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**Time and Equilibrium, Two Elusive Guests
in the Keynes-Hawtrey-Robertson Debate
in the Thirties**

by

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TIME AND EQUILIBRIUM; TWO ELUSIVE GUESTS IN THE KEYNES-HAWTREY-ROBERTSON DEBATE IN THE THIRTIES.

"In so far, however, production takes time...and in so far as entrepreneurs are able, at the beginning of a production period to forecast...the demand for their product at the end of this production period... [they] will sometimes begin to act before the...changes which are the justification of their action have actually occurred" (CW V, p.143)
[bold-GP]

Foreword

J.M.Keynes emerged from the long discussion held with D.H.Robertson and R.G.Hawtreay with the completion of the two twin conception of the 'effective demand' and of the 'liquidity preference'. The debate began around the publication of the Treatise, and was about the end together with the tail of the exchanges on the 'finance motive', after the General Theory . Parallel to the discussion with his old friends there is the well-known episode of the 'indirect' discussion with the Circus, which focuses on the main concern of J.M.Keynes after the Treatise, i.e. how to isolate true 'causative', 'dynamical' factors sorting out of the 'tautologies' of the Treatise . The main concern of R.G.Hawtreay criticism concerning the Treatise,

was to contrast price adjustment with output adjustment. Hawtrey's account of this adjustment presents some striking similarities with the analysis of the multiplier process . Nevertheless, this hardly makes R.G.Hawtrey an 'anticipator' of the General Theory -in Patinkin's sense (or a 'keynesian' in Leijonhufvud's use) - for he simultaneously held something very similar to the Say's Law . Hawtrey's output adjustment was closely connected with dealers' decisions about stocks holdings. This theme switched naturally, passing to the discussion about the General Theory, into that of 'intended' versus 'unintended' investment , i.e. whether J.M.Keynes definition of 'investment', leaving apparently room to involuntary variations of stocks, could be considered as a truly causative variable (that theme was raised again by J.R.Hicks, at the onset of the crisis of the 'keynesian' paradigm). The very tortuous debate between J.M.Keynes and D.H.Robertson focused around the somewhat cumbrous exchange about 'Savings and Hoarding', ending in the utter reciprocal misunderstanding surrounding the discussion on the 'finance motive' . The more or less -according to the different periods- conscious aim of J.M.Keynes was to disentangle 'real' from 'monetary' aspects, at the same time establishing clear links between the two. This was strongly resisted by D.H.Robertson, who held on the contrary a view in which the two were strictly intertwined. His contention, that 'the forces of productivity and thrift' have the major role in determining the rate of interest, was indeed closely linked with his holding of the 'loanable funds' theory, in which each of the two aspects is nothing but the other side of the other. And indeed, the

discussion switches continuously from 'saving and investment' to 'liquidity preference' and to 'effective demand', or to what was standing for these concepts during their gestation . What is striking in that discussion is that they are debating always **the same points**, and the lingering lack of communication all over these years. For instance, what is really astonishing in the 'finance motive' debate is not the flat refusal of D.H.Robertson of trying to understand J.M.Keynes' stance on the subject, as rather the impossibility for J.M.Keynes to see why D.H.Robertson **could not** possibly grasp his position . What I am trying to aim at, is to examine a specific source of that incomprehension. There are some conception held, as it were, 'unconsciously', which may be thought as driving our thinking on invisible rails. Instances of such conceptions are, say, those of 'time' and 'equilibrium', which we use continuously with the utmost security, without the faintest questioning of them. I will briefly examine three episodes in the debate, trying to enucleate how the radically differing conceptions held on those themes could throw some light on the enduring reciprocal misunderstanding.

The Divide on Effective Demand between J.M.Keynes and D.H.Robertson.

Let's recall some definitions given by J.M.Keynes. The first is that of the Aggregate Demand Function:

$$[1] D = f(N) = f_1(N_1) + f_2(N_2)$$

which is defined as "the amount of proceeds which the entrepreneurs **expect to receive** [bold-GP] from the corresponding

output"[General Theory,p.24]; i.e. the 'expected proceeds' from giving a global employment N which is the sum of the employment given by the entrepreneurs in the consumer goods industry, N_1 , and of the employment given by the entrepreneurs in the capital goods industry, N_2 . The second definition is the Aggregate Supply Function:

$$[2] Z = \phi(N)$$

"The 'expectation' of **proceeds** which will just **make worth the while** of the entrepreneurs to give that employment[**bold-GP**]"[General Theory,p.24]. Accordingly we are told that Effective Demand is "The value of D at the point of the aggregate demand function, where it is intersected by the aggregate supply function, will be called **the effective demand**."[General Theory,p.25].

However, a few pages later we are given a definition of the Consumption Function:

$$[3] D_1 = \chi(N)$$

which runs as follows: "The sum which the entrepreneurs **can expect**[**bold-GP**] to get back out of the expenditure of consumers"[J.M.Keynes, The General Theory of Employment, Interest and Money (from here onwards: GT),p.30], a definition which matches the previous one of the 'propensity to consume': "The relationship between the community's income, and what it **can be expected**[**bold-GP**] to spend on consumption, designated by D_1 , will depend on the ... **propensity to consume** [i.e.: χ - GP]"[J.M.Keynes, GT, p.28]

Moreover we have:

$$[4] D_2 - \text{The Volume of Investment}$$

"The amount which it [the community-GP] is expected to devote to new investment"[J.M.Keynes, GT, p.29], which is **independent** from employment.

Hence we get:

$$[5] D = D_1 + D_2 - \text{The Effective Demand [?]}$$

"the sum (D) of two quantities, namely $D_1, \dots,$ and D_2, \dots D is what we have called above the **effective demand**." [J.M.Keynes, GT, p.29]

The question mark above, depends from the fact that, if we lump together [1], [2] and [5] we get:

$$[6] f(N_1) + f(N_2) = f(N) = \phi(N) = D = D_1 + D_2$$

where the two ends of the sequence have **different** definitions. Moreover, when the second definition, seems rather to omit *direct* reference to the Supply Function, and to equality of Aggregate Demand and Supply, which is, on the contrary, always referred to when he used the first definition. It is possible to recognize a similar difference also in two quotations from the 1932-35 Lectures of J.M.Keynes:

"the volume of employment depends on Effective Demand, that is, on the expectation of investment plus the expectation of **consumption**[bold-GP]" [K.Rymes, 1989, p.147]. It worthwhile also to take notice of a very interesting proviso, which JMK added, and could be usefull later on in the discussion: "Expected consumption will not be much different from actual consumption for, in the case of consumption, the reaction fo realised results upon expectations is pretty rapid." [K.Rymes, id.] The above-mentioned 'expectations' are those held by entrepreneurs, i.e. what 'they' expect the public will spend on the two items. So this definition appear to be a first exceedingly elliptic

formulation of 'Effective Demand', a definition we may contrast with the following: "Now, aggregate demand is all about what people **choose to consume and invest** [bold-GP]"[K. Rymes, 1989, p.169]. The difference between the two definitions was immediately noticed by D.H.Robertson : "Mr. Keynes in fact oscillates between using 'aggregate demand price' to mean what he has defined it to mean, viz. that 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 or not, is what they *will* receive. In a world in which errors of anticipation are common, the distinction is not unimportant.[D.H.Robertson, 1937?, p.169]. The same point did not escape to R.G.Hawtrey who, in discussing the galley proof of chapters 1-24 wrote to J.M.Keynes :

"*Effective demand* (chapter 3,II, p.11)

Presumably the definition of effective demand as 'the sum for which the current output can actually be sold' [i.e Def. [5]-GP] is to be amended, for it is the phrase immediately below, 'the sum for which it is expected that this output can be sold [i.e. Def. [1]-GP]', which represents the usage adopted in subsequent passages." [J.M.Keynes, *Collected Works* (from here onwards: CW, vol. XIV, p. 567]

We might think those two definitions as the two sides of the net value equation in an input-output system (or as the two sides of the national accounting). The first definition of Aggregate Demand, i.e. 'the expected proceeds from giving a certain employment', is equivalent to the difference between the total proceeds and the global value of the intermediate products. Such

a difference may be defined with regard for each individual firm. Thereafter we can sum up to sectors and then to the whole economy. Though the second definition sounds more familiar, and hence may seem more obvious and clearcut, it is instead much more slippery. Demand, defined on the other side of the net-value equation of an interindustrial matrix, is nothing but final demand, i.e. in J.M.Keynes terms: $D=D_1+D_2$. However, in this second case it is much more difficult to single out the path which leads from the demand facing the individual firm and the aggregate demand, so defined. Even if the firm knows what part of its output goes to final use, this hardly can be considered the 'driving factor' in the decision of the level of output (a point stressed by T.Asimakopoulos in his critique of JMK theory of effective demand). While it is difficult to attribute a definite economic meaning to the final demand facing the individual firm, this is not the case of when we take into consideration the aggregate reached summing up all the individual final demands. **That** aggregate demand, in the sense of final demand, obviously makes sense facing firms, taken as a whole - hence, their expectations, taken as a whole.

Global consumption depends from aggregate income which depends from the aggregation of the individual decisions of expenditure out of income. Investment, as we have been taught, is 'autonomous', i.e. does not depend on those decisions.

So we got, at least partially, a circle, whether virtuous or vicious, we do not still know. In a sense the circle is complete, for the expected demand is to be fulfilled when the final demand takes such values that, spreading over sectors and firms,

validate the individual demands. Indeed, for each value of N , i.e. the employment the entrepreneurs are viewing to give, we may get the values of three functions: $f(N)$, the aggregate demand, $\phi(N)$, the aggregate supply and $\chi(N)$, the community's consumption, whereas D_2 , the volume of investment, is independently determined. Each of those three values is, in Swedish terminology, *ex-ante*, but with a remarkable difference. The first two, namely the values of $f(N)$ and $\phi(N)$, are 'expectations' held by entrepreneurs, concerning the receipts related to N , the employment to be given.

The discussion between J.M.Keynes and D.H.Robertson ravaged about the meaning of the difference between effective demand and income (i.e. the realised outcome, according to J.M.Keynes):

"I do not remember attributing the disappointment of entrepreneurs 'to a divergence between aggregate demand price and aggregate supply price'. I attribute their failure to produce *more* to this; but their disappointment, if any, I attribute (like you) to a divergence between aggregate demand price and income." [CW, XIV, p.89, letter to D.H.Robertson, 13/12/36]. To this statement, repeated by J.M.Keynes in many ways, D.H.Robertson answered, himself iterating many times the substance of the argument:

"1. I must concede at once that you do not say in so many words that the disappointment of entrepreneurs who have produced too much is due to D falling short of Z . But to say that equilibrium is attained at an output N where $D=Z$ surely *implies* that if output is expanded beyond N , D will fall short of Z " (Interestingly enough, D.Patinkin, in his detailed critique of

the third chapter of the General Theory -9th chapter of his 'Keynes' Monetary Thought'-, reaches the same conclusion, but for the values of Z short of D). Then D.H.Robertson continues: " My complaint is perhaps badly worded: but is, in substance, that throughout these central pages D (what is expected) and Y (what ought to be expected) are treated as identical (though from what has been said about the universality of mistaken belief in Says's law we naturally expect you to regard D and Y normally different, and D and Z as normally identical): while on p.78 you claim to have established a vital contrast between D and Y ." [CW, XIV, p.96, D.H.Robertson to J.M.Keynes]

From the general stance of J.M.Keynes, as we have sketched above, we could argue, on the contrary, that since for any N beyond the point in which $D=Z$ D falls short of Z , the output will not **assuredly** be expanded beyond that N , where $D=Z$. What will happen after the output corresponding to N would have been produced, is quite another matter. D.H.Robertson seems fail to grasp that both D and Z are expectations held by entrepreneurs , so that the points where D and Z differs can **never** become points of **actual** production, even though disequilibrium points. This is a possibility open to **market** demand and supply curves, where we can imagine a starting point of an equilibrating dynamics out of equilibrium . The argument goes on showing a whole range of radical disagreements.

"You [Keynes] interpret the principle, 'supply creates its own demand', to mean that ' $f(N)$ and $\phi(N)$ are equal for all values of N '...In fact you misinterpret the principle that supply creates its own demand. It means that the *actual* demand for the

community's output is equal to the *actual* incomes arising out of its production. The expected proceeds, *D*, may differ from the actual demand and what is more important, the required proceeds, *Z*, may differ from the actual incomes. If *Z* does differ from the actual incomes, there will be a disequilibrium, there will be an excess or deficiency of profit and **there will follow an expansion or contraction of output till *Z* and the incomes are brought to equality** [bold-GP]. "[CW, XIV, p.31- 32, from R.G.Hawtrey to J.M.Keynes]. The disagreement does not lie in their concept of the Say's Law. (See indeed, "...the conclusion that the *costs* of output are **always** covered in the aggregate by the sale-proceeds resulting from demand...**is difficult to distinguish**...from another, similar-looking...indubitable...that the income derived in the aggregate...necessarily has a value exactly equal to the value of the output." [J.M.Keynes, GT, p.18]).

From the discussion with D.H.Robertson two points do emerge: first, the second definition of Aggregate Demand is the bridge between demand as expected proceeds and income as ex-post results; second, D.H.Robertson does understand as demand only the marshallian, the market demand, whose agents are the buyers. He fails completely to grasp the 'expected demand' as something more alike to an entrepreneurs' 'mental experiment' . For D.H.Robertson demand is only that ruling on the market, as we may see from the sentence in which *Z* and *D* and *Y* are inextricably mixed. Till now it may seem that we have simply recorded the well known dissent among the two economist. However, to reach the root of that dissent and, may be, the why they could not possibly understand wherefrom such a disagreement could spring, we need

two more points. If Aggregate demand in term of the second definition is the bridge between the first and income, we need one more bridge to understand why J.M.Keynes could candidly shift from the first to the second definition, and doing so, terribly puzzling D.H.Robertson. The answer may lie in his deep convictions about probability: "What we know and what probability we can attribute to our rational beliefs is, therefore, subjective in the sense of being relative to individual. But given the body of premisses...and given the kinds of logical relations...the conclusions...stand to these premisses in an **objective** [bold-GP] and wholly logical relation [J.M.Keynes, *Treatise on Probability*, CW, VIII, p.19]. Viewed in this light, expectations are not simply a 'psychological' phenomenon, as D.H.Robertson and R.G.Hawtrey tended to maintain. They in a certain sense, **reach the world**. Reminding R.G.Hawtrey theory, and discussing with Ohlin and D.H.Robertson on 'ex-ante' and 'ex-post' concepts J.M.Keynes writes the often-quoted sentences: "Entrepreneurs have to endeavour to forecast demand. They do not, as a rule, make wildly wrong forecasts of the equilibrium position." The true divide is not that they "endeavour to approximate...by a method of trial and errors". D.H.Robertson and R.G.Hawtrey can easily share this sentence, as it stands, on its face-value. The difference lies in that, that for D.H.Robertson and R.G.Hawtrey, human action is mainly re-active, not prospective. Or, better, they may easily concede it in plain words; but in building their 'models', they simply resorted implicitly to the first conception. That is why they are obsessed by disappointment of previous action as **the cause** of change. In the

early writing of Keynes, time is change. Time, for D.H. Robertson, is a sequence. The impulse to action comes from behind, from past periods. On the contrary, for J.M. Keynes, the impulse to action comes from ahead, from the future. That leads us to the theoretical field much concerned with one of the crucial features of 'future': i.e. liquidity preference.

The Liquidity Preference Controversy.

There is a Wicksteedian legacy -most likely, unconscious- in the way in which J.M. Keynes deals with demand; be it the demand for money, or the role of demand in the stock-adjustment process, or in the way how entrepreneurs take the decision on how much to produce, i.e. effective demand). J.M. Keynes takes from Marshall the logic of, as it were, 'external choice': i.e. the fact that on the market different group -producers and consumers, investors and savers, act facing each other. So, even if every choice for the individual lies always a 'balancing' of different motives, yet the set of forces behind 'suppliers' and 'demanders', so to say, are different. For Wicksteed, on the contrary, the inner 'balancing' means that 'supply' and 'demand' are only different name for the same 'motive'; then he denied to 'supply' any reality. In this sense, we may this a logic of 'inner choice'. There are, for instance, elements of that 'inner choice' in JMK, when dealing with the decision of the producer on how much to produce: I do produce a certain output if the yield I expect from that quantity is not less the inducement price, the price which would convince me to the exertion of that effort; but since, eventually all this is submitted to 'market' validation, he

remains here rather on the marshallian side. Where the wicksteedian element is dominant, is in J.M.Keynes liquidity preference theory. The 'demand for money' is treated on lines very similar to Wicksteed 'reserved demand', i.e. the quantity that, at any given price, the 'seller' (or, rather, the 'owner') prefer to keep rather than part with. That wicksteedian aspect has been almost always overlooked in the lingering discussion on liquidity preference vs. loanable fund theory. To my knowledge, there is only one commentator who explicitly pointed out such a link, but only to drive immediately towards the quieter shores of conciliation. Apart from Keynes, paradoxically enough, Cannan alone defined the demand for money in quite a different way than the demand for an ordinary commodity. He says that to understand the demand for money we have not to think to the purchase of a house, but rather to the dwelling of it. On the same lines, for J.M.Keynes, the demand for money is intended as the **wish to hold**, and not the **wish to get**, as in the ordinary definition of demand. Yet **holding** necessarily implies time, which **getting** does necessarily not. This is a distinction that D.H.Robertson, all over the long, tortuous, intricate debate on liquidity preference (and, above all, on the finance motive) with J.M.Keynes, wholly failed to grasp. This of course marks the twin concept of 'supply' of money. If 'to demand money' means 'not to release it' instead of 'releasing', 'to supply money' can only mean an action intended to increase the existing quantity of money, a performance which is outside the possibility of the public. Only the banking system is entitled to be 'the supplier' of money, even in a 'gold-standard system', but even more in a managed-

money system. To the wicksteedian mark of the holding as a character of demand, J.M.Keynes added his grasp of time, as a concrete -not empty- period in which things happen, overlapping processes are carried on, and the whole situation is marked by the note of uncertainty, which taintes all expectations, and all actions. We may refer to the rather impatient answer given to Shaw, in which J.M.Keynes fiercely denies that for him the time-dimension of equilibrium could be referred to as a snapshot. There is another element which, subsequently, considerably added confusion to the whole matter, and it is the misuse of the twin concept of stocks and flows, borrowed from physical sciences, in applying them mechanically to the definition of the demand for money. The main character of the holding of money balances is their time-profile. This was the way in which, for instance, Phillips and others -quoted by J.M.Keynes in the Treatise-discusses the question of money creation in the Twenties. Taking this aspect into account the most adequate definition of a quantity of money is the 'average balance' which is neither a 'stock' nor a 'flow'; i.e. the balances held at some dates weighted with the time-length of the holding (this is also the practical way by which banks reckon the interests falling due). Of course, a good proxy of such a quantity are simply the balances held at some meaningful dates. But this is only a shorthand, for we must always take in our mind that actually we are referring to something with a time-profile. We may easily see the outcome of such a different approach in the discussion on the finance motive. Of the almost countable infinite quotations of the lack of communication between D.H.Robertson and J.M.Keynes

I will choose one, in which the misunderstanding is simple and total. In his critique of the General Theory, the motives of holding money D.H.Robertson comments that one part of M1 is said to be "held to bridge the interval between the time of incurring business costs and that of the receipt of sale proceeds"; i.e. that one that subsequently will be defined to belong to the 'finance motive'. He says: **"surely these are just the intervals during which the person in question do not hold money!"**[bold-GP] Have not Mr. Keynes thoughts strayed...from the desire to *hold* money to the desire to borrow it in order to use it? [D.H.Robertson, id. p.182]. Even if the quotation is taken from D.H.Robertson coments on the General Theory, its content fit perfectly in the subsequent debate on the 'finance motive'. The lag referred he by J.M.Keynes is exactly that one which entrepreneurs willing to increase their production (whether of capital or of consumer goods does not matter) have to face. (During the 'finance' debate J.M.Keynes will make the more precise distinction between the above mentioned lag, and the one between receipt and incurring costs). We may understand under which assumptions the statement of D.H.Robertson makes sense. However, it is much more difficult to grasp why D.H.Robertson could not possibly understand what J.M.Keynes was aiming at. The process which D.H.Robertson had in mind is a sequence process; at a beginning of a period the firm borrows to finance costs, almost simultaneously incur them, and then waits till the end of the period in which receipt from sales are supposed to accrue. Moreover this process is going on for all the firms simultaneously, following the specific Robertsonian method of

aggregate sequence analysis. This may be thought as an outcome of an optimising decision as, for instance, in Augusto Graziani account of the 'finance' debate, but it does not change anything in the time-approach, it is an empty-period time-analysis. The point is that we need not to make such simplifying assumptions, in order to get simple formulas. For afterwards we lose all the advantage insofar, reintroducing the process-complexity makes the formula-complexity rise exponentially, as J.M.Keynes pointed out in his critical discussion on period-analysis approach. We may get a simple conceptual picture while leaving to the process a great deal of its complexity. At the end of the quotation does appear the fundamental meaning of demand as 'getting' something which someone has not. The main target for getting is 'to use'. D.H.Robertson may concede that sometimes, somewhere, someone wants it to hold it. However to release it, not to hold it, is the main function, and before we do it the best (all this is obviously, as J.M.Keynes repeatedly stresses, with the function of store of value). For J.M.Keynes, that firms do hold money, was simply obvious. There is an interesting account of a similar process, given by Phillips. The firms does make provision of finance in advance, and do not exactly when they will incur costs, for we have also to take in account the fact that the physical aspect of a production-process and its cash-flow aspect hardly are synchronised, as well are not synchronised the debit-side of the cash-flow balance and its credit-side. So, there is a time profile of the money balances -whether borrowed or not, it is an irrelevant matter- which has to go on till the production period is at an end. But there is another delay to

reckon. Time may elapse from the end of the first production process and the accruing of receipts; then we have to borrow to fill the gap, and wait again as the time profile of the balances begin to steep up. All that implies time, with concrete overlapping, un-synchronised processes going on, uncertainty about it all, and the only way to behave is according to our expectations, thus **anticipating** what is supposed to happen, and not **re-acting** on what has happened, an aspect which is the core of the debate with Hawtrey.

The long J.M.Keynes's and R.G.Hawtrey's skirmishing on stocks

The discussion on the role of stock-adjustment began over the Treatise, and quite naturally, after the appearance of the General Theory, transformed itself into the debate on 'planned' versus 'unplanned' investment. During that discussion J.M.Keynes made the rather puzzling -for R.G.Hawtrey- statement that investment ex-post may differ sensibly from the planned one, even without any increase in stocks, all the same modifying the expectations about the next relevant period. This was intertwined with the rather terminological discussion whether investments not designed ex-ante should be called undesired, unplanned or unintended. Obviously, all the participants -Ohlin, Hawtrey, D.H.Robertson- were perfectly aware of the fact that there are **two** characters in the piece: the producers -whether of consumer or of capital goods- and the buyers (i.e. other firms in the case of capital goods, or household in the case of houses), but they did not grasp the peculiar way in which J.M.Keynes was drawing his conclusion from that very fact. Let us examine a first case,

i.e. an unforeseen fall in demand consumer goods. Both D.H.Robertson and R.G.Hawtrey -and later Hicks- assume a passive adjustment of producers: i.e. they just suffer undesired increase in stocks -at fixed prices. Whence the perennial contention that saving equal investment only ex-post, but they may (or even that cannot but differ) ex-ante. A first question is mainly terminological: investments may be planned, i.e. decided before the beginning of the period analysed, or unplanned, i.e. effected during the period, facing unforeseen events. Yet entrepreneurs, when confronted with an unexpected difference of market demand relatively to the expected, may react in two ways. Either trying to liquidate anyhow the stocks, suffering a loss and modifying accordingly future production plans, or letting the stocks accumulate under the hypothesis of a future recovery. In the first case there is no unplanned investment, nevertheless there is a downward revision of expectations. This is surely a polemical point against R.G.Hawtrey e D.H.Robertson, who on the contrary link the revision future plans 'exclusively' to the actual undesired increase in stocks of unsold goods. For J.M.Keynes, instead, the adjustment mainly occur on the price side -i.e. implying price **flexibility**- without stock variation. The scheme of that discussion bears an interesting resemblance to that on hoarding. In that case, indeed, J.M.Keynes, since after the Treatise, maintains that an increase in the propensity to hoard not necessarily does manifest itself in an increase in actual hoardings (the adjustment does fall on price, i.e. the rate of interest does increase or fall). Neither in the above-mentioned second case, when entrepreneurs let the stock

accumulate, we may really speak of unintended, though unplanned, investment. The entrepreneurs, indeed, choose to hold the stocks rather than to undersell them so that investment, though unplanned, is **intended**. We could speak of **unintended investment** only in the case when, underestimating the fall in demand, entrepreneurs had tried to liquidate at a price not sufficiently low to clear the whole stock, yet a price which they could have accepted as a stock clearing one, should have they done the right guess. There is a third case, in which we could speak of **involuntary** investment, when the fall in demand -though previously unforeseen, nonetheless now well known- is so deep that, there is no price at which the stocks could have been sold. Better, there is no price such that the loss to be suffered could be smaller or equal to the carrying costs, to be incurred for holding the stocks (a case which did arguably happen in the severe slump of the 1929). In a certain sense we are facing here a **forced** investment, which may be considered the twin concept of 'forced saving'. Even in this case the behaviour of entrepreneurs is not of **passive** adjustment, but rather one of an **active though unsuccessful** adjustment. Obviously there is also the adjustment of the current of production (see particularly the chap.28 of the Treatise). This may be sufficient in order that redundant may sink, or not. Obviously expectations about price movement, whether up or down, should be taken into account. We may synthetically state it saying that the current rate of production will be adjusted relatively to the redundant stocks at the price which is supposed to allow, taking into account the expected prices as well, the absorption of the stocks minimizing the

losses. Two are the crucial differences in respect to R.G.Hawtrey and D.H.Robertson: first - that the period, however short, is thought in such a way as to allow the adjustment to take place, if this be compatible with future expectations. Second - that, ultimately, the investment is, on the main, voluntary, even if unplanned. Even the ex-ante undesired stock-holding may be considered voluntary, if the price (or better the relation between spot and forward prices) is such as to make the holding admissible (equalizing the willingness to hold stocks with the stocks at disposal).

Let us see direct quotation from J.M.Keynes. "*Ex-ante* investment and *ex-post* investment would differ even though widespread fluctuations in stocks did not occur [bold-GP] and the disappointment of expectation influences the next *ex-ante* decisions." [CW,XIV,p.183]

"Actual investment [from *ex-ante*;GP] may differ through unintended stock changes, price changes, alteration of decisions [bold-GP]" [CW,XIV,p.180]

"Let us suppose identity of *ex-ante* and *ex-post* my theory remains. *Ex-ante* decisions may be decided by trial and error or by judicious foresight, or (as in fact) by both." [CW,XIV,p.183]

"He [Hawtrey] finds...the whole genesis of dynamic change...in what I think is better described as the higgling of the market. ...by means of which buyers and sellers endeavour to discover the true equilibrium position of supply and demand [bold-GP]." [CW,XIV,p.182]

"You [Hawtrey] are usually concerned with the higgling of the market, the short-time lags lasting a few weeks during which

everybody is discovering what the demand really is; whereas I am concerned with the forces determining the demand, i.e **the forces which are pretty soon discovered by the higgling of the market,** and I am not much interested myself in the brief intermediate period during which the higgling of the market is discovering the facts." [CW, XIV, p. 27]

The main divide between J.M.Keynes and R.G.Hawtrey all along the whole discussion is about price-flexibility. But price-flexibility, in Keynes' approach are associated with losses. Here lies the main difference with the 'classical' school (from Hicks onwards, the neo-classical). In that tradition flexibility is associated with the absence of losses since all prices are determined simultaneously. Otherwise thinks J.M.Keynes; for all the price-flexibility, for all the anticipation and the discounting of the future, for all the scale of arbitraging among markets, losses are unavoidable. Those are the features of the markets which should be represented by the flex-price model. Yet losses are unavoidable, because producers' choices are 'autonomous' and temporally out of phase. Producers decide beforehand -really ex-ante: i.e. taking the risk of the unfulfillment- 'anticipating' the behaviour of the market. Afterwards, the reciprocal adjustment on the market of the buyers and sellers cannot cancel the very fact that costs have already occurred and incomes distributed. As it is made clear in a discussion with Sraffa over the Treatise, entrepreneurs are selling products during a period of falling prices, while incurring cost relative to a level of production higher than that which is actually being sold, and that is why they cannot

replenish again their cash-balances. The problem is not the alleged rigidity of prices, particularly wages (they as well are flexible, simply they are less flexible than the prices of machines (see, CW XIII). In J.M.Keynes conception flexibility not only does not help, but even worsens the situation, unless do prevail the conditions of cooperative economy -which is tantamount of assuming the barter economy.

Conclusion

As I tried tentatively to show the differences in the approaches to the time-dimension of processes mark heavily the differences in the way processes are understood. In the section on 'effective demand' the main difference between J.M.Keynes and D.H.Robertson lied on the role of expectations, and the related conception of human behaviour, at his turn closely tied with time-conception. The divide is: **prospective, anticipating and active** vs. **retrospective, sequentially-determined and passive** behaviour. From the Tract, the Treatise and onwards we may find uncountable loci about foreseen changes, the outcome of which is either avoided, or anticipated in its occurrence. And the very notion of period 'between expectatio and result' as **funnels of process**, 'concrete' time-spell, in which processes occur with different durations, and overlapping, is at the heart of the contention about the liquidity preference. The link between the two aspect is given by J.M.Keynes' reiterated claim that is not possible to establish **in the aggregate** a unique temporal relation between 'previous events ' and 'present aggregate demand'. The period is not empty, is filled by processes of different length,

'synchronized' , but not just 'simultaneous' and with the same length (see model of economic cycle in the Appendix of the Treatise, where such an assumption is **explicitly** done; a 'simplification' which then is not valid for the Treatise on the whole. And afterwards, against the swedish ex-ante/ex-post approach: 'I have discarded all this', and against the sequential-period analysis à la D.H.Robertson). The way in which J.M.Keynes thinks the equilibrium, is closely related with his time-conception, as the whole debate with R.G.Hawtrey shows. R.G.Hawtrey as well, shares with D.H.Robertson a rather **reactive** conception of human behaviour, which can be molded in a 'naturalistic' causality in which, as it were, the impulse comes to the agent always from 'backward' from the past, instead of coming from 'forward', from the incoming future. And the whole subsequent discussion, whether expectation could be possibly modelled on past outcomes -then allowing to the reversal to the naturalistic-sequential causality- was rather missing the point. The crucial aspect of expectations, in J.M.Keynes, is **not** their content, as rather their **form**, temporally determined. Even if people relies on accepted convention to assess the content of other's behaviour, all the same it is the 'future behaviour' which is considered. If the impulse comes from the past, it can never change, apart from 'disappointments'. And indeed, the debate with D.H.Robertson and R.G.Hawtrey, is always returning back on this point, whose importance is continuously denied by J.M.Keynes, and affirmed by the others. Could this bring us to argue that, in J.M.Keynes, there are still hidden and unexplored

possibilities of alternative approaches to mainstream economic,
may be more radical than those till now tried?

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