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Controversies over the Equilibrium Position in Keynes's General Theory

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Abstract

The paper discusses certain criteria for choosing variables as given, independent or dependent in economic theory, emphasising Keynes's criteria in the General Theory. On the 1ight of this discussion, the paper assesses some recent controversies over the equilibrium position in Keynes's General Theory. We concentrate on three issues, namely, the association of the equilibrium in the General Theory with the classical long period position, the role of long-period expectations and wage flexibility and the notion of involuntary unemployment.

Resumo

O trabalho discute critérios para a escolha de variáveis dadas, independentes e dependentes em teoria econômica enfatizando os critérios de Keynes na elaboração da Teoria Geral. Com base nesta discussão examinamos algumas controvérsias sobre a posição de equilíbrio na Teoria Geral. Nos concentramos em trés questões: a associação entre a posição de equiíbrio e a posição de longo prazo clássica, o papel das expectativas de longo prazo e a flexibilidade dos salários nominais e a noção de desemprego involuntário.

One of the most controversial aspects of the General Theory is certainly the nature ot the equilibrium position associated with the principle of effective demand. The forces influencing supply and expected demand for output as a whole determine the equilibrium levels of employment, output, price and income. There are certain variables which Keynes takes as 'given' or 'independent' associated with the equilibrium position[1]. The controversies over the position of equilibrium usually refer to the appropriateness of taking these variables as given or independent from the workings of the model or to the ultimate meaning of the terms 'given' and 'independent' for the understanding of Keynes's message in the General Theory.

In this paper we shall examine the criteria for chosing certain variables as given or independent and, on the light of this discussion, assess some recent controversies over the nature of equilibrium in the General Theory. We shall concentrate on three issues, namely, the association of the equilibrium in the General Theory with the Classical long-period position, the role of long-period expectations, and wage flexibility and the notion of involuntary unemployment.

1. The 'General Theory' and 'the facts of experience'

There is a cleavage between the economic relations which are logically necessary and others "about which we can safely generalize from experience, but which are not logically necessary" (JMK, VII, p. 249). The equilibrium position in the General Theory refers to the first set of relations. The repercussions between the dependent and independent variables through the workings of the adjustment processes as well as the causes which influence changes in the independent variables and given factors are associated with the "facts of experience [which] do not follow from logical necessity" (JMK, VII, p. 250). In the General Theory Keynes distinguishes between the logically necessary relations and those which depend on particular or ephemeral circumstances and, therefore, for the purpose of his analysis, can not be generalized. In proceeding this way, he argued as follows:

> "our analysis ... provide[s] ourselves with an organized and orderly method of thinking out particular problems; and, after we have reached a provisional conclusion by isolating the complicating factors one by one, we then have to go back on ourselves and allow ... for the probable interactions of the factors amongst themselves. This is the nature of economic thinking" (JMK, VII, p. 297).

[1] Keynes takes as 'given' for the determination of equilibrium "the existing skill and quantity of available labour, the existing quality and quantity of available equipment, the existing technique, the degree of competition, the tastes and habits of the consumer, the disutility of different intensities of labour and the activities of supervision and organization, as well as the social structure including the forces, other than our variables set forth below, which determine the distribution of the national income" (JMK, VII, p. 245). The "ultimate independent variables [consist of] (1) the ... psychological propensity to consume, the psychological attitude to liquidity and the psychological expectation of future yield from capital-assets, (2) the wage-unit as determined by the bargains between employers and employed, and (3) the quantity of money..." (JMK, VII, p. 246-7).

The equilibrium position is thus characterized by provisional (that is, restricted to certain conditions) but logically necessary conclusions. Keynes attached great priority to the conclusions associated with the equilibrium position; this, however, does not imply that he did not examine the repercussions between dependent and independent variables, but only that he considered them to be ot secondary importance. Not only that, but in tace ot the lack ot logical necessity sorounding the examination of repercussions, emphasizing them would imply a reduction of definiteness in the results thus distracting the attention trom the central conclusions.

No matter how important the notion of equilibrium may be tor economic analysis, one should be rather caretul in ascribing a descriptive role to the position ot equilibrium. To be sure, there are historical as well as institutional factors more or less independent trom the dynamics ot the economic processes lending (descriptive or historical) stability to the torces leading to the equilibrium position. On the other hand, there are other more or less independent factors which oscillate rather rapidly (as compared to the speed ot adjustment ot the dependent variables) which makes the equilibrium position continually shift. Moreover, there is also the fact noted by Joan Robinson that "[e]ven if circumstances remained unchanged, the system would not run smoothly into an equilibrium position, tor the very process ot adjustment gives rise to oscillations and even in stationary conditions the system would fluctuate perhaps eternally, around the equilibrium position" (1937, p. 98) The equilibrium position *per se* is only an organizing concept and serves the purpose ot making clear certain logically necessary relations. Descriptive or historical interences, on the other hand, depend on the "facts of experience" which explain the stability or instability ot the independent variables and given factors, and the eleraents intluencing the path ot adjustment of the dependent variables in different historical circumstances.

Clearly, the facts of experience varies from economist to economist according to his 'vision' – to use Schumpeter's term. And so does the choice of the appropriate independent variables and givens, and the emphasis on the more stable (or permanent) factors influencing the equilibrium or the more unstable (or temporary) ones and, finally, the emphasis given to the factors affecting the adjustment processes, including their stability. There are radical alternatives. The emphasis on unstable factors may lead to a conception of the workings of the system according to which the equilibrium position shifts much quicker than the adjusting variables; in this case, the notion of equilibrium tends to become meaningless. An analysis which only concentrates on the equilibrium position, on the other hand, leaves unexplored the forces which are at work when the system is out of equilibrium.

As noted already Keynes ascribed great importance to the conclusions associated with the equilibrium position in the General Theory, both at the logical and historical levels. From a logical perspective his conclusion was that "the economic system may find itself in stable equilibrium with

N [employment] at a level below full employment, namely at the level given by the intersection of the aggregate demand function with the aggregate supply function" (JMK, VII, p. 30). The possibility of a position of stable equilibrium with unemployment constitutes the central conclusion of the General Theory. The historical counterpart of this conclusion is the

> "outstanding characteristic of the economic system in which we live that, whilst it is subject to severe fluctuations in respect of output and employment, it is not violently unstable. Indeed it seems capable of remaining in a chronic condition of sub-normal activity for a considerable period without any marked tendency either towards recovery or towards complete collapse. Moreover, the evidence indicates that full, or even approximateiy full, employment is of rare and short-lived occurrence" (JMK, VII, p. 249).

There are three points to be noted in connection with this passage. The first is that the central idea is the conception of a system which oscillates around a norm characterized by sub-normal activity, thus consistent with the purely logical conclusion of a stable position characterized by the existence of unemployment (and possibly idle capacity). Second, what allows a descriptive analogy with the necessarily logical position of equilibrium is the intuition (provided by the "facts of experience") that the independent variables and givens change moderately ("system ... is not violently unstable") and not in a systematic direction ("system ... seems capable of remaining in a chronic condition"). Third, "endogenous" changes in independent variables (due to repercussions along adjustment processes) and the forces affecting the adjustment processes themselves such as short period expectations explain fluctuations around the norm. After the passage quoted above, Keynes notes that "f1uctuations may start briskly but seem to wear themselves out before they have proceeded to great extremes and an intermediate situation ... is our normal lot". (JMK, VII, p. 250)

It seems evident from this discussion that Keynes's central conclusion was that there is not any logical flaw in the notion of equilibrium with unemployment and that, in fact, the economic system is capable of fluctuating around a normal position not necessarily characterized by the full employment of the labour force or the full utilization of capacity. We shall use this discussion as a benchmark for the assessment of some controversies over the nature of the equilibrium position in the General Theory.

2. The long-period theory of employment

A recent controversy over the equilibrium position in the General Theory is associated with the claim by Eatwell and Milgate according to which Keynes's theory of output and employment can only be regarded as a "serious contender to the place occupied by marginalist theory" (Milgate, 1984, p. 88) if framed in the classical long-period or normal method. According to Milgate, "there are numerous statements in [the] book which indicate that Keynes was convinced that his theory was capable of providing an explanation of the long-period normal levels of output and employment" (p. 87). The following statement from the General Theory is regarded as an example of this:

> we oscillate ... round an intermediate position appreciably bellow full employment ... [this] mean position [is] determined by 'natural' tendencies, namely, by those tendencies which are likely to persist". (JMK, VII, p.254)[2]

The claim is a most controversial one. Most interpretations of Keynes's theory confine it to the (Marshallian) short-period in face of the assumption that "the existing quality and quantity of available equipment" is given (JMK, VII, p. 245). Before we proceed to a discussion of Eatwell and Hilgate's claim, it is necessary to establish the characteristics of the classical long-period position.

The long-period normal position is characterized by the uniformity of the rate of profit and wages and normal utilization of capacity in all sectors. The economic system is supposed to "gravitate" around the normal position. The tendency towards that position results from the workings of competition which makes capitais flow from the less profitable to the most profitable sectors. The movement in the direction of the normal position involves both "composition" and "scale" adjustments of the stock of capital. The sectoral composition of the stock of capital must adjust to changes in the pattern of demand; at the same time, the size of the stock must adjust to the scale of output[3].

The critics to the long-period interpretation of Keynes's theory concentrate on two different (but related) points. The first is that changes in the scale and composition of the stock of capital does not play any role in the General Theory; in fact, according to the critics, Keynes concentrates on the Marshallian short period equilibrium and gives little attention to changes in the stock of capital[4]. The second point is that Keynes's analysis focuses on the determination of the levels of capacity utilization rather than on the adjustment of capacity to changes in demand. The object of analysis of the General Theory is thus the "theory of employment" rather than the "theory of accumulation". According to Garegneni, "it should be clear that Keynes is concerned with a short period analysis of aggregate output (the determination of the level of capacity utilization) and that a long period analysis of aggregate output, i.e., an analysis of the reciprocal adaptation of aggregate supply and aggregate demand is one and the same thing as a theory of accumulation" (in Eatwell and Milgate, Preface).

[2] Milgate notes that the "argument contained in this passage bears the hallmarks of the traditional long-period method: the choice of the term 'natural' to describe the tendencies of a market economy and of the term persist to describe the their long-term character is the standard fare of the traditional method". (1982, p. 88)
[3] According to Eatwell, "the long-period positions of the economy are defined with respect to the uniformity of the general rate of profit that the forces of competition will tend to establish in a capitalist economy. Uniformity of the rate of profit ... requires that the scale and composition of output and the size and composition of capacity are adjusted one to the other". (1983, p. 271)
[4] See Asimakopulos (1985, 1986).

In what follows we develop an argument according to which Eatwell and Milgate's analysis is interpreted as a legitimats long-period extension of Keynes's theory of employment, an extension which Keynes himself examined in the General Theory and which was further elaborated by Joan Robinson in her "Long-period theory of employment" (1937).

The root of the controversy involving Eatwell and Milgate's analysis is the role played by the adjustment of capacity to autonomous changes of demand and output. A long-period theory of employment must consider changes in the stock of capital. This is rather obvious: given a change in the scale and composition of demand and output, if the size and composition of capacity do not change, only capacity utilization will adjust. As a consequence, assuming that the rate of profit was uniform and the degree of utilization in all lines of production normal before the change in demand, neither of the characteristics of a long-period position will hold after the change. Thus, capacity must adjust for the conditions of 'normality' to hold.

The question which arises then is how can changes in capacity be reconciled with Keynes's assumption about the "existing quality and quantity of available equipment?" There seems to be an inconsistency between the necessary adjustment of capacity to demand and the assumption of a given stock of equipraent. The inconsistency or otherwise depends on the interpretation of the assumption. Eatwell and Milgate's interpretation is that capacity is given *in* the long-period rather than *along* the process of adjustment to changes in demand, whereas the conventional interpretation is that capacity is given during the adjustment process[5]. Therefore, according to Eatwell and Milgate, a more general and fruitful interpretation is that Keynes's analysis refers to Marshall's "stationary state" rather than Marshall's "short-period". Indeed, their view is that a General Theory of employment should not be confined to the short-period, but rather to the long-period, and therefore, the approach is not at all inconsistent with the "theory of accumulation".

In the long-period, capacity and demand are balanced in size and composition; however, according to Eatwell and Milgate, there is not any garantee that the existing quantity of labour will be fully employed. Of course, there is an implicit assumption in this argument that capital is more mobile than labour, or that it adjusts more rapidly to changes than labour adjusts, which depending on the circumstances, may not be true in modern capitalism. In any case, this is what the proponents of the long-period version of Keynes's principle of effective demand consider to be the appropriate conception of structural or chronic unemployment. In Milgate's words, "capacity utilization will become 'full' [normal] in the face of [the adjustment of capacity to output] ... but unemployment will

[5] According to Milgate, "[a]n interpretation of Keynes more in line with his own theory and less likely to lead to errors of interpretation would therefore appear to hinge on the recognition that it was designed not to limit the analysis to a Marshallian short-period but rather to allow the analysis to proceed without the need to consider 'the results of far reaching social changes or ... the slow effects of secular progress' (JMK, VII, p. 109) due to changes in technology, accumulation and the like" (1984, p. 90).

persist" (1984, p. 90)[6].

Eatwell admits that Keynes "did not devote his efforts [in the General Theory to the construction of an explicitly long-period theory" (Eatwell, 1983, p. 273). This is why the standard interpretation of the book focuses on its short-period aspects. However, Keynes does extend his theory of employment to the long- period in the General Theory and the model he develops is strikingly similar to Eatwell and Milgate's approach. The analysis starts from a Marshallian stationary State situation in which the marginal efficiency of capital is equal to the rate of interest, which implies that there is not any net investment taking place, and full employment of the available labour. Keynes then goes on to examine the effect of a positive net propensity to save in such situation. He argues that "entrepreneurs will necessarily make losses if they continue to offer employment on a scale which will utilize the whole of the existing stock of capital" (JMK, VII, p. 217). This result is quite straightforward: if the net propensity to save is positive, then full employment net saving will be positive and greater than net investment.

Therefore, for a given net propensity to consume, there is only one level of employment (necessarily smaller than full employment) for which saving and investment will be equal. In Keynes words, "for a society such as we have supposed, the position of equilibrium ... will be one in which employment is low enough and the standard of life sufficiently miserable to bring tnetl saving to zero" (JMK, VII, p. 217). As the level of output falls, the stock of capital will gradually adjust; in fact, it will be reduced in such a way that "the equilibrium stock of capital ... will, of course, be a smaller stock than would correspond to full employment of the available labour" (JMK, VII, p. 218).

In Keynes's long-period analysis, structural unemployment results from the incompatibility between the propensity to save and the full employment level of output, given the rate of interest and the state of long-period expectations. In the process of adjustment to a new long-period position both output and capacity adjust. In the new stationary equilibrium, the normal utilization of capacity becomes inconsistent with the full employment of labour.

Eatwell and Milgate's conception is clearly an elaboration of Keynes's own 'long-period version' of the principle of effective demand, as well as of Joan Robinson's extension of Keynes's analysis "into the regions of the long period". She starts from a situation in which

> "[net] investment is ... tending to bring itself to an end, and in the stable conditions that we are considering nothing happens to revive the inducement to invest as it flags. In conditions of

[6] A very simple model of long-period unemployment on the lines described above can be built. Let [1] $N = kK^*$, where N is the level of employment, k is the 1abour capital ratio and K^* the normal capital stock; [2] $u^* = X/K^*$ where u^* is the normal degree of utilization and X is the leveli of output; [3] $X = [1/s(1-\alpha)]I$ where I is the level of investment, s is the propensity to save out of profits and α is the share of wages in income; Expression [3] is a simple Kaleckian investment multiplier. If we substitute [3] in [1], the level of employment associated with the given levei of effective demand and normal capacity utilization is given by: $N = [k/s(1-\alpha)u^*]$ which obviously does not have to correspond to the exogenously given quantity of available labour.

> equilibrium the stock of capital is adjusted to the given rate of interest, and no further accumulation takes place ... The familiar phrase 'long-period equilibrium' may be adopted to describe this situation ..." (Robinson, 1937, p. 76).

Like Keynes in the General Theory she notes that there is only one level of output (short of the full employment level) which would brlng net saving into line with investment. The effect of an increase in the propensity to save will obviously worsen the situation since it will induce a reduction in the level of output and "will reduce the stock of capital that will be maintained at a given rate of interest" (1937, p. 79).

It is undeniable that Keynes's focus in the General Theory was the Marshallian short-period equi1ibrium; and, therefore, it is quite understandable that the usual reading of the book concentrates on situations in which the stock of capital is given in face of changes in demand.

The question which Eatwell and Milgate's interpretation forces one to face is the following: do we lose anything by looking at the principle of effective demand from a long-period perspective, or do we gain something? From our perspective, nothing is really lost. The role played by uncertainty, long-period expectations, liquidity preference, short-period expectations and the multiplier are not altered by the extension of the notion of equilibrium to the long-period. It does not make the analysis less general; on the contrary, it makes it more general. In a long-period approach to the principle of effective demand, a change in autonomous demand would give rise to changes in the levels of employment and output, as well as in the the stock of capital. As long as the level of autonomous demand does not suffer further changes[7], the analysis would proceed essentially in the same fashion with the difference that changes in the stock of capital would bring in the issue of compatibility between the size of the stock of capital and the size of the existing labour.

3. On long-period expectations

Long-period expectations are taken as given in the determination of the equilibrium configuration in the General Theory. To the level of employment associated with a given state of expectation Keynes refers as the "long-period [level] of employment" (JMK, VII, p. 48). Changes in the state of expectation will lead to changes in the equilibrium level of employment, but the transverse associated with the change in expectation is also "capable of producing an oscillation of the same kind of shape as a cyclical movement, in the course of working itself out". In particular, Keynes refers to the adjustment of capacity to satisfy the new state of expectation and aggregate demand which may "lead to more employment and also to more consumption than will occur when the long-period

[7] As we know from growth models in the Keynesian tradition, there could be repercussions of changes in the level of activity on the level of investment.

position has been reached" (JMK, VII, p. 49)[8].

The object of dispute over the role of expectations is not so much the level of employment associated with a given state of expectations, but with the emphasis which should be ascribed to *changes* in the state of expectations. How important are they in Keynes's contribution? And, more to the point, is the emphasis on changes in expectations fundamental in Keynes's attempt to break with orthodoxy? Or is it important to emphasize changes in expectations to differentiate Keynes's approach from the approach of contemporaneous orthodoxy? There are essentially two views on these issues.

There is one view associated with the post-Keynesian School according to which "the essence of Keynes's thought is seen as the liberation from equilibrium theorizing, as an escape from the restrictions that it imposes on thinking" (Coddington, 1983, p, 97) and which emphasizes the role of time, uncertainty, changing views about the future and special characteristics of money as the fundamental elements of Keynes's analysis. According to this approach, the decisions to invest, produce, as well as portfolio decisions, are are based on the agents' view about the future, and once the decisions are made, they become irrever sible. There is always a certain degree of uncertainty associated with the relevant future events associated with any decision. The conseguences of an expectational error depend on the possibility of altering the plans for the future without incurring in significant capital losses. In this respect, decisions are different from one another depending on the degree of flexibility for (more or less costless) changes of direction.

For a given state of uncertainty, decisions to aguire liquid assets (assets with active markets) are more flexible than decisions to buy assets which can only be transacted in specialized and thus narrow markets. The greater the degree of uncertainty, the greater the demand for liquid assets; the greater the preference for liquidity. Therefore when the degree of uncertainty is very great agents will prefer to allocate their wealth in liquid assets (such as money and near-monies) rather than less liquid assets (such as long term financial assets, and real capital assets). The effect of a shift towards more liquid assets on employment is quite deleterious since it tends to interrupt the income-expenditure circuit.

According to this interpretation, the fundamental aspect of Keynes's contribution is the emphasis on the effect of changes in the agents' views (expectations) about the future on the levels of investment and employment. Changes in the state of uncertainty and expectations imply changes in the agents' portfolio allocations, and thus in the level of activity. It is not the emphasis on the notion of equilibrium and its particular characteristics which differentiates Keynes's analysis from the orthodox theory, but rather his "theory of *shifting equilibrium* – meaning by the latter the theory

8 Thus the notion of long-period employment associated with a given state of expectations and a process of adjustment in which changes in the stock of capital are explicitly considered is quite in tune with the discussion of the last section.

of a system in which changing views about the future are capable of influencing the present" (JMK, VII, p. 293; emphasis added). It should be added that the emphasis on uncertainty and changes in expectations, as well as the relative unimportance ascribed to the notion of equilibrium, implies a certain lack of definiteness of results not always desirable in economic theorizing.

The alternative view, on the contrary, emphasizes the notion of equilibrium. It is argued that Keynes's "fundamental proposition [in the General Theory], that decisions to save are adjusted to decisions to invest *via* changes in the level of income (output), is entirely independent of the existence of uncertainty and expectations" (Milgate, 1984, p. 90)[9]. Excessive emphasis on the role of uncertainty and expectations obscures the analysis. According to Bharadwaj, Keynes's purpose in taking long-period expectations as given (which does not imply that they do not exist), was to "attribute relative stability to the functional relations he used". The analysis of the principie of effective demand owed its power to Keynes's "'taming' the uncertainty and expectations to yield definite results" (1983, p. 23). Finally, according to this approach, the emphasis on expectations and instability does not differentiate Keynes's analysis in the General Theory from the traditional theory of the credit cycle[10]. The neo-Ricardian position concerning the role of expectations is not they should not be taken into account, but rather that they ought not be given such a disturbing role as to render the analysis devoid of definite results[11].

What is then the role of long-period expectations in Keynes's analysis? To answer this question it would be desirable to examine the factors influencing the formation of expectations in more detail. Long-period expectations and the degree of uncertainty sorounding a decision are influenced by a set of factors ranging from very volatile ones (such as those associated with the behavior of very active and speculative markets as well as subjective factors) to very stable ones (such as those associated with the political and institutional base of a society). The former are certainly at the root of the fluctuations of the economic system; whereas the latter would seem to play an important explanatory role in determining the long run or secular norm of the economic variables.

It is rather obvious that whereas the post-Keynesians concentrate on the more volatile and subjective factors affecting expectations, the neo-Ricardians focus on the more stable and institutional ones. The difference between the two Schools becomes clear in the following statements by Shackle and Eatwell, respectively:

> [Keynes] declares unequivocally that expectations do not rest on anything solid, determinable, demonstrable. 'We simply do not know' (Shackle, cited by Coddington, 1983, p. 62). Investment is an *irrational* activity, or a non-rational one... This is the message of the General

[9] A detailed description of this interpretation of the General Theory can be found in section 2. For a detailed comparison of the post-Keynesian and neo-Ricardian Bchools, see Amadeo and Dutt (1987).
[10] See Milgate (1984, ch. 9) and Kregel (1976, pp. 213-4).
[11] See Garegnani (1976, p.140).

Theory (Shackle, 1967, p. 130; emphasis in original).

> [The individuais who make investment decisions based on expectations] operate within a complex structure of institutions... The stability of expectations derives from the stability of the institutional environment" (Eatwell, 1983, p. 283).

As noted in the introduction to this chapter, the "facts of experience" as seen by Keynes were that the system fluctuates around a norm characterized by "a chronic condition of sub-normal activity" (JMK, VII, p. 249). It would seem reasonable to argue that the stable factors affecting expectations operate as an anchor for the system that moves around a limited area impelled by the more volatile factors. Major changes will result from changes in the stable factors such as important alterations in the institutional setting.

4. On nominal wages and the notion of 'involuntary unemployment'

According to Keynes's General Theory (which refers to the logically necessary relations), the "economic system may find itself in a stable equilibrium with N [employment] at a level below full employment" (JMK, VII, p.30). The levels of employment and output are determined by the forces affecting aggregate supply and demand. According to the logical construction of the General Theory, the determination of the money wage through the bargains reached between employers and workers antecedes the determination of the leveis of output and employment based on the producers' sale proceeds. Assuming that short-period expectations are fulfilled, that is, assuming a situation of profit equilibrium, given the level of employment and the money wage, the real wage is determined. Thus, the real wage is not determined simultaneously with the level of employment, like in the neo-classical theory through the interplay of supply and demand for labour. As noted by Keynes, the level of employment and the real wage are endogenous:

> "[T]he volume of employment does not depend on real wages, except in so far as the supply of labour available at a given real wage sets a maximum level of employment. The propensity to consume and the rate of new investment determine the volume of employment and the volume of employment determines the real wage" (JMK, XIV, p. 377).

Thus the level of employment is determined by the average propensity to consume and the level of investment and assuming profit-equilibrium, the real wage is equal to the marginal product of the quantity of labour employed. Keynes rejects the "second classical postulate" according to which the real wage is equal to the marginal disutility of the amount of employment. It is not that he rejects the existence of a labour supply function but rather that workers cannot enforce the satisfaction of such a function. According to Keynes, the second postulate is subject to two criticisms. The first objection is that during the bargaining process between employers and workers, it is the money wage rather than the real wage which is determined. The real wage depends on the price of the wage-goods which, in turn, depends on the level of aggregate output on which workers have little influence. The other objection is that while workers may take the expected price level into account when determining the money wage, they will not "withdraw their labour whenever there is a rise in the price of wage goods" (JMK, VII, p. 9). In other words, employed workers will stick to their contracts even if there is a moderate increase in the price of wage-goods.

It is usually argued that if the equilibrium position is characterized by unemployment, money wages will start falling, and if there are no impediments to the reduction of wages, the level of employment will be affected. In particular, the conventional view is that if the "real balance effect" or Pigou-Patinkin effect is taken into account, the system will gradually converge to the full employment position. A typical example of this view is McCallum's observation according to which Keynes's "top-priority goal of articulating a model with an unemployment equilibrium ... foundered on the Pigou-Patinkin real balance effect" (1987, p. 125). The corollary of this statement is that Keynes's theory of unemployment hinges on the assumption of sticky money wages. Had Keynes constructed a model in which wages were flexible, unemployment would only be a temporary phenomenon resulting from rigidities and imperfections in the price System, and lack of coordination.

It is not quite true that Keynes's theory of employment rests on the rigidity if wages or the perverse relative speed of adjustment of wages and prices. At least not in the same fashion as in the conventional Pigou-Patinkin approach. He did take the money wage as given in deriving the logically necessary relations – that is what he re-ferred to as his "General Theory". He then went on to study the logical effects of changes in money wages and the desirability of flexible wages. He also examined the institutional factors affecting the determination of money wages. In order to understand the notion of involuntary unemployment we must go through these three steps. We have already gone through the first one.

It is well known that Keynes dedicated a whole chapter of the General Theory to the examination of the effects of changes in money wages on the level of employment. He there concluded that due to the ambiguous effects on the determinants of aggregate demand, "if labour were to respond to conditions of ... unemployment by offering its service at a gradually diminishing money-wage, this would not, as a rule, have the effect of reducing real wages and might even have the effect of increasing them, through its adverse influences on the volume of output" (JMK, VII, p. 269)[12]. The conclusion is that workers' willingness to accept a lower real wage – which they can only express by taking a lower money wage – does not necessarily imply a movement of the system

[12] See Amadeo and Dutt (1987), Bharadwaj (1983), Chick (1984, ch. 7), Dutt (1987), Hahn and Solow (1986), McCombie (1986), and Skott (1982).

towards a position of full employment. This brings us to the notion of involuntary unemployment itself which, in our interpretation is best enunciated as follows:

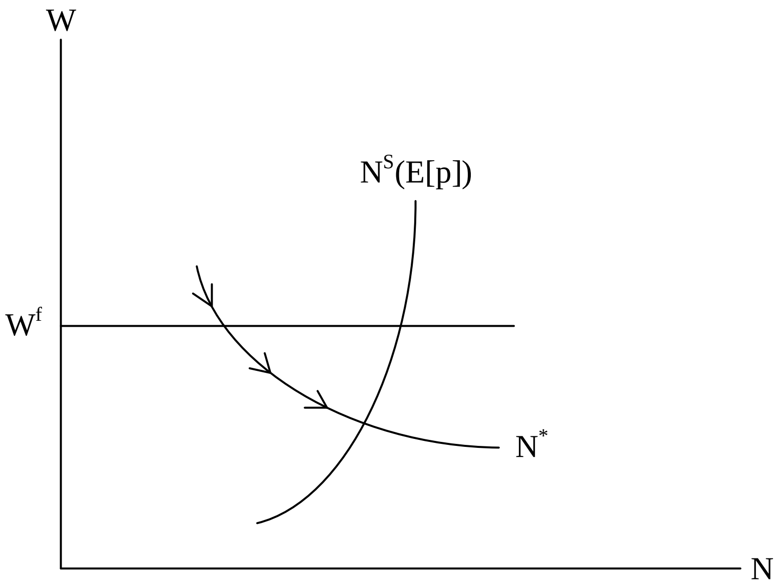
> [T]here may be *no* method available to labour as a whole whereby it can bring the wage-goods equivalent of the general level of money wages in conformity with the marginal disutility of the current volume of employment. There may be no expedient by which labour as a whole can reduce its *real* wage to a given figure by making revised *money* bargains with the entrepreneurs. This will be our contention" (JMK, VII, p. 13).

The notion of involuntary unemployment is associated with the inability of workers as a whole to increase the level of employment through reductions in money wages. The view according to which the system is prevented from converging to full employment due to "the refusal or inability of a unit of labour (...) to accept a reward corresponding to the value of the product attributable to its marginal productivity" is associated in the General Theory with the notion of voluntary (and not involuntary) unemployment (JMK, VII, p. 6).

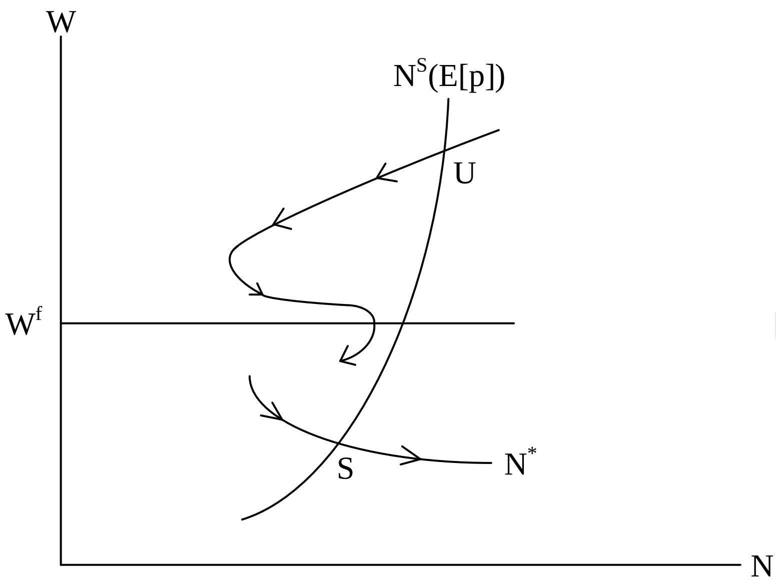
We may finally turn to "what experience shows" , that is, the fact that the motives for changes in money wages "operate within limits, and [that] workers will not seek a much greater money-wage when employment improves or allow a very great reduction rather than suffer any unemployment at all" (JMK, VII, p. 253). It will become clear in what follows that the role played by the observed fact that money wages fluctuate rather moderately in relation to the level of activity is completely different in Keynes's analysis and the conventional analysis based on the Pigou-Patinkin effect.

In what ensues it will be assumed that, if free to change, money wages change pro-cyclically; that, for any money wage rate, the level of employment will result from the interplay of the forces affecting aggregate supply and demand; that the labour supply function is based on a fixed expected price level, say $E[p]$. In paneis [a] and [b] in figure 1, $N^s(E[p])$ is the labour supply associated with each level of the money wage and N^* represent the locus <N^*,w> of equilibrium positions as determined by aggregate demand and supply. The level of employment will be determined either by the intersection of the <N^*,w> locus with the labour supply curve or with a fixed money wage rate w^f.

In panel [a] the conventional neo-classical approach based on the Pigou-Patinkin effect is depicted. Falling money wages are unambiguosly associated with higher levels of employment, and if there are not any impediments for wages to fall, a stable full employment equilibrium will eventually be reached. If the money wage is fixed at w^f, this will represent a barrier to the full operation of the adjustment process. Because unemployment results from a rigidity which impedes the system from converging to full employment – a convergence which would otherwise occur – the equilibrium is characterized by the existence of 'voluntary' unemployment.



[a]



[b]

In panel [b] the case associated with Keynes's model in the General Theory is represented. The slope of the N^* locus changes due to the ambiguous functional relation between the money wage and the level of employment. The first point to note is the possibility of multiple equilibria. Not all the equilibria positions however are stable. In the figure, point S is a stable equilibrium, but point U is not. Full employment may eventually be achieved but a rather tortuous and unstable path will have to be followed. In describing the effects of of a high degree of wage flexibility Keynes noted that

> "if competition between unemployment workers always led to a very great reduction of the money-wage, there would be a violent instability in the price-level. Moreover, there might be no position of stable equilibrium except in conditions of full employment; since the wage-unit might have to fall without limit until it reached a point where the effect of the abundance of money in terms of the wage-unit on the rate of interest was sufficient to restore a level of full employment. At no other point could there be a resting-place" (JMK , VII, p. 253).

Moderate changes in money wages around an average levei such as w^f in the figure would avoid "violent instability" as well as situations of intolerable unemployment. A position of rest characterized by some unemployment might be preferable.

To conclude, it should be emphasized that the role played by the relative insensitivity of wages *vis-a-vis* changes in employment in the two models is quite different. In the conventional neo-classical case, it prevents the system from a monotonic convergence towards full employment equilibrium. In the case of the General Theory, it imposes limits on the operation of the "market forces" in order to lend some stability to the economic system.

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