Review Essay

THE DRAMA REVISITED

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T*HE HAYEK–KEYNES DEBATE: LESSONS FOR CURRENT BUSINESS CYCLE RESEARCH*. BY JOHN P. COCHRAN AND FRED R. GLAHE. LEWISTON, N.Y.: EDWIN MELLEN PRESS, 1999.

THE TIMELINESS AND CONTINUING RELEVANCE OF AUSTRIAN BUSINESS CYCLE THEORY

Careful study of the book under review is a rewarding experience. As Roger Garrison points out in the Foreword (pp. iii–vii), Austrian capital-based business cycle theory has lost nothing of its relevance and timeliness. The theory identifies monetary mismanagement as a major source of economywide distortions in the intertemporal allocation of resources by focusing on the relative-price effects—and the corresponding quantity adjustments—of a monetary disturbance, as compared to tracking the movements in macroeconomic aggregates that conceal those relative-price effects. It thus gives us a superior understanding of the real coupling between the short-run and the long-run macroeconomic pictures and of the nature of business cycles. Despite the book's title, and although the authors treat Keynes's ideas not unsympathetically, the outlook adopted in the book is Hayekian rather than Keynesian and the authors' thesis is basically that "Hayek was right" (p. vi).

Substantive theoretical and methodological insights are intertwined in the book. In their discussion of the use of the equilibrium construct or the method of praxeology, the authors do not hesitate to combine citations from both Mises's and Hayek's writings (see chap. 11, pp. 151–67). Surely this approach will appear disputable to at least some readers. Recently several authors have argued in favor of a dehomogenization of the respective contributions of

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Hayek and Mises to economic theory (Salerno 1993; Block and Garschina 1996). Cochran and Glahe do not situate their work as belonging to this trend. Although they rely primarily on the original writings of the two leading actors in the *drama*, they use the writings of Mises and Rothbard as additional primary source material on the Austrian approach to economics, monetary theory, and the nature of the business cycle (p. xiii).

The book brings together sources that to some Austrians may appear hardly compatible, if not inconsistent. Insiders know that there are some significant differences between the views of, say, Mises, Hayek, and Lachman, even with respect to method and methodology. However, the book integrates these different Austrian sources into a relatively coherent picture. The fact that the authors do not want to enter in any depth into issues presently under debate within the "Austrian" School itself may be explained by the fact that they intend to address their book to the economics profession at large rather than to the inner circle of convinced Austrians. The drawback of this strategy is that the reader will not find in the book answers relating to questions that have been intensely debated recently within Austrian economics itself.

One such controversy relates to the appropriate use and interpretation of the equilibrium construct and, in particular, to the question concerning whether or not the market harbors a tendency toward equilibrium. How should the equilibrium construct be used and interpreted?

As Cochran and Glahe state at the beginning of chapter 11 (pp. 151–67) they intend equilibrium to mean the equilibrium of the economic system in the sense in which it is used in Lachman (1976, p. 151, n. 123). It must be reminded that Lachmann essentially viewed Hayek's 1937 essay as "an attempt to set Mises straight" (Hayek 1937; Selgin 1990, p. 35). Lachmann broadened Hayek's thesis, however. Within Austrian economics he represents the skeptical position that no tendency toward equilibrium exists in markets. The particular problem emphasized by Lachmann is that of "divergent expectations" (1976, p. 129). According to Lachman, expectations are autonomous. "We cannot predict their mode of change as prompted by failure or success" (p. 129). The notion of general equilibrium is to be abandoned, but that of *individual equilibrium* is to be retained at all costs (p. 131).

Nevertheless, that is, despite their Lachmannian starting point, Cochran and Glahe go on to point out that the special use of equilibrium analysis employed in Austrian business cycle theory consists of: (a) setting up the conditions existing in the economy at any particular time; (b) setting up the equilibrium conditions for the same economy; the conditions required for compatibility of all entrepreneurial plans; (c) compare (a) with (b). If the two

are identical no changes can be expected in the economy until the data change. If the two differ, the current conditions cannot continue. Changes can be predicted. The equilibrium conditions can be a useful guide for impending change. The comparison of the fictitious equilibrium state to the existing state allows the economist to proceed from the diagnosis of the existing state of affairs to a prognosis of what is likely to happen in the future (pp. 79 and 161). In the Austrian business cycle theory an equilibrium concept is used not to describe an actual state of a real economy, but to indicate directions of change (p. 157).

Moreover, this interpretation may seem somewhat questionable from a Misesian viewpoint, in particular as regards the use of the equilibrium construct for the purpose of predicting directions of change. On page 157 of the book the authors quote Mises saying that "The static method, the employment of the imaginary construction of an evenly rotating economy, is the only adequate method of analyzing the changes concerned" (Mises 1998, p. 249). Mises mentions the *ceteris paribus* condition where he clarifies that:

> There is no means of studying the complex phenomena of action other than first to abstract from change altogether, then to introduce an isolated factor provoking change], and ultimately to analyze its effects under the assumption that other things remain equal. (Mises 1998, pp. 248–49)

According to Mises "The assumption *ceteris paribus* is the self-evident appendage of every scientific doctrine and there is no economic law that can dispense with it" (Mises 1981, pp. 151–52). Lewin has correctly characterized the evenly rotating economy as "an overriding *ceteris paribus* device" (Lewin 1997, p. 152). It is adopted in order to impose the most general type of *ceteris paribus* conditions (p. 154). But as Mises himself makes clear "these other things are never equal" (Mises 1998, p. 543). Nobody ever was or ever will be in a position to observe a change in one of the market data *ceteris paribus* (p. 348). So the possibilities of (exact) prediction would be rather limited.[1] But even then the equilibrium construct would still be needed for the purpose of theorizing. In fact Mises, contrary to the authors (p. 151), differentiates between different equilibrium concepts (Mises 1998, pp. 245–47).

The use of an imaginary construction of the evenly rotating economy as a counterfactual and as a conceptual foil by itself does not yet warrant any claim to the effect that it enables us to predict what is likely to happen in the real world if entrepreneurs attempt to carry out any given set of plans, in particular, as

[1]Mises recognized that "prediction can never imply anything regarding quantitative matters"(1998, p. 118). At best the use of the equilibrium construct would indeed allow us to predict merely directions or tendencies of change since, as Mises points out, "Experience of economic history is always experience of complex phenomena" (p. 348).

will always be the case, when plans are not compatible. At least such extensive use of the equilibrium concept would require some assumption or hypothesis about how agents learn from experience, of how disappointment leads to the discovery of new information, and to the alteration of plans as transactors try to attain the most advantageous use of resources available (pp. 160–61). Even Lachmann admits that "the divergence of expectations, apart from being an obstacle to equilibrium, has an important positive function in a market economy. *It is an anticipatory device*" (Lachmann 1976, p. 131).

Much in the spirit of Lachmann's work, it is today taken for granted that the Hayekian insight into the dynamic adjustments of the process, the "extension of the equilibrium concept . . . from equilibrium analysis to the explanation in terms of causal sequences" (Lachmann 1976, p. 161; see also Hayek 1941, p. 23) constitutes a definite advance over Mises's system. Hayek himself had long maintained that his intention in 1937 had been to show Mises the deficiencies in the praxeological approach. The approach presented in the book under review gives us reason, however, to pause and to ask ourselves again whether this view is not exaggerated. From all reports Mises applauded Hayek's (1937) "Economics and Knowledge" paper and did not see it as an attack on his system while Hayek thought it was. It can reasonably be argued that the "pure logic of choice" has a great deal to say about the prerequisites for successful action—notwithstanding our ignorance as to the mechanisms of social causation (Selgin 1990, p. 29). The book under review succeeds reasonably well in consistently integrating the views of different Austrian writers.[2]

There are also differences between Mises's and Hayek's respective accounts of the business cycle. Mises's account rests almost solely upon his theory of the components of the market rate of interest (Mises 1998, pp. 535–83). The social time preference component (originary interest), the entrepreneurial component and the price premium component of interest are indispensable in Mises's account of the trade cycle. In Mises's presentation of trade cycle theory in *Human Action* the Ricardo-effect argument plays no role at all.[3] The Ricardo-effect argument is usually invoked to explain why inflation-induced shifts in resource allocation eventually will be reversed.

[2]In fact there is reason to believe that Hayek misunderstood Mises's position. This misunderstanding may be related to the positivistic idea that the propositions of logic—*in casu* the logic of choice—cannot be but "merely" analytic, that is, devoid of empirical content. Mises, however, rejected, the analytic–synthetic dichotomy (Mises 1976, p. 44). *Contra* Hayek, it can be argued that the "pure logic of choice"—better is: logic of action—is not merely a collection of empirically empty tautologies (see also Selgin 1990, pp. 28–29 and passim).

[3]Mises discusses the Ricardo effect (pp. 767–70) in *Human Action*, but in a different context.

But again the differences between the theories of Hayek and Mises may be more apparent than substantial in this respect. Hayek invoked the Ricardo effect for a very specific purpose. Hayek provided the Ricardo-effect argument only to show how the system would act if the rate of interest failed to act at all (p. 141).[4] It is more likely that the rate of interest will play a significant role that affects entrepreneurial decisions in a manner similar to the Ricardo effect. Investment cycles typically end in a credit crunch (see also O'Driscoll and Rizzo 1985, p. 210).

Other valuable features of the book are the following:

(1) A comparison of the respective views of Hayek and Keynes that highlights not only obvious differences but also the characteristics their views have in common. Both Hayek and Keynes presented major challenges to classical monetary theory. Both felt that a monetary economy differed from a barter economy. These important differences were related to the use of money and the role of time in the economic process (p. 175). Both used the Wicksellian saving–investment approach as a basic tool of analysis and as the basis of their investigation. However, as Hicks stated, "Wicksell plus Keynes said one thing, Wicksell plus Hayek quite another" (p. 29). Whereas Keynes, starting from a model similar to Wicksell's, looked for the cause of economic problems by disaggregating the financial sector, Hayek and Mises took the Wicksellian change in the money rate relative to the natural rate as the cause of the cycle and turned toward the real sector to analyze all the effects from this monetary cause. But as is well-known, Keynes's work led to policy conclusions that were completely opposed to Hayek's policy recommendations.

(2) A lucid discussion of the three general forms of quantity equations that have appeared in the literature and of the ways in which they relate to the

[4]The authors (p. 66, n. 49 and p. 88, n. 65) mention the work of an early critic of Austrian business cycle theory, namely Kaldor (1942) who had concluded that "On second thought the theory was by no means so intellectually satisfying as it appeared at first" (p. 359). According to Cochran and Glahe (p. 88) these problems are related to the fact that:

> Hayek either abandoned or failed to fully use the monetary and capital theory framework of Mises [1971]. He used a Walrasian intertemporal equilibrium instead of the final state of rest [Mises 1966] or the Evenly Revolving Economy, . . . the Austrian equilibrium concept, and abandoned imputation theory and time preference interest theory.

Kaldor's critique is not specifically addressed, however. Criticisms along the lines indicated by Kaldor have been reiterated recently by Tyler Cowen (1997, p. 108). Cowen's comments still await detailed refutation. Cowen rejects the Ricardo effect as an account of cyclical dynamics (p. 107). Cowen points out that workers in capital-intensive industries may find that their wages rise more quickly than do the prices of consumption goods. To that extent, Cowen argues, the Ricardo effect does not reverse the capital-intensive investments (p. 107).

Hayek–Keynes debate. Keynes's dissatisfactions with the quantity equation tools and the fundamental equations of the *Treatise* are equally briefly discussed (pp. 28–29, 31–34, 41–48). The three general forms are: (a) a transactions equation, usually attributed to Irving Fisher, and called the equation of exchange. In its simplest form, it is written MV = PT. (b) The income form of the equation of exchange, written MVy = Py. This form became popular as interest shifted from long-run to short-run problems and economists, instead of concentrating on gross transactions, began to stress income transactions (p. 36). (c) A third type of quantity equation is the Cambridge or cash balance equation, M = kPy. A simple transformation of the Cambridge equation produces an equation that looks similar to the income form of the transactions equation, M(1 / k) = Py. From this transformation, it appears that the Cambridge k is the inverse of the income velocity (p. 39).

In a Hayekian structure of production framework the summation of the money expenditure streams associated with each stage would represent the PT = MV of a transaction equation (but only transactions associated with the transfer of real goods and services are included). When national income or national product is used as a foundation for macroeconomic analysis, emphasis is placed on the total money flow of expenditure on income (final) goods and the related real flows (pp. 114–15). The predominate quantity equation became the income form (p. 116).

(3) The book contains an updating and revision of the drama. The authors argue that the Hayekian model can be introduced into the current debate as a legitimate alternative not only to the Keynesian view but also to monetarist and new classical approaches (p. 12).

The first substantial achievement of the new classical macroeconomics was to incorporate the rational-expectations hypothesis into the expectations-augmented Phillips curve.[5] The Phillips curve represents an inverse relationship between inflation and unemployment. Friedman had argued that output and unemployment would deviate from their natural rates only to the degree that workers mistook inflation for changing relative prices (Friedman 1987). There is no stable relationship between inflation and unemployment, only one between *unanticipated inflation* and unemployment. At the beginning of an inflationary period, workers are slower than firms to recognize the full extent of the

[5]The rational-expectations hypothesis, in fact, is a subsidiary doctrine. The "new" element in the new classical macroeconomics, which distinguishes it from monetarism and other related schools of neoclassical macroeconomics, is the insistence that only a disaggregative, Walrasian approach will do (Hoover 1998, p. 334). But any discussion of the rational-expectations hypothesis in macroeconomics must begin with the Phelps–Friedman "natural-rate" revolution.

inflation, so they think that the higher nominal wages being offered are actually higher real wages. With this apparent higher real wage, workers offer more labor services, people accept jobs rather than keep searching for better ones, and the unemployment rate falls. When workers realize they have misjudged the inflation rate, they withdraw some of their labor, some workers quit their jobs, and the unemployment rate returns to its "natural rate."

Rational expectations theorists began with the natural-rate hypothesis but posed the following question: Why should participants in the economy be systematically "fooled" by the inflation rate? Robert Lucas argued that the rational expectations hypothesis and flexible prices implied that such mistakes were unsystematic and fleeting.

The mistakes in predicting inflation would have to be random; mistakes can be made, but the public can never be systematically fooled about the inflation rate. Movements in the unemployment rate from its natural rate can still occur when mistakes are made in predicting inflation, but these errors must be random.

The supposedly unique or new aspect of the natural unemployment rate hypothesis is its prediction about policy. The new classical analysis of the Phillips curve led immediately to Thomas Sargent and Neil Wallace's (1975) well-known "policy-ineffectiveness proposition": aggregate monetary policy could not*systematically* alter real outcomes.

The implication of this view for the potency of monetary policy is indeed startling. The natural unemployment rate hypothesis and its later developments in the rational expectations hypothesis purported to show that any fully anticipated monetary policy would be ineffective. Only the *unanticipated* growth of the money supply can make the actual inflation rate diverge from the expected inflation rate. The theory implies that the effects of a nonaccelerating monetary disturbance will be self-reversing. An expansion of the money supply at a constant rate will cause the economy to first expand and then without any further exogenous changes contract, and vice versa for a monetary contraction. The natural-rate theory explains a cycle in terms of a response to a single "shock." In the long run, the policy is ineffective; real phenomena ultimately dominate purely monetary influences. The natural unemployment rate hypothesis has a self-reversing component.

The relevant policy elements contained in the Hayek–Mises model are similar to those contained in the natural unemployment-rate model . The need to expand the money supply at an accelerating rate to maintain the initial output effects of an expansionary monetary policy had been part of the Austrian business cycle theory long before the development of the natural-rate model. In fact, the Austrian business cycle theory like (and prior to) the natural

unemployment theory has both a self-reversing and an accelerationist component. Monetary changes are self-reversing. A monetary expansion at a constant rate will cause first an expansion then a contraction of the economy. Monetary policy is ineffective in the long run. The increased employment initially caused by a monetary expansion can only be maintained if the money supply continues to increase at a progressive rate.

It is recognized that Hayek's monetary policy conclusions are quite similar to those arrived at on the basis of the new classical analysis. The Hayekian model implies policy ineffectiveness. Policy will not only be ineffective in the long run, it will also cause future instability. As I pointed out the so-called "policy ineffectiveness proposition" is also a celebrated conclusion of the new classical analysis (Sargent and Wallace 1975). Perhaps for this reason non-Austrian economists are largely unaware of the major differences between the Hayek–Mises theory of business cycles and the new classical equilibrium business cycle theory.

The perception of the problem that is the starting point of the analysis in the Austrian theory differs from the starting point of the new classical analysis. In the Hayek–Mises model monetary changes are the necessary cause of systematic distortions of relative prices (p. 158). As he Austrian theory is indeed a theory of "business cycles without rational expectations" (Cowen 1997, p. 76).

In fact Austrian theory assumes that market participants can be expected to make use of information conveyed by prices along with other particular knowledge that they might have, but they cannot be expected to know the parameters of the economy's structure (Bellante and Garrison 1988, pp. 213–14). Entrepreneurs will trade largely on the basis of their market savvy, which is derived from their reading of prices, wage rates, and interest rates. That is, as Hayek would say, they act on the basis of their knowledge of particular circumstances of time and place, but they cannot be expected to behave as if they have an economist's understanding of the structure of the economy. The absence of such theoretical knowledge at the level of entrepreneurs is what gives plausibility to the Austrian theory of the business cycle. For entrepreneurs to distinguish clearly and quickly between real and nominal changes would require, among other things, that they have a substantial grasp on Hayek's second kind of knowledge.

This assumption is part of the antecedent conditioning the applicability of the theory, but it is clearly at odds with the rational expectations hypothesis. The rational expectations hypothesis asserts that economic agents form expectations consistent with the forecasts of the maintained model (Hoover 1998, p. 334). It was originally formulated by John Muth in 1960, and Robert Lucas and Thomas

Sargent introduced it into macroeconomics about 1970 as a way of avoiding the implication of the then prevailing models that economic agents made systematic and correctable errors in forming expectations.

The technical role of rational expectations is to maintain consistency: the new classicals argue that the models should not ascribe to the agents they model expectations that are different from the ones they would form as outsiders using the model to describe the economy. In other words, the model should not confer an informational advantage on the econometrician over the modelled agent (Hoover 1998, p. 336). Moreover, such expectations must be unbiased: they must not produce systematic, remediable expectional errors.

In contrast two assumptions about expectations characterize the Austrian theory: (a) the entrepreneurs do not already know—and cannot behave as if they already know—the underlying economic realities whose changing characteristics are conveyed by changes in prices, wages, and interest rates, and (b) prices, wages, and interest rates tend to facilitate the coordination of economic decisions and to keep those decisions in line with the underlying economic realities (Garrison 2000, chap. 2).

Whereas the new classical analysis the rational expectation hypothesis is conceived as a consistency axiom, that is, it refers only to the relationship between the assumption about expectations and the theory in which it is incorporated, inserting that same hypothesis into Austrian theory would involve an inconsistency. It is not logically consistent to claim (a) that the entrepreneurs already have—or behave as if they already have—the information about the underlying economic realities independent of current prices, wage rates, and interest rates and (b) that it is prices, wage rates, and interest rates that convey this information. This difference between the two models is fundamental.

Furthermore, the central feature of the Hayek-Mises discussion is the Wicksell mechanism, not the Phillips curve. In the Hayek–Mises model the real responses to a monetary change depend on the initial distribution effects of the monetary change. In the natural rate and new classical models any real responses are dependent upon unanticipated monetary changes.

According to certain radical exponents of the new classical economics, any predictable part of the money supply should have no effect on output, employment, or any other real variables in the economy. Only unpredictable money-supply changes can affect output (Sheffrin 1996, p. 35). Surely Hayek did not reach the same conclusion.

Hayek would not agree that a fully announced set of policy changes will have no effect on real macroeconomic variables. Stimulative policies may have

short-run beneficial effects, but these beneficial effects will be at the expense of long-run disruptions (see also Moss and Vaughn 1986, p. 565).

Hayek argues that the transmission mechanism is extremely important. The path of the economy following a monetary disturbance is a disequilibrium path, not an equilibrium path. Whereas the new classical writers develop equilibrium models of the business cycle, the Hayek–Mises model provides a disequilibrium explanation of the cycle. In the Austrian model, monetary disturbances cause cycles because ordinarily reliable prices give false signals. Production is misdirected: monetary changes alter relative prices in such a way that plans based on these false prices direct the use of resources so that economic activity is not coordinated (p. 163).

Whereas the macro-adjustment processes developed in the natural rate and the new classical models are still in the form of causal relationships between broad aggregates, Hayek's predictions depend on the monetary change affecting different sectors unequally. Austrians work at a lower level of aggregation in order to allow for the outputs of the investment-goods sector and the consumer-goods sector to move relative to one another and even to allow for differential movements within the investment-goods sector. The economy's production process is disaggregated into a number of temporally sequenced stages of production. Replacing the single investment aggregate with temporally sequenced stages that make up the economy's capital structure is exactly what provides a basis for a substantive distinction between sustainable and unsustainable growth (Garrison 1996b).

The Hayek–Mises theory is capital-based, not labor-based. While monetarism and new classicism are based on the intertemporal substitutability within the market for labor, Austrianism is based on the intertemporal complementarity within the market for capital goods (Bellante and Garrison 1988, p. 208).[6]

In several ways the Hayek–Mises theory is a theory about the upward turning point and its inevitability, the end of the boom and the beginning of the downturn (p. 107). It does not rely on quits to explain increased unemployment. Instead it gives an argument that shows why excess capacity and layoffs

[6]As a reminder: in Hayek's opinion, the rate of profit is the ultimate determinant of the form of investment. In long-run equilibrium, the rate of profit is equivalent to what in the real analysis was called the rate of interest, the margins between prices and costs. It is these margins which Hayek refers to as the key relative prices that are altered by monetary changes. It is the marginal rate of profit that will adjust to the market rate of interest. However, the initial effect on price margins will be at least partially reversed. The rate of profit should first decrease and then increase. The pattern of expenditure based on the tastes of consumers will tend to reassert itself as the money expenditure flows through the system. So Austrians tell their business-cycle stories in terms of changes in the interest rate rather than changes in the wage rate, because their theory is capital based rather than labor based.

may become prevalent (p. 195). In addition, the analysis does not rule out Keynesian type contractions following the initial crises. Once unemployed resources develop, a "secondary deflation" (Hayek 1969, p. 176) or Keynesian type collapse is likely (p. 144).

So what is the upshot? The essential insights characterizing the Austrian theory of industrial fluctuations relate to (a) the self-reversing nature of monetary changes (pp. 125–27) and (b) the accelerationist component of the theory (p. 142). The authors elucidate these characteristics with the aid of some highly illuminating numerical examples (see pp. 125–27 and 142). The Austrian business cycle theory like (and prior to) the natural unemployment theory has both a self-reversing and an accelerationist component:

(1) Relative price changes brought about by monetary factors are not equilibrium relative prices, that is, the prices are not consistent with the underlying real factors. The systematic distortion of relative prices misdirects production temporarily. But as economic agents discover that plans are not coordinated, real forces will reassert themselves. The misdirection is corrected and cyclical phenomena are observed (p. 159). This is not meant to imply, however, that relative prices will, in general, return to their previous, pre-boom levels.

(2) An injection of additional money and credit through the banking system can postpone the need for adjustment (if the stress is laid upon the word *postpone*). However, the additional increases in the effective quantity of money must be progressively larger if the new conditions are to be maintained and the crisis is to be avoided (pp. 139–40).

The policy recommendation is similar but not totally identical, however. In *Prices and Production* Hayek (1935) recommended the constant-MV norm for the exercise of monetary policy. Hayek argued that macroeconomic coordination is best promoted by a constant MV. The implied monetary rule, then, is: Increase M to offset decreases in V, but allow decreases in P to accommodate increases in T. He had not argued, however, that the rule would ensure neutrality, a view wrongly imputed to him by Sraffa (1995, p. 199; see also Steele 1996, p. 132; and Hayek 1935, p. 131).

In the monetarist view, to the contrary, so long as the price level is stable, monetary expansion is not disruptive. Monetary expansion may even be necessary to keep prices from falling during periods of real economic growth. The monetarist recommendation, then, becomes: increase the supply of money to match long-term, secular increases in real output. The Austrian recommendation, in contrast, is to abstain from monetary expansion even in periods of economic growth; increasing output should be accommodated by a declining price level (Bellante and Garrison 1988, p. 227).

UNSOLVED PROBLEM?

The authors recognize as an important aim of business-cycle research that the understanding it provides "may help reform financial markets and banking in ways that could prevent or reduce the impact of monetary induced business cycles" (p. xi) and they state that, "It is only through a greater understanding of the forces actually shaping events in a monetary production economy that we can make rational decisions about policy and monetary institutions" (p. 166).

It is recognized that the work of Mises and Hayek can be characterized as a constitutional approach to monetary problems: the search is not for a proper policy but for an appropriate monetary framework (p. 166, n. 136). Constitutional economics examines the choice of constraints as opposed to the choice within constraints (Van den Hauwe 1999, p. 101). In recent times it was mainly through Hayek's *The Denationalization of Money* that the debate over monetary policy was again reconceived as a more fundamental debate over monetary regimes (White 1999a, p. 117).

The cycle depends on the elasticity of bank credit; the characteristic of a modern financial system that allows the supply of money credit to differ from the supply of credit based on real saving (p. 120). The operations of a developed banking financial system will tend to retard the operation of the interest-rate brake (p. 166). Economists study different institutional arrangements to determine which type of institution is most likely to minimize this tendency for the market rate to be reduced below the natural rate.

But this crucial point relating to the institutional underpinnings of the business-cycle phenomenon is not elaborated by the authors. What are the necessary or sufficient institutional conditions for the prevention of recurring business cycles and for securing macroeconomic coordination? Can economic coordination be achieved through central banking? Would it require the abolition of fractional-reserve banking? Or can economic coordination be best guaranteed by some variant of fractional-reserve free banking? It is precisely with regard to these questions and their answers that not only Hayek, Mises, and Rothbard but also contemporary economists all working within the Austrian tradition hold different and sometimes contradictory views.

Mises argued that, "Free banking is the only method available for the prevention of the dangers inherent in credit expansion" (1998, p. 440). According to Mises, "[t]he establishment of free banking was never seriously considered precisely because it would have been too efficient in restricting credit expansion" (p. 438). According to Mises natural forces limit the increase in fiduciary media.

> A bank can never issue more money-substitutes than its clients can keep in their cash holdings. The individual client can never keep a larger portion of his total cash holding in money-substitutes than that corresponding to the proportion of his turnover with other clients of his bank to his total turnover. (Mises 1998, p. 435)

In recent times Mises's theme has been taken up again by the fractional-reserve free bankers. According to the free bankers the aforementioned constant *MV*-norm would get implemented automatically by competitive forces in a system of fractional-reserve free banking. Free banking would thus automatically discriminate between real disturbances and monetary disturbances, reacting only to the latter (Selgin 1988, pp. 64–69; see also Garrison 1996a). Given the authors' explicit acknowledgment of the influence of Roger Garrison's work on their own (p. xiii) one might guess that they would favor the fractional-reserve free banking solution but the book contains no explicit confirmation or statement of this view.

Surely there remains a certain ambiguity in this context. As the authors point out, "Hayek was arguing that cyclical activity will be a standard feature of an economy with an elastic currency; *an economy where the supply of money either wholly or partially responds to changes in the demand for money or the demand for credit"* (p. 75; emphasis is added). Although the primary concern of the fractional-reserve free bankers does not relate to the question of how to avoid Hayekian cycles, they seem to hold the view that in a free banking system where the supply of bank money responds automatically to changes in demand to hold bank money "disequilibrium situations depicted by monetary business cycle theories, such as Hayek's (1935), are avoided" (see, e.g., Selgin 1996, pp. 103–07). Only issuance of additional fiduciary media *in excess of the demand to hold them* generates injection effects and sets in motion the trade cycle.[7] However, it should be remembered that Mises held the view that "issuance of additional fiduciary media, no matter what its quantity may be, always sets in motion those changes in the price structure the description of which is the task of the theory of the trade cycle" (Mises 1998, p. 439, n. 17).

In a more recent publication the ambiguity is resolved, however. Like the Rothbardians (see Hoppe, Hülsmann, and Block 1998) the authors view money creation in a fractional-reserve banking system as a credit creation process and recognize that credit creation is not financial intermediation. Money and credit-creation is a self-reversing process with the potential to generate cycles that could be prevented by avoiding credit creation. Money is a present good. A bank deposit (redeemable at par on demand) is not a debt

[7]Larry White, personal correspondence.

transaction but a bailment in its economic impact even if it is treated as a debt by the legal system. There subsists an important difference between Mises's approach and that of the Rothbardians, however. Mises saw no fraudulent behavior in the development of fractional-reserve banking. According to Mises "What is needed to prevent any further credit expansion is to place the banking business under the general rules of commercial and civil laws compelling every individual and firm to fulfill all obligations in full compliance with the terms of the contract" (Mises 1998, p. 440). The Rothbardians to the contrary ground their rejection of fiduciary media in libertarian ethics.

It remains an open question whether the fact that the book does not explicitly pronounce in favor of one of these solutions over another must be considered one of its virtues rather than a major defect. At this moment the debate seems to be settled in favor of the Rothbardian view that "the root of all evil" is fractional-reserve banking and fiduciary media. On the other hand it must be recognized that Hayek looked at these matters rather differently. At the time he engaged in business-cycle research, he never endorsed laissez-faire in banking. Hayek viewed the freedom of bankers to vary the stock of money as a source of disequilibrating shocks. According to Hayek the impulse initiating unsustainable cyclical booms was often the failure of the market rate of interest to rise with the equilibrium or natural rate when the demand for loanable funds increased. He elaborated Thomas Joplin's argument as to how commercial banks responded to an increase in loan demand by varying only the quantity of loans and not the price (Hayek 1935, pp. 15–17).

White has argued that the Joplin–Hayek argument is unfounded: in a competitive banking system the loan and deposit rates of interest should be expected to track the natural rate. Hayek underestimated the strength of self-correcting forces in a competitive banking system (White 1999b, p. 767).

FURTHER RESEARCH

The purpose of the authors is not explicitly polemical. The classic Mises–Hayek theory has been under serious attack recently, especially by Tyler Cowen (Cowen 1997). Except for Sechrest's (1998) critical review in this journal Cowen's "new" Austrian perspective has gone largely uncriticized until the present. It is to be expected that the book under review will serve as a useful guide to further debate and criticism in this context.

Much of Cowen's argumentation centers on the question of how likely and to what extent entrepreneurs are "fooled" or "confused" by a policy-induced change in the interest rate. The discussion takes the form of a comparison of Austrian views with those of the modern new classical school.

Though the terminology, especially the idea of being "fooled," is common to both schools, it has a literal meaning in the context of new classical models, where the model economy is an exceedingly simple one, and a metaphorical meaning in the context of Austrian theory, which deals with a complex market system. In new classical theory, there is typically one signal—the wage rate—whose changes might be interpreted in two ways (nominal or real) and one real variable—leisure preferences—that may or may not have changed. In such a simple model economy, the theorist must contrive reasons to account for anyone ever being "fooled" by anything.[8] The standard argument involves islands whose wage rates are affected locally by real shocks and globally by nominal shocks. On a given island, there may be some confusion for a time about whether the latest shock was a real one. Hence, people may be fooled, if only temporarily, by a nominal shock. According to Cowen: "The Austrian claim postulates systematic entrepreneurial errors in the most costly possible direction. . . . The Austrian claim not only violates rational expectations but requires an especially severe*naïveté*" (Cowen 1997, pp. 81–82).

It is important to see that the theory has a conditional, that is, an *if–then* structure. Even if empirical evidence would establish, in a particular historical context, that entrepreneurs are unlikely to be "fooled" in the aforementioned sense, this kind of critique might well leave the Austrian theoretical edifice intact. The criticism would relate to questions of applicability in a particular instance, not to the theoretical validity of the theory. The theory only claims that, *ceteris paribus*, given the instantiation of the facts enunciated in the assumptions, the consequences follow. And that theory still stands.

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[8]I thank Professor Roger Garrison for having drawn my attention to this point.

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