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Unemployment and the market mechanism

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There are... I should admit, forces which one might fairly well call 'automatic', which operate under any normal monetary system in the direction of restoring a long-period equilibrium between saving and investment. The point upon which I cast doubt — though the contrary is generally believed — is whether these 'automatic forces' will... tend to bring about not only an equilibrium between saving and investment but also an optimum level of production (Keynes, 1979, vol. 13, p. 395).

An analysis of the determination of the level of unemployment in a market economy requires some characterisation of the relationship between unemployment and the operation of the market mechanism. The aim of this chapter is to provide a classification of the various positions adopted towards the problem of unemployment according to the role differing schools of economic thought ascribe to the market mechanism. It will be possible in this way to reveal the structure of ideas which underlies the differing positions.

Two main groups of writers will dominate the discussion. On the one hand, there are those authors who argue that in the long run the forces of demand and supply will tend to push the economic system towards a full-employment level of activity (or, in certain more recent expositions, towards a 'natural' rate of unemployment). These we shall refer to as the 'market mechanism group'. On the other hand, there are those who, while accepting the characterisation of a market mechanism which operates under the influence of the forces of demand and supply, maintain that this mechanism is inhibited (or perhaps even totally obstructed) by the presence of a variety of market imperfections, social and institutional, such as sticky wages and prices, sticky interest rates or the disruptive impact of uncertainty and disapp...
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... pointed expectations. This latter group, which we shall refer to as the 'imperfectionists', encompasses a whole variety of writers who often have little in common other than the fact that their support for employment policies based on the direct manipulation of the level of effective demand derives from the characterisation of unemployment as arising from an obstruction of the market mechanism.

The major theme of this chapter will be that the position of the imperfectionists is, in the final analysis, untenable. For not only is the determining role of imperfections more difficult to sustain the longer the period of time that is taken into account, but also the argument that the operation of the market mechanism is inhibited by, say, the role of trade unions or the influence of uncertainty, involves a priori the acceptance of the underlying theoretical model of the operation of that mechanism which is provided by the market mechanism group. It all becomes a matter of degree.

It is important to realise that the issue at stake here is not simply one of theoretical interpretation or empirical verification. It is a matter of the utmost practical importance. The formulation and justification of economic policy is rendered arbitrary by the imperfectionist position. The ultimate superiority of a policy of fiscal expansion vis-a-vis a policy of social legislation to, say, influence the wage, is not self-evident. Indeed, if the powerful mechanism of market adjustment via demand and supply is present in the economy, then it seems almost perverse not to attempt to harness these (ultimately) beneficial forces. Of course, many of these issues are partially obscured by the distinction between long-run and short-run situations. However, just as short-run movements in the economy are regulated by the more persistent forces governing its long-run tendencies, so short-run policy measures to remedy the consequences of disequilibrium are conditional upon long-run policy prescriptions.

Thus it can be said that the theoretical position of the orthodox market mechanism school (whether in monetarist, rational expectations or supply-side guise) is perfectly secure — for its imperfectionist critics share its characterisation of the operation of the market mechanism; albeit with some lack of conviction.

In marked contrast to both of these positions, there is the view presented in the General Theory, which is particularly clearly stated in the passage from the drafts of that book reproduced at the beginning of this chapter (see also Keynes, 1973, vol. 7, p. 254). Here, the novel idea which emerges is that the market mechanism is obstructed or inhibited ('there are ... automatic forces which operate ... in the direction of restoring long-period equilibrium') but rather that the way in which this mechanism functions is not such as to establish full employment by 'clearing the labour market' — i.e. the market mechanism will not even 'tend to bring about ... an optimum level of production'. However, this chapter will not dwell on the implications which follow from this more radical idea (which is fully discussed in Milgate, 1982). Instead, our aim will be to elucidate the theoretical underpinnings of
the members of the orthodox market mechanism group, and thence to analyse their debates with various imperfectionists -- examining as we proceed the extent to which the imperfectionist position in any sense reflects Keynes's contribution.

In section 1 of this chapter we examine the various interpretations which may be placed on the notion of a 'self-adjusting market', particularly with respect to Keynes's own view of the market mechanism and the imperfectionist view. In section 2, one of the most prominent and influential of imperfectionist arguments (that unemployment may be attributed to rigid or sticky money wages) is exposed to Keynes's own arguments on the movement of money wages. Finally, in section 3, we examine the debate over the natural rate/rational expectations hypothesis, a debate in which the theoretical poverty of the imperfectionist position has been starkly revealed.

1. Self-adjustment and the market mechanism

The notion that the study of the economic system presupposes an autonomous, law-governed market mechanism is as old as economics itself. From Adam Smith to the present day, economists have been trying to reveal the forces which regulate the operation of the market mechanism and, consequently, to provide an account of the results which those forces tend to produce in the economic system. Indeed, it can be said with some confidence that all the most important doctrinal disputes in the history of the discipline have been conducted not over whether there are systemic and persistent forces at work in the economy, but rather over what these forces may be. The decline of the classical surplus theory of value and distribution and its replacement by the marginalist theory of demand and supply is, of course, the most prominent example of a change in the characterisation of the operation of the market mechanism. But the really interesting question in the context of the analysis of unemployment concerns the interpretation of Keynes's challenge to the orthodox position on the market mechanism.

It is well known that Keynes not infrequently couched general statements of his opposition to the orthodox conception of the market mechanism and the notion of self-adjustment in terms that were, at best, somewhat ambiguous. Very early on in the General Theory, for example, one reads that the traditional doctrine is 'equivalent to the proposition that there is no obstacle to full employment' (Keynes, 1973, vol. 7, p. 26; italics added; but see also vol. 14, p. 26). Just one year before the publication of the General Theory, Keynes told a radio audience that he disputed the idea that 'the economic system is, in any significant sense, self-adjusting' (Keynes, 1973, vol. 13, p. 467). It is obviously crucial to understand correctly the meaning of such statements. Broadly speaking, two views have prevailed. The first of these holds that the statements should be taken to imply that there are no automatic, self-adjusting forces at work in the economy at all: 'A theory of unemployment is necessarily, inescapably, a theory of disorder' (Shackle,
The second holds that while there are underlying forces promoting self-adjustment towards full employment, the operation of these forces is disturbed by the presence of certain frictions or rigidities. Neither view is satisfactory.

The first reading can be eliminated readily enough. The strange supposition that Keynes's analysis of unemployment embodies the idea that there are no systematic forces at work in the economic system (i.e. that the notion of the very existence of a systematic market mechanism, however defined, was itself rejected by Keynes) is contradicted again and again throughout the course of the General Theory. One can only wonder at what nonsense, according to this reading, Keynes must have been thinking when he wrote of 'the economic machine' (Keynes, 1973, vol. 7, p. 50) and of unemployment being the outcome of 'natural tendencies' (ibid., p. 254), or when, having drawn attention to the innumerable cross-currents at work in the economic system at any given moment, he held that the components of effective demand were 'useful and convenient to isolate' because 'if we examine any actual problem along the lines of ... [that] schematism, we shall find it more manageable; and our practical intuition ... will be offered a less intractable material upon which to work' (ibid., p. 249). Indeed, the passage quoted at the beginning of this paper, though coming from the drafts of the General Theory, makes it perfectly clear that Keynes was never in any doubt about the presence of automatic forces in a market economy.

If, therefore, we must conclude that Keynes did not reject the notion of the market mechanism and the related idea of self-adjustment in its most general setting; then, there would seem to be a prima facie case for the second interpretation of the remarks cited above: namely, that since under the normal operation of the market mechanism self-adjustment promotes the full employment of labour, the essence of Keynes's position was to focus attention upon the consequences of interferences or 'obstacles' to this process. This, of course, the view which has dominated the literature, and it is the basis of all imperfectionist analyses of unemployment. However, this reading of Keynes on the notion of self-adjustment, though more widely accepted, is no more firmly grounded than the first.

Let us consider, to begin with, the point in the General Theory where Keynes states that orthodox theory pre-supposes that there is no 'obstacle' to full employment — for at first sight this appears to provide some textual evidence upon which to base an imperfectionist reading. Now, if this is to be taken as...
an accurate reading of Keynes, then one would expect to find immediately following it a catalogue of such 'obstacles'—frictions and rigidities which, on this reading, would disturb the underlying tendency towards full employment. Unfortunately, in the very next sentence one finds Keynes drawing an entirely different implication from his statement than any that would be required to substantiate an imperfectionist reading. For instead of deferring to 'obstacles', Keynes states forthrightly: 'this is not the true law' (Keynes, 1973, vol. 7, p. 26). This can be read in only one way: that the orthodox doctrine that there is an underlying tendency towards full employment is not a true statement of the general tendencies inherent in the operation of the market mechanism. Indeed, this conclusion is highlighted a few pages further on when Keynes observes that 'it may well be that the classical theory represents the way in which we should like our Economy to behave ... but to assume that it actually does so is to assume our difficulties away.' (Ibid., p. 34; see also p. 16).

In those passages where Keynes mentions explicitly the notion of self-adjustment, the textual evidence to support an imperfectionist reading is no more convincing. The customary circumstances in which Keynes raises this issue concern the self-adjustment of wages and the self-adjustment of the rate of interest. Since the former case (wage flexibility) will be examined in detail in the next section of the paper, we may concentrate here on the latter case—self-adjustment of the rate of interest.3

It is essential at the outset to define precisely the proposition to which Keynes objected. On this matter the General Theory is perfectly clear: 'the weight of my criticism', Keynes writes, 'is directed ... against the notion that the rate of interest and the volume of investment are self-adjusting at the optimum level.' (Keynes, 1973, vol. 7, p. 339, italics added). A little later, he observes:

for several millenniums, enlightened opinion held for certain and obvious a doctrine which the classical school has repudiated as childish, but which deserves rehabilitation and honour. I mean the doctrine that the rate of interest is not self-adjusting at a level best suited to the social advantage ... (Ibid., p. 351, italics added).

There is ample evidence here to suggest that when Keynes rejected the idea that economy is 'self-adjusting' he was rejecting a much more specific

3 It is worth remembering, in this context, that whenever Keynes outlined the basis of the orthodox view that there was a tendency towards full employment (the 'law' to which this passage refers) he invariably included as part of that statement the possibility of temporary deviations and interferences (see, e.g., Keynes, 1973, vol. 7, pp. 6, 8, 9, 16, 257, 279; vol. 13, pp. 485-7; vol. 14, pp. 363-4; vol. 29, pp. 97, 102). In this light, it is all the more difficult to understand how imperfectionist interpretations have gained such credibility at accurate readings of the text.

4 On this issue we are concerned exclusively with Keynes's views on self-adjustment. We will not here refer to the weaknesses of Keynes's theory, which derive from the presence of a traditional, interest elastic, investment demand function—which, once admitted, re-introduces the requirement of a 'sticky' interest rate.
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Doctrine than the general idea that the normal operation of the market mechanism tends to produce definite outcomes. For it is evident that Keynes was attacking the idea that there is a tendency for self-adjustment toward full employment (as the italicised sections of the passages quoted above confirm). In short, we must distinguish carefully, as Keynes sometimes failed to do, between two quite distinct propositions which, in the present context, we keep strictly separate:

(1) that the economy is a self-adjusting mechanism in the general sense, i.e., it produces definite outcomes;

(2) that the process of self-adjustment is explained by having recourse to the orthodox demand-and-supply theory of the market mechanism which attempts to specify which outcomes will be forthcoming.

Keynes's quarrel was with the second of these propositions, not the first. Indeed, the second proposition is just another way of stating the orthodox doctrine that in the long run there is a tendency for the market mechanism to produce full employment.

Returning to Keynes's remark that he rejected the idea that the economic system is, 'in any significant sense, self-adjusting' (quoted on p. 262 above), the key to its correct interpretation lies in that qualifying clause, 'in any significant sense.' For the 'significant sense' refers to full employment. What is being rejected here is not the general notion of self-adjustment but the orthodox theory of employment. The imperfectionists might wish to argue that Keynes should not have made such a claim (as Schumpeter, 1954, p. 624 and Leijonhufvud, 1973, p. 22, n. 1 have done), but the fact that he did so bears out our argument that the market mechanism and self-adjustment were basic to Keynes's alternative theory of unemployment.

Keynes's adherence to the general notion of self-adjustment is, perhaps, nowhere more clearly evident than in his discussion of the process through which planned saving and investment are brought into equilibrium. For here, although the theory of effective demand indicates that this self-adjusting process (i.e., the operation of the market mechanism as it affects employment) does not tend to produce those desirable outcomes that it was asserted to produce according to the orthodox demand-and-supply characterisation of the market mechanism, it is not to frictions and rigidities (or 'obstacles' to the normal operation of the market mechanism) that Keynes appeals for his results.

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4 See also Keynes, 1973, vol. 14, p. 26 and vol. 29, p. 97. This conclusion is further supported by Keynes's frequent substitution of the term 'self-fighting' for that of 'self-adjusting' (see, e.g., ibid., vol. 14, p. 118).

5 That, towards the end of the General Theory, Keynes states that his objection is against 'the theoretical foundations' of the orthodox school (Keynes, 1973, vol. 7, p. 339). See also the passage quoted in Chapter 1, p. 17 above.

Given these facts, the development of an imperfectionist interpretation of
the General Theory was doubly fortuitous from the point of view of orthodox
neoclassical analysis. In the first place, it provided the grounds for a rapid
absorption of ‘Keynesian’ economics into what could be held up to be a more
‘practical’ and ‘relevant’ version of the older orthodoxy.7 Secondly, and
probably most importantly, it eliminated the necessity of scrapping the entire
corpus of neoclassical theory; a course that would have been required had
the central message of the General Theory – that the normal operation of the
market mechanism will ensure neither the maintenance of, nor a tendency
towards the full employment of labour – been taken seriously. Of course, this
does not mean that the famous ‘neoclassical synthesis’ was entirely without
textual foundation. By skilfully focussing on the crucial weaknesses of the
General Theory, most notably the marginal efficiency of capital theory
of investment and Keynes’s unsatisfactory attempts to criticise the internal
logic of the classical theory of interest by means of liquidity-preference
theory, it was possible to present Keynes’s results as special cases, albeit
empirically relevant ones, of a more general theory.4

However, despite the apparent rigour and striking popularity of
imperfectionist approaches to ‘Keynesian’ economics in the immediate post-
war years, their ultimate reliance upon arbitrary inhibitions has proved to be
a central flaw. Once their prestige as the accredited theoretical foundation
for economic policy formulation began to falter with the manifest failure of
the policies they suggested in the late 1960s and early 1970s, authors who
advocated a more explicit long-run equilibrium approach to the study of
macroeconomic phenomena came to the forefront (see pp. 272-7 below). This
apparent turn-around in the climate of economic opinion, which has left
‘Keynesian’ economists confused and searching for ever more complicated
explanations, is, in fact, not at all surprising. For in truth there has been no
turn around at all. The only thing that has happened is that the underlying
orthodox theoretical foundations of the imperfectionist position have been re-
asserted; this has re-established the dominance of analytical coherence over
arbitrary ‘realism’. Once the imperfectionist position, whose only attraction
was the fact that it somehow seemed to be talking about well-defined and
easily observable economic phenomena, ceased to reflect the behaviour of the
economic system, the underlying orthodox analysis of the relationship
between employment and the operation of the market mechanism was bound

1 Indeed, Hicks made just such a claim in his 1937 ‘Mr Keynes and the Classics’ paper, where
he incorrectly attributed to Keynes’s analysis of unemployment the postulate of money-wage
rigidity. In that paper Hicks argued that ‘this is the kind of change ... we ought to be making all
the time in response to changing facts’ (Hicks, 1937, p. 147). It is difficult to know exactly what
‘facts’ had changed, since institutional wage determination had evolved in Britain from at least
the second half of the nineteenth century; an attempt to resolve a demand-and-supply explana-
tion of wages on the grounds that once-upon-a-time this was so, is rather dubious.

2 Thereby implicitly, and somewhat disingenuously, accusing Keynes of exaggeration in the
to re-surface — if only by virtue of its greater theoretical consistency (see, for example, Friedman, 1974, for a cogent claim to this effect).

In the remainder of this paper we will consider in detail the failings of the imperfectionist argument, both as an interpretation of the General Theory and as a critique of and alternative to the orthodox theory of employment itself. In order to make the discussion manageable, we will focus on two examples of imperfectionist analysis: the hypothesis that ‘sticky’ wages cause unemployment and the hypothesis that ‘incorrect expectations’ are the culprits.

2. Wages and the market mechanism

The IS-LM system, as well as some other interpretations of the General Theory, is built around the idea that with a fixed money supply, inflexible money wages prevent the attainment of full-employment equilibrium. For a closed economy, the system can be summed up in three equations:

\[ Y = r(T) - G \]  
\[ M \equiv (r(T) + k(T) \]  
\[ Y = r(T) \]  

Equation 2.1 is the IS curve, income \((Y)\) being determined by investment, itself a function of the rate of interest \((r)\), and autonomous expenditures \((G)\). Equation 2.2 is the LM curve, \(M\) being the nominal value of the money stock, and \(r\) the price level. The demand for the real money stock \((M/P)\) is the sum of the demands for money arising from speculative motives \((k(r))\), and from transactions and precautionary motives combined in \(k(T)\). Equation 2.3 is the aggregate supply curve. This is derived from the condition of labour market equilibrium and an aggregate production function determining the relationship between employment and output.

Labour market equilibrium is defined by:

\[ S(P, N) = W = P \cdot D(N) \]  

where \(W\) is the money wage rate, \(S\) the labour supply function, \(D\) the labour demand function and \(N\) the amount of labour. If we define

\[ S(P, N) \]  

\[ S(P, N) \text{ as } P \cdot L(N) \]  

\[ S(P, N) \text{ as } P \cdot L(N) \]  

Clearly, the General Theory itself should not be regarded as definitive in all respects. Yet the imperfectionists have used it to give respectability to their arguments, and it seems worthwhile to check the accuracy of their claims against the original.

\[ ^{10} \text{See, e.g., those discussed by Magnani in Chapter 14 above.} \]

\[ ^{11} \text{Government deficit spending would be included here.} \]
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(i.e. the price level enters the labour supply function as a multiplicative factor, and money wages are fully flexible in response to price changes) then the labour market clears at an equilibrium real wage:

\[ D(N) = W/P = L(N) \]  

(2.6)

If, on the other hand, the money wage \( W \) is fixed

\( \delta S/\delta P = 0 \) or sticky \( D(N) > \delta S/\delta P > 0 \),

labour market 'equilibrium' does not necessarily imply full employment. The latter depends on the demand conditions expressed in equations 2.1 and 2.2.

Combining the labour market equilibrium condition (equation 2.4) with an aggregate production function

\[ Y = g(N, K) \]  

(2.7)

where \( K \) is the quantity of capital, permits the derivation of the aggregate supply function (equation 2.3). As long as the money wage is 'sticky' this will have a positive slope \( \delta S/\delta P > 0 \); the elasticity of the function being dependent not only upon the characteristics of the aggregate production function, but also upon just how 'sticky' the money wage might be. For example, if the money wage is perfectly flexible then equation 2.3 can be replaced by \( Y = Y_0 \), where \( Y_0 \) is the full-employment level of output associated with the market-clearing real wage.

Leaving aside the manifest analytical weaknesses of this straightforward modification of orthodox demand and supply theory (not the least of which is its use of the discredited marginal productivity theory of distribution in the description of the labour market), a question which arises immediately relates to the extent to which this model faithfully represents Keynes's explicit discussion in the General Theory of the relationship between money wages and the level of employment. This question is rendered all the more interesting given the fact that Keynes's orthodox predecessors had not failed to notice that money wage rigidity would act as an obstacle to the tendency they believed the market mechanism possessed to promote full employment (see, for example, Marshall, 1920a, pp. 709-10, and Pigou, 1933, pp. 252-5).

There are two closely related aspects of this question that call for attention. The first concerns Keynes's views on the role of any hypothesis about money-wage rigidity in his own explanation of unemployment, and the second the role that such an hypothesis would play in what he termed 'classical' theory.

The rationales for the attribution of an assumption of money-wage rigidity to Keynes (see, for example, Hicks, 1937; Modigliani, 1944; Haberler, 1958, p. 242; Barker, 1980) derives from two rather different sources. On the one hand, the trend towards interpreting the General Theory along wholly
orthodox lines imposed the theoretical necessity of watering down, at least as far as short-run analysis was concerned, the central conclusion of neoclassical economics: that the operation of the price system might tend to establish, relatively swiftly, the full employment of 'factors of production'. On the other hand, some of Keynes's remarks on the subject of money wages in the *General Theory*, when taken out of context and coupled with the erroneous conviction that Keynes's analysis of employment 'must' have been a modification of orthodox neoclassical theory designed to bring it into closer conformity with reality, have been used to bolster this reading.

Unfortunately (at least from the point of view of the proponents of this reading), Keynes is perfectly clear in the *General Theory* that his analysis of unemployment does not depend upon any assumption of wage rigidity. For although when Keynes conducts his reader through a summary of the essentials of his own theory (in chapter 3) he does assume that 'money wage[s] ... are constant per unit of labour employed', he immediately adds a crucial warning: this simplification, 'is introduced solely to facilitate the exposition', the argument is precisely the same whether or not money wages ... are liable to change' (Keynes, 1973, vol. 7, p. 27, italics added). Indeed, chapter 19 of the *General Theory* is concerned exclusively with the case of money-wage flexibility, and Keynes does not reach there the conclusion that this flexibility tends to establish the full employment of labour (see, for example, ibid., pp. 264-1, 262, 265 and 278) as he would have done had it been the case that his analysis was an imperfectionist one based on the hypothesis of money-wage rigidity.

What is more, Keynes's celebrated remark to the effect that 'we must have some factor, the value of which in terms of money is if not fixed, at least sticky' (ibid., p. 304, italics omitted), which follows hard on the heels of a statement that workers are disposed to resist a reduction in their money-rewards (ibid., p. 303), is no more supportive of the money-wage rigidity interpretation of his analysis discussed in the previous paragraph. For the requirement of stickiness to which Keynes alludes here is adduced not to provide an explanation of unemployment, but to ensure stability in the general level of prices - it is required, writes Keynes, 'to give us ... stability of values in a monetary system' (ibid., p. 304). The argument leading up to this conclusion is sketched by Keynes in chapter 21 of the *General Theory*. It warrants careful consideration.

Starting from the proposition (ibid., p. 294; see also p. 302) that the general level of prices depends essentially upon two independent variables - the volume of output (i.e. employment) and 'costs' (under appropriate

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12 Indeed, a number of imperfectionists, alerted by Leijonhufvud's warning that attributing a money-wage rigidity hypothesis to Keynes was more than a little questionable (see e.g., Leijonhufvud, 1971) have searched out other rigidities. Leijonhufvud himself seems to have chosen the rate of interest (Leijonhufvud, 1971, p. 38).

13 This point is elaborated in Milgate, 1982, ch. 7.
assumptions, the wage-unit)\textsuperscript{14} – Keynes enunciates what he somewhat jestingly calls a ‘Quantity Theory of Money’:

So long as there is unemployment, employment will change in the same proportion as the quantity of money; and when there is full employment, prices will change in the same proportion as the quantity of money (ibid., p. 296, italics in original).

There are, however, a number of important qualifications to this statement\textsuperscript{15} – one of which is relevant here for it leads up to Keynes’s remark on the connection between price stability and the behaviour of money wages. This concerns the possibility that money wages may tend to rise with increases in the quantity of effective demand (the change in which, for simplicity, we shall assume is proportionate with a change in the quantity of money) below full employment (ibid., pp. 295 and 301-2).

The latter possibility implies that there may exist positions of less than full employment where increases in effective demand (i.e. the quantity of money under our assumption) give rise to an increase in money wages, and hence the price level, as well as to an increase in output. Keynes then draws a distinction between these situations – he calls them ‘positions of semi-inflation’ (ibid., p. 301) – and situations of full employment where every increase in effective demand is translated into an effect on prices, he calls this ‘absolute inflation’ (ibid., p. 301). Thus:

when a further increase in the quantity of effective demand produces no further increase in output and entirely spends itself on an increase in the cost-unit fully proportionate to the increase in effective demand, we have reached a position which might be appropriately designated as one of true inflation (ibid., p. 303).

Now, it is around this critical level that there exists the asymmetry between inflation and deflation of which Keynes often spoke,\textsuperscript{16} and in relation to which his remark about ‘stickiness’ was made. For if money wages were to rise and fall with every expansion or contraction of effective demand, the price level would be violently unstable. In particular, every contraction of effective demand would so disturb the price-level (and note that the process is a cumulative downward spiral in this case) that there would be no point of price stability ‘until either the rate of interest was incapable of falling further or wages were zero’ (ibid., p. 304). The predisposition of workers not to accept reductions in money wages, the ‘stickiness’ to which Keynes refers,

\textsuperscript{14} This will be the case when, taking technique and equipment as given, all elements of cost change in the same proportion as the wage-unit (see Keynes, 1973, vol. 7, p. 295).
\textsuperscript{15} The most significant here is that the level of effective demand changes in proportion to the quantity of money. This assumption will be retained throughout the rest of our discussion of this point (see Keynes, 1973, vol. 7, pp. 295-9 for a discussion of the effects of relaxing it).
\textsuperscript{16} Where expansions in the quantity of money above this critical level affect money wages and hence prices, whereas contractions below it reduce output and employment and need not necessarily alter the price-level.
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thus explains the asymmetric behaviour, in terms of price versus output responses, above and below this 'critical level' (ibid., pp. 291 and 304) in reaction to changes in the quantity of money (which are to be associated with proportional changes in effective demand):

the long-run stability or instability of prices will depend on the strength ... of the wage-unit (or, more precisely, the cost-unit) ... (ibid., p. 309).

The 'stickiness' is not used to explain the level of unemployment, but rather is an explanation (however limited) of the relative stability of the value of money in an economy in which output is not normally at the full-employment level.

We should not leave this subject without also noting that Keynes was alert to the proposition we have already stated in this section of the paper. Namely, that far from being an alternative to the neoclassical theory of employment, the money-wage rigidity hypothesis is part and parcel of that very theory. 'Classical theory', wrote Keynes, 'rest[s] the supposedly self-adjusting character of the economic system on an assumed fluidity of money wages; and, when there is rigidity, it lays [sic] on this rigidity the blame for maladjustment' (ibid., p. 257, see also pp. 78 and 16). This theory of unemployment was, according to Keynes, the orthodox one (see also Keynes, 1973, vol. 1, pp. 25 and 43, vol. 2, p. 97, for further confirmation of this point). Unsuspecting generations of students have been asked to accept that the very authors who claimed to have made such a radical break with the 'classical' school and its 'habitual modes of thought' actually fell back on what he knew to be the orthodox explanation of unemployment.17 This fraud is all the more easily exposed now that we can appreciate that Keynes's analysis of unemployment does not depend upon any such imperfectionist arguments (see Chapters 1, 2 and 6 above).

Thus we arrive at the central conclusion of this section. It was not Keynes's view that his explanation of employment (based on the operation of the principle of effective demand) required an hypothesis of money-wage rigidity. Indeed, far from being 'Keynesian', such an explanation was, according to Keynes himself, completely 'classical'.

3. Expectations and the market mechanism

The analysis of the co-existence of inflation and unemployment posed a serious problem for IS-LM analysis. In a situation in which money wages, the price level and the quantity of money are increasing, differential

17 One cannot help but imagine that Keynes was contemplating his earlier self, so to speak, when he remarked in the General Theory that: 'a classical economist may sympathise with labour in refusing to accept a cut in its money wage, and he will admit that it may not be wise to make it in conditions which are temporary, but scientific integrity forces him to declare that this refusal is, nevertheless, at the bottom of the trouble' (Keynes, 1973, vol. 7, p. 16).
variations in the respective rates of increase of these variables will be sufficient to precipitate the changes in the real wage and the real value of the quantity of money required for the establishment of a full-employment equilibrium in the labour market (a fact noted by Keynes himself; 1973, vol. 7, pp. 9 and 15). Thus the popular inhibition to the operation of the market mechanism, sticky wages, upon which much imperfectionist analysis of unemployment was grounded, is no longer operative. However, instead of alerting the proponents of such models to the inherent weakness in the imperfectionist position—a weakness derived from sharing the same view of the market mechanism as the orthodox demand-and-supply school—the imperfectionists have sidestepped the problem. Not unexpectedly, 'new' inhibitions to the operation of the market mechanism have been 'discovered': real wage resistance (Hicks, 1974, ch. 3), interest rate inflexibility (Leijonhufvud, 1971, p. 38), and mark-up pricing behaviour (Tobin, 1980, p. 38).

The opening created by such ad hoc theorising was exploited to great effect by Friedman (1968) and Phelps (1967 and 1968). These authors were able correctly to point out (given that so-called 'Keynesians' and 'monetarists' accepted the same characterisation of the market mechanism) that the flexibility present in an inflationary environment could not only restore the power of the market mechanism to generate full employment, but also that the uncertainty engendered by that same inflationary experience was sufficient to explain a trade-off between inflation and unemployment in the form of a short-run Phillips curve. Of course, the long-run Phillips curve is vertical at the point where involuntary unemployment is zero—i.e., either at full employment or at the natural rate of unemployment (its modern analogue).

The argument is straightforward. Given that relative prices and quantities are determined by the mutual interaction of the forces of demand and supply, then if the general level of future prices is perfectly anticipated the economy will settle down in a steady-state equilibrium with no involuntary unemployment. Unexpected deviations of actual prices from their expected levels will, however, disrupt equilibrium in, according to Friedman, a predictable way. If nominal prices were higher than expected, unemployment would be lower than the natural rate. If nominal prices were lower than expected, unemployment would be higher than the natural rate. Both effects are, of course, 'temporary'. They give the classic Phillips curve form to the short-run relation between unemployment and the rate of change of the general level of prices. It is important to note that the part of the argument which holds that, in the long run, the Phillips curve is vertical has been overwhelmingly successful. For example, Modigliani was forced to concede that

a specific implication of that model, namely that the long-run Phillips' curve is vertical, or, in substance, that in the long-run money is neutral... by now does not meet serious objection from non-monetarists, at least as a first approximation (1976, p. 119).
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Of course, this measure of agreement is not surprising. It confirms the fact that the imperfectionist and orthodox analyses of unemployment are, ultimately, the same.

All scope for a thorough-going theoretical critique of the orthodox pre-Keynesian position having thus vanished, the only path that was left open for the imperfectionist critics was to dispute the central policy conclusion Friedman drew from his analysis - viz. an efficient government policy to promote stable prices was all that was required to ensure that the market mechanism would move the economy to a position corresponding to the natural rate of unemployment (see, for example, Friedman, 1968 and 1980). This path, to the credit of their practical intuition rather than their logical consistency, most imperfectionists were swift to follow. Modigliani, for example, felt the policy conclusion to be "of little practical relevance" because it was based on too optimistic a view of the empirical evidence (Modigliani, 1976, p. 119).

The adequacy of the defence against Friedman's initial challenge to the imperfectionist position will be returned to later. It is first necessary to consider some more recent arguments which add a further dimension to the orthodox attack on the imperfectionist position. The arguments in question revolve around the hypothesis that the formulation of expectations is 'rational'. The significance of this challenge is not difficult to grasp: it attempts to remove "uncertainties and expectations" from the catalogue of imperfections upon which the classical analysis of unemployment is based.

The issues at stake in this book may be revealed by applying a simple extension of the model set out in the previous section so as to include anticipations. In this case, the deviation of output must be expressed as a deviation from that level associated with the natural rate of unemployment; a deviation which will be eliminated when expectations are perfectly fulfilled. Any residual deviation from this position arises solely from random shocks. The following model is adapted from the analyses developed by Sargent (1973) and Sargent and Wallace (1976):

\[
\begin{align*}
y_t &= r_t - (\rho_t - \rho_0) + \varepsilon_t \\
y_{t-1} &= b_1 y_{t-1} + b_2 g_t + \varepsilon_2 \\
m_{t-1} &= e_1 y_{t-1} + e_3 + \varepsilon_3
\end{align*}
\]

where \(y\), \(p\) and \(m\) are the natural logarithms of real national income, the general level of prices, and the (exogenously given) money supply respectively. The nominal interest rate (not a logarithm) is denoted by \(r\); \(g\) is a vector of exogenous demand variables (say, government expenditures). The parameters \(\varepsilon_0\), \(\varepsilon_0\), \(\varepsilon_1\), and \(\varepsilon_3\) are assumed to be scalars, while \(b_1\) is a vector conformable to \(g\). The variables \(\varepsilon_3\) and \(\varepsilon_3\) are mutually uncorrelated, normally distributed random variables. The variable \(\rho_t\) is the public's
expectation of $p_t$ at $t-1$; $\bar{Y}$ is the level of output associated with the natural rate of unemployment.

Equation 3.1 is the aggregate supply schedule in the form associated with the natural rate hypothesis. Equation 3.2 is the IS curve, relating income to the expected real interest rate and to exogenous expenditures. Equation 3.3 is the LM curve, or portfolio balance condition, relating the real value of the stock of money to the transactions and portfolio demands for real money balances.

Other than the random variables, the model contains four unknowns, $y_t$, $\rho_t$, $\gamma$, and $\rho$. To complete the system some hypothesis must be advanced on the formation of expectations.

For example, the model might be closed with the supposition that price expectations are formed by the simple adaptive or extrapolative scheme:

$$p_t = \lambda p_{t-1}$$

(3.4)

It may then be shown (see appendix for derivation) that:

$$y_t - \bar{Y} = q \left( m_t - m_0 \right) + d_1 (y_{t-1} - \bar{Y}) + d_2 \left( 1 - (2-1) \rho_{t-1} \right) + \mu$$

(3.5)

where $d_1$, $d_2$, and $d_3$ are simply redefined parameters, and $\mu$ is a combination of error terms.

It is evident from equation 3.5 that despite the aggregate supply function being based on the natural rate hypothesis, an important role for a discretionary monetary and fiscal policy remains. By selecting appropriate values for $m$ and $q$, the authorities can attempt to minimise the fluctuation of actual output around its full-employment level (or, more strictly, its natural rate of unemployment). Active policies are on the agenda because of the manner in which expectations have been supposed to be formed (equation 3.4). The adaptive expectations hypothesis implies that past mistakes are only slowly corrected, and it is the need to overcome the unfortunate consequences of this 'stickiness' in the process of correction that provides the rationale for government intervention—a very familiar theme indeed in imperfectionist arguments.

But what is the rationale for the adaptive rule on the formation of expectations (equation 3.4) which has led to this conclusion? If individuals blindly followed this rule, then they would soon discover that they were systematically wrong. 'Wrong', in the sense of making systematic expectations errors. This conflicts with the underlying proposition that individuals attempt to make rational utility-maximising and profit-maximising decisions, albeit (typically) with only a limited amount of information available to them. Of course, predictions can only possibly be improved if the economic variables under consideration are subject to determination by systematic forces; i.e. if the market mechanism operates according to
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systematic and persistent 'laws'. As we have seen, the imperfectionists agree
that this is the case by defferring to the forces of demand and supply.

The hypothesis of rational expectations, unlike that of adaptive expecta-
tions which provides the basis for an imperfectionist position, takes these
(shared) underlying propositions seriously. The rational expectations school
identifies the forces at work in the market mechanism with those outlined in
Walrasian general equilibrium theory; i.e., the forces of demand and supply.
Notice how a theory has simply been taken to be 'objective reality'. As Muth,
in the case of predictions by firms, argued:

The hypothesis can be re-phrased a little more precisely as follows: that expect-
tations of firms (or, more generally, the subjective probability distribution of
outcomes) tend to be distributed, for the same information set, about the pre-
diction of the theory (or the 'objective' probability distribution of outcomes)
(Muth, 1961, p. 315).

The consequence of making this suggestion about expectation formation
is that for any given prediction of, say, the price level:

\[ \beta = E[p | \phi_\alpha] \] (3.6)

where \( E \) is the expected value operator and \( \phi_\alpha \) is the set of information
concerning \( \beta \) at time \( t \). The expected value of the difference between prediction
and event is zero, that is:

\[ E[p - \beta_t | \phi_\alpha] = 0 \] (3.7)

When this hypothesis is introduced into the discussion of unemployment,
money and inflation (see, for example, Walters, 1971; Lucas, 1972a and
1972b; Sargent, 1973), the consequences are dramatic. They can be seen if,
following the procedure adopted by Pesaran (1982), we replace equation 3.4
with equation 3.6 and complete the model by assuming that expectations are
formed rationally (in the sense of equation 3.7). Then, remembering that the
random variables have a zero mean, taking expectations of equations 3.1, 3.2
and 3.3, gives:

\[ \gamma_t = \bar{y}_t \] (3.1a)

\[ \gamma_t = b_0 \left[ \gamma_t - (\phi_t | \phi_{\alpha, t}) \right] + b_0 \gamma_t \] (3.2b)

\[ m_t - p_t = c_0 \gamma_t + c_0 \gamma_t \] (3.3a)

where \( \gamma_t = E[y_t | \phi_{\alpha, t} \), \( \gamma_t = E[r_t | \phi_{\alpha, t} \) and so on.

By subtracting these equations from 3.1, 3.2 and 3.3 respectively, the unan-
ticipated change in endogenous variables may be found. For example, subtrac-
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ting equation 3.1a from 3.1 gives:

\[ \gamma_i - \gamma^f = a_1(p_i - p^f) + \varepsilon_i \]

and so on. Now, since \( \gamma_i = \gamma^f \) (equation 3.1a) and \( E(p_i - p^f | \psi_{\alpha}) = 0 \), the deviation of actual income from its natural level may be shown (see appendix) to be:

\[ \gamma_i - \gamma^f = \varepsilon_1(m_i - m^f) + \varepsilon_2(g_i - g^f) + \eta \]  (3.8)

where the \( \varepsilon_i \)'s are combinations of parameters and \( \eta \) is a combination of error terms.

The extent of the influence of monetary and fiscal policy upon the level of activity is revealed in equation 3.8 to be dependent upon the deviation of the actual policy from the policy which was expected to rule. If government policies follow an unpredictable course then they can continue to influence the levels of output and employment. But if the government pursues any consistent monetary and fiscal policy, all effects on activity disappear (since individuals can predict policies in the same way as they can predict other economic variables).

Suppose, for example, that current monetary and fiscal policy is based upon last year's money supply, fiscal stance and level of output, plus a normally distributed random element. That is, suppose:

\[ m_i = f_m(m_i-1, g_i-1) + \varepsilon_m \]  (3.9)

and

\[ g_i = f_g(m_i-1, g_i-1) + \varepsilon_g \]  (3.10)

Since individuals and firms can form rational expectations of government policies:

\[ m_i = E(m_i | \psi_{\alpha}) = f_m \]  (3.11)

\[ g_i = E(g_i | \psi_{\alpha}) = f_g \]  (3.12)

Substituting equations 3.11 and 3.12 into equation 3.8 gives:

\[ \gamma_i - \gamma^f = \varepsilon_1 \varepsilon_m + \varepsilon_2 \varepsilon_g + \eta \]  (3.13)

That is, the deviation of actual output from its full-employment level (natural rate) is simply a sum of random events. Only random elements in government policy can have any impact – and precisely what effect cannot be known in advance. There is no role for systematic monetary and fiscal policies. The imperfectionist position which relied on the influence of uncer-
tainty and expectations to provide a rationale for interventionist policies has disappeared.

The striking reaffirmation of the laissez-faire position that the above argument entails should have come as no surprise to the imperfectionists. It arises simply from following through in a clear and consistent manner the logic of the presupposition of imperfectionist analysis: that the market mechanism is ultimately governed by the 'laws' of demand and supply. However, the rational expectations hypothesis has been widely criticised in imperfectionist circles. Such criticisms fall into two broad groups. First, criticisms of the conclusions drawn with respect to monetary policy by the rational expectations variant of the orthodox market mechanism school; and second, criticisms of the hypothesis that expectations are formed rationally. Each may be taken in turn.

The rational expectations position has been associated with propositions concerning the neutrality of money—in the sense that the real equilibrium of the system is independent of monetary policy—which serves only to determine nominal magnitudes. Lucas. However, as was pointed out by Samuelson (1958), different monetary policies, even if fully anticipated, will have consequences for real variables—primarily through portfolio balance and substitution effects. Buiter (1980) advances these considerations as a critique of the rational expectations school, but it is a critique of limited significance. Samuelson's argument amounts to saying nothing more than that different monetary policies will result in the economy being at different full-employment equilibria. But there is no criterion for choosing between one full-employment equilibrium and another, the fact that strict monetary neutrality does have a place is of little importance. Indeed, it is no more significant than noticing that multiple equilibria are entirely possible anyway.

The second set of objections to the rational expectations model involves primarily a resurrection of familiar imperfectionist themes:

1. Prices are determined in non-competitive markets by a mark-up process (Modigliani, 1977, p. 120; Tobin, 1980, p. 35; Buiter, 1980, p. 41);
2. the adjustment of wages and relative prices to their equilibrium levels is sluggish (Tobin, 1980, pp. 25-7; Buiter, 1980, p. 41);
3. neither labour markets nor individuals are sufficiently homogeneous to permit the simple derivation of rational expectations results (Modigliani, 1977, p. 121; Tobin, 1980, p. 26);
4. empirical evidence suggests that the economy is not typically in a natural rate equilibrium (Modigliani, 1977, pp. 119 and 121; Buiter, 1980, p. 41).

Once again, the pragmatic appeal of these observations should not be permitted to disguise the fact that they in no way constitute an alternative explanation of the underlying relationship between the operation of the market
mechanism and the determination of the level of employment. Rather they are additional considerations to be incorporated into the old orthodox theory to give it a more plausible empirical content. Indeed, if it really is the case that prices and quantities are not determined in accordance with the generally accepted principles of demand and supply, then it is that very theory of the operation of the market mechanism which should be abandoned. However, the unquestioning acceptance of this conception of the market mechanism as applicable to long-run (or equilibrium) analysis, and the discussion of all relevant considerations in terms of deviations from that long-run analysis not only involve the acceptance of the orthodox model of the market mechanism but also consign the analysis of unemployment to an underworld of ad hoc hypotheses. The end of the doctrine of laissez-faire, of which Keynes himself spoke so optimistically over fifty years ago, will not occur until economists realise that the market mechanism is not explained by demand-and-supply theory. And this will not be easy; this homely but inadequate theory has so dominated the discipline that whole generations of economists, industrialists, bankers, politicians and journalists have grown up believing it to be not just a theory about the real world, but the real world itself. Unfortunately, however, no such ultimate truth was discovered when the familiar demand-and-supply curves were first drawn on the back of an envelope.

4. Conclusion

We can now draw together the central themes of this paper. The orthodox neoclassical theory of value, distribution and output characterises the market mechanism as tending always to ensure the full utilisation of 'factors of production', including labour. Therefore the orthodox neoclassical theory of unemployment is based on the imposition of arbitrary imperfections onto the general equilibrium theory of demand and supply. The arguments contained in the present paper suggest that this analysis of the relationship between unemployment and the market mechanism is unsatisfactory on four main counts:

1. The attempt to relegate empirical regularities into the secondary class of imperfections (of frictions and rigidities) completely ignores the fact that such regularities should be part and parcel of the characterisation of the normal operation of the market mechanism (not of its abnormal operation as the imperfectionist position requires).

2. There exists a perfectly satisfactory explanation of the relationship between unemployment and the market mechanism, in the form of Keynes's principle of effective demand, which does not invoke arbitrary imperfections to explain unemployment.
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3. The appeal to unknowable imperfections – uncertainty, disappointed expectations, 'conjectures' and the like – serves to deprive economic analysis of all definite content, thus reducing the discussion of economic policy to the status of guesswork and negating the single most important achievement of economic theory during the past two hundred years – namely that the market mechanism is governed by systematic, objective forces.

4. There are fundamental analytical shortcomings to neoclassical theory even when applied to the analysis of equilibrium (see, for example, Garegnani, 1970 and Chapter 7, above; Eatwell, 1982) which suggest that the imperfectionist superstructure is in any case erected on crumbling foundations.

The two examples from the multitude of imperfectionist arguments upon which we have focused, the hypothesis that money wages are inflexible and the debate over the natural rate of unemployment/rational expectations position, illustrate clearly the foundations which are common to both the orthodox market mechanism school and the imperfectionists.

The abandonment of these common foundations sweeps away both the theory of employment of the market mechanism school and the theories of unemployment common to both the imperfectionists. This does not mean that some of the 'empirical regularities observed by the imperfectionists are now to be ignored. Rather their importance should be assessed in the context of the more satisfactory theory of unemployment which is to be found in the characterisation of the market mechanism provided by Keynes's theory of effective demand and the supply approach to the analysis of value and distribution.

Appendix
Combining 3.2 and 3.3:

\[ p = m_0 + d_1 \gamma + d_2 \varepsilon + d_3 (P - P_{t-1}) + \frac{\xi}{P_{t-1}} \varepsilon_2 - \varepsilon_3 \]  

(A.1)

where

\[ d_1 = \frac{\xi \varepsilon_1}{P_{t-1}} \]

\[ d_2 = -\frac{(\xi \varepsilon_2 + \xi)}{P_{t-1}} \]

and \[ d_3 = -\varepsilon_1 \]