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## BOOK REVIEWS

### Monetary Economics in Doctrinal Perspective

*Review Essay by Joseph Aschheim and George S. Tavlas*

Laidler, David E. *The Golden Age of the Quantity Theory*. Princeton, N.J.: Princeton University Press, 1991.

Hicks, J. E. *A Market Theory of Money*. Oxford: Clarendon Press.

The development of monetary economics in the latter half of the nineteenth and early twentieth centuries has involved a succession of seminal contributions including work by Alfred Marshall, Irving Fisher, Leon Walras, Knut Wicksell, A. C. Pigou, and John Maynard Keynes. Monetary scholars, however, have typically steered away from studying the writings of their forerunners perhaps because, as Peter Sinclair (1992, p. 64) noted, "the monetary economists of past generations wrote in words, not algebra, and cited instances rather than regression diagnostics." One outcome of this lack of interest in monetary doctrine by monetary economists has been that systematic evaluations of the writings of earlier contributors have often been left to nonspecialists. This situation is unfortunate both because, as David Laidler (1982, p. 326) has argued, "historians of economic thought habitually neglect monetary economics when they write their textbooks" and because, as Sinclair also pointed out, "there is . . . subtlety, lucidity, and great distilled experience in the best of past work."

Two of the few monetary economists who have maintained an interest in monetary doctrine over the years are Laidler and the late Sir John Hicks, and each has contributed a study casting a historical perspective on monetary thought. Laidler's *The Golden Age of the Quantity Theory* is a study in doctrinal history proper. The contributions of Marshall, Fisher, Wicksell, Walras, Pigou and others are interpreted and evaluated. Hicks's *A Market Theory of Money* is his last major work, published posthumously. Asked to write a reflective essay on his monetary economics, he produced a study relating his views to the contributions of the major monetary economists of the late nineteenth and early twentieth centuries.

Having on hand, therefore, interpretive doctrinal works by two renowned contemporary monetary economists, we can ask: what are the historical pillars upon which modern monetary economics rests? This essay assesses the key contributions of Marshall, Fisher, Wicksell, Walras, Pigou, and others along the way, as discussed by Laidler. It also provides a doctrinal perspective on Hicks's last work on monetary economics. In so doing, we expound our view

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of the key function of money—embedded in the concept of what we call embryonic money—as foreshadowed in the work of certain earlier monetary economists.

### *I. Laidler on Monetary Doctrine: Why Does Money Matter?*

Throughout history, a central concern of macroeconomic policy has been the moderation of price-level variability. Laidler's book provides a stimulating exposition of the development of the quantity theory of money and the related espousal of programs aimed at price-level stabilization. The author's erudition and his willingness to tackle novel themes make for absorbing reading. These qualities, in conjunction with the relevance of much of the literature surveyed to contemporary discussions in monetary economics, set this book apart from other studies in monetary doctrine. This is not to imply, however, that we agree with all of the major arguments developed in Laidler's study. In what follows, we first probe these arguments and then point out some salient areas of disagreement.

Laidler surveys what he views as the main contributions to the quantity theory of money during 1870–1914. His book “does not purport to be a general and comprehensive history of monetary economics” during this period either in terms of the range of topics covered, or of the authors selected for inclusion (p. xii). Two major themes emerge: (1) “the evolution of monetary economics owed more to its own internal dynamics than to outside events”; and (2) “the logic of the quantity theory subverted the intellectual authority of the Gold Standard” (p. 3). Laidler goes on to show that the quantity theory “travelled a long way between 1870–1914” (p. 106). Nevertheless, the quantity-theory approach, as it had developed in the early twentieth century, represented a direct continuation of earlier classical monetary economics, “provided continuity is not confused with mere repetition” (p. 195).

*A. Setting the Stage: Classical Orthodoxy.* Chapter 2 of Laidler's book provides the springboard for the subsequent treatment of the neoclassical writers. The chapter outlines the classical orthodoxy of the 1870s, drawing, in particular, on the writings of J. S. Mill, William Stanley Jevons, and Walter Bagehot.

According to Laidler, the central tenets of this orthodoxy included the following propositions. (1) “Money was primarily a social phenomenon which existed to facilitate the workings of market mechanisms” (p. 41). Thus, the key function of money was its role as a medium of exchange (p. 13). (2) The price of gold was considered to be more stable in value than other commodities, and formed the appropriate basis of the monetary system. There were, however, dissenters from this approach. During the 1860s, and again in the 1880s, bimetallicists—such as the American economist Francis A. Walker (the first president of the American Economic Association)—argued that a dual metallic system would provide a more stable framework than a purely gold standard. (3) In the short run, the quantity theory was used to explain movements in the price level, while in the long run resort was made to cost-of-production theory to explain the level of prices. (4) Cyclical variability was attributed to price-level fluctuations and it included fluctuations in the money supply, credit, interest rates, and prices in commodity markets. (5) The English classical theory of central banking was *not* a theory of counter-cyclical policy (p. 39). “Discretionary intervention in markets by the central bank was only required in order to prevent the upper turning point of the cycle leading to a dislocation of the monetary system, and because the central bank was a privately owned profit-making institution, such limited intervention had to be strictly voluntary” (p. 40).

*B. The Emergence of Neoclassical Monetary Economics.* Laidler (pp. 3–4) identifies three major “flaws” in the classical monetary paradigm. First, the theory of price-level determination “was logically incomplete”; it was marked by an uneasy coexistence between the

analyses pertaining to the short run and the long run since the quantity theory was used to explain movements in the price level over the short run, while the classical cost-of-production theory was used to explain secular movements in the price level. Second, although the classical economists wrote of fluctuations in the money supply, interest rates, and commodity prices, they failed to assimilate output and employment fluctuations into their analysis of the cycle. Third, “classical economists often had difficulty distinguishing systematically between money and credit, and hence in integrating their analysis of banking with their theory of the price level (p. 4).” It was the recognition of these flaws, and their reparation, that typified the writings of the neoclassical contributors. In what follows, we briefly highlight Laidler’s interpretation of the innovations of the neoclassicists.

*The Cambridge Economists—Marshall and Pigou.* Marshall’s monetary views have often been downplayed in historical texts.<sup>1</sup> Laidler, however, convincingly demonstrates that Marshall’s monetary contributions deserve more recognition. Thus, it was Marshall who, in 1871, first formulated the Cambridge cash balance equation.<sup>2</sup> Along with Walras’s formulation of the demand for money, the Cambridge equation provided the underpinnings of “a general choice theoretic approach to the special case of money and began to bridge the gap between the analysis of money as a social institution on the one hand and an object of individual choice on the other” (p. 41). Consequently, Marshall and Pigou (as well as Fisher) were able so to formulate the quantity theory that it became a general explanation of the price level; the marginal costs of the precious metals were relegated to a rather minor role in influencing the supply of money. The outcome of this transformation of monetary thought was the undermining of the Gold Standard since its analytical linchpin—the cost-of-production theory of the value of money—had been discredited (pp. 49–83). Additionally, Marshall extended the quantity theory framework so as to account for the effects of bank deposits, which he treated as a means of economizing on the demand for currency.

Marshall and Pigou each formulated theories of the business cycle that incorporated output and employment effects. For Marshall and Pigou, cyclical activity did not originate in the monetary sector. But “monetary factors complicated and amplified the economy’s responses to more fundamental factors” (p. 112) and contributed to output and employment effects via the channel of wage stickiness. Finally, it was Marshall, along with Fisher, who first integrated into their cyclical analyses the effects of anticipated price-level variations on nominal interest rates (the so-called “Fisher effect”).

*Wicksell.* Laidler devotes an entire chapter to the writings of Wicksell. According to Laidler, Wicksell dealt with the third flaw in classical theory—namely, the difficulty of distinguishing systematically between money and credit. Specifically, the incorporation of the natural interest rate/market rate distinction into his cyclical analysis allowed Wicksell to integrate the classical version of the role of interest rates with contemporaneous capital theory. In so doing, Wicksell was able to assimilate the analysis of banking into the theory of price-level determination. The thrust of Wicksell’s monetary analysis is his cumulative process paradigm, which generates price-level movements via discrepancies between the market rate of interest and the so-called natural rate (pp. 135–39).

*Fisher.* As noted, Fisher was instrumental in banishing “from monetary economics the last vestiges of the classical cost of production theory of value considered as an *alternative* to the quantity theory” (original italics, p. 83). Fisher developed a monetary theory of the cycle and

1. For a recent example, see Niehans (1990).

2. Marshall’s 1871 paper, “Money,” was unpublished until it appeared in Whittaker’s 1975 edition of *The Early Economic Writings of Alfred Marshall* (London: Macmillan).

a monetary propagation mechanism that hinged on the effects of inflationary expectations upon nominal interest rates. With regard to the primary function of money, Laidler states that: "For him, money's means of exchange role was of the essence" (p. 75). In this connection, Fisher expanded the quantity theory framework to the conditions of a modern commercial banking system, treating "bank deposits as another form of money [and articulated] the proportional relationship between currency and deposits which fractional reserve banking and the parallel circulation of currency and deposits introduced into the system" (pp. 83–84).

*Walras.* In addition to laying the foundation for a portfolio approach to the demand for money, Walras was instrumental in delineating the limited set of conditions under which bimetallism is viable in the special case in which the quantities of the two metals were given (p. 158). Also, Walras (along with Jevons) recognized that for bimetallism to be more stable than a gold standard, the value of silver had to be more stable than the value of gold (pp. 31–32).

*Edgeworth and Hawtrey.* Two other British economists who receive considerable attention from Laidler are Francis Edgeworth and Ralph Hawtrey. Edgeworth developed analytical tools (that is, probability theory) which allowed him (along with Wicksell) to show that the pooling of bank resources was a natural "outcome of economies of scale" and provided the rationale for the emergence of central banking and the gold exchange standard by centralizing metallic reserves in the major financial centers (pp. 193–94). Hawtrey endogenized "fluctuations in the quantity of bank money, operating through an interest rate transmission mechanism as the basic factor which *keeps* the cycle going" (original italics, p. 113).

*C. The Origins of the Sticky-Wage Hypothesis.* According to Laidler, the foregoing contributions were instrumental in placing the objective of price-level stability at the center of neo-classical policy discussions. The fact that price-level fluctuations were shown to be accompanied by output and employment effects increased the urgency attached to dampening the cycle. The repudiation of the classical cost of production theory of the price level in favor of the quantity theory, and the undermining of the Gold Standard, contributed "to an array of potential remedies technically superior to bimetallism, which included indexed contracts, indexed money, and, in the case of Wicksell at least, a completely managed paper money that dispensed entirely with gold" (p. 188). As noted, Laidler argues that neo-classical monetary economics was a direct continuation of classical orthodoxy. He does, however, identify two main exceptions to this thesis: (1) "Edgeworth's application of probability theory to the analysis of banking," and (2) "the Cambridge [Marshall and Pigou] deployment of the idea of wage stickiness as an explanation of cyclical employment fluctuations" (p. 196).

We take issue with Laidler's attribution of the origination of the wage-stickiness hypothesis to Marshall and Pigou. In so doing, we recognize that it is not necessarily difficult to find forerunners in the history of thought that can refute a scholar's claim for precedence of his subject. In this case, however, such counter-evidence is especially significant because it contradicts a major part of Laidler's thesis, and because it occurred on a sustained basis in the earlier classical literature.

Thus, with regard to the deployment of wage stickiness, consider the following examples. In his *Paper Credit* (1802), Henry Thornton explicitly noted that, while a contraction of the money supply would engender a price-level decline, it would not necessarily produce a "corresponding fall in the rate of wages. . . . There is reason, therefore, to fear that the unnatural and extraordinary low price arising from the sort of distress of which we now speak, would occasion much discouragement of the fabrication of manufactures" (pp. 118–19). Other classical economists concurred with Thornton. Among them were Robert Torrens and John Gray. With regard to Torrens, when the Political Economy Club met in December 1830, Torrens

articulated a view of the cycle that stressed the stimulus to profit and production due to sticky wages. As for Gray, in his *Lectures on the Nature and Use of Money* (1848) he argued that a reduction in the money supply results in a decline in prices prior to a fall in nominal wages, leading to a contraction of output. Additionally, he observed that over long periods of time, there is a tendency for the production of goods to grow at a stable rate. In order to keep the price level stable he proposed that the money supply should expand in proportion to the growth of production, thereby articulating one of the first monetary growth rate rules found in the literature and one that directly influenced the Chicago money-supply growth rate rule of the 1930s (see Tavlas 1977a,b).

*D. The Functions of Money.* Early on in his book, Laidler refers to Mills' view of price-level instability as follows: "Price level instability disrupted money's efficient performance as a unit of account, and, because it was associated with financial crises and panics, it also undermined money's effectiveness as a means of exchange" (p. 9). This citation is the only reference in Laidler's book made to the role of money as a unit of account. Laidler also maintains that "Nowadays monetary economics places overwhelming emphasis on money's capacity to serve as a store of value" (p. 8).

We would argue that at least since Walras, a major strand of monetary economics imparts primacy to money's capacity to act as a numeraire (see also Aschheim and Tavlas 1996). Specifically, we contend that the emergence of a numeraire in an exchange-transactions context constitutes what may be viewed as embryonic money. A monetary exchange system appears once a numeraire exists. The unit of account is a sufficient condition for the existence of a money-exchange economy, whereas the medium of exchange does *not* constitute a sufficient condition.

To clarify this line of argument, consider that there have been a number of historical episodes during which the unit-of-account function of money existed without money also serving as a medium of exchange. For example, in ancient Sparta, the government outlawed the use of money as a medium of exchange; trade was conducted by the direct exchange of goods. Yet to facilitate such transactions, the government created (and held) huge coins—too heavy to be carried about, and which served only as units of account. (Indeed, as Del Mar (1895, p. 39) pointed out, the ancient Greek words, measure and money, both derive from the same root, "nomos.") In turn, during the thousand-year span from the reign of Charlemagne to the French Revolution, the unit of account and the medium of exchange were separate phenomena (see Guggenheim 1989, pp. 9–18 and Aschheim and Park 1976).

Consider, also, work on the determinants of international currency use. As Krugman (1984, p. 261) has stated, the choice of currencies to be used for international transactions is predominantly "the result of 'invisible hand' processes." In this connection, empirical and theoretical work on the uses of international currencies has shown that the numeraire function determines to a significant extent the currency used as a means of payment. Once a contract is denominated in, say, the exporter's currency, the medium-of-exchange function emerges as a by-product. Measures can be taken to hedge foreign exchange risk, but, at the time of settlement, payment is typically made and accepted in the same currency.<sup>3</sup> The significance of this tendency is enhanced by Laidler's treatment of two subjects—bimetallism and Walras.

*E. The Bimetallism Controversy.* Laidler argues that the bimetallism movement was, in part, undermined by the work of W. Stanley Jevons who argued that gold monometallism was preferable to bimetallism because of his empirical assessment that the relative price of silver was likely to be sufficiently volatile in comparison with that of gold as to impart to bimetallism

3. For further discussion, see Tavlas (1991).

lism a more volatile price structure (p. 173).<sup>4</sup> There is, however, a further aspect to the bimetallicism debate that Laidler does not address. In particular, the debate over bimetallicism also centered upon whether the key function of money was its role as a medium of exchange or as a unit of account, and upon the related issue of whether a fiat or commodity money system could best fulfill that role.

To document this point, consider Francis A. Walker, a bimetallicist to whom Laidler refers. Walker argued that money does not measure value, but merely compares the ratios of exchange between different commodities.<sup>5</sup> Accordingly, for Walker the key function of money was its acceptability (Walker 1879, p. 4). Commodity money, he argued, has intrinsic value and is therefore acceptable in discharging debt obligations. Fiat money, in contrast, does not have intrinsic value and cannot function as a medium of exchange. Since Walker did not consider the numeraire function of money as important, he did not perceive the harmful effects produced by price-level fluctuations on an economic system. Thus, as pointed out by Barnett (1941, pp. 73–84), Walker thought that cycles are “inevitable” and omitted from his cyclical analysis the influence of money on prices.

In contrast, the American economist Alexander Del Mar, whom Laidler does not cite but whom Tobin (1985, p. 35) depicts as “a great scholar” and as one of the three “important predecessors” of Irving Fisher in the United States,<sup>6</sup> was an ardent opponent of metallicism. Writing in the second half of the nineteenth century, Del Mar argued against metallicism-based systems because “existing systems, that is to say metallic moneys . . . have resulted in an increased and alarming instability of prices: *they fail to measure value*” (italics supplied, 1896, p. 138). Instability in the general price level was seen to undermine money’s role as a unit of account because it created “unnecessary uncertainty” (1896, p. 194), and because it led to changes in output via wage stickiness (1896, pp. 185–89). In an 1885 symposium in the *North American Review* on “Should Silver Be Demonetized,” which included a paper by Walker advocating bimetallicism, Del Mar wrote: “Money is a measure or an institution of law designed to measure the numerical relation called value. The value of a piece of money does not at all depend upon the cost of its production, or else it would be impossible to alter the value of coins by the emission or retirement of paper notes” (1885a, p. 498).

Consequently, in numerous papers, Del Mar argued that the essence of money is limitation in issue to achieve price-level stability. A fiat-money system was viewed as more capable of limiting price-level fluctuations than were commodity-based systems because the control of the money supply could be brought under the direction of the government, and not left to the vagaries of gold and/or silver production (1896, p. 196). In particular, Del Mar, like Wicksell, espoused a completely managed paper money system. But in Del Mar’s case, his policy proposal is much more relevant to recent policy schemes than is Wicksell’s proposal. Thus, in order to attain the desired goal of price-level stabilization, Del Mar advocated in 1885—probably for the first time in the literature—a precise numerical rule; namely, that the money supply should grow at  $3\frac{1}{3}$  percent per year to keep pace with the long-term growth of output (1885b, pp. 115–16).<sup>7</sup>

4. However, as Friedman (1992) has shown, even if the price of silver is less stable than the price of gold, the bimetallic standard may be more stable than the gold standard. Specifically, “a bimetallic standard always yields a steadier price level than at least one of the two alternative monometallic standards and may yield a steadier price level than either. That is what Walras meant by ‘more chances’” (p. 139).

5. Newton (1968, pp. 112–16) provides a detailed account of Walker’s monetary views.

6. According to Tobin, the other two are Simon Newcomb and J. Lawrence Laughlin, both of whom Laidler refers to. We take some credit, along with Irving Fisher, for having discovered the importance of Del Mar’s work (Aschheim and Tavlas 1985).

7. For a detailed and specific exposition of Del Mar’s contributions, see Aschheim and Tavlas (1985).

Walker and many of his contemporaries failed to perceive the significance of Del Mar's view that the numeraire role is the central function of money. Consequently, Walker responded to those opponents of bimetallism, who singled out the numeraire function of money, in the following terms:

These economists [opponents of bimetallism] find themselves galled by the use of this term [bimetallism], since, if money serves as a standard of value, then the use of two metals indifferently as money constitutes a *double-standard of value*, a phrase which savors of absurdity, and which the bimetallists resent as applied to their scheme. They assert that there can be no such thing as a standard of value . . . value being nothing but a relation between commodities. (1878; quoted from Hicks 1938, p. 21)

*F. Walras on Money Exchange.* As noted, Laidler's treatment of Walras focuses exclusively on Walras's formulation of the cash balance approach to the quantity theory and to his work on bimetallism. Laidler does not deal with Walras's seminal formulation (1889) of a general equilibrium model. We would argue that the nature of his model demonstrates the primacy of money's role as a numeraire. It is Walras's inclusion of the numeraire quality of money that imparts to his model the clear-cut character of a money-exchange as contrasted to a barter-exchange framework.

In particular, in his general equilibrium model, Walras incorporates the numeraire as an integral part of his system of equations. Each of his market-clearing equations is denominated in the numeraire. The existence of a numeraire allows market clearing to occur, through a continuous groping for prices. Prices emerge at the point of equation of the quantity supplied with the quantity demanded in individual markets. Yet this process of *tâtonement* takes place without money having changed hands (means of payment) and without money having served as a store of value. Consequently, it is the existence of money solely as a numeraire that allows for the distinction to be made between a money-exchange system and a barter-exchange system. The introduction of a numeraire involves a switch of regimes from a barter to a money-exchange economy. The contraction in transaction costs (for example, calculation, information, search) imparts a non-neutrality character to money. Recalling Marshall McLuhan's celebrated motto, "the medium is the message," we suggest that the message (that is, numeraire) is the medium! It is Walras's grasp of the numeraire role of money as essential for the economic calculus at the core of a money-exchange economy that has permeated the subsequent development of general equilibrium and capital theory.

*G. Wicksell on Neutral Money.* As Laidler points out, Wicksell in his *Interest and Prices* (1898) propounded the distinction between the cash economy and the credit economy. Contrary to Laidler, however, we would argue that this distinction by Wicksell is fundamentally misconceived. Involving a monopolistic banking industry, Wicksell's delineation of a pure credit economy treats bank deposits as credit, rather than cash, thus confining the concept of money to currency (legal tender), without recognizing that bank deposits can also serve as a widely accepted means of payment. Moreover, the identification of credit with the banking system misses the point that a barter economy can include the existence of credit. In other words, barter exchange can embrace transactions that involve lending and borrowing in kind. Hence, the appropriate dichotomy is not between what Wicksell terms a credit economy and a cash economy, but rather between a barter-exchange and a money-exchange economy.

The flaw in Wicksell's dichotomy between the cash economy and the credit economy leads to a logical pitfall in his cumulative-processes paradigm. Specifically, the paradigm involves a discrepancy between the market rate of interest and the natural rate of interest, expressly inferred by Wicksell from his axiom that the natural rate derives from a *barter-exchange*

economy. How, then, can a cumulative process—meant to explain price-level movements—be deduced from an economy without money and therefore without a general price level? This logical pitfall in Wicksell's conception of the cumulative process is one that Laidler does not recognize. In consequence, Laidler's proper emphasis upon Wicksell's important role in connection with the neutral money concept misses the problematics that a barter-exchange premise imparts to Wicksell's attempt at integrating the analysis of banking with price-level determination. It is for this reason that both Schumpeter (1954, p. 1089) and Hahn (1982, p. 20) have rejected the neutral money theorem as internally contradictory.

## II. Hicks in Doctrinal Context

The aim of Hicks's book is "mainly to be concerned with a refurbishing of monetary theory" (p. 2). As coterminous with monetary theory, Hicks identifies "primarily Keynes's monetary theory" (p. 21). In so doing, Hicks emphatically depicts himself as owing both a great deal to Keynes and also owing much to some of Keynes's predecessors. Thus to Hicks, Keynes's contribution is at the heart of monetary theory, and Hicks regards his own writings on money as going "back to the days when [Keynes's] were innovations" (p. 1). Hicks remarks that perhaps he allowed himself to be overly "converted" by Keynes, for Hicks had already acquired "some of the means to preserve a greater degree of independence" (p. 1). In this book, Hicks aims to demonstrate his independence within the context of what he sets forth as the "Keynesian revolution."

According to Hicks, the essence of the "Keynesian revolution" was the supplanting of the national economy's long-term equilibrium with a short-term equilibrium that Keynes's *General Theory* (1936) put forward at a supposedly constant level of money wages under less than full employment. Hicks points out that later experience rendered the assumption of a constant level of money wages untenable. Nevertheless, the displacement of this assumption did not reaffirm the position of the pre-Keynesian economists. The pre-Keynesians lacked a proper theory of markets; and Hicks, therefore, takes on the task of analyzing the working of markets as a necessary prologue to the greater part of his volume, which is devoted to the notion of money as a device that facilitates the performance of markets.

Hicks begins his book with four chapters on the working of markets in order to fill a gap (that is, a theory of the working of markets) which was left by what Keynes called classical economics. Reviewing and critiquing a set of neoclassical authors between 1870 and 1900 whose writings were available to Keynes, Hicks takes up Jevons, Walras, Edgeworth, and Marshall. Hicks finds that although Jevons understood the problem of price formation in competitive markets, Jevons failed to solve the problem. Jevons's law of one price in the market for a commodity of uniform quality implied that the market was always in equilibrium. But on the question of how the market got into equilibrium, Hicks maintains that Jevons was of no help. Walras, with the aid of greater subtlety, introduced a market in which the trading parties disclose their propensities before trading begins. Walras's market organizer, as Hicks calls him, uses this information to calculate the equilibrium price at which actual trading takes place. In his treatment of Walras, Hicks explicitly recognizes the numeraire function of money as integral to Walras's general equilibrium modeling.

But Hicks observes that neither Edgeworth nor Marshall accepted Walras's solution. Edgeworth replaced Walras's market organizer with the ability to recontract. Accordingly, the equilibrium price which is established at the 'end' of the market, Hicks points out, need not be the same as that which would have emerged in Walras's process. "For willingness to trade at the 'end' could well be affected by gains and losses due to non-equilibrium trading on the



way” (p. 9). Hicks explains that Marshall took up this last key point, with Marshall making the further advance of introducing merchants who act as intermediaries between suppliers and demanders. The merchants (traders or dealers) can carry over surplus stocks. Thus “a market in which carry-over is permitted is a continuing market: it does not ‘finish up’” (p. 10). Dealers having been introduced, the market in question is rendered a speculative market. At this point, notes Hicks, Keynes comes in. Keynes examined the analysis of speculative markets in his *Treatise on Money* (1930), which Hicks characterizes as providing a good, though incomplete, account of such markets, an account that Hicks does not consider to have been advanced in the *General Theory*.

Hicks proceeds to provide his own analysis of the function of speculation. Specifically, speculation arises as a logical by-product of the phenomenon of seasonality in commodity markets. The seasonality cycle gives rise to futures markets, the buffer stock being a device for stabilization, that is, the physical carry-over of stock from season to off-season smooths price movements over the seasonal cycle. Hicks points out that “futures are not themselves commodities; they are promises to deliver a certain quantity of a commodity (or rather the *current* money value of that quantity, as it will be at the specified date)” (pp. 16–17). Thus for Hicks the practical importance of organized commodity markets imparts to them “a central place in a general theory of markets” because organized commodity markets “are the most sensitive markets we know” (p. 17). Their prices are determined “not by mechanical matching of flow propensities, but by the way they are interpreted, thus by the state of mind of those who trade.” Dealers manifest differences of opinion, as between optimists and pessimists, and there need not be anything “irrational” about the fact that “knowledge about what may happen in the future can never be complete” (p. 17).

Turning to the pricing of manufactures, Hicks accords centrality to Marshall’s short-period theory of the industry. The short period is “that which elapses before the fixed-equipment of the manufacturer has had time to adjust” (p. 21). This is a part of Marshall’s work which, according to Hicks, had special influence on Keynes. It also influenced Harrod in his 1934 article, “Doctrines of Imperfect Competition,” in which he distinguishes between short-period and long-period equilibrium. Hicks regards Harrod’s piece as “the best thing in the field which was available to those who took part in the early discussions of the *General Theory*,” even though “the direction in which it led did not prove in the end to be fruitful.” Namely, with only imperfect foresight, firms pursue product diversification, and the concept of long-period equilibrium of an industry is less useful than many neoclassics (including Marshall) and Harrod imagined. Hicks refers us to his fixprice market concept, meaning thereby not that prices do not alter, “but that there is a force which makes for stabilization operated not by independent speculators, but by the producer himself” (p. 25). This is in contrast to his flexprice market concept with which he typifies commodity markets’ price behavior.

Finally, Hicks regards the labor market as “one extremely important nonfinancial market” (p. 27). Though one might have expected that Keynes would have significantly aided in the analysis of labor market behavior, Hicks argues that Keynes “gives us very little” (p. 27). Hicks steps into the breach. His analysis focuses on wage determination under collective bargaining. The trade union, equipped with the strike weapon, is resistant to any formal reduction in money wages and is motivated by the desire to defend not just a money wage but a real wage. Hicks reviews twentieth-century wage behavior in the United Kingdom by comparison with the United States. He maintains that “search” theories of employment, having had strong appeal in the United States, are not very suggestive in European labor markets. Keynes’s antidote to temporary unemployment is an increase in effective demand. But even with a depression long lasting, Keynes persevered in prescribing demand expansion, a remedy that Hicks has more confidence in for the American economy than the British.

*The Role of Money.* In probing the role of money as a facilitator of market performance, Hicks acknowledges the crucial function of money as “a standard of value in terms of which people do their calculations, and in terms of which debts are expressed” (p. 104). He immediately follows up this acknowledgment, however, with the observation that “But money as a means of payment is just a debt.” Hicks’s argument that as a medium of exchange money is merely a debt represents a line of thought that he attributes to Wicksell (pp. 102–11). Independent of our consideration of Wicksell, however, the proposition that in its capacity as a medium of exchange money is just a debt falls short of grasping the contrast between a money-exchange and a barter-exchange economy. Both conceptually and functionally, debt can exist in a barter-exchange economy. In other words, transactions in kind permit the emergence of debt obligations and, thereby, the pairing of lenders and borrowers. Thus, Hicks’s proposition that in its capacity as a medium of exchange money is just a debt runs the danger of missing the distinction between a money economy and a barter economy. The essence of money as a medium of exchange is the quality of money as generalized purchasing power. The debt formation of which a barter economy is capable is consonant with the nonexistence of generalized purchasing power in such an economy. Credits and debits in kind do not of themselves transmute a barter economy into a money economy.

Hence, the characterization of money as a medium of exchange being “just a debt” constitutes a deficient comprehension of the distinctiveness of money as a facilitating device in the working of markets. And from the standpoint of the history of monetary thought, we suggest that the critical question raised by Hicks’s derivation of this deficient notion from Wicksell’s pure credit system, is whether Wicksell’s monetary theory itself engenders this analytical flaw.

Although Hicks, in common with Laidler, partakes of the logical pitfall inherent in Wicksell’s monetary paradigm, Hicks does not let this divert him from reaching the core of a money economy. In contrast to Laidler, Hicks, while granting that money occasionally can be a store of value, insists that “this is not a distinguishing property of money as such. Any durable and resalable good can be a store of value” (p. 42). Thus by clear implications, Hicks rejects Laidler’s perception and even proceeds by explicit formulation to refute Keynes’s line of thought “that money is the perfect store of value, that it is the only asset which possesses perfect liquidity . . . For liquidity in turn cannot be defined . . . except in terms of exchangeability for money” (p. 42). In this vein, Hicks’s refutation of Keynes is thoroughgoing: “So to define money as an asset with perfect liquidity is to argue in a circle. It is the other functions of money which are intrinsic: the liquidity property follows from them” (p. 42). Accordingly, Hicks seems to end up “with two distinguishing functions of money: standard of value and medium of payment” (p. 43). He conceives of the representative exchange transaction as originating in a contract in which money emerges as a standard of value, and the settlement is effected in a medium of payment. As between these two, Hicks ascribes both logical and chronological primacy to the standard of value.

While articulating the primacy of the standard of value, Hicks betrays a slight ambiguity or contradiction, with reference to the unit of account. He initially acknowledges that “unit of account” has often been taken to be a synonym for “standard of value” (p. 43). But since he explicitly subsumes the function of “standard for deferred payments” under “standard of value” (pp. 42–43), he surmises that “unit of account” “says much less than what is needed” (p. 43). A bit later, however, referring to certain international barter deals in twentieth-century eastern Europe, he concludes that in such dealing, “money remains as a standard, at least as a unit of account” (p. 43). So unit of account is taken by Hicks as a synonym for standard after all; Hicks shows that he cannot avoid such interchangeability of terms between standard of value and unit of account. But this is a minor point when set against the abun-

dance of thoughtful, incisive, and original arguments that pervade this slim volume, rendering it a gem of monetary theory.

### III. Conclusions

To briefly summarize, Laidler's exposition of the doctrinal development of the quantity theory of money is indispensable for future scholars of monetary thought. Laidler's erudition, his ability to relate doctrinal debates to contemporary monetary issues, and his willingness to express views outside the accumulated conventional wisdom of monetary doctrine ensure that his arguments will stimulate debate and inspire further research. In turn, although Hicks has recently been accused of having become preoccupied with his own earlier writings (Niehans 1990, p. 361), we find that his posthumously published (and last) volume constitutes a forward thrust in monetary analysis. Hicks advances the primacy of the standard of value as a theory of the core of the nature of money—what we have named “embryonic money”—and he does so in the doctrinal context of the history of monetary thought. Indeed, with special reference to the treatment of Walras and Wicksell, we regard Hicks's achievement in this crucial respect to outpace many a younger monetary scholar. The reader will more than doubly profit by perusing both monographs in juxtaposition.

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