

Chicago Schools Old and New on the Efficacy of Monetary Policy

The exegesis of a Chicago monetary heritage by Friedman (1956, reprinted in Friedman 1969) where "money mattered" and which forms a direct link to his modern version of the quantity theory has recently been challenged by several writers. In a series of articles, Don Patinkin (1969, 1972a, 1972b, 1972c) contrasts the variable-velocity approach to the Fisherine equation adopted by former Chicagoans with Friedman's stable portfolio-demand function for money. The conclusion drawn by Patinkin is that Friedman's monetary framework can more accurately be described as an extension of Keynesian liquidity preference theory rather than as a direct outgrowth of an earlier Chicago quantity-theory tradition. Subsequent papers by Johnson (1971) and by Moggridge and Howson (1974, p. 227), relying on Patinkin's work as their source, take a more extreme view denying the validity of a unique Chicago monetary heritage and categorizing the delineation of such a heritage by Friedman as a mythical invention. Despite these criticisms, however, Friedman continues to view his monetary contributions as primarily an extension of the pre-Keynesian quantity-theory tradition, particularly as formulated by his mentors at Chicago during the 1930's and 1940's (Friedman 1972, pp. 932-45).

The failure to reach agreement concerning the possible existence and relevance of an earlier Chicago School of monetary economics is due in part to shortcomings in previous doctrinal-historical studies. In particular previous studies have not dealt adequately with the relationship between the monetary-policy orientations of earlier and modern Chicagoans. The purpose of this paper is to trace the evolution of monetary-policy proposals at Chicago from the early 1930's up until the appearance of Friedman's classic "Restatement" of the quantity theory in 1956. It is divided into three sections. The first section examines the pragmatic nature of Chicagoan monetary econo-

mics during the depression-dominated 1930's. Contrary to recent interpretation, these Chicagoans had little faith in the efficacy of traditional monetary measures — open market operations and variations in the discount rate — as means to combat the depression.¹ Nevertheless, their advocacy of fiscal prescriptions in light of the effects of deficit budgets upon the stock of money suggests a unique approach to the Fisherine equation not shared by other American quantity theorists during the 1930's.

The second section describes the emergence of the Chicagoan affirmation in the efficacy of traditional monetary policy. This process entails extensions to the quantity theory by Chicago economists during the 1940's and early 1950's, especially by Frank Knight, Lloyd Mints, and Friedman. Following Patinkin (1969, 1972c), Friedman's "Restatement" is considered a pivotal contribution to contemporary monetarist thought. But Patinkin's implication — which is carried over into the work by Johnson, and Moggridge and Howson — that neo-Chicagoan monetary economics is largely a derivative of Keynesian monetary theory as integrated in the "Restatement" and stands in isolation of earlier Chicago views is shown to be in error. This paper argues that rather than representing a transmogrification of the monetary views of his predecessors, Friedman's "Restatement" more accurately reflects a culmination of post-Keynesian Chicago contributions on money. In addition, a common link binding Chicagoans throughout the period under study, is shown to be their interpretation of deficit budgets financed by money creation as the implementation of monetary — as opposed to fiscal — policy.² Concluding remarks are provided in the third section of the paper.

I. The Message from Chicago: 1930-1936

Professor Patinkin (1969, 1972a) has accurately described the theoretical nature of the monetary economics of the 1930's Chicago School in terms of Fisher's $MV = PT$, where velocity was considered

¹ The Federal Reserve's power to alter reserve requirements did not come into effect until 1935.

² J. Ronnie Davis has stated that Chicago economists "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" (Davis 1968, p. 476). Davis, however, interprets the Chicagoans desire for deficit budgets as the advocacy of *fiscal* policy. This paper shows that Chicagoans argued for deficits as means to conduct monetary policy.

unstable and responsible for initiating movements in economic activity. Moreover, as Patinkin rightly notes, the elder Chicagoans thought that proper stabilization policy required that fluctuations in velocity be offset with opposite variations in the stock of money. Unfortunately, Patinkin's valid generalization concerning countercyclical policy has been extended to an invalid generalization concerning the views of former Chicagoans with respect to the effectiveness of traditional monetary measures. Thus — perhaps the consequence of the failure of prior studies to examine adequately the monetary-policy content emanating from Chicago during the 1930's — Joseph Aschheim states:

While contemporary Monetarists under Friedman's leadership are generally regarded as exponents of the efficacy of monetary policy, earlier adherents of the quantity theory even of the Chicago School have been quite eclectic as to the preferable way in which an increase in the quantity of money was to be engendered (Aschheim 1975, p. 227).

A review of the relevant literature, however, does not lend support to Aschheim's contention. On the contrary, an investigation of the works of those Chicagoans who wrote in the fields of monetary economics and stabilization policy during the 1930's — notably Jacob Viner, Paul Douglas, Henry Simons, A. G. Hart and Harry Gideonse — suggests a Chicago group characterized by its lack of conviction in monetary tools which operated via the borrowing and lending activities of the commercial banking system.

Thus Viner, in a 1933 speech on "Inflation as a Remedy for Depression" delivered before the Institute of Public Affairs at Athens, Ga., explored possible alternative methods of expanding the money supply. The most efficient means to this end, he argued, was the implementation of budget deficits of the federal government. Next, he analyzed the possible use of open market purchases:

This method is inferior to the preceding one [budget deficits] in this respect: the preceding one gives more *immediate* stimulus to business. What this does is to increase the cash reserves of the banking system, and therefore, it is hoped, to give the banks the desire to put their idle funds to work. But the bankers have learned in recent years not how to make money without lending, but that under certain circumstances the rate at which they lose

money is less if they stop lending, so it is conceivable that the banking system would welcome the additional liquidity and would not increase its loans or investments [italics supplied] (Viner 1933, p. 131).

Viner, in addition, supplemented his observations concerning the time-consuming nature of policies aimed at expanding the supply of bank reserves and the tendency of the banking system to hold such reserves idle during depression, with a reflection on the demand for reserves. In times of low confidence, he thought, where the future was filled with uncertainty, there would be no reason for businesses to want to borrow even at a lower rate of interest. Accordingly, "if the business community gets scared, if it does not acquire confidence, it is powerful enough to more than counteract expansionist activities" (Viner 1933, p. 130).

Viner perceived depression in terms of a maladjustment between prices and costs. Once velocity moved sharply downward — for whatever reason — product prices would fall, and with costs adjusting rigidly, the result would be a decline in profits and production. Therefore, "there will not be recovery... unless there is expansion in the use of means of payment" (Viner 1933, p. 133). Implicit in this view is the assumption that costs are inflexible in an upward direction as well, so that monetary expansion would have its initial impact on prices and profits which would lead to higher levels of production. "Theoretically, that is not inevitable," argued Viner, "but practically an inflation has always worked out that way... The costs lag behind" (1933, p. 122). Because of his strong reservations with policies operating through the banking system — indeed, "central banking systems have frequently fed booms and depressions instead of counteracting them" (1933, p. 123) — Viner opted instead for currency expansion via deficit budgets. But he was careful to note that deficits were expansionary only when financed by creating money. Depression required money expansion to offset velocity contraction. He stated this explicitly in his 1933 speech, and remained firm in this view well after Keynes' *General Theory* (1936) had made its initial impact. Thus, in a 1942 paper, Viner argued: "It is government expenditure [of newly created money] and not government borrowing which is inflationary; and given the expenditures, the borrowing is anti-inflationary" (1942, p. 696).

Paul Douglas' monetary views during the 1930's were in accord

with those of Viner. As with Viner, he saw the necessity of increasing product prices faster than costs through monetary expansion in order to escape depression. And he also shared Viner's disenchantment of achieving such expansion by way of traditional monetary measures. Douglas reasoned that "it is not enough to give the banks the power to create more credit. It is necessary that the loans should actually be made in large quantities" (1933b, p. 10). During depressions, however, open market purchases would likely result in failure as "business does not want to borrow to build more factories and install new machines when those they already own are so largely idle. Nor do they want to borrow on short-time in order to produce more current goods since it is more than doubtful whether those goods could be sold at a profit to a public whose monetary purchasing power has so dried up" (1934, p. 14). Nor are the banks anxious to lend during contractions. For the banks are "afraid that they will not be repaid for their loans". Hence, stated Douglas, "the combined result has been a stalemate" (1933a, p. 129). The same, he argued, applies to manipulations of the discount rate during a depression:

At such times the volume of credit... shrinks and the banks have large accumulations of idle reserves. The banks, therefore, do not need to resort to re-discounting in order to make loans and hence a reduction in the re-discount rate offers no further bait... It is, therefore, an idle gesture for the Reserve System at such times to lower the re-discount rate (Douglas 1935, p. 116).

Since depression required expansion of the supply of money, and because of "this failure to obtain credit [through banking measures]," Douglas declared that "the problem must be attacked directly" (1933a, p. 129). Like Viner, he advocated the use of deficit budgets. Furthermore, Douglas called for the financing of such deficits through money creation as he argued that bond-financed and tax-financed deficits would have offsetting effects (Douglas 1935, pp. 136-138).

Analogous interpretations of depression and required depression policy were shared by A. G. Hart and Harry G. Gideonse. Both Hart and Gideonse were on the Chicago faculty during the 1930's, but their monetary writings have been overlooked in recent studies of the Chicago tradition. Thus Hart, in a neglected 1936 paper significantly titled "The 'Chicago Plan' of Banking Reform" argued against combating depression through expansion of bank reserves. "Expansion requires not only the basis of an increased amount of

reserve funds but the *acquisition* by member banks of earning assets" (Hart 1936, p. 108). Hart, however, doubted whether such an acquisition would actually materialize "if — as has happened recently — the banks are unable to find a sufficient volume of satisfactory short-term assets and hesitate to acquire further long-term assets for fear of capital losses" (1936, p. 108). He shared the Chicagoan view that depression required offsetting downward movements in velocity through monetary expansion. But given his disenchantment with attempting such expansion through the banking system, he asked: "How are the funds to be put into circulation?" His answer was that, "ideally we might propose manipulation by tax remission or increase of government expenditures *financed by printing money*" [italics supplied] (1936, p. 108). Here again, we have the view, that during depressions, fiscal measures be used in order to expand the supply of money.

Gideonse's contribution to the 1930's Chicago monetary literature was his 1934 article on "Money and Finance". His views were entirely consistent with those of his Chicago colleagues. At the risk of some repetition therefore — but for the sake of historical documentation — it may be noted that Gideonse likewise eschewed the use of traditional monetary tools during depression. "The banks," he stated, "are already provided with ample 'idle' reserves and a factor explaining their idleness seems to be a general lack of confidence" (1934, p. 751). Furthermore,

bankers are at present the victims of a group prejudice that leads to pronounced conservatism. Speculative lending in the past has contributed to the present impasse. While the stigma of bad losses of the past is still upon them, new questionable lending is urged... Under the circumstances expansion is difficult to develop (1934, p. 754).

In accord with the Chicagoan interpretation of the depression, Gideonse observed that "many of our difficulties are due to differential rigidities in prices" and require upward movement of product prices induced through money expansion (1934, p. 756). But Gideonse stated, perhaps more explicitly than other Chicagoans, a theme that has been emerging from the present study. "[Public] expenditures," he argued, "are an essential part of a monetary program... [They] are definitely part of monetary policy" [italics supplied] (1934, p. 750).

Finally we come to Henry Simons, whose views on fractional-reserve banking have been dealt with previously by Friedman (1967, reprinted in Friedman 1969). Briefly, according to Simons, the character of a fractional reserve system was marked by its instability and acted to further impede the effectiveness of monetary policy.³ Under a fractional reserve system, the velocities of both currency and deposits — V and V' — are influenced by the *volume* of near-money substitutes. Therefore, during periods of low levels of confidence when the public moved to increase their cash hoards, banks would find their depositors turning deposits into cash. As a result, the fraction of reserves held against the withdrawn deposits would provide a small cushion against further withdrawals. Hence the banks would be forced to sell their earning assets in order to maintain the statutory reserve proportions. But the conversion process is self-defeating, for while any individual bank can turn its assets into cash, the economy as a whole cannot. Said Simons:

No real stability of production and employment is possible when short-term lenders are continuously in a position to demand conversion of their investments, amounting in the aggregate to a large multiple of the total available circulating media, into such media... Short-term obligations provide abundant money substitutes during booms, thus releasing money from cash reserves; and they precipitate hopeless efforts at liquidation during depressions (1936, reprinted in Simons 1948, p. 166).

The ineptitude of a fractional-reserve banking system as the basis for expansionary monetary policy was stated succinctly by Douglas. Successful implementation of the expansionary policy requires that new loans and investments actually be made. But, said Douglas,

if only a few banks start such a policy and the others do not follow suit, then the checks drawn on the newly created accounts will mostly find their way into other banks. The expanding banks will therefore have large adverse balances to meet which will drain their resources and force them to call a sufficient quantity of loans to preserve their balances. The expansion of credit by a fraction of the banks during such periods of depression is therefore self-defeating (1932, p. 79).

³ This view was shared by the other Chicagoans as well. See, for example, Douglas (1935, pp. 165-177), Gideonse (1933, p. 754), Hart (1936), and Viner (1936, p. 106).

Additional evidence concerning the attitude of 1930's Chicago economists towards policies aimed directly at expanding bank reserves is provided in a joint memorandum dealing with possible depression remedies which was sent to Congressman Samuel B. Pettengill of Indiana on April 26, 1932. The memorandum was signed by twelve University of Chicago economists — including Douglas, Gideonse, Knight, Mints, Simons and Viner.⁴ A much discussed depression proposal during the early 1930's was the Glass-Steagall bill of 1932, which aimed at expanding bank reserves by permitting the banks to receive federal reserve notes in return for government bonds. The (Smoot, 1933, p. 1010).

We agree entirely... as to the inadequacy of the Glass-Steagall bill and similar expedients. Little is to be gained merely by easing the circumstances of banks, in a situation where, by virtue of cost-price relations, everyone, including the banks, is anxious to get out of debt. Such measures may retard deflation and prepare the way for recovery; but they can not much mitigate the fundamental maladjustments between prices and costs [italics supplied] (Pettengill, 1932, p. 824).

A year later in 1933, another Chicago memorandum was prepared and sent to Senator Reed Smoot, the chairman of the Senate Finance Committee. Titled *Balancing the Budget*, signees included Douglas, Simons and Viner.⁵ Here Chicagoans argued that combating depression required "fiscal policies [which] can and should be controlled with reference to the monetary and credit situation of the nation" (Bane, et al. 1933, p. 1010).

Thus the picture which emerges from all of this is of a group of Chicago economists closely united in their views of depression and necessary depression policy. Chicago economists were arguing during the 1930's that depressions were caused by downward movements in velocity and that proper depression policy required expansion of the money supply to correct the "fundamental maladjustments between prices and costs". They were not, however, "eclectic" as to the proper means by which to implement monetary policy. Open

⁴ Other signers of the memorandum were Professors Garfield V. Cox, Aaron Director, Harry A. Millis, Henry Schultz, Chester W. Wright, and Theodore O. Yntema.
⁵ Other signers were Frank Bane, Paul Betters, Carl Chatters, Simeon E. Leland, Clarence E. Ridley, Donal Slesinger, and L.D. White. The credit for the discovery of both this and the Pettengill memorandums belongs to J. Ronnie Davis (1968).

market operations and rediscounting were considered: (1) time-consuming; (2) subject to the offsetting influence of confidence which induced banks not to want to lend, nor business to borrow; (3) further subject to the unstable character of fractional-reserve banking which made expansion by a small number of banks "self-defeating". Hence they opted for fiscal measures and delegated traditional monetary policy to an accommodating role. But they were careful to note that deficit budgets were a means of attaining the necessary variations in the money supply. Bond-financed and tax-financed deficits had offsetting effects — indeed, debt-financing of deficits might even be contractionary — and therefore, fiscal measures were a direct way of conducting *monetary policy*.⁶

The consistency with which Chicago economists clung to these views is evidenced with reference to Simons. In a 1934 book review, he called for the "recognition of the decisive importance of fiscal policy for monetary policy" (1934, p. 788). In his 1934 "A Positive Program for Laissez Faire" he diagnosed the depression as a "cost-price maladjustment" (1934, reprinted in Simons 1948, p. 74) and argued that "monetary policy must ultimately be implemented through fiscal arrangements" (1948, p. 321). In a 1942 review article on the fiscal proposals of Alvin Hansen, Simons observed: "There is never any excuse for borrowing save to *prevent* expansion... If we want expansion, the way to get it is by noninterest-bearing issues" (1942, reprinted in Simons 1948, p. 196). Moreover, in his review of Hansen, Simons advanced an observation most pertinent to the present study. Discussing Hansen's earlier conversion from a saving-investment cycle theorist to his later adoption of Keynesian economics, Simons reflected:

[A] distinction conceals the conversion, namely the distinction between monetary and fiscal measures. Hansen, advocating the latter, thus disassociates himself nominally from monetary theorists by representing such people as advocates of mere central bank action. This provides a lonely category for Mr. Hawtrey, while denying classification to those for whom central bank action is a feeble, inadequate and anomalous implementation of monetary

⁶ Though the Chicagoans were apparently advocating "Keynesian" notions, this pertains only with respect to money-financed deficits. Keynesians were also arguing during the 1930's for tax-financed and debt-financed deficits and were thus truly advocates of fiscal policy. For a fuller discussion, including an analysis of the differing paradigms of Chicagoans and Keynesians, see (TAVLAS, 1976).

policy. [The] name at issue [must] be granted to those advocating schemes of monetary... stabilization which would employ all the borrowing, spending, taxing and issue powers of the central government (Simons, 1948, p. 190).

II. Post-Keynesian Chicago Innovations: Frank Knight (1941)

The preceding discussion has explicated the Chicagoan distinction, during the 1930's depression, between the efficacy of expansionary monetary policy when implemented through fiscal measures and the impotence of such policy when instituted by way of the commercial banking system. A corollary manifestation of the former Chicago tradition was its approach to the quantity theory — a fluctuating velocity variant of the Fisherine equation. During the 1940's and early 1950's, however, a transformation took place in Chicago monetary economics. The transformation was marked by several pertinent contributions, the earliest being Frank Knight's article on "The Business Cycle, Interest, and Money: A Methodological Approach" (1941, reprinted in Knight, 1956).

Knight's article in some respects represents a direct continuation of earlier Chicago views. Thus, though the depression was now part of the past, Knight continued to argue that traditional monetary policy was ineffectual. As his colleagues had argued before him, Knight stated that such policy was hampered by the nature of fractional-reserve banking which could create and destroy money substitutes at will. Hence, "the consequences" of such a banking system for the implementation of monetary policy "are peculiarly serious" (Knight 1956, pp. 211-212). But Knight added a further twist to the earlier Chicagoan view. In order to be effective, open market purchases and discount rate variations required stimulation of investment spending, induced through reductions in the cost of borrowing. Since "the borrowing rate on money, including the rate of yield at which bonds can be sold and the bank rate, is relatively quite unimportant" in the overall cost computations facing a firm, in the real world successful implementation of tradition monetary measures might require extraordinary low — perhaps even negative — rates of interest (1956, p. 215). Knight considered attainment of such low or negative rates unrealistic. Therefore, "any action operating through interest rates can only be effective for moderate fluctuations...

or as a detail in connection with those of major proportion" (1956, pp. 215-216).

Additional lines of continuity bridging earlier Chicago thought with Knight's "Business Cycle" article included similar interpretations of the 1930's depression in terms of price-cost maladjustments, analagous stock-flow monetary transmission mechanisms, and identical Fisherine, $MV=PT$, macro models. Knight's continued use of Fisher's equation is particularly noteworthy, not only because five years had passed since the appearance of Keynes' *General Theory*, but because he continued to define velocity in transactions terms rather than the more easily measurable (and hence easily defined) income concept.

Despite the foregoing similarities between the views of Knight and the earlier views of his colleagues, there were also important differences. Thus, for the first time, the significance of lag effects was brought home to the Chicago School. Successive implementations of a given economic policy, argued Knight, should be expected to produce variations with respect to both "timing and magnitude" upon a proposed target variable. Hence, he stated that, "variations in an economic cause can never be expected to produce strictly simultaneous variations in effect" (1956, p. 203). More importantly — from the standpoint of the anticipatory nature of his lag analysis — Knight perceived that "this phenomenon of 'disturbance' [between cause and effect] is especially important in monetary theory" (1956, p. 204). Also for the first time, Knight brought to Chicago the Fisherine distinction between real and nominal interest rates. He compared two rates of return — the real rate of return on capital [i.e. the marginal efficiency of capital] and the loan rate of interest on contracts between borrowers and lenders. Calculation of the loan rate requires that "allowance must be made... for foreseen changes in the value of money" (1956, p. 215). "In long-term contracts involving any stipulated exchange ratio, this contractual price will of course be influenced, in a mathematically simple way, by the general market *anticipation* of future price changes" [italics supplied] (1956, p. 218). Recognition of the effect of anticipated price changes on the loan rate of interest enabled Knight to make a distinction which contemporary monetarists make between real and nominal rates of interest. For "the stipulated rate in loan contracts becomes a monetary phenomenon... to the extent [of] prospective changes in the value of the unit in which such contracts are drawn" (1956, p. 221).

"The Business Cycle" introduced another factor which was to attain prominence in subsequent Chicago economics. Capital, which is part of wealth, according to Knight, is analagous to "the present worth of a future income stream" (1956, p. 217). The relevant "future income stream", however, is not merely "the rate of return on [physical] capital", but should include the return on *human* capital as well:

In all essentials, the training or retraining of a laborer... is a matter of investment or the transfer of investment; and the economically rational management of such activity involves the same kind of investment yield calculation as the production of any material instrument or the replacement of such instrument by another (1956, p. 217).

A well-known aspect of Professor Friedman's work is his all-inclusive concept of wealth.

Finally, we come to Knight's treatment of the demand for money. For though the formal cyclical analysis of "The Business Cycle" was couched in terms of Fisher's $MV=PT$, Knight made several pertinent observations on the factors affecting money demand. Unlike most of his Keynesian contemporaries who included income along with the interest rate as the proper variables in the demand function for money, Knight argued that the relevant constraint upon total money holdings is wealth. Thus,

The economic process in a pecuniary economy involves the holding or owning, by somebody, of wealth — all the wealth of the economy — and also the entire stock of money. Hence every property owner has the alternative either of holding money up to the amount of his fortune or of choosing the concrete kind of wealth other than money that he will hold (1956, p. 210).

As to the relevant opportunity cost of holding cash balances, Knight was critical of Keynes' notion that the rate of interest on long-term bonds be used to represent this cost. Here he was essentially repeating an argument he had originally advanced in a 1937 review of the *General Theory*:

The things equilibrated are the desirability of holding cash and the desirability of holding wealth in any other form, the relation between the two being dependent upon the relative quantities of

cash and other forms of wealth and upon other factors, among which the money prices of other wealth items can hardly be ignored (1937, p. 112).

Hence,

[Anyone] can consume or hold wealth, and if he holds wealth he can hold it in the form of money or real things — and the latter, of course, in innumerable forms (1937, p. 113).

These statements are suggestive of a portfolio analysis of the demand for money, the importance of which is heightened when coupled with the following remark from his "Business Cycle" article concerning the effects of an expanded money supply:

Of course if created currency is used exclusively to buy bonds, or to construct new equipment, it can temporarily raise the relative price which the principal, or source, will yield. Such an occurrence is a temporary disturbance only. As a monetary change diffuses through the economy, it comes to affect all classes of prices in the same way... (1941, p. 223).

Apparently Knight visualized a monetary transmission mechanism affecting a broad spectrum of assets — "bonds or new equipment" — "in the same way". Such a perception of the monetary process follows directly from his 1937 suggestion of a portfolio demand for money encompassing assets in "innumerable forms".

It can be seen, then, that there is much in Knight's earlier work which was to anticipate later Chicagoan views. Knight's contributions include: (1) recognition of the importance of lags for monetary theory; (2) adjustment of the loan rate of interest for anticipated price changes, thereby distinguishing the monetary (or loan) rate from the real rate; (3) the division of capital into human as well as physical components; (4) the constraint on the demand for money is wealth; (5) a demand function for money which included a broad spectrum of assets; (6) a monetary transmission mechanism incorporating direct effects on both financial and real assets. In many respects, Knight's particular formulations of these aforementioned contributions were simplistic. Nor did he successfully integrate them into a consistent analytic framework. But they remain significant nonetheless, for they convey a definite indication of the flavor of the ideas that must have filled the air at Chicago during the early 1940's.

Lloyd Mints (1946, 1950)

The Chicago version of the quantity theory underwent further evolution as a result of the contributions of Mints. As with Knight, however, much of Mints' monetary economics is repetitive of earlier Chicago views. This is especially so with respect to Mints' evaluation of the ineffectiveness of open market operations and discounting as policy instruments. Thus in a 1946 paper on "Monetary Policy" and in a subsequent volume *Monetary Policy for a Competitive Society* (1950), Mints was arguing against stabilizing aggregate demand through traditional monetary measures.⁷ "It takes time", he said, "for the central bank to make its rates policy effective in the market and in the short-run the demand for funds, particularly short-term funds, is inelastic" (1946, p. 63). Therefore, "it is unlikely that there would be much, if any, immediate effect on aggregate demand in consequence of open market operations [or discount rate manipulations]" (1950, p. 202). Nevertheless, stabilization, according to Mints, required offsetting changes in aggregate demand (MV) with countercyclical variations in the money stock. Such necessary variations in money could in turn be achieved through use of fiscal measures. As his colleagues were arguing during the 1930's, Mints was arguing a decade later that "fiscal operations of the national government have monetary consequences". They are a way by which to "carry through monetary policy" (1946, p. 63). And, "budget deficits and surpluses... and the borrowing and redemption operations of the Treasury, all have monetary significance" (1946, p. 63). In periods of contracting aggregate demand, deficits should be created for the purpose of expanding the monetary stock. However, deficits financed by selling government bonds were thought, by Mints, to be contractionary: "To finance federal expenditures... the need is for money, and that being the case, money, not bonds, should be issued; and when inflation is imminent, money should be withdrawn" (1946, p. 66). The preceding views are entirely consistent with those emanating from Chicago during the 1930's.

But there were also extensions of former Chicagoan thought in Mints' writings. Recall that while Knight had made some important insights into the demand for money, his formal cyclical analysis was

⁷ In addition to the reasons advanced in the text, Mints also eschewed traditional monetary tools due to the unstable character of fractional-reserve banking (Mints 1950, p. 7).

couched in terms of velocity. Mints' formal analysis of depressions, however, involved a simultaneous juxtaposition of velocity with money demand — symbolic of the gradual Chicagoan replacement of the former concept with the latter. Said Mints: "Unemployment growing out of a rise in the propensity to hoard is a monetary phenomenon... in the sense that the proximate cause is a change in the velocity of circulation of money" (1950, p. 29). And while velocity (or the demand for money) was still considered an unstable function of the volume of near moneys and price expectations (i.e. confidence) it by no means was definite that depressions were due solely to downward shifts in velocity as had been previously argued by Chicagoans. For "though a depression [may be initiated] by an increase in liquidity preferences" it may also "be caused by a reduction in the quantity of money" (1946, p. 60). "It is quite possible that in some instances a decline in the stock of money has been the initiating factor in bringing on depressions" (1950, p. 37). Mints, therefore, was on the road to the modern Chicagoan view which adduces business fluctuations primarily to movements in the money stock.

In his *Monetary Policy for a Competitive Society* Mints discussed the demand for money in detail. Keynes, he argued, assumed that an increase in the demand for money would raise the level of interest rates. But said Mints, "we have three factors to be kept in equilibrium: the quantity of money [demanded], the rate of interest, and the general price level" (1950, p. 34). Keynes' view was that changes in the demand for money primarily affect the demand for long-term bonds. Mints, however, stated that "an increase... in the demand for cash may be at the expense of any one or more of several ways [an individual] might have disposed of income" (1950, p. 30). He listed the following possibilities:

- (1) Purchase of consumers' goods.
- (2) Purchase of producers' goods.
- (3) Lend on short-term.
- (4) Purchase of long-term bonds.
- (5) Purchase of corporation shares (1950, p. 30).

Mints argued that an increase in the demand for money is primarily at the expense of consumers' and producers' goods though it probably also affects the demand for long-term bonds. Hence "the rate of

interest [is] a matter of decidedly minor importance" in the "total demand of the community for cash"⁸ (1950, p. 35). It can be seen then, that Mints stated in a more explicit manner than Knight a portfolio approach to the demand for money. Knight's portfolio analysis was heightened when presented in conjunction with a simplistic, but broad monetary transmission mechanism. The same applies to Mints who — though he had little faith in the efficacy of open market operations — observed:

The effect of changes in cash balances on aggregate demand in consequence of open-market operations might conceivably come either indirectly, through changes in the rate of interest, or directly, through an immediate effect on the demand for consumers' or producers' goods (1950, p. 198).

In both his 1946 paper on "Monetary Policy" and in his 1950 volume on *Monetary Policy for a Competitive Society* Mints advanced another view which is currently associated with contemporary Chicago. This had to do with Federal Reserve behavior during the early stages of the 1930's depression. According to Mints, rather than being characterized by expansionary monetary policies, the period was instead characterized by a lack of "sufficiently vigorous action... taken by central banks, and particularly... by the Federal Reserve System" (1946, p. 62). Thus,

Our mistakes are to be found... in our failure to follow an enlightened policy in the months and years immediately following the autumn of 1929. Neither the Reserve System nor the Federal government made any significant effort to prevent a drastic decline in the quantity of money, to say nothing of the much needed increase, from 1929 to 1932. This is where we blundered (1950, p. 129).

In his 1950 work, Mints supplied empirical data confirming the correlation between the decline in the money stock with the concurrent drops in wholesale prices and industrial production during the depres-

⁸ Friedman states: "I too tend to minimize changes in market interest rates as the primary channel through which changes in the quantity of money affect spending, output, and prices" (1972a, p. 945).

sion. Some years later Friedman and Schwartz (1963) validated Mints' insight concerning the Federal Reserve's behavior during the period, 1929-1933.⁹

To avoid depressions in the first place, Mints thought that the general (wholesale) price level should be kept stable. Because he viewed velocity as variable, he thought price stability might best be attained through the necessary variations in the supply of money. Nevertheless, in his 1946 article he considered the possibility of increasing "the quantity of money at some constant rate, roughly equivalent to the rate of increase in output" (1946, p. 61). Mints thought this growth-rate rule an "acceptable" alternative, but opted instead for discretionary price stabilization. A growth-rate rule was not suited to take account of fluctuations in velocity. He maintained his preference for direct price-level stability in his 1950 work, but with less conviction. There were, he recognized, "difficulties" which were associated with such a policy:

The possible difficulties that might be encountered in price-level stabilization are two: (1) the lag in the effect of the monetary action, and (2) the discretionary power that would have to be given to some administrative official in regard to the amount of open-market operations (1950, pp. 171-172).

Friedman has advanced similar arguments against discretionary stabilization. Thus he states that "monetary changes take time to affect the economy, and the time delay is itself highly variable". Furthermore, he prefers a monetary rule because, for one thing, it "would insulate monetary policy... from the arbitrary power of a small group of men not subject to control by the electorate" (1972b, p. 66).

Moreover, from the standpoint of the overall philosophy of the role of monetary policy in economic life, there is striking similarity between Friedman's view and that of Mints. In his important 1967 Presidential address before the American Economics Association, Friedman's theme was partly "what monetary policy cannot do". As to what monetary policy can accomplish, Friedman states that it can "provide a monetary climate favorable to the effective operation of those basic forces of enterprise, ingenuity, invention, hard work and thrift that are the true springs of economic growth. That is

⁹ During the 1930's Viner was critical of the Federal Reserves' behavior during the initial years of the depression. But Viner's view was not shared by other Chicagoans and therefore not part of Chicago's "mainstream" economics.

the most that we can ask from monetary policy at our present stage of knowledge" (1968, reprinted in Friedman 1969, p. 110). Similarly, Mints observed:

The level of production and employment are not amendable to control by monetary measures, except in the sense that monetary stability will provide the conditions in which a high level of output and employment will be maintained (1950, p. 117).
Monetary policy is no panacea for the ills of society; but it can be of powerful, even though indirect, aid in dealing with them (1950, p. 229).

Thus as in the case of Knight, the Chicago quantity theory continued to undergo improvement at the hands of Mints. The latter's contributions include: (1) incorporating the concept of the demand for money on an equal setting with velocity into his formal cyclical analysis; (2) recognition that reductions in the quantity of money — independently of velocity — could initiate a depression; (3) the development of a more clearly stated portfolio demand for money than had earlier been formed by Knight; (4) an associated broad monetary transmission mechanism resulting from open market operations; (5) criticism of the Fed's failure "to prevent a drastic decline in the quantity of money" during the early years of the depression; (6) empirical validation of the decline in the money stock from 1929-1932; (7) consideration of a monetary growth-rate rule as an "acceptable" policy guide; (8) recognition of lag effects and problems of discretionary power involved with direct price-level stabilization; (9) the view that monetary policy should be considered an indirect, yet powerful, instrument from which to pursue economic expansion.

Milton Friedman (1948, 1951, 1952)

Friedman's early monetary work is in many respects a continuation of the views of his Chicago mentors and colleagues. Thus in a 1948 paper, "A Monetary and Fiscal Framework for Economic Stability" (reprinted in Friedman 1953), he shares the Chicagoan disenchantment towards traditional monetary tools. Fractional reserve banking, he argues, allows the monetary authorities to have large discretionary powers over the creation and destruction of the money supply. Hence, Friedman calls for the adoption of Simons' plan of 100 per cent reserves. But Friedman goes further. Noting that the

adoption of 100 per cent reserves would "reduce the discretionary powers of the reserve system by eliminating re-discounting and existing powers over reserve requirements", he also calls for "the elimination of... the existing powers to engage in open-market operations" (1953, p. 136). As a result, monetary policy should be conducted with reference to the government's fiscal operations:

Deficits or surpluses in the government budget would be reflected dollar for dollar in changes in the quantity of money; and conversely, the quantity of money would change only as a consequence of deficits or surpluses. A deficit means an increase in the quantity of money, a surplus a decrease (1953, p. 140).

Moreover, Friedman recognized that financing deficits through money creation is more expansionary than either levying taxes or issuing interest-bearing securities (1953, p. 140).

Given that deficits should be financed by the issue of money, what particular monetary transmission mechanism did Friedman envisage? Purely one in which additions to the money stock represent additions to assets and thereby increase the average propensity to consume via wealth effects. "The resultant increase in the aggregate stock of money [a result of the deficit]", he says, "must further raise the real value of the community's stock of assets and hence the average propensity to consume" (1953, p. 152). It was not until his "Comments on Monetary Policy" in 1951 (reprinted in Friedman 1953) that Friedman began to envisage a broader transmission mechanism along the lines previously suggested by Knight and Mints. Discussing the effects of a rise in the rate of interest — brought about by open-market sales — on investment expenditure, Friedman stated,

'Investment' in this context includes not only expenditures on plant and equipment but also business expenditures on inventories and goods in process and consumer expenditures on durable goods and houses (1953, pp. 269-270).

In addition, "Comments on Monetary Policy" included a turnabout on Friedman's views concerning the implementation of monetary policy — though largely a result of his desire to halt inflation. Nevertheless, he stated: "At the present time and under existing conditions [of inflation], monetary policy... must take the form primarily of open-market operations in government securities" (1953,

p. 265). Once inflation was controlled, however, Friedman reiterated his belief that 100 per cent reserve banking be instituted and discretionary monetary policies be abolished. But such reform was now delegated to the "long-run" (1953, p. 265). Finally, "Comments on Monetary Policy" contained explicit reference to the "two alternative languages" through which the monetary process could be discussed — "that of the quantity theory or that of Keynesian analysis" (1953, p. 268). Friedman implied his preference for the former and then proceeded to present his broad view of investment spending.

Friedman's demarcation between the quantity theory approach and that of Keynesian income-expenditure analysis was carried over into his "Price, Income and Monetary Changes in Three Wartime Periods" (1952, reprinted in Friedman 1969). But Friedman here presented the two approaches — perhaps for the first time in the literature — as two alternative, empirically testable hypotheses. The empirical results of the article are important because they led Friedman to conclude that "the velocity of circulation of money is [an] empirical variable that behaves in a stable or consistent fashion" and that changes in the money stock are primarily responsible for changes in nominal income and prices (1969, pp. 166-170). Friedman continued to assert, however, — in the tradition of Chicago — that: "The level of expenditures and of taxation... [are important] because of their effects on the stock of money per unit of output, and they are only important insofar as they have such effects" (1969, p. 170).

Concluding Remarks

The 1930's Chicago School is especially notable for its unique variable-velocity approach to the quantity theory and the consensus of its members that depression should be combated by expanding the money supply. The consensus among the Chicagoans extended to the view concerning the inefficacy of traditional monetary policy in correcting price-cost maladjustments and to the efficacy of monetary policy when conducted through variations in government expenditures and receipts. These views continued to be representative of Chicagoan monetary economics during the 1940's and early 1950's. Moreover, contributions by Knight, Mints, and Friedman extended the quantity-theory foundations at Chicago throughout these latter years. The

current Chicagoan view that deficits financed solely by money creation are a means of conducting monetary policy (Friedman 1972, p. 715) dates back to the Chicago tradition of the 1930's.

In light of the aforementioned contributions by Knight, Mints, and Friedman, the "Restatement" of the quantity theory by Friedman in 1956 is accordingly a culmination of the evolvement of the Chicago tradition. The "Restatement" should not, however, be viewed as a reflection of the then existing state of Chicago monetary economics. For as Friedman has rightly acknowledged: "After all, I am not unwilling to accept some credit for the theoretical analysis in that article" (1972a, p. 941). But Friedman's contributions in the "Restatement" *should* be viewed as a sequential extension of the Chicagoan approach rather than reflecting the adoption of Keynesian monetary economics by Friedman. If Friedman's portfolio demand for money is Keynesian, it is also Chicagoan due to the elaborations of portfolio analysis by Knight and Mints. Moreover, the development of a broad monetary transmission mechanism by Knight, Mints and Friedman, in conjunction with the latter's empirically-determined stable velocity function in 1953, led to the affirmation of traditional monetary policy at Chicago during the mid and late 1950's. At about the same time, the Keynesian monetary tradition bred Radcliffism elsewhere. For these reasons, and from the additional vantage of the hereditary nature of his entire monetary framework, Friedman's monetary economics forms a direct bridge to the quantity-theory views of his Chicago mentors.

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