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AND MONETARY DETERMINATION OF
EFFECTIVE DEMAND: A PUZZLE IN
KEYNES' ECONOMICS**

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DETERMINATION OF EFFECTIVE DEMAND: A PUZZLE IN
KEYNES' ECONOMICS(*)**

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The composition of this book has been for the author a long struggle of escape, and so must the reading of it be for most readers if the author's assaults upon them is to be successful,- a struggle of escape from habitual modes of thought and expression. The ideas which are here expressed so laboriously are extremely simple and should be obvious. The difficulty lies, not in the new ideas, but in escaping from the old ones, which ramify, for those brought up as most of us have been, into every corner of our minds.

John Maynard Keynes

Preface to *The General Theory* (CW VII) ⁽¹⁾.

I. Introduction

It is almost consensual among Keynes' interpreters that two basic theoretical motivations may be accounted as having had played a very fundamental role in Keynes' decision upon not only which issues were to be dealt with in the *General Theory*, but also on the substance of its central message. First, it is worth of mention Keynes' explicit dissatisfaction with his previous *Treatise on Money* even at the very time of its publication. Second, it should be stressed the stimulation and inspiration received by Keynes from the so-called 'Circus' of Cambridge, an active discussion group comprised by younger economists who set to work to discuss the *Treatise on Money* just after its publication ⁽²⁾.

A clear evidence of Keynes' disposition to revise the theoretical foundations of the *Treatise on Money* can be found even in the preface to the Japanese edition of the latter (April 1932), in which Keynes expressed that his next purpose was to reformulate the underlying monetary framework of that work ⁽³⁾. As an early indication of the direction he supposed that revision should take, Keynes, in the same year, retitled his traditional course of lectures delivered at Cambridge in the Michaelmas terms from *The Pure Theory of Money*, which was their original title since 1929, to *The Monetary Theory of Production* ⁽⁴⁾. In the late 1932, Keynes devoted his contribution to a *Festschrift* for the German business cycle theorist Arthur Spiethoff to another

very clear statement of intent regarding the nature of the work he had engaged in after the publication of the *Treatise on Money*. After arguing against both Pigou and Marshall for their insistence in treating money as neutral, Keynes stressed his conviction about being booms and slumps both phenomena peculiar to an economy in which money is not neutral. Symptomatically enough, he closed that contribution with the following announcement: "Accordingly I believe that the next task is to work out in some detail a monetary theory of production, to supplement the real-exchange theories which we already possess. At any rate that is the task on which I am occupying myself, in some confidence that I am not wasting my time" (CW XIII, p. 411). One cannot fail to realize that the latter passage made clear Keynes' awareness regarding the imperative of formulating a monetary theory of production if he was to provide a truly alternative approach to classical equivocate emphasis upon an exclusively real determination of output and employment in market economies. Quite convinced that there was something really rotten in the state of Denmark, Keynes devised his monetary theory of production as a perfect Trojan Horse to trundle into the midst of classical non-monetary economics of employment ⁽⁵⁾.

In the preface to the *General Theory*, one again can find Keynes announcing the actual nature of the revision project he had started up just after the publication of the *Treatise on Money*. Keynes then explicitly recognized that unlike the *Treatise on Money*, in which he was still moving along very traditional lines of regarding both output as given and money as neutral, the *General Theory* was rather "a study of the forces which determine changes in the scale of output and employment as a whole; and, whilst it is found that money enters into the economic scheme in an essential and peculiar manner, technical monetary details falls into the background" (CW VII, p. xxii). Later on, namely, on Chapter 21, he again insisted that when "we pass to the problem of what determines output and employment as a whole, we require the complete theory of a monetary economy" (CW VII, p. 293) ⁽⁶⁾. In order to make precise

what ought be really meant by a *monetary theory of production*, he then defined a *monetary economy* as one in which "changing views about the future are capable of influencing the quantity of employment and not merely its direction" (CW VII, p. xxii) ⁽⁷⁾.

This paper is devoted to a careful historical account of Keynes' innovative notion of a *monetary economy* as a specific sort of production economy whose analysis requires an adequate *monetary theory of production*. Based upon several drafts and manuscripts relating to the *General Theory* dated from the early 30s, when Keynes was decidedly *en route* to his seminal work, it is focused here what might be called an intriguing puzzle in the history of Keynes' economics of employment. Put shortly, it is argued that the ironic non-inclusion in the final version of the *General Theory* of an illuminating taxonomy of production economies formulated during that period has somewhat obscured the very monetary nature of his economics of employment, thus facilitating the subsequent neoclassical efforts either to portray him as a *Rebel Without a Cause* or to subsume his economics of employment as nothing but a special case of the supposedly more general classical view ⁽⁸⁾. Moreover, it is argued that Keynes' derivative monetary theory of value can be legitimately conceived as another application of the principle of conservation of matter and energy to the economic realm. Not surprisingly, the recurrent search for an invariant capable of reducing the degree of instability of the economic system also appears in Keynes' formulation, now in the form of a plea for the importance of monetary contracts as instability-reducing devices in a monetary economy.

The paper is organised as follows. Section II outlines the principal logical nexus that prevails among the essentials underlying Keynes' notion of a monetary economy, namely, historical time, expectations, uncertainty, and non-neutrality of money. Section III examines the insightful taxonomy of production economies conveyed by Keynes in the early 1930s. Section IV presents Keynes' argument regarding fluctuations of effective demand as monetary phenomena

capable of emerging in essentially monetary economies. In addition, it is considered the existence or not of some logical contradiction between that formulation and the one presented in the final version of the *General Theory*. Brief concluding remarks close the paper.

II. Historical Time, Expectations, Uncertainty, and Money

In a world - our world - in which the very uncertainty that surrounds the future is an unescapable condition to be faced by all decision-makers, actual money acquires a very fundamental role in capitalist decision-making processes regarding production and employment ⁽⁹⁾. Since the future the capitalist production processes is irrevocably clouded with several uncertainties, actual money becomes the most suitable defensive device for those who must deal with the negative consequences associated with the irreversibility of historical time. Insofar as money is, *par excellence*, a liquid asset, actually the most liquid one, its holding allows insecure agents to postpone productive or consumption decisions when uncertainty regarding future outcomes of those decisions intensifies. To put another way, money is conceived as the most suitable time machine when wealth is required to be transported through (historical) time ⁽¹⁰⁾. As Keynes persuasively argued, "*the importance of money essentially flows from its being a link between the present and the future (...)* Money in its significant attributes is, above all, a subtle device for linking the present to the future; and we cannot even begin to discuss the effect of changing expectations on current activities except in monetary terms" (CW VII, p. 294-5, original emphasis); I would argue that the complex web of logical connections among time, expectations, uncertainty, and money could not be advanced simpler. For instance, if production starts from a position of close-to-full employment, but a set of adverse events causes economic agents to become more worried and cautious about the uncertain future, many of them will wish to postpone or even

permanently reduce their current purchases of goods and services. As an immediate consequence of a larger portion of their current income being used to buy liquid assets, the price of liquid assets will increase. But to the extent that all liquid assets such as money have a zero elasticity of production ⁽¹¹⁾, as well as a zero elasticity of substitution ⁽¹²⁾, the newly laid-off workers will not be automatically re-employed to produce either money or other substitute liquid asset, thus causing overall level of production and employment to fall (Davidson 1972 ; Kregel 1974). Put metaphorically, actual money, due to its inherent liquidity attributes, is ultimately a perverse *bottomless sink*, as Keynes called it in the *General Theory* (CW VII, p. 231), or maybe a *quicksand*, I would adduce, for any purchasing-power eventually drained from spending on labour-requiring goods and services.

Thus one can easily realize that the notion of time embedded in any economic model, either a mathematical or a verbal one, is a crucial issue accounting for its consistency and realism. In general terms, one can adopt either a logical notion of time or a historical (calendar) one. Keynes' criticism of classical timeless and moneyless formulation in the apocalyptic reply to his critics in 1937 (CW XIV) may then be properly conceived as relying on his full awareness regarding the inevitable fact that we simply know very little about the future, while "the orthodox theory assumes that we have a knowledge of a kind quite different from that which we actually possess" (CW XIV, p. 222) ⁽¹³⁾. Following Keynes' view, Post Keynesian economists correctly argue that since general equilibrium models' underlying notion of time is the logical one, they are not capable of dealing with essentially processual phenomena such as production and distribution. In (neo)classical timeless models, one cannot fail to recognize that time has indeed stopped in a single moment in time, for in a well-behaved world of perfect knowledge, homogeneity, and reversibility actual time has no past, no present, and even any real future (Arough 1987, p. 397). Following Keynes, Post keynesians models, on the other hand, analyse capitalist

economies within the context of calendar time and thereby bring economic theorizing into close touch with the complex vicissitudes of actual history. (Neo)classical theories, in turn, for usually adopting a logical concept of time which is considered, it is worth of recall, an interval long enough to allow whatever needs to happen to happen, whether in the long or short run, do not hesitate in conceive the economic agent as fully capable of moving forward to envisage outcomes and events, and then, supposedly through some fantastic time machine, moving backward again in order to revise decisions already taken. Metaphorically speaking, the representative neoclassical agent is supposed to be able to perform the infinite intertemporal movements usually allowed only to movie heroes (back to the future, back to the past, and so on) ⁽¹⁴⁾.

In any actual economic environment like ours, in which time is rather an unending sequential continuum moving in one direction (forward) only, actions taken yesterday cannot be easily reversed in order to solve problems today or tomorrow. Since production process takes time, decisions over hiring and spending must be taken in advance of the actual conditions that the output will face in the future. In one word, uncertainty (as opposed to probabilistic risk) about the future ultimately led production decisions to rely upon very flimsy expectations. As it was correctly observed by Minsky, "[w]hat is essential, even fundamental, to any interpretation of Keynes is to recognize that Keynes came to the problems of economic choice that involve time (and thus uncertainty), and the behaviour of an economy in which such choices are important, with a sophisticate philosophical framework for examining decisions that are made on the basis of imperfect knowledge" (1975, p. 64-5) ⁽¹⁵⁾.

III. Taxonomy of Production Economies

In order to clearly differentiate his *monetary theory of production* from the classical *real theory of production*, Keynes formulated an insightful taxonomy of production economies in the early 30s, one in which production economies are classified under three different labels, namely, *co-operative* (or *real-wage*) *economy*, *neutral economy*, and *monetary* (or *entrepreneur*) *economy*. As it is detailed in what follows, that taxonomy was supposed to demonstrate that it is in a *monetary economy* in the sense roughly outlined in the previous section that we really live. For Keynes believed that the very Panglossian character of the classical theory essentially derived from the nature of the model of economy it used, which he labeled as a *co-operative economy*. Even though several aspects of Keynes's monetary-oriented project as he moved towards the *General Theory* had already been put available with the publication of volumes XIII and XIV of the *Collected Writings* in 1973, another really telling bit of evidence was provided with the recent discovery of additional Keynes' writings dated from the early 30s, a material ironically discovered only in the winter of 1975-6 in a full laundry hamper at Keynes' country house (CW XXIX, p. xiii). As I sustain in what follows, that earlier material relating to the *General Theory* contains substantial elements for a promising recovery and expansion of Keynes' *monetary theory of production*, namely, one capable of shedding additional light on the monetary nature of fluctuations of the effective demand recurrently faced by entrepreneur, market-oriented production economies.

From that material, it is worth of recall that in the two presumably earliest surviving draft table of contents of the *General Theory*, both dated from 1932, the book in which Keynes was working on was symptomatically entitled as *The Monetary Theory of Production* (CW XXIX, p. 49-50), though none of that contents made reference to the above mentioned taxonomy. In another

surviving draft table of contents, now dated presumably from around the early 1933, Keynes retitled the book as *The Monetary Theory of Employment*, then opening it with a chapter named *The Nature and Significance of a Theory of a Monetary Economy* (CW XXIX, p. 62). In the next surviving draft table of contents, also dated presumably from the early 1933, the book is retitled again, now appearing as *The General Theory of Employment*, though a more explicit reference was then made to that taxonomy: chapters 1 and 2 were then named respectively as *The Nature and Significance of the contrast between a Co-operative and an Entrepreneur Economy* and *The Characteristics of an Entrepreneur Economy* (CW XXIX, p. 63).

Still running through the surviving tables of contents, the presumably next one, now dated from the late 1933, entitled chapters 2 and 3 as *The Distinction between a Co-operative Economy and an Entrepreneur Economy* and *The Characteristics of an Entrepreneur Economy*, respectively; in this latter draft, however, Keynes retained the previous title of the book, again calling it *The General Theory of Employment* (CW XIII, p. 421-2). In the last two surviving complete table of contents, dated respectively from mid-1934 and June 1935, in which the book was retitled once again, now appearing exactly as in the final text, any explicit reference to the above mentioned taxonomy is made (CW XIII, p. 423-4 ; p. 525-6). It is this suppression through time which is to be meant here by a puzzle in Keynes' economics. Along the lines accurately suggested by Rotheim (1981) and Tarshis (1989), for instance, it is sustained here that if Keynes had retained his illuminating taxonomy of production economies, much of the criticism and misunderstanding about the monetary nature of his economics of employment could have been avoided. Given the recurrent tendency for labeling works based essentially upon Keynes' original writings pejorative and incorrectly as innocuous fundamentalist exercises, I should stress that mine is supposed to approach the issue at stake from a historical perspective. Put directly, my main concern regards the puzzle

underlying Keynes' non-inclusion in the *General Theory* of that early taxonomy of production economies. Even though that taxonomy is considered here as a fruitful one deserving careful reappraisal, I focus primarily on the existence or not of some contradiction between Keynes' early taxonomy and the manner in which he presented several aspects of his economics of employment, particularly the principle of effective demand, in the *General Theory*.

An accurate recovery of Keynes' taxonomy of production economies requires an at least brief initial digression on what did he mean by a market-oriented production economy. Keynes conceived the economic organisation of a market-oriented production economy as consisting, on the one hand, of a large number of firms or entrepreneurs possessing a capital equipment and a command over resources in the shape of money, and, on the other hand, a number of workers seeking to be employed. Moreover, he noted that "[a] firm will give employment [only] if it expects the sale proceeds at the end of the accounting period to exceed the variable costs which it will have incurred during that period, both items in the calculation being sums of money" (CW XXIX, p. 64) ⁽¹⁶⁾.

Given the nature of entrepreneurial activity, a first possible configuration for a production economy is that which Keynes called a *barter economy* (or *co-operative economy*):

I define a *barter economy* as one in which the factors of production are rewarded by dividing up in agreed proportions the actual output of their co-operative efforts. It is not necessary that they should receive their share of the output *in specie*; - the position is the same if they share the sale-proceeds of the output in agreed proportions. Since this economy does not exclude the use of money for purposes of transitory convenience, it might perhaps be better to call it a *real-wage economy*, or a *co-operative economy* (...). In a barter (or co-operative) economy only miscalculation or stupid obstinacy can stand in the way of production, if the value of the expected real product exceeds the real costs (CW XXIX, p. 66-7, original emphasis).

For Keynes, a *co-operative economy* could be conceived as not facing whatever obstacles to the expansion of production provided that the value of

expected real output exceeds the real costs incurred in generating it. In such an economic organisation classical Say's Law would always hold, in the sense that entrepreneurs would never face the possibility of non-realization of the value of production that exceeds the real costs incurred throughout the production process. Since factors of production would be rewarded, so to speak, just by dividing up in agreed proportions the actual output of their co-operative efforts, the equality through time between the value of aggregate expenditures and the value of income would always hold, thus validating the pressupositions of the classical theory. In such a co-operative economy aggregate employment would be therefore determined in the labour market, output decisions, taken on the basis of conditions prevailing in that market, being then automatically validated in product market through the payment of output shares to the factors of production (Asimakopulos 1991, p. 20). Put directly, "[a] barter or co-operative non-monetary economy resembles a collective economy in which a predetermined share of aggregate output is distributed directly to the factors of production" (Dillard 1988, p. 54). In Keynes' own words:

The Classical Economics pressuposes that the factors of production desire and receive as the reward of their efforts nothing but a predetermined share of the aggregate output of all kinds which they can produce, both the demand and the supply of each factor depending upon the expected amount of their rewards un terms of output in general (...) The essential point is that by whatever roundabout methods every factor of production ultimately accepts as its reward a predetermined share of the expected current output either in kind or in terms of something which has an exchange value equal to that of the predetermined share (CW XXIX, p. 76-7).

For Keynes, the pressupositions of classical economics would also be fulfilled in a society similar to that in which we actually live, namely, one in which the factors of production were rewarded in terms of money rather than by dividing up in agreed proportions the actual output of their co-operative efforts. In such sort of production economy, the very fact that the factors of production are rewarded in actual money would not generate any obstacle to full

employment, provided that money were conceived as nothing but a temporary convenience. As Keynes observed:

It is easy to conceive of a community in which the factors of production are rewarded by dividing up in agreed proportions the actual output of their co-operative efforts. This is the simplest case of a society in which the presuppositions of the classical theory are fulfilled. But they would also be fulfilled in a society of the type in which we actually live, where the starting up of productive processes largely depends on a class of entrepreneurs who hire the factors of production for money and look to their recoupment from selling the output for money, *provided that the whole of the current incomes of the factors are necessarily spent, directly or indirectly on purchasing their own current output from the entrepreneurs* (CW XXIX, p. 77, emphasis added).

Keynes called this latter type of economic organisation as a *neutral economy* (or *neutral entrepreneur economy*), that is, an economy in which the factors of production are hired by entrepreneurs for actual money but where there is a mechanism of some kind capable of ensuring that the exchange value of the money incomes of the factors of production be always equal in the aggregate to the proportion of current output which would have been the factor's share in a *co-operative economy*. Put shortly, the only difference between these two types of economy refers to the fact that while there is no money at all in the one, money is nothing but a 'veil' in the other. It is worth of mention that full employment would be also inexorably reached in a *neutral economy* even in case some factors of production spend part of their purchasing power in pre-existing forms of wealth, provided that those sellers accept the money merely as a temporary convenience, with a view to spending the whole of that income on purchasing of current output (Sardoni 1986, p. 429). In this sense, a *neutral economy* is nothing but an economy in which the existence of money does not alter its ultimately barter nature⁽¹⁷⁾. As Torr correctly argued:

Since a neutral entrepreneur economy could be in equilibrium at any level of employment, some signalling device is required in order for full employment to be maintained. Such device is the marginal disutility of labour, for it is the means by which households can bring their plans into line

with those of the firms. This is the co-operative element denied by Keynes when he rejected what was later to be termed the second classical postulate (1980, p. 431).

Quite convinced as he was that the *modus operandi* of modern market economies is substantially different from those described by the Robinson Crusoe-based notions of a *co-operative economy* and of a *neutral economy*, Keynes then describes the characteristics of the kind of economic society in which he supposed we actually live, namely a *monetary economy*, calling it also an *entrepreneur economy* or *money-wage economy*. For Keynes, in a *monetary economy* money should be conceived as playing a very operative role, in the sense that it is capable of affecting motives and decisions regarding the aggregate volume of expenditures. Put shortly, actual money is not a mere veil that efficiently covers the operation of real variables of the economic machine, but rather it is in itself a real factor ultimately capable of affecting the behaviour of real variables such as production and employment. Insofar as Keynes conceived the latter variables as being ultimately determined by the level of effective demand, his goal was to examine then in which extent fluctuations of effective demand could be properly described as a monetary phenomenon inherent to a *monetary economy*.

For Keynes, a process of production will not be started up in a *monetary economy* unless the money proceeds expected from the sale of the resulting output are at least equal to the money costs which could be avoided by not starting up that process. It should be stressed that a *monetary economy*, of which a *neutral economy* is clearly a very limiting case, the entrepreneurs also hire the factors of production for money but without any mechanism capable of ensuring that the exchange value of the money incomes of the factors be always equal in the aggregate to the proportion of current output which would have been the factor's share in a co-operative economy (CW XXIX, p. 78).

Keynes believed classical theory to be based upon two fundamental assumptions, namely, (i) that the value of marginal utility of output is equal to the variable cost of producing it, and (ii) that the marginal utility of output is equal to the marginal disutility of effort. Though Keynes adopted the first assumption as the starting point for his monetary theory of production, he readily dispensed with the second on the grounds of placing its validity either to a *co-operative economy* or to a *neutral economy*. At this point, nothing is more self-explaining than quoting Keynes' own words:

That the second assumption is not always fulfilled *in fact* will be obvious to the reader when he reflects that it is virtually equivalent to the condition for full employment. A state of unemployment can, I think, only be defined as a situation in which the marginal utility of output is greater than the marginal disutility of effort, i.e. a failure of organisation which prevents a man from producing something, the equivalent of which he would value more highly than the effort it had cost him (CW XXIX, p. 101-2, original emphasis).

Alluding again to Marx's discussion regarding the nature of production processes in the actual world, particularly to Karl's general formula for capital, Keynes observed that the behaviour of business firms in an *entrepreneur economy* follows an M--C--M' pattern. In Marx's formulation, M--C refers to the use of money capital to purchase working capital and to hire labour in order to produce output (C). C--M' is the sale of real output for money in an amount in excess of the initial capital money capital (M) laid out for the output. The difference between M and M' is the profit realized from the buying and selling transaction. In Keynes' own words:

The distinction between a co-operative economy and an entrepreneur economy bears some relation to a pregnant observation made by Karl Marx (...) He pointed out that the nature of production in the actual world is not, as economists seem often to suppose, a case of C--M--C', i.e. of exchanging commodity (or effort) for money in order to obtain another commodity (or effort). That may be the standpoint of the private consumer. But it is *not the attitude of business, which is a case of M--C--M'*, i.e. of parting with money for commodity in order to obtain more money (CW XXIX, p. 81, emphasis added) (18).

Keynes believed the above mentioned distinction between the nature of business calculation in a *co-operative economy* and in a *monetary economy* to be of great importance for the following reason. In his opinion, classical theory wrongly supposed that the readiness of an entrepreneur to start up a given productive process depends solely on the amount of value in terms of output which that entrepreneur expects to fall to his share at the end of the production process, being that only an expectation of more output for himself will be capable of inducing him to offer more employment. Insofar as Keynes believed "the dependence upon an intense appeal to the money-making and money-loving instincts [to be] the main motive force of the economic machine" (CW IX, p. 292), he consistently argued that an entrepreneur "will increase his output [only] if by so doing he expects to increase his money profit, even though this profit represents a smaller quantity of product than before" (CW XXIX, p. 82) ⁽¹⁹⁾. For Keynes, the actual nature of business calculation has a very disturbing implication for the validity of classical postulates outlined above:

In a real-wage and co-operative economy there is no obstacle in the way of the employment of an additional unit of labour if this unit will add to the social product output expected to have an exchange value equal to 10 bushels of wheat, which is sufficient to balance the disutility of the additional employment. Thus the second postulate of the classical theory is satisfied. But in a money-wage or entrepreneur economy the criterion is different. Production will only take place if the expenditure of L 100 in hiring factors of production will yield an output which is expected to sell for at least L 100. In these conditions the second postulate will not be satisfied, except in the limiting case of a neutral economy (CW XXIX, p. 78).

IV. Fluctuations of Effective Demand in Monetary Economies

One cannot fail to realize the existence of an abysmal difference of the most fundamental importance between a *co-operative economy* and the kind of *entrepreneur economy* in which we actually live. Unlike a *co-operative economy*, in a *monetary economy* the volume of employment, the marginal disutility of which is equal to the utility of its marginal product, may eventually

be unprofitable in terms of money, or, what amounts to the same thing, the rewards of the factors of production will not necessarily create in the aggregate an effective demand exactly equal to the costs of the current supply (CW XXIX, p. 80). For the classical proposition that 'supply creates its own demand', Keynes then substituted the more general proposition that 'expenditure creates its own income', i.e. an income just sufficient to meet the expenditure. It is easy to realize that the latter proposition is really more general, "[f]or whilst the former must be taken to mean that a change in the aggregate cost of production will be balanced by an equal change in aggregate expenditure, the latter is consistent with inequality between changes in the cost of production and changes in the expenditure" (CW XXIX, p. 81). The very operative role played by effective demand in Keynes' economics of employment cannot be expressed in a clearer way than quoting his own words:

The explanation of how output which would be produced in a co-operative may be 'unprofitable' in an entrepreneur economy, is to be found in what we may call, for short, *the fluctuations of effective demand* (...) In an co-operative or in a neutral economy, in which sales proceeds exceed variable cost by a determinate amount, effective demand cannot fluctuate; and it can be neglected in considering the factors which determine the volume of employment. But in an entrepreneur economy the fluctuations of effective demand may be the dominating factor in determining the volume of employment (CW XXIX, p. 80, original emphasis).

Thus in an *entrepreneur economy* there is no endogenous mechanism capable of ensuring that the rewards of the factors of production will necessarily create in the aggregate an effective demand exactly equal to the costs of the current supply. Given that the source of an eventual discrepancy between aggregate incomes and expenditures relies on the fact that part of that money incomes can be spent on something that is not current output, Keynes conceived fluctuations of effective demand as a characteristic phenomenon of *monetary economies*. In such economies an entrepreneur is interested not in the amount of output, but rather in the amount of money which will fall to his share; and since

the level of effective demand which maximizes the profits of entrepreneurs may be insufficient to mobilize all the existing productive resources, classical Say's Law does not necessarily hold. Put shortly, it is the very existence of money possessing certain properties peculiar to a store of value that can be accounted as generating effective demand failures. In Keynes' own words:

It is of the essence of an entrepreneur economy that the thing (or things) in terms of which the factors of production are rewarded can be spent on something which is not current output, to the production of which current output cannot be diverted (except on a limited scale), and the exchange value of which is not fixed in terms of an article of current output to which production can be diverted without limit (CW XXIX, p. 85).

However, Keynes noted that it is not necessary that the thing in which the factors of production are rewarded be the same for all factors of production, provided that the above conditions are fulfilled. Moreover, it is equally not necessary that that means of remuneration be no part of current output, provided there are strict limits to the extent to which output can be diverted to it. Indeed, "under a gold standard gold can be produced, and in a slump there will be some diversion of employment towards gold mining. If, indeed, it were easily practicable to divert output towards gold on a sufficient scale for the value of the increased current output of gold to make good the deficiency in expenditure in other forms of current output, unemployment could not occur (CW XXIX, p. 85-6). To the extent that it is the very essence of a *monetary economy* that factors of production are to be remunerated in terms of a means of payment that is expected to be highly durable, difficult to produce, and whose exchange value is fixed through time in terms of something to which productive resources cannot be readily diverted to, the object which best embodies the latter properties is equally that which met the requirements to perform the strategic function of a store of wealth. One cannot fail to realize the self-explaining nature of the straightforward reasons that led me to refer to money as a

bottomless sink in Section II, following what Keynes himself symptomatically did in Chapter 17 of the *General Theory*. It should be emphasized, however, that money is to be defined primarily by means of its properties, rather than in terms of its material expression:

Money is *par excellence* the means of remuneration in an entrepreneur economy which lends itself to fluctuations in effective demand. But if employers were to remunerate their workers in terms of plots of land or obsolete postage stamps, the same difficulties could arise. Perhaps anything in terms of which the factors of production contract to be remunerated, which is not and cannot be a part of current output and is capable of being used otherwise than to purchase current output, is, in a sense, money. *If so, but not otherwise, the use of money is a necessary condition for fluctuations in effective demand* (CW XXIX, p. 86, emphasis added).

At this point, one could reasonably object, as Keynes himself did, that there is nothing in the above criterion for money to suggest that the fluctuations in effective demand are more likely to be in excess or in deficit. In order to support the view that that fluctuations are more likely to be unemployment-generating, Keynes recalled that the money in terms of which the factors of production are remunerated will keep more readily than the output which they are being remunerated to produce, so that the need of entrepreneurs to sell, if they are to avoid a running loss, is more pressing than the need of the recipients of income to spend it. In a way that bears close resemblance to Chapter 17 of the *General Theory*, Keynes mentioned that this is the case

because it is a characteristic of finished goods, which are neither consumed nor used but carried in stock, that they incur substantial carrying charges for storage, risk and deterioration, so that they are yielding a negative return for so long as they are held; whereas such expenses are reduced to a minimum approaching zero in the case of money. If it were not for this consideration, the effective demand at a given moment would be governed by more permanent considerations concerning the direction of popular expenditure averaged over a considerable period of time, and would be less subject to rapid fluctuations such as characterise boom and depression (CW XXIX, p. 86-7).

Thus Keynes' *monetary theory of production* should be conceived as an early attempt to demonstrate that we live in an *entrepreneur economy* in which fluctuations in output and employment, which in turn depend primarily on

fluctuations in aggregate expenditures relatively to aggregate costs, are very closely related to the role played by money as a store of value ⁽²⁰⁾. As Rotheim (1981, p. 584) correctly argued, the essence of what might be called Keynes' *monetary theory of value* cannot be stated simpler: in an *entrepreneur economy* effective demand is liable to fluctuate exactly because money has some essential properties. To Rotheim very pregnant observation, I would only adduce the equally very endogenous nature of unemployment in Keynes' formulation: as any contradictory economic organisation, an *entrepreneur economy* creates the conditions that recurrently lead to its own malfunctioning, in the sense that the conversion of actual money in a potential *bottomless sink* results from its own *modus operandi*.

Moreover, one can legitimately argue that Keynes' principle of effective demand can be considered as another example of a larger class of conservation principles found throughout the history of economic theory. In other words, Keynes' repudiation of classical proposition that 'supply creates its own demand', and its replacement by the more general proposition that 'expenditure creates its own income', did not mean a breakdown with the physical metaphor underlying what he himself called Say's Law. As we saw above, in a *co-operative* (or even in a *neutral entrepreneur economy*), it is logically impossible to overproduce the aggregate of commodities, simply because the volume of aggregate demand is automatically brought into equality with the value of existing output. Even though Keynes reversed the classical causation between income and expenditure, his principle of effective demand ultimately retained the notion of an underlying conservation principle. To the extent that in a *monetary economy* part of money income can be spent on something that is not current output, entrepreneurs produce an amount exactly sufficient to satisfy the level of expenditure which they expect will be generated by their production decisions. Put another way, they produce what they expect will be conserved throughout production process; they produce exactly what they expect will be

spent. Moreover, Keynes' monetary theory of value also embodies a conservation principle: actual money is ultimately a *bottomless sink* precisely because it is endowed with essential properties that allow it to transport liquidity through time; as *par excellence* the most liquid asset, money is the most suitable device to 'conserve' purchasing power through time.

Not surprisingly, a *monetary economy* also generates its own invariants. The very fact that decisions are made in the face of an uncertain future induces the endogenous creation of institutions designed to deal adequately with the negative consequences associated with that inherent attribute of the future. Put directly, a *monetary economy* reacts to the absence of the information the market cannot provide by creating uncertainty-reducing institutions such as wage contracts, debt contracts, supply agreements, and the like. Moreover, to the extent that all these institutions are meant to reduce uncertainty over time, their denomination in the unit whose value is most stable over time is a natural requirement (Kregel 1980, p. 46). As Davidson correctly argued, "[i]n such a world, the attribute of dignity associated with all human motivations is necessarily geared not to rationality, but to sensibility. In such a world, the institution of fixed money contracts which limit nominal liabilities are an essential adjunct of organizing production processes" (1988, p. 153-4). Given the characteristics of a *monetary economy*, a close historical inspection allows one to conclude that seriatim forward monetary contracts through time is really the most suitable institution yet devised for dealing with an uncertain future:

For large economic systems with production and consumption processes involving interdependences and feedback among a large number of heterogeneous and different interest (i.e., differing utility functions) subsectors, the institution of money contracts appears to be best civilized system yet devised by humans over century to encourage the undertaking and carrying out to completion of those complex economic processes (Davidson 1986-7, p. 224, n. 7).

V. Concluding Remarks

The process leading up to the publication of the *General Theory* evokes an intriguing puzzle in the history of Keynes' economics of employment, namely, the non-inclusion in the final version of that work a fruitful and illuminating taxonomy of production economies formulated in the early 1930s. Even though the *General Theory* clearly contains several vestiges of that taxonomy, in the sense that the substantial differences between a *monetary economy* and a *co-operative economy* are always, so to speak, behind Keynes' arguments, it is somewhat ironic that Keynes did not make explicit reference to them in the final version. Our preceding discussion allows one to conclude that Keynes's project in the early 1930s underwent a change through time primarily in terms of form, either changes in the way some formulations were presented or expansions of some ideas and concepts, and only secondarily in terms of substance. For example, chapters 2 and 3 of the *General Theory* discuss respectively the postulates of classical economics and the principle of effective demand along the lines of Keynes' early formulations outlined in the previous sections ⁽²¹⁾ ; in particular, it is only in a *monetary economy* that the distinction between decisions based on realized results and those based on expected results, a distinction that led Keynes to formulate the principle of effective demand using aggregate supply and demand curves defined in terms of the expectations of entrepreneurs, is actually relevant ⁽²²⁾ ; chapters 5 and 13, in turn, discuss the very fundamental role played by expectations in an *entrepreneur economy*; in chapter 17, the very fact that money's own-rate of interest rules the roost in a *monetary economy* as a consequence of being the highest of all own-rates of interest, thus inducing agents to divert their resources from spending circuit, clearly derives from Keynes' early presentation of his monetary theory of value; in discussing changes in money wages in chapter 19, as well as in examining the

actual relationship between the real wage and employment in chapter 2, Keynes follows his previous conviction on how misleading is to call the rise in real wages the cause of unemployment (CW XXIX, p. 98-101); one can also find the following restatement of Keynes' monetary theory of value in chapter 21: "We cannot get rid of money even by abolishing gold and silver and legal tender instruments. So long as there exists any durable asset, it is capable of possessing monetary attributes [cf. Chapter 17 above] and, therefore, of giving rise to the characteristic problems of a monetary economy" (CW VII, p. 294); finally, Keynes' 1937 QJE reply to his critics clearly describes a *monetary economy* in which historical time, expectations, and uncertainty play a very fundamental role in the determination of human behaviour.

Keynes, however, decided to purge the *General Theory* of any explicit reference to his very insightful distinction between a *co-operative economy* and a *monetary economy*. Tarshis (1989, p. 44-5) suggests four possible explanations for that intriguing abandonment, and I close this paper with an appraisal of them. First, Tarshis argues that one reason might have been that by the end of 1933 he had not clearly seen that an economy in which Say's Law rules is not necessarily a *co-operative economy*. Our preceding discussion, however, suggests that the really crucial step for Keynes' *monetary theory of production* was rather to demonstrate the very monetary nature of fluctuations of effective demand, which it was ultimately demonstrated in his drafts and manuscripts. Second, Tarshis makes reference to Keynes' growing impatience to have his book finished and published. However, to the extent that I believe that Keynes had already demonstrated the very monetary nature of fluctuations of effective demand, this first time constraint-based explanation does not seem plausible. Tarshis's third possible explanation, also a time constraint-based one, also fail by the same reason. Tarshis argues that since Britain in those days seemed to Keynes to be poised uncertainly between fascism and communism, it should compete with Stalin and Hitler-Mussolini in easing unemployment,

otherwise she could very easily turn to one of them for salvation. In Tarshis's view, Keynes was confident he had found a better way, but it had better be served quickly. Tarshis's final possible explanation for Keynes' abandoning the co-operative - entrepreneur distinction is really the most plausible one. He argues that Keynes' focus on the possibilities of a structural change in capitalism to create a *co-operative economy* that would rid Britain of the plague of unemployment, might add to the appeal of something far more radical - that is to say, of communism. Moreover, Tarshis rightly recalls that Keynes himself had recognized that the conditions for a *co-operative economy* would be satisfied in a socialist or a communist state (CW XXIX, p. 52). To the extent that he was convinced that capitalism is the best economic organisation, provided it were adequately reformed, the most plausible answer for the puzzle raised here is that Keynes' decision was essentially tactical in nature ⁽²³⁾.

Notes

(1) Throughout this paper, all references to Keynes' works are from *The Collected Writings of John Maynard Keynes*, hereafter CW, followed by the relevant volume(s) and page number(s).

(2) The so-called 'Circus' of Cambridge formally took place during the period January-May 1931, having Richard Kahn, Austin e Joan Robinson, James Meade, and Piero Sraffa as its main members. Though Keynes himself took no direct part in the discussions, Kahn usually reported him the subject matter of the discussions, as well as the lines of argument advanced there. See CW XIII, p. 337-43, Asimakopulos (1991, p. 16-9), Kahn (1984, p. 105-11), Kahn (1985), Dimand (1988, p. 131-145), Robinson (1977), Salant (1977), Bryce (1977), and Tarshis (1977) for a detailed account of the 'Circus'. Meade has related his impressions of that indirect 'divine' mechanism of exchange of ideas as follows: "From the point of view of a humble mortal like myself Keynes seemed to play the role of God in a morality play; he dominated the play but rarely appeared himself on the stage. Kahn was the Messenger Angel who brought messages and problems from Keynes to the 'Circus' and who went back to Heaven with the result of our deliberations" (CW XIII, p. 339).

(3) In Keynes' own words: "(...) after a year and a half of further reflection and after having had the advantage of much criticism and discussion of my theories, I naturally have made many *addenda* and *corrigenda* in what follows. It is not, however, my intention to revise the existing text of this *Treatise* in the near future. I propose, rather, to publish a short book of a purely theoretical character, extending and correcting the theoretical basis of my views as set forth in Books III and IV below (CW V, p. xxvii). As Keynes wrote to his mother, the *Treatise on Money* left him with 'mixed feelings': "Artistically it is a failure - I have changed my mind too much during the course of it for it to be a proper unit. But I think it contains an abundance of ideas and material" (CW XIII, p. 176).

(4) Lorie Tarshis, one of the students that attended that lectures, reported the importance of that change in the following way: "Gentlemen, the change in the title of these lectures - from 'The Pure Theory of Money' to 'The Monetary Theory of Production' - is significant". With these words on 10 October 1932, Keynes began the first of his eight lectures for the autumn term of that year - and in effect announced the beginning of the Keynesian revolution" (Tarshis 1987, p. 47). Rymes (1989), in which the surviving notes taken by students at Keynes' lectures in the 1930s are carefully transcribed and edited, is another valuable source for assessing the process leading up to the publication of the *General Theory*.

(5) In October 1933, Joan Robinson, with the authority of someone who had a close relationship with Keynes, announced in the inaugural issue of the *Review of Economic Studies* that "the theory of money has recently undergone a violent revolution. It has ceased to be the Theory of Money, and became the Analysis of Output (...). Now, once Mr. Keynes has shown us how to crack the eggs, it appears the most natural thing in the world to attack the interesting part of the problem directly, instead of through the devious route of the Quantity Theory of Money" (1933, p. 14,16).

(6) Mirowski (1989) persuasively describes neoclassical vain efforts to coherently extend physics metaphor to conceptualize production, for the straightforward reason that neoclassical price theory is predicated upon a

field theory of value. On the other hand, one can find Keynes recurrently criticizing 'classical' theory for not examining the determination of output as a whole: not only on the passages just quoted, but explicitly also in other passages of the *General Theory* (e.g. Chapters 2 and 21). Even though it goes beyond the scope of this paper a detail discussion of these points, one could speculate the extent to which Keynes' complaints against the little attention paid by his antecessors to determinants of output as a whole may be considered as a sign of his awareness regarding the neoclassical limitations stressed by Mirowski. In particular, one could speculate to what extent Keynes' identification of classical theorists with Euclidean geometers in a non-Euclidian world (CW VII, p. 16) can be conceived as an indication of his awareness regarding the limitations of neoclassical import of Euclidean coordinate system pointed out by Mirowski (1989, p. 288). Moreover, one could also speculate to what extent Keynes' recognition that "when we pass to the problem of what determines output and employment as a whole, we require a complete theory of a monetary theory" (CW VII, p. 293) would require a reappraisal of Mirowski's argument regarding the neoclassical nature of Keynes' economics of employment. The latter point will become clearer when I detail in what follows Keynes' monetary theory of production.

(7) Again in Keynes's contribution to the above mentioned *Festschrift* for Professor Arthur Spiethoff, one can find him expressing at length the very monetary nature of the theory of employment in which he was working on: "In my opinion the main reason why the problem of crises is unsolved, or at any rate why this theory is so unsatisfactory, is to be found in the lack of what be termed a *monetary theory of production* (...). The theory which I desiderate would deal (...) with an economy in which money plays a part of its own and affects motives and decisions and is, in short, one of the operative factors in the situation, so that the course of events cannot be predicted, either in the long period or in the short, without a knowledge of the behaviour of money between the first state and the last. And it is this which we ought to mean when we speak of a monetary economy" (CW XIII, p. 408-9, original emphasis).

(8) Keynes seemed quite aware of how diligent would be subsequent orthodox efforts to portray him as pertaining to the same classical tradition. In the preface to the French edition of the *General Theory*, one finds him recognizing that "subsequent historians of doctrine will regard this book as in essentially the same [classical] tradition" (CW VII, p. xxxi). Again, now in the preface to the original edition, Keynes mentioned that "[t]hose, who are strongly wedded to what I shall call 'the classical theory', will fluctuate, I expect, between a belief that I quite wrong and a belief that I am saying nothing new" (CW VII, p. xxi).

(9) In order to clearly differentiate the meaning of Keynes' notion of uncertainty from the neoclassical notion of probabilistic risk, it is worth quoting Keynes at length: "By 'uncertain' knowledge, let me explain, I do not mean merely to distinguish what is known for certain from what is only probable. The game of roulette is not subject, in this sense, to uncertainty; nor is the prospect of a Victory bond being drawn. Or, again, the expectation of life is only slightly uncertain. Even the weather is only moderately uncertain. The sense in which I am using the term is that in which the prospect of a European war is uncertain, or the price of copper and the rate of interest twenty years hence, or the obsolescence of a new invention, or the position of private wealth owners in the social system in 1970. *About these matters there is no scientific basis on which to form any calculable probability whatever. We simply do not know*" (CW XIV, p. 113-4, emphasis added).

(10) In Keynes' own words, it is absolutely rational to demand actual money as a store of wealth when uncertainty about the future is pervasive: "Because, partly on reasonable and partly on instinctive grounds, our desire to hold money as a store of wealth is a barometer of the degree of our distrust of our own calculations and conventions concerning the future. Even though this feeling about money is itself conventional or instinctive, it operates, so to speak, at a deeper level of our motivation. It takes charge at the moments when the higher, more precarious conventions have weakened. *The possession of actual money lulls our disquietude; and the premium which we require to make us part with money is the degree of our disquietude*" (CW XIV, p. 116, emphasis added).

(11) For Keynes, "money has, both in the long and in the short period, a zero, or at any rate a very small, elasticity of production, so far as the power of private enterprise is concerned, as distinct from the monetary authority; - elasticity of production meaning, in this context, the response of the quantity of labour applied to producing it to a rise in the quantity of labour which a unit of it will command. Money, that is to say, cannot be readily produced; - labour cannot be turned on at will by entrepreneurs to produce money in increasing quantities as its price rises in terms of the wage-unit" (CW VII, p. 230).

(12) For Keynes, "money has an elasticity of substitution equal, or nearly equal, to zero; which means that as the exchange value of money rises there is no tendency to substitute some other factor for it (...) This follows from the peculiarity of money that its utility is solely derived from its exchange-value, so that the two rise and fall *pari passu*, with the result that as the exchange value of money rises there is no motive or tendency (...) to substitute some other factor for it" (CW VII, p. 231).

(13) Referring to the inadequacies of classical economics in the *General Theory*, Keynes noted: "The classical theorists resemble Euclidean geometers in a non-Euclidean world who, discovering that in experience straight lines apparently parallel often meet, rebuke the lines for not keeping straight - as the only remedy for the unfortunate collisions which are occurring. Yet, in truth, there is no remedy except to throw over the axiom of parallels and to work out a non-Euclidian geometry. Something similar is required to-day in economics" (CW VII, p. 16).

(14) "Essentially, logical time is an abstraction. It need not, and does not, take into consideration real world actions which could disrupt the attainment of the equilibrium conclusion (...) Historical time, on the other hand, tries to cope with all the complexities of an ongoing society where *all* variables will repel and/or attract one another to produce a state of agitation or contradiction" (Henry 1983-4, p. 219-20, original emphasis).

(15) Revailing novel lights have been shed on Keynes' early philosophical writings through the recent works of Carabelli (1988), Fitzgibbons (1988), Carvalho (1988), Lawson (1988), O'Donnell (1989), Mini (1991), Bateman and Davis (1991), among others. Though in a non-monolithic manner, this recent shift of weight in favour of Keynes' early philosophical works has indeed contributed for a better understanding of several aspects of his economics of employment, particularly of the evolution through time of his notions of probability and uncertainty.

(16) Clearly stressing the very historical notion of time underlying his formulation, Keynes defined the notion of accounting period for the output in question as the period of time that necessarily elapses between

the hire of workers and the purchase of goods from other firms, on the one hand, and the actual sell of the resulting output for money, on the other hand.

(17) In order to support his argument regarding the real nature of a co-operative economy, Keynes then made explicit reference to what he called Marx's 'pregnant observation', namely that the nature of production in the actual world is not, as Marshall, Pigou, and other classical economists seemed to suppose, a case of C-M-C', i.e. of exchanging commodities for money in order to obtain another commodities (CW XXIX, p. 81). An overdeterministic interpretation of the Marxian monetary-real duality in simple circulation of commodities is presented in Lima (1993).

(18) Even though Keynes explicitly recognised the resemblance between Marx's formulation and his own, he was equally explicit in arguing against the subsequent use made by Marx of that formulation, which he considered highly illogical. Again quoting Keynes at length: "The excess of M' over M is the source of Marx's *surplus value*. It is a curiosity in the history of economic theory that the heretics of the past hundred years who have, in one shape or another, opposed the formula M-C-M' to the classical formula C-M-C', have tended to believe *either* that M' must always and necessarily exceed M *or* that M must always and necessarily exceed M', according as they were living in a period which the one or the other predominated in actual experience. Marx (...) assert[s] the inevitable excess of M'; whilst Hobson, or Foster and Catchings, or Major Douglas (...) assert the inevitable excess of M (...) My own argument, if it is accepted, should at least serve to effect a reconciliation between the followers of Marx and those of Major Douglas, leaving the classical economists still high and dry in the belief that M and M' are always equal! (CW XXIX, p. 81-2).

(19) Winslow (1986) argues that Keynes' account of capitalist money-loving and money-making motivation bears a really close resemblance to what Keynes himself called "The Freudian Theory of the Love of Money" in the *Treatise on Money* (CW V, p. 258-9). For Winslow, there is a close correspondence between Keynes's account of the money-oriented nature and operation of business motives and Freud's psychoanalytic theory of the anal-sadistic character.

(20) In Dillard (1980 ; 1987) it is suggested the existence of substantial similarities between Keynes' *monetary theory of production* and the early institutionalist approach developed by Veblen and Mitchell, in the sense that both formulations conceived production and employment as being constrained because they are left to depend on individual decisions and actions designed to make money (1980, p. 217). See also Mirowski (1981) for an account of Veblen's and Mitchell's treatment of money as an end in itself. For Dillard, Veblen's *The Theory of Business Enterprise* contains the essentials of a *monetary theory of production* (1980, p. 260), while Mitchell's *Business Cycles* clearly saw business cycles as a product of a money economy (1980, p. 264). Also along institutionalist lines, Foster (1987) goes a little further to sustain that Veblen anticipated part of the criticisms addressed by Keynes against classical dichotomy between monetary and real sectors. Vercelli (1991, p. 202), in turn, argues that both Schumpeter and Keynes based their attack against monetary orthodoxy on a fundamental dichotomy: in Schumpeter's case the opposition was between 'circular flow' and 'development', whereas Keynes focused on the opposition between 'cooperative economy' and 'entrepreneur economy'. For Vercelli, even though the validity of monetary orthodoxy is not altogether denied by them, it is restricted to the concept of 'circular flow' or 'cooperative economy'.

(21) In chapter 2 of the *General Theory*, for instance, Keynes argues that the conclusions of the classical tradition apply only to "some kind of non-exchange Robinson Crusoe economy, in which the income which individuals consume or retain as a result of their productive activity is, actually and exclusively, the output *in specie* of that activity" (CW VII, p. 20).

(22) As Kregel (1980, p. 43) correctly noted, in a *monetary economy*, where incomes are paid in terms of money, income will represent demand for either current output or stores of value: "The use of income to demand 'money' as a store of value, however, is not an *effective demand* (for labor), because it does not lead to the *expectation* of future sales of producible goods and thus does not create the expectation of income" (original emphasis).

(23) Torr (1988, p. 26-7) suggestively refers to the evidence provided by Anyadike-Danes (1985) that Dennis Robertson had already devoted much thought to co-operative and non-co-operative economies in the early 1930s. But Torr correctly argues that one should not conclude that Keynes abandoned the tripartite taxonomy to avoid being accused of plagiarism by asking: if, in 1934, Keynes became reluctant to include it, why was he not equally reluctant in 1933? Mitchell (1969, p. 546), in turn, noted that Bruno Hildebrand (1812-1878), a leading member of the older historical school, had already published an essay in 1864 maintaining that there have been three stages in the economic development of communities: barter economy, money economy and credit economy. Whether the historicist flavour of Keynes' tripartite taxonomy played any role in the puzzle outlined above, that is an interesting question deserving further research.

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