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Keynes half a century ago: the treatise on money

by Philippe CALLIER Concordia University

Fifty years ago was published the first major theoretical work of John M. Keynes: The *Treatise on Money* (1930). The book at the time was not very well received by the profession and the impact of the *General Theory*, published six years later, soon eclipsed Keynes' earlier contribution to political economy. After 50 years of progress in macroeconomics, the gap between the present state of the science and the original project of Keynes is all the more impressive. A candid look at the *Treatise* today could remind us of the challenges still open to our profession.

Keynes' Treatise on Money is, from a strictly quantitative point of view, a huge work: more than 600 pages. To pretend that I am going to propose a complete review of the book would not be fair to Keynes nor to me. I shall thus limit myself to a schematic exposition of the core of the theoretical argument of the book after having briefly stated Keynes' assessment of his contribution. The reader must be aware that, by doing so, one of the most interesting elements of Keynes' works is left in the shadow: his continual reference to the real world and its complexity, either in his describing the business life or in his suggesting the construction of meaningful statistical series.

The review contains two parts. The first one presents Keynes' assessment of his own work just after completion of the book to situate the *Treatise* in the evolution of the author's thought. The second part presents the schematic theoretical argument of the book. Eventually, the conclusion gives my own appreciation of the work.

1. KEYNES' ASSESSMENT OF THE TREATISE

The *Treatise*, in the author's own words, « represents a collection of material rather than a finished work »¹. During the length of time spent by Keynes on the drafting of this work (1924-1930), his ideas have widely been developing and changing. The result, he states in the preface of the original edition, is that « there is a good deal in this book which represents the process of getting rid of the ideas which I used to have and of finding my way to those which I now have »²

The real importance of the work, however, justified in Keynes' view the publication of this unfinished, inelegant and lengthy book: so far, the economic theory had been essentially static — a theory of static equilibrium. The *Treatise*, « in contrast to most older work on monetary theory, is intended to be a contribution to (a) new phase of economic science » aiming at the « understanding of the detailled behaviour of an economic system which is not in static equilibrium ». This new approach toward economics will « enormously increase the applicability of theory to practice »³.

For the author, thus, the goal was not to create a perfect or definitive scientific work but to give the economic thought a new orientation: the progress of the science would then be a collective achievement of the profession, with the cooperation of the banking community and of statisticians as, at this stage, « we can either perfect our theory or apply it with safety to practical issues » only if we are able « to increase exact quantitative knowledge concerning contemporary economic transactions »⁴.

If this « non-static-equilibrium » orientation of economics was, from Keynes' point of view, his major contribution to the science, we may of course wonder what would be his opinion on the keynesian doctrine embodied in the IS-LM model of the textbooks. We can dream of Keynes writing, after World War II, a new *Treatise*, spending much time to get rid of the accepted ideas of the moment — the « Keynesianism » — finding step by step his way toward a new approach to the economic problems and founding the « monetarist school ». The actual *Treatise*, however, works the other way round: it begins with a criticism of the quantity theory of money and develops progressively some ideas — the preference for liquidity — which will be an important part of the *General Theory*. To avoid any confusion,

¹ Keynes, *Treatise on Money*, edition of the Royal Economic Society, London (Macmillan) 1971, page XVIII of the first volume. First edition of the *Treatise*: 1930.

² Idem, page XVII of volume 1.

Idem, page 365 of volume 2.

¹ Idem, page 365 of volume 2.

however, it is necessary to emphasize the fact that the *Treatise* is NOT the *General Theory*: in the *Treatise*, the « fundamental psychological law » of the marginal propensity to consume has not yet been discovered and, if there is a kind of « multiplier » or accelerator mechanism creating a further contraction or expansion of the economy after an initial disequilibrium, it is not directly related to consumption but to the working capital.

II. THE THEORETICAL ARGUMENT

* The insufficiency of the Quantity Theory of Money

Keynes' starting point is a criticism of the Quantity Theory of Money based on the distinction between the concept of « purchasing power of money » and the various « currency standards » which express the value, in money, of various bundles of objects of expenditure. The weight of the different objects of expenditure will vary implicitly according to the type of approach of the analyst: for example, in the « Fisher » quantity equation, P refers to what Keynes calls the « cash transactions standard » in which the objects of expenditure in the reference bundle are weighted in proportion of the amount of the money transactions to which they give rise; and the « Cambridge » equation uses implicitly a « cash balances standard » in which the objects of expenditure are weighted according to the demand for money balances they occasion. The very existence of several « currency standards » implies that the quantity theory of money is not able to explain meaningfully the variations of the prices.

* The fundamental equations

Having rejected the quantity theory, Keynes forges his own analytical tools, the so-called fundamental equations. The model may be summarized as follows:

(1) Y' = C' + I'

where Y' is the nominal income at factor cost including a normal remuneration of the entrepreneurs but excluding the special profit (or loss) arising from changes in the price level between production time and sale time;

where C' and I' are the nominal consumption and investment measured at the cost of production, also

exclusing the special profits or losses arising from price variations⁵.

This equation states that the income of the production factors is the total cost of production of consumption and investment goods.

(2)
$$C = P.c = Y' - S' = C' + I' - S'$$

where C is the consumption expenditures, P is the price level of consumption goods, c is the consumption in real terms and S' is the nominal saving, i.e. the difference between the income as defined supra, Y', and the consumption expenditures, C. Note the possible difference between C and C'.

These equations are identities defining consumption expenditures. Rearranging the terms leads to

(3)
$$P = \frac{C'}{c} + \frac{I' - S'}{c}$$
.

Further, since C' is the value of consumption measured at cost, C'/c can be interpreted as the cost of production per unit of output, which we write w. Thus:

(3')
$$P = w + \frac{I' - S'}{c}$$
.

This equation expresses the price level of consumption goods as the sum of two elements :

- the average cost of production (w),
- the excess of the investment at production cost over saving as defined supra divided by real consumption; this element clearly measures the pressure of the excess demand for consumption output⁶.

Similarly, we can find an expression for the implicit price of total output:

(4)
$$\Pi = \frac{Y}{y} = \frac{C + I}{y}$$
 where Y, C and I are the income, the consumption and the investment measured at market prices,

The sign 'adorning some variables is there to signal that these variables are not defined as in the National Accounts: they do not include the fraction of the income of the entrepreneurs resulting from price changes. It is wortwhile to note that these special definitions used by Keynes enabled him to conceive a meaningful relationship — not in identity — between saving and investment without having to use the Myrdalian distinction of the « ex ante » versus the « ex post » concepts.

[&]quot;This equation is the theoretical basis for the famous distinction between cost-push inflation (called « income inflation » by Keynes) and demand-pull inflation (called « commodity inflation » in the *Treatise*) still popular today among the policy makers.

and, as
$$S' = Y' - C$$
:

(4')
$$\Pi = \frac{Y' - S' + I}{y} = w + \frac{I - S'}{y}$$
.

For a given level of the unitary cost of production, the price of output will thus vary proportionally to the excess of the value at market prices of the investment over saving as defined by Keynes⁷.

* The role of money in the determination of the price level

The price level, in the *Treatise*, depends thus fundamentally on the relations between investment and saving. The stability of the price level requires the equality of saving and investment, equality which, in the *Treatise*, is assumed to be realized at the wicksellian « natural » rate of interest. Any divergence between the natural and the market rate of interest results in a price variation.

Wicksell explained the market interest rate by the action of the banking system acting as price setter on the credit market. This explanation assumes implicitly that the actions of the other economic actors on the credit market result only from their decisions concerning their current saving and their current investment: this completely overlooks the impact on the credit market of the decisions of the economic actors concerning the structure of their existing portfolio, whose volume is nevertheless of an order of magnitude far greater than current saving or investment. Keynes formulates thus the alternative hypothesis that the interest rate on the market will be determined by the ratio between the existing stock of money and the needs or demand for money in the *financial circulation*. The pressure of the demand for money in the financial circulation will depend on the degree of bearishness of the portfolio managers, according to the now wellknown theory of the liquidity preference.

The quantity of money thus determines the interest rate and, consequently, the relative importance of saving and investment, which, in its turn, determines the corresponding variation in the price level.

* The mechanism of « multiplied » contraction or expansion of output

The entrepreneurs are supposed to react to a fall in prices by an initial diminution of output and to a rise of price by an expansion of output. Such a behavior assumes implicitly, of course, a lag between the price variation and

Reminder: S' = Y' - C. Thus S' is equal to the traditional saving of the National Accounts less the exceptional profits of the entrepreneurs induced by price variations.

the adjustment of wages and other remunerations of the factors of production.

This reaction of the entrepreneurs has important consequences: a variation of prices due to an initial divergence between saving and investment automatically tends to create the conditions for a further divergence between saving and investment through the adjustment of the stocks of working capital to the new level of production. If, for example, an initial excess of saving over investment results in a fall in prices and in a first reduction of output, this reduction of output in turn implies that there is an excess of working capital — e.g. an excess level of the inventories of raw material and the entrepreneurs will not rebuild at the previous level the stocks of working capital used in the production process: this reduction of inventories is in fact a reduction in investment that will increase, in the next period, the excess of saving over investment. This « multiplier » or accelerator effect explains in the framework of the model set up in the *Treatise* the cumulative effect of depressions or booms and the difficulties for the relative prices (wage-price of output) to catch up with each other to reach a new eauilibrium.

CONCLUSIONS

The claim of Keynes to have made a contribution to the study of systems out of the state of static equilibrium is, I think, valid, in the sense that he has demonstrated how some flow equilibrium positions *cannot* be reached immediately because of some stock constraints: for the first time in modern macroeconomics, an endogeneous variable — here the interest rate — is determined by a stock equilibrium and constrains some flows to be out of a static equilibrium position. The introduction of such stock constraints is a useful methodological mean to analyse the dynamic behaviour of moving systems. I suspect that all the analytical possibilities of this approach have not yet been exhausted, as suggested for example by the recent blossoms of monetary models of the balance of payments.

The other contributions of the *Treatise* are, in my opinion, less important and have, in fact, been made obsolete by Keynes himself through his *General Theory*. The *General Theory* focuses not on the price level but directly on output, by relaxing the very strong assumption of the absence of inventories of final products in the enterprises, assumption implicit in the *Treatise's* fundamental equations. By abandoning the price level as a central element of the analysis, Keynes will give up the last piece of the heritage bequeathed to his theoretical thought by the Quantity Theory, and it is in this sense that the *General Theory* is the logical end of the *Treatise*.

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