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**THE TEXT BOOK BLACK MAGIC,
OR, HOW TO MAKE THE KEYNES THEORY DISAPPEAR**

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ABSTRACT

This paper looks into the question of how it can come about that, not uncommonly, contemporary macro textbooks start their exposition in Keynesian fashion, but end up presenting an essentially classical account. Using a typical textbook for illustration, our diagnosis is that when the AD/AS model is introduced into the discussion, then things go wrong. The AS analysis rehabilitates a pre-Keynesian conception of the working of the labour market, while uncritical and ill-informed use of the AD function effectively 'tames' aggregate demand by making it manipulable in such a way as to accord with conditions of labour supply. Not surprisingly, Keynes's vision of the functioning of the macro system gets lost along the way.

KEY WORDS:

**AD/AS MODEL; LABOUR MARKET
- KEYNESIAN AND CLASSICAL MODELS**

JEL CLASSIFICATION:

A22, A23, B22, E12, E13

Introduction

An interesting phenomenon, one on which we have previously commented [Grieve (1996), (1998)], is the propensity of some mainstream macro textbooks to begin their exposition with a straightforward account of the Keynesian theory of effective demand but to finish up with a very different story - one which revives an essentially pre-Keynesian, 'classical' perspective. By the end of the day we may find that the Keynes theory has, to all intents and purposes, been conjured away.

We thought it might be revealing to trace how, step by step, a typical textbook manages this trick. The representative text we have chosen is Richard Froyen's *Macroeconomics: Theories and Policies*, which – now, 2009, into its ninth edition – has evidently proved to be a popular, and presumably influential, guide to macroeconomics.

It must be appreciated that while our discussion will be centred on Froyen's book, it should not be thought that that text is uniquely the subject of the critique developed in this paper. Essentially the same analysis as favoured by Froyen, using the AD/AS model, is presented by a number of recent macro textbooks – for instance, Mankiw (2000), Gärtner (2003), Gordon (2006). (In fact, some time back we examined no less than fifteen intermediate macro texts and found that a majority – twelve of them – employed the sort of treatment which is at issue.¹) So Froyen has been selected as representing a well-established *modus operandi* in the current teaching of macroeconomics.²

Froyen on basic Keynesian and classical models

In presenting his intermediate-level exposition of macroeconomic theory Froyen follows a well-trodden route. After the usual preliminaries regarding the relevant variables, their measurement and some historical background, the discussion proceeds by examination first of 'classical' (actually, *neoclassical*) macroeconomics (output and employment, money and prices) and then continues with the basic Keynesian model, this leading on to IS/LM, and

¹ It perhaps should be added that some other well-regarded texts [Blanchard (2003) and Dornbusch, Fischer and Startz (2004) may be cited] which, even though employing the familiar AD, AS terminology, present a significantly different – and much more acceptable – model than the more common one as favoured by Froyen.

² It is understood also that Froyen is a text of which use is made at GCU, Lahore.

illustrating the impact of monetary and fiscal measures in terms of that model. So far, this is a straightforward and unexceptionable account of the Keynesian theory of effective demand.

But before proceeding further in search of clues to the subsequent disappearance of the Keynes theory, we note in these early chapters something a bit odd, which we reckon relevant to our inquiry. While what is said about the basic Keynesian model is essentially unproblematical, Froyen's characterisation of the classical labour market hints at a significant theoretical oversight.

The standard neoclassical model of the labour market, as described by Froyen, shows labour demand and labour supply as functions of the real wage, and the point is made that the normal state of affairs - corresponding to the intersection of the demand and supply curves - is one of full employment. Describing the nature of the system thus modelled, Froyen states (p.49):

In general, the foregoing portrayal of the labor and product markets can be characterized by the term 'auction market'. Labor and output are assumed to be traded in markets that are continually in equilibrium and in which all participants make decisions based on announced real wages and product prices. Two assumptions implicit in this classical representation of the labor market are as follows:

1. Perfectly flexible prices and wages
2. Perfect information on the part of all market participants about market prices

These two assumptions, essential for the nature of the classical equilibrium theory of employment and output, are the elements of the classical theory that Keynes attacked.

We don't need to spend time on the 'perfect information' assumption, a supplementary condition which, by excluding (New Classical) 'misperceptions', ensures that, with flexible prices, price changes produce the 'right' results. On the other hand, Froyen's focus on wage and price flexibility as the crucial classical assumption is significant for our investigation as it indicates the way the wind is blowing – i.e. as to how the Keynesian approach is going to be differentiated from the classical one.

But what also appears significant is the *omission* of any mention whatsoever of the fact that the classical theory of employment was underpinned by the presumption that aggregate demand could be treated as ‘tame’ – in other words that classical authors simply took it for granted (temporary difficulties of adjustment aside) that there was no cause for concern lest overall demand be insufficient to take up whatever volume of output corresponded to full employment of the labour force. For Froyen not to say *one word* about Say’s Law and its central place in the classical world view is in itself extraordinary, and ominous in what it presages. Already it is being hinted that a difference of assumptions regarding the flexibility or otherwise of prices is going to be identified as the *only* matter at issue between the classical and Keynesian traditions.

AD/AS: bringing in prices and the supply side

To return to tracing the stages of Froyen’s exposition. IS/LM having been covered, in order to advance beyond the fix-price model, the AD/AS construction is introduced (pp.160-190) allowing consideration of the causes and consequences of price changes. It is at this stage that Froyen’s account – intended as an exposition of Keynesian theory (the chapter is in fact headed ‘The Keynesian System: Aggregate Supply and Demand’) – comes off the rails. (Perhaps we should qualify that last remark: what Froyen offers may be a satisfactory exposition of ‘Keynesian’ theory as the adjective ‘Keynesian’ is understood in some quarters, but it is certainly not an acceptable exposition of Keynes’s *own* theory, even though – presumably – that is what Froyen intended it to be.)

Note how far Froyen has got before – as we judge it – he runs into serious trouble. We may say, in very broad terms, that Keynes’s *General Theory* (of effective demand and involuntary unemployment) contained two major theoretical innovations. One was the identification of aggregate demand for output as the key determinant of employment, with aggregate demand recognised as an *independent* (and unstable) variable, not reliably tied to conditions of labour supply and the productive capabilities of the economy. The second innovatory conception was identification of the contemporary unemployment problem as being essentially one of *involuntary* unemployment - involuntary unemployment being what the phenomenon of deficient aggregate demand means for the labour market. Thus a new concept of

unemployment was added to the accepted categories of ‘frictional’ (together with ‘structural’) and ‘voluntary’ unemployment.

When the AD/AS model enters the discussion, two new elements are introduced: the macro analysis has now to cope with the causes and consequences of price variations, and it has to comprehend as well Keynes’s innovatory treatment of the labour market. It would be fair to say that prior to introduction of the AD/AS analysis, the textbook discussion had generally come to terms quite satisfactorily with the first of Keynes’s two theoretical innovations – i.e. with his concept of aggregate demand as a key independent determinant of conditions within the economy. But when the discussion, entering new theoretical territory, has to deal explicitly with behaviour in the labour market, Keynes’s second ‘innovatory conception’ – that of involuntary unemployment – proves more difficult to deal with. Froyen’s handling of the AS part of the model exemplifies this.

At the same time, most unfortunately, when allowance is made at this stage for flexibility of the general price level, Froyen’s hitherto unexceptionable treatment of the Keynesian theory of effective demand is largely nullified by the introduction of the AD function, or more precisely, by the naïve use which he makes of the postulated relationship between the level of prices and aggregate demand.

We need to examine in some detail this final (AD/AS) stage of Froyen’s review of macroeconomic theory. Models both of a classical and (supposedly) of a Keynesian character are described. We must see how these are handled, looking in particular to the Keynesian credentials of those thus designated. We ask: do these models successfully capture the essence of Keynes’s vision? – and if not, why not?

The chapter in question (Chapter 8) opens with the following statement (p.160):

Chapters 5, 6 and 7 analyzed income determination assuming that the price level and money wage were fixed. The fixed-price-fixed-wage version of the Keynesian system highlights the role of aggregate demand. The demand-determined nature of output in this Keynesian model stands in sharp contrast to the supply-determined nature of output in the classical system. Later in this chapter, we examine the Keynesian system when prices and wages are not held constant and see that demand as well as supply factors play a role in

determining output. In this sense, the models in this chapter are a synthesis of the classical and Keynesian systems.

That last remark may raise some eyebrows. Froyen is indicating that the reader can expect to arrive at a synthesis of Keynesian and classical ideas. But is a synthesis of these very different approaches actually feasible?³ What sort of synthesis is envisaged? Again we detect a hint to the effect that differing assumptions regarding wage and price flexibility are being viewed as the major distinguishing factor separating the classical and Keynesian traditions. However, in the end, with the discussion completed, we shall find that it is not so much a 'synthesis' to which we have been brought as an essentially pre-Keynesian conception - a view of the working of the macroeconomy which on the whole would have been quite acceptable to Professor Pigou.⁴ Not much trace of Keynes's vision seems then to be left. But we are running too far ahead . . .

Froyen proceeds by developing a series of AD/AS models. While the same (quasi) Keynesian AD function is employed in each, the several models embody different assumptions with respect to the supply side. Three models are presented: (1) AD/AS with a classical 'auction market' representation of supply-side conditions; (2) AD/AS with flexible commodity prices but a fixed money wage; and (3) AD/AS with both price and money wage flexibility.

The AD function

We shall consider these models in sequence, but before doing so, we touch on Froyen's specification of a 'Keynesian' AD function (pp.160-165). The conventional downward-sloping AD schedule is derived in the usual way from the IS/LM model. Not surprisingly, there is no recognition of Collander's point that the function thus constructed is not really a demand curve, but rather an 'aggregate equilibrium curve' which shows equilibrium volumes of income, not simply aggregate demand, at different levels of price. Nor, more surprisingly, is the picture of a reliable inverse relationship between aggregate demand and the price level qualified either with reference to factors affecting the slope of the curve (e.g. the liquidity

³ On the question of the compatibility of the two approaches, and the impossibility of a synthesis, see Rao (1991), (1998), Grieve (1996), (1998).

⁴ A C Pigou was a senior colleague of Keynes and professor of economics at Cambridge. In writing the *General Theory* Keynes took Pigou's then recently (1933) published *Theory of Unemployment* as providing the fullest and most explicit account available of the orthodox explanation of unemployment.

trap) or its position ('perverse' effects on demand of anticipated deflation). Nothing is said which might throw doubt on the apparent implication of the schedule as specified that, in recessionary conditions, deflation can be expected to boost economic activity. Readers are left with the understanding that a sturdy and dependable relationship between the price level and the volume of aggregate demand can be taken for granted.

This is a dangerously oversimplified and misleading impression to convey, reducing, as it does, the Keynes theory of effective demand to a mere shadow. The implication of this – as Mrs Joan Robinson might have described it - 'bastard' offspring of Keynes's theory is that aggregate demand is, to all intents and purposes, a 'tame' variable: the AD curve may shift, but the disturbances which such shifts bring to output and employment are readily corrected via a movement up or down the AD curve, i.e. by a general rise or fall in the price level.

AD/AS: model 1 - the extreme classical case and its implications

We must turn to the supply side of the analysis where much significant theoretical action takes place.

Now duly equipped with an AD function, Froyen sets this function against the three differently-specified AS functions. The first of these is the classical 'auction-market' supply function. We find Froyen's interpretation of this classical-type AD/AS model (pp.166-167) particularly revealing of his understanding, or - perhaps we should say – misunderstanding – of the key issues which separate the classical and Keynes approaches.

Froyen describes the situation within an 'auction-market' economy as, he believes, the classical theorists envisaged it (p.37):.

The hallmark of the classical labor market analysis is the assumption that the labour market works well. Firms and individual workers optimize. They have perfect information about relevant prices. There are no barriers to the adjustment of money wages; the market clears.

The central elements of this analysis are that in the labour market, both supply and demand depend solely on the real wage (W/P), which is assumed to be

known to all. Further, the labour market is assumed always to be in equilibrium with a perfectly flexible money wage, adjusting to equate supply and demand.

This happy state of affairs of constant full-employment equilibrium is attributed solely to wage and price flexibility. Whether or not the classics would have accepted that portrayal of their views is a moot point, but (again Froyen's neglect of the Say's Law issue) we note that nothing is said about classical thinking on the subject of the aggregate demand, its determination, or its adequacy to support constant full employment operation of the economy.

Froyen elsewhere (p.160) observes, consistently stressing that the existence of wage and price flexibility is all that is required for 'classical results:

In section 8.2, [the] Keynesian aggregate demand schedule is put together with the classical supply side [i.e. with the auction-market model]. It will be seen that as long as we retain the classical assumptions of perfect information in the labour market and perfect price and wage flexibility, the substitution of the Keynesian aggregate demand schedule does not change the classical nature of the model. As long as the supply schedule remains vertical, as it does if the foregoing labour market assumptions are made, aggregate output will be determined independently of demand. For aggregate demand to play a role in output determination, the classical labour market assumptions must be modified.

With respect to this classical version of AD/AS Froyen concludes (p.167):

This analysis shows that the classical theory of aggregate supply based on the classical auction market characterization of the labor market is fundamentally incompatible with the Keynesian system. The central feature of Keynesian analysis is the theory of aggregate demand. With classical assumptions about aggregate supply, leading to the vertical supply schedule, there is *no* role for aggregate demand in determining output and employment. It was necessary for Keynes and his followers to attack the classical assumptions and to develop a Keynesian theory of the supply side.

The clear thrust of the argument is that the so-called 'classical' assumptions of perfect wage and price flexibility are responsible for the fact that in the system modelled, output is purely supply determined and the occurrence of Keynes-type demand deficient unemployment

completely ruled out. It follows that, to model a system capable of producing a Keynes-type problem, the distinctively classical assumption of perfect wage and price flexibility must be abandoned. Thus, we establish what we call, ‘Froyen proposition 1’: *if Keynes was to attribute variations in employment to changes in demand for output it was essential that he introduced some element of wage / price inflexibility.*

We shall return in a moment to the issue of the implications for employment of price flexibility or inflexibility, but first we take up Froyen’s point that the classical version of AD/AS is ‘incompatible’ with the Keynes theory. It is certainly interesting that Froyen finds the ‘auction-market’ treatment of aggregate supply to be inconsistent with the Keynesian AD function; however Froyen’s concern about incompatibility doesn’t amount to very much. His issue with that particular AD and AS combination is simply that the classical assumptions on the supply side ensure the automatic maintenance of full employment, thus leaving no role for the accompanying AD function. It is specifically on the inclusion of perfect wage and price flexibility within the model, *rather than on the classical form of the labour market model itself*⁵, that his objection is based. That we deduce from his inclusion of the same classical-type labour market (but without the perfect price flexibility assumption) in his own subsequent AD/AS models.⁶ *In other words, Froyen has no problem with the use of the conventional neoclassical labour market model along with his (quasi) Keynesian AD function, just so long as full wage and price flexibility are not part of the story.* (As mentioned, he does himself introduce an AD/AS model with price and wage flexibility but crucially, although wages and prices are assumed to be flexible, money wages are not *perfectly* flexible – while they may change with alterations of demand, they do not initially adjust to the full extent required to match the change in commodity prices.⁷) We therefore arrive at ‘Froyen proposition 2’: *the conventional neoclassical model of the labour market is in itself appropriate for inclusion in an exposition of Keynes’s theory of unemployment.*

⁵ By a labour market model of ‘classical form’ we mean one in which (*a la* Professor Pigou) the values prices and quantities are represented as established by the intersection of the conventional labour demand and labour supply functions; the different nature of the Keynes model of the labour market is illustrated below (Figure 2, p.92), and discussed on pp.91-92.

⁶ The fact that Froyen has just described the AS/AS models of the present chapter as a ‘synthesis’ of the classical and Keynesian systems rather confirms that the ‘incompatibility’ to which he referred is considered to apply only to the specific case of the ‘auction-market’ model.

⁷ Perhaps the clarity of Froyen’s discussion would have benefited from an alternative terminology with respect to his AD/AS models. We might, for instance, have preferred, for the ‘auction-market’ model, the designation ‘perfect wage and price flexibility model and for Froyen’s ‘flexible price model’, the term ‘sticky-price model’. The ‘fixed wage model’ could of course remain the ‘fixed wage model’.

Thus we have it: the two guiding principles which will inform Froyen's interpretation and exposition of the Keynesian theory are that *there is no objection to retaining (within an AD/AS model which is supposed to be of a Keynesian character) the classical model of the labour market, and that, to include a peculiarly Keynesian element, wage and price stickiness must be part of the picture.*

Neither of these 'principles' is acceptable.

We do agree that the two sides of the model are incompatible, *but believe that this incompatibility is far more fundamental than Froyen appears to appreciate.* We take the view that the Keynesian theory of effective demand and involuntary unemployment is essentially irreconcilable with the conventional classical model of the labour market which represents equilibrium price and quantity as determined by intersection of the labour demand and supply curves. As we understand the respective theories, there seems, we suggest, no way in which the Keynesian aggregate demand schedule can be 'put together with' a classical representation of the supply side.

Keynes's recognition of the fact of demand for labour being derived demand, dependent on demand for output produced, means that it is not appropriate to view employment as determined (classical fashion) within the labour market at the intersection of the labour demand and labour supply schedules. That representation of employment determination is valid only when whatever output is consistent with the given conditions of labour supply is *guaranteed* a market – i.e. is valid only if Say's Law holds good. But Keynes's whole purpose was to demonstrate that employment depends on demand for output – a factor independent of conditions of labour supply – and is not determined simply by conditions internal to the labour market. *The fact is that if a macro model contains the Keynesian theory of demand and employment, there is no room in it for the classical labour market; correspondingly, a model constructed on the basis of the classical theory of employment has no place for the Keynesian theory of aggregate demand.* It is a nonsense to imagine that the Keynesian treatment of demand can be combined with the classical treatment of supply (classical labour market): any attempt to do that must (and this is what we will find with Froyen's treatment) lead straight back to a version of the classical theory.

To return to the implications of the full-price-flexibility assumption. We do not accept Froyen's contention that to assume full flexibility of wages and prices precludes any deviation from full employment equilibrium. We believe that is a misunderstanding, a misunderstanding which, by implication, misrepresents the Keynes theory. What may be true of the classical theory need not apply in the same way with respect to the Keynes theory.

In terms of the classical conception, wage and price flexibility will be enough to ensure continuous full employment for two reasons: (1) money wage flexibility implies that, whatever happens as regards spending and prices, conditions of labour supply remain unchanged – as the value marginal product of labour alters, so to an equal extent, do the money wage claims of the workforce, and the demand and supply curves continue to intersect at the same level of employment. (2) the Say's Law presumption ensures that real aggregate demand automatically matches the output corresponding to that market-clearing level of employment. (Remember, we commented above on Froyen's curious failure to say anything about reliance on Say's Law when outlining the features of the classical theory.)

By contrast, from the Keynes perspective, neither of these conditions applies: variations in employment are not attributed to variations in labour supply, and there is no reason to assume that demand necessarily corresponds to the full employment level of production.

Although Froyen chooses not to mention the fact, a fundamental difference – *the* fundamental difference – between the Keynes and the classical visions of the macro economy is that while the classics held to the Say's Law belief that aggregate demand naturally tended to match the output corresponding to employment as determined in the labour market, Keynes took the radically different view that aggregate demand was not only the key factor determining output and employment but was itself determined in a manner effectively independent⁸ of conditions in the labour market.

But by the Keynes theory it is not the case that (downward) price flexibility must ensure the (more or less continuous) maintenance of full employment. In Keynesian terms a state of

⁸ ' . . . effectively independent of conditions in the labour market.' While wages might fall in response to unemployment, from the Keynesian perspective there is no guarantee that that would have a positive effect on aggregate demand and employment; it might indeed have the opposite effect. Compare the 'Say's Law' supposition that lower wages must necessarily mean more employment and more output (with the cause and effect relationship reversed.)

deficient demand for output with excess supply of labour might well be accompanied by falling prices. Whether a deflationary process would tend to improve the employment situation would depend on how aggregate demand was affected: while the ‘Keynes effect’ and the ‘Pigou effect’ might in themselves have some beneficial influence, any such positive impact might well be far outweighed by the negative effects of a rising real burden of debt and expectations of further deflation. Contrary to Froyen’s apparent belief, Keynes never held that a greater degree of money wage flexibility could ‘keep the economy at full employment’. Keynes in fact took quite the opposite view – that, in the interest of maintaining employment, money wage stickiness was probably preferable to greater flexibility⁹.

Nevertheless, Froyen believes that it is to wage and price inflexibility that we must look if we are to grasp the essence of the Keynes theory: to think in Keynesian terms ‘the classical labour market assumptions must be modified’. The argument is evidently going to be that *the* distinguishing feature of the Keynes theory which explains why Keynesian predictions differ from classical ones is an assumption to the effect that wages and prices are *not* fully flexible. As Froyen tells the story, nothing else seems to matter.

Wage and price inflexibility in the Keynesian system

Having emphasised the critical importance – at least as he sees it – of wage and price inflexibility, Froyen reports (pp.167-169) on the origins of such inflexibility as understood to apply in the Keynesian context.

A number of possible causative factors are invoked. One is that while workers are concerned with their real wages, wage negotiations are of course actually carried out with respect to money rates. To translate money wages into real wages, workers must have some expectation about the future course of commodity prices: they are represented as arriving at estimates of future prices by forming ‘adaptive expectations’, which are based on past experience and necessarily backward-looking. (None of this story of expectations formation comes from

⁹ Keynes (1936), p.269: ‘ . . . if labour were to respond to conditions of gradually diminishing employment by offering its services 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 influence on the volume of output. The chief result of this policy would be to cause a great instability of prices, so violent perhaps as to make business calculations futile in an economic society functioning after the manner of that in which we live. To suppose that a flexible wage policy is a right and proper adjunct of a system which on the whole is one of laissez-faire, is the opposite of the truth.’

Keynes's own work.) Froyen writes the Keynesian labour supply function as: $N^S = t(W/P^e)$. On the basis of the adaptive expectations forecasting method negotiated money wages are likely to be off target and slow to adjust properly when the rate of change of prices is variable. Other factors, listed by Froyen, which contribute to the Keynesian explanation of wage stickiness are that workers are particularly concerned with relative wage rates, and that they may be locked in to existing rates by explicit or implicit contracts. Froyen summarises the implications by saying (p.167), 'Keynes believed that the money wage would not adjust sufficiently to keep the economy at full employment'.

AD/AS: models 2 and 3 – 'Keynesian' versions with fixed or sticky money wages

Let us now see just what kind of account Froyen presents of the Keynes theory.

To repeat: there is no question but that Froyen holds that the crucial difference between the Keynesian and classical conceptions lies in their different assumptions with respect to money wage and price flexibility. In the classical theory, assuming perfect flexibility, demand disturbances are understood to have no effect on output and employment. Consequently, as we know, Froyen argues that Keynes – in order to account for fluctuations in output and employment – was compelled to introduce an element of inflexibility - which he did by supposing that money wages were, for various reasons, fixed or sticky. From Froyen's perspective this assumption of wage and price stickiness was essential if Keynes was (in effect, with reference to the conventional modern diagram) to get away from the vertical short-run AS curve of 'the classical theory of aggregate supply'; with a positively-sloped, instead of vertical, AS curve it becomes possible to construct a 'Keynesian' version of AD/AS in which demand changes can affect output as well as prices.

Although Froyen tells two (supposedly) Keynesian-type stories, the first with respect to a 'flexible price-fixed money wage model' and subsequently, as regards a system in which money wages as well as prices are allowed to vary, there is really no significant difference between them. The former (fixed wages model) is presented as the extreme case to contrast with the classical auction-market' model; the sticky prices model is said to represent more realistically the Keynesian theory. We will take Froyen's two models (pp.169-179) together, specifying as appropriate which assumption about wages is intended to apply.

The Froyen model of the labour market

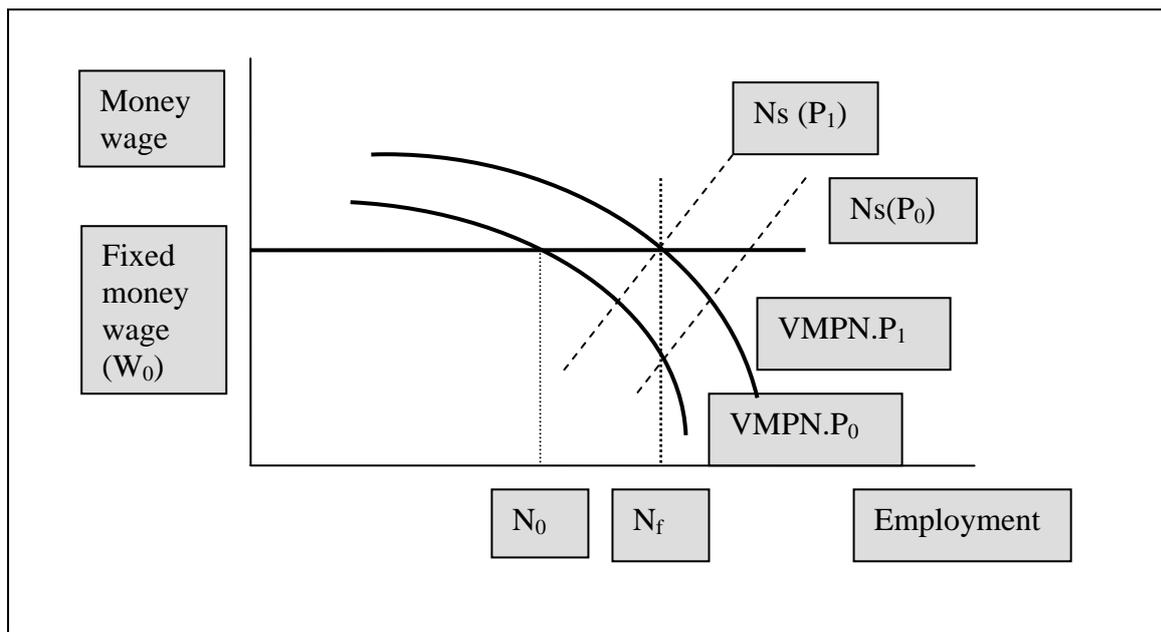
We consider first the interpretation Froyen gives of a labour market scenario with fixed money wages and unemployment. Froyen comments (pp.169-170) as follows about this flexible prices – fixed money wages situation:

[W]e should point out that Keynes's concern was with the downward rigidity of the money wage – the failure of the money wage to fall sufficiently to restore full employment. The main situations to which we would want to apply the fixed-wage model are those in which there is an excess supply of labour.

With the money wage fixed and labour supply greater than labour demand, actual employment will be determined by demand. Firms will be able to hire the amount of labour they demand at the going wage. Keynes did not object to the classical theory of labour demand. According to this theory, the profit-maximising firm demands labour up to the point at which the real wage (W/P) is equal to the MPN . . .

At this point we find (p.170) a labour market diagram (reproduced below, slightly amended, as Figure 1). Employment is measured along the horizontal axis, the money wage on the vertical. Value marginal product of labour (VMPN) and labour supply (N_s) curves are shown. A horizontal line at the fixed money wage intersects the VMPN schedule to the left of the market-clearing level of employment.

Figure 1: Froyen's labour market (fixed money wage)



We cannot allow these observations by Froyen, or the accompanying labour market diagram, to pass without comment: more than a little confusion seems to be revealed.

(1) We know (as already mentioned) that it was simply not the case that Keynes was concerned ‘with the downward rigidity of the money wage’ as preventing restoration of the economy to full employment; Keynes did not identify an inappropriate value of money wages as the cause of unemployment, nor did he expect downward wage flexibility to be helpful in resolving the problem. Fully appreciating the potentially damaging effects for aggregate demand of a process of deflation, accompanied as it would probably be by a rising real burden of debt and destabilising expectations of continually falling prices, Keynes had little faith in the possibility of downward adjustment of money wages rescuing the economy from the depths of depression.

(2) Froyen remarks of the situation shown in Figure 1 that ‘with the money wage fixed and labour supply greater than labour demand, actual employment [is] determined by demand’. We are evidently meant to read this as a Keynesian case of unemployment due to insufficient demand. Note that the example (classical labour market, inflexible wages) fits exactly with what we termed the ‘Froyen propositions’ specifying conditions apparently considered by Froyen as consistent with a Keynesian outcome. While at first sight Froyen’s diagram, showing a gap between labour employed and labour offered for employment, may look as if

it actually did represent Keynes's *General Theory* conception of involuntary unemployment, on closer examination it is seen to illustrate a conventional classical rather than a Keynesian perception. If it is intended to explain a case of Keynesian involuntary unemployment, something has gone wrong.

What Froyen actually depicts is a situation in which employment, given conditions of demand and prices, is constrained by the going level of wages, the fixed money wage giving a real wage incompatible with full employment. It is the high wage that is responsible for the observed unemployment. This we interpret as a Pigou-type scenario. There is nothing in the figure to suggest that cutting the money wage would not increase employment: no Keynes-type externally-determined¹⁰ limit to employment is shown. In fact, all that is indicated about demand conditions is that, *given the Nd schedule as shown*, demand is in fact such that the workforce *can* achieve whatever employment they want – simply by adopting (Professor Pigou's term) an appropriate 'wage policy' (provided the real wage is adjustable without limit, *any* level of employment is attainable.) By contrast, unemployment in the *General Theory* is categorically attributed to deficiency of demand, not to 'too high' wages.

Why then does Froyen say of this situation that employment is 'determined by demand' – thus giving a Keynesian gloss to the story? His argument appears to be that with an increase in demand, and a general rise in the price level, the VMPN schedule would rise relative to the given money wage, and employment would increase.¹¹ While this sounds like Keynes's account of increasing employment being accompanied by a rising cost of living, *there is something missing from the Froyen version*. Keynes saw an increase in quantity of output demanded as the operative factor - *directly* causing employment to increase; the associated reduction in real wages was regarded merely as a secondary consequence of the increase in activity, not an indication of a change in conditions of labour supply. Keynes definitely did not mean that, with unemployment, a cut in real wages would, *ceteris paribus*, restore full employment, *but that in fact is what we read in the Froyen diagram*. Froyen's account directs attention to the value of the real wage, and does not link increased employment to a relaxation of the quantitative constraint on employment (i.e. the constraint set by the state of demand for *output*). This perspective implicitly places all the burden of responsibility on real wage changes as the means of altering the level of employment. *As the situation is depicted*

¹⁰ 'Externally determined' – i.e. from outside the labour market.

¹¹ Actually, the same would happen in terms of Pigou's prototypical classical model.

by Froyen, there is nothing to say that a cut in the money wage, with commodity prices unchanged, would not be as effective as increased spending in increasing employment.

(3) Froyen claims that ‘Keynes did not object to the classical theory of labour demand’. We consider that statement both confused and confusing. It is true that Keynes (at least when writing the *General Theory*) found no fault with the conventional neoclassical downward-sloping diminishing marginal product of labour schedule, but he, most emphatically, did not regard employment as a function of the rate of real wages. In fact, he treated real wages as a function of employment, surmising that as output and employment varied in accordance with aggregate demand *in the product markets*, and firms moved up or down their short-run supply curves, commodity prices would naturally rise or fall relative to money wages, giving an inverse relationship between employment and real wages. Instead of the MPN schedule being identified as the labour demand curve, it appears in the *General Theory* in an alternative guise as an ‘employment–real wage function’. Contrary to Froyen, we say that *rejection* of the classical theory of labour demand was absolutely central to the *General Theory*. To reiterate the fundamental proposition: for Keynes, employment was determined not by real wages, but – labour demand being understood as derived demand – by conditions in the product markets, by effective demand for output.

The Keynes model of the labour market

We need at this point to remind ourselves, in a systematic way, of the radically different conception of the working of the labour market which was developed by Keynes in the *General Theory*. At the risk of some repetition of points already made we summarise what we understand to be the Keynes conception.

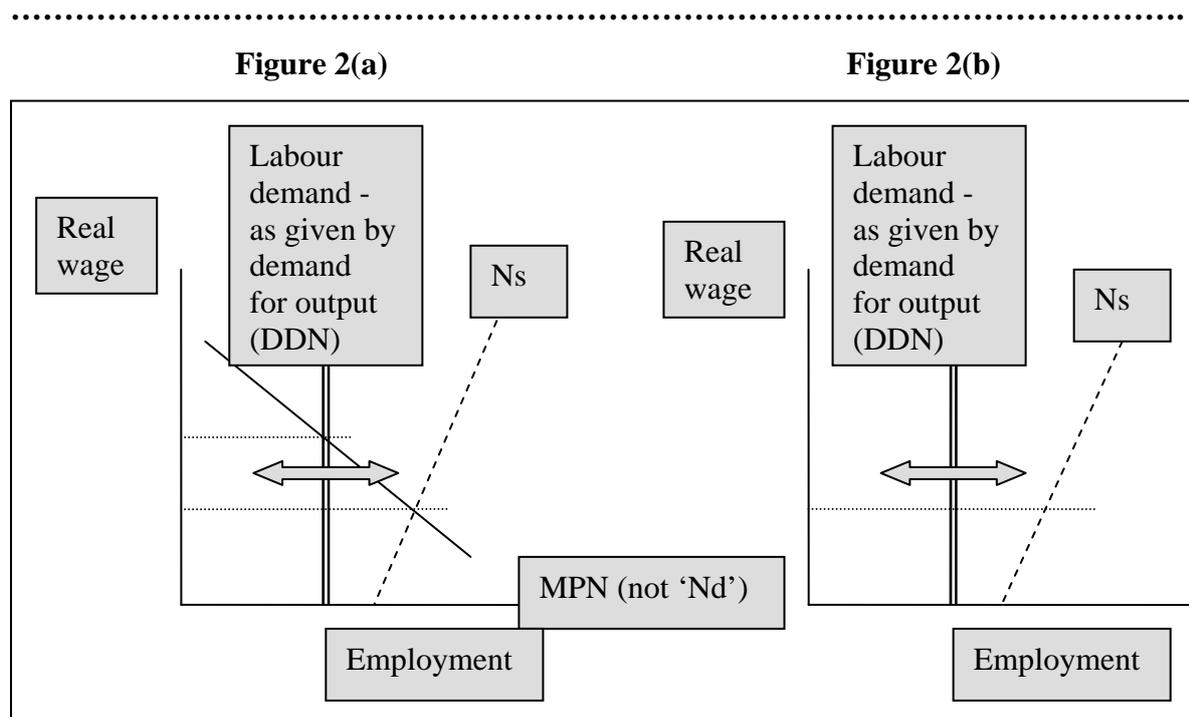
The essential Keynes thesis is that, as demand for labour is *derived* demand, variations in employment are the result of variations in the amount of labour demanded by producers, who themselves are responding to actual or expected changes in demand for output. Demand for output is the key factor. Deficient aggregate demand in the goods markets – *outside the labour market* - will generate involuntary unemployment. Employment is not determined endogeneously within the labour market by the intersection of MPN and Ns schedules: employment will vary, independently of conditions of labour supply. It was certainly not

Keynes's view that fluctuations in employment were indicative of increases or decreases in the supply of labour offered for employment. In Figure 2(a) below (representing the Keynes's *General Theory* model of the labour market), the level at which employment is established is indicated by the position of the vertical line which represents the constraint on labour demand set by conditions in the commodity markets.

Figure 2(a) illustrates the account of involuntary unemployment presented in the *General Theory*. Employment is determined outwith the labour market, by effective demand for output in the commodities markets. The vertical line shows the implication for labour demand of the current situation in these markets. Call this the 'derived demand for labour' function, 'DDN'. In the Keynes model DDN replaces the MPN curve as the 'labour demand function'. If the MPN remains in the picture at all it then becomes no more than a 'real wage-employment function' describing the relationship between employment (as determined by demand for output) and real wages.

Figure 2 /

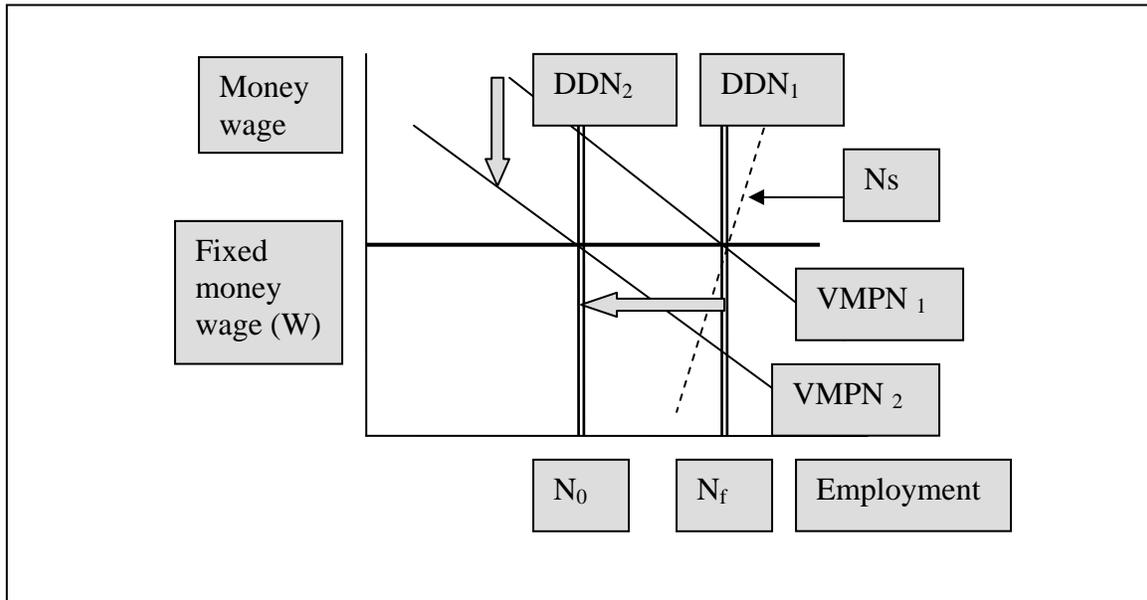
Figure 2: The Keynes model(s) of the labour market



Consider the sequence of events brought about by a fall in effective demand for output. Starting with a situation of full employment, suppose a decrease in demand: the vertical line DDN shifts to the left. With the decline in economic activity, demand-deficient or involuntary unemployment emerges – seen in the diagram as a gap between the quantity of labour demanded and the quantity available for employment. In the *General Theory* Keynes supposed that, in these circumstances, as levels of production and employment are reduced, firms would be moving down their (upward-sloping, reflecting diminishing marginal labour productivity) short-run supply curves, so that, with fixed money wages and falling commodity prices, real wages would tend to rise. He stressed that this increase in real wages was the natural consequence – a merely incidental side-effect - of the contraction of activity and was in no way a causative factor. In the opposite circumstances of expansion, with firms moving up their supply curves, prices would tend to rise, and with fixed money wages, real wages would fall to some extent. Again, this was seen as no more than a side-effect of the real causative factor, the change in conditions of demand for output.

Let us return to Froyen’s case of unemployment with fixed money wages. On the basis of Figure 2(a) we sketch an alternative diagram, this time (following Froyen) in money wage – employment rather than real wage – employment space (Figure 3, below) which we think conveys, more satisfactorily than Froyen’s diagram, Keynes’s understanding of the unemployment situation. We first go back a step in the story, supposing an initial situation of full employment, then introduce a negative change in real demand for output, which occasions the emergence of involuntary unemployment. (Voluntary unemployment is presumably what Froyen intended, but failed, to depict. If unemployment is remediable by wage adjustment, it cannot be ‘involuntary’.)

Figure 3: involuntary unemployment



The story starts with employment at the full employment level (N_f). Demand for output contracts and firms cut back on production and employment. The change in demand conditions is represented by the leftward shift of the ‘derived demand for labour’ (DDN) function, from position DDN_1 to DDN_2 . There follows exactly the sequence of events already described when recounting the Keynes story: prices fall, with the money wage fixed, real wages increase, and a new (unemployment) equilibrium reached with employment at N_0 . Note: employment is limited by the sales constraint experienced in the product market. We emphasise again that the rise in the real wage is no more than an automatic consequence of the reduction in output, not the cause: unemployment has risen not because workers are asking for different terms of employment – they are not: the story with them is that, not because of anything they have done, they happen to have experienced a fall in the demand for labour, accompanied, as employment diminishes, by some reduction in the cost of living.

As compared with the situation depicted by Froyen in Figure 1, the equilibrium at N_0 is set by the position of the DDN line, not independently by the relationship between the wage (W) and the VMPM schedule, the latter, in Figure 3, having been pulled downwards to that position as prices fall in consequence of the demand-led cut in production. As prices fall along producers' supply curves, what happens is that the intersection of the VMPN curve slides to the left along the fixed wage (W) line until the curve's resting place is established by the, exogenously-determined, new position of the DDN schedule.

Froyen on aggregate supply, I: AS in the short run

Let us continue with our exploration of Froyen's various macro models. Except for the case of the 'auction-market' classical model, we haven't reviewed a full AD/AS exposition, concentrating instead on the representation of the labour market. In particular, we were concerned with how the *demand for labour* is treated differently in classical and Keynesian models. If we now have a look at a complete AD/AS model which includes the typical upward-sloping short-run AS curve, that will allow us to consider more fully the other side of the labour market, i.e. what, from the different perspectives, is supposed to happen as regards conditions of *labour supply*.

We now turn to Froyen's account of the working of an AD/AS system with adjustable wages and 'Keynesian-type' –i.e. confused – wage setting. Although money wages are not rigid adjustment is supposed to be slow and not well-informed. Froyen (pp.176-189) describes an expansionary process whereby, in consequence of increased expenditure, the VMPN schedule rises against the given (price expectations initially unchanged) labour supply schedule.

Labour demand depends on the real wage; firms are assumed to know the price level at which they will be able to sell their products. The labour demand schedule will shift to the right with an increase in the price level. The labour supply schedule, assuming given expectations of the future price level, is assumed to be fixed in the short run. With the fixed labour supply

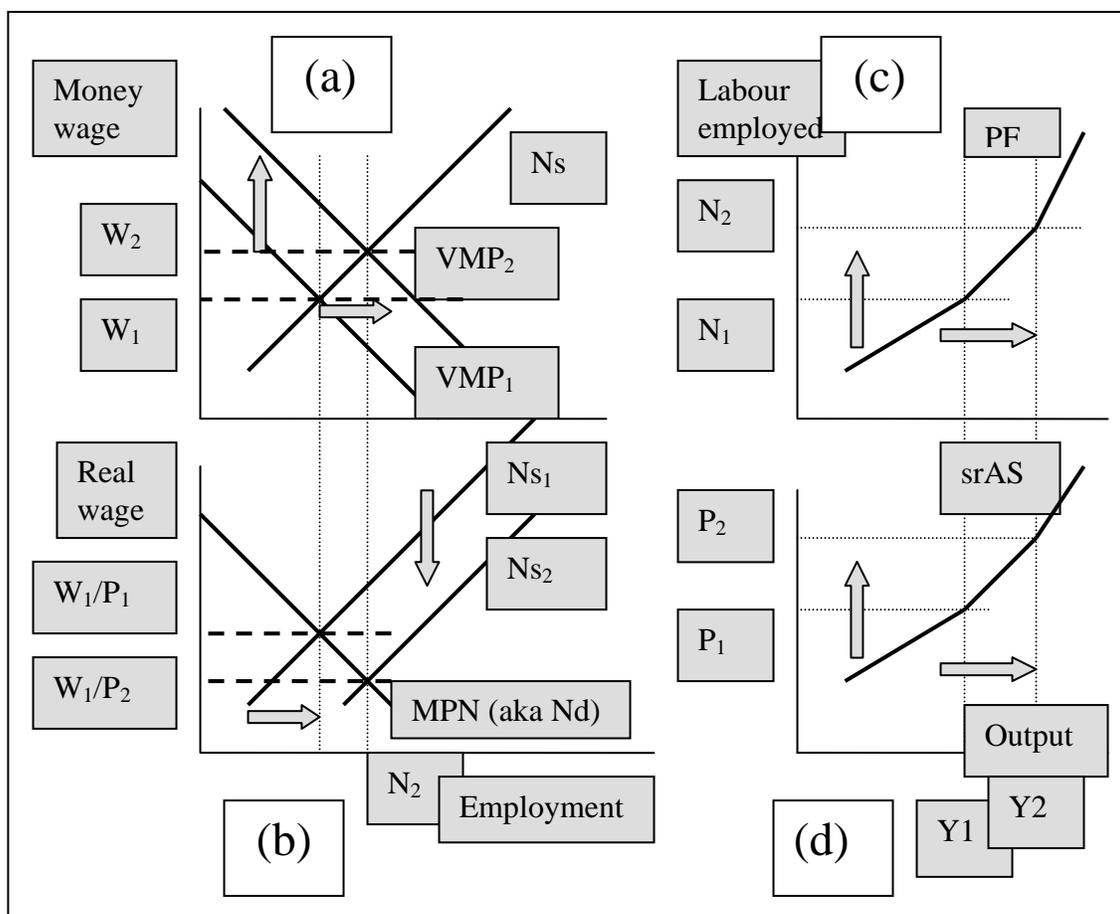
schedule, increases in the price level shift the labour demand schedule, so that for a higher price level the equilibrium levels of employment and the money wage are increased. The process at work here is as follows. The increase in price . . . causes an excess demand for labour at the old money wage. The money wage is bid up. And for a given value of P^e , an increase in the money wage causes more workers to accept jobs (or to increase the number of hours worked at existing jobs); employment rises. . . . The Keynesian view of aggregate supply emphasises the stickiness of the money wage and the failure of market participants to perceive the real wage correctly. As a consequence, the labour market will not be in continual equilibrium at full employment. (p.188) . . .

So, an increase in employment occurs because workers are ‘fooled’ into believing that the real terms of employment have improved. Demand for output has increased, but if it were not for worker misperceptions (or other factors making for wage stickiness) the impact of the increased spending would have been purely on prices and not at all on output and employment.

We include figure 4 to illustrate how this confusion about the real value of money wages is supposed to imply a shift in the ‘real’ labour supply function, thus permitting employment and output to increase.

Figure 4: sticky wages, shifting labour supply: the short run AS curve

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Initially [quadrant (a)], demand for output increases and commodity prices rise. In the short-run the money wage is not fixed, so that, as the VMP curve shifts upwards reflecting the rising commodity price, the increasing demand for labour pulls the money wage up the pre-existing (nominal wage) labour supply curve. Although the real wage is in fact falling, the perceived increase in the money wage is taken to indicate an improvement in the real reward to labour, and more labour is offered for employment [quadrant (b)]. Employment rises; it alters because of the ‘imperfect’ response of the workforce to changing commodity prices. The real wage – at least in the short run – remains below its initial value.

Continuing re Figure 4: quadrants (c) and (d) show how the short run AS curve is derived as implied by the events so far described. With the initial rise in commodity prices and increased supply of labour (shifting N_s curve), employment and output increase as shown by the production function [quadrant (c)]. Quadrant (d) derives the short-run AS curve

which depicts the implied functional relationship (via changing labour supply) between the level of commodity prices, and the volume of output.

In this illustration Froyen traces the consequences of a positive demand shock: obviously, a corresponding account can be presented for the case of falling demand. The consequences of diminishing aggregate demand would be analogous – but of course with prices, wages and employment declining rather than rising. Stickiness or rigidity of money wages is, on Froyen's interpretation, significant in preventing the 'proper', equilibrating response of labour to demand shocks. In a situation of unemployment, Froyen would presumably see the 'proper response' as the acceptance of lower money wages. Contrast that take on the implications of sticky prices with the Keynes story, in which, as already mentioned, wage and price stickiness are *favoured* as constraining the operation of deflationary forces which (it is not unreasonable to judge) might make the macroeconomic situation worse rather than better.

But whichever way (with reference to expansion or contraction of effective demand) the story is told, the mechanics are the same: the demand disturbance causes product prices to change, and if, in the labour market, money wages do not change equiproportionately, the real terms on which labour is offered are altered. In other words, in the labour market the labour supply curve shifts and employment, established at the intersection of labour demand and supply curves rises or falls as the case may be.

Froyen on AS, II: AS in the long run

The discussion of the effects of demand changes on employment and output has so far related only to the 'short run' – i.e. to the (undefined) period of time during which the various constraints noted above operate to restrict the responses of agents to the price and wage changes that are actually occurring. But the analysis emphasises that, sooner or later, these factors will cease to have an effect – misperceptions about current prices and wages will be corrected, estimates of price trends will be amended, and contracts, implicit or explicit will come to be renegotiated. Real labour supply curves then return to their original

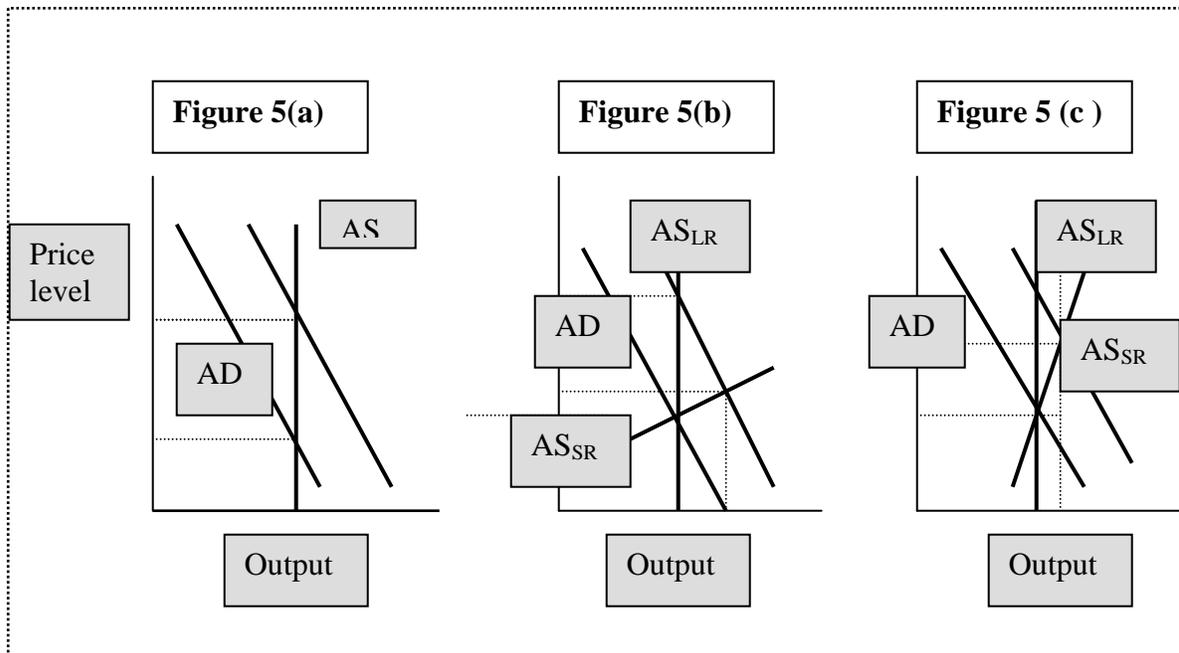
positions. The short run AS curve is transformed into the vertical long run AS curve. The only longer-term effect on the economy of the increase in demand is that the price level has been raised. Froyen explains:

The Keynesian aggregate supply schedule . . . was termed a short-run supply schedule, to emphasize that it pertained to a short period of time, not to a long run equilibrium situation. Factors such as explicit long term labour contracts, implicit contracts, and resistance to wage cuts seen as cuts in the relative wage would slow but not permanently prevent the necessary wage adjustment to return the economy to a full employment level. Imperfect information about the real wage on the part of labour suppliers would also be a short-run phenomenon. Eventually, expectations would approach the actual value of the price level and, hence, of the real wage. The Keynesians do not deny that eventually the economy would approach full employment. But to the Keynesians, such long-run classical properties of the economy are unimportant. They agree with Keynes that ‘this long run is a misleading guide to current affairs. In the long run we are all dead. . . .’ (p.189)

Froyen’s three AS curves are shown in Figure 5 (p.20 below). Figure 5(a) depicts the case of perfect wage and price flexibility: even in the short-run a change in demand affects only the price level, as the conditions of labour supply remain constant, giving a vertical short-run AS curve. With fixed [figure 5(b)] or sticky wages [figure 5(c)] money wages – for whatever reason – do not in the short run adjust as required to compensate for commodity price changes, changes in real wages bringing corresponding variations in employment and output.

Figure 5: AS curves, the short run and the long

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The figure shows, for each of Froyen's AD/AS models, that in the long run the results of a demand disturbance turn out to be the same – nominal rather than real. Whether or not the change in demand causes employment and output initially to alter, the only permanent effect is on the price level. Eventually, with the factors making for wage and price rigidity or stickiness no longer playing a part, labour supply curves have returned to their original positions, and the movements away from normal equilibrium values of employment and output have been reversed.

These diagrams illustrate the key role - from Froyen's perspective - of wage and price inflexibility and induced alterations in conditions of labour supply in accounting for variations in output and employment. The story is all about temporary, self-correcting, changes in conditions of labour supply, without the occurrence of which, variations in planned expenditure would affect only prices and not employment. *For restoration of the 'normal' state of affairs, what is required is not so much a change in effective demand for output (with price flexibility, demand will look after itself), but appropriate changes in conditions of labour supply, which will restore the supply curves to their 'proper' positions, bringing the AS curve to the vertical.*

Keynes's view: while employment alters with changes in the demand for labour, the supply of labour does not

As is evident, *shifts of the labour supply curve*, changes in conditions of labour supply, are a prominent feature of the Froyen account of fluctuations in output and employment. Given the understanding that employment is determined by intersection of the 'labour demand' (MPN) and labour supply schedules, for changes in employment to occur, one of these curves (as already noted, necessarily the labour supply curve) must move.

In Keynes's own analysis the story is quite different. Autonomous changes in demand for output are seen as altering the demand for labour, with unemployment developing as the result of falling effective demand. As Keynes saw it, this is something that happens to the workforce as passive victims. Demand for output varies causing unemployment to rise or fall without the workforce having done anything to bring these changes about: demand-deficient unemployment is strictly 'involuntary'. The point is that Keynes took it that conditions of labour supply remain unaltered even though the employment situation is subject to change.

Unfortunately, given the somewhat complicated rationalisation of the labour market situation that Keynes felt himself obliged to provide in the *General Theory*, commentators have sometimes – mistakenly – supposed that Keynes did associate changes in employment with changes in labour supply conditions. Let us, in the interest of getting a clear picture of what Keynes actually had in mind with respect to this crucial matter, try to unravel this complication.

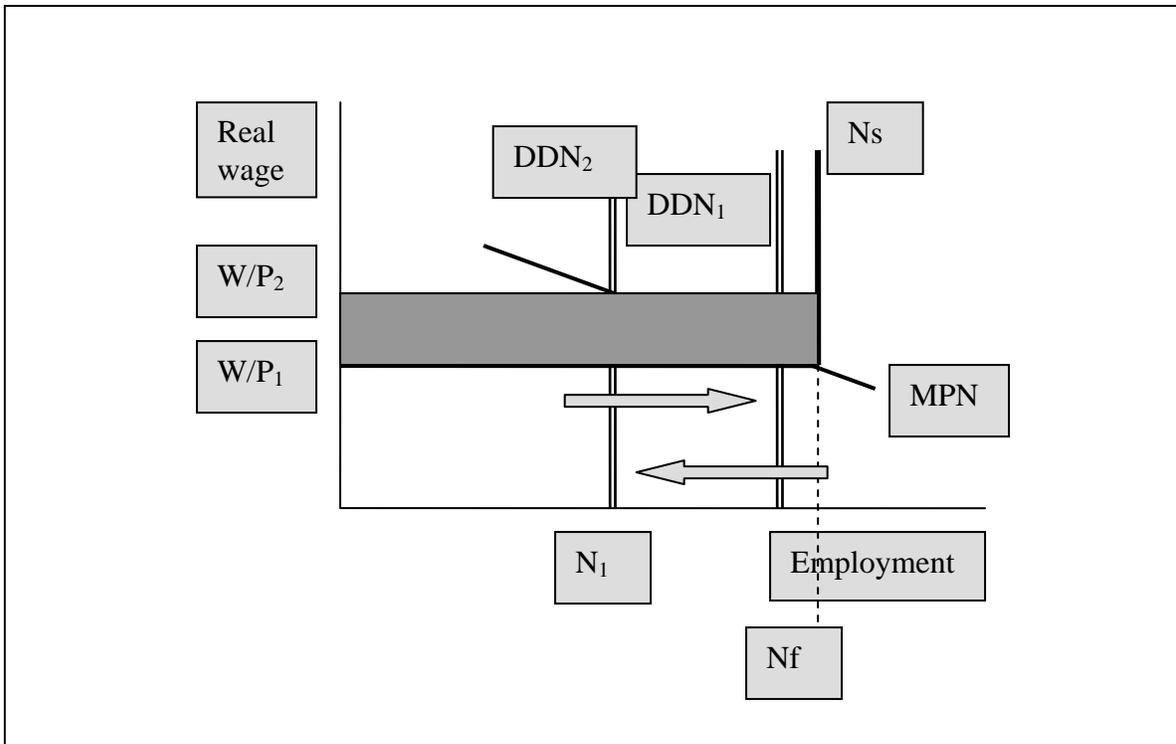
When writing the *General Theory* Keynes was under the impression that, as predicted by standard neoclassical analysis, real wages would vary inversely with employment over the trade cycle. He thus presumed that, when employment was falling, real wages would be rising, and, *vice versa*, when employment was increasing, real wages would be falling. While this may look as if Keynes was staying with the conventional neoclassical diagnosis

that shifting labour supply curves were responsible for increases and decreases in employment, he was *not* intending any such interpretation. What he did suppose was that workers would knowingly accept some (small) changes in real income over cyclical fluctuations without varying the amount of labour they offered for employment. That is to say, with a recession developing workers (if still in employment) would accept as beneficial any small reduction in the cost of living they happened to experience: in these circumstances they were not going to be pushing for higher wages. Correspondingly, with job conditions improving in recovery, workers would not resist some (slight) increase in the cost of living brought about by a general tendency of prices to rise, and affecting everyone. Neither under conditions of falling or of rising employment did Keynes suppose conditions of labour supply to be altering. The Keynesian account is illustrated in Figure 6 above.

Figure 6 /

Figure 6: Keynes's labour supply function (1936)

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With reference to the above figure, changes in demand for output cause the DDN function first to move to the left, then later, to recover back to the right. Employment varies accordingly. As output and employment alter, we suppose that while the money wage remains unchanged, commodity prices fall from level P_1 to P_2 in the downturn, and rise again back to P_1 in the cyclical upturn. Real wages accordingly rise in the downturn (cost of living falling) and fall with recovery (cost of living rising).

We suggest that Keynes's account of the behaviour of labour over this period of recession and recovery amounts to saying that, as the workforce makes no changes in the amount of labour offered for employment, and accepts passively the (small) variations experienced in the (real) cost of living, labour supply conditions can be understood as represented not simply by the horizontal line at the real wage W/P_1 – together with the vertical segment of that line beyond N_f – but as the whole shaded *band* (or thick line) between W/P_1 and W/P_2 . The 'band' indicates that, despite variations within that range of the real wage over the cycle, the available labour supply remains unchanged (corresponding to N_f); in these

conditions of fluctuating activity, the workforce is indifferent to small changes in the cost of living.¹² *From this angle the labour supply curve does not shift in the short run.*

An account along the above lines was given by Keynes in the *General Theory*. However, questions were soon asked as to whether real wages did move in the counter-cyclical manner predicted by the standard theory. Investigation revealed not only that the empirical record did not support the neoclassical prediction, but that Keynes, relying on Alfred Marshall's report on the issue, had been misled by Marshall's selective interpretation of the evidence available.

We need to return to Figure 2, specifically to Figure 2(b). Figure 2(b) depicts the simplified scenario which, in the light of the new evidence, Keynes was, by 1939, prepared to accept. It appeared to be the case that, over cyclical fluctuations, no inverse relationship between employment and real wages as had been presumed to exist, actually did exist. That being so, Keynes realised that there was no need to tell the complicated story, told in the *General Theory*, of real wages and labour supply, as had then been deemed necessary to accord with the supposed facts of the matter. If no regular cyclical variations in real wages had to be accounted for, Keynes could tell a much more straightforward story – *that employment varied with changes in demand for output, full stop*. With no wage changes involved, there would then be no room for any misunderstanding to the effect that Keynes believed labour supply changes went along with changes in employment. Although the 1939 story was simpler than the 1936 version, the concept and explanation of involuntary unemployment remained *in principle* exactly as before. In both of Keynes's accounts involuntary unemployment occurred because the demand for labour altered relative to a given supply of labour.

It is clear that by 1939 there was no excuse for hanging on to the old classical idea that, for employment to vary in the short run, the labour supply curve must shift; nevertheless,

¹² With respect to the 'broad band' of the labour supply function, see Keynes (1936, p.9): 'Now ordinary experience tells us, beyond doubt, that a situation where labour stipulates (within limits) for a money-wage rather than a real wage, so far from being a mere possibility, is the normal case'.

seventy years later, that idea still seems very much to the fore in the mainstream textbook literature.

The Froyen picture: a summary

To sum up on Froyen's account of the Keynesian theory of employment. Employment is said to be determined in the labour market at the level at which 'labour demand' (MPN) and labour supply schedules intersect. In the short term this point of intersection will not always correspond to full employment: this because, when change occurs on the demand side, the supply side is not able right away (money wages being sticky) to achieve the wage adjustment required to maintain the existing level of employment. In terms of the labour market model, the labour supply curve is envisaged as shifting (one way or the other) relative to the 'demand' (MPN) function, so that, with the point of intersection of the two curves being displaced in one direction or the other, employment falls or rises. In the longer term, the factors inhibiting 'proper' adjustment of labour supply cease to operate (as expectations or misperceptions about prices are corrected, or wage contracts renegotiated) and, with the proper equilibrium level of real wages being re-established, and, with sufficiency of aggregate demand assured by appropriate movements of the price level, the natural level of activity is restored. From the 'Keynesian' perspective this automatic process of adjustment is likely to be deemed unacceptably slow, and resort to direct government intervention recommended.

The idea that demand disturbances may temporarily cause the economy to depart from its normal state of full employment, but with a return to normality to be expected to occur naturally in the longer term, is, of course, the standard conclusion of many mainstream textbooks. Froyen is not alone in holding the view that disequilibrium is a Keynesian phenomenon of the short run, and that in the longer term, as demonstrated by the classical theory, conditions of full macroeconomic equilibrium, can be expected to prevail. Authors of other popular macro texts evidently see things in the same way; for instance:

The classical supply curve is based on the belief that the labour market works smoothly, always maintaining full employment of the labour force. Movements in the wage are the mechanism through which full employment is maintained. The Keynesian aggregate supply curve is instead based on the assumption that the wage does not change much or at all when there is unemployment, and thus that unemployment can continue for some time.

(Dornbusch and Fischer, 1990, p.225)

We can now see the key difference between the Keynesian and classical approaches to the determination of national income. The Keynesian assumption . . . is that the price level is stuck . . . the classical assumption that the price level is flexible . . . The price level adjusts to ensure that national income is always at the natural rate. The classical assumption best describes the long run . . . The Keynesian assumption best describes the short.

(Mankiw, 1994, p.275)

The Froyen picture: an assessment

The obvious point to make with respect to Froyen's story is that it certainly is not what it purports to be: although we are told that it is an account of the Keynesian theory, *it has little to do with Keynes – it is of an essentially pre-Keynesian character*. At the heart of this conception is, as we have seen, the old classical presumption that the labour market may appropriately be modelled just like the market for any final commodity, with equilibrium price and quantity determined at the point of intersection of the 'labour demand' (MPN) and labour supply curves. Froyen's uncritical adoption of this model completely by-passes – without recognition or understanding – Keynes's introduction in the *General Theory* of a radically different conception which recognises that the demand for labour is in fact determined outside the labour market.

Reliance *a la* Froyen on the classical model of the labour market (with employment determined at the intersection of the Nd and Ns curves) *forces* the theorist to explain

deviations from the normal level of activity in terms of a displacement of the labour supply curve from its 'proper position'. In the short-run context it has to be the labour supply curve that is out of position, the 'labour demand' (MPN) schedule, fixed in place by current conditions of production, cannot shift about in the short term. An explanation of unemployment in terms of varying conditions of labour supply puts the blame for the problem on the inadequate response of labour to some initial disturbance, and the onus too on labour to sort its position out. Automatic correction of this essentially frictional problem can, eventually, be expected. This – as we hope is now clear - has nothing to do with the Keynes theory, the elucidation of which is the supposed object of the exercise. In this sort of model unemployment can only be voluntary (if such a thing really exists) or frictional (which, through appropriate wage and price adjustment, will in due course to be self-correcting).

The whole emphasis here in analysing disequilibrium is on the supply side. While it is allowed that disturbances may well originate from the side of demand, changes in demand conditions will impact on output and employment only if the supply-side response is inadequate. Even then, departures from the normal state of full employment are, as we have just said, envisaged as self-correcting through adjustment on the side of supply, with recovery, even if perhaps taking some time, effectively guaranteed. Although this vision of the working of the macro economy does not depend on the conscious presumption that aggregate demand for output is 'tamed' through Say's Law, the understanding reflected in the standard downward-sloping AD curve, comes to much the same thing – *changes in the level of money wages and so of prices can be relied upon to take care of any excess or deficiency of demand*. This picture is very different from Keynes's vision as developed in the *General Theory*.

From Keynes's perspective aggregate demand for output is the significant, independent determinant of output and employment: it is changes in demand for output, not variations in conditions of labour supply, that are understood to matter. There is no room in the textbook conception a la Froyen for Keynes's concept of 'involuntary unemployment' – a situation in which workers, without having done anything to make themselves less

employable (no changes in conditions of labour supply), find themselves out of work on account of the emergence of a general deficiency of demand. And in these circumstances there is nothing the unemployed can do which would be sure to improve their situation – the determining factors are beyond their control. Nor is it a case, as with the classical explanation of unemployment occurring on account of slow wage adjustment, of simply exercising patience on the understanding that, even if the process is slow, market forces will eventually bring the economy back to its ‘natural’ state.

If, along the line of his AD/AS exposition Froyen has lost track of the Keynes theory, he seems though to have succeeded in landing his readers in what looks - pretty much - like the world of pre-Keynesian macroeconomic theory.

An *original* classical perspective

It will be instructive at this stage of our discussion to look briefly into some of the ideas of that pre-Keynesian world. Professor Pigou’s 1933 treatise, *The Theory of Unemployment*, represented, as Keynes described it, the ‘most formidable presentment’ of classical thinking on the issue; it constituted the specific expression of the classical theory targeted by Keynes in the *General Theory*. Proponents of the present-day mainstream macroeconomic orthodoxy, textbook authors such as Froyen, might be surprised at the resemblance between the Pigouvian conception of long ago, and the set of ideas presently expounded under the label of ‘Keynesian’ macroeconomics. An historical perspective is called for: a brief browse in Pigou’s treatise will not, we think, go amiss.

In particular, in comparison with modern perspectives, Pigou’s views on the long run equilibrium of the economy, and on the attainment of that equilibrium, together with what he has to say about short term responses to macroeconomic disturbances, are of interest; so too are Pigou’s thoughts on the contribution that government intervention may make - ‘treatment’ he calls it - in recessionary conditions.

With regard to long run equilibrium, Pigou held that the employment situation depended simply on the conditions of labour supply. In the short term, with changes occurring in demand for final output, disequilibrium was to be expected, but once things had settled down, provided there existed 'free competition' in the labour market, real wages would be sure to have adjusted to the value appropriate to 'nil unemployment'.

Changes in the state of demand (for labour) are, of course, relevant, but, once any given state of demand has become fully established, the real wage-rates stipulated for by workpeople adjust themselves to the new conditions. (1933, p.248)

A little further on Pigou elaborates on that, commenting also on the implications of there being other than a situation of free competition in the labour market (1933, pp.252-256).

With perfectly free competition among workpeople and labour perfectly mobile, the nature of the relationship (between real wages and employment) will be very simple. There will always be at work a strong tendency for wage-rates to be so related to demand that everybody is employed. Hence, in stable conditions every one will actually be employed. The implication is that such employment as exists at any time is due wholly to the fact that changes in demand conditions are continually taking place and that frictional resistances prevent the appropriate wage adjustments from being made instantaneously.

He observes though that,

In the absence of perfectly free competition among workpeople the functional relation, if such exists, between the wage-rate stipulated for and the state of demand need not be of the above simple sort. The goal, so to speak, to which wage rates are directed . . . is not necessarily the level associated with nil unemployment. . . . The factor that determines the long-run relation between the real wage-rate stipulated for and the real demand function for labour is best described in a general way as *wage policy*. . . . Students of our problem [i.e. of the problem of unemployment] in this country before the war, while recognising maladjustments of a long-run character associated with wage policy as one of the factors

responsible for unemployment, in general took the view that the part played by them was small. Unemployment, for these writers, was, in the main, a function of industrial fluctuations and labour immobility – of short-run frictions rather than of long-run tendencies. . . . Since the post-Armistice boom, however, the unemployment situation has been very different from what it was before the war. Instead of a percentage of unemployment amounting, on the average of good and bad years, to some 4½ per cent, post-war unemployment has moved about a mean from twice to three times as large as this. This circumstance suggests strongly that the goal of long-run tendencies in recent times has been a wage level substantially above that proper to nil unemployment, and that a substantial part of post-war unemployment is attributable to that fact.

Our point in employing that long quotation is to illustrate Pigou's approach to the issue of unemployment – we see that the whole focus of attention is on the conditions of labour supply. It is clear from Pigou's perspective that the absence, or occurrence, of unemployment, is to be explained simply by reference to the terms of employment for which workers 'stipulate' and the prevailing rate of real wages.

Does Pigou's emphasis on wages not seem strikingly similar to the modern textbook treatment which represents equilibrium as reliably attained in the longer term, when (the short-run AS curve having completed its adjustment) the real wage, hitherto inconsistent with full employment has eventually returned to its 'proper' equilibrium value?¹³ Keynes, on the other hand, did not – either in 1936 or in 1939 – view real wage adjustment as the critical thing to be achieved for attainment of full employment.¹⁴

Both Pigou and the modern textbook authors, concentrating on what is happening in respect of real wages, seem to take it for granted that if, say, a reduction in real wages is

¹³ Perhaps we should look on Pigou as the 'grandfather' of the 'New Keynesian' school..

¹⁴ To repeat yet again, in the *General Theory* Keynes did accept that real wage adjustment was necessary if full employment was to be reached, but held that the required change in real wages would come about *automatically* provided aggregate demand could be increased to the appropriate level: the wage change would be the consequence of an increase in output and employment, not the cause. By 1939, however, in the light of new empirical evidence, it was (as already explained) evident that there was no need to associate changes in employment with changes in real wages – and no need either to invent a rationalisation reconciling changing costs of living with an unchanging supply of labour.

required, and that reduction is achieved, no problem will arise in finding a market for the extra output produced by the newly employed workers. The issue of the adequacy of AD is pushed into the background.

Pigou certainly would not have expected a problem on the side of demand – given his (Say’s Law) confidence that demand could be relied upon to take up whatever volume of output might be on offer. To illustrate: He is discussing what he calls the ‘elasticity of the real demand for labour’ with a view to estimating the likely proportionate response of employment to a given reduction of real wages: the issue of the adequacy of demand to match the implied increase in output doesn’t receive a mention. What he does say (1933, p.73) is simply to the effect that if lower wages permit increased production of wage goods (for support of workers) and thereby extend the productive capacity of the economy, demand for output will certainly grow accordingly.

Variations in the real wage-rate asked for in the wage-goods industries lead to variations in the surplus of wage-goods produced over the aggregate real wages paid to labour in these industries. Hence, *if the real wage rate is reduced in the wage-goods industries, a powerful reaction is set up making for an expansion in the demand for labour in the non-wage-good industries.* (Emphasis added.)

Of course, the writers of today’s macro textbooks do not hold by Say’s Law. But, as we have already noted, their reliance on the standard downward-sloping AD curve might be said to have the effect of packing the Keynes theory of effective demand away in a box, and shutting the lid on it. Although virtually no theorists in earlier (Keynesian) times – not Keynes, not Patinkin, not even Pigou – gave any credence to the idea that deflation (movement down the AD curve) offered a practical route out of depression, the AD curve, is embodied - apparently without a qualm - in the contemporary core model, i.e. the AD/AS construction. Thus, when recovery from a negative demand shock is considered, the typical textbook analysis gives the reader to understand that two things are happening simultaneously: while downward movement of the short-run AS curve is bringing the real wage back to the level consistent with full employment, its simultaneous slide down the

AD curve ensures that no demand constraint operates to prevent the re-attainment of full employment. The idea that deflation might not be the most effective cure for depression seems to have by-passed Froyen and other modern textbook authors. This supposition of ‘tame’ aggregate demand seems too different from Keynes’s theory to form a legitimate part of a supposedly ‘Keynesian’ macro model.

Did the classics really think in terms of Froyen’s auction-market model? In the textbook literature wage and price stickiness are considered responsible for ‘Keynesian’ as distinct from classical outcomes: according to Froyen, in the classical context of the auction-market system, no such rigidities or frictions are allowed to cause even the most temporary deviations of employment from its ‘proper level’. But the fact is that one will search in vain through Pigou’s pages for an account of the working of the macro system which accords with the instantaneous adjustment picture painted by Froyen as corresponding to classical thinking on these matters.

By contrast, what we do find in Pigou is an account of just the sort of stickiness in wage setting which, in the textbook literature, is viewed as the distinctive characteristic of the *Keynesian* analysis. Here is Pigou (1933, pp.293-297) explaining how money wage stickiness amplifies the impact of demand changes on employment. ‘There is’, he remarks, ‘always a resistance on one side or the other to wage changes appropriate to demand changes.’ He refers to what he calls ‘factors of inertia’: operating on both sides of the labour market: these make employers reluctant to raise wage rates when conditions improve, and employees resistant to wage cuts when activity is declining . . .

Thus, except in periods of very violent price oscillations, employers in general fight strongly against upward movements in money rates of wages and workpeople against downward movements. Money wage-rates show themselves in practice highly resistant to change.

So much for the supposition of perfect wage and price flexibility attributed by textbook authors to the classical writers. Pigou continues:

These factors of inertia, which, in an economy where wage-rates were always contracted for in kind, would tend to keep real wage rates stable in the face of changing demand, in a money economy tend to keep money wages stable. . . In general, the translation of inertia from real wage-rates to money wage-rates causes real rates to move in a manner not compensatory, but complementary, to movements in the real demand function. Real wage-rates not merely fail to fall when the real demand for labour is falling, but actually rise; and, in like manner, when the real demand for labour is expanding, real wage-rates fall.

Compare the textbook account of labour market maladjustment with sticky wages – presented as a specifically *Keynesian* concern. But here we find in *The Theory of Unemployment* an eminent pre-Keynesian classical author – perhaps *the* pre-eminent classical authority on the matter - offering that same sticky wage explanation of why money wages fail to keep pace with changes in real wages. What Pigou is describing (whether thinking of money wages as sticky or completely rigid) corresponds exactly with the story of the (so-called) Keynesian short-run AS curve as illustrated in Figure 4 above.¹⁵

Finally, in comparing pre-Keynesian classical theory with modern accounts of what the classics are supposed to have thought, consider Pigou's (perhaps unexpected) advocacy of interventionist macro policy. Remember, Froyen identified the recommendation of such intervention as a distinguishing feature of the Keynesian approach (p.189):

Classical economists stressed the self-adjusting tendencies of the economy. If left free from destabilizing government policies, the economy would achieve full employment. Classical economists were non-interventionist in that they did not favour active monetary and fiscal policies to stabilize the economy. Such policies, to affect aggregate demand, would have no effects on output and employment given the supply-determined nature of these variables in the classical system.

¹⁵ Figure 4 can represent equally well the sticky wages and the fixed wages scenarios. If the two situations were represented together in the same figure, a fixed wage would imply a larger shift in the N_s [$N_s = f(W/P)$] curve and a flatter short-run AS curve than would a merely sticky wage.

Keynesians view the economy as unstable as a result of the instability of aggregate demand, primarily its private investment component. . . . swings in aggregate demand will cause undesirable fluctuations in output and employment *in the short run*. These fluctuations can be prevented by using monetary and fiscal policies to offset undesirable changes in aggregate demand. (Emphasis added.)

Bearing in mind the above assertion that the classics saw no point in macro intervention, note Pigou's by no means wholly negative view of 'expansionist state policies' (1933, p.250)

Our conclusion that the long-run effect of expansionist state policies – and under this head must be included not only the undertaking of large-scale public works, but bounties, guarantees of interest and, if successful in their purpose, protective duties – does not touch unemployment, affords, of course, no argument against the State's *temporarily* adopting these devices as 'remedies' for unemployment in times of exceptional depression. For here it is not their long-run, but their short-run consequences, that are significant. Nor need we mean here by 'exceptional depression' merely the lower extremity of a normal trade cycle. Thus, though the heavy unemployment that prevailed in this country for the decade following the post-Armistice boom . . . was not associated with a cyclical depression in the narrow sense, there was, nevertheless, some reason to believe that it was a short-period malady, needing treatment only for a few difficult years.

Again recall the textbook (Froyen) view quoted earlier. The self-equilibrating capability of the economy is not in question - resistance to wage-cuts, etc 'would slow, but not permanently prevent the necessary wage adjustment to return the economy to a full employment level' - but in the interim, in the possibly rather long 'short run', positive policy action was needed. Froyen, there describing what he regards as the *Keynesian* position, is simply repeating what Pigou had in fact said years before: real wage changes

are the key to the re-establishment of full employment, and these changes will, in the fullness of time, be accomplished through the operation of market forces – but, in the meanwhile, it is not necessary to wait for the natural forces of the market to do their work.

Taking stock

We have taken a trip through an important area of textbook macroeconomics, where the author has reached the stage of presenting a complete Keynesian system, free from the limitations imposed by a fix-price assumption, and where he describes, as he understands it, the relationship between Keynesian and classical approaches. But something seems to have gone wrong.

The essential vision of Keynes as developed in the *General Theory* was not anywhere to be found. Instead of an exposition of Keynes's theory that employment is primarily determined by *effective demand for output*, with the workforce being no more than passive spectators – and possible victims – of circumstances beyond their control, we are presented with an account which puts all the emphasis on what is happening on *the supply side of the labour market*. True, it is allowed that disturbances to activity result from autonomous changes in demand conditions, but the argument is that employment alters only because labour does not respond adequately to the changing conditions. Furthermore, the factors which initially prevent the appropriate adjustment of wages will, sooner or later, cease to constrain needed equilibrating actions – the system is understood to possess an effective 'self-righting' capability. Unemployment is frictional – there is no conception of what Keynes identified as the real contemporary problem, that of involuntary unemployment. When unemployment exists, Froyen, not putting the blame on possibly intractable conditions of demand, looks to real wage adjustment as the solution. A role *is* admitted for macro management, but only to 'hurry-up' the natural (if slow) adjustment process: such intervention is not seen (as Keynes saw it) as the means of securing a result which, otherwise, was very unlikely to be achieved by the free working of market forces.

In other words, the whole tenor of Froyen's account of the working of a 'Keynesian' (i.e. sticky wage and price) macro system is completely un-Keynes-like. What it does closely resemble is the 'orthodox' classical understanding of the problem of unemployment as expounded by Professor Pigou in his 1933 treatise. Pigou, as we have seen, envisaged a system which, subject to demand disturbances, would, with appropriate real wage adjustment, eventually – but possibly only after a considerable delay – find its way back to full employment. Like Froyen, he sees government intervention as having a useful role in helping to bring the economy back to equilibrium sooner than would otherwise be the case. While Pigou does evidently take Say's Law as valid, that position, in terms of practical policy implications, doesn't seem to have implications very different from Froyen's acceptance of the neutralisation of Keynes's theory of demand via use of the standard AD function.

It looks as if Froyen has brought us to less than satisfactory situation. Pre-Keynesian theory is misrepresented and the essentials of the Keynes theory missed out. What we seem to have is (1) an account, approximating closely to Pigou's sticky wages story is but presented as the 'Keynesian' theory; (2) an unrealistic 'auction market' model (giving a picture of the economy nothing like Pigou's own, classical, conception) is offered as depicting the classical alternative to the (supposed) Keynes theory; and (3) a gap where the genuine Keynes theory – of effective demand and involuntary unemployment should be.

How has this come about?

One principal reason that such a distorted picture of the different theoretical positions should be presented is that Froyen – as is typical of neoclassical theorists – has completely failed to appreciate that Keynes advanced an analysis and model of the labour market radically different from the conventional neoclassical treatment. Yet Keynes's new model need not necessarily, one would have thought, have proved problematical or difficult to grasp. After all, in proposing that employment should not be understood as determined within the labour market at the point of intersection of the (so-called) 'labour demand' (MPN) and labour supply schedules, but interpreted as reflecting relevant conditions

outside the labour market, he was simply introducing into macro territory the familiar and well-understood microeconomic proposition that demand for inputs into production is ‘derived’ demand.

Perhaps Keynes’s own presentation may carry some of the blame for the fact that his new model failed to become an established element of the post-war orthodoxy. It was maybe unfortunate that in the *General Theory* Keynes did not make use of a diagrammatic illustration which might have brought out more clearly just how revolutionary his new conception of the labour market actually was. The complicated and obscure definition of ‘involuntary unemployment’ offered in the *General Theory* cannot have done much to clarify the matter, retaining as it did an association between employment and real wages (even though reading changes in the latter as a consequence of changes in the former, and not, as in conventional theory, *vice versa*). Furthermore, as it happened, subsequent popular exposition of the Keynes theory – in terms of the IS/LM model – focused on the goods and money markets, leaving the labour market in the shadows. It is not altogether surprising therefore that when, in the late 1960s, theorists hostile to Keynesian economics revived the Pigouvian model of the labour market, that was not seen as particularly controversial. And it did not take long for this traditional representation of the labour market to become established in the textbooks as the basis of an important new strand of analysis (the theory of the vertical long-run Phillips curve).

At any rate, the evident fact of the matter is that Froyen is unaware of the Keynes model of the labour market. He therefore, as a matter of course, frames his analysis of unemployment to fit in with the model with which he is familiar, the standard neoclassical model, the demand and supply cross diagram, *a la* Pigou. Inevitably then, the analysis developed on that basis is of a classical rather than a truly Keynes-type nature. Given the understanding that employment is set within the labour market by the intersection of the demand and supply curves, changes in employment must – as we have seen – be accounted for by shifts of the labour supply curve. That requirement, in turn, leads to the introduction within the theory (not as an incidental feature descriptive of reality, but as an essential element of the theory) wage and price inflexibility – which gives the basis for temporary

shifting of the labour supply curve. Finally, if changes in employment are explained by reference to changes in conditions of labour supply that unemployment emerges as (a) frictional (not involuntary), and (b) given the nature of the factors said to affect labour supply conditions, temporary (rather than, *ceteris paribus*, potentially long-lasting).

An account of that sort, as we emphasised, unlike the Keynes theory, focuses attention on supply-side conditions; demand hardly gets a look in. That brings us to the second principle factor which explains the un-Keynesian character of the Froyen exposition of what he calls ‘Keynesian’ theory: reliance on the conventional AD function completes the neutralisation of the Keynes theory. Although Froyen stresses the point that macro disturbances frequently arise from changes in aggregate demand, the presence of the AD function in the model effectively ensures that that admission of Keynes-type causes of disequilibrium counts for very little. As it is presumed that movements up or down the AD curve will readily eliminate any elements of excess demand or supply that may have emerged, aggregate demand is effectively ‘tamed’: as conditions of labour supply adjust to what is required for full employment, movements along the AD curve reliably take care of demand in the product markets. This analysis is, in effect, hardly different from that deriving from Pigou’s espousal of Say’s Law.

To conclude: the quick route back, for text book authors, to a pre-*General Theory* world is to adopt, as they complete their exposition of macroeconomic theory, the fashionable AD/AS model. It combines a classical representation of the labour market with a ‘bastardised’ version of Keynes’s theory of effective demand – with devastating consequences for the proper understanding of Keynes’s own theory. That seems to be how Froyen has managed to lose the real Keynes theory.

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