

The Relevance of Keynes Today: with Particular Reference to Unemployment in Rich and Poor Countries¹

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“It is worse in an impoverished world to provoke unemployment than to disappoint the rentier”
(J.M. Keynes, *Essays in Persuasion*, 1931)

Introduction and Personal Reminiscences

The world has masses and masses of surplus labour. According to the International Labour Organisation (ILO) in Geneva, over one billion workers, or one-third of the world's total labour-force, are either openly unemployed with no work at all, or disguisedly unemployed in the sense that they work a sub-optimal number of hours and would like to work more, but can't. Job creation for all those who want to work at the prevailing money wage is one of the great economic and social challenges of the 21st century. Not only is unemployment an economic waste, it is also a cause of poverty, stress-related illnesses, marriage breakdown, and sometimes civil unrest. Indeed, for survival and basic human dignity, it could be argued that in a civilised society, everyone should have the right to work, just as Yunus Mohammad (2003), in the context of developing countries, has argued that everyone (not just the rich) should have the right to credit as a means of escaping from poverty.² This is not a new sentiment. Adam Smith (1776) expressed it in the *Wealth of Nations*:

“The property which every man has in his own labour, as it is the original foundation of all property, so it is the most sacred and inviolable. The patrimony of a poor man lies in the strength and dexterity of his hands, and to hinder him from employing this strength and dexterity in what manner he thinks proper without injury to his neighbour, is a plain violation of this most sacred property.” (p.136).

¹ Paper prepared for a Conference on Unemployment: Past and Present, organised by the Cambridge Centre for Economic and Public Policy, Cambridge 30th August – 1st September 2007. I am very grateful to Miguel Leon-Ledesma, Geoff Harcourt, Paul Davidson and John King for helpful comments on an early draft of the paper.

² Interestingly, Yunus Mohammad received a Nobel Prize in 2006 for peace, not for economics.

I've had a long standing interest in unemployment and its causes, both in rich developed countries and in poor developing countries. Most of my research in the 1960s and 1970s was on the nature and types of unemployment in the UK, and on the causes of regional differences in unemployment (e.g. Thirlwall, 1966, 1969c, 1974, 1975; Harris and Thirlwall, 1968; Dixon and Thirlwall, 1975). I have always reacted, as Keynes did in the 1930s, to the view that most unemployment in most contexts is voluntary or 'natural' due to the laziness of workers or the malfunctioning of labour markets, and has nothing to do with the demand for labour in the aggregate. After all, in wartime, everyone is employed. My reading of economic history is that most episodes of high unemployment have been of an involuntary nature – a type of unemployment now largely forgotten by a younger generation of economists brought up on American textbooks full of the so-called 'new Keynesian' economics which attributes the major part of unemployment to institutional rigidities, particularly wage and price stickiness (see Mankiw, 2007), but which has nothing to do with Keynes's explanation of unemployment at all. To give one amusing illustration, recently I was an assessor of candidates for the Government Economic Service in the UK. One of the questions on the macroeconomics exam paper was 'Why is Unemployment in the European Union so High?'. None of the candidates who answered the question mentioned 'a lack of demand'. All the answers centred around minimum wages, wage rigidity, labour immobility, high unemployment compensation payments and stubborn trade unions. When I asked one of the candidates in interview whether he had heard of the Keynesian revolution, he replied 'I've heard of Keynes, but not of the revolution'!

My interest in unemployment goes back to my first economics teacher at school³ who told us graphic tales of unemployment during the Great Depression of the 1930s, and how his

³ His name was Merlyn Rees who later went into politics and was Home Secretary during the government of James Callaghan 1976-1979.

father had walked from a small mining village in South Wales to London to find work. My own father came from Cumberland to London for the same reason (although not on foot!). Even as a schoolboy, I was taught some elementary Keynesian economics, but I didn't buy my first copy of Keynes's *General Theory of Employment, Interest and Money* until university in 1960 when its paperback price was 8 shillings and 6 pence (8/6d in old money), or 43 new pence. The price is now £18.99 – a forty-fold increase. One of the first things I ask my students in macroeconomics seminars is why they think the price has risen so much? Is it the increased monopoly power of the publisher? Is it the profligacy of the Bank of England 'printing' too much money? Or is it rising wage costs? I don't answer the question but I get the students thinking before introducing them later to chapter 21 of the *General Theory*, and Keynes's devastating attack on the quantity theory of money – which was the dominant orthodoxy of the time as far as inflation is concerned.

As a graduate student in the US, I took a course in the History of Economic Thought, and Keynes's *General Theory* was one of the set texts (along with Marshall's *Principles* and Chamberlin's *Monopolistic Competition*). For the first time, I studied the *General Theory* in depth, and appreciated more fully than ever before where all the important concepts in modern macroeconomics come from, which many of the younger generation of economists don't seem to be aware of.⁴ The central message I learnt, of course, (if I didn't know it already) was that in contrast to classical theory, not all unemployment in an economy is necessarily frictional, structural or voluntary due to a refusal of workers to accept a cut in their real wage. There can be such a thing as involuntary unemployment because:

- (a) workers can be off their supply curve for most of the time because they are not in a position to equate the real wage with the marginal disutility of work, and certainly will not withdraw their labour in the event of a small rise in the price of wage goods i.e. the supply of labour is not a function of the real wage as in classical theory, but the money wage

⁴ I recently informed a young colleague with a PhD from a prestigious UK University that the term 'liquidity preference' was first coined by Keynes. It came as a revelation to him!

- (b) an economy can get stuck at a point where workers would like to work more at the current *money* wage (and a lower real wage, if necessary) given the opportunity, but they cannot
- (c) at the aggregate level, it is the level of employment, determined by effective demand, that determines the real wage, not vice versa
- (d) a cut in money wages is no guarantee of a cut in real wages because wages are both a cost and a component of demand. Falling wages may mean falling prices, particularly in competitive markets.

The only way of analysing the effect of wage cuts on employment is by analysing the effect of wage cuts on the components of aggregate demand; namely consumption, investment and the foreign balance. Most important of all, Keynesian conclusions concerning the long-run breakdown of effective demand and involuntary unemployment do *not* depend on the assumption that money wages and prices are rigid, but rather depend on uncertainty associated with the existence of money, and what Keynes called ‘the peculiar properties of money’; its ‘zero elasticity of production’ and its ‘zero elasticity of substitution’. This means firstly that money is not like any other good because factors of production are not employed in its production (or money doesn’t grow on trees as Paul Davidson (1978) would say) so that as economic agents switch from buying goods to holding money there is a net diminution in the demand for goods; and secondly, even if the price of goods falls, and the rate of interest rises, agents still want to hold money.

My PhD was partly on regional differences in unemployment in the UK where I first formally identified a cyclical element, and that the cyclical component was higher in the high unemployment regions than in the low unemployment regions (Thirlwall, 1966). By definition, cyclical unemployment is demand-deficient unemployment. When I gave a paper to the British Association for the Advancement of Science in 1973 on the topic of ‘Regional Economic Disparities and Regional Policy in the Common Market’ (Thirlwall, 1974) arguing the case for a demand stimulus in high unemployment regions of Europe, it elicited a very

hostile (typically neoclassical) response from Harry Johnson who that year was President of the Economics Section of the Society (Section F). He wrote (Johnson, 1974):

“My main objection to the Thirlwall approach – is that a great deal of fairly high-powered theory is laid out in defending the need for regional policy and explaining why effective policy is likely to be much more difficult than it seems, without any questioning of the hypothesis that the source of regional disparities is to be found in demand and not in supply factors. After generations of regional disparities, going well back beyond the demand deficiency period of the 1920s and 1930s and involving pretty much the same regional disparity pattern in spite of tremendous changes in British industrial location and production structure, there is at least plausibility in the alternative hypothesis that regional social structures arrive at different preferred patterns as to unemployment rates and real wages while employed, the differences reflecting observable differences between the utility values of leisure time on the one hand and material standards of living on the other. If this is so, regional differences in unemployment rates may represent equilibrium and not disequilibrium regional social choices; and policy, if it seeks (perhaps socially wrongly) to equalise regional employment percentages, may have to tackle basic social attitudes on the supply side of work desires rather than employment opportunities made available by subsidy policies.”

This is long-hand⁵ for the typical neoclassical view that the explanation of regional and national differences in unemployment is that work/leisure preferences differ spatially, or, more pejoratively, people in some locations are lazier than in others. This is also what typified the Thatcher view of high unemployment in Britain in the 1980s, summed up in the immortal words of one of her Ministers, Norman Tebbit, that unemployed workers should ‘get on their bikes’ – there is plenty of work out there to be done. Unfortunately, what this view of unemployment doesn’t explain is why lazy people should all be concentrated in particular geographic locations, especially when institutional structures do not differ inter-regionally. Why are they not randomly distributed across the country?

As well as doing research on unemployment, I was also involved in the late 1960s in policy-making to reduce unemployment, working as an Economic Adviser in the newly-created Research and Planning Division of the Department of Employment and Productivity,

⁵ Harry Johnson was always verbose, and holds the record for the longest sentences ever written in the literature of economics.

charged with the responsibility of providing the economic rationale for reform of the Employment Exchange system in the UK, which at that time had the dual function of dispensing unemployment compensation payments (hence its dole queue image) and finding work for people. We argued the case for separation of the two functions, and for the establishment of a network of modern, computer-connected, Job Centres across the country with the sole responsibility of matching the supply and demand for labour to reduce levels of frictional and structural unemployment. Such a network was created, with estimates of the conditions under which the benefits in terms of increased output would exceed costs (Thirlwall 1969b, 1972). Unemployment in the UK was rising at this time, and the Phillips Curve was also beginning to shift outwards. In fact, one of the arguments for ‘more active manpower policies’ was to improve the trade-off between inflation and unemployment because it was shown formally (and empirically) that the greater the degree of disequilibrium between occupational and regional labour markets, the more unfavourable the aggregate trade-off will be (Lipsey, 1960; Archibald, 1969; Thirlwall, 1969a). It is not easy to evaluate the success of active manpower policies because their effects at any one time tend to get swamped by aggregate demand changes. This was true in the UK in the 1970s and 1980s when unemployment rose unrelentingly firstly as a result of the world recession following the oil price increase in 1973, and then as a result of demand deflation to squeeze inflation out of the economy, culminating in the ill-fated monetarist experiment of the early 1980s which led to unemployment rising to 3.4 million in 1986 (or 11.2 percent of the workforce). Unemployment has never returned to the levels of 1.5 to 2.5 percent, which were the norm in the 1950s and 1960s. The policies of the 1970s and 1980s, which devastated large sections of British industry, appear, in retrospect, to have done permanent damage to the ability of the economy to operate at such low levels of unemployment without causing inflationary pressure, despite the emasculation of the trade unions. The phenomenon of hysteresis has

caused frictional and structural unemployment to rise in the UK, despite institutional changes to improve the functioning of labour markets.

But economists rarely talk about types of unemployment any more. They talk of ‘natural’ rates of unemployment; and Keynesian modes of thinking have disappeared almost entirely. There has been a return to pre-Keynesian, even anti-Keynesian, modes of thinking, particularly in the US and within the European Union. In an article ‘The Death of Keynesian Economics’, written in 1980, Robert Lucas (later a recipient of the Nobel-prize for economics) went as far as to say “one cannot find good under-forty economists who identify themselves or their work as ‘Keynesian’. Indeed, people often take offence if referred to as Keynesians. At research seminars, people don’t take Keynesian theorising seriously any more; the audience starts to whisper and giggle at one another.” (Lucas, 1980). For Lucas, and his followers, there is no such thing as involuntary unemployment, but as Frank Hahn (1982) once said “I wish he [Robert Lucas] would become involuntarily unemployed and then he would know what the concept is all about”!

In the rest of this paper, I briefly discuss pre-Keynesian (classical) employment theory; I rehabilitate and resurrect Keynes’s concept of involuntary unemployment; I apply the relevance of the concept to the high rate of unemployment in the core countries of the European Union, especially since the implementation of the Maastricht Treaty in 1992, leading up to monetary union in 1999; I am critical of the idea that this high unemployment somehow constitutes a ‘natural’ rate, and finally I consider the relevance of Keynesian thinking in the context of developing countries, and particularly the role of deficit financing, where the major task of employment creation is to raise the rate of capital accumulation, and to move towards the use of more labour intensive techniques of production, simultaneously.

Classical Employment Theory

Keynes's understanding of the classical theory of employment (and unemployment), and his attack on it, was largely based on Arthur Pigou's book *The Theory of Unemployment*, published in 1933. According to Pigou, and the latter-day (neo) classical economists that now dominate thinking and policy-making in the eurozone of the European Union:

“with perfectly free competition among work people and labour perfectly mobile, the nature of the relation (i.e. between the real wage rates for which people stipulate and the demand function for labour) will be very simple. There will always be at work a strong tendency for wage rates to be so related to demand that everybody will be employed. Hence in stable conditions everyone will actually be employed. The implication is that such unemployment 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” (p.252).

If the demand for labour is a decreasing function of the real wage on the assumption of diminishing returns to labour (the first classical postulate), and the supply of labour is an increasing function of the real wage to compensate for the increasing marginal disutility of work (the second classical postulate), then what Pigou says is tautologically true; there must always be a real wage that clears the labour market. But as Keynes notes in the *General Theory* (p.275), Pigou's book, *The Theory of Unemployment*, is a misnomer because it is not about *unemployment* (emphasis added), but about how much employment there will be, given the supply function of labour when the conditions for full employment are satisfied. It is not capable of telling us what determines the *actual* level of employment, and has no bearing on involuntary unemployment. In fact, the two classical employment postulates admit the possibility of only two types of unemployment, ‘frictional’ and ‘voluntary’, and there are only four means of increasing employment: (i) reducing frictions in the labour market; (ii) a decrease in the marginal disutility of labour; (iii) an increase in the marginal physical product of labour, and (iv) an increase in the price of non-wage goods compared to the price of wage-goods. But Keynes asks rhetorically:

“is it true that the above categories are comprehensive in view of the fact that the population generally is seldom doing as much work as it would like to do on the basis of the current wage?” (p.7).

Surely, says Keynes:

“more labour would, as a rule, be forthcoming at the existing money wage if it were demanded” (p.7)

Here we come to the nub of the issue. Is the supply of labour a function of the real wage (as classical theory assumes) or the money wage? Keynes is in no doubt that it is the latter, firstly because workers do not normally withdraw their labour in the event of prices rising (with money wages constant), and, secondly, in any case, workers are not in a position to equate their real wage with the marginal disutility of work because they can only determine their money wage and have no control over prices. As Keynes remarks:

“it is important to emphasise that the whole of Professor Pigou’s book is written on the assumption that any rise in the cost of living, however moderate, relatively to the money wage, will cause the withdrawal from the labour market of a number of workers greater than that of all the existing unemployed” (p.277)

and

“it is fantastically far removed from the facts to assume, at a time when statistical unemployment in Great Britain exceeded 2,000,000 (i.e. when there were 2,000,000 men willing to work at the existing money wage) that any rise in the cost of living, however moderate, relatively to the money wage would cause withdrawal from the labour market of more than the equivalent of all these 2,000,000 men” (p.277)

Attempts to reduce real wages by cutting money wages would likely be resisted

because workers are concerned with wage relativities, but:

“it would be impractical to resist every reduction in real wages due to a change in the purchasing power of money which affects all workers alike; and in fact reductions in real wages arising in this way are not, as a rule, resisted unless they proceed to an extreme degree” (p.14)⁶

Interestingly, Keynes had no criticism of the market *allocating* jobs efficiently,

simply that it cannot guarantee to provide enough jobs:

⁶ This difference in behaviour according to how the real wage reduction comes about has nothing to do with money illusion.

“I see no reason to suppose that the existing system seriously misemploys the factors of production that are in use. There are, of course, errors of foresight; but these would not be avoided by centralising decisions. When 9,000,000 men are employed out of 10,000,000 willing and able to work, there is no evidence that the labour of these 9,000,000 is misdirected. The complaint against the present system is not that these 9,000,000 men ought to be employed on different tasks, but that the tasks should be available for the remaining 1,000,000 men. It is in determining the volume, not the direction, of actual employment that the existing system has broken down” (p.379)

Involuntary Unemployment

By attacking the second classical employment postulate that the supply of labour is a function of the real wage, and instead making the supply of labour a function of the money wage, Keynes was able to identify a third type of unemployment, in addition to frictional and voluntary unemployment, which is involuntary. Keynes writes:

“we need to throw over the second postulate of the classical doctrine and to work out the behaviour of a system in which involuntary unemployment in the strict sense is possible” (p.17)

Keynes’s definition of involuntary unemployment is worth repeating in full, if only to remind those of classical/neoclassical persuasion that it has nothing to do with rigid money wages:

“men are involuntarily unemployed if, in the event of a small rise in the price of wage goods relatively to the money wage, both the aggregate supply of labour willing to work for the current money wage and the aggregate demand for it at that wage would be greater than the existing volume of employment” (p.15)

The definition is actually unnecessarily complicated, and one could simply say that a person is involuntarily unemployed if they are willing to work at the going money wage given the opportunity. This could be associated in the short run with a lower or higher real wage depending on whether there is diminishing or increasing returns to labour. Keynes assumed, like the classical theorists, that increased employment would be associated with a lower real

wage because of diminishing returns,⁷ but as Dunlop (1938) and Tarshis (1939) first showed, employment and real wages tend to move together in the same direction, not inversely.

Keynes's (1939) reaction to Dunlop and Tarshis was to say:

“it seems we have been living all these years on a generalisation which held good, by exception in the years 1880-1886, which was the formative period in Marshall's thought on this matter, but has never once held good in the fifty years since he crystallised it” (p.38)

But he was pleased because he said that the inverse relation between employment and real wages was inconvenient for his theory because:

“it had a tendency to offset the influence of the main forces which I was discussing and made it necessary for me to introduce qualifications which I need not have troubled with if I could have adopted the contrary generalisation” (i.e. of a *positive* relation between employment and the real wage)

In particular:

“the practical case for a planned employment policy is considerably reinforced --- because no reduction in the real wage is implied”

Even Pigou (1938) conceded in his debate with Kaldor and Keynes on the relation between money wages and employment that the expansion of employment brought about by money wage cuts and reduction in the rate of interest may not be accompanied by diminishing marginal physical returns if a good deal of equipment is idle: “Thus we must not say, as I said in December, that, apart from cases of neutral equilibrium, the cut in money wage rates acts on employment *through* the rate of real wages”. There is now enough empirical evidence to seriously undermine the orthodox assumption that diminishing returns to labour prevail, at least in large sections of manufacturing industry and services, over the range of unemployment relevant to policy debate. Over the trade cycle, it is now well established that labour productivity falls during recessions because of labour hoarding and rises during recovery. In the long run, when all factors of production are variable, there are increasing

⁷ It is not entirely clear that Keynes based his belief in diminishing returns to labour on the law of variable proportions because in some sections of the *General Theory* (e.g. p.295) he mentions that if labour was homogenous there would be constant returns. This would imply a belief in diminishing returns based on the use of ‘inferior’ labour, the greater the volume of employment.

returns in a wide range of economic activities. If the capital-output ratio is roughly constant, these returns must accrue to labour. Again, labour's marginal product rises and its marginal cost falls. The result is that we witness, through time, production, employment, real wages and consumption per capita all rising together.

To explain involuntary unemployment, Keynes resurrects Malthus's concept of 'effective demand', and he was puzzled why later classical economists forgot the concept. He blames Ricardo for accepting Say's Law of markets that supply creates its own demand: "Ricardo conquered England as the Holy Inquisition conquered Spain":

"the great puzzle of Effective Demand with which Malthus had wrestled vanished from economic literature. You will not find it mentioned even once in the whole works of Marshall, Edgeworth and Professor Pigou, from whose hands classical theory has received its most mature embodiment. It could only live furtively, below the surface, in the underworlds of Karl Marx, Silvio Gessell or Major Douglas" (p.32)

Keynes might express a similar sentiment today: "the concept of effective demand with which I wrestled has vanished from the economics literature. You will not find it mentioned hardly at all in modern textbooks or in financial organisations such as the European Central Bank ---- it only lives on furtively in the underworld of Post Keynesian economics. Remember the quote from Robert Lucas that economists don't take my theorising seriously any more; the audience starts to laugh and giggle at one another".

Keynes was also puzzled why contemporary economists continued to ignore the growing divorce between what classical theory predicted, and the facts of experience:

"professional economists after Malthus, were apparently unmoved by the lack of correspondence between the results of their theory and the facts of observation --- a discrepancy which the ordinary man has not failed to observe, with the result of his growing unwillingness to accord the economists that measure of respect which he gives to other groups of scientists whose theoretical results are confirmed by observation when they are applied to the facts" (p.33)

Keynes's only explanation was that:

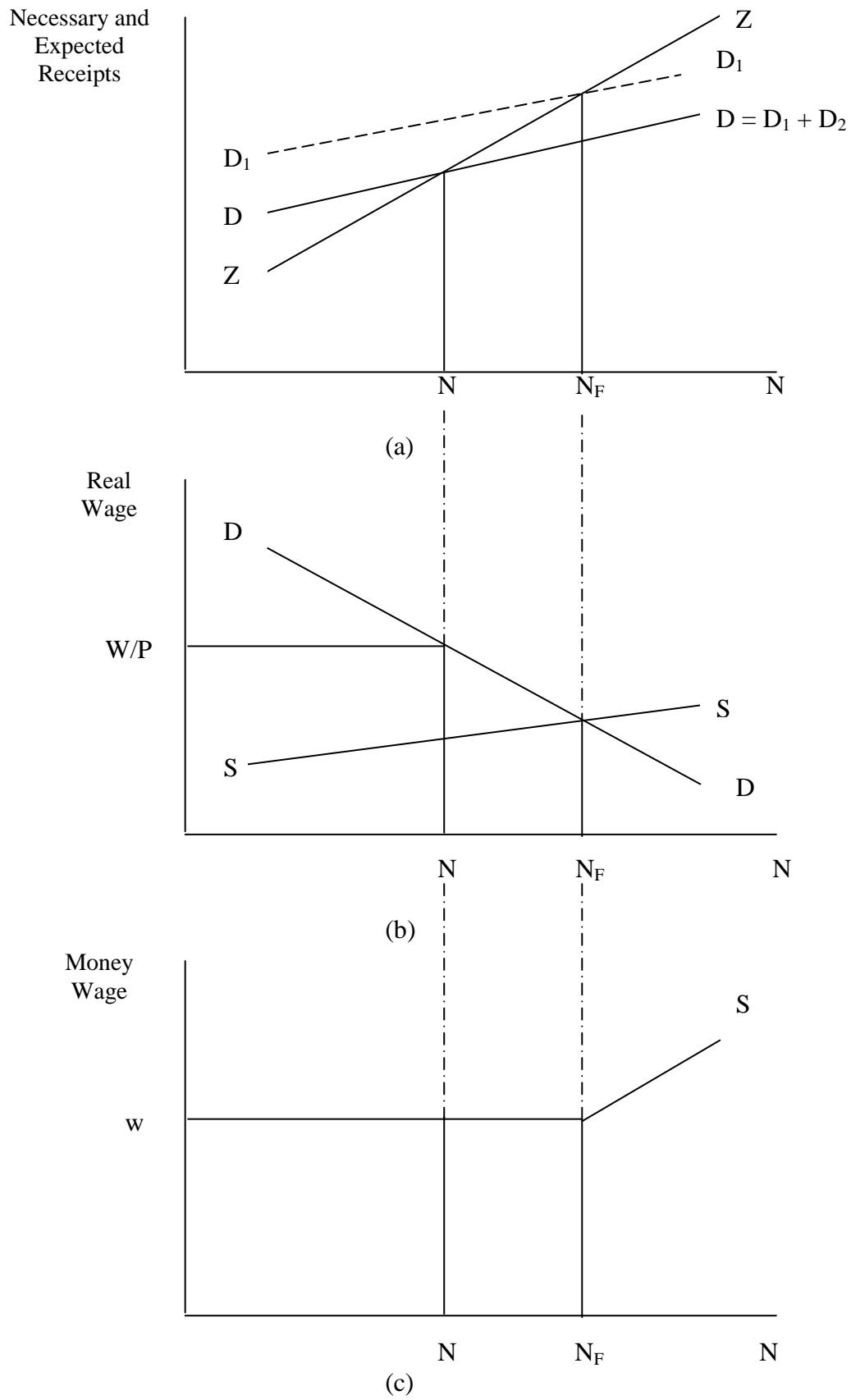
“contemporary thought is still deeply steeped in the notion that if people do not spend their money in one way, they will spend it in another – [but] those who think in this way are deceived, nevertheless, by an optical illusion which makes two essentially different activities [i.e. saving and investment] appear to be the same. They are fallaciously supposing that there is a nexus which unites decisions to abstain from present consumption with decisions to provide for future consumption; whereas the motives which determine the latter are not linked in any special way with the motives that determine the former” (pp.20-21)

Here lies the heart of the Keynesian revolution: that for the first time the schedules of saving and investment are divorced from one another; there is no price that necessarily equilibrates the two at full employment, so there can be a deficiency of aggregate demand; output is not necessarily self-financing; supply does not necessarily create its own demand; Say’s Law is buried once and for all.

In place of Say’s Law, we have the principle of effective demand, or more precisely the point of effective demand which determines the aggregate level of employment in the economy, and which has a *unique* value. This is determined (see Figure 1 (a)) where the expected receipts schedule (DD), from the employment of N number of workers, composed of consumption (D_1) and investment expenditure (D_2), cuts from above the necessary proceeds schedule (ZZ) determined by the cost of employing N number of workers at point X. DD is flatter than ZZ because as employment and income increases, consumption increases but not by as much as income. By contrast, in classical theory (or with Say’s Law) there is no unique point of effective demand because aggregate demand (expected receipts) always accommodates itself to aggregate supply (necessary receipts) through the interest rate mechanism. In effect, DD and ZZ are coincident with one another; or as Keynes puts it:

“that is to say effective demand, instead of having a unique equilibrium value, is an infinite range of values all equally admissible; and the amount of employment is indeterminate except in so far as the marginal disutility of labour sets an upper limit” (p.26)

Figure 1
Keynesian Involuntary Unemployment



In other words:

“Say’s Law that the aggregate demand price of output as a whole is equal to its aggregate supply price for all volumes of output, is equivalent to the proposition that there is no obstacle to full employment. If, however, this is not the true law relating the aggregate demand and supply functions, there is a vitally important chapter of economic theory which remains to be written and without which all discussions concerning the volume of employment are futile” (p.23)

Once the point of effective demand is determined in Figure 1 (a), giving an employment level N . this determines the level of the real wage in Figure 1 (b). Keynes says explicitly:

“for every value of N there is a corresponding marginal productivity of labour in the wage-goods industries; and it is this which determines the real wage------. The propensity to consume and the rate of new investment determine between them the volume of employment, and the volume of employment is uniquely related to a given level of real wages – *not the other way round*”. (emphasis added) (p.29)

The level of employment, N , is below the full employment level, N_F , where the supply and demand for labour are equal, but the cause is not real wage resistance. Many workers are off their (classical) supply curve, and at least NN_F workers would be willing to work at a lower real wage given the opportunity with an expansion of aggregate demand in the economy i.e. with an upward shift in the DD curve to D_1D_1 in Figure 1(a). Figure 1(c) shows the same number of workers willing to work at the same money wage, but at a lower real wage, and this is Keynes’s measure of involuntary unemployment. Figures 1(a) to 1(c) can be summed up in Keynes’s own words:

“Hence the volume of employment in equilibrium depends on (i) the aggregate supply function [ZZ] --- (ii) the propensity to consume [D_1] – and (iii) the volume of investment [D_2] ---. This is the essence of the General Theory of Employment” (p.29)

Unemployment in the European Union

How does all this relate to unemployment currently prevailing in the European Union (EU)? It is directly related because policy-makers in the EU, and particularly the European Central Bank (ECB), effectively deny that unemployment existing beyond point N can be

reduced by policies of demand expansion without creating excessive inflationary pressure (or, more precisely, without accelerating inflation). The current unemployment rate in the core EU and eurozone countries of Germany, France and Italy is close to 8 percent. Apparently, none of the unemployed are willing to work at the going money wage given the opportunity. In other words point N (92 percent employment) is regarded as a 'natural' rate of employment, determined by structural factors and the characteristics of the labour market. There is no involuntary unemployment. This is what needs challenging, which it is not difficult to do. Firstly, there is the empirical evidence of what has happened to unemployment in the EU since the 1960s, and in the eurozone countries since the Maastricht Treaty was signed in 1992, paving the way for monetary union in 1999. Secondly, the concept of a 'natural' rate of employment (or unemployment) is so flawed in its underlying assumptions, and in the way that it is measured, as to be virtually useless as a guide to the conduct of economic policy for the achievement of full employment without inflation, as the performance of the US economy has demonstrated over the last decade or so (see later).

Applied labour economists seem to be divided over the precise causes of the rise in unemployment in the EU since the 1960s, but none of the serious studies attributes it solely to structural or institutional changes in the labour market. How could they, because as Blanchard and Wolfers (2000) point out: "Explanations (of high unemployment) based solely on institutions – run – into a major empirical problem: many of the institutions were present when unemployment was low ---. Thus, while labour market institutions can potentially explain cross-country differences today, they do not appear able to explain the general evolution of unemployment over time". Similarly, Oswald (1997) remarks: "Despite conventional wisdom, high unemployment [in Europe] does not appear to be primarily the result of things like overgenerous benefits, trade union power, taxes or wage 'inflexibilities'." Nickell et al. (2005) provide, perhaps, the most thorough (econometric)

and eclectic story that of the 6 – 7 percentage point rise in the unemployment rate between 1960 and the mid-1990s, one-half can be attributed to institutional changes in the labour market, such as the unemployment compensation payment system, the system of wage determination, employment protection, labour taxes, and barriers to labour mobility, and the other half to demand deficiency. The high level of unemployment has persisted, and even increased in some countries since the mid-1990s, so that at least 3 – 4 percentage points of unemployment in the EU can be described as involuntary, or approximately seven million workers.⁸

In the big core countries of the EU, the situation worsened in the 1990s because to qualify to participate in monetary union, the Maastricht Treaty required that countries meet certain convergence criteria relating to interest rates, inflation, government budget deficits, and government debt relative to GDP. The achievement of the latter three targets all required deflation as far as the major countries of the potential eurozone were concerned, and it is no wonder unemployment rose. Table 1 shows the average level of unemployment (and the rate of consumer price inflation) in the eurozone countries plus, for comparison, Denmark and the UK outside the eurozone, and the US (outside the EU), in the twelve years before the Maastricht Treaty was signed and fifteen years after. It is true that unemployment has fallen in some of the smaller countries such as Belgium (marginally); Ireland (dramatically); the Netherlands, and Portugal. Spain also shows a slight fall, but unemployment rose significantly for seven years between 1992 and 1999. But in the big eurozone countries of Germany, France and Italy, unemployment has increased significantly, and so too in Finland and Sweden – more than doubling in both cases. This is a very poor record for a monetary union which promised increased trade, faster growth and job creation. In Denmark and the

⁸ J. Cornwall (2007) presents a convincing aggregate demand model explaining the successive cyclical rises in unemployment in the OECD countries since the ‘golden age’ of the 1950s and 1960s.

UK, which took the decision not to be part of the eurozone, unemployment has fallen; so, too, in the US.

There is very little evidence that the *increase* in unemployment in the major eurozone countries is of the ‘structural’ (non-demand deficient) variety. If it was, unemployment and inflation would have risen together, but it can be seen from Graph 1 (constructed from the data in Table 1) that in Germany, France, Italy, Finland and Sweden, unemployment rose as inflation fell, suggesting a conventional negative trade-off between those two variables. The price of attempting to achieve price stability in the eurozone has been the sacrifice of jobs. Also across countries, at least in the period 1992-2006, there is a suggestive negative relation between the rate of inflation and the level of unemployment, as can be seen in Graph 2. There are outliers on the graph – Portugal, Ireland, Spain and Italy – but ten of the countries lie almost on a straight line showing the lower the inflation rate, the higher the unemployment rate, and vice versa.

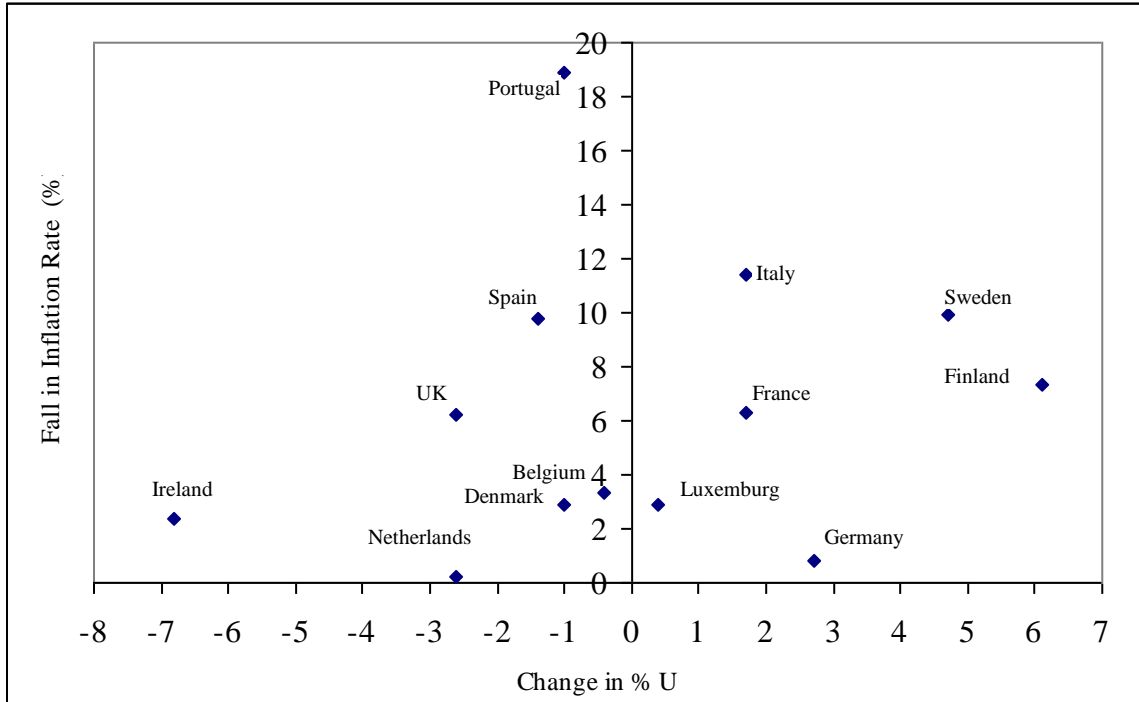
Table 1
Average Levels of Unemployment and Consumer
Price Inflation Before and After 1992 (%)

Euro Zone Countries	Unemployment %			Inflation %		
	1980-1991	1992-2006	Change	1980-91	1992-2006	Change
Austria	—	4.2 ^a	—	4.2	2.4	-1.5
Belgium	8.8	8.4	-0.4	5.6	2.3	-3.3
Finland	5.3	11.4	+6.1	8.9	1.6	-7.3
France	8.5	10.2	+1.7	8.2	1.9	-6.3
Germany	5.6	8.3	+2.7	3.1	2.3	-0.8
Ireland	15.0 ^b	8.2	-6.8	5.9 ^b	3.5	-2.4
Italy	8.0	9.6	+1.7	15.2	3.5	-11.4
Luxembourg	2.5 ^b	2.9	+0.4	5.4	2.5	-2.9
Netherlands	7.1	4.5	-2.6	2.9	2.7	-0.2
Portugal	6.9 ^c	5.9	-1.0	24.0 ^c	5.1	-18.9
Spain	14.3	12.9	-1.4	14.3	4.5	-9.8
Sweden	2.6	7.3	+4.7	11.6	1.7	-9.9
Non-Euro Countries						
Denmark	6.8 ^b	5.8	-1.0	5.3 ^b	2.4	-2.9
UK	9.2	6.6	-2.6	8.4	2.2	-6.2
USA	9.2	6.6	-2.6	5.9	3.2	-2.7

Notes: (a) 1973-2006; (b) 1982-1991; (c) 1983-1991

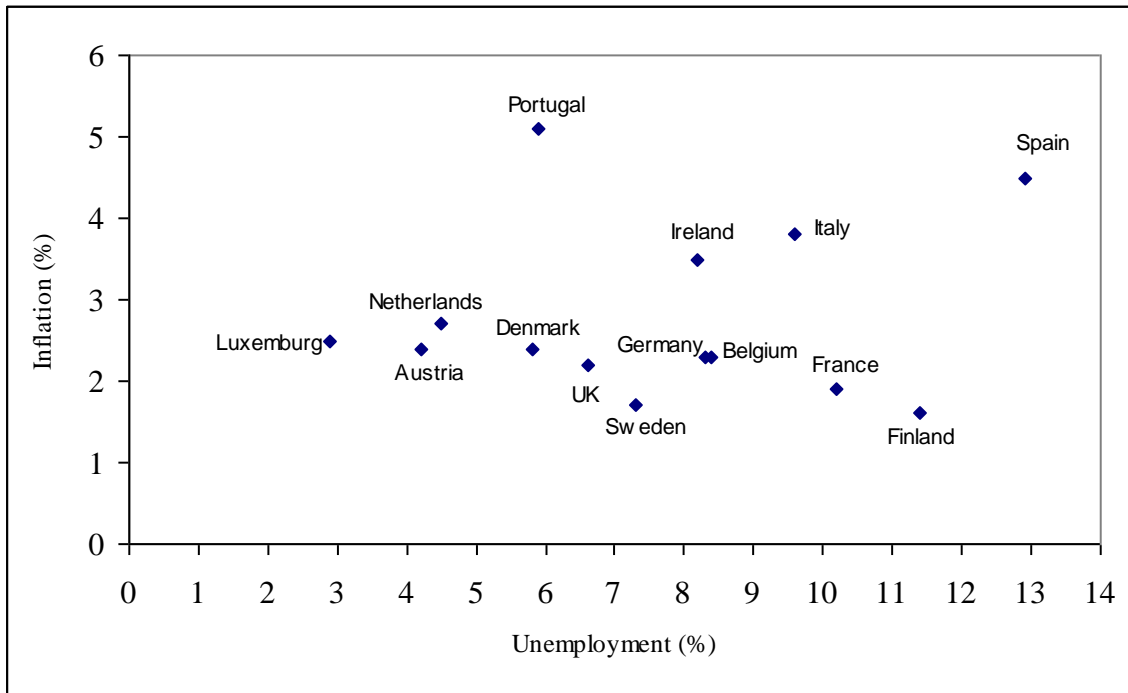
Source : OECD Standardised Unemployment, and Inflation, Statistics (Paris : OECD)

Graph 1
Relationship Between the Change in Unemployment and the Change in the Inflation Rate, 1980-91 to 1992-2006



Source: Table 1.

Graph 2
The Relation Between Inflation and Unemployment Across Countries, 1992-2006



Source: Table 1.

In some of the smaller European countries the unemployment rate has fallen, and the rate of inflation has also fallen, suggesting an improvement in the trade-off between inflation and unemployment. This is to be welcomed, but the fact remains that in the big countries of the eurozone, which account for over 70 percent of the workforce, there has been a chronic deficiency of demand for labour.

The reason for this demand-deficiency is that both fiscal and monetary policy have been deflationary through the Growth and Stability Pact on the one hand, and by the actions of the ECB on the other whose only remit is to keep the rate of inflation below 2 percent per annum without regard to the growth of output, employment or unemployment. The Growth and Stability Pact, agreed at the Dublin Summit 1996, restricted government budget deficits to 3 percent of GDP, regardless of the nature of the deficits; whether they were structural or cyclical. Romano Prodi, former President of the European Commission, was later to describe the Pact as the Growth and Stupidity Pact, and he was right to do so. As John Williamson (1980) once said of the target for the Public Sector Borrowing Requirement (PSBR) in the UK, introduced by the Thatcher government in 1979: “to treat a nominal, inflation unadjusted, cyclically unadjusted PSBR target as a constraint on economic policy (let alone as an objective) is economic barbarism”. The Pact now seems to have fallen into abeyance, but the damage has been done by governments cutting expenditure to try to meet the target, even in recession.

While a fixed deficit to GDP ratio pays no regard to demand management, neither does the ECB in setting interest rates. In fact, the ECB does not believe in demand management, as if the Keynesian revolution never happened. Unemployment is the outcome of the characteristics of the labour market; rigid wages, and labour immobility. It has nothing to do with the level of demand in the economy. The only remit of the ECB is to keep the rate of inflation in the eurozone below 2 percent per annum, despite any scientific

evidence that 2 percent is an ‘optimal’ rate of inflation for maximising growth and employment.⁹ The instrument it uses is the interest rate which it threatens to raise if there is any sign that inflation might exceed the 2 percent target, which then sends damaging signals to the private sector, particularly investors. This is voodoo economics. Apart from the fact that the eurozone is not an optimal currency area, which no-one disputes (not even the ‘father’ of optimal currency areas, Robert Mundell), the interest rate set by the ECB will always be some compromise rate which suits no one country in particular: too low for countries overheating and too high for countries that are stagnant. The interest rate also affects, of course, the euro exchange rate which can damage growth if monetary policy is ‘too tight’ and the currency becomes overvalued. Mr Eddie George, former governor of the Bank of England, once famously declared: “the Bank’s job is to maintain macro-stability for the whole country, and discrepancies between regions and industries were regrettable but inevitable”. A less polite way of saying the same thing would have been “high unemployment in the north of England (and elsewhere) is a price worth paying for ‘southern stability’.” Equally the President of the ECB could say the same for the countries of the eurozone; high unemployment in Germany, France and Italy is a price worth paying for price stability in the eurozone as a whole. It is not an attractive scenario, especially in view of the ECB’s stubbornness to consider any alternative stance. Is it a ‘price worth paying’? How does it know in advance that if it is more relaxed in its monetary policy, unemployment will not come down without inflation rising? The Reagan government in the US had the same attitude to monetary policy and unemployment in the early 1980s when unemployment approached 10 percent, but look what happened there. *Faut de mieux*, Reagan became the greatest Keynesian ever to occupy the White House. Expansionary policies were continued by the Clinton administration in the 1990s. Unemployment fell to below 5 percent without

⁹ The international evidence is, in fact, to the contrary. See Thirlwall (2005).

accelerating inflation, when the majority consensus in the 1980s was that the ‘natural’ rate of unemployment was 7 – 8 percent (the average level then prevailing). Now the US Federal Reserve officially believes that it can operate with unemployment of 4.5 percent in the long term without generating extra inflation. In fact, the forecasts for 2007 and 2008 are that unemployment will be 4.5 to 4.75 percent while inflation will *fall* from 2 to 2.5 percent in 2007 to 1.75 to 2 percent in 2008. So much for the concept of a ‘natural’ rate of unemployment if it can change so quickly. The staff at the Federal Reserve describe the natural rate as “imprecise and time-varying”, which is reminiscent of Friedman’s description of the relation between changes in the money supply and inflation as “long and variable”. At least the Fed is honest, but Keynesian economists could have told it four decades ago that there is nothing natural about the ‘natural’ rate of unemployment. As I shall show below, estimates of the natural rate of unemployment from an expectations augmented Phillips curve will always mirror the actual rate of unemployment because the determinants of the so-called natural rate (i.e. the level of structural unemployment, and labour productivity growth in the growing economy) depend on the strength of aggregate demand in the economy as a whole. In other words, the concept of the natural rate of unemployment is a theoretical construct with no operational significance. It cannot be known in advance. The ECB needs to remove its classical blinkers, and to test the water as the US did. Unemployment is too serious to be dictated by voodoo economics.

A Critique of the Natural Rate of Unemployment¹⁰

According to Milton Friedman (1968), the natural rate of unemployment is supposed to be that rate of unemployment ‘ground out by the Walrasian system of general equilibrium equations’, determined by real factors, reflecting particularly the level of structural and

¹⁰ This section is based on Thirlwall (1983).

frictional unemployment in the economy and the growth of labour productivity in a growing economy. Attempts to reduce unemployment below this rate will lead to ever-accelerating inflation. In practice, however, given the way that the natural rate of unemployment is usually measured using an expectations augmented Phillips curve, it can be shown that the estimated natural rate will always mirror the actual rate of unemployment because the parameters and variables determining the natural rate depend themselves on the pressure of demand for labour. So-called estimates of the natural rate of unemployment, therefore, will contain elements of both structural, frictional and involuntary unemployment, and provide no guide to appropriate policy-making.¹¹

The expectations-augmented Phillips curve may be specified as:

$$\dot{w} = a - b(U) + \dot{p}^e \quad (1)$$

where \dot{w} is the growth of money wages; U is the percentage level of unemployment, and \dot{p}^e is the expected inflation rate. If wage increases equal expected price increases based on rational expectations (which also means no-one willing to work at a lower real wage, if necessary, given the opportunity i.e. no involuntary unemployment), the natural rate of unemployment (U^*), associated with a constant rate of inflation, is:

$$U^* = a/b \quad (2)$$

In a growing economy, real wage growth in long run equilibrium, with prices fully anticipated, is equal to the rate of growth of labour productivity (\dot{r}). Thus:

$$\dot{r} = \dot{w} - \dot{p} = a - b(U) \quad (3)$$

and hence the natural rate is:

$$U^* = \frac{a - \dot{r}}{b} \quad (4)$$

¹¹ If US policy-makers in the 1980s had taken the natural rate theorists seriously, unemployment would still be stuck at 8 – 10 percent.

The constant term 'a' in the Phillips curve equation moves counter-cyclically, and productivity growth moves pro-cyclically, which produces a positive correlation between actual unemployment and the estimated natural rate.

To show the dependence of 'a' on the pressure of demand, it is necessary to disaggregate the Phillips curve into its two structural components: first, the relation between wage changes and the excess demand for labour, and second the transformation function relating the excess demand for labour and unemployment. Using linear equations for convenience, we have in the static economy:

$$\dot{w} - \dot{p} = a_1 + b_1 \left(\frac{D-S}{S} \right) \quad (5)$$

where $(D - S)/S$ is the proportional excess demand for labour, and

$$U = a_2 - b_2 \left(\frac{D-S}{S} \right) \quad (6)$$

where a_2 represents the percentage level of unemployment when the supply of, and demand for, labour are equal i.e. the level of non-demand deficient unemployment, consisting of frictional and structural elements. Substituting for $(D - S)/S$ in equation (5) and rearranging gives the reduced-form equation:

$$\dot{w} = \left(a_1 + \frac{b_1 a_2}{b_2} \right) - \frac{b_1}{b_2} (U) + \dot{p} \quad (7)$$

If $a_1 = 0$, which is the Friedman and Walrasian equilibrium assumption, the natural rate estimate will be a reflection of the degree of frictional and structural unemployment (but not otherwise). Setting $\dot{w} = \dot{p}$, gives $U^* = a_2$; or in long run equilibrium, assuming $\dot{w} - \dot{p} = \dot{r}$, we have:

$$U^* = a_2 - \frac{\dot{r}}{b_1/b_2} \quad (8)$$

But in empirically-estimated wage equations, such as (7), there is no telling whether the constant term in the equations includes a non-zero value for a_1 or not. If $a_1 \neq 0$, then:

$$U^* = a_2 + \frac{a_1}{b_1/b_2} - \frac{\dot{r}}{b_1/b_2}, \quad (9)$$

and the estimated natural rate of unemployment is dependent on unspecified forces in addition to the level of frictional/structural unemployment and productivity growth.

One reason why a_1 may rise when demand is depressed is because producers find it harder to raise prices in line with money wage increases, implying a smaller markup on unit labour costs. In these circumstances, it can be seen from equation (5) that a_1 will be structurally unstable, registering higher values in periods of depressed demand than buoyant demand. A relaxation of profit maximisation, and firms allowing profits to be squeezed in periods of recession, would produce the same result.

In addition, the level of frictional/structural unemployment (a_2) and productivity growth (\dot{r}) partly depend on demand pressure. Structural unemployment may respond to the pressure of demand as skill dilution takes place and employers become less fussy with respect to the labour they hire. Equally, on the downturn, structural unemployment is likely to increase as the unemployed lose skills and human capital depreciates. Frictional unemployment may also vary inversely with the pressure of demand if the effect on unemployment of the greater speed with which people can obtain jobs in a tight labour market situation is greater than the effect of a higher rate of voluntary quits.

Productivity growth is pro-cyclical through both Okun's Law and Verdoorn's Law. If there is labour hoarding during recessions, productivity growth will fall, but rise during the upturn. Productivity growth will also be positively related to output growth if production is subject to static and dynamic increasing returns associated with learning by doing, increased capital accumulation and embodied technical progress, captured by the so-called Verdoorn

coefficient (see McCombie et al. 2003). If \dot{r} rises with fast output growth relative to potential (i.e. with unemployment falling), estimates of U^* will also fall.

We have shown above that for a variety of reasons, estimates of the natural rate of unemployment will vary positively with the pressure of demand and the actual rate of unemployment. If this isn't damaging enough to the concept of a given natural rate of unemployment, the very concept of the natural rate hypothesis is based on the highly dubious labour market assumption that we criticised earlier that the supply of labour is a function of the real wage, and that at any one time all workers are on their supply curve so that there are no unemployed willing to work at the going money wage given the opportunity (which may or may not imply a reduction in the real wage depending on whether the marginal cost of labour is rising or falling). There is no easy way of estimating these numbers except by surveying unemployed people, as Harold Wilson (former Prime Minister of the UK, 1964-70, 1974-76) was apparently required to do outside the Luton Labour Exchange in the 1930s while working as a research assistant for William Beveridge (see A.J. Brown in Thirlwall, 1982). The alternative, in conditions of high unemployment, is to experiment as the US did in the 1980s and 1990s, but which the ECB in the EU refuses to contemplate because of its obsession with inflation and its fixation with the classical (pre-Keynesian) theory of the labour market. To presume, as the natural rate hypothesis does, that all unemployment at any one time is of the voluntary variety, regardless of the level, holding out for a higher real wage than marginal productivity justifies, stretches credulity.

Those who estimate expectations-augmented Phillips curves and derive the so-called natural rate from them are estimating a number which adds little to an understanding of the nature of unemployment, or whether demand management can reduce the rate below whatever level is estimated without ever-accelerating inflation. In the concept of the natural rate of unemployment, we have a prime example of a theoretical construct which, apart from

being based on shaky labour market assumptions, has no empirical counterpart (*unless* the economy *is* in general equilibrium). At least those who make estimates of the natural rate from equations such as (7) should make some attempt to estimate the parameter ‘ a_1 ’ independently and exclude its effect from the estimate of U^* , to purge the estimate of cyclical demand influences in order to move closer to an estimate of the concept that Friedman (1968) originally had in mind – but even that would not solve the problem that frictional/structural unemployment and productivity growth are also demand-dependent.

Unemployment in Poor Countries

While unemployment in rich developed countries is serious, particularly in some of the big countries of the EU, its magnitude is dwarfed by the level of unemployment and underemployment in poor developing countries. Most of the one billion workers identified by the ILO as unemployed or underemployed reside in the rural and petty service sectors of the Third World. The nature of this surplus labour is complex, and so is its solution. It has both ‘structural’ and Keynesian features, and its solution requires a combination of a faster rate of capital accumulation; more labour intensive techniques of production; Keynesian policies to maintain aggregate demand in the face of shocks, and deliberate government policies to promote employment by investment in labour intensive public infrastructure projects which absorb surplus labour and at the same time increase the capacity of the economy to produce. Keynes would recognise the role of the State in developing countries, as he did in the case of demand-deficient unemployment in developed countries, although the nature of the recommended policies would differ.

One major component of surplus labour in poor countries is disguised unemployment on the land which takes the form of too many workers working too few hours (a sub-optimal day), at least outside of the harvest season. This depresses labour productivity and is a major

cause of poverty. It is no accident that the ILO's estimate of one billion unemployed and underemployed is approximately the same as the World Bank's estimate of one billion living in extreme poverty on less than \$1 per day. The underlying cause of underemployment, or disguised unemployment, on the land is the imbalance between the growth of demand for land-based products and the growth of supply. It is difficult for the growth of demand to keep pace with the growth of supply because the income elasticity of demand for most basic agricultural products is less than unity – otherwise known as Engel's Law. If the natural growth of the agricultural labour force is 2 percent per annum (p.a.), and labour productivity through technical progress rises by 3 percent p.a., the potential growth of agricultural supply is 5 percent p.a.. If the income elasticity of demand for agricultural products is, say, 0.7, an economy would have to grow at approximately 7 percent p.a. for labour to be retained in the agricultural sector. Most poor developing countries do not grow at that rate. Either the surplus labour stays in the rural sector, and depresses average product, or it migrates to the cities. Migrants who cannot find work in the formal sector of the economy crowd into the petty service sector, or informal sector of the economy, depressing average product there too. This underemployment in cities is another major source of surplus labour. In fact, for the first time this year (2007) in the history of the world, it is estimated that more people now live in urban areas than in the rural sector, with the possibility that there is now as much surplus labour in the cities as there is in the countryside.

This is the source of unemployment and underemployment on the supply-side, but what about the demand-side? Why can't redundant rural workers find jobs in the modern industrial sector? The problem lies in the fact that the rate of new job creation is not sufficient to absorb all the labour becoming available, and this has two, not mutually exclusive, explanations. Firstly, for a given set of production techniques (or a given capital to labour ratio), the problem is an imbalance between the rate of growth of capital and the

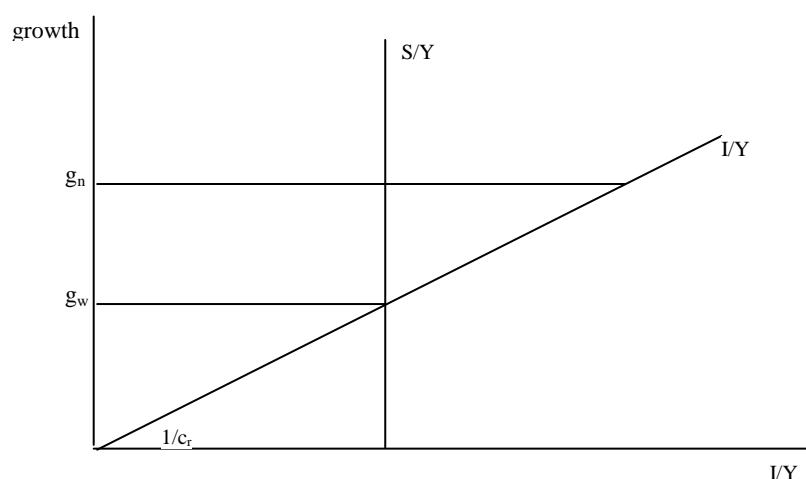
rate of growth of the effective labour force (the natural growth of the labour force plus the growth of labour productivity). The only solution is an increase in the rate of capital accumulation. Secondly, however, it could be argued that techniques of production are too capital intensive. If techniques of production are flexible, the challenge is to find more labour intensive ways of producing output without sacrificing efficiency, or the level of saving.¹² Here the Keynes-Harrod model of the relation between the natural rate of growth and the warranted rate of growth becomes a useful pedagogic device. The terms ‘natural rate of growth’ (g_n) and ‘warranted rate of growth’ (g_w) are normally associated with Harrod’s ‘An Essay in Dynamic Theory’ (1939) where he first coined them, but I deliberately put Keynes’s name first because, in fact, the concepts were anticipated by Keynes in his lecture to the Eugenics Society in 1937 on ‘Some Economic Consequences of a Declining Population’. Consider, he says, a society with a savings ratio of 8 – 15 percent and a capital-output ratio of 4, giving a rate of capital accumulation which will absorb saving of 2 to 4 percent. With a constant capital-output ratio, this is also the required growth of output. But can this growth rate be guaranteed? Historically, it appeared to Keynes that one-half of the increase in capital accumulation could be attributed to population growth; the other half to increased living standards (or growth of labour productivity). Now suppose population growth falls to zero. Since the standard of life cannot be expected to grow at more than 1 percent p.a., this means the demand for capital will only grow at 1 percent p.a. while the supply of capital grows between 2 and 4 percent p.a. – a clear and worrying imbalance which would have to be rectified either by reducing saving or reducing the rate of interest to raise the capital-output ratio. This discussion is exactly analogous to Harrod’s discussion of divergences between g_w and g_n . The required rate of growth of output to absorb saving (the savings ratio divided by the required incremental capital-output ratio) is the warranted

¹² For a detailed discussion of this issue, see Thirlwall (1995).

growth rate (g_w), and the growth determined by population and labour productivity growth is the natural rate of growth (g_n). Keynes was anticipating $g_w > g_n$ in developed countries, and the possibility of secular stagnation, but the situation is exactly the opposite in poor developing countries. If population growth plus productivity growth is approximately 5 percent; the net savings ratio (S/Y) is 10 percent, and the required capital-output ratio (c_r) is 4, this gives $g_n = 5$ percent and $g_w = 10/4 = 2.5$ percent. This discrepancy has two major consequences. Firstly, the growth of effective labour supply exceeds the growth of demand. Secondly, planned investment will exceed planned saving leading to inflationary pressure because with a potential growth rate of 5 percent, there will be profitable investment opportunities greater than the amount of planned saving. This is why, in poor developing countries, the coexistence of high unemployment and inflation is not a paradox.

To rectify this inequality between g_n and g_w there are four policy options, which are illustrated in Figure 2, which depicts an economy where $g_n > g_w$.

Figure 2
Reconciling the Natural and Warranted Growth Rates



The first possibility is to reduce g_n by reducing the growth of the labour force, but this is not feasible in the short run, but it gives a justification for population control policies. The

second possibility is to reduce g_n by reducing the growth of labour productivity, but this means slowing down the growth of living standards for those who work (for a given growth of output there is always a trade-off or conflict between employment growth and the growth of living standards). Thirdly, g_w can be increased by an increase in the savings ratio (an outward shift of the S/Y schedule). Lastly, g_w can be increased by reducing the required capital-output ratio (c_r) – a pivoting leftwards of the I/Y schedule – using more labour intensive techniques of production. In practice, only the last two options are feasible for generating more employment and reducing unemployment. I will concentrate here on the role of government in increasing the rate of capital accumulation through ‘inflationary’ finance and promoting the use of more labour-intensive techniques of production.

Governments can save and invest on society’s behalf and invest in labour intensive public projects. Two scenarios need distinguishing: the first where the Keynesian multiplier is able to work; the second where there is no Keynesian demand-deficient unemployment. In the latter case, the inflation tax becomes relevant. If resources are unemployed or underused due to a genuine deficiency of demand (after a deflationary demand shock, for example), real output and saving can be increased by government spending financed either by issuing bonds to the public or by printing money (or borrowing from the banking system which amounts to the same thing). If the multiplier can work, any tendency towards inflation should burn itself out as the supply of goods increases to match the additional expenditure incurred. In addition, some deficit-financed projects may have considerable secondary repercussions on output if they eliminate production bottlenecks. In the agricultural sector of developing countries there are many opportunities for investment that can yield output several times the money value of the capital invested in a short space of time. Credit expansion for the use of fertilisers, irrigation and transport facilities are good examples. Credit expansion for specific employment-generating schemes in the public sector is another means of employment

expansion. The capacity-generating effects of government expenditure and credit creation need to be considered alongside the demand effects.

If labour is unemployed, or underutilised, because of a lack of cooperating factors of production (mainly capital), and not demand-deficiency, the direct multiplier effects of government expenditure will be low, and deficit financing is likely to be inflationary, notwithstanding the potential capacity-creating effects of investment. This brings us to the topic of the inflation tax, and how much extra resources governments can squeeze out of the economy for capital formation and employment creation without excessive inflation.

The Inflation Tax¹³

In his *Tract on Monetary Reform* (1923), Keynes described inflation as:

‘a form of taxation that the public finds hard to evade
and even the weakest government can enforce when
it can enforce nothing else’

This is not an apologia for inflation, but it makes the point that if a government wishes to divert more of a country’s resources to investment, and it is difficult to raise tax revenue by conventional means, one of the ways it can do so is to invest on society’s behalf, financing the investment by expanding the money supply. In conditions where existing capital is fully employed, and the economy is static, money expansion will be inflationary. Inflation is the mechanism by which resources are redistributed from the private sector to the government because inflation imposes a tax on money holdings which consists of the reduction in the real purchasing power of money and of the real resources that the holder of money must forego to restore the real value of their money holdings (otherwise known as the real balance effect). The inflation tax is a form of forced saving. The base of the tax is the level of real cash balances (M/P), and the tax rate is the rate at which the real value of money is deteriorating

¹³ This section draws on Thirlwall (1974, 2006).

which is equal to the rate of inflation (dP/P). The real yield from the tax (R) is the product of the tax base and the inflation rate i.e. $R = (M/P)(dP/P)$ which will be maximised, as in standard tax theory, when the elasticity of the base with respect to the tax rate is -1.¹⁴ If the rate of inflation is equal to the rate of monetary expansion, the real tax yield (R) will equal the real value of the new money issued i.e. $R = (M/P)(dM/M) = dM/P$.

The real yield from the inflation tax available for investment as a proportion of national income (R/Y) will be the product of the money-income ratio, $(M/P)/Y$, the rate of monetary expansion, dM/M , and the proportion of the increase in the real money supply used for investment, $R_I/(dM/P)$:

$$\frac{R_I}{Y} = \left(\frac{M}{PY} \cdot \frac{dM}{M} \cdot \frac{R_I}{dM/P} \right) \quad (10)$$

To give an example, suppose the money-income ratio is 0.4, and one-half of the new money issued is devoted to investment, then a 10 percent increase in the money supply would yield 2 percent of national income for investment purposes and job creation. If all the new money is used for investment purposes, the real yield from the tax is simply the ratio of the real value of new money issued to income (our earlier result), which in this example would be 2.5 percent of national income.

These calculations assume that the desired ratio of money holdings to income remains the same regardless of the rate of inflation. In practice, the base of the tax is likely to fall because the opportunity cost of holding money rises, but empirical studies of the demand for money show that the elasticity of the base with respect to the rate of inflation is quite low, even in high-inflation countries, and certainly not in excess of -1. This suggests that the inflation tax can work even in countries that have been experiencing high inflation rates for many years. This is not necessarily to endorse the inflation tax in these circumstances, but

¹⁴ The yield will be maximised when the rate of change of the yield (dR/R) = 0. $dR/R = d(M/P)(M/P) + d(dP/P)/(dP/P)$. Setting $dR/R = 0$, gives $d(M/P)/(M/P) = -d(dP/P)/(dP/P)$. Dividing through by $d(dP/P)/(dP/P)$, gives: $d(M/P)/(M/P) \div d(dP/P)/(dP/P) = -1$.

Arthur Lewis (1955) is theoretically correct when he says: “inflation which is due to the creation of money for the purpose of accelerating capital formation results in accelerated capital formation” (p.405).

It should also be remembered that inflation is not necessarily inequalitarian if the capital accumulation is used to help the poor by investment in labour intensive projects which, by reducing the overall capital-output ratio of the country, raises the warranted rate of growth towards the natural rate. As Keynes (1930) says in Volume 2 of the *Treatise on Money*:

“the working class may benefit far more in the long run from the forced abstinence which a profit inflation imposes on them than they lose in the first instance in the shape of diminished consumption – so long as wealth and its fruits are not consumed by the nominal owners, but are accumulated”¹⁵

Keynes (1931) also described inflation as unjust and deflation as inexpedient but:

“it is worse in an impoverished world to provoke unemployment than to disappoint the rentier.”

Keynes’s concave indifference curve between inflation and unemployment would be tangential to any conventional convex trade-off between inflation and unemployment far to the left of the point of tangency of most policy-makers today in both rich and poor countries.

Non-Inflationary Finance of Investment

But is monetary expansion necessarily inflationary? Up to now, it has been assumed that the rate of inflation is equal to the rate of monetary expansion. If output is growing, however, and/or the demand to hold money relative to income is increasing, a proportion of the increase in the money supply will be non-inflationary, enabling some government

¹⁵ Admittedly, Keynes was referring to the redistribution of income within the private sector between wages and profits, but the principle is the same.

investment to be financed without a general increase in the price level. This is easily seen by taking the fundamental equation of exchange:

$$M = K_dPY \quad (11)$$

where M is the nominal money supply; K_d is the demand to hold money per unit of output (the inverse of the income velocity of circulation of money); P is the average price level of final goods and services, and Y is real income. Taking rates of growth of the variables gives:

$$m = k_d + p + y \quad (12)$$

If $k_d > 0$, and $y > 0$, m can be positive without the price level rising. In several developing countries, in the throes of monetisation, the growth of demand for money seems to be of the order of 5 percent p.a. This, combined with output growth of, say, 3 percent p.a., would mean that the non-inflationary growth of the money supply would be of the order of 8 percent per annum.

It is possible, and interesting, to calculate the fraction of investment requirements to sustain a given target rate of growth that could be financed without inflation, assuming for simplicity that the banks operate a 100 percent reserve system. Setting $p = 0$ in equation (12), the approximate increase in demand for money is equal to the product of the money stock and the growth of the money stock:

$$dM = Mm = M(k_d + y) \quad (13)$$

Dividing equation (13) by Y gives:

$$\frac{dM}{Y} = \frac{M}{Y}(k_d + y) = K_d(k_d + y) \quad (14)$$

If y is the target growth rate and c_r is the required incremental capital-output ratio, the investment ratio to achieve the growth rate is:

$$\frac{I}{Y} = c_r y \quad (15)$$

Dividing equation (14) by (15) gives:

$$\frac{dM}{I} = \frac{K_d(k_d + y)}{c_r y} \quad (16)$$

Equation (16) gives the proportion of total investment that can be financed by newly created money without leading to a rise in the price level. If $K_d = 0.3$; $k_d = 0.05$; $y = 0.03$, and $c_r = 3$, then $dM/I = 0.27$; that is, 27 percent of total investment could be financed without inflation. The estimate is high because of the 100 percent reserve ratio assumption, but the model is a good illustration of the potential that exists for the non-inflationary financing of development that results from the increased demand for money balances as an economy grows, and from the rise in the desired increase in the money-income ratio as an economy becomes more monetised. When increasing the rate of capital accumulation is a priority for job creation, governments can be too financially conservative, as well as too profligate (Thirlwall, 1974).

Conclusion

In this paper I have tried to argue that Keynes's ideas formulated in the first half of the twentieth century are as relevant today as they ever were in thinking about the nature of unemployment, and how to tackle it, in both developed and developing countries. Employment for all those who want to work is one of the hallmarks of a civilised society, and should be possible. The task is not necessarily easy, but employment creation should be one of the top economic priorities of any government in the twenty-first century where unemployment (and underemployment) is a serious phenomenon. But the nature of unemployment differs between developed and developing countries, and so does the challenge. In the rich developed countries, it is the concept of involuntary unemployment that needs resurrecting and stressing, and the important role of demand management. In the poor developing countries, it is the role of government in raising the rate of capital accumulation, and investing in labour intensive public projects, which is of prime importance.

The Keynesian counter-revolution, which started in the US in the 1960s, and spread to Europe, has gone too far in denying the existence of involuntary unemployment. The concept of a ‘natural’ rate of unemployment, and its empirical measurement, is seriously flawed. Two decades ago in the US, academic economists and policy-makers believed that the ‘natural’ rate of unemployment was 8 – 10 percent, but now that unemployment is below 5 percent with inflation steady, the natural rate theorists resemble the emperor with no clothes. The concept of a natural rate of unemployment still dies hard in Europe, however, particularly in the policy-making thinking of the European Central Bank. But the best economic research suggests that at least half of the high unemployment in the EU, or 3 to 4 percentage points, is of the involuntary variety, and could be reduced by more enlightened economic policies, which gives growth a chance. The prevailing orthodox view among policy-makers that all unemployment is the result of ‘rigidities in the labour market’ (the parrot-like mantra), and the denial of a role for demand management in reducing unemployment, needs seriously challenging. Full employment in the Keynesian sense would be possible in the EU with more flexible monetary and fiscal policy, but economic management in Europe has been made much more difficult by monetary union. The noble goal of greater European integration and cooperation has been bought at a heavy economic price. As Tinbergen (1955) taught us a long time ago, more than one policy goal requires more than one policy instrument. But in the eurozone there is only one policy instrument, the interest rate, and only one policy goal – price stability. As long as this is the case, the prospect for unemployment looks bleak.

The prospects for unemployment in poor developing countries also look bleak. The unemployed in the rural sector will continue to migrate to the cities, and the fear of inflation will reduce the rate of job creation. To paraphrase Keynes: “the IMF and World Bank have conquered the developing countries as the Holy Inquisition conquered Spain”. The policy of

‘structural adjustment’ foisted on developing countries was always a euphemism for deflation, and has stifled investment, growth and employment creation, as well as inflation. There is really no solution to unemployment in developing countries without an increase in the rate of capital accumulation to match the effective growth of labour supply, and a move towards more labour intensive techniques of production. This should be the prime focus of economic policy in these countries.

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