allow for the temporal aspect of the latter, nor for the consecutive stages which compose it, leads him into the trap of the "paradox of thrift," the fallacious theoretical rationale which we explained in chapter 5.<sup>76</sup>

Hence Keynesians hold no theory to explain why crises recur in a hampered market economy that suffers credit expansion (that is, one in which traditional legal principles are violated). Keynesians simply attribute crises to sudden halts in investment demand, interruptions caused by irrational behavior on the part of entrepreneurs or by an unexpected loss of confidence and optimism on the part of economic agents. Moreover Keynesians neglect to recognize in their analyses that crises are an *endogenous* consequence of the very credit expansion process which first feeds the boom. Unlike their fellow macroeconomists, the monetarists, Keynesians believe the results of monetary expansion policies to be relatively less effective and important than those of fiscal policy, and they advocate public spending as the means to directly increase effective demand. They fail to comprehend that such a policy

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<sup>76</sup>It is important to remember that John Maynard Keynes himself explicitly and publicly admitted to Hayek that he lacked an adequate theory of capital. In Keynes's own words:

Dr. Hayek complains that I do not myself propound any satisfactory theory of capital and interest and that I do not build on any existing theory. He means by this, I take it, the theory of capital accumulation relatively to the rate of consumption and the factors which determine the natural rate of interest. This is quite true; and I agree with Dr. Hayek that a development of this theory would be highly relevant to my treatment of monetary matters and likely to throw light into dark corners. (John Maynard Keynes, "The Pure Theory of Money: A Reply to Dr. Hayek," *Economica* 11, no. 34 [November 1931]: 394; p. 56 in the Wood and Woods edition)

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further complicates the process by which the productive structure readjusts, and it worsens the outlook for the stages furthest from consumption. As a result of Keynesian “remedies,” entrepreneurs will surely encounter even greater difficulty in consistently financing these stages using voluntary savings. As to the likelihood that Keynesian policies could cure “secular” unemployment through the complete socialization of investment, the Austrian theorem on the impossibility of economic calculation under socialism is entirely applicable, as illustrated by the massive industrial malinvestment accumulated during the decades of government-directed investments in the former socialist economies of Eastern Europe.

Short-term unemployment can only be eliminated through “active” policies if workers and unions let themselves be deceived by the money illusion, and thus maintain nominal salaries constant in an inflationary atmosphere of soaring consumer prices. Experience has shown that the Keynesian remedy for unemployment (the reduction of real wages through increases in the general price level) has failed: workers have learned to demand raises which at least compensate them for decreases in the purchasing power of their money. Therefore the expansion of credit and effective demand, an action Keynesians supported, has gradually ceased to be a useful tool for generating employment. It has also entailed a cost: *increasingly grave distortions of the productive structure*. In fact a stage of deep depression combined with high inflation (stagflation) followed the crisis of the late seventies and was the empirical episode which most contributed to the invalidation of all Keynesian theory.<sup>77</sup>

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<sup>77</sup>This is not the appropriate place to carry out an exhaustive analysis of the rest of the Keynesian theoretical framework, for instance his conception of the interest rate as a strictly monetary phenomenon determined by the money supply and “liquidity preference.” Nonetheless we know that the supply of and demand for money determine its price or purchasing power, not the interest rate, as Keynes maintains, concentrating merely on the effects credit expansion exerts on the credit market in the immediate short term. (Besides, with his liquidity preference theory, Keynes resorts to the circular reasoning characteristic of the functional analysis of mathematician-economists. Indeed first he asserts

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Hence we must concur with Hayek's statement that the doctrines of John Maynard Keynes take us

back to the pre-scientific stage of economics, when the whole working of the price mechanism was not yet understood, and only the problems of the impact of a varying money stream on a supply of goods and services with given prices aroused interest.<sup>78</sup>

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that the interest rate is determined by the demand for money or liquidity preference, and then he states that the latter in turn depends on the former.) Another considerable shortcoming of Keynesian doctrine is the assumption that economic agents first decide how much to consume and then, from the amount they have decided to save, they determine what portion they will use to increase their cash balances and then what portion they will invest. Nevertheless economic agents *simultaneously* decide how much they will allot to all three possibilities: consumption, investment and the increase of cash balances. Hence if there is a rise in the amount of money each economic agent hoards, the additional amount could come from any of the following: (a) funds previously allocated for consumption; (b) funds previously allocated for investment; or (c) any combination of the above. It is obvious that in case (a) the interest rate will fall; in case (b) it will rise; and in case (c) it may remain constant. Therefore no direct relationship exists between liquidity preference or demand for money and the interest rate. An increase in the demand for money may not affect the interest rate, if the relationship between the value allotted for present goods and that allotted for future goods (time preference) does not vary. See Rothbard, *Man, Economy, and State*, p. 690. A list of all relevant critical references on Keynesian theory, including various articles on its different aspects, appears in *Dissent on Keynes: A Critical Appraisal of Keynesian Economics*, Mark Skousen, ed. (New York and London: Praeger, 1992). See also the previously cited chapters 7–9 of Garrison's *Time and Money*.

<sup>78</sup>Hayek, *The Pure Theory of Capital*, pp. 409–10. Hayek concludes:

It is not surprising that Mr. Keynes finds his views anticipated by the mercantilist writers and gifted amateurs: concern with the surface phenomena has always marked the first stage of the scientific approach to our subject. But it is alarming to see that after we have once gone through the process of developing a systematic account of those forces which in the long run determine prices and production, we are now called upon to scrap it, in order to replace it by the short-sighted philosophy of the business man raised to the dignity of a science. Are we not even

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In fact Keynesian remedies which consist of increasing effective demand and credit expansion do not begin to relieve unemployment. Instead they inevitably worsen it, as they result in a poor allocation of jobs and factors of production throughout a series of productive stages which consumers do not wish to maintain in the long run.<sup>79</sup>

told that, "since in the long run we are all dead," policy should be guided entirely by short-run considerations? I fear that these believers in the principle of *après nous le déluge* may get what they have bargained for sooner than they wish. (p. 410)

<sup>79</sup>Hayek's main objection to macroeconomics (both Keynesian and monetarist versions) is that macroeconomists work with macroaggregates and thus do not take into account the harmful microeconomic effects of credit expansion, which as we have seen, leads to the malinvestment of resources and ultimately, to crisis and unemployment. Moreover, as Keynesians assume excess availability of all factors exists (due to idle capacity and unemployment of resources), *they tend to ignore the price system, the functioning of which they consider unnecessary. The price system is therefore rendered a vague, incomprehensible redundancy.* To the extent that all is determined by macroaggregate functions, the traditional microeconomic theory of relative-price determination and the theory of capital, interest and distribution, which are the backbone of economic theory, become unintelligible. Unfortunately, as Hayek points out, an entire generation of economists have learned nothing other than Keynesian [and monetarist] macroeconomics ("I fear the theory will still give us a lot of trouble: it has left us with a lost generation of economists who have learnt nothing else," F.A. Hayek, "The Campaign against Keynesian Inflation," in *New Studies*, p. 221). Hayek believes Keynes was aware he had developed a weak theoretical framework. Hayek indicates that the last time he saw Keynes prior to his death, he asked him if he was becoming alarmed at the poor use most of his disciples were making of his theories:

His reply was that these theories had been greatly needed in the 1930s; but if these theories should ever become harmful, I could be assured that he would quickly bring about a change in public opinion. (Hayek, "Personal Recollections of Keynes and the Keynesian Revolution," p. 287)

Hayek states that Keynes died two weeks later without ever having the chance to alter the course of events. Hayek criticizes him for giving the name "*general theory*" to an erroneous conceptual framework which, as its own author eventually recognized, had been conceived *ad hoc* based



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## CRITICISM OF THE "ACCELERATOR" PRINCIPLE

Our theory on the impact of credit expansion on the structure of production rests on a capital theory we examined in detail in chapter 5. According to this theory, a healthy, permanent "lengthening" of the productive structure is contingent on a prior increase in saving. Therefore we must criticize the so-called "accelerator principle," developed by the Keynesian School. Those who accept this principle assert that any increase in consumption leads to a *more-than-proportional* increase in investment, which is contrary to what our theory suggests.

In fact, according to the accelerator principle, a rise in the demand for consumer goods and services provokes an exaggerated upsurge in the demand for capital goods. The argument centers around the notion that a fixed relationship exists between the output of consumer goods and the number of machines necessary to produce them. Thus any rise in the demand for consumer goods and services causes a proportional increase in the number of machines necessary to produce them. When we compare this new number with that normally demanded to compensate for the customary depreciation of the machines, we see an upturn in the demand for capital goods which is far more than proportional to the rise in the demand for consumer goods and services.<sup>80</sup>

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on the specific circumstances of the 1930s. Today so-called "new Keynesian macroeconomists" (Stiglitz, Shapiro, Summers, Romer, etc.) focus on the analysis of the real and monetary rigidities they observe in the market. However they still do not understand that such rigidities and their chief effects appear and worsen precisely as a result of credit expansion and government intervention, nor do they recognize that certain spontaneous, microeconomic forces exist in the market which, in the absence of government intervention, tend to reverse, coordinate, and resolve maladjustments by a process of crisis, recession, and recovery. On the new Keynesians, see also upcoming footnote 94.

<sup>80</sup>Samuelson provides the following example to illustrate the accelerator principle:

Imagine a typical textile firm whose stock of capital equipment is always kept equal to about 2 times the value of its

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We know that according to the accelerator principle, an increase in the demand for consumer goods and services brings about tremendously magnified growth in the demand for capital goods. However the principle also implies that if the demand for capital goods is to remain constant, the demand for consumer goods and services will have to continue to rise at a progressively increasing rate. This is due to the fact that a steady demand for consumer goods and services, i.e., a demand which does not increase, will provoke a marked contraction in the demand for equipment goods. The demand for these goods will return to the level necessary for replacements only. The accelerator principle clearly and perfectly fits the Keynesian prescriptions of an unlimited expansion of consumption and aggregate demand: indeed, the accelerator doctrine indicates that any rise in consumption causes a huge upsurge in investment, and that saving is of no importance! Thus the accelerator principle acts as a false substitute for the capital theory the Keynesian model lacks; it eases the theoretical conscience of Keynesians, and it reinforces their belief that voluntary saving is counterproductive and unnecessary for economic development (the “paradox of

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yearly sales of cloth. Thus, when its sales have remained at \$30 million per year for some time, its balance sheet will show \$60 million of capital equipment, consisting of perhaps 20 machines of different ages, with 1 wearing out each year and being replaced. Because replacement just balances depreciation, there is no *net* investment or saving being done by the corporation. *Gross* investment takes place at the rate of \$3 million per year, representing the yearly replacement of 1 machine. . . . Now let us suppose that, in the fourth year, sales rise 50 percent—from \$30 to \$45 million. Then the number of machines must also rise 50 per cent, or from 20 to 30 machines. In that fourth year, instead of 1 machine, 11 machines must be bought—10 new ones in addition to the replacement of the worn-out one. Sales rose 50 per cent. How much has machine production gone up? From 1 machine to 11; or by 1,000 percent! (Samuelson, *Economics*, 11th ed. [New York: McGraw-Hill, 1980], pp. 246–47)

Interestingly, the analysis of the accelerator principle was eliminated from the 15th edition of the book, published in 1992).

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thrift"). Therefore it is particularly important that we thoroughly expose the errors and fallacies which form the basis of the principle.<sup>81</sup>

The theory based on the accelerator not only omits the most elementary principles of capital theory; it was also developed based on a *mechanistic*, automatic and fallacious conception of economics. Let us analyze each of the reasons behind this assertion.

*First*, the accelerator theory excludes the real functioning of the entrepreneurial market process and suggests that entrepreneurial activities are nothing more than a blind, automatic response to momentary impulses in the demand for consumer goods and services. However entrepreneurs are not robots, and their actions are not mechanical. On the contrary, entrepreneurs predict the course of events, and with the purpose of obtaining a profit, they act in light of what they believe may happen. *Hence no transmitter mechanism automatically and instantaneously determines that growth in the demand for consumer goods and services will trigger an immediate, proportional increase in the demand for capital goods.* Quite the opposite is true. In view of potential variations in the demand for consumer goods and services, entrepreneurs usually maintain a certain amount of idle capacity in the form of capital equipment. This idle capacity allows them to satisfy sudden increases in demand when they occur. The accelerator principle proves to be much less sound when, as in real life, companies keep some capital goods in reserve.

Therefore it is obvious that the accelerator principle would only be sound if capital goods were in full use, such that it would be impossible to raise the output of consumer goods at all without increasing the number of machines. Nevertheless, and *second*, the great fallacy of the accelerator principle is that it depends on the existence of fixed, unchanging proportions between capital goods, labor and the output of consumer

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<sup>81</sup>Antecedents of the "accelerator principle" appear in the works of Karl Marx, Albert Aftalion, J.M. Clark, A.C. Pigou, and R.F. Harrod. See P.N. Junankar, "Acceleration Principle," in *The New Palgrave: A Dictionary of Economics*, Eatwell, Milgate and Newman, eds., vol. 1, pp. 10–11.

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goods and services. The accelerator principle *fails to take into account that the same result in terms of consumer goods and services can be achieved using many different combinations of fixed capital, variable capital and especially, labor.* The specific combination an entrepreneur may choose in any given case depends on the structure of relative prices. Hence, to assume fixed proportions exist between the output of consumer goods and services and the quantity of capital goods necessary to produce them is an error, and it contradicts the basic principles of the theory of prices in the factor market. Indeed, as we saw when we analyzed the “Ricardo Effect,” a drop in the relative price of labor will lead companies to produce consumer goods and services in a more labor-intensive manner, i.e., using fewer capital goods in relative terms. The reverse is also true: a rise in the relative cost of labor will trigger a relative increase in the use of capital goods. Because the accelerator principle rests on the assumption that fixed proportions exist between the factors of production, it totally excludes the role entrepreneurship, the price system and technological change play in market processes.

Furthermore, and *third*, even if, for the sake of argument, we suppose fixed ratios exist between consumption and capital equipment used, and we even assume there to be no idle capacity with respect to capital goods, we must ask ourselves the following question: *How can the output of capital goods possibly rise in the absence of the saving necessary to finance such an investment?* It is an insoluble logical contradiction to consider that an increase in the demand for consumer goods and services will automatically and instantaneously provoke a much-more-than-proportional rise in the output of capital goods, given that in the absence of excess capacity the production of these goods is contingent on growth in voluntary saving. Moreover such growth inevitably entails a momentary drop in the demand for consumer goods (which clearly contradicts the premise on which the accelerator theory is based). Therefore the accelerator theory contradicts the most fundamental principles of capital theory.

*Fourth*, it is important to realize that an investment in capital goods which is far more than proportional to the increase

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in the demand for consumer goods can only be financed if substantial credit expansion is initiated and sustained. In other words, the accelerator principle ultimately presupposes that the increase in credit expansion necessary to stimulate an enormously exaggerated investment in capital goods takes place. We are already familiar with the effects such credit expansion exerts on the productive structure and with the way in which the relative-price system invariably limits the expansion and forces a reversal that manifests itself in a crisis and recession.<sup>82</sup>

*Fifth*, it is absurd to expect a rise in the demand for consumer goods and services to cause an instantaneous upsurge in the output of capital goods. We know that during the boom, which is financed by credit expansion, companies and industrial sectors devoted to the production of equipment and capital goods *operate at maximum capacity*. Orders pile up and companies are unable to satisfy the increased demand, except with very lengthy time lags and dramatic increases in the price of equipment goods. Therefore it is impossible to imagine that a rise in the output of capital goods could take place as soon as the accelerator principle presupposes.

*Sixth*, the accelerator theory rests on peculiar mechanistic reasoning by which an attempt is made to relate growth in the demand for consumer goods and services, measured in *monetary terms*, with a rise, in *physical terms*, in the demand for equipment and capital goods. Entrepreneurs never base their decisions on a comparison between monetary and physical magnitudes; instead they always compare estimated income and costs, measured strictly in monetary terms. To compare

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<sup>82</sup> [I]f, for the sake of argument, we were ready to admit that capitalists and entrepreneurs behave in the way that the disproportionality doctrines describe, it remains inexplicable how they could go on in the absence of credit expansion. The striving after such additional investments raises the prices of the complementary factors of production and the rate of interest on the loan market. These effects would curb the expansionist tendencies very soon if there were no credit expansion. (Mises, *Human Action*, p. 586)

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heterogeneous magnitudes is absurd and makes entrepreneurial economic calculation utterly impossible. Obviously, if the price of capital goods begins to increase, entrepreneurial decisions will not mechanically manifest themselves in “fixed proportions” of inputs. Instead entrepreneurs will carefully monitor the evolution of costs to determine the extent to which production will continue at the old proportions, or they will start using a higher proportion of alternative factors, specifically labor.<sup>83</sup>

*Seventh*, William Hutt has shown that the entire accelerator theory rests on the choice of a purely arbitrary time period of analysis.<sup>84</sup> Indeed, why calculate the supposed relative increase in the demand for capital goods based on a one-year period? The shorter the time period chosen, the more “amplified” the supposed automatic rise in the demand for machines, an upsurge which results from any fixed ratio between the output of consumer goods and services and capital goods. However if we consider a longer time period, such as the estimated life of the machine, the marked oscillations which appear to arise from the accelerator principle disappear altogether. In addition, this long-term perspective is always the one considered by entrepreneurs. In order to be able to momentarily raise output if necessary in the future, they usually increase their demand for capital goods more than would be strictly necessary to produce a certain volume of consumer goods. Thus when we take into account society as a whole and entrepreneurial expectations, increases in the demand for equipment and machines in the stages closest to consumption are much more modest than the doctrine of the accelerator principle indicates. In short the accelerator principle rests on fallacious, mechanistic reasoning which excludes the most elementary principles of the market process, specifically the nature of entrepreneurship. The doctrine ignores the functioning and

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<sup>83</sup>See, for instance, Jeffrey M. Herbener’s interesting article, “The Myths of the Multiplier and the Accelerator,” chapter 4 of *Dissent on Keynes*, pp. 63–88, esp. pp. 84–85.

<sup>84</sup>William H. Hutt, *The Keynesian Episode: A Reassessment* (Indianapolis, Ind.: Liberty Press, 1979), pp. 404–08.

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effects of the price system, the possibility of substituting certain inputs for others, the most essential aspects of capital theory and of the analysis of the productive structure, and finally, the microeconomic principles which govern the relationship between saving and the lengthening of the productive structure.<sup>85</sup>

## 4

THE MARXIST TRADITION AND THE AUSTRIAN  
THEORY OF ECONOMIC CYCLES. THE NEO-RICARDIAN  
REVOLUTION AND THE RESWITCHING CONTROVERSY

In his critical analysis of capitalism, Karl Marx accepts the Classical School's objectivist conception of two essential factors of production (capital and labor) and a production process comprised of only two stages (consumption and production). Nevertheless in Friedrich Engels's preface to the third volume of Karl Marx's *Capital*, Engels makes explicit reference to the different stages in the production process. He portrays them in a manner similar to that of the Austrian School, though he uses the argument with the purpose of better illustrating the supposed injustice of the capitalist economic system. Engels states:

The capitalist sellers, such as the producer of raw materials, the manufacturer, the wholesale dealer, the retail dealer, all make a profit on their transactions, each selling his product at a higher price than the purchase price, each adding a certain percentage to the price paid by him. The laborer alone is unable to raise the price of his commodity, he is compelled, by his oppressed condition, to sell his labor to the capitalist at a price corresponding to its cost of production, that is to say, for the means of his subsistence.<sup>86</sup>

<sup>85</sup>Rothbard, *Man, Economy, and State*, pp. 759–64.

<sup>86</sup>Friedrich Engels, Preface to the English edition of Karl Marx's *Capital: A Critique of Political Economy*, vol. 3: *The Process of Capitalist Production as a Whole*, Frederick Engels, ed., Ernest Untermann, trans. (Chicago: Charles H. Kerr and Company, 1909), pp. 19–20.

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The Marxist theorist Mijail Ivanovich Tugan-Baranovsky later expanded on and reworked Engels's comments with the aim of developing a theory of economic cycles based on the phenomenon of "overproduction" in the stages of investment. As we have already indicated, this theory is very closely related to the Austrian theory of economic cycles presented here. Indeed though Tugan-Baranovsky is unable to identify the monetary origin (credit expansion) of overinvestment and disequilibrium between the different stages in the production process, his interpretation is basically correct with respect to capital theory, and Hayek himself has recognized it as an antecedent to the Austrian theory of economic cycles.<sup>87</sup>

Therefore it is not surprising that an author such as Howard J. Sherman, of clear Marxist leanings, has maintained that Hayek's theory on the different stages in the production process fits in perfectly with the Marxist theoretical framework. This framework has traditionally highlighted a tendency toward a significant disproportion between the different industrial stages in the capitalist system. As one might expect, the purpose has not been to demonstrate the harmful effects credit expansion and government and central banks' monetary policy exert on the productive structure, but merely to illustrate the supposed inherent instability in the capitalist system.<sup>88</sup> According to the Austrian School, Marxists' error lies not in their diagnosis of the symptoms of the disease (basically accurate), but in their analysis of its causes, which Austrians see in the credit expansion which derives from the violation of legal principles in the monetary bank-deposit contract (fractional-reserve cash ratio).

In addition, the neo-Ricardian and neoclassical controversy regarding the possibility of technique reswitching also has favorable implications for the Austrian theory of economic cycles. Indeed the reswitching debate has emphasized

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<sup>87</sup>Hayek's explicit reference to Tugan-Baranovsky appears in *Prices and Production*, p. 103, and also in *The Pure Theory of Capital*, p. 426. See also chapter 6, footnote 71.

<sup>88</sup>See Howard J. Sherman's book, *Introduction to the Economics of Growth, Unemployment and Inflation* (New York: Appleton, 1964), esp. p. 95.



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the heterogeneous, complementary nature of different capital goods (in the purest Austrian tradition), versus the neoclassical conception of capital as a homogeneous fund. Furthermore Austrians, and Hayek in particular, showed from the beginning that the lengthening of the productive structure could often provoke seemingly paradoxical instances of reswitching which nevertheless, when interpreted prospectively, are simply another manifestation of the normal lengthening process.<sup>89</sup>

The jump between two alternate production techniques, an occurrence which may accompany continuous variations in the interest rate, and which has quite dismayed neoclassical theorists, presents no difficulties whatsoever for the Austrian theory of capital. In fact an increase in saving, and thus a decrease in the interest rate, always manifests itself in a change in the temporal perspective of consumers, who begin to view their actions in terms of a more distant future. Hence the productive structure is lengthened *regardless* of whether changes or even reswitching occur with respect to the different specific production techniques. In other words, within the Austrian School model, if, at a drop in the interest rate, a former technique is revived in connection with a new investment

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<sup>89</sup> It is evident and has usually been taken for granted that methods of production which were made profitable by a fall of the rate of interest from 7 to 5 per cent may be made unprofitable by a further fall from 5 per cent to 3 per cent, because the former method will no longer be able to compete with what has now become the cheaper method. . . . It is only via price changes that we can explain why a method of production which was profitable when the rate of interest was 5 per cent should become unprofitable when it falls to 3 per cent. Similarly, it is only in terms of price changes that we can adequately explain why a change in the rate of interest will make methods of production profitable which were previously unprofitable. (Hayek, *The Pure Theory of Capital*, pp. 388–89 [also pp. 76–77, 140ff, 191ff, and 200])

Augusto Graziani, for his part, asserts that Hayek “had shown the possibility of reswitching.” See Graziani’s book review of “*Hayek on Hayek: An Autobiographical Dialogue*,” in *The European Journal of the History of Economic Thought* 2, no. 1 (Spring, 1995): 232.

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project, this occurrence is merely a concrete sign, in the context of a particular production process, that this process has become longer as a result of the rise in saving and the fall in the interest rate.<sup>90</sup>

Therefore we must not be deceived by the “comparative static equilibrium analysis” carried out by neoclassical theorists who, like Mark Blaug, consider that the reswitching controversy somehow refutes the Austrian theory of capital.<sup>91</sup> On the contrary, we know that the real world Austrian theorists study is one of continual change and that growth in voluntary saving always causes, in prospective terms, a “lengthening” of the productive structure, irrespective of whether techniques which were only profitable at higher interest rates are readopted in certain new investment processes.<sup>92</sup> From the point of view of an individual actor or entrepreneur, once the

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<sup>90</sup>O’Driscoll and Rizzo, *The Economics of Time and Ignorance*, p. 183.

<sup>91</sup>Mark Blaug mistakenly calls the reswitching theorem “the final nail in the coffin of the Austrian theory of capital.” Blaug, *Economic Theory in Retrospect*, p. 552. Blaug fails to comprehend that once the objectivist remains Böhm-Bawerk brought to the Austrian theory of capital (the concept of a measurable average production period) are eliminated and the production process is viewed in strictly prospective terms, the Austrian theory of capital becomes immune to the attack of the reswitching theorists and is even strengthened by it. On this topic see Ludwig M. Lachmann, “On Austrian Capital Theory,” published in *The Foundations of Modern Austrian Economics*, Edwin E. Nolan, ed. (Kansas City: Sheed and Ward, 1976), p. 150; see also Israel M. Kirzner, “Subjectivism, Reswitching Paradoxes and All That,” in *Essays on Capital and Interest*, pp. 7–10. Kirzner concludes that

we should understand that comparing the complex, multidimensional waiting requirements for different techniques *simply does not permit us to pronounce* that one technique involves unambiguously less waiting than a second technique. (p. 10)

<sup>92</sup>The chief inadequacy of the neo-Ricardian theory of reswitching is not only that it rests on a comparative static equilibrium analysis which does not entail a prospective approach to dynamic market processes, but also that it fails to identify the ultimate causes of the interest-rate variations which provoke the supposed reswitching in the most profitable techniques. An increase in saving (and thus a decrease in the interest rate, other things being equal) may result in the replacement of

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prospective decision has been made to lengthen production plans (due to a rise in saving), all initial factors (land, labor, and *existing capital goods*) are subjectively deemed to be “original means of production” which merely determine the starting point of the production process. *It is therefore irrelevant whether or not the new investment process incorporates techniques which, considered individually, may have been profitable at higher rates of interest.*<sup>93</sup>

a certain technique (the Roman plow, for instance) by a more capital-intensive one (the tractor). Even so, a subsequent drop in the interest rate may permit the reintroduction of the Roman plow in *new* production processes formerly prevented by a lack of saving (in other words, the established processes are not affected and still involve the use of tractors). Indeed a new lengthening of production processes may give rise to *new* stages in agriculture or gardening that incorporate techniques which, even assuming that production processes are effectively lengthened, may appear less capital-intensive when considered separately in a comparative static equilibrium analysis.

<sup>93</sup>We must not forget that although neo-Ricardians may have been circumstantial allies to the Austrians in their criticism of the neoclassical trend, the neo-Ricardians’ stated objective is precisely to neutralize the influence (which is not yet strong enough, in our opinion) exerted on economics since 1871 by the subjectivist revolution Menger started. The Ricardian counterrevolution erupted with Piero Sraffa’s review of Hayek’s book, *Prices and Production* (see “Doctor Hayek on Money and Capital,” *Economic Journal* 42 [1932]: 42–53), as Ludwig M. Lachmann points out in his article, “Austrian Economics under Fire: The Hayek-Sraffa Duel in Retrospect,” printed in *Austrian Economics: History and Philosophical Background*, W. Grassel and B. Smith, eds. (London and Sydney: Croom Helm, 1986), pp. 225–42. We should also mention Joan Robinson’s work published in 1953 and devoted to criticizing the neoclassical production function (see Joan Robinson, *Collected Economic Papers* [London: Blackwell, 1960], vol. 2, pp. 114–31). Of particular relevance is chapter 12 of Piero Sraffa’s book, *Production of Commodities by Means of Commodities: Prelude to a Critique of Economic Theory* (Cambridge: Cambridge University Press, 1960). The entire chapter deals with the “switch in methods of production.” On the neoclassical side, see the famous article by Paul A. Samuelson, who declared his unconditional surrender to the Cambridge Switching Theorem. The article appeared in *Quarterly Journal of Economics* 80 (1966): 568–83, and was entitled “Paradoxes in Capital Theory: A Summing Up.” On this point another interesting resource is G.C. Harcourt’s book, *Some Cambridge Controversies in the Theory of Capital* (Cambridge: Cambridge University Press, 1972).

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## 5

## CONCLUSION

From the standpoint of our analysis, it is clear that there are far greater similarities than possible differences between monetarists and Keynesians. Indeed Milton Friedman himself has acknowledged: "We all use the Keynesian language and apparatus. None of us any longer accept the initial Keynesian conclusions."<sup>94</sup> Peter F. Drucker, for his part, indicates that Milton Friedman is essentially and epistemologically a Keynesian:

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<sup>94</sup>Milton Friedman, *Dollars and Deficits* (Englewood Cliffs, N.J.: Prentice Hall, 1968), p. 15. The new Keynesians have in turn built on the foundations of neoclassical microeconomics to justify the existence of wage rigidities in the market. Specifically they have formulated the efficiency-wage hypothesis, according to which wages tend to determine a worker's productivity and not vice versa. See, for example, Robert Gordon, "What is New-Keynesian Economics?" *Journal of Economic Literature* 28 (September 1990); and Lawrence Summers, *Understanding Unemployment* (Cambridge, Mass.: The MIT Press, 1990). Our criticism of the new Keynesians (for whom a more fitting name would be the "new monetarists," according to Garrison in *Time and Money*, p. 232) centers on the fact that their models, like those of monetarists, are largely based on the concepts of equilibrium and maximization, and their hypotheses are almost as unreal (experience teaches us that very often, if not always, the wages of those talents in greatest demand are the ones which tend to rise) as those of the new classical economists who hold the theory of rational expectations. Peter Boettke, in reference to both schools, concludes:

Like rational-expectations theorists who developed elaborate "proofs" of how the (Neo-) Keynesian picture *could not* be true, the New Keynesians start with the assumption that it must be true, and then try to explain how this "reality" might have come to be. In the end, then, the New Keynesians are as ideological as the Chicago School. In the hands of both, economics is reduced to a game in which preconceived notions about the goodness or badness of markets are decked out in spectacular theory. (See Peter Boettke, "Where Did Economics Go Wrong? Modern Economics as a Flight From Reality," *Critical Review* 1 [Winter, 1997]: 42–43)

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His economics is pure macroeconomics, with the national government as the one unit, the one dynamic force, controlling the economy through the money supply. Friedman's economics are completely demand-focused. Money and credit are the pervasive, and indeed the only, economic reality. That Friedman sees money supply as original and interest rates as derivative, is not much more than minor gloss on the Keynesian scriptures.<sup>95</sup>

Furthermore even before the appearance of Keynes's *The General Theory*, the principal monetarist theorists of the

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A good overview of the trends in diffuse modern macroeconomics appears in O.J. Blanchard and S. Fischer, *Lectures on Macroeconomics* (Cambridge, Mass.: The MIT Press, 1990); see also David Romer, *Advanced Macroeconomics* (New York: McGraw-Hill, 1996).

<sup>95</sup>Peter F. Drucker, "Toward the Next Economics," published in *The Crisis in Economic Theory*, Daniel Bell and Irving Kristol, eds. (New York: Basic Books, 1981), p. 9. Therefore, as Mark Skousen points out, it is not surprising that one of the most prominent monetarists of the 1930s, Ralph G. Hawtrey, allied himself with Keynes against Hayek, defending an anti-saving position and adopting viewpoints very similar to those of Keynesians with respect to capital theory and macroeconomics (see, among other sources, Hawtrey's *Capital and Employment*, pp. 270–86, and Skousen's *Capital and its Structure*, p. 263). The entire "consumption function" debate again reveals the obvious Keynesian and macroeconomic influence on monetarists. In fact Milton Friedman, while preserving all of the Keynesian analytical and theoretical tools, attempted with his "permanent-income hypothesis" to introduce an empirical variant which would make it possible to modify the conclusions reached through macroeconomic analysis. Indeed if economic agents plan their consumption in view of long-term permanent income, then according to Keynesian logic, more-than-proportional increases in saving will not accompany rises in income, and therefore the underconsumption issues Keynes analyzed will disappear. Nonetheless the use of this type of "empirical argument" suggests implicit acknowledgement of the validity of Keynesian hypotheses regarding the harmful effects of saving and the capitalist tendency toward underconsumption. Nevertheless we have already exposed the analytical errors of such a viewpoint, and we have based our reasoning on the microeconomic arguments which explain that certain market forces lead to the investment of saved amounts, regardless of the apparent historical form of the supposed consumption function. See Milton Friedman, *A Theory of the Consumption Function* (Princeton, N.J.: Princeton University Press, 1957).

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Chicago School were already prescribing the typical Keynesian remedies for depression and fighting for large budget deficits.<sup>96</sup>

Table VII-1 recapitulates the differences between the Austrian perspective and the major macroeconomic schools. The table contains twelve comparisons that reveal the radical differences between the two approaches.<sup>97</sup>

<sup>96</sup> Frank H. Knight, Henry Simons, Jacob Viner and their Chicago colleagues argued throughout the early 1930's for the use of large and continuous deficit budgets to combat the mass unemployment and deflation of the times. (J. Ronnie Davies, "Chicago Economists, Deficit Budgets and the Early 1930's," *American Economic Review* 58 [June 1968]: 476)

Even Milton Friedman confesses:

So far as policy was concerned, Keynes had nothing to offer those of us that had sat at the feet of Simons, Mints, Knight and Viner. (Milton Friedman, "Comment on the Critics," included in Robert J. Gordon, ed., *Milton Friedman's Monetary Framework* [Chicago: Chicago University Press, 1974], p. 163)

Skousen, commenting on both perspectives, states:

No doubt one of the reasons why the Chicago school gained greater acceptance was that there were some things they had in common with the Keynesians: they both used aggregate concepts; they both relied on empirical studies to support their models; and they both favoured some form of government involvement in the macroeconomic sphere. Granted, the Chicagoites favored monetary policy, while the Keynesians emphasized fiscal policy, *but both involved forms of state interventionism*. (Mark Skousen, "The Free Market Response to Keynesian Economics," included in *Dissent on Keynes*, p. 26; italics added)

On this topic see also Roger W. Garrison's article, "Is Milton Friedman a Keynesian?" published as chapter 8 of *Dissent on Keynes*, pp. 131–47. Also, Robert Skidelsky confirmed that the Keynesian "remedies" for recession were nothing new to the theorists of the Chicago School in the 1930s. See Robert Skidelsky, *John Maynard Keynes: The Economist as Savour, 1920–1937* (London: Macmillan, 1992), p. 579. Finally, see the more recent, well-documented article by George S. Tavlas, "Chicago, Harvard and the Doctrinal Foundations of Monetary Economics," *Journal of Political Economy* 105, no. 1 (February 1997): 153–77.

<sup>97</sup>This table appeared in our preface to the Spanish edition of F.A. Hayek's *Contra Keynes and Cambridge* [*Contra Keynes y Cambridge*, p. xii].

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Table VII-1 groups monetarists and Keynesians together because their similarities far outweigh their differences. Nevertheless we must acknowledge that certain important differences do separate these schools. Indeed, though both lack a capital theory<sup>98</sup> and apply the same “macro” methodology to the economy,<sup>99</sup> monetarists concentrate on the long term and

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It is a personal adaptation of the tables included in Hayek’s *The Pure Theory of Capital*, pp. 47–49, and Skousen’s *The Structure of Production*, p. 370. Huerta de Soto, “The Ongoing Methodenstreit of the Austrian School,” p. 96, also includes a table which contrasts the Austrian and neoclassical viewpoints, and the information contained there is essentially reproduced here as well.

<sup>98</sup> Except for the Austrian school and some sectors of the Swedish and early neoclassical school, the contending macroeconomic theories are united by a common omission. They neglect to deal with capital or, more pointedly, the economy’s intertemporal capital structure in any straightforward and satisfactory way. Yet capital theory offers the richest and most promising forum for the treatment of the critical time element in macroeconomics. (Roger W. Garrison, “The Limits of Macroeconomics,” in *The Cato Journal: An Interdisciplinary Journal of Public Policy Analysis* 12, no. 1 [1993]: 166)

<sup>99</sup>Luis Ángel Rojo states:

On the whole, the current macroeconomic outlook is characterized by a high degree of confusion. Keynesian economics is in the grip of a deep crisis, as it has failed to adequately explain, much less control, the course of events. At the same time, new ideas have not yet taken root and are still an easy target in light of the empirical evidence.

Though we believe Rojo’s diagnosis is correct, and he refers to the theoretical failings of both Keynesians and monetarists, it is unfortunate that he neglects to mention the need to base macroeconomics on an adequate capital theory which permits the correct integration of the “micro” and “macro” aspects of economics. See Luis Ángel Rojo, *Keynes: su tiempo y el nuestro* (Madrid: Alianza Editorial, 1984), pp. 365ff. In the same book Rojo makes a brief and largely insufficient reference to the Austrian theory of the economic cycle (see pp. 324–25). Ramón Febrero provides a useful summary of the current state of macroeconomics and attempts to bring some order to its chaotic and diffuse condition in his article, “El mundo de la macroeconomía: perspectiva general y concepciones originarias,” in *Qué es la economía*, Ramón Febrero, ed. (Madrid: Ediciones Pirámide, 1997), chap. 13, pp. 383–424. Unfortunately Febrero does not

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see a direct, immediate and effective connection between money and real events. In contrast Keynesians base their analysis on the short term and are very skeptical about a possible connection between money and real events, a link capable of somehow guaranteeing equilibrium will be reached and sustained. In comparison, the Austrian analysis presented here and the elaborate capital theory on which it rests suggest a healthy *middle ground* between monetarist and Keynesian extremes. In fact for Austrians, monetary assaults (credit expansion) account for the system's endogenous tendency to move away from "equilibrium" toward an unsustainable path. In other words they explain why the capital supply structure tends to be incompatible with economic agents' demand for consumer goods and services (and thus Say's law temporarily fails to hold true). Nonetheless certain inexorable, microeconomic forces, driven by entrepreneurship, the desire for profit, and variations in relative prices, tend to reverse the unbalancing effects of expansionary processes and return coordination to the economy. Therefore Austrians see a certain connection—a *loose joint*, to use Hayek's terminology<sup>100</sup>—between monetary phenomena and real phenomena, a link which is neither absolute, as monetarists claim, nor totally non-existent, as Keynesians assert.<sup>101</sup>

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do justice to the alternative Austrian approach, which he hardly mentions at all.

<sup>100</sup>Hayek, *The Pure Theory of Capital*, p. 408.

<sup>101</sup> The conception of money as a loose joint suggests that there are two extreme theoretical constructs to be avoided. To introduce money as a "tight joint" would be to deny the special problem of intertemporal coordination. . . . At the other extreme, to introduce money as a "broken joint" would be to deny even the possibility of a market solution to the problem of intertemporal coordination. . . . Monetarism and Keynesianism, have tended to adopt one of the two polar positions with the result that, as a first approximation, macroeconomic problems are seen to be either trivial or insoluble. Between these extreme conceptions is Hayek's notion of loose-jointed money, which serves to recognize the problem while leaving the possibility of a market solution to it an open question.



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In short, Austrians believe money is never neutral (not in the short, medium, nor long run), and institutions that deal with it (banks in particular) must be founded on universal legal principles which prevent a “falsification” of relative prices due to strictly monetary factors. Such falsifications lead to the widespread malinvestment of resources, and inevitably, to crisis and recession. Thus Austrian theorists consider the following to be the three essential principles of macroeconomic policy, in order of importance:

1. The quantity of money must remain as constant as possible (i.e., as in a pure gold standard), and credit expansion must be particularly avoided. These objectives require a return to the traditional legal principles which govern the monetary bank-deposit contract and the establishment of a 100-percent reserve requirement in banking.
2. Every attempt should be made to insure that the relative prices of different goods, services, resources, and factors of production remain flexible. In general the greater the credit and monetary expansion, the more rigid relative prices will tend to be, the more people will fail to recognize the true cost of a lack of flexibility, and the more corrupt the habits of economic agents will become. Agents will eventually come to accept the misconceived idea that the vital adjustments can and should always take the form of an increase in the quantity of money in circulation. In

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(Roger W. Garrison, “Time and Money: The Universals of Macroeconomic Theorizing,” *Journal of Macroeconomics* 6, no. 2 [Spring, 1984]: 203)

According to Garrison, the Austrians adopt a healthy middle ground in the area of expectations as well:

Assuming either superrational expectations or subrational expectations detract from the equally crucial role played by the market process itself, which alone can continuously inform expectations, and subtracts from the plausibility of the theory in which these unlikely expectational schemes are employed. (Garrison, “What About Expectations?”, p. 22.)

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TABLE VII-1  
Two Contrasting Approaches to Economics

*The Austrian School*

*Macroeconomists*

(*Monetarists and Keynesians*)

1. <i>Time</i> plays an essential role	1. The influence of time is ignored
2. "Capital" is viewed as a <i>heterogeneous</i> set of capital goods which receive constant wear and must be <i>replaced</i>	2. Capital is viewed as a <i>homogeneous</i> fund which <i>reproduces</i> on its own
3. The production process is <i>dynamic</i> and is <i>divided into multiple, vertical</i> stages	3. There is a notion of a <i>one-dimensional, horizontal</i> productive structure in <i>equilibrium</i> (circular flow of income)
4. Money affects the process by modifying the structure of <i>relative</i> prices	4. Money affects the <i>general</i> level of prices. Changes in relative prices are not considered
5. Macroeconomic phenomena are explained in <i>microeconomic</i> terms (variations in relative prices)	5. <i>Macroeconomic aggregates</i> prevent the analysis of underlying microeconomic factors (malinvestment)
6. Austrians hold a theory on the <i>endogenous</i> causes of economic crises which explains their <i>recurrent</i> nature (corrupt institutions: fractional-reserve banking and artificial credit expansion)	6. An endogenous theory of cycles is lacking. Crises have <i>exogenous</i> causes (psychological, technological and/or errors in monetary policy)
7. Austrians hold an elaborate <i>capital theory</i> (structure of production)	7. A theory of capital is lacking
8. <i>Saving</i> plays a decisive role. It causes a <i>longitudinal</i> change in the productive structure and determines the sort of technology to be used	8. Saving is <i>not</i> important. Capital reproduces <i>laterally</i> (more of the same), and the <i>production function</i> is fixed and is determined by the state of technology
9. There is an <i>inverse</i> relationship between the demand for capital goods and the demand for consumer goods. All investment requires saving and thus a temporary relative drop in consumption	9. The demand for capital goods is <i>directly</i> related to the demand for consumer goods
10. It is assumed that production costs are <i>subjective</i> and not predetermined	10. Production costs are <i>objective</i> , real and predetermined
11. Market prices tend to determine production costs, not vice versa	11. Historical costs of production tend to determine market prices
12. The interest rate is a market price determined by subjective valuations of time preference. The interest rate is used to arrive at the present value (toward which the market price of each capital good tends) by discounting its expected future flow of returns	12. The interest rate tends to be determined by the marginal productivity or efficiency of capital, understood as the internal rate of discount at which the expected flow of returns is equal to the historical cost of producing each capital good (which is considered invariable and predetermined). The short-term interest rate is believed to have a predominantly monetary origin

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any case, as we have already argued, the indirect, underlying cause of economic maladjustments lies in credit expansion, which provokes a generalized malinvestment of resources, which in turn creates unemployment. The more rigid the markets, the higher the unemployment.

3. When economic agents enter into long-term contracts negotiated in monetary units, they must be able to adequately predict changes in the purchasing power of money. This last requirement appears the easiest to satisfy, both when the purchasing power of the monetary unit declines continuously, as has occurred since World War II, and when it gradually and predictably rises, as would occur following the adoption of a policy to maintain the quantity of money in circulation constant. In fact the condition is even more likely to be met in the second case.<sup>102</sup>

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<sup>102</sup>See Hayek's article, "On Neutral Money," published as chapter 7 of *Money, Capital and Fluctuations*, pp. 159–62, esp. p. 161. This is the English translation of the original German article, "Über 'Neutrales Geld'" in *Zeitschrift für Nationalökonomie* 4 (1933): 659–61. Donald C. Lavoie has revealed that at any rate, the disruptive effects a simple variation in the general price level may provoke are less damaging and much easier to predict than those exerted on the productive structure by the type of monetary injection bank credit expansion entails:

My own judgment would be that the price-level effects are less damaging and easier to adjust to than the injection effects; thus the optimal policy for monetary stability would be as close to zero money growth as can be practically attained. In my view the gradual deflation that this policy would permit would be preferable to the relative price distortion which would be caused by attempting to inject enough money into the economy to keep the price level constant.

He adds:

Even gold money would undergo gradual increases in its supply over time. Some have estimated that about a two percent increase per year would be likely. To me this appears to be the best we can do. (Don C. Lavoie, "Economic Calculation

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## 6

APPENDIX ON LIFE INSURANCE COMPANIES  
AND OTHER NON-BANK FINANCIAL INTERMEDIARIES

The analysis of the last four chapters has put us in a position to understand the important role true financial intermediaries play in the economy. Logically, we use the term *true* to describe those non-bank financial intermediaries which create *ex nihilo* neither loans nor the corresponding deposits, and which merely act as middlemen in the market in which present goods are exchanged for future goods. In other words, financial intermediaries simply take money from lenders offering present goods and hand it over to borrowers. In return for their service as mere intermediaries they receive a profit, which is generally small. This slender profit margin contrasts with the disproportionate gains the aggregate of banks accumulate when they create money *ex nihilo* in the form of loans, an activity they pursue thanks to the legal privilege which permits them to make self-interested use of most of the money deposited with them on demand.

Although with tiresome insistence banks are claimed to be the most important financial “intermediaries” in the economy, this is a baseless, unrealistic notion. Banks are essentially not financial intermediaries. Their main activity consists of creating loans and deposits from nothing (and is apart from their function as *true* financial intermediaries, a role of secondary importance, both quantitatively and qualitatively speaking).<sup>103</sup> In fact banks and the banking system have not taken

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and Monetary Stability,” printed in *Cato Journal* 3, no. 1 [Spring, 1983]: 163–70, esp. p. 169)

In chapter 9 we suggest a process for reforming the monetary and banking system. Upon its culmination, this process would obviate the need to design and implement any more “macroeconomic policies.”

<sup>103</sup>Luis Ángel Rojo has correctly pointed out that banks’ central activity does not involve their function as financial intermediaries, but their ability to create loans and deposits from nothing. However he still refers to banks as financial “intermediaries” and overlooks the prominent role true financial intermediaries (which he describes as “non-bank”) would

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on a major role in modern economies because they act as financial intermediaries, but because they typically create loans, and thus deposits, *ex nihilo*, thereby increasing the money supply. Hence it is not surprising that banks are capable of distorting the productive structure and the behavior of economic agents, who find the great relative ease of acquiring present goods from a bank enormously tempting. In comparison, it is more difficult to obtain resources drawn from real voluntary savings. Saving always involves greater initial sacrifice and discipline on the part of third-party savers, and it is comparatively much harder to accomplish.

Therefore it is absurd to maintain, as is sometimes heard, that owing to the insufficient development of the capital market and of non-bank financial intermediaries, banks "have had no choice" but to take on a prominent role in the financing of production processes. Indeed the exact opposite is true. Banks' expansionary capacity to grant loans from nothing inevitably robs the capital market and non-bank financial intermediaries of a significant part of their economic prominence, since the banking system, which can expand loans without anyone's having to first sacrifice immediate consumption by voluntarily saving, is always much more likely to grant a loan.

Once the general public begins to correctly identify the evils of bank credit expansion, to understand that the expansion process depends on a legal privilege no other economic agent enjoys, and to see that the process inevitably provokes consecutive cycles of boom and depression, the public will be able to instigate a reform of the banking system. Such a reform will be founded on the reestablishment of a 100-percent reserve requirement for demand deposits, i.e., on the application of traditional legal principles to banking operations. Once this reform has been introduced, the proper status will be restored to the capital market and to true financial intermediaries, i.e., non-bank intermediaries, who by their very nature,

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play in an economy free of special privileges for banks. See Luis Ángel Rojo, *Teoría económica III*, Class Notes and Syllabus, year 1970–1971 (Madrid, 1970), pp. 13ff, and 90–96.

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are those entrepreneurs who specialize in convincing economic agents of the importance and necessity of short-, medium- and long-term saving, as well as in efficiently connecting lenders and borrowers, spreading risk and taking advantage of the corresponding economies of scale.

LIFE INSURANCE COMPANIES  
AS TRUE FINANCIAL INTERMEDIARIES

The social significance of life insurance companies sets them apart from other true financial intermediaries. In fact the contracts offered by these institutions make it possible for broad layers of society to undertake a genuine, disciplined effort to save for the long term. Indeed life insurance provides the perfect way to save, since it is the only method which guarantees, precisely at those moments when households experience the greatest need (in other words, in the case of death, disability, or retirement), the immediate availability of a large sum of money which, by other saving methods, could only be accumulated following a very prolonged period of time. With the payment of the first premium, the policyholder's beneficiaries acquire the right to receive, in the event of this person's death, for instance, a substantial amount of money which would have taken the policyholder many years to save via other methods.

Moreover life insurers develop and operate large commercial networks which specialize in emphasizing to families the fundamental importance of committing to long-term, disciplined saving, not only to prepare for the possible misfortunes associated with death, disability, or illness, but also to guarantee a decent income in case of survival beyond a certain age. Thus we could conclude that life insurance companies are the quintessential "true financial intermediaries," because their activity consists precisely of encouraging long-term saving in

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<sup>104</sup>Austrian economists have always recognized the major role life insurance plays in facilitating voluntary saving among broad sections of society. Thus Richard von Strigl makes explicit reference to the "life

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families and channeling saved funds into very secure long-term investments (mainly blue-chip bonds and real estate).<sup>104</sup> The fact that life insurance companies do not expand credit nor create money is obvious, especially if one compares the contracts they market with banks' demand deposit operations. The accounting entries typical of a life insurance company are as follows:

Once the company has convinced its customers of the importance of initiating a long-term plan of disciplined saving, the customers pay a premium to the company each year for the duration of the life insurance contract. The premiums are considered part of the insurance company's income, as shown below:

(76) Debit	Credit
Cash	Life insurance premiums (On the revenues side of the income statement)

Life insurance companies use the premiums they receive to meet a series of operational costs, primarily claims costs, marketing and administrative expenses, and other expenses involved in the technical coverage of the risk of death, disability and survival. The entry which follows the payment of these technical costs appears below:

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insurance business, which is of such extraordinary importance in capital formation." Strigl indicates that, in order for voluntary saving in general and life insurance in particular to prosper, it must be clear that the purchasing power of the monetary unit will at least remain constant. See Richard von Strigl, *Curso medio de economía*, pp. 201-02. In addition, in his classic article on saving, F.A. Hayek refers to life insurance and the purchase of a home as two of the most important sources of voluntary saving (see F.A. Hayek, "Saving," originally published for the 1933 edition of the *Encyclopedia of the Social Sciences*, and reprinted as chapter 5 of *Profits, Interest and Investment*, esp. pp. 169-70).

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(77) Debit	Credit
Operational costs (Claims, administrative expenses, etc.)	Cash

We should point out that operational costs absorb only a portion of the total amount paid in premiums to life insurance companies, which must reserve a significant part of their premium income to cover not only future risks (since companies charge constant annual premiums for the coverage of risks which increase in probability as policyholders grow older), but also the important saving component usually incorporated in the most popular types of life insurance. This second share of the premium total generates *reserves* in the form of long-term investments recorded as the insurer's assets and counterbalanced on the liability side by a *mathematical reserve* account, which shows the present actuarial value of the future commitments the insurance company makes to its policyholders. The corresponding entries are as follows:

(78) Debit	Credit
Long-term investments	Cash
(79) Portion of premium income which is invested (expenses)	Mathematical reserves (future commitments to policyholders)

The life insurance company's balance sheet would look like this:



*A Critique of Monetarist and Keynesian Theories*(80) Life Insurance Company E  
Balance Sheet  
(End of the year)

Assets	Liabilities
Long-term investments	Mathematical reserves

Obviously no money is created, and mathematical reserves, which represent the book value of future obligations to policyholders, correspond to the fact that the insured have handed over a certain quantity of present goods in exchange for a larger quantity of goods at an undetermined point in the future (when the contingency insured against—death, disability, or survival—takes place). Until the anticipated event occurs, policyholders lose the availability of their money, which becomes available to borrowers who receive it from the insurance companies. These borrowers are the issuers of the corresponding bonds and fixed-income securities the life insurance companies acquire. When life insurance companies invest in real estate, they do so directly, thus taking on the role of important real estate owners devoted to renting their properties to the public.

The income statement of the life insurance company appears as follows

(81) Life Insurance Company E  
Income Statement For the year

Expenses	Revenues
Operational costs	Premiums
Mathematical reserves (allowance)	Financial income
Profit	

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It is clear that insurers' accounting profit arises from the difference between revenues (premiums and financial income) and expenses (technical costs and those resulting from increases in mathematical reserves). Insurance companies usually make a very modest profit which has three possible sources: claim profit (i.e., the company may overestimate the number of claims in its calculation of premiums), profit derived from technical, administrative costs (administrative expenses included in the calculation of premiums may be greater than the company's real costs), and finally, financial profit (financial revenues may exceed the "technical interest rate" used in the calculation of premiums). Furthermore competition in the market has led life insurance companies to pass on a large part of their yearly profits to their policyholders, since life insurance contracts now commonly include profit-sharing clauses, which increase customers' insured capital annually without increasing premiums. Thus from an economic standpoint, regardless of its legal status (whether a corporation or a mutual company), a life insurance company becomes, at least partially, a sort of "mutual company" in which the policyholders themselves share in the company's profits.

The institution of life insurance has gradually and spontaneously taken shape in the market over the last two hundred years. It is based on a series of technical, actuarial, financial and juridical principles of business behavior which have enabled it to perform its mission perfectly and survive economic crises and recessions which other institutions, especially banking, have been unable to overcome. Therefore the high "financial death rate" of banks, which systematically suspend payments and fail without the support of the central bank, has historically contrasted with the health and technical solvency of life insurance companies. (In the last two hundred years, a negligible number of life insurance companies have disappeared due to financial difficulties.)

The following technical principles are traditional in the life insurance sector: assets are valued at historical cost, and premiums are calculated based on very prudent technical interest rates, which never include a component for inflation

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expectations. Thus life insurance companies tend to underestimate their assets, overestimate their liabilities, and reach a high level of static and dynamic solvency which makes them immune to the deepest stages of the recessions that recur with economic cycles. In fact when the value of financial assets and capital goods plunges in the most serious stages of recession in every cycle, life insurance companies are not usually affected, given the reduced book value they record for their investments. With respect to the amount of their liabilities, insurers calculate their mathematical reserves at interest rates much lower than those actually charged in the market. Hence they tend to overestimate the present value of their commitments on the liabilities side. Moreover policyholders take advantage of the profits insurance companies bring in, as long as the profits are distributed *a posteriori*, in accordance with the above-mentioned profit-sharing clauses. Logically the amounts of such profits cannot be guaranteed *a priori* in the corresponding contracts.<sup>105</sup>

## SURRENDER VALUES AND THE MONEY SUPPLY

Life insurance contracts commonly offer an option by which the company, at the request of the policyholder, *redeems* the policy via the payment of a certain sum in cash. This

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<sup>105</sup>We have attempted elsewhere to integrate the Austrian theory of economic cycles with an explanation of insurance techniques and have explained how insurance methods have spontaneously evolved to counter the harmful effects of recessions. At the same time, insurance companies have striven to constantly guarantee the fulfillment of their commitments to their customers (widows, orphans, and retired people). We conclude that this approach, which has been consistently successful, should be adopted with respect to uninsured "pension funds" as well, if we expect them to accomplish their purpose and be as immune as possible to the damaging consequences of the cycle. See our article, "Interés, ciclos económicos y planes de pensiones," published in the *Anales del Congreso Internacional de Fondos de Pensiones*, which took place in Madrid in April 1984, pp. 458–68. Jesús Huerta Peña has studied the essential principles behind the financial stability of life insurance companies in his book, *La estabilidad financiera de las empresas de seguros* (Madrid 1954).

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option, which is generally included in all types of life insurance, with the exception of those which cover solely the risk of death or survival, can be exercised whenever the policyholder desires, following the initial period stipulated in the policy (normally two or three years). This contractual clause could give the impression that a life insurance policy could also serve as a tool for legally implementing a monetary demand-deposit contract. Nevertheless we know that demand-deposit contracts are characterized by their essential cause, which lies in the safekeeping obligation and in the depositor's ability to withdraw the money deposited at any time. Therefore life insurance differs fundamentally from demand deposits. The following factors prevent any confusion between the two:<sup>106</sup>

*First*, life insurers have traditionally sold their products as long-term saving tools. Hence when customers buy life insurance they are undoubtedly motivated by a desire to begin setting aside and saving a portion of their income for the long term, in order to build up capital for use when their families need it most. From the standpoint of the contract's cause, as well as the policyholder's *subjective* ends, present goods are

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<sup>106</sup> [T]he cash surrender values of life insurance policies are not funds that depositors and policy holders can obtain and spend without reducing the cash of others. These funds are in large part invested and thus not held in a monetary form. That part which is in banks or in cash is, of course, included in the quantity of money which is either in or out of banks and should not be counted a second time. Under present laws, such institutions cannot extend credit beyond sums received. If they need to raise more cash than they have on hand to meet customer withdrawals, they must sell some of their investments and reduce the bank accounts or cash holdings of those who buy them. Accordingly, *they are in no position to expand credit or increase the nation's quantity of money as can commercial and central banks, all of which operate on a fractional reserve basis and can lend more money than is entrusted to them.* (Percy L. Greaves, in his Introduction to Mises's book, *On the Manipulation of Money and Credit*, pp. xlvi–xlvii; italics added)

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clearly handed over and the full availability of them lost, in exchange for the guarantee of a substantial income or capital under certain future circumstances (those in which a family's need may be greatest, such as the death of a provider or survival beyond a certain age).

*Second*, most life insurance operations do not permit the possibility of obtaining the surrender value immediately, i.e., from the moment the contract is signed and the money is paid. Instead there is generally a waiting period, which, depending upon the market and legislation, varies in length from two to three years. Only after this initial period does the customer acquire the right to a surrender value.

*Third*, surrender values do not approximate the total amount paid to the insurance company in premiums, since they are reduced by the initial costs of the policy, which are amortized over the entire duration of the policy and which, for technical and business reasons, tend to be rather high and are paid when the policy is purchased. Moreover the surrender value normally includes a penalty fee in favor of the insurer to further encourage customers to carry their policies to maturity. Thus it is obvious that life insurance operations have been designed to discourage the surrender option as much as possible, so that policyholders are only willing to exercise it in situations of urgent family need or when they wish to change insurance companies. Therefore subjectively speaking, we must conclude that for most customers traditional life-insurance operations do not mask deposit contracts.<sup>107</sup>

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<sup>107</sup>Although the arguments expressed in the text are more than sufficient to show that traditional life insurance is not a mask for demand deposits, from a legal and economic standpoint we cannot be absolutely certain unless insurers cease to guarantee a *predetermined* surrender value and limit this amount to the market value acquired at any specific point by the investments corresponding to the mathematical reserves of any particular policy. In this case no one would be able to claim a right to a predetermined surrender value; a customer would only be entitled to the liquidation value of his policy at secondary market prices. Nevertheless the difficulties insurers encounter in assigning specific investments to each policy, difficulties which stem from the long-term nature

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## THE CORRUPTION OF TRADITIONAL LIFE-INSURANCE PRINCIPLES

Despite the above considerations, we must acknowledge that in recent times, under the pretext of a supposedly beneficial “deregulation of financial markets,” the distinct boundaries between the institution of life insurance and the banking sector have often been blurred in many western countries. This blurring of boundaries has permitted the emergence of various supposed “life insurance” operations which, instead of following the traditional principles of the sector, have been designed to mask true demand-deposit contracts which involve an attempt to guarantee the immediate, complete availability to the policyholder of the money deposited as “premiums” and of the corresponding interest.<sup>108</sup> This corruption,

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of life insurance contracts, have led companies to develop, from a legal and actuarial point of view, a series of contractual clauses (waiting periods, penalty fees in the event of surrender, etc.) which, *de facto*, have the same deterrent effect as the receipt of a reduced value at secondary market prices should the customer terminate the policy during an economic recession. A summary of the most typical surrender clauses appears in Jesús Huerta Ballester, *A Brief Comparison Between the Ordinary Life Contracts of Ten Insurance Companies* (Madrid, 1954).

<sup>108</sup>Thus traditional life insurance can also be corrupted, especially when its basic principles are to different degrees abandoned under the pretext of “financial deregulation” or when an attempt is made to combine the institution with a sector as foreign to life insurance as banking. John Maynard Keynes provided a historical example of this corruption of life insurance during the years he was chairman of the National Mutual Life Assurance Society of London. See related comments in chapter 3, footnote 47. While chairman, Keynes embraced an *ad hoc* investment policy centered on variable-yield securities, as opposed to the traditional policy of investing in fixed-yield securities. Furthermore he favored the use of unorthodox accounting principles, e.g., he valued assets at market prices, not at their historical cost, and he even authorized the distribution of profits to policyholders against unrealized gains. All of these typically Keynesian assaults on traditional insurance principles nearly cost him the solvency of his company with the arrival of the Great Depression. The negative influence Keynes exerted on the British life insurance industry can still be felt today, and to a certain extent, it has spread to the American insurance market as well. Those within the sector are now attempting to free themselves from such unhealthy influences and

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which we touched on in chapter 3, has exerted a very negative influence on the insurance sector as a whole and has made it possible for some life insurance companies to market deposits in violation of traditional legal principles and thus to act, in different degrees, as banks, i.e., to loan money actually placed with them on demand deposit. Hence various life insurance companies have begun to take part in the banking process of credit expansion, which damages the productive structure

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return to the traditional principles which from the beginning have guaranteed the smooth operation and solvency of the industry. On these issues, see the following references: Nicholas Davenport, "Keynes in the City," published in *Essays on John Maynard Keynes*, Milo Keynes, ed. (Cambridge: Cambridge University Press, 1975), pp. 224–25; Skidelsky, *John Maynard Keynes: The Economist as Saviour, 1920–1937*, esp. pp. 25–26 and 524; and D.E. Moggridge, *Maynard Keynes: An Economist's Biography* (London: Routledge, 1992), esp. pp. 410 and 411. Keynes had a *direct* corrupting effect as a highly influential leader in the British insurance industry of his time. However he also had a much more damaging *indirect* effect on the insurance sector in general in the sense that his economic theory helped to push up inflation and to discredit and destroy the saving habits of ordinary people, in keeping with his "euthanasia of the rentier" philosophy, which exerted a very harmful influence on the development of the life insurance and pension market worldwide. In this respect, the fact that Keynes was chairman of a life insurance company for many years constitutes one of the most remarkable ironies in the history of life insurance. See Ludwig von Mises, "Pensions, the Purchasing Power of the Dollar and the New Economics," included in *Planning for Freedom and Twelve Other Addresses* (South Holland, Ill.: Libertarian Press, 1974), pp. 86–93. See also the speeches Keynes delivered at the seventeenth general meetings (1922–1938) while chairman of the National Mutual Life Assurance Society. The speeches make fascinating reading and superbly illustrate the highly disruptive effects which, by the irony of fate, followed from giving a speculative "wolf" and enemy of saving, like Keynes, power over some peaceful "sheep" (his life insurance company). See volume 12 of *The Collected Writings of John Maynard Keynes* (London: Macmillan, 1983), pp. 114–254. Hermann Heinrich Gossen was another famous economist involved in the insurance sector. Apart from his role as advisor in a financially-doomed crop-and-live-stock insurance company, Gossen designed a blueprint for a German savings bank devoted to the life insurance business. The project never came to fruition, however. See the article F.A. Hayek wrote on Gossen and which appears in Hayek's *The Trend of Economic Thinking*, vol. 3, p. 356.

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and causes economic cycles and recessions. Furthermore these companies have done serious harm to the insurance industry itself, which has been the object of increasing state and central-bank intervention and has lost many of the fiscal advantages it had always enjoyed in the past, advantages justified in light of the considerable benefit the institution produces in fostering long-term saving among broad sectors of society.<sup>109</sup> At any rate we intend the theoretical analysis performed in this book to give life insurers back their self-confidence and their trust in the positive nature of the traditional institution of which they form a part and to encourage a clear separation between life insurance and the banking “business,” which is foreign to it. As we know, this “business” not only lacks the necessary juridical foundation, but also provokes economic effects highly detrimental to society. In contrast the institution of life insurance rests on an extraordinarily solid legal, technical-actuarial, and financial foundation. When life insurance companies are faithful to the traditional principles of the sector, not only do they not hamper peaceful economic growth; they are actually essential and extremely beneficial in terms of

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<sup>109</sup>To the extent economic agents begin to subjectively view the surrender value of their policies as money available to them at all times, the recent “confusion” between the insurance and banking sectors warrants considering surrender values (which are generally lower than insurers’ mathematical reserves) as part of the money supply. This is the thesis Murray N. Rothbard presents in his article, “Austrian Definitions of the Supply of Money,” in *New Directions in Austrian Economics*, pp. 143–56, esp. pp. 151–52. Nevertheless we disagree with Rothbard’s opinion that surrender values should automatically be included in the money supply, since this ultimately depends on whether actors in general subjectively regard the surrender value of their policies as part of their immediately-available cash balances, something which does not yet occur in most markets. Moreover we should note that confusion between the institutions of insurance and banking has not been complete, and even in those markets in which it was greatest, companies appear to be returning to traditional insurance principles, in particular the radical separation between insurance and banking. Regarding new life insurance operations and their similarities with bank deposits, see the book by Thierry Delvaux and Martin E. Magnee, *Les nouveaux produits d’assurance-vie* (Brussels: Editions de L’Université de Bruxelles, 1991).



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fostering long-term saving and investment and hence, the sustainable economic development of society.

OTHER TRUE FINANCIAL INTERMEDIARIES: MUTUAL FUNDS  
AND HOLDING AND INVESTMENT COMPANIES

Other true financial intermediaries which would become even more developed if the privileges currently enjoyed by banks were eliminated are mutual funds, holding and investment companies, leasing and finance corporations, etc. All of these institutions receive present goods from savers and, in their capacity as intermediaries, transfer these goods to final borrowers. Though none of these institutions has the ability of life insurance to guarantee a substantial income from the first moment should a fortuitous event occur (death, disability, survival), it is obvious that they would all become more prominent, even more than they are now, if banks were obligated to maintain a 100-percent reserve ratio, and thus were to lose their power to grant loans from nothing. In particular, mutual funds would take on a very important role, in the sense that economic agents would invest their excess cash balances through them and would be able to obtain immediate liquidity by selling their shares, though at secondary-market prices, never at their nominal value. The same applies to holding companies and other financial and investment institutions, which have on many occasions gone through a process of corruption and assault very similar to that of life insurance, a process of "innovation" consisting of the design of different formulas for "guaranteeing" the corresponding "investors" the immediate availability of their money, i.e., the possibility of retrieving their "savings" at the nominal value at any time. For instance, as we saw in chapter 3 in connection with different types of financial operations, clauses containing agreements of repurchase at a predetermined price are among the abusive legal devices generally used to mask true "demand deposit" contracts in other institutions completely unrelated to banking.<sup>110</sup> From an economic standpoint, as such procedures

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<sup>110</sup>Economically speaking, it is easy to show that a financial operation which involves an agreement of guaranteed repurchase at any time at

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have spread, the contracts and institutions in question have begun to produce the same harmful effects as fractional-reserve banking. Therefore as we will see in the following chapters, any proposal to reform the banking system must include a plan to quickly identify different abusive legal procedures which could be conceived to mask true fractional-reserve, demand-deposit contracts. Such procedures must be curtailed, as they go against general legal principles and seriously disrupt the harmonious process of economic coordination.

## SPECIFIC COMMENTS ON CREDIT INSURANCE

Finally we should briefly mention credit insurance operations, which have spontaneously emerged in developed economies. In exchange for a premium, these policies guarantee that in the event that the customers of insured business and industrial enterprises cannot pay their debts, which are usually paid within a certain period (thirty, sixty, ninety days, etc.) using a given financial instrument (for example, a bill of exchange), the insurance company will pay a percentage of the total corresponding debt (between 75 and 95 percent), thus taking it over and later collecting the amount from the delinquent customer. Therefore credit insurance addresses a real need which arises in markets. It responds to a set of circumstances which derives from the credit that different industrial and business enterprises habitually extend to their customers. Such credit corresponds, economically speaking, to a traditional operation in which savers, generally capitalists who own a business, advance financial resources for a time to

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its nominal value (not at the unpredictable, oscillating price of the secondary market) constitutes a demand deposit which requires a 100-percent reserve ratio. Indeed the only way for a company to guarantee at all times its ability to honor all its repurchase agreements is to keep available a monetary reserve equal in value to the total that would have to be paid if all agreements were exercised at once (100-percent reserve ratio). As long as companies fail to maintain such a reserve, they will always run the risk of being unable to immediately comply with the exercise of the repurchase option, a possibility which, during stages of recession in the economic cycle, will almost become a certainty without the unconditional support of a central bank to act as lender of last resort.

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workers and owners of the original means of production, as well as to their customers, whom they grant a period of several days or months to pay their debts. Logically, this credit customers receive always requires a prior sacrifice on the part of certain economic agents, who must reduce their consumption and save the corresponding resources to make these easy payment terms possible. Hence customer credit cannot be generated from nothing, but always obliges someone (the owners of the company offering the credit) to save first. In the absence of distortions caused by bank credit expansion, credit insurance fulfills a particularly important economic function. The large databases of credit insurance companies enable them to classify customers according to their default risk. These credit insurance companies also provide legal collection services, taking advantage of significant economies of scale beyond the scope of their individual clients.

The problem emerges when bank credit expansion distorts all credit markets and provokes recurrent cycles of boom and recession. In fact in the boom stage fed by credit expansion, multiple unrealistic investment projects are artificially launched, and many market operations are financed in installments and covered by credit insurance. As a result, companies specializing in credit insurance take on *systematic* risks which, by their very nature, are not technically insurable. Indeed the process of expansion must reverse sooner or later, and widespread bankruptcies, suspensions of payments, and liquidations of unsuccessful investment projects will reveal the errors committed. Consequently, in modern economies subject to the distorting effects of credit expansion, credit insurance is of a cyclical nature, which prevents it from surviving recession stages in the absence of a series of safeguard clauses to protect it from the same fate suffered on a large scale by overoptimistic entrepreneurs who unduly lengthen their investment projects in the expansionary boom stage. Of these clauses the following stand out: those which establish deductibles and waiting periods on the payment of claims, depending upon the amount, and that which requires an adjudication of bankruptcy, which, due to the sheer length of bankruptcy proceedings, tends to involve a long delay, which allows the insurance company,

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meanwhile, to make the necessary collections and maintain the necessary financial stability.<sup>111</sup>

Successive cycles of boom and depression invariably pose a formidable challenge to credit insurance companies, which apart from their traditional services (collections, customer risk classification, etc.), perform an additional one: during economic booms they accumulate important financial reserves, which they later use in crises and recessions to systematically satisfy the much larger claims filed during these periods. In any case we must recognize that the legal precautionary measures adopted to this point have been insufficient to prevent the failure and liquidation of some of the most prominent credit insurers in the western world during each of the recent crises which have erupted in the West. We must also acknowledge that the institution of credit insurance will always be highly vulnerable to stages of recession, particularly while banks continue to operate with a fractional reserve.<sup>112</sup>

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<sup>111</sup>Francisco Cabrillo, *Quiebra y liquidación de empresas* (Madrid: Unión Editorial, 1989).

<sup>112</sup>It is obviously impossible for credit insurance companies to technically insure loans the banking system itself grants during its expansionary phase, since, as we have already shown, the necessary independence between the existence of the insurance and the results of the hypothetically insured event is lacking. Indeed if bank loans were insured, there would be no limit to their expansion, and in the inevitable recession which credit expansion always causes, a systematic increase in the number of defaulters would render the policy technically unviable. Thus, for the same reasons the law of large numbers and a fractional-reserve ratio are inadequate to insure demand deposits, it is technically impossible to insure banks' credit operations through the credit insurance industry.