



## Centre of Full Employment and Equity

Working Paper No. 04-09

### Involuntary unemployment – getting to the heart of the problem

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November 2004

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## 1. Introduction

The more things change the more they stay the same. Over the last 30 years the largest problem facing OECD economies has been persistently high unemployment which has defied the prognostications of orthodox economic theory. As a response to the anomaly, mainstream theorists have, instead, redefined the problem away by assuming, as if blissfully unaware of reality, that it is a freely chosen optimal state. After 25 years, Hahn's (1980: 285) observation is more relevant than ever:

Even ten years ago one would have taken it for granted that a government should and could have a policy designed to reduce the average level of unemployment. Now this is no longer so. The case must be made again, if it can be made at all, from scratch.

In this paper, the paradigm shift in macroeconomics, which has resulted in what we might term the unemployment generation, is critically analysed. As a background, Figure 1 shows the history of the Australian unemployment rate since the 1850's to illustrate the enormous impact the Great Depression had on unemployment, a pattern that was mirrored around the world economies.

Figure 1 Historical Australian unemployment rate, 1861-2003

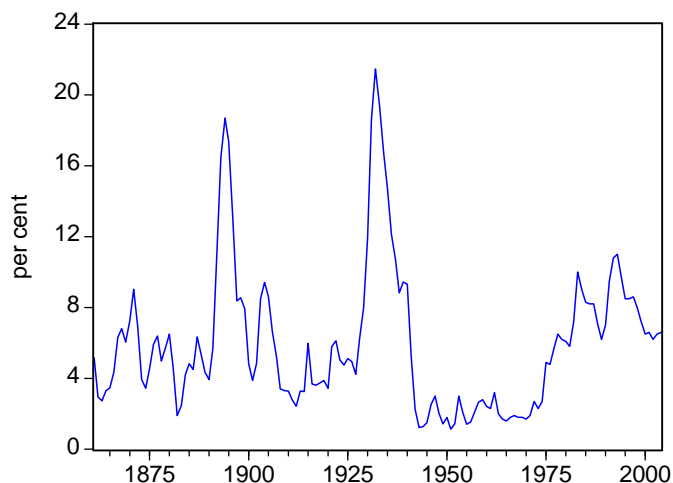
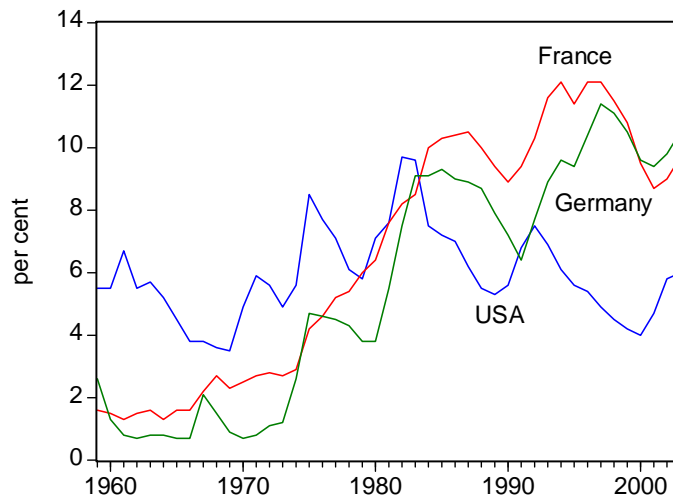


Figure 2 shows the post WWII unemployment experience in the US and in Europe, the latter represented here by France and Germany. A feature which is frequently forgotten is that prior to the oil-crises European unemployment was much lower than in the US. However, from the 1980's onwards European unemployment has been characterised by a high degree of persistence.

In this paper we analyse how orthodox economic theory has over the last 50 years steadily undermined the notion of involuntary unemployment leading to the eventual abandonment by policy makers of full employment as a legitimate policy goal. In the pre-Keynesian era full employment implied that unemployment was voluntary. Employment was considered to be determined by the intersection of labour demand and labour supply and was thus the outcome of maximising, rational and voluntary decision-making by workers and firms. However, in the immediate (post) WWII Keynesian era, full employment was recast to become a focus on the provision of enough jobs to match the preferences of the labour force. Any remaining unemployment (frictions aside) was considered involuntary and due to the failure of the monetary economy to generate demand sufficient to meet the savings preferences

of the private sector. The turning point in the abandonment of this concept of full employment came in the 1950s when the discussion turned to inflation and the trade-off between the ‘twin evils’ of unemployment and inflation. This era was exemplified by the emergence of the Phillips curve literature. However, the orthodox reinterpretation of the trade-off was devastating in that the classical (pre-Keynesian) notion of a natural unemployment rate (being full employment) was revived. This led to a theoretical rejection of the efficacy of aggregate demand management policies aimed at keeping unemployment at its frictional minimum. Accordingly, full employment was redefined in terms of a Non-accelerating Inflation Rate of Unemployment (NAIRU) which was invariant to demand management and the concept of involuntary unemployment was abandoned by the dominant economics paradigm. The belief became that the unfettered economy would stabilise at the NAIRU, an outcome that was the function of voluntary choice.

Figure 2 Unemployment rates in ‘Europe’ and the US, 1959–2003



Source: OECD Economic Outlook.

It is interesting to see how the relatively high unemployment rate in the US in the late 1950s and 1960s relative to Europe promoted a mainly American debate about unemployment in that period. When unemployment rose in the 1970s, the debates on both sides of the Atlantic became very intensive and similar. However, with the strongly diverging experience after the 1970s, the debates in the US and in Europe again took different directions. However, in both cases full employment as a primary goal for economic policy disappeared from the horizon. We trace this process below.

## 2. From voluntary to involuntary unemployment

### 2.1 Introduction

It is only after the Great Depression that the concept of involuntary unemployment appeared explicitly in the literature. The discipline of macroeconomics emerged in this period and was built, in part, on the recognition that what might apply for individuals in isolation may not apply to all individuals (the so-called fallacy of composition). Accordingly, involuntary unemployment was constructed as a systemic failure of the economy to provide enough jobs for all those willing to work at existing money wages and this conception challenged the dominant Classical competitive

paradigm that only allowed for the existence of frictional unemployment. Keynes cast the differences between the Classical perspective and the new ‘macroeconomic’ perspective in terms of a distinction between voluntary and involuntary unemployment. To fully appreciate the differences between these two conceptions on unemployment we also need to appreciate the different concepts of equilibrium that underpin them. Chick (1983: 21) notes:

There are two concepts of equilibrium extant in economics:

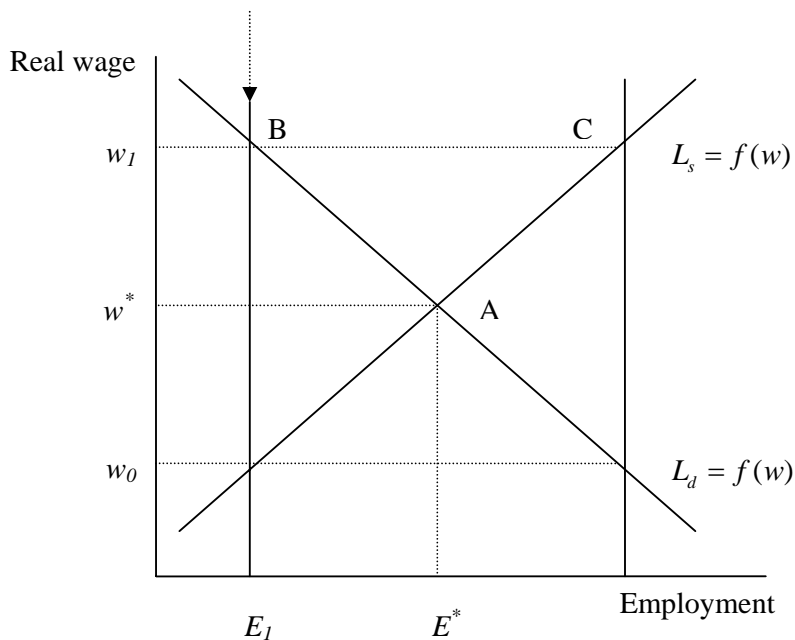
1. Equilibrium is a point of rest; forces leading to change are either absent or counterveiling.
2. Equilibrium is a point at which supply equals demand.

Chick considers the second definition is a special case of the first such that “either excess demand or excess supply creates a force leading to a change (e.g., in prices) which will eliminate the excess demand or supply”.

## 2.2 The classical model: voluntary unemployment

The Classical model is captured by the Figure 3 depiction of the labour market, where  $w$ , the real wage is the ratio of the nominal wage,  $W$  and the price level  $P$ . The real wage is considered to be determined ‘in the labour market’ at the intersection of the labour demand ( $L_d$ ) function and the labour supply ( $L_s$ ) function.

Figure 3 The classical labour market



Crucially, this interaction also determines the real level of the economy at any point in time. Aggregate supply (using the aggregation fudge of the ‘representative’ firm) is thus a technological mapping from the resulting equilibrium employment into the production function. Say’s Law (in whatever version) is then invoked to assume away any problems in matching aggregate demand with the supply of goods and services.

The ‘equilibrium’ employment level is constructed as full employment because it suggests that every firm who wants to employ at that real wage can find workers who are willing to work and every worker who is willing to work at that real wage can find

an employer willing to employ them. This concept of full employment is consistent with both ideas of equilibrium noted above being satisfied. Frictional unemployment is easily derived from the classical labour market representation, as is voluntary unemployment (see Keynes, 1973: 6).

### 2.3 Involuntary unemployment

Keynes used the inability of the neoclassical economists to explain the reality around them in the 1930s to introduce the concept of involuntary unemployment:

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. Keynes (1973: 15)

In terms of the Classical labour market, the clue to the new concept of unemployment lay in the understanding that the labour market did not in isolation determine employment. Further, the quantity of labour supplied and demanded did not have to bear any relation to the ‘neoclassical’ optimal labour supply and labour demand schedules (even if the latter existed).

The essential point is that the demand for labour is derived from the product market as a reflection of the demand for final goods. This is depicted in Figure 3 by the vertical line at  $E_1$ , which represents the effective demand constraint that is imposed on the labour market from the goods market. In neoclassical terminology, workers at  $B$  are willing to supply more labour even at lower real wages.

In what sense do we say that a worker who is involuntarily unemployed is ‘powerless’ to change his/her situation? This is also a key question in understanding the distinction between voluntary and involuntary unemployment.

In terms of Figure 3, the neoclassical construction is that at  $B$  workers should offer themselves at lower real wages to increase the demand for their services. But how does an individual worker do this? The real wage is after all a ratio of prices that are determined in two separate markets. Firms also are unlikely to risk the wrath of their existing workforce by capriciously exploiting slack labour markets to negotiate lower money wages for all even if it was institutionally possible to do so. Solow (1980) argues that by the 1940s even Pigou agreed this reasoning.

Additionally, if all workers cut the ‘real wage’ then the fallacy of composition inherent in the neoclassical story binds. The outcomes applicable to a single individual will not automatically apply for all individuals together costs and incomes fall. Accordingly, the neoclassical policy solution that ‘across the board’ real wage cuts will reduce unemployment is prone to fail.

Point  $B$  can be constructed as an equilibrium outcome, in the sense that once attained the economy would remain there unless something else changed. This violates the belief implicit in the second concept of equilibrium discussed above that market forces will resolve any discrepancy between supply and demand. However, at point  $B$ , the labour supply function has no bearing on the labour market outcome. Chick (1983: 76) notes that at point  $B$  “firms’ expectations are fulfilled. They therefore have no reason to revise their production plans or to increase employment. The economy is in underemployment equilibrium, and *it is not a mistake*” (emphasis in original).

So what drives the economy to this underemployment equilibrium where workers are involuntarily unemployed? Mitchell and Mosler (2002) show that involuntary

unemployment arises when the private sector, in aggregate, desires to earn the monetary unit of account, but doesn't desire to spend all it earns. Firms do not hire because they cannot sell the output that would be produced. In this situation, nominal (or real) wage cuts *per se* do not clear the labour market, unless those cuts somehow eliminate the desire of the private sector to net save, and thereby increase (investment) spending. The only entity that can provide the non-government sector with net financial assets (net savings) and thereby simultaneously accommodate any net desire to save and eliminate unemployment is the government sector. It does this by (deficit) spending. The obvious conclusion is that unemployment occurs when net government spending is too low to accommodate the need to pay taxes and the desire to net save.

### **3. From involuntary unemployment to full employment**

#### **3.1 A focus on jobs**

The experience of the WWII showed governments that full employment could be maintained with appropriate use of budget deficits. The employment growth following the Great Depression only accelerated with the onset of the War. In this period, the memories of the Great Depression still exerted an influence on the constituencies that elected the politicians. All the orthodox neoclassical remedies that had been tried during the 1930s largely failed. Following World War II, the problem that had to be addressed by governments was how to translate the full employed war economy with extensive civil controls and loss of liberty into a fully employed peacetime model. The emphasis of macroeconomic policy in the period immediately following the Second World War was to promote full employment. Inflation control was not considered a major issue even though it was one of the stated policy targets of most governments.

The first major statement addressing this problem came in the form of Beveridge's (1944) *Full Employment in a Free Society*. This was consistent with the new macroeconomic orthodoxy, which saw unemployment as a systemic failure and moved the focus from the personal characteristics of the unemployed themselves and the prevailing wage levels. Beveridge (1944: 123-135) said:

The ultimate responsibility for seeing that outlay as a whole, taking public and private outlay together, is sufficient to set up a demand for all the labour seeking employment, must be taken by the State...

The emphasis was on jobs. Beveridge defined full employment as an excess of vacancies at living wages over unemployed persons. Further, Vickrey (1993) said:

I define genuine full employment as a situation where there are at least as many job openings as there are persons seeking employment, probably calling for a rate of unemployment, as currently measured, of between 1 and 2 percent.

The post WWII period was marked by governments using a range of fiscal and monetary measures to stabilise the economy at full employment in the face of fluctuations in private sector spending. Unemployment rates were usually below 2 per cent throughout this period. Importantly, the economies that avoided the plunge into high unemployment in the 1970s maintained a "sector of the economy which effectively functions as an employer of the last resort, which absorbs the shocks which occur from time to time ..." (Ormerod, 1994: 203). Figures 1 and 2 show that the performance of the labour market in the 1960s was in stark contrast to what followed, at least for both Australia and for Europe.

### 3.2 The debate shifts – to the ‘price’ of full employment

In particular the US economists did not think about full employment in this positive way for very long before shifting their focus to unemployment targets. This is also consistent with Figure 2 which shows that US unemployment was distinctly higher than that in Europe and Australia. Initially the US-debate was about what constituted the irreducible minimum rate of unemployment (Bancroft, 1950; Dunlop, 1950 among others). But soon the debate became tangled up in models of unemployment and inflation and the Phillips curve era had begun (Mitchell, 1999). The Phillips curve in its various guises proposes a relationship between unemployment and inflation and raises the question of the existence and nature of a trade-off between nominal and real economic outcomes.

A crucial development in this context was the estimation of the price inflation-unemployment rate relationship by Samuelson and Solow (1960). They examined the various explanations for inflation in the USA since the end of WWII and did show that the existing debate about demand-pull and cost-push inflation suffered from observational-equivalence. Both influences delivered a similar outcome captured in the ‘Phillips curve’. The estimated model they presented was an excellent aid to economic policy makers and thus united academe and the bureaucracy.

The implications were profound. The policy-making bureaucracy now seemed to be in control of both aggregates – the twin evils. As long as the relationship estimated was stable then the government could choose what inflation rate they would have by an appropriate mix of fiscal and monetary policy operating on unemployment. The ‘Phillips curve’ of Samuelson and Solow (1960) thus mapped perfectly into the existing set of aggregate demand management tools (Ormerod, 1994).

Significantly, the concept of full employment gave way to the rate of unemployment that was politically acceptable in the light of some accompanying inflation rate. But, significantly, for what was to come, full employment was no longer debated in terms of a number of jobs. In the words of Samuelson and Solow (1960: 192):

In order to achieve the non-perfectionists goal of high enough output to give us no more than 3 per cent unemployment, the price index might have to rise by as much as 4 to 5 per cent per year. That much price rise would seem to be the necessary cost of high employment and production in the years immediately ahead.

## 4. From full employment to the natural rate of unemployment

### 4.1 The Natural Rate Hypothesis

The concept of full employment, in the sense outlined above, lost meaning with development of the expectations-augmented Phillips curve of Friedman (1968) and Phelps (1967). This model spearheaded the resurgence of pre-Keynesian macroeconomic thinking in the form of Monetarism. The embedded Natural Rate Hypothesis outlined a natural rate of unemployment, where the inflation-unemployment trade-off was allegedly a trade-off between unemployment and unexpected inflation. As workers gained more information the trade-off vanishes. At this point there is only one unemployment rate consistent with stable inflation – the natural rate of unemployment. As a logical consequence, Friedman (1968: 6) stated “There is no long-run, stable trade-off between inflation and unemployment.”

Friedman (1968: 8) defined the natural rate as follows:

At any moment of time there is some level of unemployment which has the property that it is consistent with equilibrium in the structure of *real* wages. ... A lower level of unemployment is an indication that there is excess demand for labor that will produce upward pressure on real wage rates. ... The 'natural rate of unemployment', in other words, is the level that would be ground out by the Walrasian system of general equilibrium equations, provided there is imbedded in them the actual structural characteristics of the labor and commodity markets, including market imperfections, stochastic variability in demand and supplies, the cost of gathering information about job vacancies and labor availabilities, the costs of mobility, and so on.

We cite Friedman for three reasons: (a) to illustrate his firm commitment to the monetarist position; (b) to show how he links the notion of a natural rate to the process of wage formation; and (c) to emphasise his view that natural unemployment is 'structurally' embedded in society. In this sense, it is not exactly clear how he wishes to reconcile the notion of a Walrasian general equilibrium with the structural characteristics of the labour and commodity markets he mentions.

The rise in acceptance of Monetarism and its new classical counterpart was not based on an empirical rejection of the Keynesian orthodoxy, but "was instead a triumph of *a priori* theorising over empiricism, of intellectual aesthetics over observation and, in some measure, of conservative ideology over liberalism. It was not, in a word, a Kuhnian scientific revolution" (Blinder 1988: 278). However, the shift in the Phillips curve in the 1970s as the OECD economies began to fail was a strong empirical endorsement for the Natural Rate Hypothesis, despite the fact that the instability came from the supply side. Any Keynesian remedies proposed to reduce unemployment were met with derision from the bulk of the profession who had embraced the new theory and its policy implications. The Natural Rate Hypothesis now became the characterisation of full employment. Consistent with the second definition of equilibrium given above, it was asserted that the economy would always tend back to a given natural rate of unemployment independent of the path the economy had taken. Only microeconomic reforms could lower the natural rate. Accordingly, the policy debate became increasingly concentrated on deregulation, privatisation, and reductions in the provisions of the Welfare State (Thurow, 1983).

#### 4.2 The new-classical denial of involuntary unemployment

The most interesting aspect about the new-classical revolution is that with hindsight it is not that much of a revolution. First of all the policy-invariance view developed by Lucas that monetary policy at best has a transient effect on employment was already widely recognised when "the New Classics arrived to dazzle us with their attractive analysis of the rational expectations case" (Phelps, 1990: 44). Second, Dow (1985: 148, 154) notes:

The movement away from adaptive expectations was part and parcel of the move to express macroeconomics in terms of a full general equilibrium system, grounded explicitly in neo-classical microfoundations. ... the rational expectations hypothesis has simply taken the prevailing orthodoxy as applied to macroeconomics to its logical conclusion.

The crucial point of the New Classical intervention is that they considered the economy returned to equilibrium following a shock extremely quickly. Dow (1985: 151-2) says:



Unless the system is unstable, rational expectations serve only to propel the system towards full equilibrium. ... If all individuals believe the economy to be stable, their actions will ensure that stability.

Lucas' refutation of the distinction between voluntary and involuntary unemployment as useful concepts is consistent with this view. Lucas (1978: 354) says:

The recognition that one needs to distinguish among sources of unemployment does not in any way imply that one needs to distinguish among types ...Accepting the necessity of a distinction between explanations for normal and cyclical unemployment does not, however, compel one to identify the first as voluntary and the second as involuntary, as Keynes goes on to do.

And as far as the voluntary-involuntary distinction is concerned, Lucas' (1978: 354) famous quote is:

Thus there is an involuntary element in all unemployment, in the sense that no one chooses bad luck over good; there is also a voluntary element in all unemployment, in the sense that however miserable one's current work options, one can always choose to accept them.

This position has led to heated debates, as has Keynes' original distinction (see De Vroey, 2004 for a recent survey). De Vroey does not agree with Lucas' position that the distinction between voluntary and involuntary unemployment is meaningless. Following Lucas' line of thought, the distinction implies that individuals are to some extent always responsible for their own positions. The notion that the free market should be the dominant, if not sole coordination mechanism in an economy – which underlies the New Classical view – is consistent with a high 'boundary of responsibility' for individuals, and therefore the voluntary depiction of unemployment in New Classical thought is not surprising. However, Lucas (1978: 356) adds to that:

... one finds to one's relief that treating unemployment as a voluntary response to an unwelcome situation does not commit oneself to normative nonsense like blaming depressions on lazy workers ...The effect it has on normative discussion is twofold. First it focusses discussion of monetary and fiscal policy on *stabilization*, on the pursuit of price stability... Some average unemployment rate would, of course, emerge from such a policy but as a by-product, not as a preselected target. Second, by thinking of the natural rate as an equilibrium emerging from voluntary exchange in the usual sense, one can subject it to the scrutiny of modern methods of public finance (emphasis in original).

The implied disappearance of unemployment from the centre of the policy debate is also observed by the Hahn quote in our introduction.

Solow (1980:3) states when referring to "the old tension between market efficiency and market failure ... My own belief ... lies with the market failure side. That is to say, I believe that what looks like involuntary unemployment is involuntary unemployment." This opens the way for quantity constrained equilibria.

## **5. From the natural rate of unemployment to the NAIRU**

### **5.1 Divergent debates on either side of the Atlantic**

The oil crises in the early and late 1970s had a very different impact on the economies of both sides of the Atlantic, as can be seen from Figure 2. It seems plausible to us that these divergent economic developments played an important role to explain that the debate on unemployment took quite different directions. In the US, the rational

expectations revolution dominated the economic debate and New Classical economics gained in popularity. Accordingly, unemployment was analysed from the perspective of intertemporal substitution and real business cycle theory. This view was challenged by New Keynesians who sought to develop an explanation for wage rigidities and highlighted coordination failures. By the 1990s, the focus of the US macroeconomic policy debate was on inflation rather than unemployment (see Chang, 1997).

In Europe, New Classical economics never really played a serious role in the academic debate with Minford as a notable exception. Instead, there were two major influences. First, French speaking economists Malinvaud and Drèze led the disequilibrium approach. Second, the English economists such as Layard and Nickell developed an explanation of unemployment persistence within models of wage and price setting behaviour under the rubric of the ‘battle between mark-ups’. The latter view, where the NAIRU has centre stage, became dominant in the European macroeconomic policy debate. We elaborate on this in Mitchell and Muysken (2004).

## 5.2 The Layard, Nickell and Jackman approach

Layard and Nickell’s work pushed the NAIRU framework into the European academic spotlight and the culmination Layard, Nickell and Jackman (1991) (hereafter LNJ) has become an extremely influential work (Mitchell and Muysken, 2004) in three ways: (a) it was the ‘brains’ behind the OECD (1994) Jobs Study which has set the policy agenda for most European and other OECD countries since; (b) it had a powerful effect on the EU’s European Employment Strategy; and (c) it had a lasting impact on academic research and teaching in Europe.

Following Friedman (1968), LNJ (1991: 12-13) construct unemployment as arising from the consequences of the battle between mark-ups on wages and prices:

Only if the real wage desired by wage-setters is the same as that desired by price-setters will inflation be stable. *And the variable which brings about this consistency is the level of unemployment.* ... Thus, unemployment is the mechanism which ensures that the claims on national output are compatible ... [thus] ... There is indeed a long-run equilibrium at which both unemployment and inflation will be stable. We call this the long-run NAIRU ... (emphasis in original).

Although they apparently wish to avoid the conclusion that the NAIRU is an inevitable outcome of the economic process, they cannot but help to describe it as “the state to which the system will return after a disturbance” (LNJ, 1991: 9). Moreover, “In the long run, unemployment is entirely determined by long-run supply factors and equals the NAIRU” (LNJ, 1991: 16). Hence LNJ adhere to both equilibrium concepts mentioned above, although in the context of the battle between mark-ups instead of market clearing in the second case.

The equilibrium rate of unemployment is influenced by anything that shifts the Beveridge curve, in particular search effectiveness. The latter is central to their analysis through its impact on the notion of voluntary unemployment. LNJ (1991: 11) note:

Even when unemployment is high, there are no queues for all vacancies. There is a secondary sector in the labour market that does more or less clear ... If people are unemployed, it is generally because they have decided against these jobs. They are however willing to work in a range of ‘good’ primary sector jobs, but they cannot get them. In this sense unemployment is both voluntary and involuntary.<sup>2</sup>

LNJ (1991: 34) also stress that the unemployed should be vigorous in their search activity so that “firms can get workers more easily and disemployed people face fiercer competition for jobs. Thus if unemployed seek harder, there need be fewer of them in order to restrain wage pressure.” This leads LNJ to conclude that it is the ‘effective’ unemployed that is the relevant discipline on wage bargaining rather than the actual number of unemployed.

Another implication of their reason is that rising long-term unemployment (and reduced search effectiveness) reduces the impact of overall unemployment on wage outcomes. As a consequence LNJ (1991: 10) say “There is however some ‘short-run NAIRU’, which *would* be consistent with stable inflation, and which of course depends on last year’s unemployment” Thus hysteresis may play a role. LNJ (1991: 18) say the short-run NAIRU “lies between last period’s unemployment and the long-run NAIRU.” This also implies that “...in the short-run, unemployment is determined by the interaction of aggregate demand and short-run aggregate supply ... [but as LNJ hasten to add] ... In the long run, unemployment is entirely determined by long-run supply factors and equals the NAIRU” (LNJ, 1991: 16). Moreover, “... if financial policy ensures that inflation *is* stable, then unemployment will adjust to its equilibrium level” (LNJ, 1991: 13). The latter is observation is reinforced in Nickell and van Ours (2000: 142) when they ask: “Why do we have unemployment?” Basically their answer is that authorities are afraid of generating inflation.

### 5.3 The US approach to the NAIRU

Tobin (1996: 326) description of the US approach to unemployment is similar to the LNJ approach:

The English-American approach to unemployment is to investigate the question whether the NAIRU has risen spectacularly, and if so why and how. ... In the mainstream American approach, excess supply unemployment is Keynesian and short-run. At existing nominal wages and prices some willing and qualified workers can’t get jobs. Such situations are not expected to persist beyond business cycles into long or even medium runs. ... What leads to such confidence? Some economists would stress the ultimate natural equilibration of markets. Other would stress the response of macro policy makers. In either case this view is what makes European experience so problematic.

However, there clearly remains a debate in the US with many American authors taking a sceptical view of the NAIRU as an attractor for unemployment or as a useful policy construct. Stiglitz (1997: 3, 10) has “become convinced that the NAIRU is a useful analytic concept. It is useful as a theory to understand the causes of inflation ... [but] ... Unemployment explains only a portion of changes in inflation, and there are a variety of other economic goals besides simply fighting inflation.” Gordon (1997: 11) also sees the NAIRU as an indispensable ingredient in analysing inflation “Whether the goal is steady inflation or lower inflation, the FED needs to know the value of the NAIRU.” In Gordon’s analysis the NAIRU varies over time. Hysteresis hardly plays a role in his analysis, but price inertia plays an important role and he deliberately ignores the connection to wage formation. Gordon (1997: 17) says that “The earlier fixation on wages was a mistake. The relation of prices to wages has changed over time ... models with separate wage growth and price markup equations do not perform as well as [an equation] in which wages are only implicit”. Interestingly enough Gordon also emphasises that the NAIRU is not a universal concept. It fits the US post-war experience, but “wild gyrations of the estimated

NAIRU over a range too wide to be explained by microeconomic changes in market structure and institutions would lead to scepticism about the NAIRU concept ... When applied to Europe ... fluctuations in the NAIRU seem too large to be plausible and seem mainly to mimic movements in the actual unemployment rate” (Gordon, 1997: 28). Ball and Mankiw (2002: 121) also conclude that in the US “it would be rash to suggest that the NAIRU is obsolete as a forecasting tool ... monetary policy makers should keep an eye on unemployment and the NAIRU.”

However, in the final section of the paper we will see that there is also considerable criticism by US economists of the NAIRU concept.

#### 5.4 Concluding remarks

When compared with the European literature, it is remarkable that the LNJ approach hardly plays a role in the American debate. Very few authors refer to their work and then, only in a marginal context. Further, the concept of hysteresis hardly plays a role in the American debate. It is also remarkable that most authors have a much more pragmatic approach to the estimation of the NAIRU, compare Gordon’s triangle model and Ball and Mankiw’s Hodrick-Prescott filter approach. This is in stark contrast to the simultaneous equations LNJ approach. It is possible that the explicit modelling of the labour market in the LNJ approach has led to it having more impact on the unemployment debate and has given it more influence in determining the labour market policy agenda.

However, on both sides of the Atlantic the idea that there is a NAIRU (constant or time-varying) that defines the inflation constraint has dominated public policy makers since the first oil shocks of the 1970s. Monetarist ‘fight-inflation-first’ strategies exacted a harsh toll in the form of persistently high unemployment. Full employment as initially conceived was abandoned (Hughes, 1980).

### 6. From the NAIRU to involuntary unemployment: some way to go

Galbraith (1997: 106) observes:

One of the serious unintended consequences of economists’ preoccupation with the NAIRU has been to convey a message to political leaders that they need not feel responsibility in this area, that the inflation-unemployment trade-off can be fine-tuned with interest rates by the FED.

This might be one of the explanations why many economists have actively opposed the notion of a NAIRU. Three broad lines of attack can be distinguished. First, the NAIRU is attacked along theoretical lines, although this literature often uses empirical work to consolidate the argument (see Mitchell and Muysken, 2003 for a literature summary). Blanchard (1997), Phelps (1994) and Phelps and Zoega (1998) amend the NAIRU model to include costs of capital which enables them to implicate high real interest rates for the European unemployment in the 1980s. Rowthorn (1999) also analyses the impact of productivity shocks. Modigliani (2000) and Sawyer (2002) emphasise the role of aggregate demand in determining the NAIRU. Numerous studies look at the impact of hysteresis (Ball, 1999). Finally Akerlof *et al.* (2000) argue that ‘near-rational behaviour’, which allows for money illusion, causes a trade-off between unemployment and inflation at relatively low rates of inflation, even in the long run. Mitchell and Muysken (2003: 7) conclude “... once deconstructed it is little wonder that the concept of equilibrium unemployment loses its original ‘structural’ meaning and becomes indistinguishable in dynamics from actual unemployment.”

Second, a growing literature has documented the empirical failings of NAIRU models. Campbell and Mankiw (1987, 1989) find non-linearities in the reaction of unemployment to shocks. These findings run contrary to the NAIRU approach which is built on smooth linear functions. Chang (1997) and Fair (2000) demonstrate that inflation dynamics do not seem to accord with those specified in the NAIRU hypothesis. There is no clear correlation between changes in the inflation rate and the level of unemployment, such that inflation rises and falls at many different unemployment rates without system. The time-varying NAIRU approach which replaced the discredited constant NAIRU depiction has been similarly tainted by lack of economic and empirical content. The arbitrary use of atheoretical univariate filters (Hodrick-Prescott filters) and Kalman Filters is symptomatic of the deficiencies and the resulting NAIRU estimates are extremely sensitive to underlying assumptions about the variance components in measurement and state equations and in signal to noise ratios (Gordon, 1997). Spline estimation (Staiger, Stock and Watson, 1997) is similarly arbitrary in the choice of knots and the order of the polynomials.

Staiger, Stock and Watson (1997) find large standard errors for NAIRU estimates which render the concept relatively useless for policy analysis (see below). Baker *et al.* (2002) are highly critical of the NAIRU approach after forensically examining a large number of NAIRU studies. Similar results are obtained from the meta study of Stanley (2004) on hysteresis. Ball (1999) and Modigliani (2000) demonstrate that close relationships exist between employment and vacancies growth and the inverse of the unemployment rate, and between investment to GDP ratios and the unemployment rate across many countries. They are difficult to interpret as being driven from the supply-side.

Third, the usefulness of the NAIRU for policy purposes is also questioned. Chang (1997) says:

In practice, the concept of a nonaccelerating inflation rate of unemployment is not useful for policy purposes. First, the NAIRU moves around. Second, uncertainty about where the NAIRU is at any point of time is considerable. Third, even if we knew where the NAIRU were, it would be sub optimal to predict inflation solely on the basis of the comparison of unemployment against the NAIRU. A policy of raising the fed funds rate when unemployment falls below the NAIRU may be ineffective...even if the NAIRU were constant, its location were known and all shocks to the economy were to come from the demand side. Implementing such policy would likely induce changes in the expectations and behavior of the private sector an important additional reason to be skeptical about using the NAIRU for policy.

Modigliani (2000: 3) who introduced the term NAIRU to the economics profession now argues:

Unemployment is primarily due to *lack of aggregate demand*. This is mainly the outcome of erroneous macroeconomic policies... [the decisions of Central Banks] ... inspired by an obsessive fear of inflation, ... coupled with a benign neglect for unemployment ... have resulted in systematically over tight monetary policy decisions, apparently based on an objectionable use of the so-called NAIRU approach. The contractive effects of these policies have been reinforced by common, very tight fiscal policies (emphasis in original).

Solow and Taylor (1999) emphasise the dangers inherent in following a NAIRU strategy to control inflation. While there may be stability between inflation and unemployment for a period, a sudden shock, especially from the supply side (as in 1974, for example) can exacerbate the costs of unemployment resulting from a

deflationary strategy (which attempts to exploit a given Phillips curve). Evidence from the OECD experience over the last 25 years suggests that this policy is effective in bringing inflation down (Mitchell, 1998; Cornwall, 1983). But rarely are the costs of such a strategy computed or addressed despite the overwhelming evidence that the costs of sustained high unemployment are enormous (Watts and Mitchell, 2000).

The overwhelming quandary that the NAIRU approach to inflation control faces is whether the economy, once deflated by restrictive aggregate demand management, can be restarted without inflation. If the underlying causes of the inflation are not addressed a demand expansion will merely reignite the tensions and a wage-price outbreak is likely (Cornwall, 1983; Rowthorn, 1980). As a basis for policy the NAIRU approach is thus severely restrictive and provides no firm basis for full employment and price stability.

## **7. Conclusion**

In this paper, we have presented a sequential review of how economists have constructed the concept of unemployment. We have argued that the classical depiction of unemployment as a voluntary was severely discredited during the Great Depression and led to the development of a macroeconomic explanation for unemployment based on systemic failure. Accordingly, unemployment was cast as being involuntary because individuals were unable to change their jobless state on their own volition. As the 20th unfolded, the debate shifted to characterising full employment, not in terms of an adequate supply of jobs to match the labour force, but instead, as some policy trade-off between the twin evils of unemployment and inflation. The abandonment of full employment was nigh.

By the 1970s, with the influential work of Friedman (1968) and Phelps (1967) making inroads into the debate and the disruptions caused by the OPEC shocks, economists returned to their classical roots and erroneously recast full employment in terms of a natural rate of unemployment. The importance of this shift was that it scorned aggregate demand intervention to maintain low unemployment. Any unemployment rate was 'optimal' and the product of voluntary maximising choice. The policy emphasis shift from full employment to 'full employability' and the period of active labour market programs began in earnest.

After nearly 30 years of persistently high unemployment and rising underemployment, economists are becoming increasingly aware that this conception of unemployment is deficient. Debate has once again begun to challenge the 'impoverished' voluntary unemployment conception.

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<sup>2</sup> Interestingly enough LNJ abandon this line of thought in the next sentence, stating "But in order to understand how the economy changes over time, it may be good enough to proceed as though there were only one sector, whose wages and employment are determined by the kinds of mechanisms discussed in [the battle between mark ups]." (44) Moreover, if one considers for one moment the high incidence of unemployment amongst the disadvantaged groups, it is obvious that this primary/secondary story does not hold for them. Also LNJ add: "It is however extremely difficult to distinguish between the primary and the secondary sector in the official statistics. The secondary sector is also a fairly small part of the manual labour market." (44)