

Liquidity-Premium and the Theory of Value

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## NOTES AND MEMORANDA

### LIQUIDITY-PREMIUM AND THE THEORY OF VALUE

1. DR. HICKS' account <sup>1</sup> of Mr. Keynes' theory of the rate of interest may be summarised as follows: Dr. Hicks agrees with Mr. Keynes (and with Wicksell) that the rate of interest is not the reward or price of consumers' savings, but is the reward paid to money-owners for parting with liquidity. He accordingly further agrees with Mr. Keynes in abandoning Say's Law. But he then proceeds to identify Mr. Keynes' doctrine of liquidity-preference with the view that the rate of interest is still a price determined by conditions of supply and demand at the margin (of "production")—namely, the price of *new* money-loans sold in exchange for free money. Dr. Hicks goes on to infer that there is nothing very revolutionary in the new doctrine, since the rate of interest must still automatically adjust itself so as to equate the demand and the supply of money and new loans, and these two factors are uniquely determined by the equations of supply and demand for commodities and services. The novelty, on this view, is merely that the supply of loans is no longer identified with the supply of savings.

But it would not seem that Mr. Keynes' doctrine of liquidity-preference can be correctly re-stated in any such form. On the contrary, it surely implies that the rate of interest is an independent variable in the scheme of economic causation. Not, of course, that it does not react with commodity-prices; but that it is independent in the sense that it cannot be inferred from them.

For it is an essential part of Mr. Keynes' theory of interest that the rate of interest—better envisaged as a simple function of the money-price of a monetary asset (a negotiable money-debt not payable at sight)—is not causally determined by the conditions of supply and demand (for new loans) at the margin. Rather are the demand and supply schedules for new loans determined by the value set by the market on existing loans (of similar types). That is to say, psychologically-determined changes in the latter influence largely, though they do not wholly determine, the former. More strictly, each reacts on the other in such a way that

<sup>1</sup> ECONOMIC JOURNAL, June 1936.

the price of new loans and of the pre-existing loans is, as of course it must be, the same. Since in most cases the volume of existing loans of any one type is large compared to the volume of new loans of that type (if any) being created in any short period, the influence of expectations about the value of existing loans is usually the preponderating causal factor in determining the common price. This at least is the case in regard to long-term loans. But in the case of all loans both factors exist, and neither is determinable from a knowledge of the other (perhaps it would be more correct to say that the supply and demand conditions for a new loan cannot be known unless the factors influencing the price of the existing similar securities are known, but that this knowledge is not sufficient). Moreover, the price of the existing loans can of course change (to any extent, in theory) without any new similar flotations occurring; and, if opinion is unanimous, it can change (without limit) without any actual exchange or movement of money. Thus the volume of money is not a directly determining factor of such prices—nor of any prices, by an obvious extension of the argument (see paragraph 4 below).

2. Dr. Hicks begins with the following premiss: "Over any short period, the difference between the value of the things an individual acquires (including money) and the value of the things he gives up (including money) must, apart from gifts, equal the changes in his net debt—his borrowing and lending." This is then generalised, by addition, for the whole of the community.

But what is meant here by a "short period"? Clearly not any finite period. For any period long enough for the individual to be able to carry out any transactions at all is long enough for expectations, and hence the market-price of his assets of any kind, to change during the period. But the possibility of any such change while his debts remain fixed invalidates the arithmetic of the premiss. The difference between a long and a short period in this respect is merely quantitative; smaller changes in expectations and prices may be supposed to take place within the duration of a shorter period. Smaller, that is to say, absolutely—not necessarily smaller relatively to the transactions. But this last consideration invalidates the premiss, and with it the argument.

For it is not possible to interpret the argument as relating to a limit in the mathematical sense. Obviously, the limit, as the period diminishes indefinitely, of the difference between the net growth of a man's assets and that of his indebtedness is zero, for so is that of each of these quantities. But to validate Dr. Hicks' argument it would be necessary to show that the limit of the *ratio*

of this difference to the amount of either net growth was zero. And this is obviously not true in general. For if it were, no one could grow any richer or poorer! And the aggregate value of the community's assets (apart from changes in its foreign balance) could not change! Possibly it might be argued that Say's Law would be a validating assumption for the proposition relating to the community as a whole (not for that about the individual); or alternatively some proposition to the general effect that in the aggregate the difference between consumers' savings and their loans was always exactly balanced by entrepreneurs' loans from banks. For either assumption involves a constant aggregate of production. But this line of thought is unprofitable. The whole argument based upon the distinction between an *absolutely* "determined" short period in which expectations do not change at all and an undetermined long period in which they do is illegitimate. In paragraph 4 below an attempt is made to state the sort of assumption in regard to stability of expectations and values in the short period which Mr. Keynes' analysis really calls for. It suffices here to point out that it cannot be an assumption of the *absolute* constancy of expectations in any period, however short, or in the limit. But the real point, to which we now return, is Mr. Keynes' distinction, referred to in paragraph 1 above, between the conditions affecting old loans and new loans respectively. For this distinction is vital to his theory of the rate of interest.

3. Now, if Mr. Keynes' views as set out above be accepted, it would seem that the considerations governing the prices of monetary assets must also, *pro tanto*, apply to determine the prices of other durable assets. For the latter have, as Mr. Keynes puts it, "monetary attributes" in a varying degree. A kind of liquidity-premium attaches to them also. They, as well as money and monetary assets, have a value to hold for future exchange (*i.e.* for security or for speculation), causally independent of their value in present exchange, and determined by, and varying with, expectations; so that, since the prices of existing (held or exchanged) assets and of newly produced assets of the same kind must be equal, both must be influenced by these expectations. The liquidity-premium attaching to a particular kind of durable asset may be negligibly small—in particular, this will be the case, obviously, for goods of short life (including indirect services) and for other goods with a high elasticity of supply or substitution. But there seems no reason to suppose that it is at all negligible in the case of many durable goods, especially "con-

sumers' capital" goods, such as houses,<sup>1</sup> which are not easily substitutable and which take a long time to produce. And in such cases the expectations governing the degree of liquidity-premium attaching at any given time to the existing stock of goods of the type in question (relatively to money) will influence the supply and demand schedules for new goods of the same type, the two reacting, just as in the case of loans, so as to produce the necessary equality of price between the old and the new goods.

Thus it would seem that Mr. Keynes' doctrine of liquidity-preference really involves a generalisation of the classical (marginal) theory of value.<sup>2</sup> For, as usually stated, the marginal theory of value does not seem to distinguish clearly between exchange of existing assets (at the margin of exchange) and production of new assets (at the margin of production). This may well have come about from the fact that the theory of value has been developed in relation to non-monetary assets, *most* of which (at least in a community with an established monetary system) have so little liquidity-premium relatively to money and monetary assets that *their* liquidity-premium makes no material difference in practice. As soon, however, as the attempt is made to extend the marginal theory to cover the value of monetary assets, the difference becomes material; hence it is natural that a

<sup>1</sup> And motor-cars. If the degree of liquidity-premium attaching to existing cars does not materially affect the demand for new cars, the firm which advertises "You *buy* a car; you *invest in* (our brand of car)" is wasting its money. This is true, even though a car loses part of its value at once on its first retail sale.

<sup>2</sup> I think that the classical theory is sometimes stated in a form which involves the logical fallacy that if two quantities (to wit, the prices of new and existing assets of some one type) are necessarily equal, one must causally determine the other. All that follows, of course, is that there must be some relation between the two sets of determining forces of a kind which ensures the equality of their respective results. At least, this fallacy seems to be involved if the theory of value is stated in the form of equations of exchange (these assume by implication that the exchange of existing assets causally determines the conditions of production of new assets). Alternatively, the marginal theory can be put in terms of the conditions of production (of new assets) in such a way as to assume tacitly that these conditions of production determine the conditions of exchange of the existing assets. The reader will recall the analogous fallacy, exposed by Mr. Keynes, based on the necessary equality of the rate of interest and the marginal efficiency of capital, neither of which determines the other (*General Theory*, p. 184). In the latter case, the overlooked variable factor common to both sets of forces which adjusts itself so as to secure the equality of their results is the *level of incomes*; in the former case, it is "the" *level of prices*, or, more strictly, the complex of relevant price-levels—see paragraph 5 below. Thus the object and the effect of the generalisation of the theory of value would be to take into account the effects on the values of durable assets of liquidity-premium—or, in other words, to take into account the effects on values of monetary phenomena, which, if the argument of paragraph 9 (i) below be sound, are always present in a capitalist economy.

satisfactory theory of the price of monetary assets (*i.e.* of the rate of interest) could not be developed until the generalisation to take into account liquidity-premium was made (by Mr. Keynes). For the *practical* difference between the generalised and the classical theory of value is, on the view suggested, most important in the case of monetary assets (especially long-term ones, to the causal determination of the price of which marginal-production theory is hardly applicable at all), quite material in the case of durable goods of low elasticities of production and substitution, and negligible in the case of services and of goods of short life, easy substitutability or easy to produce with relatively small employment of labour.

Nevertheless, it would seem that it is essential to take liquidity into account in order to discuss *any money* prices. For even if certain assets have so little liquidity-premium that changes in it do not affect their money-prices, variations in the (large) liquidity-premium of money will do so—operating of course on the conditions of new production of the assets. Strictly, liquidity-premiums, like exchange-value itself, is a purely relative conception. What varies absolutely is the net balance in the minds of wealth-owners between the conflicting desires to retain purchasing-power (in any form) and to exercise it.

4. Any quantity of money, however small, will in theory support any prices, however high, provided it circulates fast enough. And any quantity of money, however large, is consistent with zero prices, provided it does not circulate at all, or with indefinitely low prices if it circulates slowly enough. Thus the limitations, whatever they may be,<sup>1</sup> of the stock of money cannot suffice to prevent expectations from raising (or lowering) the money-prices of all durable goods and assets (not, of course, equally) without limit of speed—that is to say, to an arbitrary extent even in the shortest period. Since in fact money-values do not fluctuate wildly in the short period (save in abnormal conditions with which we are not here concerned), they must be kept reasonably stable by some characteristic of our real world of which a realistic theory of prices must take account. It would seem that this characteristic must be either a *conventionality* of outlook causing stability of expectations as to the money-prices of durable assets of certain kinds, or else the *conventional* maintenance of some degree of stability of the money-price of the

<sup>1</sup> It makes no difference to the argument whether the volume of money is determined by conscious management, by unconscious management, or (if it be an alternative) “automatically.”



only other exchangeable value, viz. labour—that is to say, a conventionally stable wage-unit. The customary factors limiting the velocity of circulation of money, operating in conjunction with the limitations imposed by monetary policy and the conventions of banking practice on the volume of money, also play a stabilising part, but only in so far as diversity of opinion causes actual exchange to occur. Perhaps economic (price-) stability really depends on the prevalence of custom in regard to price-offers among the majority who all “think” alike, combined with the prevalence of a divergency of views among the minority who think for (literally, for) themselves.

Indeed, it is obvious that, since the quantity of money does not determine “the”—or rather, any—price-level, no prices would be determinate at all, unless at least one money-value—the price of *something*—were determined by habit or convention. But it is also obvious that there is nothing of which the price is *absolutely* determined by convention, even in the shortest period. Thus (i) since prices are, in practice, pretty definite, there must be in the real world some actual conventional habit or habits keeping them so, and (ii) some money-price (or index-number) must be assumed in economic theory to be stable in the short period, if any quantitative proposition of theoretical economics is to be laid down. And if the proposition is to be *approximately* true (which is the best we can hope for in an undetermined and shifting price-world), we must select our “*convention of short-term price-stability*” with an eye to the facts. Different conventions will give different theories. But they will not all be equally useful. Moreover, while, in order to theorise logically about prices at all—in order to make dynamic economics *possible*—we must have some “convention of price-stability,” there is no need to assume, contrary to the evidence of the facts and without the faintest warrant in logic, that in the real world there is some price (or price-level) which always remains absolutely constant in the short period. All that is necessary is to find a “valuable”—single or composite—the money-price of which is in fact nearly enough constant—or likely to be so—throughout the period we are considering, to be assumed constant for the purpose of theorising without introducing an error large enough to take us outside the order of accuracy we aim at. Other prices are then “determined”—nearly enough—in *this period* by the reaction of supply and demand in new production on the one hand and of psychological revaluations of existing assets on the other hand. Or, alternatively, we could confine our theoretical predictions to a period short enough for the price of the chosen valuable to remain

sufficiently nearly constant within it to secure the desired degree of accuracy. But, in any event, the choice of this valuable, or index-number—the convention of price-stability—constitutes an assumption, a fundamental assumption, essential to *any* dynamic economics. Theories of economic dynamics which make no such assumption explicitly, conceal one implicitly. Surely, the assumption is best dragged into the light of day, where it can be examined on its merits.<sup>1</sup> For the best assumption would be the one which conformed most closely to the relevant facts of the history of prices.

5. The point can perhaps be made clearer by means of the following example, which I have made, for the sake of clarity, so simple and so extreme as to be absurd if taken literally. Imagine the community, during a given short period, to be all asleep, so that in this period neither exchange nor new production takes place, and prices must be supposed to remain where they were when business closed down the previous evening. Suppose that, on waking up the next morning and resuming business, all wealth-owners find that a fit of optimism about the (prospective) price of residential house-property has come over them. (I have taken this particular asset as typical of an asset having a high degree of durability, a long period of production and a low degree of substitutability, and am ignoring the complications due to the existence of various types of residential houses, selling at different prices and more or less inter-substitutable; that is to say, we assume only one kind of house available to live in or to deal in or to build.) Immediately the normal exchange of residential house-property resumes in the morning, there will be a sellers' market and the price will rise sharply. If we further assume the increase in liquidity-premium attaching to houses owing to the mental revaluations of owners and potential owners to be equal in all cases—that is, the change in opinion to be unanimous—no more and no less buying and selling will take place than on the day before. (More money will be required, other things being equal, to finance this volume of trade in houses at the higher price-level; we assume <sup>2</sup> this to be forthcoming to all who want to deal, *e.g.*

<sup>1</sup> And to avoid futile controversy about the relative validity of theories based on different conventions of price-stability.

<sup>2</sup> It is important to note that this assumption is not essential to the argument, but is introduced merely to simplify the illustration. *Exactly* the same conclusion as to the indeterminacy of the price of houses follows, on any of the only possible alternative assumptions, viz. (a) that the volume of money is kept constant, or (b) that the volume of money diminishes, or (c) that the volume of money increases, but by a different amount from that postulated in the example; but the working-out in these cases is more complicated. Similarly, if the bears prevail, so that the price of houses initially falls.



out of bank-loans.) If opinion is not unanimous, additional exchange of houses between the "bulls" and the "bears" will take place and will settle the price, but not in general at its former level; we assume, for the sake of the example, that the bulls preponderate, so that the price rises, the necessary money for the dealing, as before, being forthcoming. House-building will, of course, have become an abnormally profitable occupation; and in time the diversion of resources to this industry will come into play and will tend to readjust the relative prices of houses and of other assets and people's expectations about them towards their former levels. But before it can do so completely, in general further (similar or opposite) spontaneous changes in the liquidity-premiums attaching to the existing houses will have taken place; obviously the *physical* production of new houses can never take place fast enough for its effect on prices to catch up with people's purely *mental* revaluations of existing ones. For the latter operate without any time-lag at all. Of course, in practice, the *possibility* or *prospect* of new production bringing down again the *money-price* of houses is present to people's minds, and operates to diminish optimism or to cause a wave of optimism to be followed by a wave of pessimism. (It is essential to the argument that people think in terms of *money-prices*—a justification for this as a general assumption has been attempted in paragraph 9 (i) below.) But there is in fact no reason why new building should ever bring down the *money-price* of houses at all; if the price of building materials and/or labour is rising rapidly, the new production of houses may operate to reduce their *relative* price only, the prices of other valuables rising to the necessary degree—or, of course, intermediately to any extent. Or again, all prices may fall, that of houses more than others; or all prices may rise, that of houses less than others. *The course of the actual money-price of houses is thus quite indeterminate, even in the shortest period, unless we know the course of the money-price of some one single or composite valuable (e.g. labour)—i.e. unless we have a "convention of stability."* And, even so, the relative price, and therefore in spite of the convention of stability, the actual price of houses is still not precisely determined; it remains indeterminate to the extent to which it may be influenced by unknown changes in liquidity-preferences. This holds even in the shortest period.

Moreover, the whole argument is valid, *pro tanto*, for any durable asset (whether goods, monetary assets or equities), and thus for *all* prices. In the case of an increase in the liquidity-premium attaching to an investment-good (a durable asset *used in produc-*

tion), the resulting increase in price is causally distinguishable from an increase in price of the kind due to anticipations of a better return from the ultimate product obtained from the investment-good when it is used in production. A familiar actual example of the former is the rise in price of individually-owned cotton-mills in Lancashire during the post-war boom, which was of course largely due to high price-offers by both buyers and sellers, who were not much, if at all, influenced by their expectations about the price of cotton *goods*, but wanted the mills to hold for re-sale at a higher price later. The reader can make the necessary modification of the argument for the case of a downward revaluation (a fall in the net liquidity-premium attaching to the stock of some durable asset). The two cases are not quite, but are sufficiently, parallel.

6. It would seem, therefore, not to be the case that competition (even if perfect) would secure, even in the long run, an equality between selling-price and money-cost in new production at the margin (and this, not merely because some part of the money-cost will have been fixed in money by contract); business decisions are supposed to be made, and accounts are in fact prepared, on the assumption that it would, which is not at all the same thing. And this is not because of "inflation" or "deflation" (changes "on the side of money")—a theoretically invalid,<sup>1</sup> though sometimes descriptively useful, conception. It comes about through the continuous revaluation of the money-price of *existing* assets by the market, due to changes in psychological expectations—revaluations *influenced*, it is true, by the marginal conditions of supply and demand for *new* similar assets, but never wholly governed or causally "determined" by them, save in the hypothetical limiting case of assets of infinitely high elasticity of supply or of substitution.

7. Mr. Keynes suggests that the best convention of price-stability in the short term may perhaps be the assumption that the level of money-wages (the money-price of labour) is approximately constant. There can be urged in support of this two converging considerations. In the first place, everyone knows the enormous resistance to either rises or falls in money-wages—a resistance based surely on real conventions, firmly established both among employers and employed, and governing their offers, that rapid changes in money-wages are undesirable, and wide fluctuations from the conventional norm in some way "unjust" to one party or the other. Thus the conflicting forces making respec-

<sup>1</sup> *Vide* Keynes, *Treatise on Money*, Vol. I, pp. 85-88.

tively for higher and lower money-payments to labour may perhaps often be kept within bounds by conventional feeling weakening them materially as soon as one side or the other has secured any perceptible change. And, on the other hand, since (so long as wage-earners are not owned as slaves by their employers) labour carries no liquidity-premium at all, its money-value is not liable to be directly disturbed by psychological changes in liquidity-premiums. But the matter is surely one, not for theorising, but for practical investigation. Nevertheless, it does seem to be theoretically relevant that, if the above argument be correct, *some* convention of stability is necessary to *any* dynamic theory.

8. Moreover, it would seem to follow that there can be no such thing as long-period dynamic economic theory,<sup>1</sup> failing the (most unlikely) discovery of a plausible long-term convention of price-stability. It is perhaps now being generally realised that such long-term dynamic theories as there are conceal unpalatable ones. It is not unnatural that those who forecast the future in algebra or geometry should be chastened by hard fact more slowly than those who have to forecast it in arithmetic. Nor is the conclusion that the search for laws to enable us to predict economic events far ahead, like eclipses, must be given up, so surprising—not to say nihilistic—as it may seem (to some economists) at first sight. For in the past, in long periods prices have in fact moved all over the place. The inference that there is no reason to believe in the probable indefinite recurrence of a *regular* cycle of price-fluctuations is less generally accepted, but seems to follow from Mr. Keynes' conclusions. There is, of course, equally no reason to believe in any regular progress of prices upwards. The subject is just one in which, if Mr. Keynes is right, *theoretical* forecasts cannot be made.

9. The argument may be summarised as follows (the summary form is unavoidably dogmatic) :—

(i) All exchange values are relative (ratios). If all the possible sets of values in a community are to be comparable numerically, there must be a money of account—a common denominator to which the ratios are reducible. In a capitalist community—that is to say, one in which some people employ hired labour for future profit—people will also hold durable assets for future security. Even if there is no legal tender money, assets

<sup>1</sup> Some economists may prefer this proposition to be put in the form that time in long-period economic theory is not real or "clock" time, but a mathematical parameter.

so held—whether goods or paper claims—will possess liquidity-premium; and some claims and/or other assets will come to oust other assets (largely but not entirely) for the purpose of liquid holdings. We then have, in *all* essentials for the purpose of a theory of value, a monetary economy. The existence of an asset carrying legal tender privilege is not essential to this—only a wide acceptance in practice of some “currency” or “currencies.” The generally accepted claims or goods will modify the values which they are used to measure and are already real money for the purpose of the theory of value. Thus the text-book conception of a barter or non-monetary economy has no place in a discussion of value. The theory of value in a capitalist economy is the theory of money-prices.

(ii) All goods or other assets (with negligible exceptions) which are durable enough to be exchanged at all (this generally involves some storage) have also a value to hold (liquidity-premium). This value, like all values, is assessed relatively to other values—to the value in this respect of other goods, money, etc., and its value in relation to money influences price. The element of holding-value relatively to money is negligible as an influence on exchange value—as a price-determinant—in the case of short-lived goods or of other goods with a high elasticity of production or of substitution, but not necessarily so in the case of all goods. It is especially important as *the* determinant of price in the case of monetary assets (money-debts).

(iii) The value to hold of the existing stocks of any durable asset (whether relative to money or to any other durable asset) may increase or diminish without theoretical limit in any period, however short, on account of changes in (psychological) expectations. If the exchange value relatively to money, *i.e.* the price, of some particular kind of durable goods increases in this way, then in time, depending on the elasticities of production and substitution, a counterbalancing factor, due to new production, will come into play. (In the case of a decrease of value, the factor of scrapping or wearing out comes into play sooner or later.) But this will only tend to correct relative maladjustments between producible goods; price-levels, that is to say, average prices on any make-up or weighting, may vary anyhow, consistently with equality of price between new and old assets of the same kind. *Mutatis mutandis*, these considerations hold also of monetary assets; but the conditions of supply, and hence the net factors determining price-variations, are very materially different from those in the case of goods.

(iv) The above considerations hold whatever policy may be adopted to determine the volume of money, though of course that policy, in conjunction with banking practice and spending habits, will influence prices. Moreover, the compensating factors of supply and demand in new production never catch up with the continuous spontaneous variations in the liquidity-premiums attaching to the existing stocks. For production takes time; and thus, even where there is simultaneous new production (which is by no means always the case, especially with monetary assets and equities), its effects on price will not in general neutralise the instantaneous effects of the variations in the psychological preferences attaching to existing stocks. (This is not to deny that expectations about, *e.g.*, future new building—themselves largely influenced by the conditions of present new building—will to an important extent modify the price of existing buildings.) The influence on the price of any one type of durable asset of the exchange of old assets and the production of new ones is reciprocal, the relative importance of the two factors varying according to the characteristics of the type of asset, and the variable factor operating on (and influenced by) both so as to secure equality of price between the old and the new being the various relevant price-levels.

(v) Prices—even relative prices—are therefore not to be regarded as wholly *causally* determined by supply and demand at the margin of production (though of course they are *formally* so determined—see paragraph 3, footnote). What happens is that conditions of demand and supply of new assets interact, through the system of fluctuating price-levels, with the effects of expectations on the values in exchange of pre-existing assets of similar type in such a way that the necessary equality of price of new and old is secured.

(vi) Moreover, in regard to actual money-prices, there is nothing save the force of habit, operating through conventional prejudices about the normality, or propriety, of certain price-levels for certain particular valuables, *e.g.* labour and money-debts, and through habits and conventions which limit the velocity of circulation of money on the one hand and its volume on the other, to prevent them from varying arbitrarily, even in the shortest period. In long periods they do in fact vary arbitrarily—that is to say, in a way not governed by regular law, and therefore unpredictable. Thus a convention of stability is necessary for any dynamic economic theorising, which is therefore only possible for periods short enough for the convention chosen

to be true throughout the period to a near enough approximation. In particular (a) there is in the real world no "long run" in which, *e.g.*, perfect competition, where it may be supposed to exist in production, actually equates cost and supply-price at the margin: for the forces of competition are perpetually chasing the shifting relevant price-levels; and (b) the accounting conception of "maintaining intact" the total money-value of a firm's assets, is not an actually attainable goal, but either a mirage, indefinitely receding as one tries to approach it (as firms find it during a deflation), or, more generally, a phantom, shifting about indefinitely in either direction.

(vii) The view that a convention of stable money-wages in the short period is the best for realistic theorising is plausible on general grounds, but needs further examination in the light of the relevant facts of economic history. Taking a long view backwards, there is perhaps some evidence of a half-unconscious struggle between rival conventions of stable money-wages and stable rates of interest (money-values of money-debts).

HUGH TOWNSEND

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#### MONOPOLY AND IMPERFECT COMPETITION

IN the course of the last few years the problem of equilibrium in the circumstances of imperfect competition has been worked out in considerable detail. The conditions have been shown to be two: that marginal revenue shall equal marginal cost, the condition of equilibrium of the output of the firm; and that average revenue shall equal average cost, the condition of equilibrium in the number of firms. This solution depends, of course, on the assumption that entry into the industry is in general unfettered and unlimited by costs of growth, or, alternatively, that these costs of growth are included in the costs of risk-bearing and entrepreunering. If this assumption be not made, the net earnings will be less than is normal in more competitive industries, and entry will not be sufficient to reduce gross earnings to normality. It is important to realise that the case of imperfect competition, so defined, is a very special case, and that the treatment of it leaves unanswered the wider question: why firms in the pursuit of profit do not combine, since by doing so they can apparently increase their profits.

It is necessary, therefore, to vary these assumptions and consider the case where imperfect competition exists, but entry is