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SOME NOTES ON MR. KEYNES' GENERAL THEORY OF EMPLOYMENT

I am grateful for the opportunity to publish these notes in a setting which will make it plain that they are not an attempt to appraise Mr. Keynes' book as a whole, or to discuss properly the high matters of judgment and policy on which it bears — matters on some tho not all of which I am, I think, more nearly in agreement with Mr. Keynes than the reader of these notes might suppose!

After numerous discussions of this book and these notes I am in the usual difficulty — how to acknowledge indebtedness without compromising the acknowledgee. Especially from Professor Pigou, Mr. Henderson, Dr. Bode, Mr. Hicks and above all from Mr. Sraffa, I have derived much positive illumination and helpful criticism; but they are none of them guilty except — I mean not even — Mr. Sraffa. What follows should, at the least, be peppered with footnotes containing his name. The page references are to Mr. Keynes' General Theory, except where otherwise stated.

I. Effective Demand

§1. There is a verbal obscurity in Mr. Keynes' exposition of his central apparatus (pp. 23–32) which may have troubled others besides myself.

Income (later called Y) is the proceeds which result from giving a certain amount of employment; aggregate demand price (D) is the proceeds which are *expected* to result from giving that amount of employment; aggregate supply price (Z) is the proceeds the expectation of which will just make it worth while to give that amount of employment, and for simplicity may be regarded as made up of factor-cost (F) and associated profit (P) (pp. 24–25).

Suppose we are in equilibrium, i.e. with $D=Z$, at a level of output R entailing less than "full" employment. Why is not output increased to $R+\Delta R$? Because if it were, then,

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since part of the increase in individual incomes would not be spent,[1] sales-proceeds would fall short of the sum which makes the production of $R+\Delta R$ worth while (ΔY would be less than ΔZ).

But suppose that entrepreneurs (perhaps having heard at their last Rotary Club luncheon a lecture on J. B. Say) expand output in the *belief* that ΔY will equal ΔZ. Their disappointment must surely not be represented, as is suggested in these pages, as due to a divergence between aggregate demand price and aggregate supply price; for in the case supposed these two are equal. It must be represented (as Mr. Keynes first discloses much later, on p. 78)[2] as due to a divergence between aggregate demand price and income. Mr. Keynes in fact oscillates between using "aggregate demand price" to mean what he has defined it to mean, viz. what entrepreneurs *do* expect to receive, and using it to mean (p. 30, line 5) what they "can expect" to receive, i.e. what they can legitimately expect to receive, because that, whether they expect it or not, is what they *will* receive. In a world in which errors of anticipation are common, the distinction is not unimportant!

§2. Suppose, for instance, that ΔY, while less than ΔZ, turns out to be greater than ΔF — as will happen, e.g., if factors spend all their increments of income, and profit-receivers even a small fraction of theirs. Then ΔP is positive; the general mistake has promoted the general gain. Z, it is true, exceeds Y, i.e. for the representative entrepreneur marginal cost exceeds marginal receipts, and if he expects the situation to be repeated he would be wise to contract output. But he is doing better than he was; hope springs eternal; may not the mistake be repeated, and on a larger scale? If it is, ΔP will again be positive; indeed on these

1. I am not here examining the conditions under which this is probable.

2. The contrast here (rather suddenly) declared to be "vital for causal analysis" is, indeed, not between aggregate demand price and income but between effective demand and income; but "effective demand" is simply that particular value of the aggregate demand schedule at which aggregate demand price is equal to aggregate supply price (and in the real world therefore is something of a Cheshire cat?).

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lines, even tho Z continues to exceed Y, output will be in unstable equilibrium at any point short of "full employment" in the consumption trades. But perhaps, as output grows, Z will not continue indefinitely to exceed Y, for consumption breeds investment, as well as investment consumption. The mistake will turn out not to have been a mistake after all.

It is tempting to interpret along these lines Marshall's famous account of the automatic process of trade recovery, with its suggestion of the need for, and ultimate occurrence of, a sort of plot.[3] A precarious and dilatory process, perhaps, and one that we may well fortify by contrived investment. But in assessing so low the natural recuperative powers of the economic system, has Mr. Keynes taken full account of the potentialities, for good as well as evil, of that contrast between the realized and the expected which, at some moments "vital for causal analysis," at others seems forgotten?

§3. Since Mr. Keynes' final statement (p. 78) of the contrast between effective demand and income is made in the course of some comments on an apparatus of my own,[4] it may be convenient to some readers if I add one or two notes. I should like to preface them by saying that at every stage, from the prehistoric days of "induced lacking" and its converse onwards, my own thoughts about the increased or diminished "abstinence" done out of enlarged or curtailed incomes have largely derived from his, even tho latterly both our methods and our practical inferences have tended to diverge.

3. Principles, p. 711. "If all trades which make goods for direct consumption agreed to work on and to buy one another's goods as in ordinary times, they would supply one another with the means of earning a moderate rate of profit and of wages. The trades which make fixed capital might have to wait a little longer; but they too would get employment when confidence had revived so far that those who had capital to invest had made up their minds how to invest it. . . . There is of course no formal agreement between the different trades to begin to work again full time, and so make a market for each other's wares. But the revival of industry comes about through the gradual and often simultaneous growth of confidence among many various trades."

4. Economic Journal, September, 1933, p. 399.

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(i) Mr. Keynes inadvertently says that I called "income" what in fact I called "disposable income" to distinguish it from income, i.e. from income received.

(ii) His "day" (p. 47) is not the same as mine. For my clock struck midnight with income in the hands of its final disposers, while his strikes midnight with proceeds in the hands of entrepreneurs. Thus if we start in equilibrium with income Y, and if entrepreneurs (having read J. B. Say) "today" expand employment by ΔN, today's income, according to my clock, is necessarily at least $Y+\Delta F$, and it is not until tomorrow that income may fall to a lower figure.

(iii) It does not seem to me quite true that if I say that there is an excess of saving over investment, in the sense of my article, I mean "literally the same thing" as Mr. Keynes means when he says that income is falling. For I am trying (as I cannot but think the author of the Treatise on Money[5] was originally trying) to formulate in a convenient phrase the *cause* of what both the author of the General Theory and I describe as a fall in income.

II. The Multiplier

§1. The story originally told by Mr. Kahn (Economic Journal, 1931, pp. 173–198), if we express it in terms of income instead of employment and strip it of complications connected with the dole and foreign trade, portrays an Authoritarian act of investment of money amount N as generating a series of increments of money income — qN, q^2N, etc. — and a series of increments of saving — $(1-q)N$, $(1-q)qN$, etc. — at later dates. We can regard the latter series as adding up to and, as it were, balancing retrospectively

5. According to Mr. Keynes, that author "argued that change in the excess of investment over saving [in the Treatise sense] was the motive force governing changes in the volume of output." But in that work (see vol. i, pp. 151–152) the *direction* of a change in the volume of output was regarded as depending on whether $I-S$ was positive or negative, not on whether it was increasing or decreasing — the latter circumstance would only affect the *magnitude* of the change. There is thus a much more radical difference between the doctrines of the two books than an incautious reader of pp. 78–79 of the General Theory might suppose.

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the original act of investment. Alternatively, if the act is repeated a sufficient number of times, we can regard the sum of the increments of saving being done in any one period of time as balancing the investment done in that period; and if, with Mr. Kahn,[6] we are prepared to forget about the period of transition, we can declare the problem of the finance of the process of investment to be self-solving.

For the convenience of those who, like myself, are left uneasy by this last step, and who prefer a more explicitly temporal method of analysis, I venture to retell the story in my own language and in tabloid form as follows, taking provisionally[7] as my unit of time that interval in which on the average each unit of money enters once into income. The point to be noted by those whose methods of thought are as old fashioned as my own is that in each period the Authority is conceived of as acting only partly (and decreasingly) by increasing the supply of money, partly (and increasingly) by maintaining the income velocity of the previously issued supply, i.e. by causing the savings of the public to generate income in circumstances in which they would otherwise have failed to do so.

§2. Mr. Keynes, while I think that like Mr. Kahn he is primarily interested in "the final position of equilibrium when everything has settled down," claims (p. 122) that formally his revised analysis, exhibiting the increment of income as a multiple $\frac{1}{1-q}$ of the increment of investment,[8] "holds good continuously, without time-lag, at all moments of time." The explanation given is that if there are temporary obstacles to expanding output in the consumption trades, q will for various reasons suffer a temporary reduc-

6. Op. cit., p. 183, n. 2, "I am here considering the position in the final position of equilibrium when everything has settled down. . . . I do not enter into the question of [the] time-lag."

7. Cf. Economic Journal, September, 1933, p. 399.

8. It is explained that increment of total *employment* will only be $\frac{1}{1-q}$ times increment of "primary" *employment* if the elasticity of supply is the same in the consumption trades as in the investment trades.

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1 Period	2 Investment	3 "Disposable Income," i.e. Income Received in Preceding Period	4 Of which Saved	5 Therefore New Money Created (2−4)	6 Total Income Received (=2+3−4)	7 Money at Beginning of Period	8 V=3÷7
0	N	—	—	N	N	—	—
1	N	N	$(1-q)N$	qN	$(1+q)N$	N	1
2	N	$(1+q)N$	$(1-q^2)N$	q^2N	$(1+q+q^2)N$	$(1+q)N$	1
3	N	$(1+q+q^2)N$	$(1-q^3)N$	q^3N	$(1+q+q^2+q^3)N$	$(1+q+q^2)N$	1
			approaching	*without limit*			
r	N	$\frac{N}{1-q}$	N	O	$\frac{N}{1-q}$	$\frac{N}{1-q}$	1

Total "excess of Investment over Saving" = total new money = $\frac{N}{1-q}$.

(The various terms refer only to money coming into existence after the story begins.)

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tion.[9] But suppose there are no such obstacles to distort q from its normal value, and expansion takes place smoothly, as in Mr. Kahn's story. Even so the process occurs in a world in which time must be regarded as real; and I find it hard to see how, *while income is expanding*, it can at all moments be an identical multiple of a given rate of investment.

The essential difficulty, however, of using the multiplier method to analyze the effects on employment of a given rate of Authoritarian investment is that it is avowedly concerned only with the secondary employment in the *consumption* trades which is generated by the primary process of investment. In other words, the instructiveness of the story told in my table depends very largely on the strength of our reasons for supposing that, in the absence of continued activity by the Authority, all the induced savings of the public would have become abortive, instead of finding a vent in real investment either directly or through the machinery of a normally functioning stock exchange. Prima facie the story seems too pessimistic to take as our standard of reference (at best it can be no more), if we are considering the merits of engineered reflation in time of deep depression,[1] too optimistic if we are considering the damage which might be done if the Authority, mistiming its activities, carried them on into times of high boom. For the enhanced expenditure on consumption goods will normally afford a stimulus to increased investment, as well as the increased investment providing the wherewithal for increased consumption. Dogs wag tails, as well as tails dogs; and there are well-known reasons, which have figured in almost every account of cyclical fluctuation,[2] why a given percentage increase in the demand for consumption goods should stimulate a larger per-

9. The implications for practical policy of this concession, and of the recognition that the elasticity of supply may be less in the consumption than in the investment trades, seem to me of the first importance, but that is another story. See my note, p. 178, below.

1. Tho it may of course, as is generally admitted, be too optimistic if the Authority's action leads to a — rational or irrational — failure of confidence.

2. See especially Pigou, Industrial Fluctuations, p. 108, and J. M. Clark, Strategic Factors in Business Cycles, p. 33.

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centage increase in the demand for instrumental goods. The disparity in the percentage fluctuations of output in the two groups has been such a familiar feature of trade cycle history[3] that I am not inclined to share Mr. Keynes' surprise (p. 127) that, even for America in 1925–33, the absolute movements in total income should not have borne a higher ratio to the absolute movements in investment.

Perhaps anything which happens can be expressed, with sufficient ingenuity, in terms of distortion of "the marginal propensity to consume."[4] But when all this is said, it seems to me doubtful whether, for the analysis of a fluctuating world, the "multiplier" constitutes much advance over more crudely "monetary" weapons of thought.[5]

III. The Rate of Interest

§1. According to Mr. Keynes the rate of interest does not depend at all on the demand for loanable funds for use in investment. "The schedule of the marginal efficiency of capital may be said to govern the terms on which loanable funds are demanded for the purpose of new investment, while the rate of interest governs the terms on which funds are being currently supplied" (p. 165; cf. p. 184). The rate of interest in turn depends on the state of liquidity preference and on the quantity of money (p. 168), liquidity preference being defined as a schedule relating the amount of money which people are willing to hold with the rate of interest prevailing in the market. Thus if we measure money along

3. Cf. Cassel's conclusion, perhaps an extreme one even for the nineteenth century (his italics): "The production of fixed capital depends essentially upon conjunctures, whereas *the production of articles which pass directly into the system of consumption shows no pronounced dependence upon conjunctures.*" (Theory of Social Economy, 1st Eng. tr., ii, 523.)

4. Which is also a *deus ex machina* for the case (p. 128, n.1) in which the "investment" is not investment at all, but a Veterans' Bonus — tho it is not the *propensity* but the *capacity* of individuals to consume which is increased.

5. Cf. J. M. Clark, Am. Econ. Review, March, 1935, pp. 14–20; D. Throop Smith, Deficits and Depressions, pp. 209–210; Hansen and others, Review of Ec. Stat., May, 1936, p. 59; Neissen., ibid, Feb. 1936, p. 24 and Aug. 1936, p. 147.

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OX and interest along OY, OM is the amount of money which people will be willing to hold if the rate of interest is MP. For various reasons the curve LL_1, the locus of P, normally slopes downwards to the right.

§2. It will be convenient to examine this doctrine in connection with a particular series of events — the upward swing of an expansion initiated by the monetary authority. A common sense account of this process may be given as follows: The authority[6] operates by handing out money, partly to persons who, at a lower rate of interest, i.e. a higher price of income-yielding assets, are desirous of *holding* more money in lieu of income-yielding assets;[7] partly to persons who, at a lower rate of interest, see a prospect of *using* more money profitably in their businesses. It is tempting to identify these two classes with those from whom the authority has bought securities and those to whom it has made loans respectively, but it seems probable that to do so would often be to exaggerate the importance of the former class. For instance it seems likely that the purchases of securities by the English banks in recent years have been largely made from business firms who were preparing to finance extensions of production by selling securities instead of by borrowing.[8]

If we take, as it were, a flash light photograph of the situation when the new money is still in the hands of its first holders, we shall, it is true, find Fig. I formally applicable. Both of the classes distinguished above are caught, so to speak, in the act of acquiring more money as a result of the fall in the rate of interest. But it is evident that in the case of the second class productivity conditions, as embodied, if we like, in a curve of declining "marginal efficiency of capital," are exercising a dominant influence upon their actions, and therefore an important effect in determining the rate of interest which will be associated with a given emission of money. A formula which obscures this by lumping

6. I use this word to include not merely the Government or Central Bank but also the associated complex of "member banks."

7. This, of course, is the point which Mr. Keynes has particularly illuminated.

8. Economist, Banking Supplement, May 16, 1936, p. 9.

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together in the same portmanteau those who desire to *hold* more money and those who desire to *use* it does not seem to me helpful towards clarity of thought.

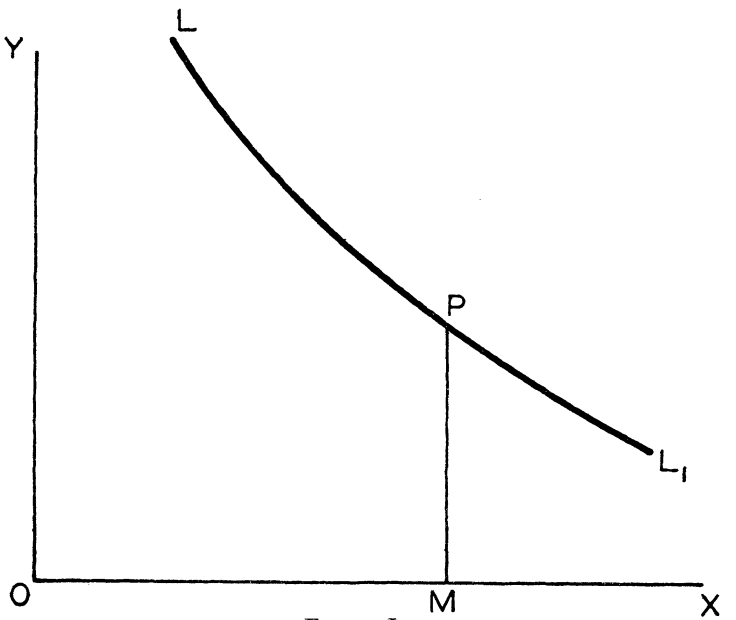

FIGURE I

§3. The situation so far considered is of course highly unstable. The second class of persons distinguished above stand ready to spend the money in their hands. The first class ex hypothesi desire under existing conditions to continue to hold it, but the fall in the rate of interest which they have coöperated in determining stands as an inducement to others to acquire newly created money for use in their businesses.[9] Thus normally forces will be set to work to expand

9. See Cassel's formulation (Theory of Social Economy, 1st Eng. tr., II, 60). "Capital goods are capitalized at too low a rate of interest, that is to say, their prices go up. Hence the production of capital goods seems to be particularly remunerative, and employers make free use of the purchasing power which the banks offer them so cheaply." But there is no need to enter here into the relation between the "cost" and "capitalization" aspects of the situation, excellently discussed by Ellis, German Monetary Theory 1905–1933, pp. 415–421.

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the stream of money devoted to the purchase of commodities. This will raise the schedule of profitability of funds devoted to business uses, by generating an expansion of the stream of sales proceeds which entrepreneurs expect to receive, without a corresponding expansion in the stream of money costs which they expect to disburse.

Meanwhile, however, the attractiveness of keeping any given proportion of wealth or income idle in the form of money is being diminished by the expected depreciation of money, and dishoarding takes place. Further the expansion of real income and its redistribution in favor of entrepreneurs is likely on the whole to be leading to an increase in the flow of current savings[1] available for distribution between various uses. These two sets of forces are acting on the rate of interest in *opposition* to the predominant set of forces, namely that which is raising the schedule of profitability of funds directed to investment. So is the continued injection of money, if money is still being injected.

Subject to a complication presently to be mentioned, a photograph taken on any day in this phase will reveal the rate of interest in quasi-equilibrium under the influence of these various forces. And while the result depends of course on what level of activity we start at and how long we wait before pressing the button, the common opinion is that sooner or later in the expansion our plates will reveal that it has been substantially raised.[2] But whether this is so or not, it is evident that during this phase productivity conditions play not merely a part but a leading part in determining its level.

1. I do not enter here into the tangled question of which parts if any of these savings can usefully be described as "forced" or "quasi-forced." But I may remark that in conceding (p. 124) that under the pressure of an expansion of investment there may occur a "temporary reduction of the marginal propensity to consume," Mr. Keynes seems to me to go a long way towards readmitting that concept of "some species of levy on the public" which he elsewhere (p. 183) dismisses as among "the worst muddles of all."

2. Cf. Marshall, Money, Credit and Commerce, p. 257. "The increase of currency . . . increases the willingness of lenders to lend in the first instance, and lowers the rate of discount. But it afterwards

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§4. The complication mentioned above is as follows. Owing to the imperfection of markets, and to inequality of foresight and bargaining power between borrower and lender, there is likely to arise a divergence between the marginal rate of return from productive assets and what, following Marshall, we may call "interest in the strict sense," viz. "the payment which anyone receives during a given period in return for a loan."[3] If, however, the former is rising, it is unlikely that the frictions will be so great as to prevent altogether the competition of borrowers from raising the rate of interest "in the strict sense." As Professor Fisher puts it, "not only will lenders require, but borrowers can afford to pay higher interest in terms of money, and to some extent competition will gradually force them to do so. Yet we are so accustomed in our business dealings to consider money as the one thing stable . . . that we reluctantly yield to this process of adjustment, thus rendering it very slow and imperfect."[4] "The money rate of interest, while it does change somewhat, does not usually change enough to fully compensate for the appreciation or depreciation."[5] In view of these and similar passages, it is not easy to agree that Professor Fisher has made a "mistake in supposing that it is the rate of interest on which prospective changes in the value of money will directly react" (p. 142), still less to understand why Mr. Keynes apparently believes him (ibid., bottom of page) to have argued that it is the rise in the rate of interest "in the strict sense," and not its failure to rise further, which exercises a stimulating effect on the entrepreneur.

raises prices and therefore it tends to increase discount. This latter movement is cumulative."

Among all his quotations from Marshall, Mr. Keynes does not, I think, include any from the famous passages of Evidence which were for many years in Cambridge the basis of exposition of this subject. See Official Papers, pp. 52 and 131, reproduced and expanded in Money, Credit and Commerce, pp. 75–76 and 254–257. The reader who wishes to retain a just estimate of Marshall's contributions to interest theory is earnestly recommended to refresh his memory of the whole of these passages.

3. Money, Credit and Commerce, p. 73.
4. Purchasing Power of Money, p. 57.
5. The Theory of Interest, p. 493.

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§5. Let us now examine Mr. Keynes' formula in connection with these later phases of a monetary expansion. The difficulty of doing so is not lessened by the fact that he himself, as far as I can see, adopts four separate methods of applying it, which I will first enumerate in brief and then discuss individually in more detail. (i) On pp. 171–172 the tendency of output, prices and wages to rise in consequence of a fall in the rate of interest is stated to be one of the reasons for the negative inclination of LL_1. (ii) In the same and many other passages we are presented with the option (pp. 166, 171) — sometimes, I think, with the obligation (pp. 246, 248) — of measuring money in terms of "wage units" instead of pounds or dollars, so that the desire to hold money becomes synonymous with the Marshallian desire to hold command over wealth in the form of money, save that we measure in terms of labor instead of "wheat." (iii) On pp. 199 ff. the quantity of money (in the ordinary sense) which people desire to hold is broken up into two parts, of which one (M_1, desired for "transaction" and "precautionary" purposes) depends on the level of money income, the other (M_2, desired for "speculative" purposes) on the rate of interest. (iv) Finally on p. 248 (bottom) it is explained that an increase in output, prices or wage rates is liable to "raise the schedule of liquidity preference" — presumably the old undivided schedule — by increasing the amount of money (in the ordinary sense) which people desire to hold for "transaction" purposes.

(i) Under this method the historical problem with which Marshall, Fisher, Wicksell and Mr. Keynes himself[6] have all wrestled — the problem arising out of the fact that rising output, prices and wages have usually been correlated with *rising* rates of interest — seems to be quietly set aside as non-existent. But apart from the question of fact, the method is surely open to serious logical objection. A confusion seems to have crept in between the amount of money which people will wish to hold *in the face of a given rate of interest now existing* and the amount of money which they

6. In the chapter on the "Gibson paradox" in his Treatise on Money.

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will wish to hold *as an indirect consequence of a given rate of interest prevailing at some previous time.*

(ii) This method confines our attention to *one* of the factors leading to a desire to hold more money in the later phases of an expansion, and forbids us to think of the supply of "money" as determined solely by the monetary authority. I shall return to it in connection with the long period problem of saving below (§8).

(iii) and (iv). These methods are closely allied; personally I find (iii) the clearer.[7] Adopting it, we may illustrate Mr. Keynes' propositions diagrammatically as follows:

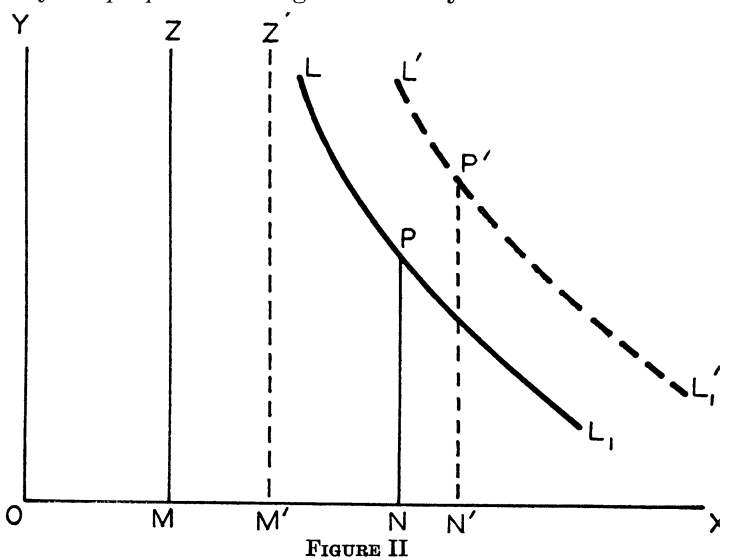

FIGURE II

At a given level of money income people will wish to hold an amount of money *OM* for "transaction, etc." purposes,

7. Nevertheless there are some mysteries about M_1. On p. 197 the demand for it is said to be "generally irresponsive to any influence except the actual occurrence of a change in general economic activity and the level of incomes," yet on p. 200 (bottom) it is hinted, and on p. 209 (top) clearly stated, that *even if* M_2 *were zero*, new money could somehow or other be put into the hands of the public by lowering the rate of interest, the growth of incomes only occurring as a consequence.

Again on p. 195 one part of M_1 is said to be "held to bridge the interval between the time of incurring business costs and that of the

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and, if the rate of interest is PN, a further amount MN for "speculative" purposes. At a certain higher level of money income they will wish to hold OM' for "transaction, etc." purposes, and, if the rate of interest is $P'N'$, a further amount $M'N'$ for "speculative" purposes. LL_1 is the locus of P, $L'L_1'$ of P'. (In the simple case illustrated, $L'L'_1$ is simply LL_1 shifted to the right by a distance MM', i.e. the conditions of what I will call "liquidity preference proper" are assumed unchanged.) The actual rate of interest depends on three things: the amount of money which people wish to hold for "transaction, etc." purposes, the total amount of money which the monetary authority permits to exist, and the nature of the schedule of "liquidity preference proper."

It seems clear that, as thus developed, Mr. Keynes' theory is simply readmitting by a back door the influence on the rate of interest of that factor, namely the shape and height of the productivity curve of funds devoted to investment uses, which in its cruder formulation it set out to exclude. For it is primarily upon that factor that the quantity OM in Fig II depends. "The schedule of the marginal efficiency of capital," we were told, "may be said to govern the terms on which loanable funds are demanded for the purpose of new investment, while the rate of interest governs the terms on which funds are being currently supplied." Surely this simple

receipt of the sale proceeds, cash held by dealers to bridge the interval between purchase and realization being included under this heading." Surely these are just the intervals during which the persons in question do *not* hold money! Have not Mr. Keynes' thoughts strayed, in spite of himself, from the desire to *hold* money to the desire to borrow it in order to *use* it? (Cf. §2 above.)

These obscurities spring, I think, from Mr. Keynes' determination to dispute the usual view that during a process of money-creation there are "*two* sources of supply to meet the investment demand-schedule; namely, savings proper . . . *plus* the sum made available by any increase in the quantity of money" (p. 183). The statement pilloried needs amendment (on the one hand not all the new money being currently created becomes available, on the other there is or may be a *third* source in dishoarding), but contains so evident and fundamental a core of truth that Mr. Keynes is driven, as it seems to me, to admit it implicitly (loc. cit., pp. 200, 209) only a few pages after he has denied it. So live a duck, however tangled up in weed by the cleverest of dogs, cannot be prevented from working her way to the surface again!

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formulation would only be valid[8] on one of two assumptions: (*a*) that the liquidity schedule proper is perfectly elastic (the curve representing it a horizontal straight line), or (*b*) that the monetary authority not only possesses but is constantly exercising complete power to hold the rate of interest down to some assigned figure in face of upward movements of the productivity schedule.[9] Now Mr. Keynes holds that, except perhaps under certain limiting conditions of which he "knows of no example hitherto" (p. 207), the liquidity curve proper slopes downwards. And yet he pretty clearly does not hold that the monetary authority usually behaves as assumed in (*b*), nor even, I think (pp. 164, 327), that it always both could and ought to behave in this way. Thus neither of the conditions for the adequacy of the simple formulation is fulfilled. The influence of productivity has therefore to be readmitted through one or other of the back doors already enumerated. Ultimately, therefore, it is not as a refutation of a common-sense account of events in terms of supply and demand for loanable funds, but as an alternative version of it, that Mr. Keynes' account as finally developed must be regarded.[1] As such its terminology seems to me unfortunate in directing our attention away from the factor which in the later stages of a monetary expansion usually proves to be of decisive importance.[2]

8. Even so, Marshall's phrase (Principles, p. 350) about those who speak of value under constant returns as being governed by cost of production is worth recalling: "A person . . . may be excused for . . . speaking [thus] — provided only he does not claim scientific accuracy for the wording of his doctrine."

9. We must beware of seeking a third way out along the lines set out in §4 above, for Mr. Keynes' theory is in this respect a frictionless theory, and presumes that the volume of investment will be such as to keep the actual "marginal efficiency of capital" *equal* to the rate of interest as determined by other forces (pp. 165, 184).

1. Cf. Hicks, Economic Journal, June, 1936, p. 246.

2. The part played by productivity is of course still more clearly seen if the expansion starts with an autonomous upswing of the productivity schedule. Cf. the following excellent passage from Mr. Keynes' review of Mr. J. A. Hobson's "Gold, Prices and Wages" (Economic Journal, 1914, p. 295). "Of course the average rate of discount has risen and not fallen, but Mr. Hobson must know very well that the

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It is noteworthy that in his chapter on commodity rates of interest, Mr. Keynes' reluctance to trace a causal connection between productivity and interest seems suddenly to fade away. For the "yields" and "carrying costs" which determine the "own-rates" of commodities (p. 227) seem to be nothing else than positive and negative productivities. Mr. Keynes, like Aristotle before him, seems resolved to deny to money the attribute of productivity because it is only productive if *used*. But this is not peculiar to money. In determining the wheat rate of interest in an Indian village, the fact that wheat is productive if (but only if) it is put into the ground, or into the belly of the cultivator, surely plays a leading part.

§6. One prominent feature in Mr. Keynes' scheme requires further mention — the increased saving[3] generated by the expansion of trade activity. It is, I think, true that most previous writers have paid comparatively little attention to the repercussion of fluctuations in the *total* of real income on saving,[4] tho the repercussion of changes in its *distribution* has played a prominent part in the analyses of some continental writers,[5] as well as, under rather a different guise, in that of

adherents of the view he is disputing maintain not that the *average* rate of discount must fall, but that new gold in bank reserves has the temporary effect of making the rate lower *than it would otherwise have been*— for he quotes the relevant passage from Dr. Marshall's Evidence before the Gold and Silver Commission some pages further on, and points out himself that the rise in the average rate of discount is mainly due to the greatly increased demands for capital in new countries" — an evident truth about the rate of interest in the prewar decade which Mr. Hobson is now perhaps at liberty to repudiate!

3. See also my p. 178, note 1 above.

4. My own brief mention of the point in Economic Journal, December, 1934, pp. 652–653 was due to the prenatal activity of Mr. Keynes' book.

5. "An increase of fiduciary media brings about a redistribution of wealth in the course of its effects on the objective exchange-value of money which may well lead to increased saving" (Mises, Theory of Money and Credit, p. 261).

"As employers are under the economic necessity of saving, a larger part of their profit must be set aside as savings than of other classes of income. Hence . . . the formation of capital must be relatively greater at those times which are especially favorable to their profits" (Cassel, Theory of Social Economy, 1st Eng. tr., II, 594, and following pages).

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Pigou.[6] Whether we lay the chief emphasis on total or distribution, there arises a question of methodology and a question of judgment.

According to Mr. Keynes, it is an error to regard the supply schedule of saving as a determinant of the rate of interest, since the position of this supply schedule itself depends on the level of employment and income, which in turn depends on the position of the demand schedule for saving. There is thus a "gap" in the classical system, which Mr. Keynes claims to close by introducing the rate of interest, as determined by "liquidity preference" and the quantity of money, from the outside as a determinant (ch. 14).

Now in the first place, in a society in which wealth is growing, it is inevitably true, *even if there is always full employment*, that the position of the supply schedule of saving is influenced by what the demand schedule for saving has been in the past. It has always been emphasized that the volume of saving depends on the *power* to save as well as on the will, and naturally the power to save depends partly on the productivity of past saving. The point has been put clearly by Marshall (Principles, p. 224). "And with the growth of openings for the investment of capital there is a constant increase in that surplus of production over the necessaries of life which gives the power to save. . . . Every increase in the arts of production, and in the capital accumulated to assist and support labor in future production, increased the surplus out of which more wealth could be accumulated." If we do not like this sort of interdependence it seems to me that we must lump it, and that liquidity preference and variations in employment cannot save us!

But secondly, in his attempt to close the gap, it is the first and least acceptable form of his "liquidity preference" formula (*supra*, §5 *sub init*) that Mr. Keynes introduces

6. "There has been accomplished in [entrepreneurs'] behalf, so far as they are under obligation to pay fixed interest, a second forced levy from rentiers. This forced levy . . . enables a given part of the community's real income to be turned into investment at a lower rate of interest than would be possible if the levy were not made" (Theory of Unemployment, p. 236).

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as *deus ex machina* (p. 181). This form, it will be remembered, obscures the all-important fact that as income increases "liquidity preference" as defined will increase also. Thus if the supply curve of savings is on the wobble when the demand curve shifts, so is the "liquidity preference" curve! Indeed, if we are bent on a thoro analysis of processes of change, it is hard to see that anything can exempt us from following a step-by-step method, and starting again at each point in the light of all that has gone before.[7] If, in the world of causation, today's saving is the great-grandchild of last year's rate of interest, surely that does not prevent it from being also a parent of today's rate.

This is not to deny that, as a result of monetary expansion, a position of stable equilibrium at an enhanced level of income *may* be reached, in which (as I should say) the rate of saving and the rate of investment per unit of time are equal, and no further net money creation or dishoarding, or the converse, is taking place. Even so, as Mr. Reddaway[8] has made plain, the rate of interest will be rather a co-determinee with income and saving-investment than a determinant thereof. But — and this brings us to the question of judgment — there is nothing, I think, in Mr. Keynes' formal scheme to assure us that such a position *will* be reached if expansionist measures are carried beyond a certain point. That even at a late stage they may cause things to be done and made which will contribute in the long run to the permanent enrichment of the community is another matter. Others besides Mr. Keynes have glorified the "productivity of bank credit,"[9] but the weightier among them seem to have conceded that severe fluctuation is the price to be paid.[1] I am

7. This is the method which I have tried, crudely enough, to follow in "dynamic" monetary analysis, and which seems to bear some relation to the more elaborate Swedish "method of expectations" extolled by Mr. Hicks (Economic Journal, June, 1936, p. 240). Whether much practical fruit can ever be hoped for from it is another matter!

8. Economic Record, June, 1936, p. 34.

9. See the interesting and balanced discussion by Ellis, German Monetary Theory, 1905–1933, pp. 425–431.

1. Cf. Schumpeter's dictum, quoted ibid. p. 413, that the depression "fulfils what the upswing promised," and Cassel's whole treatment of

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not persuaded that Mr. Keynes' attempt to close the gap in the classical system has much bearing on the difficult art of getting the best of both worlds, the world of progress and the world of stability.

§7. According to Mrs. Robinson,[2] Mr. Keynes' theory "has been developed mainly in terms of short period analysis;" but at times his purview extends over centuries, and it may be convenient to conclude by examining briefly the bearing of his "liquidity preference" formula on the long-period problem of saving. This problem can be put in various forms, of which I choose what is, I hope, alike the simplest and the best adapted to bring out Mr. Keynes' points. Will an increased rate of saving which is not itself hoarding (e.g. which takes the form of an increased demand for securities), but which involves an actual diminution in the rate of expenditure on consumable goods, lead to a progressive shrinkage in total money income?

In one of his extremer passages (pp. 211–213) Mr. Keynes appears to invoke his formula in support of the view that such an event has *no* tendency to bring down the rate of interest nor therefore to stimulate the formation of capital equipment. For why, he asks, the quantity of money being unchanged, should a fresh[3] act of saving diminish the sum which it is required to keep in liquid form at the existing rate of interest? The answer surely emerges from the composite nature of "liquidity preference." If the event in question deprives the producers of consumption goods of income, it reduces by the same act their ability to hold money for "transaction" and "precautionary" purposes. It is only if they resist the switch in public demand by continuing to indulge in expenditure, to offer employment, and hence to

cyclical fluctuation as a by-product of progress (Theory of Social Economy, II, 621–623). See also Röpke, Crises and Cycles, p. 138.

2. Zeitschrift für Nationalökonomie, 1936, p. 74.

3. I must take this, as explained above, to mean an additional act, for nobody has argued that with a given level of the demand for (new) savings, the maintenance of an existing rate of supply of (new) savings will bring down the rate of interest below its existing level. On this whole matter, see the illuminating discussion by Durbin, Purchasing Power and Trade Depression, especially p. 76 and note.

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hold (or cause to be held) money balances on the old scale, that "liquidity preference" as defined will remain unchanged. Mr. Keynes' argument in this passage seems to be a repetition in disguise of his old argument that increased saving which is not itself hoarding is necessarily balanced by the sale of securities on the part of entrepreneurs who are making losses but are determined not to restrict the amount or change the character of their output. In so far as this argument is ever valid, it is as valid when employment is full to start with as when it is not—indeed, as Professor Hayek pointed out long ago,[4] it depends on the assumption that employment will be *kept* full at all costs: it is thus not easy to reconcile with Mr. Keynes' concession to the efficacy of Thrift under conditions of full employment (p. 112). So long as such a situation exists and is expected to continue, the rate of interest will, it is true, not fall nor the formation of capital equipment be stimulated, but neither, so far as the mere maintenance of income[5] and employment goes, is it necessary that they should. If such a situation does *not* exist, there is nothing in the doctrine of liquidity preference to invalidate the common sense view that the increased demand for securities will tend to raise their price.

§8. There remains, however, a further point. Even tho the producers of consumption goods take their medicine, nevertheless, if there exists for the community as a whole a negatively inclined curve of "liquidity preference proper" (LL_1, Fig. II), some part of the additional savings devoted by individuals to the purchase of securities will come to rest in the banking accounts of those who, at the higher price of securities, desire to hold an increased quantity of money.[6]

4. Economica, February, 1932, p. 30.

5. Other than that of the entrepreneurs primarily affected. For full discussion of this case see Economic Journal, September, 1933, pp. 403–409.

6. This point was already made by Mr. Keynes, somewhat obscurely and much tangled up with the previous point, in his Treatise on Money, I, 145; was mishandled by me in Economic Journal, 1931, p. 400; and has since been brought out clearly by Meade, Rate of Interest in a Progressive State, pp. 110 ff. and Durbin, Problem of Credit Policy, pp. 151–152. I am glad of the opportunity to admit its theoretical validity and possible importance.

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Thus the fall in the rate of interest and the stimulus to the formation of capital will be less than if LL_1 were a vertical straight line, and the stream of money income will tend to contract. Liquidity appears on the demand side of the market for savings as an equal partner (tho no more) with Productivity, and as a potential source of damage.

It would, I think, be agreed by "orthodox" writers[7] that this is a situation calling for a progressive increase in the supply of money.[8] That the task of the monetary authority, even regarded as a long run task, might under certain conditions become a very difficult one is certainly not a theoretical impossibility. In estimating its difficulty, however, three points must be borne in mind.

(1) According to Mr. Keynes, the liquidity schedule proper is a phenomenon of "speculation," turning on the expectation of *reversals* in the downward movement of interest rates. It is not evident that it is right to attach much importance to it in connection with the long period problem now under discussion.[9] (2) On the other hand, it is usually held[1] that there is *some* elasticity in the desire to hold resources in monetary form even for "transaction" and "precautionary" purposes, so that there will be a successive decline in the rate of yield equated in the minds of holders with the successive doses of convenience and security so obtained. Reflection however suggests that here, too, the rate of yield which money holders equate in their mind with any nth parcel of convenience and security is not likely to be arrived at by some kind of intuition functioning in vacuo, but rather to be influenced by the rate of return actually obtainable from investment. Thus, so far as the rate of interest goes,

7. E.g., I imagine, by Professor Pigou and by most at any rate of those continental writers who have written in terms of "neutral" money and of making the bank rate of interest conform to the "natural" rate.

8. For there is (in my language) an increase in hoarding (increase in the Marshallian K), tho the "propensity to hoard" is unchanged.

9. Cf. Pigou, Economica, May, 1936, p. 130.

1. Cf. Pigou, Essays in Applied Economics, pp. 180–181. "Thus the curves that represent the desire for resources to be used in production and in titles to legal tender respectively both slope downwards."

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Liquidity in the long run appears perhaps rather as a kind of ghost or poor relation of Productivity than as its equal partner, and as likely to furnish a progressively less dangerous trap for savings as, with a successful process of saving, the normal rate of interest declines.

Finally (3) it will be recalled that Mr. Keynes sometimes invites us to reckon liquidity preference in terms of "wage-units." The logical extension of this line of thought, over periods in which the actions or inactions of the monetary authority have time to work their way right through the system, seems to lead us back into the "orthodox" world in which the quantity of money, in the ordinary sense, becomes irrelevant, and an increase in hoarding works out its effect not on the rate of interest at all but on the level of prices and money incomes. It is, I think, as I have said above, generally agreed that the evils of progressive shrinkage would be so great that it should be the object of monetary policy to avert them. But if we are concerned for the moment with problems of "comparative statics" rather than of "dynamics," this line of thought should, I think, make us cautious about accepting the view that unemployment is likely to be specially great, or even the rate of interest specially high, in societies where "liquidity preference" is high.[2] Only if the hunt for liquidity eventuates in the successful devotion of resources to the acquisition of the precious metals will a high liquidity preference be inimical to an abundance of income-yielding instruments and to a low rate of interest. India, for instance, is less well equipped, and has higher rates of

2. Still less does there seem any reason why a high prestige-value for *land* (p. 241) should make the rate of interest rule high. What it does is to keep the purchase price of land high, i.e. the net yield from buying it low, and to make the mortgage rate of interest seem high by comparison; but the mortgage rate (e.g. in India) is presumably *lower* than it would be if the land pledged had less prestige-value. Indirectly, of course, the opportunity to sell land at high prices or to borrow on it at relatively low rates may well encourage extravagant consumption and thus raise interest rates and retard the growth of wealth; but Mr. Keynes cannot be thinking of that, for it is an explanation which he specifically rejects (p. 242).

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interest, than if she had not dedicated so much of her thrift to the acquisition of gold.[3]

As regards future trends in the West, the whole matter is, as Professor Pigou has said, highly speculative. I could wish that Mr. Keynes had found it possible to say his say about it without, as I think, cumbering our judgments with an apparatus which accords to Liquidity a unique position in the theory of interest to which, even in the short run, it is not, I have attempted to argue, entitled.

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3. Thus from a long period point of view it is not inelastic (p. 230) but elastic conditions of supply of the money metal which help to keep the rate of interest high.

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