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PROFESSOR PESEK'S CRITICISM
OF
MONETARY THEORY: A COMMENT

by
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In a recent paper in this Journal Boris Pesek [8 Pesek 1976] presents

seven major criticisms of current monetary theory. Some of these criticisms,

particularly the demonstration of the extremely high transactions velocity of

money, are extraordinarily valuable, but others are more questionable. In

this note I will criticize four of Pesek's seven items.

Item 1

While Pesek's defense of Fisher is a welcome corrective to a common

tendency to consider Fisher's version of the quantity theory as crude, Pesek

goes too far in claiming that Fisher realized that velocity was a function of

the interest rate. His sole evidence for Fisher's recognition of the role of

the interest rate is that Fisher listed among the determinants of velocity

thrift and hoarding and book credit. But this is unpersuasive for two

reasons. First, if Fisher realized that velocity is a function of the

interest rate, why did he not list the interest rate explicitly in his

catalogue of the determinants of velocity, and why did he not introduce this

interest rate effect in his discussion of the transition period?

Second, when we look at Fisher's own explanation of why an increase in

thrift lowers velocity we get a very different picture than is suggested by

Pesek. Fisher [2 Fisher 1922, p. 80] wrote:

The velocity of circulation of a spendthrift may be presumed to be
greater than the average. He is always apt to....have a small
balance on hand. But his thrifty neighbor takes care to provide
himself with cash enough to meet all contingencies. The latter
tends to hoard and lay by his money....In a certain university town
the banks often refuse to take deposits from students of spending
habits because the average balances of the latter are so low....A
man who is thrifty is usually, to some extent, a hoarder either of
money or bank deposits.

Fisher does not mention in the interest rate in this connection, and the whole tenure of his discussion appears to relate more to what we classify in modern money demand functions as a tastes variable, rather than to the interest rate. Pesek attempts to relate Fisher's discussion to interest rates by claiming that "the author of The Rate of Interest....must have taken it for granted that 'thrift' and 'book credit'....are in turn determined by the interest rate." [8 Pesek, 1976, p. 857 n.] But this argument is invalid. Suppose the interest rate rises, and that this raises the savings rate. In Fisher's analysis this would, in turn, lower velocity, and thus raise the demand for money, so that the increase in the interest rate is here _positively_ related to the demand for money rather than negatively as it is in the modern quantity theory. And the same applies to book credit. An increase in the interest rate lowers the amount of book credit, thus lowering velocity and raising the demand for money, so that again there is a positive relation between interest rates and the demand for money.[1]

Pesek's complaint that we nowadays ignore transactions velocity is much more persuasive, and it may be useful to relate Pesek's important findings with respect to transactions velocity to the behavior of income velocity. Pesek points out that innovations have greatly raised transactions velocity, and that with a given growth rate of the money stock this may be a major inflationary factor. Dividing the income version of the equation of exchange by the transactions version and cancelling the M's we get $V_y/V_t = T_y P_y / T_t P_t$, where the subscripts indicate respectively the income and transactions versions of the variables. The rapid rise in V_t documented by Pesek must obviously have been reflected in a decline of $T_y P_y / T_t P_t$ and/or a rise of V_y. There is little reason to think that the prices and quantities of items

not contained in income, e.g., intermediate products, financial assets and factor services have necessarily risen sufficiently relative to the prices and quantities of items included in income to account for all of the sharp decline in V_y/V_t which we experienced. It is therefore plausible that the rapid rise in transactions velocity has caused at least some rise in income velocity. This possibility is consistent with the Chicago version of the quantity theory where technological developments that cause transactions velocity to increase are classified as a change in tastes.[2] Specifically, given a low price (interest) elasticity of cash balances, a rise in the amount of work which each dollar accomplishes results in a declining demand for money. This might perhaps explain why Friedman's permanent income money demand function has given such a poor fit since the late 1950's. A role for transactions velocity is also suggested by the fact that the inclusion of a debits variable in the SMP model's demand for deposits function reduces its prediction error substantially [1 Enzler, Johnson and Paulus, 1976, p. 278]. Moreover Charles Lieberman [5, 1976] has presented some evidence that the demand for money is a better function of a transaction variable than of income, and that changes in transactions technology are important for the money demand function. The effect of rapid changes in transactions velocity is something that clearly needs empirical exploration, an exploration that might start by updating the estimates of the variables in the transactions version of the equation that Carl Snyder published in numerous articles in the 1920's and 1930's.

Item 4

Under this rubric Pesek rejects the standard money multiplier analysis in favor of the "new view" that has the stock of deposits determined by the banks' marginal costs and by the demand for deposits. But Pesek goes well beyond the standard discussions of the "new view" by arguing (p. 866 n.) that

since banks can compete for customers by offering free services we would expect their marginal costs to rise until they equal marginal revenue. The usual defense of the orthodox money multiplier is that banks are constrained by reserve requirements to operate at a disequilibrium point where marginal costs are less than marginal revenue, so that an increase in reserves causes them to expand output towards that equilibrium point [see 10 Tobin 1963]. But Pesek's argument that banks are able to circumvent interest rate restrictions, and to operate at the point where marginal revenue equals marginal costs, is plausible. Hence, the "new view" may appear vindicated and the conventional money multiplier analysis invalidated. But not very surprisingly the choice between the "new view" or the money multiplier analysis is an empirical issue. To see this consider two cases; the first is an increase in reserves, and the second is a change in the marginal cost of servicing deposits.

Assume initially that the growth in nominal income that results from the increase in deposits as reserves increase is entirely a rise in prices. It may seem that the demand for deposits then rises proportionately to the supply of deposits so that no increase in the yield on deposits is needed to induce the public to hold the additional deposits. But this is not the case. Prices rise less than proportionately to the increase in the supply of deposits since the supply of money rises by a smaller percentage than the supply of deposits; deposits currently account for only three quarters of M_1. Hence, there is an excess supply of deposits and an excess demand for currency, so that to induce the public to hold the increased stock of deposits, the yield on deposits has to rise.

Moreover, in the short run, an increase in reserves usually results in a rise in output as well as in prices. Hence, if as the empirical evidence suggests [see 3 Goldfeld 1973, p. 589] the income elasticity of demand for

money is less than unity, even the demand for currency plus demand deposits will not, in the short run, rise in proportion to the increase in reserves. Hence a rise in the yield on deposits is required.

Now an increase in reserves tends to raise the deposit rate since it lowers one component of the banks' marginal costs of maintaining deposits, the imputed interest rate on reserves. The extent by which it lowers this marginal cost obviously depends upon the proportion of the marginal cost of deposits represented by the cost of holding reserves, and upon the decline in the price of reserves. And the latter depends, in turn, on the elasticity of demand for reserves in alternative uses, that is on the interest elasticities of demand for excess reserves, for currency and for time deposits.

Now consider the second case, an autonomous increase in the marginal cost of servicing deposits. Banks then reduce the yield on, and hence the outstanding volume of, deposits, and hold more excess reserves. Moreover, by reducing the yield on deposits banks induce the public to raise the currency-deposit ratio so that some reserves are dissipated. Hence, contrary to the traditional view bank costs <u>do</u> play a role in determining the stock of deposits.

Thus the applicability of money multiplier analysis as anything more than a crude first approximation, suitable at best for elementary textbooks, is based on more precarious empirical assumptions than is usually realized. If there are frequent and large changes in the marginal cost of servicing deposits, or if the excess reserve ratio, the currency ratio or the time deposit ratio have substantial interest elasticities, then one would expect the money multiplier to be unstable.

Pesek is therefore correct in rejecting the traditional view as something established by a priori analysis. At the very least its prediction of the

money multiplier is in principle inaccurate. But whether it is actually so inaccurate that one should abandon it for the much more complex and unwieldy "new view" is an empirical issue on which Pesek has not offered any evidence.[3]

Item 5

In this section Pesek criticizes Don Patinkin's review article of Pesek and Saving's, Money, Debt and Economic Theory [7 Patinkin 1969]. In this book Pesek and Saving had argued that bank deposits are net wealth to the economy, and hence, like outside money, are part of the base for the operation of the real balance effect. (One can measure this wealth either by looking at the bank deposits held by the public, or at the corresponding assets held by the banks.) Since bank assets are substantial the inclusion of bank wealth would greatly increase the strength of the real balance effect.

But Patinkin showed that the only item that should be considered bank wealth for the purpose of measuring the real balance effect is the bank's right to issue money, a right that has value, only because it is a mononpoly right. If bank charters, and the accompanying right to issue money, were freely available firms would enter banking until the price of money would fall, and costs of producing it rise enough, to eliminate windfall profits. But given the limitation on entry the bank charter is monopoly wealth for the banks.

Now suppose that prices fall to half their previous level. A bank's monopoly right to issue, say $1000 of nominal money is now twice as valuable as before. Hence, wealth has increased, and so there is a real balance effect. But note that this real balance effect occurs only with respect to a bank's monopoly wealth. With respect to its other wealth, e.g., its building, there is no real balance effect, since its value, unlike the value of the right to print a certain amount of nominal money, declines along with other

prices.[4] In order to focus on this monopoly wealth Patinkin in one part of his paper abstracted from the existence of the bank's building and other wealth. He also frequently ignored the fact that the term "banking industry" includes the factors employed in it, and focused on the income received by the bank after its factor payments.

Pesek's criticism of Patinkin centers on Patinkin's abstracting from the bank's wealth other than its charter, and from its costs, and more generally on Patinkin's ideosyncratic use of the term "banking industry" to denote just banks themselves excluding the factors employed in the industry. As Pesek rightly points out the term "industry" as used in national income accounting includes the total activity of a group of firms; for example, value added in an industry is defined to include all the wages, interest, rents and profits paid in this industry, and not just the monopoly profits. Similarly, Patinkin sometimes used the term "sector" as a synonym for such an "industry," although this term too is defined quite differently in the national income accounts. Moreover, Patinkin treated interest payments in kind as similar to interest payments in money, thus ignoring that payments in kind are part of the output of the banking industry (as the term is defined in the national income accounts) since they are produced by the factors in that industry.

But what do all these charges amount to? It is simply that Patinkin has used the terms "industry" and "sector" in meanings different from their standard technical ones in order to focus on the problem he was dealing with. Since this has confused at least one eminent monetary theorist, Boris Pesek, Patinkin's peculiar use of these terms is unfortunate. But no issue of substance is involved. Specifically his criticism of Pesek and Saving's analysis emerges unrefuted.

Item 6

Pesek next considers the issue of interest payments on bank deposits, and maintains that banks pay a substantial interest rate--11.2 in 1974--on deposits. He obtains this startling result by expressing bank costs as a percentage of deposits. But some of the bank's costs represent the costs of acquiring and servicing assets rather than deposits. Pesek tries to avoid the problem of allocating bank costs between these two activities by arguing that banks must hold assets to be able to pay interest on deposits, so that the cost of acquiring and servicing assets is really part of the cost of holding deposits. But one could turn this argument around by saying that since banks must gather deposits to be able to make loans we should allocate all costs to their lending activities and none to their deposits. Clearly, both alternatives are equally arbitrary.

More specifically, consider a situation where we do not have to worry about how to allocate costs between the suppliers and users of funds, because the suppliers receive an explicit interest payment and no "free" services. Take a financial intermediary that issues bonds to the public, and uses the proceeds to make loans. We would surely consider the yield to the public to be only the interest rate paid on these bonds, and not this interest rate plus all the administrative costs incurred by the intermediary, even though it has to incur these costs to be able to pay interest on its bonds. By treating all the bank's costs as a net yield on deposits Pesek is actually implying that depositors can lend to the ultimate deficit units via banks without incurring any costs of intermediation. What proportion of a bank's costs consist of services to its depositors, and what proportion are costs of maintaining assets is a complex empirical problem that should not be brushed aside by making an arbitrary and polar assumption.[5]

Pesek uses his conclusion that banks pay a high rate of interest on deposits as a criticism of the optimal money literature. But even if his allocation of all bank costs to depositors were correct, this criticism would be weak. The problem that the optimum money literature addresses arises from the fact that there is no convenient method for paying interest on currency. As far as bank deposits are concerned optimality could be obtained simply by eliminating the prohibition of interest payments on deposits and turning banking into a competitive industry. And it does not take any very sophisticated analysis to conclude that as long as there are legal prohibitions on the payment of deposit interest, the quantity of deposits held will be suboptimal.

Conclusion

In this note I have questioned four propositions advanced by Pesek, specifically his attribution to Fisher of a recognition of the interest elasticity of demand for money, his complete rejection of money multiplier analysis, his belief that Patinkin was guilty of more than ideosyncratic terminology, and his view that bank deposits have a very high yield. However, none of these criticisms should distract from the very major contributions made by some of the other points raised by Pesek. In particular, his paper should serve to reorient research towards the role of transactions rather than income in the demand for money, a topic that is in great need of empirical work, and towards the empirical issues that underlie the dispute between the traditional and "new view" of deposit creation.

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FOOTNOTES

1. Fisher [2 Fisher 1922 p. 81] describes the effect of book credit as
    follows:
    > "The habit of "charging," i.e., using book credit tends to increase
    > the velocity of circulation of money because the man who gets
    > things "charged" does not need to keep on hand as much money as he
    > would if he made all payments in cash...The system of cash
    > payments, unlike the system of book credit, requires that money
    > shall be kept on hand in advance of purchases.

    Admittedly, in the short run an increase in open market interest rates
    will raise rather than lower book credit, if the interest rate charged on
    book credit is sticky, and buyers have the opportunity to take more book
    credit. In this case a rise in market interest rates raises the volume
    of book credit, and thus reduces the demand for money. But if Fisher,
    who was a very clear writer, had in mind a complex process that relies on
    interest rate differentials he would surely have mentioned it.

2. Richard Selden in a paper published in the basic 1956 statement of the
    Chicago quantity theory [9, 1956] considers the divergence of transaction
    velocity and income velocity as one of the factors influencing income
    velocity.

3. While Pesek offers much evidence on the magnitude of bank costs, he does
    not discuss the variability of these costs.

4. Pesek argues (p. 871 n.) that a monopoly charter is not necessary to
    produce monopoly profits in the banking sector, but that monopoly in any
    other banking activity, say check printing, could also generate monopoly
    profits for the banking sector. This is true, but this type of monopoly
    right does not contribute to the real balance effect any more than does
    monopoly wealth in any other sector. Quite apart from the fact that a
    rise in the degree of monopoly in the banking sector does not create net
    wealth for the economy (see 4 Johnson 1969), the equilibrium monopoly
    price declines along with other prices so that a general price decline
    does not raise monopoly wealth in general. But the real monopoly value
    of a bank charter rises as the price level declines because it is fixed
    in nominal, not real, terms, the bank having the right to create a fixed
    volume of nominal deposits.

5. The Federal Reserve's analysis of bank costs [11 U.S. Federal Reserve
    System 1975, p. 17] attributes 55 percent of the banks' costs to
    deposits. One problem that arises, both in Pesek's arbitrary procedure,
    and in any other attempt to measure the value of the imputed yield on
    deposits is how to value the free services. Since they are not bought on
    the market, and are provided to depositors, at least in part, only
    because of legal restrictions on explicit payments, their cost to the
    bank does not measure their value to the recipient. But their marginal
    value to the household depositor does not necessarily fall short of their
    cost to the bank since free services have the advantage over explicit
    interest payments, of not generating any income tax liability. This tax
    effect, incidentally suggests that the loss from suboptimal money
    holdings is less than the optimal money literature suggests [Cf. 6 Mayer
    1966].

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