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*Expectation and Uncertainty in the Keynesian Theory*

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Expectation and Uncertainty in the Keynesian Theory  
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## Abstract

The purpose in this article is to investigate the relationship between probability and logics in order to understand the notion of expectation in Keynes, and to examine the contributions that a set of postkeynesian authors has made to clarify the sense and the meaning of the notion of expectation in the framework of both the theoretical and the economic policy. We will start by integrating Keynes's work on the theory of the probabilities into the construction of his theoretical corpus. We will emphasise the role of the expectation as the main contribution of Keynes to the economic thought in the theoretical framework of uncertainty. The article is divided in two parts. Firstly, it will examine the contribution of Keynes to the interpretation of the meaning of the expectations in a theoretical framework of Uncertainty. Secondly, it will examine the comments of Shackle and Kregel on the role of expectations in the theory and the economic policy and will consider the appreciations of Minsky on the volatility of the expectations in a framework of financial instability.

JEL: B5, O3, O4. Keywords: history of the economic ideas in Latin America, economic theory, expectations, theory of expectations

### 1. Uncertainty and the notion of probability

The notion of probability and the macroeconomics that appears with the General Theory, a theory on the output and the employment, is a methodological movement that allows for a critical revaluation of the meaning of the classic theory of the prices as the only and exclusive mechanism of adjustment of the system. By separating macroeconomics from microeconomics, it is possible to approach the problems of the economic system in a different form and to explicitly to suggest interpretations distant from the ones of the neoclassical theory.

In an attempt to determine the volume of output and employment, Keynes so himself forced, as a consequence of his philosophical ideas, to incorporate in his methodological framework, the two forms of the organizational construction that lead to form of logical thought, having substantially privileged the unexplored way of macroeconomics. Keynes draws a new line in the General Theory, a line between a theory of the stationary equilibrium and a theory of the mobile equilibrium, where in the analysis of the partial equilibrium of the firm the concerns about the characteristics of the money are dispensable, since the firms operate with amounts of fixed resources and constant conditions. But when the employment is analysed as a whole, a monetary theory of the production

and the employment as a whole is also necessary, because the capitalism is a system where there are changes in the opinion about the future that influence the present Keynes [ 1971:88 ].

Keynes was in favour of an integrative vision of the economic methods, depending on the task that is faced, although he was conscious about the problems that both methods place to the investigator. Therefore, it constitutes not surprise that the search for an excellent combination of these methods is a singularly difficult art. To Klunt [1975:103], the balance between both methods, which is concern of Keynes, has been surpassed by the Instrumentalism or the modern methodologies of Kuhn and Lakatos which avoid a detailed consideration on this dilemma. These methodological problems are approach in the Treatise on Probability.

The terms probability or certainty describe the varios degrees of the rational belief of a proposition that different quantities of knowledge consent us to conjecture about. The objective probability theory allows for the philosophical study of these types of knowledge. The degree of rational belief that we can guarantee for this kind of conclusions, i.e. its probability, does not have anything to do with the actual events.

It is admitted that the knowledge on which behaviour, science or metaphysics, are basis, on which we form most of our arguments, our rational beliefs, is inconclusive, at least, the higher degree.

Keynes establishes which rational beliefs can be derived from a set of facts that are acquired directly. All the propositions are false or true. The knowledge that we have of them depends on our circumstances, and as it is frequently convenient to speak of propositions as certain or probable, this strictly expresses the position in which they are in relation to the body of the actual or hypothetical knowledge.

The theory of the probability is logical because its respects the degree of belief with which is rational to speculate in determined circumstances, and not because the beliefs are of particular individuals. The probability in this sense a question of human caprice, it is above all a question human logics. Probability tells us that rational beliefs you add, certain or probable, can be derived as valid arguments from our direct knowledge, given a body of direct knowledge that constitute our last premises. This involves pure logical relations between the propositions that incorporate our direct knowledge and the propositions on which we seek for indirect knowledge. The particular propositions that we select as the premises of our arguments depend on particular subjective factors, peculiar to ourselves, but the relationships to which other propositions are related and that we entitled as probable relations, are objective and logical.

This theory of the probabilities is a methodological way of which Keynes makes systematic use in his theoretical work and that acquires in the General Theory a relevance that is convinient to have present.

Keynes`s concept of the probability is larger than the one used in the statistical frequency concept of a fact. His conception of the probabilities is nearer to the Logics than to the Mathematics [Vicarelli, 1985:174]. Thus [Braithwaite, 1975: 240] the attempt to use the concept of equilibrium in the amplest sense, with deep roots in the tradition of the general equilibrium, and therefore in an exclusively deductive methodological framework, allows to bring Keynes closer to Walras, giving place to the interpretations à la

Hicks or à la Patinkin-Clower-Leijonhufvud, where unemployment is explained by the situation of rigidity in the system of prices and wages, or which are quantitative and institutional restrictions.

But the application of the concept of probability to the General Theory is related with the logical process of the determination of the under employment equilibrium. The content questions are related to the place of the expectations and to the way they represent the vision of Keynes on the capitalism from a theoretical point of view. The absence of the consideration of this relation leads to the use of the neoclassical concept of equilibrium in the various interpretations of the General Theory, authorizing, in this sense, for example, IS-LM propositions[Vicarelli: 198].

The General Theory shows the incompatibility between the Walrasian equilibrium, and therefore the full employment of the factors, and the Keynesian under employment vision of the equilibrium. In the relation with the plan underlying the General Theory the comparisons between the ex-ante and ex-post values, which are possible to avoid within the approach to the equilibrium are basis on completely different levels of analysis. This is affirmed by Keynes, in a theoretical clarification published one year after the publication of the general Theory, thus leaving little room for doubts about the use of the probabilistic approach.

The analytical ability of the General Theory lies in the fact that it explains, at a highest level of abstraction, the forces that determine the levels of the income and employment in a particular point in time, emphasizing the coexistence at each time point, of the decisions basis on the expectations of short and long term period.

The validity of the Keynesian theory on the effective demand in different situations of equilibrium is the most convincing argument advocating that the neoclassical equilibrium doesn't matter, and that the Keynesian theory is constructed outside the analytical framework of the general equilibrium. This implies the understanding of the theory without an orthodox look at the Marshallian language of its exposition, and therefore the consideration that what is attempted is to capture the forces that determine the output and the employment.

To Keynes, the economic theory is a method more than a doctrine, an apparatus of the mind, a thinking technique that helps to extract correct conclusions. The theory uses value judgments and introspection; it has to do with reasons, expectations and psychological uncertainties. Therefore, it cannot be converted into a model, whose a quantitative formula destroys its utility as an instrument of thought [1936, 292-294].

The term equilibrium, loaned from the physics and indicating some position of rest, refers to a method of analysis basis on the intertemporal action of economic forces. The use of the term equilibrium is only a problem of method and language and, in this sense, the mobile equilibrium notion used by Keynes is a non-equilibrium in the Marshallian meaning. It is clear that it is this use by Keynes of the equilibrium notion that generates one of the most common confusions among the economists who interpret his thought.

The probabilistic approach of the expectations, in the sense of the Treatise, gains greater importance through the way Keynes discusses the uncertainty in the General Theory. This is of extreme importance inasmuch as it allows

a different point of view with respect to the role of the expectations in the elaboration of the concepts of marginal efficiency of the capital and liquidity preference, two key pillars in the theoretical construction of Keynes.

For example, this approach finds application in chapter 12 of the General Theory, dedicated to the long term expectations, where Keynes affirms that the state of long-term expectations not only depends on the most probable forecasts but also on the confidence associated to them. The economic decisions are not taken in a risk context, as in the case the test that are repeated and whose probabilities are calculated on a frequency basis, but in a context of uncertainty, characterized by information scarcity.

More precisely, an interpretation of the expectations in the light of the Keynesian concept of the probabilities, makes it possible to see, for example, the formation of the long term expectations and the use of this concept in the calculation of the marginal efficiency of the capital. Keynes assumes that the entrepreneurs start with the observation of a series of information that the market provides in a regular way. Starting from these, a series of elements is derived, which can be in the prospective evaluation of the return of the investments. From this prospective evaluation, basis in a certain degree of knowledge, expectations result that can stimulate or hinder investment and, in this way, a probability is determined.

Since the entrepreneurs decide the levels of production on the basis of their demands and the expectations on prices, the forces of the demand added to the propensity to the consumption and the marginal efficiency of the capital influence the production level. And this proposal of Keynes is independent of the equilibrium. If in a determined point in time the whole market is in excess relatively to the production. This will be a moment for the revision of the expectations and of the production plans. If we pay attention to the fundamental propositions contained in chapter 3, in the light of his notion of probability, where Keynes summarizes the propositions later developed in his work, namely that the involuntary unemployment is caused by the insufficiency of effective demand, the involuntary unemployment corresponds to the observed reality, of which we have direct knowledge.

The aggregate demand is a proposition known through the argument. The explanation of the economic forces is part of the logical relation between observation and conclusion. In other words, an increment in the investment leads to an increment in the income. Here the 'increment in investment' constitutes the evidence on which we basis our argument, while an increment in the income is an induced conclusion with a probability determined by the degree of rational belief that can be attributed to this conclusion. Notice this is valid within the set of propositions, among which that  $Y = F(N)$  where  $N$  is  $N = F(D)$ , considering the state of the technology as known, the consumer's preferences as given, etc., the reason why another function  $N = x(D)$  being  $x$  a decreasing function (the Ricardian case of the introduction of the machines that diminish the employment and the income) can lead to another conclusion and therefore logically to one another degree of rational belief. This probability, however, does not have anything to do with the given effective result in terms of income level.

The interpretation of the General Theory as an analysis of forces, which is a specific point of time determines the income and the employment, make it possible to clarify an important moment of content of the logical model of

Keynes, namely, the meaning and consequences of the coexistence of 'short-and-long-period expectations'. The entrepreneur's decisions on the short term production depend on the short term expectations on the return of sells. The decisions pertaining to the increase of the production depend on the long term expectations with relation to the return of the investment. The capitalist system is characterized by the fact that both decisions simultaneously take place in a point in time, influencing both the forces in action. We can here discard the error that the method of Keynes has in consideration the phenomena in a time horizon and not as Marshall where the phenomena happen in times of different nature and length.

This approach places the analysis in a very high degree and level of generalization and abstraction, in which it is possible to take into consideration the meaning of an ample set of phenomena. Therefore, we can speak of an analysis carried out in time, not in the sense of that the analysis aims to determine what happens over time scales, but in the sense that no phenomenon of relevant action is ignored in one determined time moment. In the neoclassical synthesis, the models are determined, but it must be said that the determination of the models not necessarily sacrifices these aspect of the capitalist reality where Keynes basiss his interpretation of the forces in action in a determined point of time.

As Keynes demonstrates this consists in the coexistence of three different processes of decision making. Two of these are short term decisions: decisions of the entrepreneurs who plan the combination of the factors in the short term horizonf, the decisions of the owners of wealth concerning the assets to be held. The third, one is a long term decision: the decision of the entrepreneurs to create demand for the new capital goods, in the basis of their short terms expectations. The decisions can be corrects or wrong.

The General Theory doesn't say how to make corrects decisions, since of the interaction of millions of agents leads obviously to contradictory decisions, but it tells us that if they are wrong, the error will influence the formation of the expectations in some future point of the time. If they are corrects does not mean that they will be repeated, i.e., that the rate of investment, or the normal rate of accumulation, or the use of the capacities will tend to be fulfilled according to the long term expectations.

To argue that in the course of time the interest rate and the investment tend to certain normal values due to the fact that the forces that hinder this trend tend to be neutralized over time, implies the definition of postulates from which we deduce which forces are temporary and which are permanents.

In the case of the theories of the equilibrium, they start from the consideration that there are rational individuals that behaving in a determined way, give place to a series of chained acts, from which an optimum results. This presume the existence of a coordination device, the invisible hand of Smith, the comisseur-priseur of Walras, the auctioneer of Edgeworth, the Böhm-Bawerk's horse-trader, in the most consistent theories. I believe that the theory of Keynes refuse to accept the existence of the perfect coordination mechanisms, while the theories that challenge the Keynesian thought persevere using premisses that defend laissez-faire behaviours of agents, that in reality are asymmetrically placed in the markets.

From another point of view, it could be affirmed that the operation of these forces can be fitted in a mathematical model, whose determination confirms the logical nature of the inductive process. The solution of this model can be called equilibrium, but it is clear that what we call equilibrium it is a virtual equilibrium, in which all the magnitudes are given ex-ante and the agents expectations are determined exogenously, as in the case of the Walrasian tatonnement.

The strong side of the conception of expectation resides in the way as the argument is basis on the greater possible objective information, namely, the observed reality. The subjective factor exists; it resides in the choice of the aspects from reality taken as control point. And this does not have anything to do with the arbitrary nature of the conclusions, but it constitutes rather the key point of the theory. Probability is not human caprice. When above all referred to the logics.

The theory of the probability is logical, because it depend from the degree of belief that guide the rational reflection under certain circumstances, and not because the beliefs arise from a particular individuals. The particular propositions that we select to ourselves as the premises of our arguments depend on the particular, peculiar and subjective factors, but the relations, in which other propositions lie upon these, and that we label probable relations, are objectives and logically. It is important to stress that the probability has an objective character inasmuch as it gives place to the degrees of belief of a propositional basis in the logic, distinct from the probability of subjective-psychological degrees of belief that can be quantified by some method, as for example the method of betting of Ramsey.

The human logics can help to understand the mechanism that leads to determine the reliability state, i.e., the complex of conditions from which the agents derive decisive importance in their decisions making.

The fact that the relevant and available evidence increases the weight of the probability of an argument, may add or decrease it, depending on whether the new knowledge reinforces the favourable the evidence. The only basis for a higher knowledge in uncertainty situations is a better information, an improved degree of confidence relatively to this information. In the General Theory, the uncertainty expectations overwhelm means information scarcity, which is the worse basis to infer consequence on the future. The uncertainty about the elements that form the expectation reduces the confidence. In this sense the choice of the entrepreneurs is a probable decision.

When Hicks [1936] formalizes the General Theory, he captures the strategical importance of the expectations to Keynes but he emphasizes the limitations and danger of this approach. The danger resides in the risk that the analytical power of the method of the expectations may disappear in the long-term applications. In its vision, these limitations were implicit in the hypothesis of the invariance of the expectations with respect to the occurred events, in Hicks's words, within the period considered in the analysis [Kregel, 1982].

Undoubtedly, one of the most original characteristics of Keynes's vision of the capitalism is that the expectations motivate real and financial economic decisions. However, this expectation, designated previously, could be

derived with the possible highest degree of probability and exactly even though not correspond to the factual reality, which is influenced by a vast number of circumstances. The comparison between the logical conclusions and the factual reality is illegitimate and it cannot constitute a decisive element in the judgment of the theory.

The strong side of Keynes's the conception of probability lies in the way as the argument is basis on the greater objective and possible information, namely, the observed reality. The subjective factor exists, it resides in the choice aspects of the reality taken as influence point, and it does not have anything to do with the arbitrary nature of the conclusions, but it constitutes the key point of the complete theory. It is unquestionable the key importance to Keynes of the intensity of effective demand, the existing amount of capital goods, the trends in the market of values -contrary to the spots of sun or the wether which the entrepreneurs would take as control point of the reality when formulating their expectations.

Keynes regain thus a certain methodological optimism, allowing for interpretation of the uncertainty in terms of probability. In this way its theory of the expectations lies far beyond of any irrational interpretation of the impossibility to know the things and the phenomena.

## 2. The decisive importance of the expectations

To Shackle [1977] the theory that emerge with Keynes is placed in a reinstatement perspective, seeking to answer to a world in dissolution. In this sense, according to Schake [1956], Keynes found scarcity as the central idea of the science of his time. He added as second idea of equal importance, the uncertainty as an element that mines the soul of the firms in the capitalist economies.

Schakles translates Keynes's vision in a strong version of uncertainty that characterizes the decision making of the agents. Even though the behaviours may be irrational, because they are taken place in an world of ignorance. The true enigma lies in the characteristics of a monetary economy. It is through the use of the money that our ignorance and diffidence on the future of our acts and choices may have place, by simply transferring or postponing a decision. Exchange has as purpose the satisfaction of necessities, but in a monetary economy an exchange act requires the conversion in money with the aim of obtaining another good, the end of the production is the profit.

In this sense, the General Theory presents a theory that emphasizes the uncertainty of the human mind win regard to the economic and entrepreneurial subjects. According to Shackle, the method of the equilibrium permit to demonstrate how the free activity of the involved parties, when restrained by their ignorance about the future, make them seek protection in a defensive politics that may prevent the risks of the business to be specialized in a form of wealth on which the future depends. This is either because its value is feared or because there are compelled on guess the future, reason why it is rational to desire to possess money, rather than develop a machine.

But what creates employment is the construction of machines, rather than the money possession. In this way the preference for the liquidity may lead

to a situation where the particular interests transcend the interests of the general prosperity and lead to the disequilibria with unemployment. Is the transference of the expenditure to the future employment is destroy and the unemployment is increased. Since there is no conformity between an act to save and an act of investing. The interest rate does not equilibrate the part of the income that is not consumed with the investment. People prefer to conserve money:

The argument, as it is known, is that only if the amount of income was constant could be acceptance that the amount saving is determined by the interest rate; but he is not correct, if the income is changeable, depending on the consumption and the investment. The interest is the price of the money.

Shackle, conscientious about the critique on the undetermination of the classic interest rate by Keynes, which was based on the analysis of the partial equilibrium, seeks to demonstrate the validity of the theory of the preference for the liquidity through a more convincing form. According to this author, Keynes would have distinguished in his analysis quantities of flows and stocks. The saving and the investment are flows, i.e., they are units of a determined species per time unit (tons, dollar per time unit ). In the determination of the interest rate, Keynes take in considerations the stock of money and the stock of bonds, i.e., the acceptance of debt. The money in the possession of the public, the firms and the banks, composes the total of the payment values that can simultaneously be carried through. The individuals and the firms will keep a larger stock of money that they will use for some reasons. They will be able to keep money, so as to take precautions itself of monetary losses or other forms of wealth. A form of wealth is the title, the ones that constitute a promise to reimburse shares in a stipulated plan. But the genuine the interest rate to be received by the lenders depends on the value that these title acquire in the transactions by the stockholders. If the price of the bond becomes low, the interest rate rises. In this case or in the contrary case, the lenders purchase with a bond the right to payments differed in the time. When they earn this loan if they are not sure that they will not want this money before the date, then they will have to take into account that there is the possibility of having to sell this bond in the stock market at a price that they cannot know in advance. A lender needs to have guarantees against eventual losses. As the loss is a disutility, the lenders require compensation or reward.

The oscillations in the prices of the title will provoke speculation. There will be the ones that thinking that the title's prices will sink, will look to sell them; the ones that think that the prices will continue to go up, will look to buy them, i.e., there is exist different expectations on the future of the prices of a form of wealth, that will provoke changes in the money stock. The interest rate depends thus on the expectations. It is through the uncertainty that the interest rate has a greater and vaster channel which act over the investment decisions.

The investment is a fiction imagined in the demand for the profit. It is not therefore the accounting of what was carried through in the past. The investment is a share that was prepared for the future. Nobody can foresee what will the market for a product be like five years now. Nobody can conjecture about the way the discoveries and the inventions will make a

determined product an obsolete product. Nobody can foresee now the costs of the resources used to produce it. But for the sake of simplicity and consistency, some idea will have to be announced. In the contrary case, the maximization would be an exercise full of contradictions. In the framework of the method of the equilibrium, the entrepreneurs will maximize a profit results from comparing the expected value of the sold product with the operational costs, which implies to use a gamma of resources, considered annually during the useful life of the investment, deducted in the present at the interest rate of market. That is to say, considering the notion of efficiency marginal of the capital, that the investment results precarious, autonomous and without known prognostic. It is assumed that an expected value can be calculated. But this value cannot be considered as given.

Sells correct the production plans, which implies to produce for existences if there is a production excess. In the recommence of the subsequent plan, the entrepreneurs will review the production and the level of employment required for the new plan. Is estimated that sells will continue low, and as a result of the level of production and the employment will oscillate to a lower level of production and employment. Therefore, reminding the mordacious spirit of Keynes, Shackle underline that when the things are not scarce it is nonsense to reduce the consumption and to diminish the investment, setting off the people and unemployed. Challenging the idea that the existing information is complete, that the knowledge is adequate, the problem is that the questions to be studied require a degree of belief for which exists lack of knowledge, being this dominant lack of knowledge inside the human subjects [1983, 5].

Methodologically considering the role that play the information structuring and in the basis of the knowledge and of the confidence that influence the decisions making in a monetary economy, where the essential motivation of the entrepreneurs is the profit, on which the decisions on investment depend, and in last instance, the employment also. To Shackle, the theory of Keynes is not only criticized by its formal exposition, but also because it has threatened the moral principles where the orthodox theory is grounded: the parsimony of the agents, the accumulation of wealth and the inequality of the distribution. Although the interpretation of Shackle [1977] is categorized for certain nihilism on the real possibility of the agents being able to make use of the required information, this retakes the thought of Keynes in a more authentic course, assuming that those who make decisions make them in a framework of irrations expectations.

The expectations and the monetary economy.

J.A. Kregel [1983], after Shackle, has been developing in a postkeynesian perspective, the idea that the most revolutionary element of the General Theory is the expectations, which permit to emphasize the difference between ex-ante and ex-post decisions in an uncertain world where the expectations can be frustrating. Kregel regard as vital to understand Keynes to consider the distinction between an economy of exchanges and a monetary economy. In this last one, the money not only has the function

of neutral link between the transactions in real assets and others things [1975,408-409].

It is in a monetary economy that the effective demand attains importance through the existence of uncertainty and diffidence. According to Kregel, the correct magnitude is the expected or anticipated value of the predictable, i.e. the expected value that result by the use of a volume of employment. The variables in their relations must be interpreted in the context and in terms of expectations. The method of Keynes, according to Kregel, is characterized by placing hypotheses on the expectations. This method estimates that the expectations are always presents (against the idea of a world with perfect information and full certainty, settle down these hypotheses to be followed, as the orthodox theory would have made). Conceiving constant expectations, different hypotheses on these expectations can be assumed, and observe the effects that their alteration provokes on the system.

Assuming constant expectations, Keynes [1975] does not presume that the world is completely predicable or that full certainty exists. This means that, distinguishing the difference between actual and waited results it can be demonstrated as the effective demand affects the employment, in a way that the system can reach under employment equilibrium. In this way, the equilibrium of under employment demonstrated in the General Theory is the result of the revision of the expectations, which is coherent with the vision that the persistent employment is the result of the absence of reequilibrium forces, due to the agents uncertainty on the interest rate and to the fact that the politics of flexible wages does not contribute for the reestablishment of the equilibrium of full employment in a closed economy either. The fact is that Keynes [1978] has not made a clear statement where and in which situations he was assuming changes in expectations [1978,180].

To Kregel, Keynes presents in the General Theory a world where the long term expectations can be moved independently of the economic results, where the short term expectations associates with particular results can be frustrated and to affect the long term expectations. In this model Keynes estimates that the expectations are constant and that the frustrate expectations of short-term do not affect them. In his 1937 writings he suggests one third possibility, estimating that the long term expectations are constant and that the short term expectations are always carry on, the expectations become inelastic and all the emphasis is given to the effective demand. This allows Kregel to conclude that this third possibility gave place to a model of static equilibrium, where the expectations are not frustrated nor a movement of the expectations is provoked. This model is the one that Keynes used to demonstrate that the unemployment is not a short term phenomenon, i.e. that the unemployment is persistent. Therefore it can be said, according to Kregel that Keynes suggests three models in accordance with his presumption about the expectations. First, a model of static equilibrium, where the expectations are given and constant, which do not answer to the short term expectations, even though that they can be frustrating for some individuals. Second, a model of stationary equilibrium, where the long term expectations continue constant. Third, a model where different situations of given long term expectations are compared, allowing that the expectations of short term can be frustrated.

The entrepreneurs review their plans of production if the expectations are frustrating; they change their expectations until the point where the effective demand determines the amount of employment, moving their position in the supply curve without a move of the curve itself. To Kregel this is the only way that allowed Keynes to emphasize the expectations as a pre-requisite of the effective demand theory allowing movements in the function without provoking movements of the function itself.

When Keynes came to political conclusions, he frequently used a third model: the model of alterable equilibrium that he exposes in chapter 18 of the General Theory. This model is the dynamic model where the current frustrations can affect the state of the expectations in general, in a way that the functions that integrate the expectations can move freely in the course of time. The movements do not take place only along the curves, but the curves of supply and demand are moved, in a way that the whole system responds to the frustrations before the expectations.

The fact is that Keynes uses until the 17 chapter a static model, Kregel explains, must be intended to the fact that he seek to demonstrate his effective demand theory and to the fact of that the expectations influence the three independent variables: the propensity to the consumption, the marginal efficiency of the capital and the preference for the liquidity. In consequence, we can say that Kregel not only intends to interpret Keynes, but also to trace a modellization way where the methodology of Keynes acquires full meaning. Keynes was determined to analyse a monetary economy, where certainty does not exist nor perfect forecast, where the future is not known, nor there is a mathematical probability that may allows the forecasting of the existence of markets with future prices.

The interpretation of Minsky [1985, 24-55] must be understood as the formulation of a theory where he captures the aspects neglected in the theory of Keynes, namely those where the unstable character of the investment is emphasizes, less on account of the tendency of the marginal efficiency of the capital to fall than because the marginal efficiency of capital is susceptible of revisions provoked by recurrent evaluations caused by the speculative activity which provokes the rise of the interest rate, making determined projects of investment less income-producing. In this interpretative line, the cyclical character of the investment is the main cause of the cyclical fall of the income and, therefore, of the employment. In a certain way Minsky, is right when he worries about the cyclical problems, and the relevance is important, given the situation of almost negation of the economic cycles that characterized the economic theory in the sixties. Keynes had not attributed a very great prominence to the economic cycle. In the Treatise on Money, Keynes attributes the cycle to the movements of the interest rate of around the wicksellian natural rate, explaining the disequilibria as the variability of the saving and the investment, or the remunerations of the factors related to output. In the General Theory, the cycle is due to the fluctuations of the marginal efficiency of the capital, and therefore, to the elements of regularity of the cycle, the psychological aspects of the crisis can be added, characterized for the preference for the liquidity in situation of uncertainty, which make the unemployment persistent.

The unemployment can follow the cycle, if the investment level is kept low, if the propensity to the consumption generated by the persistence of the unemployment is kept low. The specific theoretical explanation of Keynes is relative to the depression as a phase of the cycle. In this sense, the long period of full employment is a fact explained through the existence of solid financial structures instituted from the great depression. It is interesting to observe Minsk's vision in the sense that the period after the second world war was characterized by a stability of the financial structures, which culminates with credit crunch of 1966, and hence the recent financial instability allows to think the financial crises as systemic and not as a possibility.

The rupture of Keynes with the vision connected with the cycle to the fluctuations of the level of the interest rate results from the admission of the instability of the investment and from the volatileness of the marginal efficiency of the capital, which determine the demand for the investment capital. The investment is in Keynes a function of the price of supply of the capital, the interest and the long run expectations. These are the three arguments that explain the variability of the investment. Minsky refers exclusively to the relation between price of supply of capital and the interest level.

To Keynes, the causes that make vary the marginal efficiency of the capital, *caeteris paribus*, are the collapse of the prices in the stock market and the long term expectations, i.e. the waves of confidence that are cheated by the opinions of the speculators on the future of the interest rate and the price of the title and the confidence of the entrepreneurs on the future incomes produced by the use of a determined capital good. These influence the demand of investment goods and the supply of capital. In spite of that, a collapse of the prices in the stock market can cause a change in the expectations. If this changes affect the expectations on future incomes a crisis can take place, which does not starts from the effects of the variations of the interest rate. This is the crucial point of Keynes's explanation. Minsky emphasizes a central aspect of the theory of Keynes that consist of the financial instability situation, characteristic of the capitalist economy.

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