# Full Employment Abandoned

Shifting Sands and Policy Failures

William Mitchell

*Professor of Economics, Centre of Full Employment and Equity, University of Newcastle, NSW, Australia*

*and*

Joan Muysken

*Professor of Economics, CofFEE-Europe, University of Maastricht, The Netherlands*

# Contents

# Abbreviations

| AMI | augmented misery index |
| AR | autoregressive process |
| BER | buffer employment ratio |
| BRW | bargained real wage |
| BSE | buffer stock employment |
| CLMI | CofFEE labour market indicators |
| CofFEE | Centre of Full Employment and Equity |
| CPI | consumer price index |
| EC | European Commission |
| ECB | European Central Bank |
| EES | European Employment Strategy |
| ELR | employment of last resort |
| EMU | European Monetary Union |
| EPWP | Expanded Public Works Programme |
| EU | European Union |
| FOMC | Federal Open Market Committee |
| GBC | government budget constraint |
| GDP | gross domestic product |
| HP | Hodrick–Prescott Filter |
| HPM | high powered money |
| ICLS | International Conference of Labour Statisticians |
| ILO | International Labour Organisation |
| IMF | International Monetary Fund |
| IS–LM | investment–savings, liquidity–money supply |
| JG | job guarantee |
| LNJ | Layard, Nickell and Jackman |
| MI | misery index |
| NAIBER | non-accelerating inflation rate buffer employment ratio |
| NBER | National Bureau of Economic Research |
| NAIRLU | non-accelerating inflation rate of labour underutilisation |
| NAIRU | non-accelerating inflation rate of unemployment |
| NGO | non-governmental organisation |
| NK | new Keynesian |
| NKPC | new Keynesian Phillips curve |
| NREGS | National Rural Employment Guarantee Act |

| | |
|---|---|
| NRU | natural rate of unemployment |
| OECD | Organisation for Economic Cooperation and Development |
| OPEC | Organisation of the Petroleum Exporting Countries |
| PRW | price-determined real wage |
| PSE | public service employment |
| SGP | Stability and Growth Pact |
| UK | United Kingdom |
| US | United States |
| UV | unemployment to vacancies curve (Beveridge curve) |

# 1. The full employment framework and its demise

## 1.1 INTRODUCTION

When we were young and later in our formative years, when we studied economics, everybody who wanted to earn an income was able to find employment. Maintaining full employment was an overriding goal of economic policy which governments of all political persuasions took seriously. Unemployment rates below 2 per cent were considered normal and when unemployment threatened to increase, government intervened by stimulating aggregate demand. Even conservative governments acted in this way, if only because they feared the electoral backlash that was associated with unemployment in excess of 2 per cent.

More fundamentally, employment is a basic human right and this principle was enshrined in the immediate post-Second World War period by the United Nations. In 1945, the Charter of the United Nations was signed and ratified by 50 member nations. Article 55 defines full employment as a necessary condition for stability and well-being among people, while Article 56 requires that all members commit themselves to using their policy powers to ensure that full employment, among other socio-economic goals, is achieved.

Employment transcends its income-generating role to become a fundamental human need and right. This intent was reinforced by the United Nations in the unanimous adoption of the 1948 Universal Declaration of Human Rights. Article 23 of that treaty outlines, among other things, the essential link between full employment and the maintenance of human rights.

(1) Everyone has the right to work, to free choice of employment, to just and favourable conditions of work and to protection against unemployment.
(2) Everyone, without discrimination, has the right to equal pay for equal work.
(3) Everyone who works has the right to just and favourable remuneration, ensuring for himself and his family an existence worthy of human dignity and supplemented, if necessary, by other means of social protection.
(4) Everyone has the right to form and to join trade unions for the protection of his interests.

While unemployment was seen as a waste of resources and a loss of national income which together restrained the growth of living standards, it was also constructed in terms of social and philosophical objectives pertaining to dignity, well-being and the quest for sophistication. It was also clearly understood that the maintenance of full employment was the collective responsibility of society, expressed through the macroeconomic policy settings. Governments had to ensure that there were jobs available that were accessible to the most disadvantaged workers in the economy. We call this collective enterprise the 'full employment' framework.

This framework has been systematically abandoned in most OECD countries over the last 30 years. The overriding priority of macroeconomic policy has shifted towards keeping inflation low and suppressing the stabilisation functions of fiscal policy. Concerted political campaigns by neoliberal governments aided and abetted by a capitalist class intent on regaining total control of workplaces, have hectored communities into accepting that mass unemployment and rising underemployment is no longer the responsibility of government. As a consequence, the insights gained from the writings of J.M. Keynes, Karl Marx and Michal Kalecki into how deficient demand in macroeconomic systems constrains employment opportunities and forces some individuals into involuntary unemployment have been discarded. The concept of systemic failure has been replaced by placing the responsibility for economic outcomes onto the individual. Accordingly, anyone who is unemployed has chosen to be in that state because they did not invest in appropriate skills; have not searched for available opportunities with sufficient effort or rigour; or have become either 'work shy' or too selective in the jobs that they would accept. Governments are seen to have bolstered this individual lethargy through providing excessively generous income support payments and restrictive hiring and firing regulations. The prevailing view held by economists and policy makers is that individuals should be willing to adapt to changing circumstances and individuals should not be prevented from doing so by outdated regulations and institutions. The role of government is then prescribed as one of ensuring that individuals reach states where they are employable. This involves reducing the ease of access to income support payments via pernicious work tests and compliance programmes; reducing or eliminating other 'barriers' to employment (for example, unfair dismissal regulations); and forcing unemployed individuals into a relentless succession of training programmes designed to address deficiencies in skills and character. We call this new paradigm the 'full employability' framework.

The framework is exemplified in the 1994 *Jobs Study* published by the Organisation of Economic Cooperation and Development (OECD). Its

main message (OECD, 1994: vii) accurately summarises the current state of the art in policy thinking:

> [I]t is an inability of OECD economies and societies to adapt rapidly and innovatively to a world of rapid structural change that is the principal cause of high and persistent unemployment. . . . Consequently, the main thrust of the study was directed towards identifying the institutions, rules and regulations, and practices and policies which have weakened the capacity of OECD countries to adapt and to innovate, and to search for appropriate policy responses in all these areas. . . .
>
> Action is required in all areas simultaneously for several reasons. First, the roots of structural unemployment have penetrated many if not all areas of the socio-economic fabric; second, the political difficulties of implementing several of these policies call for a comprehensive strategy . . . third, there are synergies to exploit if various microeconomic polices are pursued in a co-ordinated way, both with regard to each other and the macroeconomic policy stance.

The *Jobs Study* (p. 74) also ratified the growing macroeconomic conservatism by articulating that the major task for macroeconomic policy was to allow governments to 'work towards creating a healthy, stable and predictable environment allowing sustained growth of investment, output and employment. This implies a reduction in structural budget deficits and public sector debt over the medium term [together with] low inflation'.

The OECD has claimed that its policy recommendations have delivered successes in countries that have implemented them (see OECD, 2001). Unfortunately, the reality is strikingly at odds with this political hubris. Some 13 years have passed since the OECD policy agenda was declared, and yet most countries are still languishing in high states of labour under-utilisation and low to moderate economic growth. Underemployment is becoming an increasingly significant source of wastage. Youth unemployment remains high. Income inequalities are increasing. The only achievement is that inflation is now under control, although it was the severity of the 1991 recession that expunged inflationary expectations from the OECD bloc. Since that time, labour costs have been kept down by harsh industrial relations deregulation and a concerted attack on the labour unions. The policy approach used to banish one of the twin evils – inflation – has left the evils of unemployment and underemployment in its wake. The result is that after 30 years of public expenditure cutbacks and, more recently, increasing government bullying of the jobless, OECD economies generally are not close to achieving full employment.

In the midst of the ongoing debates about labour market deregulation, scrapping minimum wages, and the necessity of reforms to the taxation and welfare systems, the most salient, empirically robust fact of the last three

decades – that actual GDP growth has rarely reached the rate required to maintain, let alone achieve, full employment – has been ignored (Mitchell, 2001a).

Our contention in this book is that most of the blame for this labour underutilisation across OECD countries lies with the policy failures of national governments. At a time when budget deficits should have been used to stimulate the demand needed to generate jobs for all those wanting work, various restrictions have been placed on fiscal policy by governments influenced by orthodox macroeconomic theory. Monetary policy has also become restrictive, with inflation targeting – either directly or indirectly – pursued by increasingly independent and vigilant central banks. These misguided fiscal and monetary stances have damaged the capacities of the various economies to produce enough jobs.

The attacks on the welfare system have, in part, been driven by the overall distaste among the orthodox economists for the activist fiscal policy essential to the maintenance of full employment. Counter-cyclical fiscal policy is now eschewed and monetary policy has become exclusively focused on inflation control. There are many arguments (fears) used to justify this position, including the (alleged) dangers of inflation and the need to avoid crowding out in financial markets.

We argue that governments who have chosen to adopt what we call the full employability policy paradigm and hence have allowed their economies to wallow in high states of labour underutilisation have violated the 1948 Universal Declaration of Human Rights, which is underpinned by international law. In that sense they are violating the human rights of their unemployed and underemployed citizens.

In this book we aim to show that this changed perception on the nature and importance of unemployment has not been a fruitful path for society to follow, and in Chapters 8 and 9 we present an alternative view, which is grounded in the principles of modern monetary economics (see Mosler, 1997–98; Mitchell, 1998; Wray, 1998).

The book consists of three main parts. Part I analyses the shifts in economic theory that have moved us from authorising policy makers to unambiguously pursue full employment, to the current state where full employability is justified as being optimal. We gain insights into the policy implications of these theoretical shifts by focusing on the evolution of the Phillips curve – the so-called relationship between unemployment and inflation. Many of the debates about whether unemployment is involuntary (thereby signalling systemic failure) or voluntary (the manifestation of maximising personal choice) can be traced through the evolution of the Phillips curve literature. We start this journey by examining the classical view of a trade-off between unemployment and inflation. This helps us to understand

that later developments which underpinned monetarism and the concept of the natural rate of unemployment did not represent a continuous refinement of the macroeconomic orthodoxy of the time but were simply a reassertion of the classical belief in the efficacy of the free market and the denial that generalised overproduction could occur in a capitalist economy. The resurgence of these notions in the 1970s overran the Keynesian orthodoxy and authorised policy makers to abandon full employment as an integral macroeconomic policy goal.

Part II explores how these theoretical developments translated in practice, culminating in the broad acceptance by policy makers of the full employability framework. We focus on the policy emphasis accorded to the supply side, exemplified in the 1994 OECD *Jobs Study* which eschewed a role for macroeconomic policy in reducing unemployment. It is important to document how structural explanations for unemployment have been used to justify widespread labour market deregulation; attacks on the rights and capacities of labour unions to represent their members; wasteful privatisations of public assets; the compliance focus of welfare-to-work policy; a retrenchment of the role of the public sector as an employer; and widespread reductions in the social wage. We also consider the way in which macroeconomic policy, characterised by inflation targeting and a growing fiscal conservatism, has supported this microeconomic emphasis on structural reform. While the current orthodoxy extols the virtues of budget surpluses as the exemplars of fiscal responsibility, we show in Chapter 8 that this policy stance is, in fact, damaging for economic growth.

Part II ends with an empirical assessment of these policy changes. We conclude that they have not achieved the targets espoused in the political statements and have instead created a growing underclass of unemployed, underemployed and disadvantaged citizens.

We finish the book optimistically by outlining in Part III an alternative view of macroeconomic theory and policy opportunities. This view flows from a detailed understanding of modern monetary systems in which the use of fiat currency provides the monopoly issuer, the national government, with opportunities to pursue full employment without compromising price stability. We show that the obsession held by national governments around the world that budget surpluses demonstrate fiscal prudence is both nonsensical and extremely costly. Once we understand how the surpluses relate to sectoral flows in the economy, it follows that active macroeconomic policy is essential to maintaining full employment. We argue that a central plank in modern macroeconomic policy settings should be the introduction of employment guarantees, which we term the 'job guarantee' (JG). We show that the introduction of a JG provides the basis for pursuing full employment and price stability. The JG is also the minimum that a

government can do in relation to its obligations under the international human rights treaties discussed earlier.

For the remainder of this chapter we provide an overview of the development and demise of the full employment framework in order to consider the policy malaise that has unfolded in capitalist economies over the last three decades.

## 1.2 FULL EMPLOYMENT, CITIZENSHIP AND SAFETY-NET REDISTRIBUTION

Figure 1.1 sketches our depiction of the full employment framework. The post-Second World War economic and social settlement in most Western countries was based on three main pillars. First, the *economic pillar* was defined by an unambiguous commitment to full employment, although as we shall explain in Chapter 3 this commitment became blurred in the debate about the trade-off between inflation and unemployment in the 1960s. Second, the *redistributive pillar* was designed to ameliorate market outcomes and defined much of the equity intervention by government. It recognised
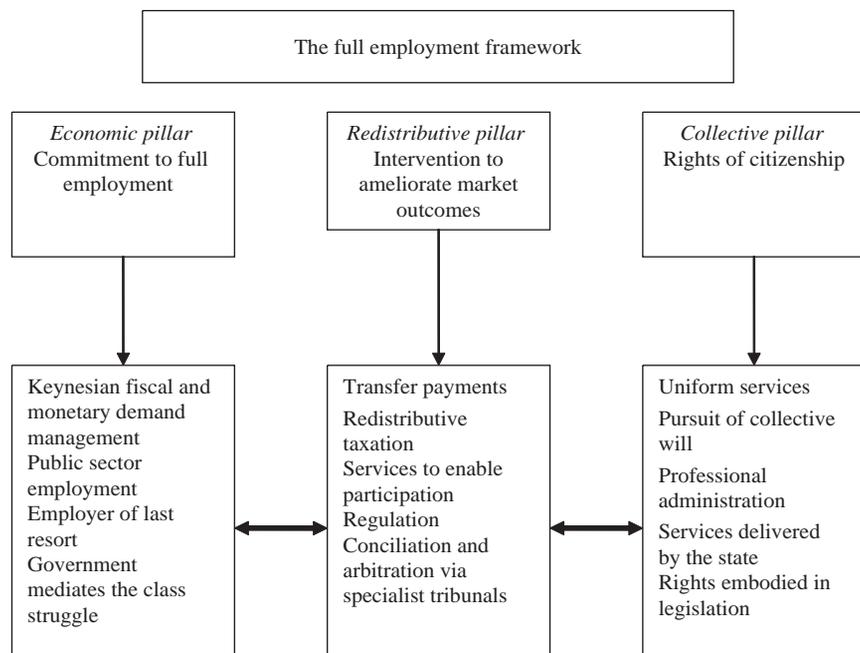


*Figure 1.1    The pillars of the full employment framework*

that the free market was amoral and intervention in the form of income support and wage-setting norms was a necessary part of a sophisticated society. Third, the *collective pillar* provided the philosophical underpinning for the full employment framework and was based on the intrinsic rights of citizenship. We accept that our depiction is a stylisation and that there were many individual nuances in particular countries over the period considered.

The Great Depression taught us that, without government intervention, capitalist economies are prone to lengthy periods of unemployment. 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. In this period, the memories of the Great Depression still exerted an influence on the constituencies that elected the politicians. The experience of the Second World War showed governments that full employment could be maintained with appropriate use of budget deficits. The employment growth following the Great Depression was in direct response to the spending needs that accompanied the onset of the war rather than the failed neoclassical remedies that had been tried during the 1930s. The problem that had to be addressed by governments at war's end was to find a way to translate the fully employed war economy with extensive civil controls and loss of liberty into a fully employed peacetime model.

The first major statement addressing this problem came in the form of William Beveridge's (1944) *Full Employment in a Free Society*.[1] This was consistent with the emerging Keynesian orthodoxy of the time, which saw unemployment as a systemic failure in demand and moved the focus away from an emphasis on the ascriptive characteristics of the unemployed and the prevailing wage levels. Beveridge (1944: 123–35) asserted: 'The ultimate responsibility for seeing that outlay as a whole . . . 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. Creating enough jobs in the economy was seen as the best form of social security. Arthur Altmeyer (1968)[2] in one of his last speeches talked about the adoption of Beveridge's Report on Social Security by Winston Churchill, who, Altmeyer said, 'was on the side of social security and opposed to the alms house which had been tried for several hundred years and had failed'.

From 1945 until 1975, governments manipulated fiscal and monetary policy to maintain levels of overall spending sufficient to generate employment growth in line with labour force growth. This was consistent with the view that mass unemployment reflected deficient aggregate demand which could be resolved through positive net government spending (budget deficits). Governments used a range of fiscal and monetary measures to

stabilise the economy in the face of fluctuations in private sector spending and were typically in deficit.

As a consequence, in the period between 1945 through to the mid-1970s, most advanced Western nations maintained very low levels of unemployment, typically below 2 per cent. Figure 1.2 shows that the performance of the labour market during the Keynesian full employment period was in stark contrast to what followed and what had preceded it.

However, while both private and public employment growth was relatively strong during the post-war period up until the mid-1970s, the major reason why the economy was able to sustain full employment was that it maintained a buffer of jobs that were always available, and which provided easy employment access to the least-skilled workers in the labour force. Some of these jobs, such as process work in factories, were available in the private sector. However, the public sector also offered many buffer jobs that sustained workers with a range of skills through hard times. In some cases, these jobs provided permanent work for the low-skilled and otherwise disadvantaged workers.

Importantly, the economies that avoided the plunge into high unemployment in the 1970s maintained what Ormerod (1994: 203) has described
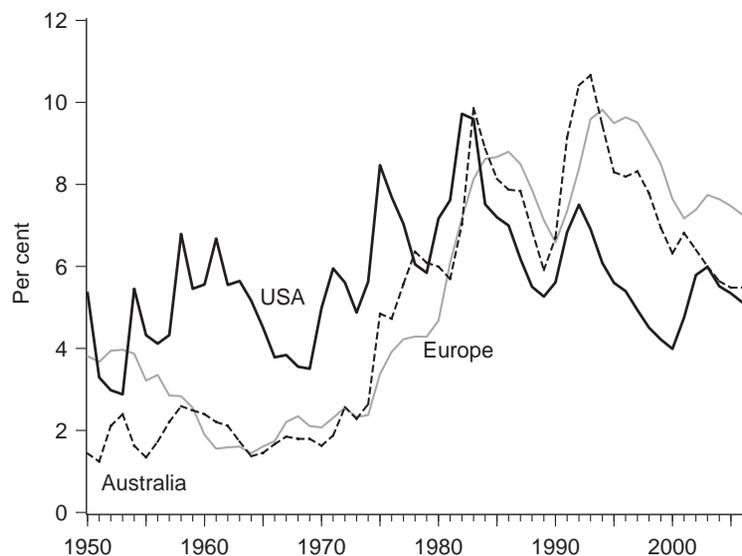
as a 'sector of the economy which effectively functions as an employer of last resort, which absorbs the shocks which occur from time to time, and more generally makes employment available to the less skilled, the less qualified'. Ormerod said that employment of this type may not satisfy narrow neoclassical efficiency benchmarks, but notes that societies with a high degree of social cohesion and a high valuation on collective will have been willing to broaden their concept of costs and benefits of resource usage to ensure that everyone has access to paid employment opportunities. Ormerod (p. 203) argued that countries like Japan, Austria, Norway, and Switzerland were able to maintain this capacity because each exhibited 'a high degree of shared social values, of what may be termed social cohesion, a characteristic of almost all societies in which unemployment has remained low for long periods of time'. In Sections 1.5 and 1.6 we summarise the argument, developed in Part III, that in a modern monetary economy the return to full employment and price stability requires the reintroduction of this buffer stock capacity (Mitchell, 1998; Mitchell and Mosler, 2006).

The full employment commitment (the economic pillar) was buttressed by the development of the welfare state, which defined the state's obligation to provide security to all citizens. Citizenship embraced the notion that society had 'a collective responsibility for the wellbeing of its citizens' (Jamrozik, 2001: 15) and replaced the dichotomy that had been constructed between the deserving and undeserving poor (Timmins, 1995: 21). The redistributive pillar recognised that the mixed economy (with a large market component) would deliver poor outcomes to some citizen, principally via unemployment. Extensive transfer payment programmes were designed to provide income support to disadvantaged individuals and groups. Underpinning the welfare state and the economic commitment to full employment was a sophisticated concept of citizenship (the collective pillar). The rights of citizenship meant that individuals had access to the distribution system (via transfer payments) independent of market outcomes. Furthermore, a professional public sector provided standardised services at an equivalent level to all citizens as a right of citizenship. These included the public sector employment services, public health and education systems, legal aid and a range of other services.

*Figure 1.2    Unemployment rates, Australia, Europe and the United States, 1950–2006*

## 1.3   THE ABANDONMENT OF FULL EMPLOYMENT

The stability of this post-war framework with the government maintaining continuous full employment via policy interventions was always a source of dissatisfaction for the capitalist class. This was particularly the case in the

late 1960s as national debates arose about trade union power (see Quirk, 2003). Taking Australia as an example, Quirk provides compelling evidence to show that the captains of industry were pressuring government to create some labour slack in the economy and that the entreaties were received sympathetically by key conservative politicians. However, the chance to break the post-war stability came in the mid-1970s.

Following the first OPEC oil price hike in 1974, which led to accelerating inflation in most countries, there was a resurgence of pre-Keynesian thinking. Inflationary impulses associated with the Vietnam War had earlier provided neo-liberal economists with opportunities to attack activist macroeconomic policy in the United States. Governments around the world reacted with contractionary policies to quell inflation and unemployment rose, giving birth to the era of stagflation. The economic dislocation that followed provoked a paradigm shift in macroeconomics (Thurow, 1983). The Keynesian notion of full employment, defined by Vickrey (1993: 4) as 'a situation where there are at least as many job openings as there are persons seeking employment' was abandoned as policy makers progressively adopted the natural rate of unemployment approach (Friedman, 1968). This has more recently been termed the 'non-accelerating inflation rate of unemployment' (NAIRU) approach. We discuss this transition in detail in Chapter 3. This approach redefines full employment in terms of a unique unemployment rate (the NAIRU) where inflation is stable, and which is determined by supply forces and is invariant to Keynesian demand-side policies. It reintroduces the discredited Say's Law by alleging that free markets guarantee full employment and Keynesian attempts to drive unemployment below the NAIRU will ultimately be self-defeating and inflationary. The Keynesian notion that unemployment represents a macroeconomic failure that can be addressed by expansionary fiscal and/or monetary policy is rejected. Instead, unemployment reflects failures on the supply side such as individual disincentive effects arising from welfare provision, skill mismatches and excessive government regulations (OECD, 1994). Extreme versions of the natural rate hypothesis consider unemployment to be voluntary and the outcome of optimising choices by individuals between work (bad) and leisure (good).

As, or what is now referred to as, neo-liberalism took hold in the policy-making domains of government, advocacy for the use of discretionary fiscal and monetary policy to stabilise the economy diminished, and then vanished. In the mid-1970s, the opposition to the use of budget deficits to maintain full employment became visible for the first time and the inflation-first rhetoric emerged as the dominant discourse in macroeconomic policy debates. The rhetoric was not new and had previously driven the failed policy initiatives during the Great Depression. However, history is

conveniently forgotten and Milton Friedman's natural rate hypothesis seemed to provide economists with an explanation for high inflation and alleged three main and highly visible culprits – the use of government deficits to stimulate the economy; the widespread income support mechanisms operating under the guise of the welfare state; and the excessive power of the trade unions which had supposedly been nurtured by the years of full employment. All were considered to be linked and anathema to the conditions that would deliver optimal outcomes as prescribed in the neoclassical economic (textbook) model. We shall discuss these matters in more detail in Chapter 4. With support from business and an uncritical media, the paradigm shift in the academy permeated the policy circles and as a consequence governments relinquished the first major pillar of the post-war framework – the commitment to full employment. It was during this era that unemployment accelerated and has never returned to the low levels that were the hallmark of the Keynesian period.

The NAIRU approach extolled, as a matter of religious faith, that government could only achieve better outcomes (higher productivity, lower unemployment) through microeconomic reforms. In accordance with the so-called 'supply-side' economics, governments began to redefine the economic pillar in terms of creating a greater reliance on market-based economic outcomes with a diminished public sector involvement. In many countries, successive governments began cutting expenditures on public sector employment and social programmes; culled the public capacity to offer apprenticeships and training programmes; and set about dismantling what they claimed to be supply impediments (such as labour regulations, minimum wages, social security payments and the like).

Within this logic, governments adopted the goal of full employability, significantly diminishing their responsibility for the optimum use of the nation's labour resources. Accordingly, the aim of labour market policy was limited to ensuring that individuals are employable. This new ambition became exemplified in the 1994 OECD *Jobs Study*.

As a result, successive governments in many countries began the relentless imposition of active labour market programmes. These were designed to churn the unemployed through training programmes and/or force participation in workfare compliance programmes. The absurdity of requiring people to relentlessly search for work, and to engage in ongoing training divorced of a paid-work context, seemed lost on government and their policy advisers. That the NAIRU approach seduced them at all is more difficult to understand given stark evidence that since 1975 there have never been enough jobs available to match the willing labour supply.

In the UK Richard Layard (1998: 27), an influential Labour Party adviser, noted:

In the very bad old days, people thought unemployment could be permanently reduced by stimulating aggregate demand in the economy . . . But [this] did not address the fundamental problem; to ensure that inflationary pressures do not develop while there are still massive pockets of unemployed people. The only way to address this problem is to make all the unemployed more attractive to employers – through help with motivation and job finding, through skill-formation, and through a flexible system of wage differentials. Nothing else will do the trick.

The OECD *Jobs Study*, which was considerably influenced by the work of Layard and his colleagues, set the tone for this neo-liberal labour market agenda. As we shall analyse in Chapters 5 and 6, this agenda makes the goal of full employability pre-eminent and disregards policies that might increase the rate of overall job creation.

A fully employed economy provides lifelong training and learning opportunities in the context of paid employment. Firms become responsible for adjusting hiring standards and on-the-job training programmes to match the available talents of the labour force. Under the flawed doctrine of full employability, labour market programmes mainly function to subsidise the needs of private capital. Further, unemployment has become a business. Many market-based organisations have benefited from this new approach to delivering labour market services. Small entrepreneurs, community activists and private welfare agencies have become the agencies that administer these neo-liberal labour market policies (Peck, 2001). In the UK, Jones and MacLeod (2002: 20) noted:

[E]mployer coalitions and locally based stakeholder partnerships have been formed to bring together a wide range of interests involved in the 'business' of unemployment. Through these new regimes, the unemployed are offered to employers, who receive a subsidy with minimum training requirements, in return for their assistance in resolving welfare state dependency and at the same time (supposedly) providing the basis for a skills-based lifelong learning revolution . . . While this might give some genuine appearance of 'training', some have gone so far as to suggest this is nothing more than large-scale bribery, a huge subsidy for capital, because the training requirements are ill-defined in the numerous agreements between the employer and the state.

The shift to an emphasis on full employability was accompanied by substantial changes in the conduct of macroeconomic policy. In Chapter 6, we shall consider inflation targeting, which was one strand of the macroeconomic accompaniment to the supply-side microeconomic policy agenda set out in the *Jobs Study*. Not only have the neo-liberals rejected the notion that demand deficiencies can occur. They have also been successful in making inflation appear to be a worse bogey person than unemployment.

Blinder (1987: 51) presented a compelling critique of this view and concludes that the political importance of inflation has been blown out of all proportion to its economic significance. After dismissing the arguments that inflation imposes high costs on the economy, Blinder (p. 33) noted:[3]

The political revival of free-market ideology in the 1980s is, I presume, based on the market's remarkable ability to root out inefficiency. But not all inefficiencies are created equal. In particular, high unemployment represents a waste of resources so colossal that no one truly interested in efficiency can be complacent about it. It is both ironic and tragic that, in searching out ways to improve economic efficiency, we seem to have ignored the biggest inefficiency of them all.

Solow (1998), reflecting his Keynesian roots, is also critical of the emphasis on inflation. He argued that inflationary pressures do not emanate from low-wage labour markets. Solow (1998: 32–3) is sceptical that labour markets drive inflation at all: 'it seems wholly unlikely that unskilled wage–push plays much of an independent inflationary role [so] an influx of former recipients will not give the Federal Reserve much of a cushion against over-heating'. We shall consider these issues in more detail in Chapters 6 and 7.

## 1.4    THE FULL EMPLOYABILITY FRAMEWORK AND THE ABANDONMENT OF THE RIGHTS OF CITIZENSHIP

The abandonment of full employment presented neo-liberal governments with a new problem. With unemployment persisting at high levels due to the deliberate constraints imposed on the economy by restrictive fiscal (and monetary) policy, rising welfare payments placed pressures on the redistributive pillar. These pressures were erroneously seen as a threat to the fiscal position of government. As we explain in Section 1.5, government is never financially constrained and the justification for cutting welfare to 'save money' is flawed at the most elemental level.

However, the neo-liberals managed to convince policy makers that fiscal conservatism was necessary and that the only way to resolve the pressures on the redistributive pillar was to reduce the public commitment to income support and the pursuit of equity. Accompanying the neo-liberal attacks on macroeconomic policy were concerted attacks on the supplementary institutions such as the industrial relations system and the welfare state. For these attacks to be effective, a major recasting of the concept of citizenship was required. Governments, aided by the urgings of the neo-liberal intellectuals in the media and in conservative thinktanks, thus set about
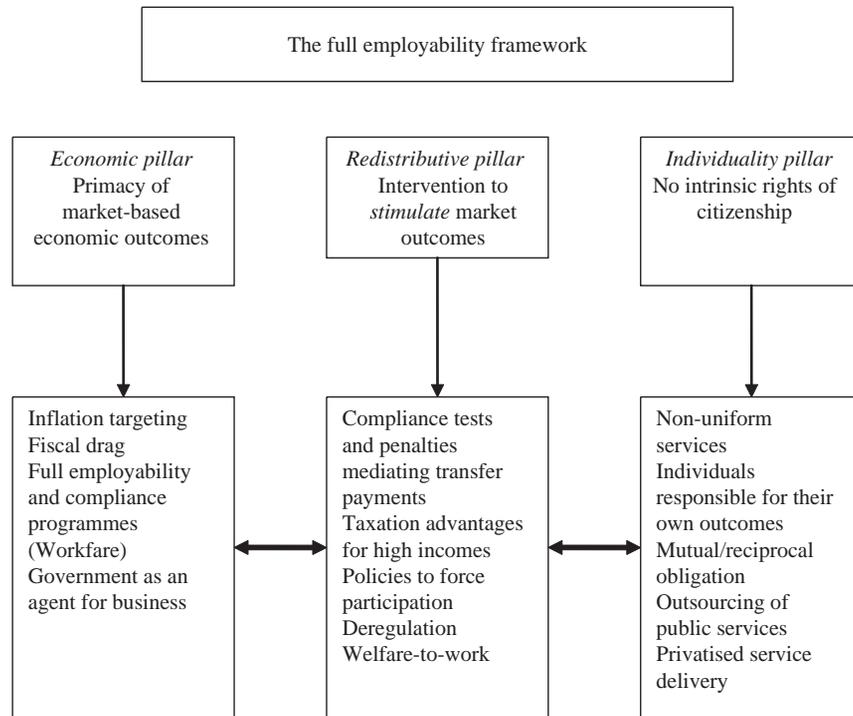
| | | |
|---|---|---|
| The full employability framework | | |

| *Economic pillar* Primacy of market-based economic outcomes | *Redistributive pillar* Intervention to *stimulate* market outcomes | *Individuality pillar* No intrinsic rights of citizenship |
|---|---|---|
| Inflation targeting Fiscal drag Full employability and compliance programmes (Workfare) Government as an agent for business | Compliance tests and penalties mediating transfer payments Taxation advantages for high incomes Policies to force participation Deregulation Welfare-to-work | Non-uniform services Individuals responsible for their own outcomes Mutual/reciprocal obligation Outsourcing of public services Privatised service delivery |

*Figure 1.3    The full employability framework*

redefining the collective pillar, which had been an essential part of the rationale for the system of social security.

Under the full employability framework, which we sketch in Figure 1.3, collective will has been usurped by the primacy of the individual. The hallmark of the neo-liberal era is that individuals have to accept responsibility, be self-reliant, and fulfil their obligations to society (Giddens, 1998). Unemployment is couched as a problem of welfare dependence rather than a deficiency of jobs. To break this welfare dependency required responsibility to be shifted from government to the individual. To force individuals to become accountable for their own outcomes, governments embraced a shift from active to passive welfare and the introduction of alleged responsibilities to counterbalance existing rights. This is sometimes referred to as 'reciprocal obligation' (Cook et al., 2003). Individuals now face broader obligations and, in many countries, their rights as citizens have been replaced by compulsory contractual relationships under which receipt of benefits is contingent on meeting behavioural criteria.

Reciprocal obligation was developed as a leading principle in several countries as a means of reintegrating the allegedly, welfare-dependent underclass into the community.

Unfortunately, there is no reciprocal obligation on government to ensure that there are enough jobs for all those wanting work. The major shortcoming of the full employability framework is that the focus on the individual ignores the role that macroeconomic constraints play in creating welfare dependence. It is a compositional fallacy to consider that the difference between getting a job and being unemployed is a matter of individual endeavour or preference. Adopting welfare dependency as a lifestyle is different from an individual, who is powerless in the face of macroeconomic failure, seeking income support as a right of citizenry.

## 1.5    A MODERN MONETARY ECONOMICS: MACROECONOMIC PRINCIPLES REVISITED

In this section we summarise the arguments developed in Chapter 8 which centre on what we term 'modern monetary theory'. We use this term to define a monetary system characterised by a floating exchange rate (so monetary policy is freed from the need to defend foreign exchange reserves) and the monopoly provision of fiat currency. The monopolist is the national government. Most countries now operate monetary systems that have these characteristics. The following macroeconomic principles explain the fundamental flaws in the arguments used to justify abandoning full employment in the context of a modern monetary economy. First, under a fiat currency system, the monetary unit defined by the government has no intrinsic worth. It cannot be legally converted by government, for example, into gold as it was under the gold standard. The viability of the fiat currency is ensured by the fact that it is the only unit which is acceptable for payment of taxes and other financial demands of the government.

Second, as a matter of national accounting, the federal government deficit (surplus) equals the non-government surplus (deficit). The failure to recognise this relationship is the major oversight of neo-liberal analysis. In aggregate, there can be no net savings of financial assets of the non-government sector without cumulative government deficit spending. The federal government via net spending (deficits) is 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 hence eliminate unemployment. Additionally, and contrary to neo-liberal rhetoric, the systematic pursuit of government budget surpluses is necessarily manifested as systematic declines in private sector savings.

Third, the decreasing levels of net private savings financing the government surplus increasingly leverage the private sector. The deteriorating debt to income ratios which result will eventually see the system succumb to ongoing demand-draining fiscal drag through a slowdown in real activity.

Fourth, the analogy that neo-liberals draw between private household budgets and the government budget is false. Households, the users of the currency, must finance their spending prior to the fact. However, government, as the issuer of the currency, must spend first (credit private bank accounts) before it can subsequently tax (debit private accounts). Government spending is the source of the funds that the private sector requires to pay its taxes and to net save and is not inherently revenue constrained.

Fifth, unemployment occurs when net government spending is too low. As a matter of accounting, for aggregate output to be sold, total spending must equal total income (whether actual income generated in production is fully spent or not each period). Involuntary unemployment is idle labour unable to find a buyer at the current money wage. In the absence of government spending, unemployment arises when the private sector, in aggregate, desires to spend less of the monetary unit of account than it earns. Nominal (or real) wage cuts *per se* do not clear the labour market, unless they somehow eliminate the private sector desire to net save and increase spending. Thus, unemployment occurs when net government spending is too low to accommodate the need to pay taxes and the desire to net save.

Sixth, while the federal government is not financially constrained, it still issues debt to control its liquidity impacts on the private sector. Government spending and purchases of government bonds by the central bank add liquidity, while taxation and sales of government securities drain private liquidity. These transactions influence the cash position of the system on a daily basis and on any one day they can result in a system surplus (deficit) due to the outflow of funds from the official sector being above (below) the funds inflow to the official sector. The system cash position has crucial implications for the central bank, which targets the level of short-term interest rates as its monetary policy position. Budget deficits result in system-wide surpluses (excess bank reserves). Competition between the commercial banks to create better earning opportunities on the surplus reserves then puts downward pressure on the cash rate. If the central bank desires to maintain the current target cash rate then it must drain this surplus liquidity by selling government debt. In other words, government debt functions as interest rate support via the maintenance of desired reserve levels in the commercial banking system and not as a source of funds to finance government spending.

## 1.6    BUFFER STOCKS AND PRICE STABILISATION

In Chapter 9 we shall compare two different buffer stock approaches to maintaining stable prices. The first, the NAIRU approach, uses unemployment to discipline the wage–price-setting process. The second is based on employment buffer stocks and allows the government to achieve both full employment and price stability. We develop the JG proposal, which was conceived independently by Mosler (1997–98) and Mitchell (1998), as an employment buffer stock approach. Under the JG, the public sector offers a fixed-wage job to anyone willing and able to work. This buffer stock expands (declines) when private sector activity declines (expands). The JG thus fulfils an absorption function to minimise the real costs currently associated with the flux of the private sector. When private sector employment declines, public sector employment will automatically react and increase its payrolls. The nation always remains fully employed, with only the mix between private and public sector employment fluctuating in response to the spending decisions of the private sector.

Since the JG wage is open to everyone, it will functionally become the national minimum wage. The JG introduces no relative wage effects and the rising demand *per se* does not necessarily invoke inflationary pressures because by definition it is satisfying a net savings desire. Additionally, in today's demand-constrained economies, firms are likely to increase capacity utilisation to meet the higher sales volumes. There are no new problems faced by employers who wish to hire labour to meet the higher sales levels. Any initial rise in demand will stimulate private sector employment growth while reducing JG employment and spending and, importantly, the JG wage provides an in-built inflation control mechanism (Mosler, 1997–98; Mitchell, 1998).

## 1.7    THE JOB GUARANTEE AND COMMUNITY DEVELOPMENT

The JG is not only a valid instrument for macroeconomic stabilisation whereby government can maintain full employment and price stability. In addition, an employment buffer stock approach provides communities with opportunities to revive the social dimension of work, which we emphasised in Sections 1.1 and 1.2, above, when discussing the full employment framework and the concept of employment as a human right.

Among others, we argue that the JG would help communities in disadvantaged areas to maintain continuity of income and labour force attachment, without recourse to welfare dependence. In that context the

concept of work itself can be extended and broadened to include activities that we would dismiss as being leisure, using the current ideology and persuasions. The JG mechanism can also be used to discourage private sector activities currently deemed as productive, in a narrow economic sense, but which future societies will view as socially or environmentally destructive.

Importantly, a JG strategy acknowledges the strains on our natural ecosystems and the need to change the composition of final output towards environmentally sustainable activities. Environmental projects are ideal targets for public sector employment initiatives as they are likely to be underproduced by the private sector due to their heavy public good component. If a portion of JG jobs were used to repair and restore the environment, the workers would regain personal dignity, and society would gain from the increased provision of goods and services which support sustainability. It is not increased demand *per se* that is necessary but increased demand in sustainable areas of activity.

The JG also does not preclude training initiatives. Appropriately structured training within a paid employment context helps overcome the churning of unemployed through training programmes, workfare and other schemes under current neo-liberal policies. Specific skills are usually more efficiently taught on the job. As a consequence, a properly designed JG can help previously unemployed persons to make transitions into careers in the private sector and also stimulate employers to modify their recruitment behaviour.

Clearly the JG solves the problem of time-related underemployment. The JG workers can voluntarily choose what fraction of full-time hours they wish to work. As a consequence, the introduction of a JG, which provides the opportunity for workers to engage in full-time employment, would likely place pressure on private employers, who have failed to provide sufficient hours of work to satisfy the preferences of their workforce, to restructure their workplace to overcome the discontent that their underemployed workers feel.

Finally, the introduction of a JG has no necessary bearing on the availability or operations of existing income support payments. Existing unemployment benefit schemes could easily co-exist with a JG scheme and workers could be given a choice as to whether they accept income support or work in a JG job for a wage. What a JG does is to provide jobs to all who want to work. Most public policy today uses the stick to force off welfare those who are able to work, without providing the carrot in the form of jobs. Most welfare-to-work schemes are little more than a cruel joke, precisely because there is no job for most welfare-leavers.

## 1.8 CONCLUSION

Our motivation in writing this book is intrinsically linked to our acceptance of the proposition that employment is a human right. The urgency of full employment transcends economic exigencies such as maximisation of income, and goes to the basis of how we treat one another. There are various reasons why employment should be considered a human right. The relevant concepts motivating this claim are citizenship and membership (Burgess and Mitchell, 1998). The Universal Declaration of Human Rights clearly includes the right to work and the 1946 International Labour Office (ILO) Declaration of Philadelphia, ratified by the United Nations, asserts full employment as a national and international goal (Siegel, 1994: 60).

There are three main, interrelated reasons to support the claim that employment is a right. First, for the majority of individuals and households, employment is the dominant source of income. Income is essential for participation in the market economy. It provides access to credit and a diversity of goods and services. It allows a person to save and plan for holidays and retirement. The full employment framework clearly acknowledged the need for income support mechanisms for those who were not in receipt of labour income. Redistributive mechanisms in the form of unemployment, age and sickness benefits were based on the primacy of wage income as a means for inclusion. Second, unemployment and underemployment deprive a person of access to social networks and the advantages that they provide. Third, an unemployed person is susceptible to a range of social pathologies including a higher incidence of family breakdown, alcohol and substance abuse, deteriorating physical and mental health, participation in criminal activity and incarceration (Watts and Mitchell, 2000).[4]

The right to work can be interpreted in many ways. We consider that several dimensions are non-negotiable. A person should be able to obtain the hours of work he or she desires and this should be guaranteed by the state. This guarantee should provide, at the very least, unconditional offers of work at the minimum adult pay rates and conditions. The guarantee should provide opportunities that are inclusive of the most disadvantaged workers in the economy including people with mental illness or disability, should they wish to work. The guaranteed work has to satisfy all legal and moral standards of the day. The JG is a minimalist interpretation of the right to work in that the jobs on offer may still not fully utilise the current skills of those seeking employment. In this regard, the guaranteed employment is seen as a buffer stock to tide people over when they are unable to attain higher-paid employment in the (public or private) market sector. We would consider this consistent with the treaties noted above. In this context,

a right to work is the precondition for eliminating the enormous costs and consequences of unemployment and requires national governments to take responsibility for maintaining an effective full employment policy.

Most OECD economies have suffered from persistently high unemployment since the mid-1970s. In Parts I and II of this book we argue that deficiency of demand promoted by inappropriate fiscal and monetary policy is the major explanation for this problem. In Part III we argue that budget deficits are necessary to maintain full employment if the private sector is to pay taxes and has a positive desire to net save. Government spending is only constrained by what real goods and services are offered in return for it and the alleged constraints on government action to restore full employment are based on false premises. In a modern monetary economy, the use of an employment buffer stock approach in the form of a JG is a more effective approach to attaining full employment with price stability than the NAIRU practice of using unemployment as a policy instrument designed to discipline the inflation process. With this underpinning, governments can then begin a process of the restoration of the full employment framework and more effectively deal with the challenges of the future, which will come from population ageing and environmental degradation.

## NOTES

1. Beveridge had earlier, in 1942, authored *Social Insurance and Allied Service*, commonly referred to as the Beveridge Report, which was the basis of the development of the welfare state.
2. Arthur Altmeyer was one of the most influential persons shaping the course of social security in America. He was part of the President's Committee on Economic Security that drafted the original legislative proposal in 1934. He was a member of the three-person Social Security Board created to run the new programme, and he was either Chairman of the Board or Commissioner for Social Security from 1937 to 1953.
3. What are the costs of inflation? Blinder (1987: 45, 46, 50) comments: 'More precisely, is the popular aversion to inflation based on fact and logic or on illusion and prejudice? (p. 45) . . . Too many trips to the bank? Can that be what all the fuss is about? (p. 46) . . . Can that be all there is to the costs of inflation? The inefficiencies caused by hyperinflation are, of course, monumental. But the costs of moderate inflation that I have just enumerated seem meager at best'. Blinder (p. 50) also reacts to critics who lay all manner of societal ills on inflation at 6 per cent: 'Promiscuity? Sloth? Perfidy? When will inflation be blamed for floods, famine, pestilence, and acne? . . . the myth that the inflationary demon, unless exorcised, will inevitably grow is exactly that – a myth. There is neither theoretical nor statistical support for the popular notion that inflation has a built-in tendency to accelerate. As rational individuals, we do not volunteer for a lobotomy to cure a head cold. Yet, as a collectivity, we routinely prescribe the economic equivalent of lobotomy (high unemployment) as a cure for the inflationary cold. Why?'.
4. Similar concerns are shared by quite different authors such as Phelps (1997) and Layard (2005), who propose different solutions.

# 2.    Early views on unemployment and the Phillips curve

## 2.1    INTRODUCTION

In the pre-Keynesian era, the concept of full employment only allowed for voluntary unemployment: employment was determined at the intersection of labour demand and supply which was the outcome of maximising, rational and voluntary decision making by workers and firms. However, in the immediate post-Second World War Keynesian era, the concept of full employment was recast and the emphasis became one of providing enough jobs to match the work preferences of the available 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 saving preferences of the private sector. The notion of involuntary unemployment was at the heart of this conception of full employment. That is, full employment coincided with zero involuntary unemployment.

This post-Second World War consensus was steadily eroded away over the next 40 odd years. By the early to mid-1970s, mainstream macroeconomics reverted back to the pre-Keynesian notions of voluntary unemployment and effectively abandoned the concept of true full employment. However, the process of abandonment began in the 1950s when the discussion turned to inflation and the trade-off between the twin evils of unemployment and inflation. This was the era in which the Phillips curve literature emerged (Phillips, 1958). For the concept of true full employment, however, it was the subsequent monetarist and new classical reinterpretation of the trade-off that was devastating. The classical (pre-Keynesian) notion of a natural unemployment rate (understood as being equivalent to full employment) was revived, and this led economic theory to reject demand management policies which aimed to limit unemployment to its frictional component.

We argue in this chapter that the conception which underpinned Phillips's (1958) publication was paradigmatically different from the conception that underpinned the publications by Friedman (1968) and Phelps (1968a). Far from being an augmentation of the Phillips curve, Friedman's

natural rate of unemployment and inflation models were part of an ongoing attempt to resurrect the neoclassical free market paradigm, which had been discredited during the Great Depression. The natural rate version of the Phillips curve is traced back to Irving Fisher, who was a prominent and influential exponent in the last century of the neoclassical approach.

Section 2.2 considers classical unemployment theory as expressed by Pigou. Section 2.3 considers the pre-Keynesian origins of the Phillips curve by analysing the historical contributions of the English classical economists and their contemporaries up to Irving Fisher. Section 2.4 considers and rejects the proposition that Irving Fisher 'discovered' the Phillips curve. In Sections 2.5 and 2.6 we present the Keynesian view of unemployment and introduce the distinction between voluntary and involuntary unemployment. The latter is caused by deficient aggregate demand which can be solved by demand policies. Section 2.7 considers the contribution of the post-Second World War econometricians and the pre-1958 Keynesians with the aims of establishing the Keynesian roots of Phillips's work and to shed light on stability issues. Section 2.8 examines Phillips's early work and the contribution of a number of authors including A.J. Brown and Paul Sultan to the development of the Phillips curve framework. The results of this evolutionary process are summarised in Section 2.9 where we argue that two distinct developments can be distinguished in the literature. These led to fundamentally different interpretations of the trade-off between inflation and employment as represented by the Phillips curve.

## 2.2   CLASSICAL EMPLOYMENT THEORY

As a benchmark we consider the standard classical view on unemployment as presented by Pigou (1933). The classical model is represented by the following equations and is graphically depicted in Figure 2.1.

$$L_d = f(w) \qquad f' < 0 \tag{2.1}$$

$$L_s = f(w) \qquad f' > 0 \tag{2.2}$$

$$L_d = L_s, \tag{2.3}$$

where $w$ is the real wage which 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, that is, exclusively by labour demand and labour supply.

Equation (2.1) describes the labour demand ($L_d$) function and is the derivative of the production function with respect to labour input (the
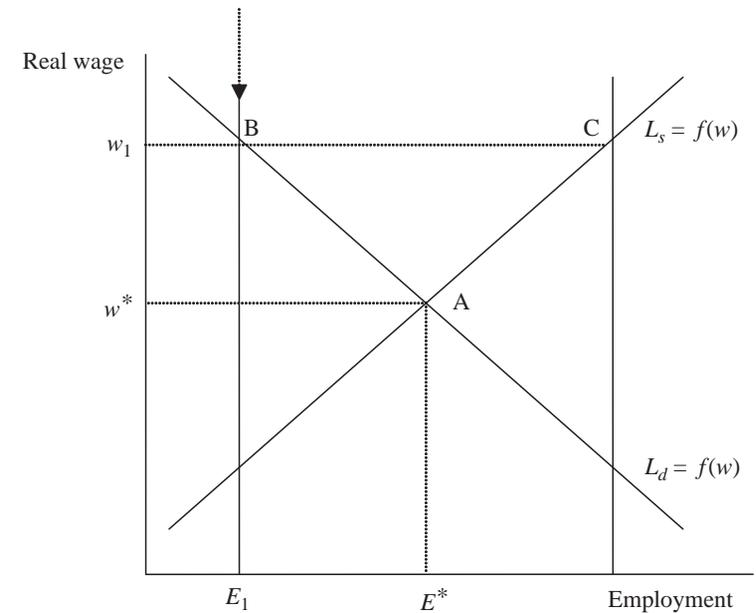
*Figure 2.1    The classical labour market*

marginal product). The *ad hoc* imposition of the so-called 'law of diminishing returns' ensures that this derivative is positive but declining as employment is increased. Hence, the labour demand function is downward sloping with respect to real wages. This is a short-run relation based on the fixity of other inputs (ibid.: 39–40).

Equation (2.2) describes the labour supply ($L_s$) function, which is based on the idea that the worker has a choice between work (a bad) and leisure (a good), with work being tolerated to gain income. The relative price mediating this choice is the real wage, which measures the price of leisure relative to income. The imposition of the *ad hoc* assertion that the substitution effect outweighs the income effect means that a rising real wage will elicit increased labour supply and vice versa. Interestingly, Pigou, who was the principal antagonist against Keynes in the early 1930s, considered labour supply to be relatively inelastic with respect to real wage movements. Whether the function is vertical or upward sloping is of marginal significance to this discussion.

The important classical result is that the interaction between the labour demand and supply functions *determines* the real level of the economy at any point in time. Aggregate supply (using the aggregation fudge of the so-called 'representative' firm) is thus a technological mapping from the equilibrium employment determined by equation (2.3) into the production function.

Say's Law (in whatever version) is then invoked to assume away any problems in matching aggregate demand with this supply of goods and services.

The equilibrium employment level, $E^*$ in Figure 2.1, is constructed as being full employment because it suggests that every firm who wants to employ at the equilibrium real wage, $w^*$ 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.

The classical economist thus considered that the preferences of the workers always would have a bearing on the labour market outcome and through price adjustment (real wage flexibility) any changes in supply preferences would – via mediation through the demand side – result in a changing full employment level. In other words, adoption of the competitive paradigm demands that departures from full employment are ephemeral at best. Any sustained unemployment (say BC in Figure 2.1) must be due to a real wage constraint (a real wage, $w_1$, above the marginal productivity at implied equilibrium full employment) which would be competed away more or less immediately.

A fundamental aspect of this labour market conception, which has analogues in later new classical versions of the model, is that fluctuations in unemployment reflect supply-side changes arising from imperfect information or reflecting changing preferences between leisure and work. Later in this chapter, we present Fisher's model, which incorporates these notions. This model is sometimes interpreted as a forerunner to the Phillips curve but we shall argue that this viewpoint is erroneous. First, however, we discuss the view of the English classical economists on fluctuations in unemployment and its relation to inflation.

## 2.3   THE ENGLISH CLASSICAL ECONOMISTS

The background to the writings of the classical economists on inflation and unemployment centred on the convertibility of the note issue into gold, which was suspended in 1794 at the outset of the Napoleonic Wars and did not resume until 1819–21. The intervening period of inconvertible paper was initially marked by rampant inflation. Subsequently, in the period between 1814 and 1816, many country banks in England failed and this led to a destruction of country-bank paper and a sharp contraction in the money supply. The deflation imposed harsh effects on the unemployed and members of the working class which became worse with the resumption of cash payments (at the gold parity, which existed prior to the suspension). A fierce debate followed and the role of the Bank of England became a major issue (see O'Brien, 1975: Ch. 6).

O'Brien (p. 162) maintained: 'very few Classical writers . . . were prepared to argue that changes in the stock [of money] did not affect the level of activity, although there were several versions of the way in which money achieved its effects'. He traced the classical thinking back to the pre-classical writers such as Richard Cantillon, William Potter and John Law. The major statement of what we might now call the relationship between inflation and unemployment came, however, from David Hume.

### 2.3.1   David Hume

In 1752, Scottish economist David Hume wrote an essay entitled *Of Money* which subsequently was reprinted in *Writings on Economics* (1955). The later Phillips curve relationship is very reminiscent of Hume. The expansionary effect of an increase in money supply begins via a rise in cash balances. There is a presumption that the economy is at less than full employment and, with excess capacity in the labour market, there is a quantity adjustment to the higher demand. The expansion lowers unemployment but eventually the excess demand for labour brings forth cost increases (via money wage increases) and price rises.

Further discussion by Hume suggested that his model is based on two building blocks. First, disturbances to unemployment (which see it vary from its equilibrium rate) arise from price expectation errors (a difference between actual and perceived prices). Second, these price expectation errors can only continue while prices are changing. We can express these ideas in the following way:

$$U = g(p - p^e) \qquad g' < 0 \qquad\qquad (2.4)$$

$$(p - p^e) = m(\dot{p}) \qquad m' > 0 \qquad\qquad (2.5)$$

where $U$ is the variation in unemployment around its equilibrium value, $p$ is the actual price level, $p^e$ is the expected price level, $\dot{p}$ is the change in the price level over time, and $m$ is the price perceptions adjustment coefficient and assumed to be positive (see Humphrey, 1985).

By substitution, the familiar Phillips curve form is derived as:

$$U = f(\dot{p}). \qquad f' < 0 \qquad\qquad (2.6)$$

Hume argued that it was necessary to continuously increase prices to keep unemployment at a desired low level. The continuous rises in the price level were required to create price-forecasting errors which, in turn, generate the trade-off. In modern parlance, employment could be increased to

some high level (low unemployment) as a result of monetary-driven price increases. Hume believed that the processes of inflation and deflation were symmetrical. A monetary authority intent on continuous deflation would generate high unemployment and, in the long run, the monetary authority can choose a mix of unemployment and inflation that suits its purposes. There is thus a long-run trade-off in this conception (Nelson, 1981: 2; Humphrey, 1985: 19).[1] Further, Hume (1955: 37–40), in his most explicit statement of the link between money, inflation and real activity, supported the use of inflation as a good policy instrument to increase real output and employment. Significantly, Hume's analysis of inflation became the starting-point for the classical economists (O'Brien, 1975: 163).

### 2.3.2   Henry Thornton

In 1802, Thornton wrote his major work entitled *An Enquiry into the Nature and Effects of the Paper Credit of Great Britain*, which was published in modern form in 1939 with an extensive introduction written by Friedrich Hayek. Hayek suggested that the publication by Thornton marked 'a new epoch in the development of monetary theory. . . . although . . . overshadowed by the greater fame of [David] Ricardo, it has now come to be recognised that in the field of money the main achievement of the Classical period is due to Thornton' (Thornton, 1939: 36).

Thornton (pp. 118–19) realised that large reductions in the issue of Bank of England paper (money notes) were related to downturns in real activity. In periods of depressed exchange, when Ricardo would argue that there was excess currency that had to be reduced, Thornton argued that the contraction could be domestically disastrous. When there was an internal drain operating then note issue should be increased (ibid.: Ch. 5). This was in stark contrast to Ricardo and the rigid bullionists.

Thornton clearly saw the trade-off between rising prices and falling unemployment, and outlined a model very similar to that captured in equation (2.6). He argued (p. 239) that it has been 'admitted that paper possesses the faculty of enlarging the quantity of commodities by giving life to some new industry'. In other words, he saw that monetary growth could stimulate real activity including employment. Importantly, it was not the level of money that was significant but the stimulatory effects of changes in money and prices (see also Humphrey, 1985: 19).

In Thornton's view there were no enduring real effects if the money stock expanded before contracting back to its original level. In this sense, he was not inconsistent with Hume. He also thought that if the money stock rose and was then maintained at that level, the new employment level would probably not persist. Another departure from Hume's analysis was

Thornton's distaste for a policy designed to exploit this temporary trade-off. The loss of purchasing power for workers (and those on fixed incomes) via real wage cuts led Thornton to eschew the trade-off as a viable strategy for monetary authorities. Finally, Thornton believed that the trade-off between output (employment) and inflation, if exploited, would be relatively small. In modern parlance he saw a steep Phillips curve. Thornton (1939: 239) maintained that while it is true that a growth in money will stimulate real activity ('giving life to new industry'), 'the encrease [sic] of industry will by no means keep pace with the augmentation of paper' as prices continue to rise.

### 2.3.3   Thomas Attwood

Neither Hume nor Thornton could be described as an 'unambiguous inflationist' (O'Brien, 1975: 164).[2] However, in contradistinction, Attwood, a Birmingham banker, clearly wanted policy makers to use inflation to increase the level of prices and generate full employment. He explicitly recognised a trade-off between inflation and unemployment. His thinking was significantly influenced by the effects of the deflationary strategies of the Bank of England after the Napoleonic Wars. Attwood became a central figure in the opposition to the attempts by the Bank of England to bring the currency notes back to parity with gold at the expense of economic activity (Fetter, 1964). The Bank was trying to resume specie (gold) payments after the 1797 suspension which followed a run on specie as the public panicked early in the wars against the French.

Attwood was a monetary heretic in his time. He stood for inflationary policies because he saw that they were the means to full employment. He is thus firmly in the tradition of modern economists who see a long-run trade-off between inflation and unemployment and who may weight the costs of unemployment as higher than the costs of inflation. The harsh deflationary policies adopted by the Bank of England in 1815 and 1816 saw many brass and iron workers in the Birmingham area, who were largely occupied in the armaments industry, lose their employment. Attwood stood out from the contemporary opposition to the deflation because he was not concerned with the distributional consequences (Fetter, 1964: xiii).

Unlike Hume and Thornton, Attwood expressed the trade-off in terms of levels of unemployment and prices (or deviations from normal values). Both Thornton and Hume argued that a reduction in the growth of money would plunge the economy back into depression, but for Attwood it was high prices (not price changes) that led to low unemployment. It is not entirely clear from Attwood's writings how he considered the trade-off between price levels and unemployment would occur. It appears that he

thought a real wealth effect, driven by a fall in the value of money as the price level increased, would provide the stimulus (Attwood, 1964: 62–3). As long as the real value of property increased, prosperity (production and employment) would rise. But this type of expansion would also be dependent on what economists might now call 'expectations'. Attwood placed a strong emphasis on public confidence. He argued (p. 69) that 'the depression of prices has produced depression of mind, and both have produced very general impoverishment and distress'.

Attwood pushed the inflationist position because he believed that the capitalist system had an inherent tendency to deflation, where falling prices caused stocks of goods to decline and, in turn, engendered pessimistic expectations. A downward spiral of gloom followed and the descent was only interrupted by price rises, due to stock shortages, at the bottom of the trough (pp. 60–61). In modern terms, the position taken by Attwood can be expressed as opposing the proposition that an unfettered market would maintain full employment. This brought him into conflict with John Stuart Mill during the 1820s.[3]

### 2.3.4   John Stuart Mill

Mill (1964) was a major critic of the position taken by Hume and Attwood and rejected the idea of a permanent trade-off between inflation and unemployment. Mill's (1964: 550) main statement on the issue is as follows:

> Another of the fallacies from which the advocates of an inconvertible currency derive support, is the notion that an increase of the currency quickens industry. This idea was set afloat by Hume, in his *Essay on Money*, and has had many devoted adherents since; witness the Birmingham currency school, of who Mr. Attwood was at one time the most conspicuous representative. Mr. Attwood maintained that a rise of prices, produced by an increase of paper currency, stimulates every producer to his utmost exertions, and brings all the capital and labour of the country into complete employment; and that this has invariably happened in all periods of rising prices, when the rise was on a sufficiently great scale. I presume, however, that the inducement which, according to Mr. Attwood, excited this unusual ardour in all persons engaged in production, must have been the expectation of getting more commodities generally, more real wealth, in exchange for the produce of their labour, and not merely more pieces of paper. This expectation, however, must have been, by the very terms of the supposition, disappointed, since, all prices being supposed to rise equally, no one was really better paid for his goods than before.

Clearly Mill at this stage believed in a model like equation (2.4). However, Mill's analysis is deficient because he failed to consider the context in which Attwood was proposing inflation. While Mill assumed full

employment of all resources, Attwood proposed inflationary-motivated growth because he had witnessed the effects of the post-Napoleonic recession on the local Birmingham industry.

Mill did reject, however, the view that monetary expansion was neutral. He built an argument to show that monetary expansion could have real effects on the gains made by debtors. The problem with his argument is that, independent of the source, extra demand can only translate into a real expansion if unemployment (of labour and capital) exists prior to the monetary increase. It was inconsistent for Mill to trace out one mechanism which provided increased spending and production yet to reject another. The fact is that Mill (p. 552) had a moral objection to the real debt route and claimed that 'this might be accounted an advantage, if integrity and good faith were of no importance to the world, and to industry and commerce in particular'.

Humphrey (1977) considered that Mill was a forerunner of the expectations-augmented Phillips curves and the natural rate hypothesis. He claimed that Mill saw misperceptions as the means to gain temporary expansion. It is difficult to agree with this interpretation. The confusion and inconsistency in Mill's argument aside, his basic objection to the inflationist cause of Attwood was moral. It is difficult to imagine that Milton Friedman would concede that the case against using monetary expansion to reduce unemployment could be reduced to a moral objection. Although Mill was inconsistent, he more typically adopted the argument that monetary expansion was undesirable.

### 2.3.5   Assessment of the English Classical Economists' View on Inflation and Unemployment

This section is motivated by our interest in the views taken by the English classical economists on fluctuations in unemployment and their relation to inflation. The views are worthy of consideration as part of our search for the origins of the Phillips curve and the monetarist and NAIRU revolution that followed. We find no common thread that would underpin the resurgence of monetarism. Contrary to some opinion (for example, Gordon, 1976), Hume's model was not the foundation for the natural rate analysis and his discussion is entirely consistent with the outcomes posited in Phillips (1958). Thornton – despite being ambiguous on key issues such as what happens if the new, higher level of money stock is maintained – was a more likely precursor to the monetarists but not to Phillips. On the other hand, Attwood's analysis is consistent with Phillips and in contradiction to the monetarist developments. His major critic, Mill, was unclear and inconsistent, although he has been erroneously interpreted

as providing analysis consistent with the vertical long-run Phillips curve (Humphrey, 1977).

## 2.4   IRVING FISHER: 'I DISCOVERED THE PHILLIPS CURVE'

The editor of the 1973 edition of the *Journal of Political Economy* (p. 496) commented: 'It is not generally known that the first statistical investigation of the relationship between inflation and the unemployment rate was performed not by A.W. Phillips in 1958 but by Irving Fisher in 1926' (see also Donner and McCollum, 1972: 323).

The journal reprinted the 1926 article by Fisher under the heading 'I discovered the Phillips curve by Irving Fisher'. Gordon (1981: 212) also claimed that the 'curve should actually be called the "Fisher curve", since the relationship between the unemployment and inflation rates had been pointed out much earlier [by Fisher, 1926]'. Similarly, Dimand (1997: 442) maintained that 'Fisher's monetary theory of economic fluctuations anticipated later developments such as Phillips curves and adaptive expectations'.[4]

While on the surface Fisher produced a correlation between employment and a complex lagged version of price inflation, it is difficult to argue that his model was a precursor to the type of models that were eventually embodied under the Phillips curve umbrella. Further, we have already seen that the English classical economists discussed the inflation-unemployment relationship and knew that a trade-off could be exploited, although in varying ways and with varying temporal horizons.

In line with Solow (1997), we consider Fisher's conception of the relationship as paradigmatically at odds with the stream of thinking within which Phillips is placed. Fisher's (1926) causal train is from a money expansion to rising prices, rising profits, increasing output and higher employment starting from a full employment level (which we would now term the 'natural rate of unemployment').

Fisher's reasoning is similar to that of Thornton. He also thought that exploiting this trade-off was bad because, longevity issues aside, the workers would have more jobs but lower wages. In other words, the trade-off is accompanied by lower real wages because money wages rise more slowly than prices. Also in the same vein as Thornton is Fisher's insistence that the relationship is in terms of price changes influencing unemployment. Fisher (ibid.: 499) said that the level of prices 'has . . . nothing whatever to do with employment'.

It is important to consider Fisher's contribution in perspective. In a later publication, Fisher (1928) coined the term 'money illusion', which became

a central concept in the attack on Phillips curve orthodoxy by Friedman (1968) and Phelps (1968a). This was a partial driver of the rise of monetarism in the 1970s. Fisher (1928) argued that individuals were regularly confused between real and nominal values. Although assuming that rationality is a useful starting-point for the economic analysis of individual behaviour, Fisher was aware that actual studies of human behaviour suggested that a strict adherence to rational principles 'fail to describe the world we live in' (Thaler, 1997: 439).

Fisher's own empirical work in 1926, though not based on regression techniques, reflects his view that nominal amounts are slow to adjust to price-level changes. He introduced the distributed lag, a dynamic structure common in econometrics from the 1950s on, to capture this notion. Fisher was also aware that his work did not establish causality.[5] None the less, he states (1926: 502):

> But as the economic analysis . . . certainly indicates a causal relationship . . . it seems reasonable to conclude that what the charts show is largely, if not mostly, a genuine and straightforward causal relationship; that the ups and downs of employment are the effects, in large measure, of the rises and falls of prices, due to the inflation and deflation of money and credit.

By modern standards, Fisher's empirical work does not stand up to scrutiny. Solow (1997: 434) raised considerable doubt on the veracity of Fisher's statistical work: the 'correspondence between the actual and computed fluctuation in employment is naturally far from exact [but] that does not quite get it across that the model systematically understates the depth of recessions (if that is what is actually happening)'.[6] Using data very similar to that contained in Fisher's dataset, Solow regressed employment on a few lagged dependent variables and inflation (lagged one period) for the 1919–35 period. He failed to find a significant relationship supporting Fisher's model. He then reversed the causality and found a highly significant relationship between employment and price changes – that is, a Phillips curve.

While not being able to assemble the exact dataset that Fisher used, Mitchell (1999) constructed a monthly series for factory employment and the consumer price index (CPI) for the US between January 1889 and December 1923. This was a longer dataset than that used by Fisher but essentially similar. Using standard Dickey–Fuller and augmented Dickey–Fuller tests, Mitchell was unable to reject the hypothesis that both series were integrated of order one (in other words they required first differencing to become stationary). In statistical terms, this makes it very hard for there to be a relationship between inflation and the level of employment, although clearly the unit root tests may lack power and thus are not definitive. Marginal, at best bi-directional, causality was detected between

the two series in levels and first differences using Granger-causality tests. No evidence of cointegration between the variables in any configuration was found. This being the case, one might conclude that there is no simple error-correction model linking the variables, which would make it difficult to establish Fisher's outcomes.

In our view, Fisher did not discover the Phillips curve. He re-asserted the quantity theory of money, with flimsy empirical work to back up his claims. Fisher's work on misperceptions certainly laid the ground for the later work of Friedman, who spent much of the period leading up to the 1960s following the lead of Fisher in believing that the strongest constant in economics was the causal relationship between the stock of money and nominal income. The expectations-augmented Phillips curve did not just materialise as a response to Phillips (1958). It was a new manifestation of the work that Fisher began in the 1920s and which has become Friedman's research agenda in the interim.

## 2.5  KEYNES ON INVOLUNTARY UNEMPLOYMENT

It is only during 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 in a system (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. This conception challenged the dominant classical competitive paradigm that only allowed for frictional unemployment to exist. Keynes later cast the differences between the classical perspective and the new 'macroeconomic' perspective in terms of the distinction between voluntary and involuntary unemployment (Keynes, 1973: 5).

To fully appreciate the differences between these two conceptions on unemployment we need to appreciate the different concepts of equilibrium that underpin them. Chick (1983: 21) noted:

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 (p. 21) considered that 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'.

The classical notion of full employment as represented by point A in Figure 2.1 is consistent with both ideas of equilibrium being satisfied. Unless rigidities were imposed by government, the flexible price labour market would always ensure that full employment was maintained. In the extreme, and in a so-called 'free society', it could be argued that any rigidity could be construed as voluntary because the workers could dismiss a government that was constraining their choices (as long as the workers had suffrage).

Following Keynes (1973: 5) frictional unemployment is easily derived from the classical labour market model because 'frictions are allowable such that there may be temporary miscalculations in the labour required to meet a given output, or time delays in posting information about jobs or in workers re-locating to new jobs. This unemployment is what we term frictional'. Keynes (p. 6) also noted:

In addition to so-called frictional unemployment, the postulate is also compatible with voluntary unemployment due to the refusal or inability of a unit of labour, as a result of legislation or social practices or of combination for collective bargaining or of slow response to change or of mere human obstinacy, to accept a reward corresponding to the value of the product attributable to its marginal productivity. But these two categories of frictional unemployment and voluntary unemployment are comprehensive.

Keynes used the inability of the neoclassical economists to explain the reality of the 1930s to introduce the concept of involuntary unemployment. Understanding the meaning of involuntary unemployment requires a prior understanding of how the concept of effective demand was introduced into the analysis. This introduction negated the classical view that the real outcomes of the economy were determined by the full employment equilibrium achieved in the labour market.

Post Keynesians typically begin with the general theory in explicating the principle of effective demand (for example, Davidson, 1972; Chick, 1983). However, the essential elements underpinning the critique of Jean-Baptiste Say and the modern understanding of involuntary unemployment in a monetary capitalist economy can be found in Marx, particularly in *Theories of Surplus Value* (Marx, 1975). In various discussions, we learn that the classical (Ricardian) denial of the possibility of generalised overproduction is based on the idea that products exchange against products (ibid.: Vol. II, Ch. XVII, para. 705). This is at the heart of classical neutrality. The existence of a circuit breaker in the form of idle money stocks (recognising that money is more than a means of exchange but also an

independent form of commodity) led Marx to conclude that there was the possibility of stagnation (defined as a conflict between purchase and sale) (Vol. II, Ch. XVII, paras 710–711). Marx (Vol. II, Ch. XVII, para. 712) also anticipated the modern distinction between nominal and effective demand which lies in the understanding of the real contribution of Keynes (Clower, 1965; Leijonhufvud, 1968). In *Theories of Surplus Value*, Marx noted that in denying the possibility of a general glut, Ricardo appeals to unlimited needs of consumers for commodities and any particular saturation would be quickly overcome by increased demands for other commodities. Marx (Vol. II, Ch. XVII, para. 712) rhetorically asked for an explanation of the connection between 'over-production' and 'absolute needs' and indicated that capitalist production is 'only concerned with demand that is backed by ability to pay. It is not a question of absolute over-production – over-production as such in relation to the absolute need or the desire to possess commodities'.

Subsequently, Keynes (1973: 15) defined involuntary unemployment as:

> 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.

In terms of the classical labour market (Figure 2.1), if one retains the notion that the labour market quantity is always determined by the interaction between labour supply and demand, then the concept of involuntary unemployment as defined by Keynes does not make any sense. The clue to the new concept of unemployment lay in the understanding that the labour market did not determine the employment level, and the quantity of labour supplied and demanded did not have to bear any relation to the classical optimal labour supply and labour demand schedules. In terms of Figure 2.1, point B can be seen as being consistent with the idea of involuntary unemployment.

The essential point is that the demand for labour is derived from the product market as a reflection of the demand for final goods and the resulting level of effective demand. This is depicted in Figure 2.1 by the vertical line at $E_1$, which represents the effective demand constraint that is imposed on the labour market from the goods market.[7] At point B, workers 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 2.1, the neoclassical construction is that at point 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. At the same time, 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) notes that by the 1940s, even Pigou was in agreement with this logic.

Further, if all workers do manage to achieve a cut in the real wage then the fallacy of composition inherent in the classical story becomes binding. The outcomes applicable to a single individual will not automatically apply for all individuals together. Therefore the classical policy solution that across the board real wage cuts will reduce unemployment is prone to fail.

The final issue is whether point B is an equilibrium, which would suggest that once the economy was at B it would stay there unless something else changed. This is in violation of 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 is the driving factor in creating the underemployment equilibrium where workers are involuntarily unemployed? Mitchell and Mosler (2002) showed that involuntary unemployment arises when the private sector, in aggregate, desires to earn the monetary unit of account, but does not 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. We shall consider this argument further in Chapters 8 and 9.

## 2.6   THE KEYNESIAN ERA: EXPECTATIONS AND STABILITY

The experience of the Second World War showed governments that full employment could be maintained with appropriate use of budget deficits. All the orthodox neoclassical remedies that had been tried during the 1930s Great Depression largely failed. It was the military spending associated with the onset of the war that stimulated employment growth and eliminated mass unemployment. Following the war, the problem that had to be addressed by governments was how to translate the fully employed war economy with extensive civil controls and loss of liberty into a peacetime model of freedom and full employment.

The first major statement addressing this problem came in the form of Beveridge's (1944) *Full Employment in a Free Society*.[8] This was consistent with the new Keynesian orthodoxy of the time, which saw unemployment as a systemic failure and moved the focus from the personal characteristics of the unemployed and the prevailing wage levels. Beveridge (pp. 123–35) stated: '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 of macroeconomic policy was now 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 emphasis was on jobs. Beveridge defined full employment as an excess of vacancies at living wages over unemployed persons. And Vickrey (1993: 4) noted: '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.'

To achieve these objectives, governments in the post-Second World War period used 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). We shall take up the relative performance of the labour market in different OECD countries in Chapter 7.

However, this focus on jobs did not last for very long. By the early 1950s, the US economists, in particular, began to debate what constituted the irreducible minimum rate of unemployment and thus the concept of full employment became tangled up in models of unemployment and inflation (see Bancroft, 1950; Dunlop, 1950 among others). Accordingly, the Phillips curve era had begun. Full employment in the Beveridge tradition was steadily abandoned from this point.

## 2.7   THE KEYNESIAN ECONOMETRICIANS

### 2.7.1   Introduction

The Keynesian paradigm developed in a parallel fashion with the textbook synthesis of the linear expenditure system and the competitive labour market. This coincided with the work of the econometricians in the Cowles Commission during the 1940s and 1950s. In this section we consider the role of the econometricians.

While the famous debate between Keynes and Jan Tinbergen established that Keynes did not like the empirical work being done in his name, the econometricians played a significant role in the development of Keynesianism at a policy level. Indeed the early work of the Cowles Commission was largely concerned with 'defending a simple Keynesian macro-approach' (Epstein, 1987: 103) and 'measuring the effects of policy' (Marshak, 1946). However, at this early stage of econometric work there was considerable scepticism because the Keynesian models were not an empirical success in terms of forecasting in the first instance. Leeson (1998: 605) stated: 'Postwar Keynesianism *rose and fell* to the accompaniment of econometric failure, but after the first forecasting failure, the econometricians did not lose faith in their chosen strategy' (emphasis in original).

There was no doubt that the likes of Klein, a key player in establishing the ascendancy of post-Second World War Keynesian thought, considered that it was better to use econometrics to assist in the process of policy making. His 1946 *Journal of Political Economy* paper, which assessed the forecasting performance of the national income modelling, makes his contempt for armchair commentary clear. Klein maintained (1985: 532):[9]

> [There are] two possible reactions [to the failures of the models to forecast accurately]. We may now discard these new-fangled and difficult econometric methods . . . and relax again into the armchair comments about the future course of economic events [or] [w]e may tackle the forecasting problem with renewed vigor making use of the valuable information that we have gained from this trial.

This renewed vigour spawned a programme of work which, in part, led to Phillips (1958).

Phillips (1958), however, was not the first to estimate a Phillips curve. A number of econometricians were working on similar problems long before Phillips's work appeared. Importantly, the pre-Phillips work incorporated the idea that the relationship between wage or price changes and the level of activity was conditioned, among other things, by the state of inflationary expectations. We briefly consider the important contributions to this literature next.

### 2.7.2   Jan Tinbergen

Dutch economist Jan Tinbergen published the first econometric study of the trade-off between inflation and unemployment in 1936. Tinbergen became famous for his 1939 League of Nations project which attempted to provide empirical justification for the emerging Keynesian view that governments should intervene to stabilise business cycle fluctuations (Tinbergen, 1939). Tinbergen's work was severely criticised by Keynes himself and later Friedman, Ragnar Frisch and Tjalling Koopmans (see Patinkin, 1976; Stone, 1978; Hendry, 1980; Pesaran and Smith, 1985). In many cases, particularly the Keynes–Tinbergen interchanges, the critics showed extreme ignorance of Tinbergen's work (see Mitchell, 1995).

In contradistinction to Fisher, Tinbergen's (1939)[10] wage equation was the first Phillips curve if we take that to mean a model with causality running from excess demand in the labour market to wage changes. The model was thus based on price adjustment reacting to quantity disequilibrium with no presumption of full employment. It differs from Phillips only in the choice of the excess demand proxy. In Tinbergen's case, the excess demand proxy was modelled using employment relative to its trend level.[11]

Tinbergen also foresaw the nominal/real dilemma – which Friedman took credit for at a much later stage – and included a price change term, lagged one period. He said it was to represent catch-up behaviour or cost-of-living adjustments to nominal wages. In other words, Tinbergen had a model of wage inflation dependent on excess labour market demand and a shift parameter (in his case the lagged inflation term). The estimated model clearly implied a trade-off between wage inflation and the state of the labour market.

### 2.7.3   Lawrence Klein and Associates

Klein was another significant figure in the development of Phillips curve estimation. Klein's early work at the Cowles Commission in the 1940s was dominated by his macroeconometric model building. In his 1947 paper, 'Theories of effective demand and employment', Klein (1985: 13) constructed a labour market

in such a way that Classical equations for supply and demand for labor in terms of the real wage rates were combined with a dynamic adjustment equation for the nominal wage rate as a function of imbalance in the labor market, indicated by unemployment. This was a macrotheoretical exposition of what much later came to be known as the Phillips Curve[12]

The Cowles work on wage adjustment led to Klein's cooperation with Arthur Goldberger and between 1951 and 1953 they constructed the Klein–Goldberger model, published in 1955. The model was designed for public policy analysis, which had become an industry after the Second World War, as governments around the world assumed the goals of full employment and price stability (Klein, 1985: 16). The wage adjustment function in that model confirmed his desire to include a price-change term on the right-hand side (Klein and Goldberger, 1955). Later, Klein and Ball (1959) explicitly modelled the change in money wages as a function of lagged inflation because they considered it took time for real wage aspirations to feed into bargained outcomes. These efforts raise the interesting question of why Friedman and Phelps have been given so much attention in terms of adding expectations to the Phillips curve. In the technical sense, with causality running from labour market disequilibrium to wage/price adjustment, the nominal–real issue was modelled long before the publication of Friedman (1968).

The Klein–Goldberger model marked a turning-point in the rise in importance, and acceptance, of econometrics. The forecasting performance of the model was significantly better than earlier models although there were still debates about the 'economic meaning of the estimated structure' (Epstein, 1987: 117). The model was published in the same year that James Tobin assumed the role of director of the Cowles Commission (replacing Koopmans) and the Commission moved from Chicago to Yale. Tobin was responsible for a re-emphasis on structural modelling and the liaison with Arthur Okun, who was working at Yale at the time. The link between the wage adjustment estimation (the Phillips curve) and Okun's own work (which became Okun's Law) was the foundation stone for the 1960s Keynesians. Together these relations became the centrepiece of macroeconomic orthodoxy in place of the quantity theory of money (Lodewijks, 1988).

### 2.7.4   Summary

The early work of the Cowles Commission was largely concerned with putting an empirical face onto the simple Keynesian linear expenditure system. The work by Tinbergen, and later by Klein and his cohort, advanced the Keynesian paradigm by giving it empirical authority even though, at times, this authority was rather sketchy.

The work was not without its critics. For instance, Fisher attacked the Commission's work even though he was a founding member of the Econometric Society (Epstein, 1987: 103–4). Fisher did not like the structural modelling, which was at the heart of the Cowles work under Klein. Epstein (p. 104) said that his real basis for complaint was not the structural modelling, although he couched his criticism in these terms, but rather 'the detailed monetarist view of the business cycle he had developed over many years'.

Friedman's work unambiguously aimed to build on the early research of Irving Fisher and was up against a new macroeconomic orthodoxy. According to Epstein (p. 110) this orthodoxy, which was about to 'hold fast to Okun's Law and the Phillips Curve' was promoted strongly by the work of the Keynesian econometricians. As a consequence, Friedman became a harsh critic of the structural modelling carried out at the Cowles Commission during the 1940s and 1950s. He 'believed the Keynesian models were fundamentally mistaken and he strove to prevent the use of deliberate countercyclical policies . . . He went on to predict that models such as Klein's will "in due time be judged failures"' (ibid.: 108–9). These views did not stop him attempting to establish the empirical validity of the money–income relationship. Friedman and Becker (1957), Friedman and Meiselman (1963) and Friedman and Schwartz (1963) resorted to a standard of econometric research that was, at the very least, problematic (see Desai, 1981).

Importantly, while the Keynesian econometricians had estimated Phillips-like curves with expectations variables included, they did not, however, provide a strong theoretical basis for their models or embrace the stability issue.

## 2.8   CLOSING IN ON THE 'PHILLIPS CURVE'

Klein and his associates were not the only economists working on inflation and unemployment, either before, or contemporaneously with, Phillips. Another significant, yet virtually unknown work was that by Leeds economist Arthur Joseph Brown published in 1955. Before considering Brown's contribution, a reflection of Phillips's own 1954 work is fruitful.

### 2.8.1   Phillips (1954)

Phillips laid out the theoretical basis for his later empirical work in an article published in 1954. Lipsey (1978: 49) commented: 'the now-famous curve made its debut in 1954 in Phillips' first major published paper,

"Stabilization in a Closed Economy". In fact, this relationship was between the derivative of the price level and the level of production (a proxy for the level of economic activity)'.

Sawyer (1989: 126) pointed out that 'there is some confusion in the argument over the changes in the level of production and differences in the level of production'. A close reading suggests that it is the difference in the level of production that sends the demand signal. Phillips (1954) gave consideration to both fix-price systems driven by mark-ups on unit costs and flex-price systems driven by moving factor prices.

Phillips (p. 309) said that if 'prices . . . are flexible, the error in production will also cause prices to change at a rate proportional to production'. This led Lipsey (1978: 50) to formalise his interpretation of Phillips (1954), as a relationship between the rate of change of the price level to the deviation of actual production from the 'full employment level' of production. Phillips clearly had a notion of what is currently referred to as the NAIRU although he pitched the steady-state in terms of the level of output and employment.[13] Importantly, in terms of the claim by Fisher (1926) that he himself discovered the Phillips curve, Phillips (1954) was articulating a process where disequilibrium in the real sector caused changes in nominal aggregates. We saw that Fisher's version of the relationship between price changes and employment (real activity) levels was cast in terms of the reverse causality and was considered to be an equilibrium relation. Phillips published two further papers before 1958 on time forms in dynamic economic models and stabilisation policy (Phillips, 1956, 1957). The lineage is clear and culminated in the famous 1958 publication in *Economica*.

### 2.8.2   Arthur Joseph Brown (1955)

Tony Thirlwall (1972: 325) stated in a short historical note, published in *Economica*:

> [A]s a matter of historical fact, A.J. Brown's *The Great Inflation*, published in 1955, antedates both [Paul] Sultan and Phillips. Brown not only discusses in some detail the theoretical and institutional reasons why one might expect an inverse relation between the percentage level of unemployment and the percentage rate of increase of wages and prices, but, more significantly, he plots a Phillips-type relation for the United Kingdom for the periods 1880–1914 and 1920–51, and for the United States for the period 1921–48. I have often thought that the 'Phillips' Curve ought to be called the 'Brown' Curve – unless, of course, Brown himself had precursors.

While A.J. Brown published his major work *The Great Inflation, 1939–51* in 1955, well before the 1958 Phillips publication in *Economica*, it is hard to argue that he anticipated the Phillips curve in the way Thirlwall imagines.

The published work of Phillips between 1954 and 1958 (Phillips, 1954, 1956, 1957) was already pointing to the Phelps–Brown-inspired empirical study published in 1958. It is easier to argue the case that A.J. Brown provided an account of the role of expectations and real wages in the determination of the trade-off between inflation and unemployment. This adds theoretical substance to the estimations of Tinbergen and Klein et al. in this regard. Brown was firmly in the Keynesian mould and his discussions of expectations and real wage resistance was not an anticipation of the later work of Friedman and Phelps in the 1960s.[14] It is also important to note that Brown was the first to talk about the instability of the wage change–unemployment relationship.

Further, Brown outlined the relationship between the price–wage spiral mechanism, which can drive inflation and the distributional struggle over available real income. In this sense, he anticipated a competing claims explanation of inflation, which became popular in the 1970s among post Keynesians and Marxists (see Goodwin, 1967; Tobin, 1972; Desai, 1973; and Rowthorn, 1977).

This is not to say that the work of Brown and Phillips was equivalent. Sawyer (1989: 102) commented:

> The approach of Brown can be contrasted to that of Phillips in three respects. First, Brown places the statistical relationship into a much fuller discussion of the process of inflation. . . . Second, Brown did not attempt to draw any curve through his data. . . . Third, Brown did not argue that the wage change–unemployment relationship observed for pre-First World War period held thereafter.

As is elaborated in Sawyer (1989) and Mitchell (1999), Brown provided a very full treatment of the inflation process, emphasising institutional structures found in the labour and product markets as well as incorporating inflationary expectations into his analysis. He also was fully cognisant of the way in which wage and price setting changed over the course of his analysis. Sawyer (1989: 103) noted that in 'contrast, an implication of the work of Phillips (1958) was that the relationship between wage changes and unemployment held for nearly a century across many social and political changes. This could be seen as asserting the importance of the operation of underlying economic forces through varying institutional arrangements'.

This again raises the question of why Phillips's (1958) work became the inflation–unemployment model adopted by the profession, given that it was based on questionable econometrics (see Desai, 1975), simplistic economic theory, and a questionable assertion of stability. This question is more potent when one considers the depth of analysis provided by A.J. Brown.

### 2.8.3  Paul Sultan (1957): 'I Discovered the Phillips Curve'!

In the same way that the *Journal of Political Economy* in the 1973 edition reprinted Fisher (1926) under the heading 'I discovered the Phillips curve', some economists (Amid-Hozour et al., 1971) have attributed the same discovery to an American textbook writer, Paul Sultan (1957). While Brown went within one stroke of producing the graphical Phillips curve, Sultan (1957: 555) was the first person to publish a Phillips curve graph. Amid-Hozour et al. (1971: 320) argued: 'Phillips' work was an independent empirical verification of the hypothetical relationship which, unknown to him, had been earlier postulated explicitly by Sultan'.[15] Their understanding of history is a bit amiss because they claimed that 'Phillips produced the first empirical work on the relationship between inflation and unemployment' (ibid.: 319). We have shown that this claim is false. Further, Sultan's graph is in terms of the annual percentage change in the price level and the rate of unemployment, which is not the relationship that Phillips modelled. The errors are illustrative of the way in which textbook writers and others have started history with Phillips (1958) and confused his Phillips curve (in terms of wage inflation) with the textbook versions (in terms of price inflation) (Sawyer, 1989: 110–13).

Sultan's theoretical justification for the curve, which he called 'The Hypothetical Relationship of the "Fullness" of employment to Annual Price Changes', was firmly within the prevailing Keynesian orthodoxy of his day. Sultan (1957: 555) wrote:

> [T]he line relating unemployment to inflation [reference to his Figure 24] is strictly hypothetical, but it suggests that the tighter the employment situation the greater the hazard of inflation. . . . Assuming that a fairly precise functional relationship exists between inflation and the level of employment, it is possible to determine the 'safe' degree of full employment. In our hypothetical case, we are assuming that when unemployment is less than 2 per cent of the work force, we face the dangers of inflation. And when unemployment is larger than 6 per cent, we face the problem of serious deflation.

Sultan did not discuss the work of the Keynesians before him on the role of expectations and the question of stability. In effect, it is the textbook version of the Phillips curve that was born in Sultan's exposition.

### 2.8.4  Assessment

Neither Sultan nor Brown matched the subsequent influence on the profession of Phillips (1958). Sawyer (1989: 102) concluded: 'In terms of the textbook and policy discussion the advantage of an estimated curve is that

it can be used, without the accompanying data and caveats, to illustrate general relationships. Further, a loose statistical relationship was in effect translated into what appeared to be a precise empirical relationship'.

The profession was probably not yet ready for the work of Klein et al. Phillips (1958) was published at a time when a number of related developments occurred. Each may help to explain why the previous work on inflation and unemployment was supplanted by the Phillips curve. Not only did the sophistication of national income data improve in the 1950s, but it coincided with the introduction of larger and more powerful computers which made regression analysis more accessible (see Lucas and Sargent, 1978; Friedman, 1991). It was also a period when macroeconometric modelling was increasingly seen as an 'essential ingredient' in the debates between monetarists (quantity theorists) and Keynesians (Leeson, 1998: 608–9).[16] In the next chapter, we shall place the historical developments discussed within an overall macroeconomic context. This allows us to better understand both the contribution of Phillips (1958) and the later monetarist research which attempted to regain the ground lost since the publication of the *General Theory* in 1936.

## 2.9 CONCLUSION

The chapter has shown that the Phillips (1958) curve was hardly a path-breaking theoretical and empirical development. Humphrey (1985: 23) concluded:

> Phillips was far from the first to postulate an inflation–unemployment tradeoff or to draw the curve bearing his name. Even the econometric wage–price equations employed in modern Phillips curve analysis together with their excess demand and alternative market clearing interpretations long predate Phillips. In short, Phillips and his successors inherited . . . these concepts; they did not invent them.

We have shown that the history of the Phillips curve is an example of the discontinuity and opportunism in the development of macroeconomic thinking. There was some discussion of the so-called 'trade-off' between inflation and unemployment among the classical economists. By the 1920s, Irving Fisher (1926) was setting the groundwork for what became monetarism some 42 years later (Friedman, 1968). The work of Fisher was obscured by the rise of Keynesian macroeconomic orthodoxy. The Phillips curve, reflecting the adjustment of nominal magnitudes to real disequilibrium in the labour market, was a central expression of the confidence acquired by policy makers through eliminating the business cycle during

the 1960s. However, Friedman and others were working on the foundations of a resurgence of neoclassical macroeconomics based on the quantity theory of money during the 1950s and 1960s. The Phillips curve became their opportunity and the empirical havoc that the 1970s oil price shocks created among macroeconomic time series seemed to add weight to their flawed arguments. Nothing really changed in the modern statement of monetarism that had not been shown to be deficient, albeit in different terms, by Keynes and others. We shall discuss the way that Friedman and others misused the Phillips curve to launch opportunistic attacks on the prevailing Keynesian paradigm in Chapter 3.

Finally, an examination of the literature between Fisher (1926) and Phillips (1958) has shown that Keynesian thinking which explored the relationship between inflation and unemployment was clearly informed about the role of inflation expectations and, in one case, the problem of instability in the relationship (Brown, 1955). In this context, how the Phillips model became the exemplar remains the interesting question. If the work of Brown, for example, had gained more prominence, the subsequent development of macroeconomic theory and policy may have been quite different.

## NOTES

1. This interpretation is at odds with that of Gordon (1976: 191) who claimed that Friedman's (1975) statement that monetary expansion could only have temporary effects was 'merely restating in dynamic form Hume's original proposition that a monetary expansion could "excite" real output only temporarily'. There is nothing in Hume that indicates that he thought the trade-off was temporary and that employment would fall back to the level that prevailed before the monetary expansion.

2. O'Brien (1975: 164) explained that 'the reason for this is clear enough. Without a continual increase in world gold production . . . inflation must, under a gold-standard system, soon be checked and indeed reversed. Since convertibility was a major objective . . . this rules out inflation'.

3. O'Brien (1975: 165) did not classify Attwood among the classical economists, although he recognises that his analysis was derived from classical thought. He believed that Attwood is distinct because his primary aim was full employment and he did not care much for the convertibility issue. He also thought that the economy was inherently unstable in a deflationary direction.

4. Barber (1997: 447) believed that Fisher was obscured, unjustly, by the 'Keynesian ascendancy . . . it meant that some of his achievements were overlooked and literally had to be rediscovered. In 1926, Fisher . . . anticipated by more than three decades the essential insight contained in what was later to be labelled the Phillips curve'.

5. Fisher's (1936) paper was accompanied by an incisive commentary by Morris Copeland (1936), who also questioned the causality in Fisher's work. Fisher concluded that both directions of causality – what econometricians would now term 'bi-directional causality' – was not excluded by his work. He also challenged Copeland to test for the opposite causality – in others words, to estimate the Phillips curve. This led Solow (1997: 433) to exclaim 'If only he [Fisher] had!'.

6. Solow doubted whether Fisher actually performed any regression analysis so the graphs he produced showing actual and predicted employment were based on some other (spurious) means. The fit implied is extremely poor.
7. Whatever role we might subscribe to the marginal productivity schedule in this regard is somewhat irrelevant (see McCombie, 1987–88).
8. Beveridge had earlier, in 1942, authored *Social Insurance and Allied Service*, commonly referred to as the Beveridge Report, which was the basis of the development of the welfare state.
9. Klein (1985) is a collection of his famous papers, including the 1946 *Journal of Political Economy* article.
10. The original article was published in Dutch in 1936. It was reprinted in Tinbergen (1959).
11. Tinbergen (1951) also argued that the wage equation (in this case for the UK) could be improved by replacing the employment term with the inverse of the unemployment rate to represent non-linearities.
12. Klein (1985: 17) said that as part of his work in developing the theoretical aspects of the Keynesian model which prevailed in the 1940s, he 'formulated an expression for the wage-rate determination that was the same thing as the Phillips Curve, back in the 1940s, when I was at the Cowles Commission'.
13. Desai (1975) would probably disagree with this claim, given that he pictures the Phillips (1958) exercise as modelling a series of long-run equilibrium points.
14. Brown (1955: v) commented: 'One of the main difficulties encountered by anyone trying in the last five or six years to understand the inflationary processes which had been going on since 1939, and were still very much in progress, arose from the unsatisfactory and rapidly changing nature of the theoretical framework at his disposal. Modern dynamic economics is a young subject, and the process of price increase under the pressure of excess demand or under the influence of expectations, after having attracted every interest in the years before 1939, have been discussed in considerable detail since then and especially since the war'.
15. Amid-Hozour et al. (1971: 319–20) commented: 'While the general relationship between price changes and unemployment had been recognised earlier, Sultan was the first to show explicitly the trade-off between percentage changes in price level and unemployment in diagrammatic form'.
16. Here we are using the term 'monetarist' to describe the work of economists like Friedman who were attempting to re-establish the quantity theory of money as the centrepiece of macroeconomics.

# 3. The Phillips curve and shifting views on unemployment

## 3.1 INTRODUCTION

In the pre-Keynesian era, unemployment was considered to be a voluntary state and full employment was thus defined in terms of the employment level determined by the intersection of labour demand and labour supply. So by construction, full employment reflected the optimal outcome of maximising, rational and voluntary decision making by workers and firms. At the so-called 'full employment real wage', any worker wanting work could find an employer willing to offer the desired hours of employment and any employer could fill their desired offer of hours from the services of willing employees. Subsequently, in the immediate post-Second World War Keynesian era, full employment was refocused to emphasise 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.

In the previous chapter we showed that the trade-off between inflation and unemployment has been a subject of discussion since the time of the classical economists, but it never had a prominent place in the debate. This changed in the 1950s once the Phillips curve became a centrepiece of macroeconomic analysis. Essentially the debate was triggered by Samuelson and Solow (1960) who hijacked the original Phillips (1958) curve and transformed it to a policy menu between inflation and unemployment. As a consequence, full employment (defined in terms of an acceptable level of inflation) was feasible, but at the cost of (modest) inflation: it was up to policy makers and their constituency to make their choice. We begin this chapter by expanding on this concept of policy choice in Section 3.2.

The monetarist reinterpretation of the trade-off, which emphasised the role of expectations, revived the classical (pre-Keynesian) notion of a natural

unemployment rate (defined as equivalent to full employment). The devastating consequence was the rejection of a role for demand-management policies to limit unemployment to its frictional component. The process of this revival is analysed in Section 3.3.

We argue that the resurrection of natural rate concepts into mainstream employment and inflation theory in the 1960s and early 1970s was, initially, largely an American affair. This is perhaps due to the relatively high unemployment rates experienced in the US in the late 1950s and 1960s when compared to Europe. In Section 3.4 we trace the impact of the American shift for Europe, where the disequilibrium interpretation of unemployment failed to capture sufficient analytical momentum. On the Continent, full employment was redefined to be consistent with the NAIRU, which became the major organising concept in macroeconomic analysis.

Once unemployment rose in the 1970s after the OPEC oil price hikes, the debates on both sides of the Atlantic intensified around the same themes. However, this uniformity did not persist. By the 1980s, the debates about employment theory in the US and in Europe diverged, although in both cases, full employment as a primary goal for economic policy disappeared from the horizon. In Section 3.5 we demonstrate how the debates about employment theory and inflation converged in both Europe and the US despite relatively little interaction between their respective scholars. Section 3.6 concludes this part of our analysis.

## 3.2   FROM INVOLUNTARY UNEMPLOYMENT TO THE COSTS OF FULL EMPLOYMENT

In introducing his now-famous graphical depiction between unemployment and wage inflation, Phillips was able to define an unemployment rate that would coincide with zero wage inflation. This was a precursor to the development, in the 1970s, of the NAIRU concept. However, while Phillips presented the relationship between nominal wage growth and unemployment, Samuelson and Solow in their pathbreaking address to the American Economics Association presented the Phillips curve as a trade-off between inflation and unemployment. Moreover, they extrapolated Phillips's calculations and presented this relationship as a policy menu to determine the costs of full employment.

### 3.2.1   The Original Phillips Curve

There were several reasons why the Phillips curve, published in Phillips (1958), got so much attention (Santomero and Seater, 1978). First, many

economists believed that it was the first article to graphically depict the eye-catching and now famous curve. Our discussion of Paul Sultan in Chapter 2 clearly reveals this claim to be untrue. However, the perception remained that Phillips was the first and that perception garnered significant influence for him. Second, the Phillips curve became famous as a result of the companion article by Lipsey (1960), which provided a theoretical underpinning for the phenomenon described by the curve.[1] Finally, it provided a sound underpinning to the British Treasury wisdom at that time which posited that increasing unemployment would dampen inflationary pressures (Leeson, 1996). The validity of this underpinning was reinforced by Phillips's finding that the curve he estimated for the 1861–1913 period produced a very good statistical fit for the 1948–57 period.

Phillips's original representation of the relationship between wage inflation and unemployment reflected his training as an engineer:

$$\dot{W}/W + a = bu^c \qquad a,b > 0, c < 0 \qquad (3.1)$$

where $W$ is the nominal wage rate and $u$ is the rate of unemployment. The coefficients $a$, $b$ and $c$ could not be statistically estimated in a simple way. As a result, Phillips used an ingenious technique to estimate first $b$ and $c$, and then to calibrate the results to find $a$, employing only six data points (see Gilbert, 1976). He also observed counterclockwise loops around his curve, which he associated with the change in unemployment, but he did not formally test this.

Interestingly, Phillips (1958: 299) identified the NAIRU *avant la lettre* since in his concluding remarks he states:

> [A]ssuming an increase in productivity of 2 per cent per year, it seems from the relation fitted to the data that if aggregate demand were kept at a value which would maintain at a stable level of product prices the associated level of unemployment would be a little under 2½ per cent [continuing] If, as is sometimes recommended, demand were kept at a value which would maintain stable wage rates the associated level of unemployment would be about 5½ per cent.[2]

This aspect of Phillips's work was exploited in the policy menu analysis of Samuelson and Solow (1960), which we discuss below.

The other major weakness in Phillips's analysis was the failure to provide a theoretical underpinning for his curve. It is true that Phillips (1958: 298) identified the impact of unemployment on wages to 'represent the "demand pull" element in wage adjustments. The relevant figure on the cost side in wage negotiations is the percentage increase shown by the retail price

index'. However, this impact was included in his analysis in an *ad hoc* way by assuming an arbitrary threshold. The theoretical support for Phillips came soon after in the form of Lipsey (1960).

Lipsey's influential contribution had two purposes. First, he wanted to examine the goodness of fit of the Phillips relationship more critically. Second, he wanted to develop a theoretical underpinning for the relationship. To examine the goodness of fit, Lipsey estimated the Phillips curve in the following specification:

$$\dot{W}/W = a + bu^{-1} + cu^{-2} + d\dot{u}/u + e\dot{P}/P. \qquad (3.2)$$

This curve was specified in a linear way (in variables) to allow for estimation by means of ordinary least squares while preserving the non-linearity presumed by Phillips. The relative change in unemployment $\dot{u}/u$ allows for cyclical fluctuations (where $\dot{u}$ is the change in unemployment). The inflation variable $\dot{P}/P$ was included in the equation to test Phillips's *ad hoc* hypothesis that costs of living adjustments affect money-wage rates with a threshold effect.

Lipsey (1960: 11–12) estimated the relationship for the 1862–1913 period and concluded:

> There is a significant relation between the rate of change of money wage rates on the one hand and the level of unemployment and its rate of change on the other. . . . There seems to be some evidence in favour of a simple (but rather weak) relation between changes in the cost of living and changes in money wage rates.

The last finding induced Lipsey (p. 9) to suggest that 'the outcome of the wage bargain is affected simply by the *change* in the cost of living' (emphasis as in original).

In his theoretical model, Lipsey introduced *ad hoc* adjustment functions, which show the speed at which nominal wages adjust to disequilibrium in the labour market. He briefly indicated that these functions might be influenced by union behaviour. The important element in his explanation, however, is that he distinguished between sectoral labour markets each having their own adjustment function. As a consequence, a change in the distribution of unemployment over sectors will shift the observed Phillips curve. Moreover, he explained the observed loops in the Phillips curve by differential sectoral impacts of economic recovery.

Lipsey found a statistically significant shift in the Phillips curve for the 1923–39 and 1948–57 periods, compared to the pre-First World War period, which he used to refute the belief held by Phillips that the curve was stable. While speculating that these shifts may reflect the shift of the sectoral composition of unemployment, Lipsey provided no thorough investigation of this proposition. However, he also found that the impact of prices was much larger in the post-Second World War period, both in explaining the variance of wages and also in terms of its quantitative impact, albeit the impact is still below unity. On this basis, Lipsey ruled out the extreme versions of cost-push theory but did not build this finding into his theoretical analysis. However, he also warned that one should not identify the impact of unemployment on wages solely in terms of demand-pull influences. He emphasised that the theory should be developed further, before trying 'to judge between cost-push and demand-pull hypotheses' (p. 31).

### 3.2.2    The Modified Phillips Curve and the Shift to the Cost of Full Employment

The original Phillips curve was not, however, the relationship that became popular. The modified, and now familiar, story was based on the presentation of the price inflation–unemployment rate relationship by Samuelson and Solow (1960) at the annual meeting of the American Economic Association in December 1959. In this paper, Samuelson and Solow examined the various explanations for inflation in the US since the end of the Second World War. Their paper was very influential because it showed that the existing debate between demand-pull and cost-push inflation suffered from observational equivalence. Samuelson and Solow asserted that both influences delivered similar outcomes and they represented this claim within a framework that they presented as the 'modified Phillips curve'.

After a careful discussion of Phillips's results, Samuelson and Solow presented a scatter diagram of relative wage changes and the rate of unemployment in the US over the same period that Phillips had analysed. They argued that the US Phillips curve had clearly shifted in the post-Second World War period in contrast to the apparent stability of the UK wage inflation–unemployment relationship. Lipsey's 1960 analysis of the UK had not yet been published. Samuelson and Solow (1960: 189) concluded from visual inspection of the scatter diagram that in the 1900s and 1920s 'wage increases equal to the productivity increase of 2 to 3 per cent per year is the normal pattern at about 3 per cent unemployment' which is 'not so terribly different from Phillips' results for the UK'. However, in the post-war period this pattern occurs only at unemployment rates of 5 or 6 per cent and 'it would take more like 8 per cent [unemployment] to keep money wages from rising' (p. 189).

Then, without further elaboration, Samuelson and Solow (p. 192) used these last estimates to present

> a related diagram showing the different levels of unemployment that would be 'needed' for each degree of price level change [and] come out with guesses like the following . . .

> 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.

On the other hand, they claimed that for zero inflation, the unemployment rate would have to be kept between 5 and 6 per cent. Remarkably, they did not present any estimation results or explain how the relationship they sketched between the rate of inflation and the rate of unemployment could be related to the original Phillips curve, which was considered to be an *ad hoc* relationship anyway.

But despite the fact that the whole analysis was based on what we now call 'guesstimates' (note the authors' reference to guesses in the above citation) the personal authority of Samuelson and Solow and the political attractiveness of the 'trade-off' idea, in the run-up to the election of President John Kennedy, made the Phillips curve seem an excellent aid to economic policy makers and thus united academe and the bureaucracy (Leeson, 1997).

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. Full employment was no longer debated in terms of a number of jobs.

The implications for macroeconomic policy 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 wanted by using an appropriate mix of fiscal and monetary policy to manipulate the corresponding rate of unemployment. The 'Phillips curve' of Samuelson and Solow (1960) thus mapped perfectly into the existing set of aggregate demand management tools (Ormerod, 1994).

This was a golden age for the economics profession. Leeson (1998: 612) noted:

> [T]he 1960s were, at least for a while, a golden age, when economists – and one strand of Keynesian economists in particular – were generally held in high esteem. Many economists . . . concluded that the business cycle had been tamed,

if not completely eliminated . . . The Phillips curve captured many of the confident intellectual currents of the period.

The period also saw the 'blossoming of the applied econometrician as an expert consultant to government' (Epstein, 1987: 130). However, as Epstein (p. 130) observes, all was not well:

> The fascination with attempts to estimate an aggregate Phillips curve, the focus of many econometric policy discussions during the 1960s, was symptomatic of a major change in research emphasis compared to the early work by Tinbergen and the Cowles Commission. It marked the extreme concern with model *estimation* as distinct from model *evaluation*. The Phillips curve was actually a prime example of all the conceptual difficulties encountered in estimating structural relations: autonomy, exogeneity, structural change, aggregation and expectations. The enormous number of different curves that were estimated . . . would indicate that multiple hypotheses and costs of model misspecification were still pressing problems. As a general matter, however, most studies hardly seemed aware of these issues and they seldom indicated the robustness of their results or the (true) levels of the reported significance tests.

In fact, if we take A.J. Brown's work into account (see Chapter 2), one of the major hypotheses that should have been tested in these equations was the homogeneity of the estimates over the sample. While the debate between Keynes and Tinbergen, and the earlier exchanges between Ezekiel (1928), Schultz (1928) and Robbins (1932), showed that economists were well aware of structural instability in statistical models of economic behaviour, the mainstream tests did not emerge until much later. However, in this new era of estimation in place of testing, researchers rarely reported evidence that they had tested for structural stability (even if they had used, for example, a Chow (1960) test).

In the same way that the authority of Fisher (1926) is based on statistical relations that are unlikely to be robust, Phillips's work does not stand empirical scrutiny (see Desai, 1975; Gilbert, 1976). The Phillips curve was susceptible to a sudden and/or large increase in inflation in the same way that the aggregate consumption functions that excluded inflation terms were. The work of Davidson et al. (1978) showed that the failure of the large-scale econometric models to forecast such variables such as savings and consumption in the early 1970s could be traced to the misspecification (via omitted variables) of the structural relationships (see also Epstein's (1987) critique on the work of Tinbergen and Klein). The breakdown of the Phillips curve was another function that was misspecified. But it remains that during this period the econometrician had become an essential part of the process of economic policy making.

The lack of scrutiny and testing by applied econometricians was complemented by the way the textbooks treated the Phillips curve. Phillips's (1958) model was ideal for the way in which economics was being taught in universities around the world. The simplistic graphical and algebraic representation of the textbooks within an IS–LM (investment–savings, liquidity–money supply) framework made it a popular vehicle for introducing inflation into the Keynesian model.

Sawyer (1989) surveyed the major textbooks and concluded that the Phillips curve is often 'presented as a well-established fact' (p. 110). Very few doubts were cast on the empirical validity of the relationship. Leeson (1998: 609–10) also stressed the 'authority of the textbook . . . these textbooks have tremendous power to propagate myths and distortions . . . Samuelson, and to a lesser extent Lipsey, were *content makers*; the other textbook writers were largely *content takers*' (emphasis in original). Leeson concluded that the popularity of the Phillips curve was strongly influenced by the way the key textbooks promoted it.

For example, the work of A.J. Brown was richer and more insightful but, perhaps, too grounded in the institutional literature to be acceptable for textbook representation. It is probable that had Brown's work on instability and the way changes in the institutions of wage and price determination change the trade-off between inflation and unemployment and the steady-state unemployment rate been more recognised, the subsequent history of the Phillips curve might have been different.

The Phillips curve also became a tool in the hands of the monetarists to regain the ground they had lost to the Keynesians. With the support of the textbooks the model endured even though the original model was lost in the process.

Despite the rich Keynesian history discussed earlier, it was easy for Friedman and others to hijack the debate. The Keynesians, like Lipsey (1960), were operating in a dichotomised framework – at the macroeconomic level they had adopted the Phillips curve, yet they were tense and uneasy about the microeconomic underpinnings of the relation. Lipsey tried to justify the Phillips curve as a Walrasian adjustment process. It was easy for Friedman (1968: 8) to then assert that if it was a Walrasian mechanism then it 'contains a basic defect – the failure to distinguish between *nominal* and *real* wages' (emphasis as in original). If, for example, Lipsey and others had followed the theoretical work of Brown, then the pedigree of the Phillips curve would have been completely in the spirit of Keynes and Kalecki.

## 3.3  FROM FULL EMPLOYMENT TO THE NATURAL RATE OF UNEMPLOYMENT

### 3.3.1  The Shift in the Phillips Curve

While the Phillips curve presented the monetarists with the opportunity to debate the failings of the mainstream analysis, it was the empirical havoc created by the 1970s oil price shocks which added weight to their (flawed) arguments. Nothing had really changed in the modern statement of monetarism that had not already been shown to be deficient, albeit in different terms, by Keynes and others. The opportunism by Friedman and his colleagues exploited the vulnerability of the prevailing Keynesian paradigm, which had conducted successful policy throughout the post-Second World War period up until the late 1960s with largely misspecified models. The Phillips curve was just one of a number of macroeconomic equations that ignored inflationary expectations. The misspecification was not significant while inflation was negligible. Once inflation rates soared throughout the world with the oil price rises of the early 1970s, all these misspecified relations broke down. The theoretical edifice that was erected upon them also fell into disrepute. Monetarist thought emerged from this wreckage as being eminently plausible. It was a serendipitous period for the neoclassical economists because they managed to reassert the issue of real-wage bargaining before the empirical relations broke down. Although in the mid-1960s, the monetarist theoretical structure had undergone harsh criticism from economists like Robert Clower and Axel Leijonhufvud, the empirical shift in the Phillips curve in the early 1970s was interpreted as a validation of the monetarist concept of a natural rate of unemployment and the negative connotations for aggregate demand management that this concept invoked.

Phelps (1967) and Friedman (1968) essentially resurrected the work of Irving Fisher, although Friedman had been pursuing the case against stabilisation policy throughout the 1940s and 1950s. The work of Phelps and Friedman was also an expression of the neoclassical discontent with the lack of optimising microfoundations in Keynesian macroeconomics.[3] They reasserted neoclassical microfoundations and were then left to explain why Say's Law did not work all the time. To overcome that problem they followed Fisher and identified misperceptions of inflation as the factor that prevented Say's Law from working according to the market-clearing model. Ultimately, under their natural rate hypothesis, Say's Law was imposed on the long-run solution. They assumed an adaptive expectations mechanism for the purposes of exposition but this meant that in times of ever-increasing inflation, economic agents would always be lagging behind. Why

would the agents not learn from the mistakes and adopt better prediction mechanisms? In part, this question was superseded by the addition of rational expectations to the misperceptions-type of story. Under extreme versions of rational expectations, Say's Law always holds.

### 3.3.2  Long-run Money Neutrality

Friedman's emphasis on expectations in 1968 changed the direction of policy in the 1970s but was rooted in developments a long time before this. It was already recognised that the quantity theory of money was a long-run theory, which allowed for non-neutrality in periods of adjustment between equilibrium. Friedman (1956) revitalised the quantity theory, as did Patinkin (1956). The former restated the quantity theory in terms of a demand for money function, which included an expected inflation term. In the long run, all analysis could be conducted in real terms because the price level was proportionate to the stock of money. At this level of analysis, a larger money stock does not mean a larger real output level. Output is independent of the price level and the stock of money. But changes in the money stock cause changes in the price level, and ongoing monetary expansion creates inflation. Friedman saw that expectations of inflation in disequilibrium then had to be formally incorporated into the money demand function.

Patinkin (1956) was also instrumental in the resurgence of quantity theory when he showed that one could analyse the adjustment between two long-run equilibrium positions by focusing on the real balance effects that occur. This allowed him to argue that the long-run conditions – quantity theory, neutrality and Walras's Law – could not all hold when the money supply changed. With disproportionate movements between the money stock and the price level generating real balance changes, aggregate demand could rise in the short term. The exact way in which real balance effects influence output in disequilibrium was a topic of debate but the introduction of disequilibrium adjustment processes allowed the neoclassical economists to embrace short-term departures in unemployment from the natural rate.[4]

By extending the role of inflation expectations to the labour market, Friedman was able to solve the problem that Phillips's 1958 model and subsequent developments (such as Samuelson and Solow, 1960) presented for neoclassical monetary theory. Phillips's model clearly refuted long-run neutrality.

The publications of Phelps (1967, 1968a) and Friedman (1968) were prior to the empirical problems that the Phillips curve encountered due to its misspecification. Taken in one way, their work can easily be incorporated into the Keynesian Phillips curve paradigm. Thus, the short-run Phillips curve is inevitably unstable and is highly likely to shift outwards in a period of sustained expansion (tight labour markets). Accordingly, inflation will accelerate if people build the history of inflation into their bargaining behaviour and attempt to maintain a constant real wage or real profit margin (Okun, 1981). Tinbergen, Klein and A.J. Brown all understood this proposition well.

However, this understanding is trivial and misses the fundamental issue that Friedman and Phelps were pursuing. In attacking the prevailing view that there was a stable trade-off between inflation and unemployment, they were attempting to reclaim the terrain that neoclassical monetary theory had lost after the Great Depression. Friedman's 1968 paper 'The role of monetary policy' argued that monetary policy could only have real effects in the short run, with the trade-off required increasingly worse. The starting-point was classical monetary theory, which suggests that monetary policy cannot have real effects as it simply alters prices and nominal incomes in a proportionate way. To gain a short-run trade-off in this paradigm, Friedman had to appeal to the notion of expectational errors and adaptive learning behaviour. Accordingly, when labour markets tighten and demand pressure pushes money-wage rates up, workers supply more labour because they mistake the rise in money wages for a rise in real wages. Information is assumed to be asymmetric so firms do not make these relative price mistakes. As workers realise their errors they withdraw the extra labour and the economy's output and employment levels return (fall) to their natural levels. And, as a logical consequence, Friedman (p. 6) stated: 'There is no long-run, stable trade-off between inflation and unemployment'.

This conception of the economy is at odds with the Keynesian model. The textbook representation of the history of the inflation–unemployment trade-off from Phillips to Friedman and then onto rational expectations with complete short- and long-run neutrality is thus misleading. First, it ignores what went before Phillips, and, second, the movement from Phillips to Friedman was a paradigm shift rather than an extension of the model.

### 3.3.3  The Notion of Natural Unemployment

It is illuminating to pay some more attention to Friedman's and Phelps's positions. Friedman (1968: 5) started by saying: 'Unaccustomed as I am to denigrating the importance of money, I therefore shall . . . stress what monetary policy cannot do . . . (1) It cannot peg interest rates for more than very limited periods; (2) It cannot peg the rate of unemployment for more than very limited periods'.

His argument to defend the first point is very much in line with the Wicksellian distinction between natural and market rates of interest, where any deviation of the market rate from the natural rate will be caused by inflation or deflation. Friedman (p. 8) then continued:

> This analysis has its close counterpart in the employment market. 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. At that level of unemployment, real wage rates are tending on average to rise at a 'normal' secular rate, i.e., at a rate that can be indefinitely maintained so long as capital formation, technological improvements, etc., remain on their long-run trends. 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.[5]

Later on Friedman (p. 9) emphasised:

> To avoid misunderstanding, let me emphasize that by using the term 'natural' rate of unemployment, I do not mean to suggest that it is immutable and unchangeable. On the contrary, many of the market characteristics that determine its level are man-made and policy-made. . . . I use the term 'natural' for the same reason Wicksell did – to try to separate the real forces from the monetary forces.

We cite Friedman extensively for three reasons: (a) to illustrate his firm commitment to the monetarist position; (b) to show how he linked the notion of a natural rate to the process of wage formation; and (c) to emphasise his notion that the natural unemployment rate is structurally embedded in society.

Significantly, 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 tension between both is also visible in the approach of Phelps (1967: 254, 256) who derived an

> optimal . . . employment path (as) one which maximises the social utility integral subject to the adaptive expectations mechanism that governs the shifting of the Quasi-Phillips Curve [and as a consequence] [i]f that steady state is not realizable immediately at the equilibrium unemployment ratio, because the initially expected rate of inflation is too high, society should accept underemployment in order to drive down the expected rate of inflation to the requisite point

and it should accept overemployment in the opposite case. As a consequence 'the only *steady-state* Phillips Curve is a vertical line intersecting the horizontal axis at $u^*$' (n. 1) (emphasis as in original).

The utility function central to his model is a trade-off between consumption and leisure. At a basic level, this trade-off leads to concave indifference curves between unemployment and inflation.[6] Wage formation does not play a role, since aggregate investment and hence savings are given. When confronted with a convex expectations-augmented Phillips curve, highest utility is obtained at $\underline{u} < u^*$. This will entail a wage–price spiral, for 'what permits the Fisc to coax employment in excess of $y^*$ is the failure of people to predict the magnitude of inflation' (ibid.: 266). But any expectation error will be rectified by adaptive expectations, which leads to an upward shift in the Phillips curve. However, Phelps (p. 255) said that it 'is more likely that the upward displacement of the Phillips Curve will cause the policy makers to "take out" the loss in the form of an increase in the unemployment ratio' and inevitably the economy will converge to the steady-state rate of unemployment $u^*$. Thus, Phelps (p. 280) concluded that 'a tight fiscal policy producing "underutilisation" . . . is optimal if and only if the current expected inflation rate exceeds the asymptotically optimal inflation rate'.[7]

Implicitly Phelps (1968a) agreed that this approach is too Walrasian to provide a proper description of the labour market. Later, in Phelps (1968b), he deliberately chose a non-Walrasian approach to derive an expectations-augmented Phillips curve, in which workers and jobs are heterogeneous and imperfect information prevails. Basically he amended Lipsey's (1960) excess-demand model of the Phillips curve and showed that in the case of downward money-wage rigidities 'the steady-state equilibrium locus will then have the characteristic negative slope of the Phillips curve in the range of large unemployment rates' (Phelps, 1968b: 706). Below a certain threshold value for unemployment, hyperinflation will result. As a consequence the long-run Phillips curve is vertical at higher rates of inflation, but may be negatively sloped for lower rates.[8] Phelps, however, never elaborated on this analysis.

In his 1967 paper, Phelps essentially introduced the notion which he articulated more fully in Phelps (1970), where he claimed (p. 15):

> [In] the models of search unemployment under discussion, the alternative to accepting a job is looking for another one. It is important to recognize another possibility: accepting leisure. The corresponding idleness might be called 'wait unemployment'. In any real life situation, unemployment is likely to be an admixture of search and leisure.

This view is endorsed by Lucas and Rapping (1969: 748) who argued:

Measured unemployment (or more exactly its non-frictional component), is then viewed as consisting of persons who regard the wage rates at which they could currently be employed as temporarily low, and who therefore choose to wait or search for improved conditions rather than to invest in moving or occupational change . . . non frictional unemployment is in this sense 'voluntary'.

### 3.3.4    The Impact of the Oil Crises

We noted earlier that the natural rate-inspired theoretical attacks by Friedman and Phelps on the Keynesian orthodoxy were provided with a serendipitous boost after the first OPEC oil price hike in the early 1970s. Since the development of the expectations-augmented Phillips curve was not based on empirical grounds, the cost instability after the first OPEC oil shock in 1974 and the resulting inflation were very fortuitous indeed. In Chapter 7, we shall show that unemployment and inflation mushroomed simultaneously in reaction to the first oil shock in most countries. These observations gave the monetarist analysis a credibility that it could not get in terms of the theoretical debate. Earlier in the 1960s, Clower (1965) and Leijonhufvud (1968) had savagely exposed significant and terminal flaws in the monetarist conceptual structure.

Whatever the theoretical validity of the monetarist resurgence, it is clear that this period marked the end of the Keynesian era (Skidelsky, 1977). Lucas (1981: 559) claimed that the simultaneous rise in both inflation and unemployment in the 1970s destroyed the illusion of an exploitable trade-off and ended the period of stabilisation policy: 'Keynesian orthodoxy or the Neoclassical synthesis *is* in deep trouble, the deepest trouble in which an applied body of theory can find itself: It appears to be giving seriously wrong answers to the most basic questions of macroeconomic policy' (emphasis as in original).

The impact of the monetarist resurgence remains strongly entrenched among modern policy makers and helps explain why persistent unemployment and underemployment has existed in most countries since the 1970s.

### 3.3.5    The New Classical Denial of Involuntary Unemployment

The most interesting aspect about the new classical revolution is that with hindsight it appears to be much ado about nothing and hardly a revolution. Phelps (1990: 44) argued that the policy-invariance view developed by Lucas – which considered that monetary policy has, at best, a transient effect on employment – was already widely recognised when 'the New Classicals arrived to dazzle us with their attractive analysis of the rational expectations case'.

Further Dow (1985: 148, 154) argued:

> 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 Neoclassical microfoundations. . . . the rational expectations hypothesis has simply taken the prevailing orthodoxy as applied to macroeconomics to its logical conclusion.[9]

Dow (pp. 151–2) believed that the crucial point that the new classical position reflects is the belief that the world returns to an equilibrium position quickly after a shock:

> 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. For example, if a share price rises to an exogenous shock, and people believe the market in that share to be stable, they will sell the share at its high price, expecting it to fall, and so it will. . . . In other words, the strong policy results associated with the rational expectations hypothesis depend on the world conforming to a stable general equilibrium model.

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

> [T]he recognition that one needs to distinguish among sources of unemployment does not in any way imply that one needs to distinguish among types [that is] [a]ccepting 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 . . . 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 (see de Vroey, 2004 for a recent survey). De Vroey disputed Lucas's claim that the distinction between voluntary and involuntary unemployment is meaningless. De Vroey (p. 174) said that, strictly speaking,

> [N]obody could be '100 per cent involuntary unemployed', because some responsibility is always involved. It should come as no surprise that the proportion of the involuntary unemployed within the pool of the unemployed would be higher in a context of depression. Therefore the association made by Keynes between involuntary and mass unemployment is quite plausible.[10]

The notion underlying the new classical view is that the free market should be the dominant, if not sole, coordination mechanism in an economy and is consistent with a high boundary of responsibility for individuals. Consistently, the new classical economists view unemployment as a voluntary outcome. However, Lucas (1978: 356) added:

> [O]ne 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 pre-selected 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)

As we shall elucidate in Chapter 8, what Lucas means by the modern methods of public finance is in fact based on the flawed concept of a government budget constraint as an a priori financial constraint. We shall explain that the fundamental accounting-driven realities of a modern monetary economy marked by the government as a monopoly issuer of fiat currency mean that such a government can always maintain full employment in the Beveridge sense without violating sound principles of macroeconomic policy. In this setting, the government always chooses the level of labour underutilisation and imposes this choice on the people.

The implied disappearance of unemployment from the policy debate is also observed by Hahn (1980: 285) when he noted: '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'.

## 3.4   UNEMPLOYMENT AS A (PERSISTENT) DISEQUILIBRIUM PHENOMENON

The oil crises in the early and late 1970s had a very different impact on the economies of both sides of the Atlantic. Unemployment recovered much faster in the US after the oil crises in the 1970s than it did in the European countries. We hypothesise that these divergent economic developments were instrumental in shaping the debates about unemployment in the US and Europe. The fact is that the debates in Europe were markedly different in scope and content from those that unfolded in the US, where the rational

expectations revolution dominated economic debate and the new classical thinking emerged as the popular framework. In the US, unemployment was thus analysed from the perspective of intertemporal substitution and real business cycle theory, all of which contributed to a denial of the concept of involuntary unemployment. This view was challenged by new Keynesians who sought an explanation for the existence of involuntary unemployment in wage rigidities and coordination failures. By the 1990s, the focus of the US macroeconomic policy debate was on inflation rather than unemployment (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 economists Edmond Malinvaud and Jacques Drèze led the disequilibrium approach. Second, the English economists such as Richard Layard and Stephen 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, with the NAIRU construct and its attendant policy implications at centre stage, became dominant in the European macroeconomic policy debate. In this section we discuss the rise and fall of the disequilibrium approach before turning to the Layard–Nickell approach in a later section.

### 3.4.1   Disequilibrium Economics

The theoretical push to reassert Say's Law by neoclassical economists was severely dented by the work of Robert Clower (1965) and Axel Leijonhufvud (1968). They had demonstrated, in different ways, how the orthodox models of optimising behaviour were flawed when applied to macroeconomic issues like mass unemployment.

In his dual decision hypothesis, Clower (1965) elaborated on an important insight provided by Patinkin (1956) that trading is possible in the absence of equilibrium prices. This point has been made more explicit by Clower, who distinguished between *notional* and *effective* demand and supply, where the latter will differ from the first in the case of rationing. An excess supply in the labour market (unemployment) was not usually accompanied by an excess demand elsewhere in the economy, especially in the product market. Excess demands are expressed in money terms. This begs the question of how an unemployed worker (who had notional or latent product demands) could signal to an employer (a seller in the product market) their demand intentions? In Chapter 2, we traced this type of reasoning to Marx in his analysis of the possibility of crises.

Leijonhufvud (1968) added the idea that in disequilibrium, price adjustment is sluggish relative to quantity adjustment. Tobin (1972: 4) noted:

Axel Leijonhufvud's illuminating and perceptive interpretation of Keynes argues convincingly that, in chapter 1 as throughout the *General Theory*, what Keynes calls equilibrium should be viewed as persistent disequilibrium, and what appears to be comparative statics is really shrewd and incisive, if awkward, dynamic analysis. Involuntary unemployment means that labor markets are not in equilibrium. The resistance of money wage rates to excess supply is a feature of the adjustment process rather than a symptom of irrationality.

In addition, Leijonhufvud (1968) has stressed the importance of recognising spillover effects between market disequilibria when analysing macroeconomic phenomena from a Keynesian perspective.

Both Clower (1965) and Leijonhufvud (1967) attempted to clarify the idea that involuntary unemployment was an equilibrium state. They considered the textbook representation of the legacy of Keynes to be inadequate. They showed that unemployment was the result of a deficiency in effective demand which persisted as a result of informational and coordinate failures. In the transition from the classical model, Keynes eliminated the convenient *deux machina* of the auctioneer who would ensure that all intentions to trade were mutually consistent and so trades were always equilibrating (see particularly, Leijonhufvud, 1967: 402–3). In the involuntary unemployment world, Clower and Leijonhufvud postulated that once the economy is disturbed from an equilibrium state, positive feedback will be multiplied (a deviation-amplifying process) and the economy will further diverge from full employment. In other words, the basis on which Friedman and Phelps constructed their natural rate re-interpretation of the Phillips curve was flimsy and unconvincing.

Barro and Grossman (1971: 84) extended 'the Patinkin and Clower analysis of a depressed economy . . . to develop a generalised analysis of both booms and depressions as disequilibrium phenomena'. Their model showed that:

> Involuntary unemployment clearly does not require a rise in the real wage above the level consistent with full employment equilibrium. . . . too high a real wage was not the cause of unemployment, and a reduction in the real wage is only a superficial cure. The real cause of unemployment was the fall in commodity demand, and only a reflation of commodity demand can restore employment to the proper level. (pp. 86–7)

Although Barro and Grossman's analysis attracted a lot of attention, it did not gain any substantial foothold in the American economic debate. The main reason follows from the almost universal recognition that their analysis relied on the *ad hoc* assumption of price rigidities. Friedman (1977: 1089–90) argued:

> The fundamental stumbling point is that – in company with economists in general – Barro and Grossman have not solved the problem of generalised price dynamics. . . . little or no 'micro foundation' underlies the limited adjustability of prices and wages – which is, after all, crucial to the existence of disequilibrium in the first place.

Havrilesky (1977: 124) noted that the 'absence of an interest rate and any semblance of price adjustments . . . may create considerable distress for the reader'. Goodhart (1977: 96) agreed, saying: 'The main weakness . . . as the authors explicitly recognise, is that they have no real theory of the failure of markets to clear'. Finally, Howitt (1977: 124) concluded that the 'substantive shortcomings . . . are generally those of the state of knowledge itself. . . . First the treatment of wage and price dynamics is deficient. [Second, the analysis] does not present a satisfactory account of the process of exchange'.

In reaction to that critique, US economists, sympathetic with the notion of involuntary unemployment, sought to provide a rationale for price rigidities that was consistent with maximising microeconomic postulates. This approach became known as the 'new Keynesian paradigm', which we consider more fully in Chapter 4. In terms of advancing the work of disequilibrium analysis, it was left to some European economists to pick up the baton. The disequilibrium tradition was strongly advocated by Malinvaud and many, mainly French, economists followed his lead (see de Vroey, 2004, part IV).

### 3.4.2 Classical and Keynesian Unemployment

In his first book, Malinvaud (1977) introduces the famous distinction between three regimes, among which the cases of classical and Keynesian unemployment are most relevant for our analysis. He noted that Keynes uses the word 'classical' in two different ways, inducing Malinvaud to distinguish between a Walrasian equilibrium, where all markets clear, and a classical view in which a reduction in the wage rate could reduce unemployment. He emphasises that the latter often relies on partial equilibrium in the labour market. However, as he states in the opening sentence of his book 'the term *involuntary* unemployment makes it obvious from the start that the labour market is one in which supply exceeds demand. Suppliers are therefore rationed in the sense that some of them do not find jobs. Hence unemployment theory must be closely connected with the theory of rationing' (emphasis as in original).

Malinvaud (p. 5) repeatedly emphasised that unemployment should be studied in a general equilibrium context, which 'is an abstract construct that has no logical obligation to assume equality between demand and

supply'. This claim also explains why Malinvaud resisted the 'disequilibrium analysis' label. According to Malinvaud (p. 7) the only thing that is required in equilibrium is 'that individual decisions have had the time to adjust to each other so as to be mutually consistent' which implies that expectations are correct. Interestingly, Malinvaud did not mention this implication.

Malinvaud saw the use of equilibrium as a short-cut which allows us to skip an analysis of the adjustment process dynamics. Indeed, Malinvaud (pp. 8–9) considered these adjustments to be so rapid that they do not warrant any 'explicit study'. In teasing out his notion of equilibrium he chose to emphasise:

> The type of decisions that is assumed to exist between individual decisions is specific to each equilibrium theory. For the study of unemployment it can be only a short-run consistency, which will be quite different from the long-run consistency that one will want to consider when studying for instance industrial structures. (p. 7)

> In the short-run consistency between individual actions is achieved by adjustments of quantities traded rather than of prices. Taking prices as given, the equilibrium concept we are looking for must explain the determination of quantities, and do so in a way that will be appropriate with respect to the unemployment phenomenon. (p. 12)

Generalising the analysis of Barro and Grossman, Malinvaud distinguished between four regimes, corresponding to combinations of excess supply and demand in the goods and labour markets, respectively. The unconstrained Walrasian equilibrium occurs when both the goods and labour markets clear. The economy is in a repressed inflation regime when output is constrained by the available labour supply and there is also excess demand for labour. The two unemployment regimes are classical and Keynesian, with the latter occurring when the level of output is constrained by the level of aggregate demand (excess supply of labour and goods) and the former when output is constrained by the firms' demand for labour at the current real-wage rate (excess supply of labour and excess demand for goods). Malinvaud (ibid.: n. 26) made it clear that the label of Keynesian unemployment should 'be understood to refer to the views of post-war Keynesians rather than to those of Keynes himself'.

Malinvaud also studied the wage–price constellations consistent with these three disequilibrium regimes and concludes that short-term fluctuations tend to favour both repressed inflation and Keynesian unemployment, which is consistent with his intuition that Keynesian unemployment is more prevalent than classical unemployment. Malinvaud (p. 96)

concluded that 'the economy will alternate from Keynesian unemployment, when autonomous demand is low, to repressed inflation, when it is high'.

Malinvaud is obviously susceptible to the criticism that the analysis of Barro and Grossman attracted. That is, he also fails to provide a convincing account for persistent price stickiness, and ignores the role of expectations. Malinvaud (1980) sought to address this criticism in his second book. Accordingly, prices and wages react to excess demand and supply, albeit in a rather mechanical way. More importantly, the analysis allows for too high a real wage impairing the profitability of investment which means that full employment may be unobtainable due to inadequate capital capacity being available. Solow (1981: 572) is attracted to this analysis, finding 'the general flavour both wise and refreshing'. On the problem of deficient investment, Solow (p. 572) claimed that 'this idea is more commonly discussed in Europe than in the US, presumably because real wages have behaved differently in the two places since the oil embargo'.

In spite of this rather sympathetic receipt by Solow, Malinvaud's analysis did not receive broader appreciation from within the economic profession. As Malinvaud (1984: 50) himself remarked:

> The frequent existence of such disequilibria in the price system is an observed fact. . . . the law of supply and demand acts slowly and is sometimes dominated by price or wage shocks.
>     If I am speaking of 'my thesis' it is because I strongly believe it to be true, but also because I have, for the time being, no proof that it is widely accepted.

The reviews of Malinvaud's latest book on this subject, entitled *Diagnosing Unemployment* (1994), confirm the lack of wide acceptance. Holmlund (1995: 578) opened his review with the statement that 'Professor Edmund Malinvaud was a major contributor to the development of "disequilibrium macroeconomics" in the 1970s. The present book makes clear that he has not discarded his basic views from those days, despite the fact that disequilibrium models have become increasingly rare tools among economists interested in unemployment'. Tobin (1996: 325–6) was also very scathing in his critique:

> This book does not diagnose European unemployment or suggest a remedy. It does not explain the differences between European and American experience or those among the economies of Europe . . . Malinvaud doubtless understands, but chooses to reject and ignore [the] mainstream doctrine. For him, discrepancies of labour demand and supply are lasting sources of unemployment, and he unapologetically mixes Keynesian and Classical influences on demand and supply. . . . Perhaps in future writing Malinvaud will explain and defend more fully his rejection . . .

### 3.4.3 The European Debate

Initially there were strong attempts to integrate notions of disequilibrium analysis with a more elaborate account of wage and price setting. A major effort in this respect was the large conference in 1985, The Rise in Unemployment, mainly financed by the European Economic Community, in which papers were presented on unemployment in eight European countries, Japan, the US (and Canada) and Australia. The proceedings of this conference were published in a special issue of *Economica* under the editorship of Bean, Layard and Nickell (1986). These authors also presented a framework which they claimed would draw together the discussion during the conference and the resulting model contained the by now familiar wage and price-setting equations. Bean et al. (p. S15) claimed that the model 'possesses a "natural" level of real demand as well as a "natural" level of unemployment, or NAIRU. This natural level of demand is obtained . . . assuming that expectations are fulfilled. In that sense the model . . . has much in common with equilibrium business cycle models of the Friedman–Lucas variety'. The model allows aggregate demand to impact on unemployment through slow adjustment processes and hysteresis only. Bean et al. (p. S19e) concluded:

> [The] decline in demand, relative to potential, seems to have been an important proximate cause of the rise in unemployment, especially in the European Community. However, it is clear that supply side factors have also played a significant role. This is a broad conclusion that seems to be shared by many of the authors who have contributed to this volume, even if the details are often different.

As a follow-up to the 1985 conference, the European Unemployment Programme was financed by the European Commission (EC) and participants from 10 European countries (most of whom were involved in the previous project) met to agree on a common theoretical specification of a model to explain unemployment and to estimate that model for their own countries. This project was supervised by Drèze and Bean, who also edited the resulting conference volume (Drèze and Bean, 1990). The central model agreed on is quite eclectic and some authors interpreted it quite liberally when applying it to their own country.[11] The interesting features of the model are that aggregate demand and investment equations are added to the basic wage and price-setting equations and the inclusion of the investment equation allows the model to distinguish between actual demand and capacity or potential demand for labour. This, in turn, enables it to distinguish between Keynesian and classical unemployment, although these terms are not used explicitly. In this sense it is consistent with Malinvaud's approach discussed above.

The principal conclusions of this project were summarised as follows:

1. '[t]he main and perhaps singular determinant of output growth in the 1980s in Europe has been effective demand. The growth of demand is linked to growth of such exogenous elements as government expenditures and world trade' (ibid.: 59);
2. the goal of full employment 'will be easier to reach if medium-run expected wage growth is strictly contained. We do not know whether, and how, that condition can be met. Under that condition the fear that faster output growth would rekindle inflation is probably misplaced . . . And the expansion would require cooperation among several European countries if national current account problems are to remain manageable' (p. 60);[12]
3. '[p]ublic deficits are more tolerable . . . if they correspond to public investments' (p. 60); and
4. 'a reduction in labour taxes should be targeted toward the low end of the wage scale' (p. 60).

The final two conclusions are also reflected in the proposal by Drèze and Malinvaud (1994) for a two-handed policy to combat unemployment in Europe. This proposal to increase investment and reduce the cost of hiring of the lowest-skilled workers was widely circulated and received public support from the leading economists in Belgium and France.[13] The proposals are also reflected in the EU's 1993 *White Paper on Growth, Competitiveness, and Employment*. However, despite garnering widespread support, the proposals did not have a strong impact on European economic policy. According to Dostal (2004: 441): 'The White Paper . . . represented a flotation of potential policy options, many of which – such as the seemingly "Euro-Keynesian" demand for investment in "Trans-European Networks" – were never properly pursued'.

These developments were overshadowed by the release of the OECD *Jobs Study* in 1994, which has subsequently dominated the policy agenda and underpinned what we have defined as the full employability framework. We shall take up that story in more detail in Chapter 5. However, there is one other European development after the *Jobs Study* which is worth noting here. Fitoussi et al. (1998) published 'An economist's manifesto on unemployment in the European Union' in 1998, which recognised that an aggregate demand stimulus had to accompany supply-side initiatives if the seemingly entrenched high European long-term unemployment was to be seriously addressed. The authors also recognised that a coordinated approach across the EU would have to be taken to avoid beggar-thy-neighbour approaches. We shall elaborate more fully on the current European unemployment policy in Chapter 5.

## 3.5   FROM THE NATURAL RATE OF UNEMPLOYMENT TO THE NAIRU

### 3.5.1   The Layard, Nickell and Jackman (1991) Approach to the NAIRU

Layard and Nickell were not directly involved in the European Unemployment Programme although their work was prominent in the initial attempts to find a common denominator. But parallel to the developments sketched above, they continued to work with their London School of Economics' colleagues on more restricted models based on the battle between the mark-ups approach.[14] This culminated in the now influential 1991 book – Layard, Nickell and Jackman (hereafter LNJ).

Although the analysis in this book is seriously flawed, it has become one of the most influential expositions of orthodox employment theory over the last 30 years or so. First, it provided policy makers in the OECD with the theoretical underpinning and authority to design and launch their 1994 *Jobs Study*, which we shall consider in more depth in Chapter 5. The *Jobs Study* has dominated the contemporary labour market policy agenda in most major economies. Each country received specific policy recommendations within the broad framework developed by LNJ and progress on these recommendations is reported annually in the Economic Survey for each country. Second, it has had a strong impact on the European Employment Strategy initiated by the EU. Finally, it has had a strong impact on research and teaching in Europe. In this section we present a critical assessment of some of the important features of LNJ's analysis. In Chapter 4 we shall broaden this critique to conclude that the basic concept of full employment being advanced has no application to a modern monetary economy.

LNJ (p. 8) outlined their agenda in the following way: 'The challenge is to find a consistent and plausible framework which explains the facts. Needless to say, the most plausible framework is one in which the actions of firms and individuals are described in terms that they would themselves recognize'.

We initially note that in terms of the concept of equilibrium which we discussed in Chapter 2, LNJ present a confusing picture. On the one hand, they seem to follow Chick's first definition of equilibrium, discussed in Chapter 2 by concluding:

> The level of unemployment at which inflation stabilises is the *equilibrium* level of unemployment. This concept of equilibrium has nothing to do with the concept of 'market clearing', anymore than the equilibrium of a system of pulleys has to do with market clearing. It simply represents the state to which the system will return after a disturbance. (pp. 9–10; emphasis in original)

However, elsewhere they seemed to use Chick's second definition of equilibrium, although instead of focusing on market clearing, they redefined this in terms of 'consistency of claims' which result from the battle between mark-ups:

> 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 . . . Prices . . . are set as a mark-up on expected wages. . . . Wages are set as a mark-up on expected prices. . . . If actual wages and prices are at their 'expected' values, the equilibrium unemployment rate [results]. (pp. 12–14, emphasis in original)

So LNJ (p. 10) envisaged a 'long-run equilibrium at which both unemployment and inflation will be stable. We call this the long-run NAIRU'. However, in a related footnote, they said that the NAIRU 'is also often called the "natural" rate (Friedman, 1968). We avoid this usage which smacks of inevitability' (LNJ, 1991: n. 3). Curiously, although they apparently wished to avoid constructing the NAIRU as an inevitable outcome of the market system, they seem content to describe it as the 'the state to which the system will return after a disturbance' (p. 10). Moreover, they added that 'if financial policy ensures that inflation *is* stable, then unemployment will adjust to its equilibrium level' (p. 13; emphasis in original). This last observation is reinforced in Nickell and van Ours (2000: 140), who claimed that the 'equilibrium rate of unemployment cannot be changed with fiscal, monetary or exchange rate policy. What these policies can do is change the way actual unemployment fluctuates around the equilibrium rate'.

Within these models, the equilibrium rate of unemployment is influenced by three kinds of factors: (i) anything that shifts the Beveridge curve, in particular search effectiveness; (ii) factors which place upward pressure on wages other than unemployment; and (iii) any factor which raises prices at a given level of demand.

The effectiveness of job search, however, becomes central to their analysis through its impact on the notion of voluntary unemployment. LNJ (1991: 11) noted:

> 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.

However, people may be willing to work in the primary sector, but not in the secondary sector because, according to LNJ (p. 42), 'it is harder to find

a primary-sector job while already employed in the secondary sector than while unemployed. Another possible reason is that for some people life on unemployment income is preferable to life in the secondary sector'.

Curiously, LNJ (p. 44) abandon this line of thought soon after when they say that '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 battle between mark-ups. Moreover, if one considers the high incidence of unemployment among the disadvantaged groups, it is obvious that this primary/secondary story does not hold for them. LNJ (p. 44) acknowledged further difficulties, indicating that it is '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'.

LNJ (p. 34) stressed the importance of search intensity among the unemployed because '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'. Accordingly, they defined the number of effective unemployed as the relevant cohort for controlling wage growth rather than the actual number of unemployed. By focusing on the supply side (search intensity) they largely ignored the role of the employer. They briefly acknowledged that search effectiveness 'reflects not only how hard the workers look for work, but also how willing the employers are to consider them' (p. 38). However, they did not expand on this point and it had no further meaning in their analysis. In fact, in several places, where a more catholic view of labour market behaviour might compromise their supply-side focus, LNJ conveniently ignore the complexity.

Clearly, if firms face an excess supply of labour they can more easily indulge an unwillingness to offer jobs (with attached training opportunities) to unemployed workers whom they deem to have undesirable characteristics. When the labour market is tight, the willingness of firms to indulge in their prejudices is more costly. However, when labour underutilisation is high, firms can easily increase their hiring standards (broaden the desired characteristics that they demand from workers) and the training dynamism driven by labour shortages is lost. In this context, these so-called 'structural impediments' to full employment are really symptoms of a low-pressure economy rather than being anything to do with sullen or lazy workers (Mitchell, 1987). The lack of attention to these dynamics in the blinkered supply-side analysis of LNJ is a serious shortcoming.

Another implication of their reasoning is that rising long-term unemployment reduces overall search effectiveness. LNJ (p. 41) argued that 'if the recent history affects the current (short-run) NAIRU, this is mainly

because it affects the search effectiveness of the unemployed "outsiders", rather than because it reduces the number of "insiders" in work'. This has implications for the short-run aggregate supply relationship which will shift with past unemployment 'if wage and price behaviour depends on the change in unemployment as well as on its level' (p. 18). LNJ (p. 10) dutifully concluded that as a consequence 'there is however some "short-run NAIRU", which *would* be consistent with stable inflation, and which of course depends on last year's unemployment' (emphasis in original). In this way, LNJ attempted to incorporate the concept of hysteresis into their analysis, which was in keeping with the growing interest in the 1980s of path dependence (see Mitchell, 1987). Consequently, LNJ (pp. 18, 16) allowed the short-run NAIRU to lie 'between last period's unemployment and the long-run NAIRU [which also implies that] in the short-run, unemployment is determined by the interaction of aggregate demand and short-run aggregate supply'. However, the classical dichotomy is maintained in their model such that 'in the long-run, unemployment is entirely determined by long-run supply factors and equals the NAIRU' (p. 16).

LNJ differentiated their approach from new classical economics by arguing that they substitute a price-setting equation with nominal inertia for the new classical labour demand equation and a wage equation for the labour supply function. However, LNJ (p. 21) concluded that 'although our interpretation of the structural model differs so sharply from the New-classical model, it remains true that the reduced forms are indistinguishable', meaning that they both yield Lucas aggregate supply curves. Despite this observational equivalence, LNJ (p. 21) considered that 'the policy implications of the two approaches are so different'. Minford (1993: 1055) in his review of their book disagreed, and concluded that 'it might amaze them, but it is a fact, that there is an overwhelming agreement between at least this New-Classical economist and Layard, Jackman and Nickell – for example the need for tougher benefit testing, and for measures to restrict monopoly power'.

### 3.5.2   The Discussion on the NAIRU in the United States

Tobin's (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. Others 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. For example, 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] [u]nemployment explains only a portion of changes in inflation, and there are a variety of other economic goals besides simply fighting inflation'. Less equivocating is R.J. Gordon (1997: 11) who said that 'whether the goal is steady inflation or lower inflation, the FED needs to know the value of the NAIRU'. In Gordon's most recent work, the NAIRU varies over time – the so-called time-varying (TV)-NAIRU. Hysteresis hardly features in his analysis, but price inertia plays an important role and he deliberately ignores the connection to wage formation. Gordon (ibid.: 17) said 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'. However, Gordon acknowledged that the NAIRU is not a universally accepted concept. He believed it fits the US post-war experience, but

> [W]ild 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. (p. 28)

Ball and Mankiw (2002: 121) also concluded 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'. In Chapter 4, we shall address the contemporary criticisms of the usefulness and theoretical validity of the NAIRU concept.

But our purpose here is to bring out the stark contrast between the ways in which the debate about unemployment has been conducted on either side of the Atlantic. The dominance of the LNJ approach in the European academic and policy literature is sharply juxtaposed by its minor role in the American debate (Mitchell and Muysken, 2006b). Very few American authors refer to LNJ's work and when they do it is only in a marginal context. Further, the concept of hysteresis, which has been a central organising concept in the European literature and debate, hardly plays a role on

the other side of the Atlantic. Equally noticeable is that the American approach to NAIRU estimation appears to be more pragmatic (for example, Gordon's triangle model and Ball and Mankiw's Hodrick–Prescott filter approach) compared to the simultaneous equations LNJ approach.

Finally, in evaluating how significant the NAIRU has been in the abandonment of full employment, Galbraith's (1997: 106) observation is very pertinent: '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'.

## 3.6    CONCLUSION

In this chapter we have presented a sequential review of how economists have constructed the concept of unemployment. In the previous chapter we argued that the classical depiction of unemployment as a voluntary state 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 using their own volition.

As the twentieth century 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. With the acceptance of the Phillips curve the abandonment of full employment was nigh.

By the 1970s, with the influential work of Phelps (1967) and Friedman (1968) 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 a reflection of voluntary, utility-maximising choices. The policy emphasis shift from full employment to full employability and the period of active labour market programmes began in earnest.

The rise in acceptance of monetarism and its new classical counterpart was not based on an empirical rejection of the Keynesian orthodoxy, but in Blinder's (1988: 278) words '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'. 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 basis for defining full employment, which then evolved to the concept of the NAIRU.

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 have exacted a harsh toll in the form of persistently high unemployment and more recently underemployment (casualisation). Full employment as initially conceived was abandoned (Hughes, 1980). Only microeconomic reforms were seen as having the capacity to 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).

Looking back at the development in the 1990s and the first half of the present decade, LNJ (1991 [2004]: xxii) posited:

> The lesson from this episode is that in the Eurozone, the reduction in unemployment generated by monetary policy easing in the 1990s hit the inflation constraint in 2000 and *policy had to be tightened to control inflation*. This prevented Eurozone unemployment falling much below 8 per cent. On the basis of these data it is hard to see how average equilibrium unemployment in the Eurozone can be below 8 per cent, this despite the fact that unemployment in most of the small Eurozone economies has been below this level for many years. (Emphasis in original)

To highlight how far the concept of full employment has moved in the last three decades it is worth considering the evaluation of contemporary policy positions by LNJ (p. xi) who stated: 'The experience of the last 15 years shows that given sensible macroeconomic policies, it is possible to ensure that unemployment remains fairly close to the full employment level'. They equate four typical supply-side strategies as being the exemplars of sound macroeconomic policy.

In Chapters 5 and 6 we shall show how the NAIRU theories were constructed into a new policy paradigm which we refer to as the full employability framework. This approach is to be sharply juxtaposed against the full employment framework introduced in Chapter 1. In Chapter 4 we shall present a theoretical critique of the NAIRU model from within the post Keynesian paradigm, whereas in Chapter 8 the critique will be based on the

emerging modern monetary approach which owes some of its legacy to the functional finance approach of the 1940s.

Our overall aim is to challenge the LNJ conception of full employment as equivalent to the NAIRU. We argue that it is misleading at best. We also question the validity of conflating the supply-side approach with sensible macroeconomic policy making. To identify full employment with an unemployment rate of 8 per cent and to consider deregulation and harsh welfare-to-work reforms to be a reasonable macro strategy – as is central to the LNJ approach – is a typical illustration of Martin Luther's saying 'Jede Konsequenz führt zum Teufel' (or liberally 'when pursued to the extreme, every reasoning leads to the devil').

## NOTES

1. The fact that Samuelson and Solow (1960) used the Phillips curve extensively in their analysis is also likely to have helped it achieve a prominent place in macroeconomic analysis.
2. Lipsey (1960: 30) emphasises this, stating: 'Phillips used his curve . . . to predict the level of unemployment that would be compatible with stable prices'. Lipsey, however, is also careful to note that these predictions should not be taken seriously because the 'curve' is not stable. This is consistent with the recent critique of the NAIRU which we shall discuss in Chapter 4.
3. A typical example of the notion that the Phillips curve is not an optimising function that is derived from rational, maximising behaviour is found in Klein (1985: 151): 'It is simply a market clearing relation. On the one hand, there are optimizing decisions of households (and trade unions) about labor supply and, on the other hand, optimizing decisions of firms about labor demand. When employee and employer representatives come to the bargaining table, with all the institutional apparatus that such a process entails, a wage bargain is struck on the basis of labor market and other economy-wide considerations. It is surely an accepted part our subject's view of the working of markets that wages move in response to excess supply or demand in order to set up a tendency towards restoration of equilibrium. It is just a way of introducing dynamic adjustment processes into the reconciliation of two optimising decisions, and it is fruitless to look about for some optimizing explanation of the Phillips curve'.
4. The October 1960 edition of the *Review of Economic Studies* concentrated on the mechanisms that operate in disequilibrium and how the quantity theory reasserts homogeneity and Walras's Law.
5. 'It is perhaps worth noting that this 'natural' rate need not correspond to equality between the number of unemployed and the number of job vacancies' (Friedman, 1968: n. 8).
6. This comes very close to the intertemporal substitution hypothesis developed in Lucas and Rapping (1969). In his reply to a comment, Phelps (1968a: n. 1) referred to an earlier version of this paper as the 'fascinating model of labour supply by Robert Lucas and Leonard Rapping'.
7. Later on Phelps (1967: 280) stated that 'it would be premature to base policy on the particular model employed here' and points out 'a host of needed extensions'.
8. Akerlof et al. (2000) derived a similar result from a quite different model.
9. This point is contested by de Vroey (2004: 164) who argued 'that a watershed should be located between Friedman and Lucas [separating] an era of "Marshallian economics" from the one of "Walrasian macroeconomics"'.
10. It therefore is not clear why de Vroey (2004: 172) agreed with Lucas that Keynes had no good argument to introduce involuntary unemployment as a separate category.

11. See also the sympathetic but critical review of the various efforts in Blanchard (1990: 66) in the same volume: 'I am afraid that the research programme may have been overambitious. . . . Although much is learned, the very richness of the model makes it harder to see how the model can . . . explain what I see as the crucial issue, the persistence of high unemployment'.
12. In this context the role of responsible unions is emphasised. Drèze and Bean (1990: 22, 38) noted: '[I]n contrast to the United States, wage formation in Europe today is dominated by unions who are greatly concerned about distributional fairness [and as a consequence] the mechanism through which unemployment could be self-correcting is weak. We should not be surprised that in Europe unemployment has been persistent' – in contrast to the experience of the United States.
13. This should not be confused with the two-handed approach propagated by Blanchard et al. (1986), which was in line with the findings of 'The Rise in Unemployment' conference above. Blanchard et al. (p. 118) cited some of the findings and commented: 'Neither supply nor demand measures will by themselves create and sustain employment growth. This simple point forms the basis of our approach: structural changes on the supply side are required if employment growth is to be sustained, but a boost is needed to start the process. This boost must come from timely supply measures, sustained and validated by demand'. Blanchard (2006) still recommended this approach to attack the current unemployment problems in Europe.
14. The battle between the mark-ups refers to the income distribution struggle over wages and profits between workers and capitalists. Accordingly, for a given nominal output (income) workers make wage demands and firms seek margins on costs. When the sum of these nominal demands exceeds the available real output (income) an inflationary spiral can occur if the capitalists and/or the workers continue to make incompatible demands on the available output.

# 4. The troublesome NAIRU: the hoax that undermined full employment

## 4.1 INTRODUCTION

In this chapter we complete our survey of the evolution of the concept of full employment and the currently accepted orthodox theoretical analyses of unemployment and its solutions. In Chapter 3, we argued that the concept of a trade-off between unemployment and inflation which can be traced back to classical days (see Chapter 2) was dominant in the economic debate from the late 1950s and into the 1960s. As a result, productive capacity and hence full employment became conditionally defined in terms of an appropriate inflation rate, and this allowed policy makers to shift away from a focus on full employment defined in terms of a number of jobs. However, given that inflation was not yet a problem, policy makers were able to maintain low levels of unemployment at acceptable inflation rates throughout this period. By the late 1960s, the Keynesian macroeconomic orthodoxy, which had dominated policy making since the end of the Second World War and had consistently delivered high-pressure economies (operating at or near capacity) was under siege from the resurgent natural rate theory.

The natural rate approach, with its roots back in the pre-Keynesian quantity theory days, suggested that there was no legitimate role for aggregate demand management to maintain low unemployment rates. The only reasonable policy position was alleged to be one that kept monetary growth consistent with a stable inflation rate. The dynamics of unregulated labour markets would then ensure that the natural rate of unemployment was sustained. This approach considered the natural rate of unemployment as being equivalent to full employment. The natural rate theory reinstated Say's Law, and full employment as it had been defined by Beveridge and others in the immediate post-Second World War period was abandoned. Full employment was now considered to be a shifting concept contingent on structural factors and invariant to aggregate demand policy manipulation. Accordingly, this so-called 'natural' level of activity was seen as normal, or at least inevitable, and if policy makers preferred higher levels of activity (and lower unemployment rates) then drastic structural measures

would have to be taken. These structural measures are in most cases related to the social infrastructure which has been built to protect socially disadvantaged persons from deprivation. In most cases this infrastructure was considered to be too protective and hence should be reduced in order to provide more incentives to unemployed persons to accept work. The natural rate theory evolved into what is now known as the NAIRU approach, and it is this approach that has driven the supply-side policy agenda which we shall analyse in detail in Chapter 5.

In this chapter, we critically analyse the modern NAIRU literature (considered in Chapter 3) and its implications for macroeconomic policy from a theoretical basis. In Chapter 7 we shall focus on the empirical failures of the policy agenda that has been motivated by this literature. In Section 4.2, we demonstrate how the strict separation between cyclical and structural variables which underpins the concept of a cyclically invariant NAIRU (and therefore its invariance to aggregate demand policy) is untenable. Taking the NAIRU theoretical structure as given (but not accepting it as being of practical use), we expose several transmission mechanisms (via interest rate changes, changes in labour productivity, and changes in aggregate demand, in general) which would allow non-structural factors to alter the NAIRU.

We also explore the notion of hysteresis more fully. This approach hypothesises that the steady-state unemployment rate is path dependent on the actual level of activity (and unemployment rate). We argue that macroeconomic activity changes have structural manifestations which alter the steady-state aggregates, including the unemployment rate. In this way, the NAIRU will vary over the business cycle and will be amenable to aggregate policy manipulation. Significantly, if hysteresis is operating, any so-called 'structural constraints' may be eliminated by merely stimulating aggregate economic growth. In other words, a role for macroeconomic policy designed to create higher levels of activity and lower levels of labour underutilisation is indicated. We consider these issues in Section 4.3.

In Section 4.4 we discuss the Beveridge or unemployment–vacancy curve, which is a companion approach to the Phillips curve in studies of unemployment. It has been extensively used by LNJ (1991) and others to determine the conceptual basis of the NAIRU and to provide theoretical authority for subsequent policy developments, which focus on structural or supply-side constraints to full employment. In the same way that outward shifts in the Phillips curve were interpreted by the natural rate theorists as indicating the structural degradation of the labour market, shifts in the Beveridge curve are also identified with structural changes in the labour market. However, we show that aggregate demand changes can be spuriously interpreted as structural changes within this analytical framework. This places the policy relevance of the approach in question.

While less obviously focused on the labour market, the new Keynesian (NK) approach is now growing in significance among the profession and provides the most recent theoretical authority to justify inflation targeting (which we shall consider in detail in Chapter 6). In this regard, Section 4.5 presents a critical analysis of this approach. We consider the NK theory because it represents the latest orthodox attempt to deny the existence of involuntary unemployment. We show that it fails to achieve its grand ambitions. In that regard, it is hard to argue that the NK approach provides any credible guidance for policy makers who aim to restore full employment. Significantly, the NK approach holds itself out as being scientifically rigorous because it is based on rational expectations and inter-temporal optimisation. While the applicability of these so-called 'microeconomic foundations' to a modern monetary economy is questionable in the extreme, and we consider them inapplicable, the NK approach compromises them and hence its own self-claimed theoretical authority, as a result of its *ad hoc* response to empirical failure. So we are left with a framework that can claim neither theoretical authority nor empirical relevance. Section 4.6 concludes.

Our critiques of the orthodox approaches in this chapter largely relate to their internal inconsistency and their denials of involuntary unemployment. In Chapters 8 and 9 we shall develop an alternative theoretical approach based on the principles of functional finance and modern money which is not immediately conversant with these previous stylisations. We shall argue that the alternative approach is the only one available that is grounded in the realities of the modern monetary system and which clearly defines the opportunities that this system presents to a government interested in attaining true full employment and price stability.

## 4.2 THEORETICAL CRITICISMS ON THE NAIRU

In this section, we consider the evolution of theoretical models that have been used to underpin the approach made in the OECD *Jobs Study* (1994). We show that as they are deconstructed it is little wonder that the concept of equilibrium unemployment loses its original structural meaning and becomes indistinguishable in dynamics from the actual unemployment rate.

### 4.2.1 The Original NAIRU Approach

As we indicated in Chapter 3, the typical NAIRU approach, as presented in LNJ (1991) starts with a right-to-manage bargaining model, which yields a wage demand function[1] such as:

$$w - p = h + \beta_0 - \beta_1 cu/s - \beta_2(p - p^e) + z_w, \qquad (4.1)$$

where $w$ and $p$ are log wages and prices, respectively, $h$ represents log productivity, $u$ is the rate of unemployment and $z_w$ reflects other factors affecting wage setting.

Inflation surprises $(p - p^e)$ have a negative impact on the bargained real wage (BRW). According to Nickell and van Ours (2000: 143), the unemployment rate affects wages through 'the ease with which a worker of average effectiveness can find a job if she becomes unemployed'. This is related to the average job search effectiveness $c$ and the exogenous inflow rate into unemployment $s$.[2] The negative relationship between unemployment and the bargained real wage is depicted by the BRW curve in Figure 4.1.

Prices are set as a mark-up on marginal costs, determined by maximising short-run profits, which yields:

$$p - w = -h + \alpha_0 - \alpha_1 u + z_p, \qquad (4.2)$$

where $z_p$ reflects other factors affecting price setting. The positive relationship between the resulting real wage and unemployment is depicted by the price-determined real-wage (PRW) curve in Figure 4.1. Underpinning this relationship is the assumption that the mark-up is assumed to be negatively related to unemployment. While this can be seen as an approximation to
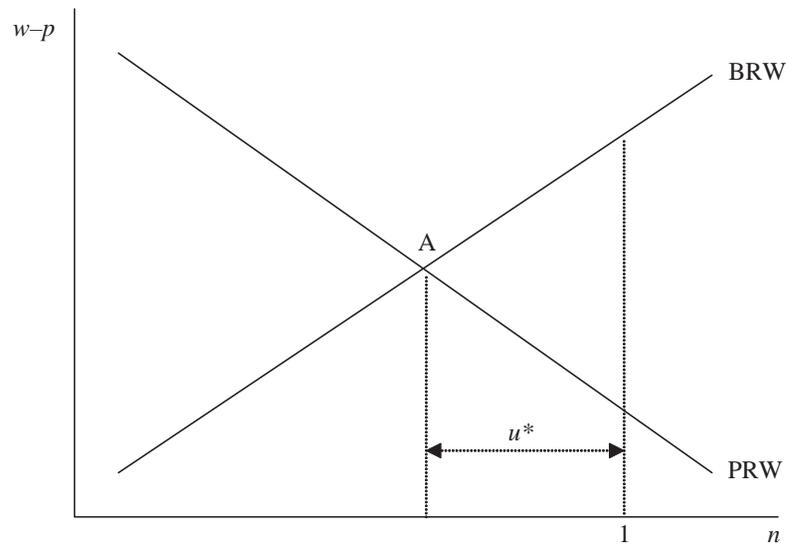
the observed pro-cyclical nature of mark-ups, we argue below that the way in which this relationship is formalised has serious consequences for the specification of the NAIRU.

The rate of unemployment $u^*$ consistent with both wage- and price-setting behaviour, in the absence of inflation surprises, is given by:

$$u^* = (\alpha_0 + \beta_0 + z_w + z_p)/(\alpha_1 + \beta_1 c/s)., \qquad (4.3)$$

Since at this rate of unemployment inflation surprises are absent (constant inflation), $u^*$ is called the NAIRU. It is considered to be equilibrium unemployment because the system (as defined) tends to converge to it, given the presumption that inflation-averse authorities will use aggregate policy to keep price acceleration low. So it is the conduct of fiscal and monetary policy that determine the fluctuations in actual unemployment around its NAIRU level in this system (ibid.: 142). Significantly, in this system the government clearly chooses the unemployment rate.

Equation (4.3) shows that all factors that tend to increase the BRW or the price level also increase the NAIRU. An interesting point, emphasised by Nickell and van Ours (p. 144) is that 'anything which causes the Beveridge Curve to shift to the left ($c$ up or $s$ down) will tend to lower the equilibrium rate, $u^*$'. Our discussion relating to shifts in the Beveridge curve in Section 4.4 therefore also applies here. Specifically, major shifts in the Beveridge curves for most countries, which are typically interpreted as being structural in origin, seem to occur during major recessions when aggregate demand is low. Further, separate analysis of the behaviour of vacancies and unemployment, which together drive the shifts in the Beveridge curves, are not consistent with the view that structural factors (like tax wedges and unemployment benefits) and/or changing worker attitudes to work and declining search effectiveness are behind the outward shifts observed when unemployment rose. We shall consider this issue further from an empirical angle in Chapter 7.

Further increases in the *other factors* $z_p$ and $z_w$ increase the NAIRU, since an increase in $z_w$ shifts the BRW curve upwards, and an increase in $z_p$ shifts the PRW curve downwards. An important question, then, is which factors are captured by $z_p$ and $z_w$. In the view of LNJ (1991), these include institutional factors such as benefit ratios, minimum wages, bargaining coordination by unions, employment protection and labour taxes. Additionally, commodity prices and skill mismatch can play a role. However, as a result of LNJ's decision to assume a Cobb–Douglas production function and a constant benefit rate, neither labour-augmenting technological change, nor changes in the capital stock or costs of capital can impact on the NAIRU in their model. These assumptions are underplayed in LNJ (1991) and the



*Figure 4.1    The determination of the NAIRU by the BRW and PRW curves*

derivative work, yet their restrictiveness represents a serious shortcoming in the model because no scope is given for aggregate demand, technological change or capital costs to determine the steady-state unemployment. So these assumptions also permit the model to maintain the earlier conceptions of the natural rate hypothesis where the steady-state unemployment rate is not influenced by the conduct of fiscal or monetary policy. It therefore is not surprising that the NAIRU approach has been contested on precisely these grounds. We next consider how various criticisms relating to the restrictiveness of the LNJ model have led to *ad hoc* amendments to the NAIRU approach.

### 4.2.2   The Role of Capital Costs

The price-setting curve is derived from a model in which prices are set as a mark-up on marginal costs. In that context, wage costs relative to capital costs are relevant. Therefore capital costs should be included in the price-setting equation (Blanchard, 1997). Moreover, the real interest rate may also affect hiring costs, investment in firm-specific human capital and costs of creating customer markets (Phelps, 1994; Phelps and Zoega, 1998). So for various reasons, if the real interest rate rises, $z_p$ should increase in equation (4.2). As a consequence, the NAIRU will also increase with the real interest rate. This induced Phelps and Blanchard to argue that the high unemployment in the 1980s was caused by the high real interest rates. It also means that discretionary monetary policy changes which impact on the nominal interest rate can manipulate the NAIRU – a previously rejected option.

In terms of Figure 4.1, rising capital costs shift the PRW curve downwards. Broer et al. (2000), who estimated Blanchard's model for the Netherlands, emphasise that a low elasticity of substitution between capital and labour is crucial to shift the PRW curve downwards. A unit elasticity of substitution would eliminate the impact of capital costs on unemployment. This result is consistent with a point made earlier by Rowthorn (1999) in a different context. Rowthorn showed that even if capital costs are ignored, the capital stock will be an argument in a demand for labour equation and hence in the price-setting equation (4.2). The impact of the capital stock disappears only when a Cobb–Douglas production function, which assumes a unitary elasticity of substitution, is used. Rowthorn argued that empirical studies find this elasticity to be well below unity and so a decrease in the capital stock due to an increase in the rate of interest will lead to a decrease in labour demand and a rise in unemployment.

Blanchard (2000a) extended his 1997 model and distinguished between a short- and a medium-run demand function for labour. His aim was to investigate the impact of an increase in the real interest rate, followed by a gradual return to its original level. The increase in the real interest rate initially leads to higher capital costs. This will cause a decrease in the capital stock and hence an inward shift in labour demand. Further, since wage setting does not adjust immediately, capital will be substituted for labour. However, the latter effect will not be strong enough to prevent unemployment from increasing.[3] Once the interest rate returns to its original level, the adjustment costs, which occur in both cases, will delay the adjustment process.

Blanchard used his simulations to show that the increase in the real interest rate, which occurred in Europe in the 1980s, explains a significant amount of the persistence of European unemployment during that decade, and into the early 1990s. Interestingly enough, Blanchard was convinced that the high real interest rates were the result of erroneous monetary policies pursued during that period. So in this model there was a significant and explicit shift in the NAIRU, with monetary policy affecting equilibrium unemployment via the difference between the nominal interest rate and inflation. However, since his analysis was conducted wholly in real terms, Blanchard was not able to properly include the impact of monetary policy in his analysis.

### 4.2.3   Labour-augmenting Technological Change and the Adjustment Process

Rowthorn's contribution should actually be seen in the context of economic growth and the response of unemployment to an exogenous shock like a once-off upward shift in labour-augmenting technical progress. An upward shift will initially increase the warranted price and hence lead to a higher profit rate. The lower demand for labour is then consistent with the higher unemployment that is required for the workers to accept the shift in income distribution.[4] However, the higher profit rate will then stimulate investment, so the capital stock increases. This decreases the warranted price and unemployment will return to its original level (Rowthorn, 1999).

In terms of Figure 4.1, the upward shift in technical progress will shift the PRW curve upwards and hence lead to an increase in $u^*$, but the ensuing increase in the capital stock will shift the PRW curve back to its original level. In LNJ (1991), the neutrality of unemployment with respect to technical change is a result of the assumed production structure (unit elasticity of substitution) and assumed institutional features (constant benefit rate). However, Rowthorn (p. 422) emphasised that in his analysis investment should be 'on average just sufficient to keep pace with . . . any bias in technical progress'.[5]

In the case of an increase in the interest rate, the capital stock will fall due to lower investment, leading to an outward shift in the PRW curve and an increase in $u^*$. The increased unemployment will increase the profit rate which stimulates investment. In turn, the capital stock increases and the PRW curve shifts back to its original level, as does unemployment.

In Blanchard (2000a), the impact of productivity shocks affects the NAIRU through delayed wage adjustment.[6] In a careful analysis of the transition process, Blanchard simulated the effects a shock of technological change to mimic the impact of the slowdown in total factor productivity growth in the 1970s. He found that as a result of various lags and adjustment costs, unemployment reached its maximum after 10 years. Thus he concluded that the slowdown in total factor productivity growth explained much of the unemployment in Europe, which occurred up until the 1980s.

In the medium term, Blanchard assumed that entry of firms will ensure that net profits are driven down to zero, leading to a horizontal PRW curve over this time horizon. This is consistent with Rowthorn's contention that investment should compensate the bias in technological progress. However, while Rowthorn emphasised the vulnerability of the adjustment mechanism through investment, Blanchard paid less attention to potential pitfalls. None the less, Blanchard did expose a potential problem when conducting a case study of the dynamics of Dutch unemployment. The real-wage cuts in the Netherlands in the early 1980s led to a strong substitution of capital by labour and hence a decrease in unemployment and an increase in profitability.[7] However, Blanchard contended that the increased profitability did not lead to an outward shift of demand for labour, because it was offset by an increase in the real interest rate until the early 1990s. Once the real interest rate effect was eliminated, Blanchard claimed that the demand for labour increased. Blanchard (2000a: 22) also claimed that the increase in the real interest rate also explains why 'the increase in the investment rate has been surprisingly small' in the Netherlands.[8] It is precisely this type of reasoning that led Rowthorn (1999: 423) to conclude that 'measures to stimulate investment could play an important role in helping to reduce unemployment, and that the present emphasis on labour market policies is exaggerated'.

### 4.2.4 The Role of Aggregate Demand

Modigliani (2000: 12) strongly attacked the NAIRU orthodoxy and concluded that 'there is nothing *conceptually* wrong [with aiming to reduce unemployment and achieve an equilibrium but] reliance on the NAIRU as an operational approach runs into great problems and involves serious

risks, because of the enormous difficulties of estimating and tracking $u^*$ through time' (emphasis as in original). Modigliani (p. 14) said that due to unavoidable errors in calculation, serious policy mistakes are possible which will have catastrophic results for unemployment when monetary policy is 'in the hands of a Central Bank with the framework and mission of the Bundesbank or ECB'. He concluded that the high unemployment in Europe since the mid-1980s is 'largely the result of a misguided overcautionary monetary policy' (p. 14).

Modigliani's analysis of the causes of European unemployment in the 1980s has some similarities with the work of Blanchard, presented above, and that of Ball, presented in Section 4.3.5, below. In comparison to Blanchard, Modigliani and Ball chose a more direct construction of the way in which the transmission mechanism linking monetary policy changes to higher unemployment works. Blanchard stressed the indirect route whereby the relative price of labour with respect to capital is increased (via higher interest rates), which leads to the positive effects of a substitution of labour for capital being dominated by an inward shift in demand for labour because of a decrease in the capital stock. Ball highlighted the direct adverse effects on aggregate demand and the hysteretic impacts on the NAIRU. Modigliani also emphasised the direct impact of negative aggregate demand shocks triggered by a decline in investment below what he called the 'full employment investment ratio' as interest rates rise due to overcautious monetary policy. This decline in demand then multiplies through the expenditure system and unemployment rises. Moreover, Modigliani considered that the shortfall in investment has persisted because monetary policy has remained too tight, especially in the face of restrictive fiscal policy following the adoption of the Maastricht criteria. He suggested that the motivation for this policy stance has been an 'obsessive fear of inflation [coupled with] benign neglect policy for unemployment' (p. 3), which has induced the German Bundesbank and later the ECB to systematically overestimate the NAIRU.

Modigliani (pp. 14–15) proposed a more expansionary monetary policy 'programmed in collaboration with the unions and the employers [while combating] rigidities in the labour market and poor work incentive designs', given that these rigidities compound the effect of insufficient demand.

Modigliani also introduced a new curiosity when he noted the strong correlation between actual unemployment and the net investment rate. He claimed that it was due to aggregate demand effects but did not elaborate further on the mechanisms driving the relationship. Blanchard (2000a: 29) admitted that he could not explain this phenomenon, which he dubbed the 'Modigliani puzzle'.[9] However, an interesting solution to this puzzle is presented by Sawyer (2002), who showed that a sufficiently expansionary

environment can generate sufficient investment such that the NAIRU is compatible with full employment.

Sawyer's analysis can be presented in terms of Figure 4.1. Wage bargaining pushes up real wages, other things equal, which generates the upward-sloping BRW curve. However, the real wage does not have to rise in proportion with productivity growth, which means that the coefficient on $h$ in equation (4.1) can lie below unity (where real wages lag productivity). Firms are assumed to deploy a pro-cyclical price mark-up (which declines again close to full-capacity utilisation) and their labour demand is influenced by this price-setting behaviour. To see this we note that because Sawyer assumed that nominal wages are set at the firm level at the efficiency wage level $W^*$ independent of demand considerations, a unique level of demand for labour $l_0$ results from short-run profit-maximising behaviour of firms, which is conditional on the firm's capital stock and aggregate demand.[10] The price is set at $P_0$.

Sawyer derived the analogue of the PRW curve by varying the level of aggregate demand $Z$. Since for each different $Z$ a different $l_0$ and $P_0$ will result, a relationship between demand for labour $l_0$ and the real wage $W^*/P_0$ can be drawn, which reflects the result of the firm's price-setting behaviour and its labour demand at different levels of aggregate demand. The resulting PRW curve will shift upwards when the capital stock increases.

The resulting equilibrium (point A in Figure 4.1) then indicates the rate of unemployment consistent with no accelerating inflation. However, Sawyer (ibid.: 76) maintained that 'there is no particular reason to think that the prevailing level of aggregate demand would support point A'. He (p. 77) also noted that although the NAIRU is a 'supply-side equilibrium' which forms an 'inflation barrier', 'it is highly questionable whether the actual rate of unemployment tends towards the NAIRU and whether the NAIRU is a useful guide to where the economy will operate'.

Sawyer concluded from his analysis that aggregate demand should be boosted to stimulate investment in productive capacity. The danger of inflation will not exist since the inflation barrier will shift because of the capacity expansion, and the NAIRU can be brought to a level consistent with full employment. Sawyer (p. 92) concluded: 'Policies which seek to restrain inflation through higher levels of unemployment may well cause the NAIRU to rise and to sustain higher levels of unemployment'.

Sawyer's analysis provided a highly interesting link between the NAIRU, investment and aggregate demand. The novelty in his analysis was that he links price-setting behaviour of firms to aggregate demand through pro-cyclical variations in the mark-up. As a consequence, increases in aggregate demand at given levels of capacity will lead to an upward shift in the PRW curve for relatively low values of capacity utilisation and a downward shift for higher values. Hence, starting from a low value of capacity utilisation, the NAIRU will initially decrease when aggregate demand is stimulated and increase again when full capacity is approached. Sawyer also emphasises the positive effect increased aggregate demand will have on investment, which through the resulting capacity expansion will also decrease the NAIRU.

A different route to establishing a link between aggregate demand and the NAIRU is followed by Akerlof et al. (2000), who emphasised the role of near rationality in wage and price setting: 'Economists should not assume absence of cognitive error in economic decisions, nor should they assume that their own models and those of the public exactly coincide' (p. 3).

In line with efficiency wage theory, they developed a model where productivity depends positively on the actual wage relative to the reference wage. Accordingly, they posited that a fraction $\psi$ of firms and workers are near-rational and will hence place too little weight on expected inflation in their decision making. This fraction will take expected inflation into account in their reference wage for a factor $a$. As a consequence, the short-run Phillips curve, which is conditional on expected inflation, will not fully account for expected inflation with a fraction $f = (1 - a)\psi$ being ignored. Therefore, a fraction $f$ of true inflation will be reflected in the NAIRU and we redefine the NAIRU approximately as $u^* + f\pi$, where $\pi$ is inflation and $u^*$ is defined as in equation (4.3), for instance.

Interestingly, Akerlof et al. (p. 6) argued that near-rational behaviour will particularly occur at low levels of inflation, reflecting 'the view that, at low rates of inflation, economic agents may simply ignore it'. At higher levels of inflation, people will be more vigilant and more quickly change their routines because their forecast errors become more obvious and the resulting mistakes costly. Thus at high levels of inflation the fraction $\psi$ of near-rational price setters will approach zero. As a consequence the NAIRU will equal $u^*$ at zero inflation and then decline below this as inflation rises. At even higher levels of inflation the NAIRU will once again approach $u^*$. Estimating their model for the US, Akerlof et al. found that the long-run Phillips curve was downward sloping for inflation rates up to 4 per cent (CPI) or 2 per cent (GDP deflator). As a consequence, Akerlof et al. (p. 39) concluded that 'macroeconomic policy should aim for a rate of inflation in the range of 1.5 to 4 percent. Either higher or lower rates seem likely to result in lower output and employment'.

In conclusion, while Akerlof et al. and Sawyer (2002) conducted dissimilar analyses they both concurred that when the economy operates at low (high) levels of capacity utilisation policies aimed at stimulating (contracting) aggregate demand will decrease (increase) the NAIRU.

### 4.2.5 Summary

The concept of natural unemployment or NAIRU is driven by the notion that only structural measures can be taken if the government wants to reduce the current steady-state unemployment rate. These structural measures are in most cases related to the social infrastructure which has been built to protect socially disadvantaged persons from harsh exposure to market-driven outcomes. Generally this infrastructure is considered to be too protective and hence should be relaxed in order to provide more incentives to unemployed persons to accept work. We shall consider the practical manifestations of this approach in Chapter 5 when we critique the OECD *Jobs Study* (OECD, 1994).

In this section we have criticised the theoretical basis of the NAIRU. Most significantly, we have shown that non-structural or cyclical variables can affect the NAIRU in various ways: through the interest rate; through changes in labour productivity; and, directly, through aggregate demand. This insight provides a categorical rejection of the NAIRU concept. A comprehensive survey of the empirical literature is provided in Stanley (2004) while critical surveys emphasising the neglect of spatial analysis in the literature are available in Webster (2005) and Mitchell and Bill (2006).

Another significant development in the literature that sought to undermine the NAIRU story is the notion of hysteresis. It offered significant promise as a way of attacking the cyclical invariance of the basic NAIRU model. Since it has been relatively ignored in the more recent literature which we considered in this section we decided to analyse its contribution separately in the next section to stress its importance.

## 4.3   HYSTERESIS IN UNEMPLOYMENT

### 4.3.1   Challenging the Invariance of the Natural Rate

Despite attempts outlined above to explain the dynamics of unemployment, particularly its persistence in most European countries during the 1990s, in terms of shocks emanating from technological progress and the real interest rate no consistent empirical evidence was presented to substantiate that approach. An alternative and frequently used explanation emerged in the form of the hysteresis hypothesis, which drew on concepts from physics about path dependence.

The supremacy of the NAIRU as a guide to policy led to the popular belief that fiscal and monetary policy could no longer attain unemployment rates common in the 1960s without ever-accelerating inflation rate of

unemployment. In the context of the persistently high unemployment rates in the late 1970s and on, orthodoxy had to claim that the NAIRU (and by association the natural rate of unemployment: NRU) had risen over time. Compositional changes in the labour force, excessively generous government welfare payments, trade union wage goals among other structural influences were implicated in the rising estimates of the inflationary constraint.[11] The NAIRU became a straitjacket for policy makers who had previously seen the solution to rising unemployment in terms of expansionary fiscal and monetary policy. By the mid-1980s, a stream of literature emerged, based on the hysteresis concept, which presented a lateral challenge to the natural rate dominance.

### 4.3.2   The Natural Rate Hypothesis and the Phillips Curve

As we saw in Chapter 3, prior to 1970, the Keynesian model considered real output (income) and employment as being demand determined in the short run. Price inflation was explained by a negatively sloped Phillips curve, relating the percentage change in nominal wages, and, via a productivity function, the inflation rate to the rate of unemployment. The implied trade-off between output (unemployment) and inflation was considered to be valid in both the short and long runs. The major challenge to this view (Friedman, 1968; Phelps, 1968a) denied that a long-run trade-off was available to policy makers. These papers stimulated a new wave of econometric research, which focused on the estimate of the coefficient on the price expectations term in the wage adjustment function.

The empirical models were generally (see Mitchell, 1987) like the following:

$$\dot{p}_t = \alpha \dot{p}_t^e + \beta(u_t - u^*) + e_t, \tag{4.4}$$

where $\dot{p}_t$ is the inflation rate at time $t$, $\dot{p}_t^e$ is the expectation of that rate formed in the last period $(t - 1)$, $u$ is the actual unemployment rate, $u^*$ is the natural rate of unemployment, and $e$ is a white-noise error process.

This model structured the debate over the validity of the natural rate hypothesis. It was shown that if $\dot{p}_t = \dot{p}_t^e$ (that is, expectations are realised), then:

$$\dot{p}_t = \frac{\beta}{(1 - \alpha)}(u_t - u^*). \tag{4.5}$$

Accordingly, the ability to exploit $u_t \neq u^*$ at the expense of some finite inflation (the Phillips curve trade-off) relied on $\alpha < 1$. The debate became transfixed on the value of $\alpha$. Gordon (1976: 193) reported that prior to 1971 empirical estimates of $\alpha$ were well below unity, suggesting a trade-off.

However, once inflation had started to rise, it 'caused the computer to yield ever higher values of $\alpha$ as the passage of time provided additional observations until finally . . . tests with a sample period including early 1971 were unable to reject' the hypothesis that $\alpha=1$. Gordon thus characterised the major debate between monetarists and Keynesians over the Phillips curve after 1968 as being about the value of the coefficient on the price expectations variable. So the only issue being debated in the 1970s was the temporal horizon over which price expectations adjusted. There was still some debate about factors, which may prevent homogeneity in the short run, including staggered contracts (Taylor, 1979).

This simple transition in the debate provided the empirical authority for the natural rate hypothesis to directly attack the major tenets of Keynesian stabilisation policy. Gordon (1976: 191) noted: 'Policy maker indifference curves drawn on the inflation–unemployment axes, which had formerly allowed the choice of an optimum point on a stable Phillips Curve, were now irrelevant'.

By the time of Gordon's publication, OECD unemployment rates had begun to rise to high levels and the first OPEC oil shock had driven inflation into double digits. Any Keynesian remedies proposed to reduce unemployment were met with derision from the bulk of the profession who had embraced the natural rate hypothesis and its policy implications. Yet despite the predominance of monetarist thought there was very little evidence presented to substantiate these effects in any economy in the world. The natural rate hypothesis reinstated the early classical idea of a rigid natural level of output and employment. Essentially, the natural rate hypothesis asserted that in the long run there was no trade-off between inflation and unemployment, because the economy would always tend back to a given NRU, no matter what had happened to the economy over the course of time. Time and the path the economy traced through time were thus irrelevant. Only microeconomic changes would cause the NRU to change. Accordingly, the policy debate became increasingly concentrated on deregulation, privatisation and reductions in the provisions of the welfare state (Thurow, 1983; Ormerod, 1994).

The policy outlook being presented by monetarism was bleak and contrary to the sentiment expressed by Piore (1979: 10), an antagonist to the orthodox position:

> Presumably, there is an irreducible residual level of unemployment composed of people who don't want to work, who are moving between jobs, or who are unqualified. If there is in fact some such residual level of unemployment, it is not one we have encountered in the United States. *Never in the post war period has the government been unsuccessful when it has made a sustained effort to reduce unemployment*. (Emphasis in original)

The question was whether the NRU concept was relevant in a world of labour market disequilibrium. The concept really only belonged in models of perpetual full employment, which is to be expected given its neoclassical inheritance. The natural rate hypothesis was merely a standard prediction from the orthodox competitive model, which lacked empirical substance. At the time it was not difficult to find empirical evidence, which was contrary to the edicts of the natural rate hypothesis (for example, Thurow, 1983). In the real world, booms in activity stimulates on-the-job training opportunities and raises potential output above the level that would have persisted had the economy remained at low levels of activity. Alternatively, as activity falls due to demand failure, both training opportunities decline and actual skills are lost, as workers lie idle. The potential capacity level falls as a result. Blinder (1988: 292) concluded that there is 'no natural level of employment . . . the equilibrium level depends on what came before'.

However, there was a need for a Keynesian counter-attack to be made on conceptual grounds. Early Phillips curve representations clearly indicated that any permanent unemployment rate was possible (within realistic allowances for frictions) as long as the associated permanent inflation rate was acceptable. The idea of a unique natural rate of output and employment was quite foreign to Keynesian theory.

Mitchell (1985, 1987) argued that the question of cyclical invariance of the NRU was a useful terrain for post Keynesians to mount an attack against monetarism.

### 4.3.3   The Notion of Hysteresis: the Keynesian Counter-attack

Mitchell (1985, 1987) found a basis for advancing this counter-attack in a clue provided by Phelps (1972: xxiii) himself:

> The transition from one equilibrium to the other tends to have lingering effects on the labour force, and those effects may be discernible in the equilibrium rate for a long time. The natural rate of unemployment at any future date will depend on the course of history in the interim. Such a property is called hysteresis.

A further passage in Phelps (1979: 103–4) is also instructive: '[a] long-run Phillips Curve cuts through the natural unemployment rate considered as a point, with the characteristically negative slope but only within some band roughly centred on the natural rate'. He concluded that the inadequacy of the NRU hypothesis (as an exact economic law) is just a reflection of the inadequacy of orthodox economic theory. In other words, Phelps was saying that the NRU hypothesis is only an approximation because it neglects feedback upon the unemployment rate from the variables that are explicitly recognised in the theoretical framework. Further, Cross (1982: 96–7) wrote

that 'there is no reason why aggregate demand factors should not also affect the natural rate of unemployment, given that this concept merely defines the unemployment level, which is consistent with an unchanging inflation rate'.

This idea became known as the 'hysteresis hypothesis' and represented an exciting retaliation against monetarist orthodoxy. Hysteresis models postulate that the equilibrium of the economy is not independent of the past track that the economy has followed. Blinder (1988: 291) argued that hysteresis models 'in which the economy's equilibrium state depends on the path we follow to get there . . . bring Keynesian economics back with a vengeance'. Hysteresis turns the classical truism of supply creating demand on its head. In essence, the fiscal authority is seen to be able to permanently increase the level of employment (for given labour force aggregates) up to some amount dictated by frictions, through expansionary policy stimulation of aggregate demand. Blinder (p. 391) referred to this as a 'neat reversal of Say's Law [where] demand creates its own supply'.

Mitchell (1985, 1987) noted that the trade-off between inflation and unemployment no longer depended on whether the wage (price) adjustment function was homogeneous with respect to price expectations. So Gordon's claim that the debate turned on whether $\alpha = 1$ or not in equation (4.4) was moot. Mitchell (1985, 1987) showed that the presence of hysteresis generates a long-run trade-off even if $\alpha = 1$.

### 4.3.4   The First Hysteresis Models

There have been a plethora of models that generate hysteresis effects. The first formal paper in economics to discuss hysteresis, published in the *Economic Journal*, was by Hargreaves Heap (1980). The simple model emerged to show that the nominal price change variable was a function of the deviation of the unemployment rate from its natural rate, and the natural rate was itself a function, in Hargreaves Heap, of a weighted average of the actual unemployment rate and the equilibrium rate of the last period. The model served to show that the so-called 'natural' rate was not constant but tracked the actual rate in some way. He outlined some human capital factors, which could generate the hysteresis effects. Phelps (1979) had also discussed some of these factors. Mitchell (1985) was also an early contribution and one of the first econometric attempts to estimate a wage adjustment function derived from a model of hysteresis. His model, later published in more elaborate form as Mitchell (1987), showed that hysteresis models went beyond the simple Keynesian (passive) vision of supply. Accordingly, the supply side of the economy adjusts to demand changes such that in times of low demand, labour skill declines and potential output shrinks. Similarly, upgrading of labour skill and potential

output accompanies an increase in demand. Accordingly, the concept of an NRU would only make sense in an economy that had experienced stable, full employment aggregate demand levels for a long period.

The model Mitchell (1985, 1987) developed allowed some simple tests of restrictions to determine whether the unemployment displayed state dependence or whether it impacted on wage inflation as a cumulative distributed lag. The theoretical underpinning of the work explored the idea that persistently weak aggregate demand creates a labour market, which mimics features conventionally associated with structural problems (Okun, 1973; Baily, 1982). The specific model tested incorporated the hypothesis that the equilibrium unemployment rate is a direct function of the actual unemployment rate and hence the business cycle – the so-called 'hysteresis effect' (Phelps, 1979; Hargreaves Heap, 1980). The work was designed to support an earlier paper by Burns and Mitchell (1985) who had swum against the orthodox tide of the day by advocating aggregate policy expansion to reduce unemployment.

Other early contributions to the hysteresis literature focused on insider–outsider effects (Blanchard and Summers, 1986; Lindbeck and Snower, 1986). These models consider that employed insiders with firm-specific skills are able to bargain wage improvements without regard to the unemployed outsiders. The outsiders do not pose a threat to the insiders' jobs. The insiders only seek to gain the highest real wage possible within the constraint of keeping their own jobs. As employment rises and therefore the number of insiders rises, real-wage demands decline. By comparison, when unemployment rises the insiders feel insulated and wage pressure only slowly abates.

The hysteresis literature thus raised a series of questions for economists who were intent on building a model of the economy not dependent on the NRU hypothesis – some technical and others concerning the way in which paradigms develop. If the hypothesis was only an approximation, then why was it elevated to the status of an economic law that would be given such a pervasive influence on the conduct of economic policy? Surely, the research programme that should have been followed would have focused on the real-world factors that pose serious questions regarding the relevance of the natural rate theory in all its forms (Thurow, 1983). What were these factors? How could we write the model out with the hysteresis hypothesis embedded? What were the properties of such a model?

James Tobin (1980: 62) put the issue of the approximation succinctly:

> It is possible that there is no NAIRU, no natural rate, except one that floats with history. It is just possible that the direction the economy is moving in is at least as important a determination of acceleration and deceleration as its level. These

possibilities should give policy makers pause as they embark on yet another application of the orthodox demand management cure for inflation.

Overall, the hysteresis hypothesis directly challenged the idea that an increasing NRU imposed an increasing constraint on the use of aggregate demand policy designed to reduce unemployment without inflation. While the degree of slack necessary to control inflation may increase, the under- lying cyclical labour market processes that drive the hysteresis can be exploited by appropriate demand policies to reduce the steady-state unem- ployment rate. To the extent that the inflationary constraint operates through expectations of a minimum level of unemployment being built into individual behaviour within the economy (independent of whether a NAIRU actually exists or has increased over time), an explication of the possible cyclical influences could modify this source of rigidity.

### 4.3.5  Recent Hysteresis Models

More recent work on hysteresis has focused on the impact of long-term unemployment on path dependence. Although Blanchard was an early contributor to the hysteresis literature (Blanchard and Summers, 1986), he claimed to have always 'felt some uneasiness in doing so, feeling that it remained loose, and in need of more work' (Blanchard, 2000b: 22). Accordingly, and tying the hysteresis discussion back into the earlier NAIRU discussion, Blanchard introduced duration dependence in his current analy- sis through its impact on the matching process. The longer a person is unem- ployed, the lower is his/her search intensity. Hence, search unemployment is positively related to the share of long-term unemployed.[12]

However, following the reasoning outlined in Blanchard and Diamond (1994), he assumed that hysteresis has no impact on wage formation, because anybody who gets fired has a similar chance of becoming re- employed. Using some 'back of the envelope' calculations, Blanchard found only a very limited quantitative impact of long-term unemployment on equilibrium employment, which is not surprising given that usually only a small share of total unemployment is found to be search unemployment. None the less, he was reluctant to abandon hysteresis as a relevant explan- ation and noted that further research is necessary. This holds in particular with respect to its impact on wage formation, which might be affected when, for instance, unemployment falls disproportionately on new entrants (Blanchard, 2000b).

Ball (1999) developed a very rough model based on Blanchard's pro- posed extension by assuming 'last fired, first rehired'.[13] As a consequence, the long-term unemployed do not put pressure on wages, although they can

be re-employed if demand is sufficiently strong (see also Mitchell, 1987). This implies that the BRW curve in Figure 4.1 will shift upwards if the share of long-term unemployment in total unemployment increases. And since this share tends to be positively related to total unemployment, the NAIRU will increase when unemployment increases.

Ball's model relies on an expectations-augmented Phillips curve with the rate of short-term unemployment as the wage pressure variable, and as such the economy will always converge to a constant equilibrium rate of short-term unemployment after a shock in employment resulting from an aggregate demand shock. Hence the NAIRU, as defined in the conventional sense, is undetermined. Furthermore, since short-term unemployment is asymmetrically affected by employment shocks, the impact of cyclical vari- ations in employment on inflation is similarly asymmetric.

An additional point of interest in Ball's work is that he assumed that while employers will always prefer to hire short- over long-term unemployed, they will always be willing to hire the latter when an upswing in demand exceeds the number of the former. Ball (ibid.: 230) commented: 'Firms . . . would rather pay a small retraining cost than leave jobs vacant'. As a consequence, Ball predicted that when the demand shock is of a permanent nature, the equilibrium rate of long-term unemployment will change. Moreover, a tem- porary change in demand already causes an adverse permanent change in inflation – and this change is asymmetric with respect to a symmetric shock in demand.

Ball presented a very persuasive account of the evolution of unemploy- ment after the second oil crisis in 1979. He emphasised the differences in behaviour of the monetary authorities after the recession in the early 1980s, which followed the sharp increase in the interest rates after the second oil crisis. In response to that recession, the monetary authorities in both the US and Canada lowered their nominal rates of interest strongly, while in Europe the central banks kept the nominal rate of interest high. As a con- sequence, output growth increased above its trend rate for some time in North America and both unemployment and inflation went back to their initial levels. However, in Europe, output growth remained low, unemploy- ment stayed high, and only inflation returned to its previous level. Hence Europe was confronted with a higher NAIRU, whereas it remained con- stant in North America. Ball conjectured that this is due to hysteresis.

Mitchell and Muysken (2002a) incorporated more complex labour market dynamics than appear in Ball (1999) including the impact of changes in the labour force. Mitchell and Muysken also introduced a fully specified Phillips curve. The distinction between short- and long-term unemployment allowed the differential impact of each on inflation to be assessed. The essential results remain that the equilibrium unemployment

rate was found to be dependent on the state of the business cycle, and the long-term unemployed do not exert a significant negative influence on the inflation rate.

However, Mitchell and Muysken (2002b) showed that the model motivated by Ball (1999), while developing asymmetries and the importance of employment shocks, is too limited because the source of asymmetry is confined to the labour market (employment shocks). It neglects the possibility that the persistence of unemployment and the bias in short-term unemployment towards long duration means that the constrained employment growth cannot generate sufficient flows out of unemployment. We outlined a model in which investment asymmetries driven by product market shocks interact with a segmented labour market. This model embraced demand deficiency and explains the other stylised facts more easily. It also reconciled the two observed facts: (a) that short- and long-term unemployment behave similarly over the business cycle, which is contrary to the LNJ (1991) vision of the labour market; and (b) only short-term unemployment appears to discipline the inflation process.

Both Ball's analysis and our rudimentary model posed major problems for the supply-side view as presented in the LNJ analysis and the OECD approach articulated in the 1994 *Jobs Study*, which posited that the long-term unemployed represent a structural bottleneck and only supply initiatives like training and welfare reform can be effective. The same holds for the notion of hysteresis, which is caused by scrapping of capital in the case of insufficient aggregate demand. Surprisingly, this notion has hardly been investigated in the literature (see Carlin and Soskice, 1990, 2006 for some analysis).

Hysteresis models based on the path-dependent steady-state unemployment rate cast theoretical and empirical doubt on the concept of the NAIRU. While the NAIRU hypothesis suggests that any aggregate policy attempt to permanently reduce the unemployment rate below the current natural rate inevitably is futile and leads to ever-accelerating inflation, we suggest that a short-run analysis based on non-NAIRU concepts is inconsistent with a Friedman long run. The long run is a sequence of short runs (Fair, 1984: 31).

Subsequent work by Webster (2005) for the UK and Mitchell and Bill (2005) for Australia empirically tested the cyclical sensitivity of long- and short-term unemployment pools. In both countries, there was no evidence of irreversibility detected in the long-term unemployment rate, which brings into question the reliance on active labour market programmes and the welfare-to-work emphasis as a strategy to deal with persistent unemployment. The evidence appears to support the view that employment growth has not been strong enough in areas that have persistent long-term

unemployment. In the Australian case, consistent with the macroeconomic evidence, the results suggest that the usual demographic and human capital suspects are clearly present in regions with high long-term unemployment rates. However, Mitchell and Bill argue that, given the strong finding that employment growth and employment accessibility matter, the supply-side variables work to sort the rationed labour queue. In this regard, the less skilled, lowly educated workers will be the people who face long-term unemployment.

### 4.3.6    Hysteresis and Persistence

The introduction of the concept of hysteresis to the literature meant that there were two competing hypotheses about the relationship between the business cycle and the steady state in macroeconomics: the *natural rate hypothesis* and the *hysteresis hypothesis*. Each presented a distinct prescription for the design and conduct of aggregate economic policy. The natural rate hypothesis, a central pillar of orthodox, market-clearing theory, distinguishes between the long-term secular trend and the short-term (transitory) fluctuations in the economy. At best, aggregate demand management can only stabilise the short-term variations, but in the natural rate hypothesis it is usually considered to inhibit the *natural* tendencies of an economy (if shocked) to equilibrate, and ultimately only influences nominal magnitudes (that is, causes inflation).

The hysteresis hypothesis relates to path dependence in dynamic systems (Mitchell, 1987, 1993; Franz, 1990). Franz (1990: 2) notes that the 'long-run solution of such a system does not only depend on the long-run values of the exogenous variables (as usually) [that is, under natural rate hypothesis models] but also on the initial condition of each state variable'. Buiter (1987: 24) expressed path dependence as: 'Where you get to is determined by how you get there'. Accordingly, expansionary demand policy can permanently reduce unemployment at the cost of some inflation, the price-level acceleration is finite as the economy adjusts to a new lower steady-state unemployment rate.

While the distinction between these hypotheses is clear in theory, on a practical basis the divide is somewhat blurred. The concept of unemployment persistence is important in this regard. Certainly the early work, for example, by Blanchard and Summers (1986) failed to appreciate the distinction between persistence and hysteresis, and used them as equivalents. However, Mitchell (1993) provided the conceptual basis for differentiating the two separate concepts. In analytical terms, persistence is a special case of the natural rate hypothesis. An economy with strong persistence takes many periods to adjust back to equilibrium following a shock. So even if

the natural rate hypothesis is a true model of the economy, persistence means that the effects of shocks have long memories and that short-term macroeconomic policy can be effective.

Nelson and Plosser (1982) compared trend-stationary to difference-stationary processes. They said that macroeconomics commonly separates a non-stationary secular or growth component from a stationary cyclical component when decomposing real (and sometimes nominal) economic time series. The transitory disturbances are due to monetary shocks. This representation is termed a 'trend-stationary' process. Alternatively, integrated processes (difference-stationary) processes exhibit non-stationarity, which is stochastic and displays no automatic tendency to return to any deterministic trend. Difference-stationary processes cannot provide long-term forecasts based on the mean of the series. Whereas the past history of the trend-stationary process does not influence its long-term value, the magnitude of a variable following a difference-stationary process is the sum of its past.

The linear model that nests both hypotheses (as alternatives) is:

$$y_t = \gamma + \beta t + u_t/(1 - \alpha L), \qquad (4.6)$$

where $L$ is the lag operator. Under the null of a unit root, the so-called 'unit root hypothesis', $\alpha = 1$ and the implied value of $\beta$ is zero (see ibid.: 144).

The natural rate hypothesis and the hysteresis hypothesis can be represented as trend-stationary and difference-stationary processes, respectively. Franz (1990) noted that in the context of 'discrete time linear systems hysteresis is present when there are one or more unit roots in the characteristic equation of the state matrix' (see also Watts and Mitchell, 1991).

One should realise that, in terms of equation (4.6), if $\alpha$ was a near unit root (say 0.95), then the resulting trend-stationary process would exhibit substantial persistence. An innovation to this type of model would not have permanent effects, but the process would still have a long memory. Thus persistence is a special case of the natural rate hypothesis. Although, persistence is clearly distinct from hysteresis in analytical terms, it is virtually equivalent in practical terms because a long memory process provides room for policy effectiveness.

## 4.4   THE REVIVAL OF THE BEVERIDGE CURVE

The Beveridge curve which charts the unemployment rate against the vacancy rate has been used alongside the Phillips curve to demonstrate the veracity of the NAIRU approach. Shifts in both the Phillips and the Beveridge curves are allegedly driven by structural changes and provide clues as to the nature of the supply-side constraint on the achievement of the so-called 'natural level of activity' (see Petrongolo and Pissarides, 2001 for a comprehensive summary of the state of the literature from an orthodox perspective). LNJ (1991) and others have used the Beveridge curve extensively to justify such claims that persistent unemployment reflects the low search intensity of the unemployed. In this section, we consider the way in which the Beveridge curve has been misused by the NAIRU proponents.

### 4.4.1   The Beveridge Curve Framework

The Beveridge (or UV) curve represents the relationship between unfilled vacancies (vertical axis) and unemployment (horizontal axis) both expressed as percentages of the labour force (see Figure 4.2).

The orthodox interpretation is that with constant matching effectiveness (between workers and jobs), a negative cyclical relationship exists between unemployment and vacancies, leading to movements along a given UV curve.[14] Accordingly, cyclical booms lead to higher vacancies (lower unemployment) and downturns lead to lower vacancies and higher unemployment. The entire function shifts (for example, A to D) when the matching effectiveness changes and, consistent with the NAIRU orthodoxy, this is typically considered to be independent of the state of the cycle in economic
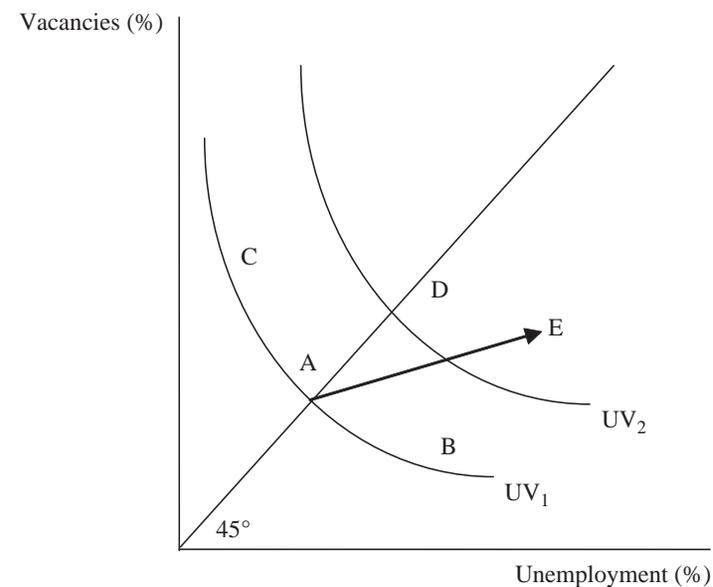


*Figure 4.2    Unemployment and vacancies, sectoral and aggregate shocks*

activity (see LNJ, 1991; OECD, 1994). The conventional analysis thus posits that $UV_1$ is a more efficient matching state than $UV_2$. A movement along the ray AE is according to this logic a mixture of structural deterioration and demand deficiency. The framework is thus used to distinguish between sectoral shocks (shifts in the UV curve) and aggregate shocks (movements along the UV curve).

The most widely used specification of the UV curve is a log-linear function in the rate of unemployment, $u$, and the vacancy rate, $v$ (for recent applications, see Wall and Zoega, 2002; Albaek and Hansen, 2004 and Stegman and Stegman, 2004). This yields the following specification:

$$u = cv^{-\alpha} \quad \alpha > 0, \tag{4.7}$$

which allows for the countercyclical movements of unemployment and vacancies with respect to each other. Shifts in the UV curve are captured by changes in the parameter $c$, which corresponds to the intercept in the log-linear UV curve.

LNJ (1991) construed empirical shifts in UV curves in various countries since the 1970s as signifying a failure of the unemployed to seek work as effectively as before. LNJ (p. 38) argued that either the 'workers have become more choosey in taking jobs, or firms become more choosey in filling vacancies (owing for example to discrimination against the long-term unemployed or to employment protection legislation)'. Accordingly, the persistently high unemployment becomes an equilibrium phenomenon, reflected by rising natural rates. This equilibrium allegedly follows from maximising decisions by individuals in the context of various anti-competitive institutional arrangements in the labour market (wage-setting mechanisms and trade unions) and government welfare policies (encouraging people to engage in inefficient search).

Once we try to decompose the UV curve into separable cyclical and structural components, problems arise because this framework assumes that structural changes are orthogonal to the cycle. If, for example, hysteresis is present, an initial move down a given UV curve can initiate labour market adjustments which would cause an outward shift in the curve (Mitchell, 1985, 1987; Ball, 1999). As Malinvaud (1986) among others argued, from the search-theoretical perspective, the UV curve shifts outwards when the exogenous rate of separations increases (and vice versa). Thus a reduction in aggregate demand would cause an outward shift of the UV curve. Endogeneity of behaviour also poses the problem of observational equivalence. For example, search time will lengthen when there are large cyclical downturns and the probability of gaining a job decreases. It is hard to blame individuals for their labour market outcomes when the unemployment to

vacancies ratio in 2004 ranged from around 3.5 in Japan and the US to around 12 in France and Germany. It becomes a fallacy of composition to conclude that if all individuals reduced their reservation wage to the minimum, thus maximising search effectiveness, unemployment would be significantly lower – given the small estimated real balance effects in most studies. We shall show in Chapter 7 that large shifts in the UV curve in most countries coincide with major cyclical episodes such as the 1991 recession and cannot be considered to be of a truly structural origin.

### 4.4.2   Search Theory and Labour Market Dynamics

The theoretical underpinning of the UV curve is usually provided by search theory, in which the matching function plays a central role (for example, LNJ, 1991 [2005]; Mortensen and Pissarides, 1994; Pissarides, 2000 and Cahuc and Zylberberg, 2004, Ch. 9). Starting from a linear homogeneous matching function:

$$M = kU^{\delta}V^{1-\delta}, \tag{4.8}$$

and with a constant separation rate $s$, one finds that the change in unemployment is:

$$\Delta U = sE + \Delta N - M, \tag{4.9}$$

where $\Delta N$ is the change in labour supply, with $N = E + U$, and $E$ represents employment. At a constant growth rate of labour supply $n$, flow equilibrium in the labour market then is characterised by $\Delta U = 0$, which yields:

$$u = \frac{s+n}{s+n+\theta m(\theta)}, \quad \text{with } \theta = v/u \text{ and } m(\theta) = M(1, v/u). \tag{4.10}$$

Cahuc and Zylberberg (2004: 523) observed that in 'the plane $(v, u)$ this relationship yields the Beveridge curve. . . . the hypotheses made about the matching function [ascertain] that the Beveridge curve is decreasing and convex . . . the position of the Beveridge reflects the efficiency of the matching technology, for this curve lies further out from the origin, the more efficient this technology is'.

As noted above, any intuitive explanation of the UV curve will point at the countercyclical movements of unemployment and vacancies with respect to each other. Malinvaud (1986) commented that the problem with equation (4.10) is that the UV curve shifts outwards when the exogenous rate of separations increases. Thus a reduction in aggregate demand would cause an outward shift of the UV curve. However, Malinvaud (p. 548) 'would

prefer a representation in which changes in aggregate demand produced movements *along* a suitable defined UV curve, while supply factors produced *shifts* in the UV curve. This corresponded more closely to conventional usage' (see also Solow, 1998). Albaek and Hansen (2004: 521) solved this problem pragmatically, by assuming that increased tightness in the labour market implies fewer layoffs, which allows for 'the relationship between the level of economic activity and the rate of layoffs'. After some manipulation they ended up with a log-linear UV curve, such as equation (4.7), which shifts upwards with both mismatch and structural increases in layoffs.

The dominant search-theoretical approach uses this matching function in conjunction with a neoclassical labour demand function and a wage curve to analyse labour market dynamics (see summary in Cahuc and Zylberberg, 2004, Ch. 9). Labour demand is modelled as a decreasing relationship between the real wage rate $w$ and labour market tightness $\theta = V/U$. Cahuc and Zylberberg (p. 525) asserted:

> [A]n increase in wage $w$ decreases the profit outlook of a filled job. Since at free entry equilibrium the expected profit of a filled job equals the average cost of a vacant job, entrepreneurs react to a decrease in the expected profit of filled jobs by creating fewer vacant jobs, which lowers the expected duration and then the expected cost of vacant jobs.

Since filled jobs have a strictly positive profit, it is natural in the search-theoretical approach to assume that 'part of the profit will flow to the employees if they have bargaining power [and as a consequence] the wage negotiated is a linear combination of the value of the production . . . and of the reservation wage . . . weighted by the respective power of the employee and the employer' (ibid.: 525, 528). Further, the 'balance of power shifts in favour of the employee when $\theta$ increases, for in this case the probability of exiting from unemployment, and thus the value . . . of the outside opportunity, climb in tandem' (p. 529). As a consequence a wage curve is derived, with the real wage increasing in the value of labour market tightness $\theta$.

In the search-theoretical approach, the wage curve replaces the BRW curve, and labour demand replaces the PRW curve in Figure 4.1. It should be noted that in this case, labour market tightness $\theta$ is on the horizontal axis instead of $n$. The intersection of the wage curve with labour demand determines the equilibrium values of wages and labour market tightness, $w^*$ and $\theta^*$, respectively. The resulting value of equilibrium unemployment $u^*$ then results from the point on the UV curve consistent with $\theta^*$, which essentially amounts to substituting $\theta^*$ in equation (4.10) above.[15] In Figure 4.3, $\theta^*$ is represented by a ray through the origin, of which the slope varies with all factors that affect wage setting and labour demand.
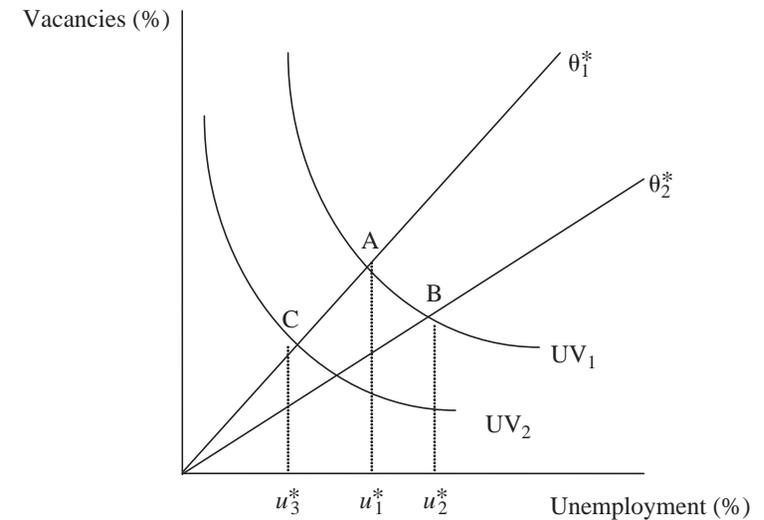
*Figure 4.3 Unemployment and vacancies, equilibrium on the labour market*

The resulting three-equation model (wage curve, labour demand and matching function) is then used to analyse the determinants of unemployment and the reaction to shocks. Aggregate shocks impact on unemployment through the wage curve and/or labour demand curve, whereas reallocation shocks shift the matching function. The labour market dynamics follow from adjustment mechanisms in reaction to these shocks. In other words, the flawed NAIRU separation of structural and cyclical factors is maintained in this model to its detriment.

A further limitation of this comparative static framework is that it does not allow for the commonly observed counterclockwise loops that represent movements along the UV curve over the activity cycle. These loops arise because vacancies react faster to cyclical movements than unemployment.[16] Shimer (2005) showed that these labour market dynamics cannot be properly reproduced by the search-theoretic model outlined above. Shimer (p. 45) also showed that a 'separation shock generates an increase in both unemployment and vacancies', which is precisely the basis of Malinvaud's (1986) critique some 20 years earlier. However, Shimer (p. 45) differentiated his critique by stressing that he was not attacking the search approach *per se* but was rather providing a 'critique of the commonly used Nash bargaining assumption for wage determination'. To redress the deficiencies that arise, he proposed to introduce more wage rigidity into the model, a point that is taken up by Hall (2005). A typical example of applying this sterile comparative static

reasoning is in the analysis of the impact of increased unemployment insurance benefits. Similar to the NAIRU analysis in Figure 4.1, such an increase would promote an upward shift in the wage curve and hence to decreased labour market tightness from $\theta_1^*$ to $\theta_2^*$. As a consequence the ray through the origin in Figure 4.3 will rotate downwards, and unemployment will increase from $u_1^*$ to $u_2^*$.

However, Acemoglu and Shimer (1999, 2000) have argued that higher unemployment benefits might increase the productivity of workers in employment because workers accept better jobs and firms are induced to create these better jobs. Acemoglu and Shimer (1999: 920) noted that these are jobs 'with [higher] wages and [higher] capital intensity . . . these new . . . jobs appear to be of higher quality, require more specific skills, and yield higher productivity'. As a consequence, increased unemployment can be accompanied by higher output per employed worker, which might even result in higher welfare for the whole economy.

### 4.4.3    The Drawbacks of the Search-theoretical Approach

The search-theoretical approach has three major drawbacks. First, unemployment is seen as an excess supply buffer which serves to discipline excessive wage demands. There is no direct link between unemployment and capacity utilisation, which allows an increase in aggregate demand to adjust employment directly at the going wage rate and hence lead to a direct reduction in unemployment. In other words, there is no notion of involuntary unemployment. Therefore, one cannot represent mass unemployment at the macroeconomic level within this framework, which comes as no surprise given that it was inherited from the 'New Labour' economics from the early 1970s. However, it is startling that models such as these are taken seriously when there is no explicit role for capacity utilisation as such in the economy. We shall show in Chapter 7 that aggregate demand is the single most important determinant of employment and hence unemployment cannot be assumed away as it is in the search-theoretic models. Unemployment therefore should be constructed as the systematic macroeconomic failure of governments to ensure that there are enough jobs created in their economies (Mitchell and Muysken, 2006a, 2006b).

Second, the representation of the macroeconomic labour demand curve in these models relies on the discredited neoclassical derivation of a marginal product schedule. It is easy to show that even if such a schedule existed at a firm level, it could be used by way of straightforward aggregation to derive an aggregate labour demand function where employment and real wages were inversely related. Following Marx and Keynes, aggregate employment is a function of the level of effective demand in the economy

which is the level of spending and production that satisfies the profit rate aspirations of the producers and the planned savings of households. The standard neoclassical derivation of the aggregate labour demand function assumes that wages impact on costs, holding other things equal. However, wages also impact on demand, and changing wages thus shift both the aggregate spending and aggregate supply functions. The impact on effective demand (the intersection of the aggregate demand and supply functions) is uncertain but likely to be highly inelastic with respect to the real wage in normal output regions. The point is that one has to determine the point of effective demand before one can determine the macroeconomic level of employment (see Weintraub, 1958; Davidson and Smolensky, 1964; Davidson, 1983 among others).

Third, the dominant position of the matching function is problematic. The mere fact that it is not recognised that vacancies might also react to structural changes indicates that this approach is severely limited in its applicability.

## 4.5    NEW KEYNESIAN MODELS – THE LATEST DENIAL OF INVOLUNTARY UNEMPLOYMENT

### 4.5.1    The 'Lernean Hydra' Resurfaces

In Chapter 5 we shall show that the OECD (1994) policy agenda was informed by the abstract and flawed NAIRU models developed by LNJ (1991) and others. In Chapter 6, we shall consider the accompanying macroeconomic policies in the form of inflation targeting that have seen monetary authorities narrowly focusing on inflation and largely ignoring the consequences of this obsession for the real economy. In taking such a narrow view of macroeconomic policy, governments have eschewed the use of fiscal policy as the best weapon for reducing unemployment. They have increasingly advocated the virtues of budget surpluses, even if in some cases, cyclical events have proved their views to be wrong (for example, as in France and Germany in recent years). The NAIRU paradigm that LNJ and others laid out in the late 1980s has dominated this area of economic literature and provided the authority to policy makers to pursue the supply-side activism. However, the mounting empirical anomalies and theoretical critiques that we have considered in this chapter have seriously dented its image of respectability within the profession.

Nevertheless, as Gordon (1971) noted, the orthodox economics paradigm has shown considerable flexibility when confronted with empirical anomaly, somewhat like the Lernean Hydra. In this regard, while the NAIRU

paradigm has struggled to survive the policy failures that it had motivated (see Chapter 7 for a detailed examination), a new theoretical edifice, the new Keynesian approach, has emerged. This approach has provided solace to an orthodoxy that continues to deny the existence of involuntary unemployment and instead wishes to reassert the flawed prognostications embedded in quantity theory and Say's Law.

The NK approach is the most recent orthodox effort to attempt reconciliation between macroeconomic theory and what is alleged to be microeconomic rigour. We should note that in general, the literature that has aimed to develop 'microeconomic underpinnings' of *extant* macroeconomic theory, typically aims to hijack any non-orthodox macroeconomic ideas back into the orthodox market-clearing, long-run neutral framework. We argue that the NK approach is a quintessential expression of this tradition. Importantly, from a policy perspective, the NK approach is also the most recent theoretical structure to be co-opted by orthodox policy makers to justify inflation targeting, which we shall consider in Chapter 6.

Despite the fact that the NK approach is fast becoming an industry in academic and policy-making circles, it has received very little critical scrutiny in the literature (Lavoie, 2006 is a notable exception). So in the spirit of Heracles and Iolaus, we think it is necessary to expose some of the glaring anomalies that we find in the NK models.

We draw three major conclusions from this literature: (a) the so-called 'microfoundations' of NK models are not as robust as the various authors would like to claim; (b) the so-called 'Keynesian' content of the models should be taken with a pinch of salt; and (c) the rationale these models provide to justify their claim that tight inflation control leads to minimal labour market disruption is highly contestable. We conclude that the approach has no credibility in dealing with the issue of unemployment and cannot reasonably be used to justify aggregate policy settings. To demonstrate how we reach these conclusions, we first discuss the approach in more detail.

### 4.5.2   New Keynesian Models

The NK approach has provided the basis for a new consensus emerging among orthodox macroeconomists, although Goodfriend and King (1997) presented it as 'The New Neoclassical Synthesis'. A typical representation of this approach is found in Carlin and Soskice (2006: ix–x) who stated in their preface:[17]

> Consensus in macroeconomics has often been elusive but the common ground is much wider now than has been the case in previous decades. . . . There is broad

agreement that a fully satisfactory macroeconomic model should be based on optimizing behaviour by micro agents, that individual behaviour should satisfy rational expectations and that the model should allow for wage and price rigidities. . . . The three equations [summarising the model] are derived from explicit optimizing behaviour on the part of the monetary authority, price setters, and households in imperfect product and labour markets and in the presence of some nominal rigidities.

Van der Ploeg (2005: 810) recognised the importance of the focus on optimising behaviour and rational expectations since the 'main achievement of New Keynesian economists is to provide micro-founded expressions for the welfare loss and the Phillips curve that depend only on deep structural parameters'. Further, de Vroey (2006: 26) concluded that the NK model 'merges "Keynesian" (money, imperfect competition and sticky prices) and real business cycle elements (intertemporal optimisation, rational expectations, market clearing and their integration into a stochastic dynamic model)'.

The NK model attempts to replace the traditional textbook Keynesian model which was based on the IS–LM framework interacting with an expectations-augmented Phillips curve. The standard NK model consists of three equations: the intertemporal IS relation, the NK Phillips curve (NKPC) and a monetary rule which replaces the LM curve and deals with the impact of monetary policy. We briefly consider each in turn.

### The New Keynesian IS curve

What is not always recognised is that in most NK models, the microfoundations of the IS curve allow neither savings nor investment to play any role. This is usually motivated by the fact that in real business cycle models the capital stock is typically ignored because 'the response of investment and the capital stock to productivity shocks actually contributes little to the dynamics implied by such models' (Walsh, 2003: 231).[18]

As a consequence of this glaring omission, the so-called 'intertemporal IS relation' is derived using intertemporal utility-maximising behaviour by consumers, who face a trade-off between consumption and leisure.[19] The nominal rate of interest then equates the nominal intertemporal marginal rates of substitution in consumption, such that consumption can be smoothed out over an individuals' lifetime. It is assumed that individuals can always borrow and lend at the prevailing interest rate to implement their lifetime consumption plan. Thus, while savings and investment may take place at the individual level, they are assumed to cancel out at the aggregate level because all income is assumed to be consumed. To be consistent with this approach, bonds are issued for one period only and the role of money in this approach is only to facilitate transactions. In other words,

the NK approach takes us back to the pre-Keynes, quantity theory era where money is used only as a means of payment and a unit of account (see Buiter, 2006a; Woodford, 2006). In Chapter 8 we shall argue that this conception of money is impoverished and fails to recognise the realities of a modern monetary economy.

The IS relation is derived from an approximation of the Euler condition for intertemporal optimal consumption around a zero-inflation steady state. It is usually presented in terms of deviations from natural levels. It implicitly defines the stabilising interest rate – or in terms of Woodford (2000), the Wicksellian natural rate of interest – as the rate $r^*$ that equates aggregate demand to the natural level of output $y^*$. From a critical standpoint, Lavoie (2006) rightly pointed out that the stabilising interest rate changes when there is a permanent demand shift. As a consequence, a temporary demand shock has a different impact compared to a permanent demand shock, since the latter leads to a change in $r^*$ and hence has an impact on monetary policy as we explain below (ibid.).

### The New Keynesian Phillips curve

The NKPC bears a close resemblance to the expectations-augmented Phillips curve, the latter being based on natural rate theory. However, as a result of the NKPC being derived from so-called 'optimising behaviour', its coefficients have a specific interpretation. Clarida et al. (1999) is the most-cited reference describing firm behaviour. They employ so-called 'Calvo price setting', which has become the standard NK approach. Accordingly, under monopolistic competition only a fraction of firms, θ, set their prices in the current period. The remainder of firms keep their price at the level of the previous period. Optimal consumer and producer behaviour implies that the (log of) the deviation of marginal costs plus mark-up on prices from its normal level is proportionally related to the (log of) deviation of output from its natural level.[20] Equation (4.11) shows the NKPC, which results from imposing this restriction on the Calvo price-setting rule. Both α and β are negatively related to the fraction of firms not adjusting their prices:

$$\pi_t = \beta E\,[\pi_{t+1}] + (1 - \beta)\pi_{t-1} + \alpha(y_t - y^*) + \varepsilon_t, \qquad (4.11)$$

where $\pi$ is the inflation rate, $E$ is the expectation operator, $y$ is output, $y^*$ is natural output, and $\varepsilon_t$ is a random term (all variables are in logs).

Calvo price setting does not allow lagged inflation to influence current inflation, so in equation (4.11), β = 1. As Carlin and Soskice (2006: 608) aptly observed, the 'NKPC brings back rational expectations into the inflationary process, but it throws out the baby (the empirical fact of inflation inertia)

with the bath water of non-rationality'. As a result of this anomaly, *ad hocery* enters the fray. Clarida et al. (1999: 1692–3) recognised that 'virtually all major applied macroeconomic models allow for some form of lagged dependence in output and inflation. The primary justification is empirical. . . . Motivating the appearance of lagged inflation in the aggregate supply curve, however, is a more formidable challenge'. They did not pick up this challenge, but instead introduced lagged inflation anyway 'in the spirit of robustness . . . to understand the implications of lagged dependence' (that is, they allow β < 1 in equation (4.11)). Rudd and Whelan (2005: 20–21) rightly recognised that this approach is 'more *ad hoc* than micro founded. . . . Thus it seems likely that models of this sort are just as vulnerable to the traditional Lucas critique as are traditional econometric equations'.

The logic of equation (4.11) makes it obvious that stabilising inflation also leads to the stabilisation of the output gap. The proponents of the NK approach claim virtue from this constructed logic by asserting that this outcome is also efficient from a welfare perspective because their model is underpinned with optimising microfoundations. This is what Blanchard and Gali (2005: 2) dubbed the divine coincidence.

But while claiming that the divine coincidence in the NK model occurs as a result of the absence of imperfections, Blanchard and Gali (p. 3) then stated that the 'optimal design of macroeconomic policy depends very much on the interaction between real perfections and shocks [and] understanding these interactions should be high on macroeconomists' research agendas'. Another *ad hoc* solution was then proposed by Blanchard and Gali in the form of real-wage rigidities, which clearly also eliminates the divine coincidence at the same time.

### The New Keynesian monetary rule

Without attempting to understand how central banks actually operate (see Chapter 8), new Keynesians derive their monetary rule (which is just an interest rate-setting reaction function) by assuming that the central bank minimises a loss function in which both deviations of inflation from its target value $\pi^T$ and deviations of output from its natural level play a role, subject to the Phillips curve specified in equation (4.11). They also assume that the central bank can control aggregate demand using the interest rate, through the IS relationship. As a consequence they derive the following interest rule:

$$r_t = r^* + \eta(\pi_t - \pi^T) + \varphi(y_t - y^*), \qquad (4.12)$$

where $r$ is the real interest rate and $r^*$ is the real natural interest rate. Equation (4.12) is consistent with the Taylor interest rate rule, if output

only influences inflation with a one-year lag in the Phillips curve (see Ball, 1999; and Carlin and Soskice, 2005 for derivations).

The representation of the Taylor rule in equation (4.12) is in real terms, whereas the central bank can only set the nominal interest rate. Moreover, equation (4.12) presumes that the central bank can observe both natural output and the natural rate of interest correctly. Following Woodford (2006) we are told to assume that misperceptions of the natural output and the natural interest rate levels are reflected in different values of the target real interest rate $r^T$. Hence, the Taylor interest rate rule is represented as follows:

$$i_t = r^T + \pi^T + \eta(\pi_t - \pi^T) + \varphi(y_t - y^*), \qquad (4.13)$$

where $i$ is the nominal interest rate set by the central bank.

A comparison of equations (4.12) and (4.13) reveals that the central bank will only achieve its target inflation rate when it estimates both the natural output and the natural rate of interest levels correctly – a tall order one would suspect. Lavoie (2006) also emphasises this point.

### 4.5.3   The Deficiencies of the New Keynesian Approach

The alleged advantage of the NK approach is the integration of real business cycle theory elements (intertemporal optimisation, rational expectations and market clearing) into a stochastic dynamic macroeconomic model (see de Vroey, 2006 and van der Ploeg, 2005). Van der Ploeg (2005: 810) emphasised that notwithstanding the air of rigour, the NK results are still 'very specific and need to be derived separately for each variation of the model'. This indicates an important weakness of the NK approach. The solution of the dynamic stochastic models as required by the rational expectations approach forces a highly simplified specification in terms of the underlying behavioural assumptions as we have already indicated in our description of the standard model. The ability of these models to say anything about the actual operations of central banks is severely compromised by the highly simplistic behavioural assumptions employed, notwithstanding Friedman's long-standing appeal to empiricism.

The empirical credibility of the abstract NK models is questionable. This holds, in particular, for the NKPC and its potential to represent real-world inflation dynamics. In their survey of the literature on inflation dynamics in the US economy, Rudd and Whelan (2005: 4) observed: 'the data actually provide very little evidence of an important role for rational forward-looking behavior of the sort implied by these models'. Further, after finding similar results for the Eurozone, Paloviita (2006: 858) concluded that the

'results obtained suggest that NKPC can capture inflation dynamics in the euro area if the rational expectations hypothesis is not imposed and inflation expectations are measured directly . . . we find evidence that lagged inflation seems to be needed to properly explain the persistence of European inflation' (see also Adam and Padula, 2003 for similar analysis). Clearly, the claimed theoretical robustness of the NK models has to give way to empirical fixes, which leave the econometric equations indistinguishable from other competing theoretical approaches where inertia is considered important.

This general *ad hoc* approach to empirical anomaly cripples the NK models and strains their credibility. When confronted with increasing empirical failures, proponents of NK models have implemented *ad hoc* amendments to the specifications to make them more realistic. Some typical responses to anomaly include the arbitrary introduction of habit formation in consumption behaviour (Fuhrer, 2000; Smets and Wouters, 2002 and Bekaert et al., 2005); and the contrived variations to investment behaviour such as 'time-to-build' (Casares, 2006), capital adjustment costs (Groth, 2006) or credit rationing (Wang and Wen, 2005). Finally, in an attempt to explain unemployment, various authors introduce labour market dynamics and pay specific attention to the wage-setting process (see, for instance, Bodart et al., 2006 and Christoffel and Linzert, 2006). One should not be seduced by NK models that include real-world concessions such as labour market frictions and wage rigidities in their analysis. Their focus is predominantly on the determinants of inflation, with unemployment hardly being discussed (for example, Blanchard and Gali, 2005).[21]

Of course, the point that the NK authors appear unable to grasp is that these *ad hoc* additions, which aim to fill the gaping empirical cracks in their models, also compromise the underlying rigour provided by the assumptions of intertemporal optimisation and rational expectations.

We consider that the NK approach is another programme of theoretical work designed to justify orthodox approaches to macroeconomic policy, in this case the virtues of inflation targeting. In the orthodox tradition, it also denies the existence of involuntary unemployment. However, it categorically fails to integrate its theoretical structure with empirical veracity (see also Rudd and Whelan, 2005; Lavoie, 2006).

## 4.6   CONCLUSION

This chapter concludes the first part of our book, in which we have discussed the development of employment theory since the classics, with a particular emphasis on how the concept of full employment has evolved

such that it now bears no relation to what can reasonably be considered to describe a state of full utilisation of labour. We have used this chapter to critically assess the veracity of the natural or NAIRU approach, which emerged out of the Keynesian wreckage in the early 1970s to become the dominant conceptual and policy-making paradigm.

We have demonstrated (in Section 4.2) that contrary to theoretical claims of the natural rate theorists, non-structural variables have an important impact on the NAIRU, which means that aggregate demand variations can alter the steady-state unemployment rate. This insight, alone, undermines the concept of natural unemployment or NAIRU, which is driven by the notion that only structural measures can be taken if the government wants to reduce the current steady-state unemployment rate. As a consequence it is little wonder that the concept of equilibrium unemployment lost its original structural meaning and becomes indistinguishable in dynamics from the actual unemployment rate.

The last observation brings us to another significant development in the literature that sought to undermine the NAIRU story: the notion of hysteresis. Since hysteresis has been relatively ignored in the more recent literature we considered it separately in Section 4.3 to emphasise its importance. Hysteresis models based on the path-dependent steady-state unemployment rate cast theoretical and empirical doubt on the concept of the NAIRU. While the NAIRU hypothesis suggests that any aggregate policy attempt to permanently reduce the unemployment rate below the current natural rate inevitably is futile and leads to ever-accelerating inflation, we suggest that a short-run analysis based on non-NAIRU concepts is inconsistent with a Friedman long run: the long run is a sequence of short runs.

We regard the development and application of the various NAIRU models to be representative of the way that orthodox economics has been content to adopt *ad hoc* responses to theoretical and/or empirical anomaly in order to retain the basic desired property of the model. This practice has been damaging in this particular case because the NAIRU concept has been used to justify a radical policy change towards unemployment. In that sense, we consider the NAIRU to be a hoax that has been used by policy makers to undermine the pursuit of full employment. The exemplification of this can be seen in the way the profession has reacted to empirical anomaly after the 1991 recession. As official unemployment rates in many countries fell well below the various estimates of the NAIRU produced by the OECD and others, inflation rates also fell. The appropriate response to this overwhelming empirical contradiction would have been to admit that this deeply flawed concept was unsuitable for policy purposes and restore demand explanations of unemployment to centre

stage. Rather than taking this path, the NAIRU industry has continued to offer a stream of *ad hoc* variations to the NAIRU story, each one as unsatisfactory as the other.

In Section 4.4 we assessed the search-theoretic approach to labour market dynamics via the UV curve, which has been used in tandem with the Phillips curve framework by natural rate theorists to justify their supply-orientated policy stipulations. Instability in both the Phillips and the UV curves has been identified by the natural rate theorists as being of structural origin and leads to their claims that if we want to reduce unemployment then structural measures are required. However, we identified several major flaws in the search-theoretical approach. It suffers the same flaw as the NAIRU approach to the Phillips curve in that it fails to acknowledge that the so-called 'structural influences' are sensitive themselves to aggregate changes, leaving the differentiation between microeconomic and macroeconomic drivers meaningless. Further, this approach cannot account for mass unemployment at the macroeconomic level and ignores the all-dominant impact of aggregate demand on employment generation.

Finally, in Section 4.5 we consider the NK approach which is now being used by economists to justify inflation targeting (which we shall consider in more detail in Chapter 6). We show that the NK approach is the latest orthodox contender which aims to deny the existence of involuntary unemployment. In that regard, it is hard to argue that the NK approach provides any credible guidance for policy makers who aim to restore full employment. Significantly, the NK approach holds itself out as being rigorous because it is based on rational expectations and inter-temporal optimisation but then compromises these foundations as it tries to respond to empirical failure. In other words, the NK approach can claim neither theoretical authority nor empirical relevance.

By way of summary, it never ceases to amaze us why the orthodox models analysed in this chapter are taken seriously by the economics profession and the policy makers they influence. Given that they allow no explicit role for capacity utilisation in influencing employment outcomes leads us to conclude that they are of very limited use in informing the policy debate. From our perspective it is tragic that these ideas have dominated the policy debate over the last two or more decades.

The tragedy arises because, apart from the mass delusion that exists within the economics profession about the intellectual standing of their discipline, these models advocate spurious policy initiatives that attack the social infrastructure which has been built to protect the most disadvantaged persons in our societies from the vicissitudes of the market. The NAIRU approach has determined that this infrastructure is too protective and hence should be relaxed in order to provide more incentives to

unemployed persons to accept work. In Chapter 5, we shall consider the practical manifestations of this approach.

In Chapter 7, we shall show that at the most fundamental empirical level the orthodox approach which has underpinned the implementation of the full employability framework has failed to deliver on its highly value-laden rhetoric. We conclude that this failure is of little surprise, given the theoretical poverty of the approaches that we have considered in this chapter.

## NOTES

1.  This section closely follows the analysis presented by Nickell and van Ours (2000: Box 1).
2.  The impact of unemployment on wages is measured by $cU/H$, with $cU$ as the number of 'effective' unemployed. Then in steady-state equilibrium inflow into unemployment equals outflow, that is, $s \cdot E = H$ where $E$ is employment and $H$ represents new hires. This notion is used to approximate the impact of unemployment by $c \cdot u/s$.
3.  This effect is similar to the result in Broer et al. (2000). However, while they required that the elasticity of substitution be below unity to obtain their result, Blanchard claims that his result is independent. But his analysis also allows for endogenous capital accumulation.
4.  Although the mechanism here is quite similar to that of LNJ (1991), the rhetoric is quite different. While LNJ viewed the adjustment process in terms of changes in expectations, Rowthorn (1999) emphasised the role of profits and the income distribution.
5.  This difference in analysis thus goes beyond semantics.
6.  Blanchard assumed that when a downward shock in labour-augmenting technical change occurs, workers will not recognise the shock immediately.
7.  In his view, the wage moderation in the Netherlands was not so much the result of a clear institutional change, as Nickell and van Ours (2000) had suggested, but of 'a change of perception . . . the increased intellectual and political acceptance of the notion that profitability was a key to a decrease in unemployment [and] wage moderation went far beyond the usual effect of unemployment on wage demands' (Blanchard, 2000a: 28). Interestingly enough in various studies on Dutch wage formation, no significant impact was found of the Wassenaar Agreement. The sharp increase in unemployment provides a sufficient explanation (see Muysken et al., 1999).
8.  Mitchell and Muysken (2002d) showed that an important shift also occurred in investment behaviour.
9.  However, without explicitly referring to this puzzle, Blanchard provided a possible explanation when he stipulated that actual and equilibrium unemployment are closely related because they are driven by the same shocks. For instance, while an increase in the interest rate will increase actual unemployment due to decreased aggregate demand (in particular investment), the corresponding decrease in the capital stock will increase equilibrium unemployment (Blanchard, 2000a: 33).
10. Somewhat surprisingly, Sawyer did not discuss the possibility of multiple equilibria which might be found when solving: $f_i(l, k) = [e/(e-1)] \cdot W/P[q(l, k), Z]$.
11. The NRU and NAIRU both associate a particular level of unemployment with a stable inflation rate. The former is strictly confined to a Walrasian general equilibrium world. The NAIRU is less constrained and can be consistent with disequilibrium phenomena not arising from misperceptions or slow adjustment.
12. Blanchard (2000b) mentioned various reasons for this likely loss of skills, loss of work habits and decreased health. He does not mention here that employers might use long-term unemployment as a screening device when selecting their applicants for job openings (see Welters and Muysken, 2006).
13. This is how Nordhaus characterised Ball's analysis in his comment.
14. As both Malinvaud (1986) and Solow (1998) indicated, this insight has disappeared as a relevant notion to explain the existence of the UV curve. We shall consider this issue again in Chapter 7.
15. It is interesting to note that the corresponding value of $v^*$ is ignored in the analysis.
16. This is consistent with the observation by Albaek and Hansen (2004: 517, 526) that vacancies lead unemployment over the cycle (see also Cahuc and Zylberberg, 2004: 512).
17. Surprisingly they do not refer to Carlin and Soskice (1990), their earlier macroeconomics textbook, which was in the NAIRU tradition, and the competing claims approach was used as the central organising concept. See also Walsh (2003) and Woodford (2003). In his second edition, Walsh revised his advanced textbook on monetary theory and policy considerably to include the NK model as the new 'standard approach'.
18. Early papers that introduce investment include Smets and Wouters (2002) and Giammarioli and Valla (2003). However, it is only in 2005 that investment is introduced more systematically into NK models.
19. These models typically impose strong separability, such that the marginal utility of consumption is independent of labour supply (for example, Blanchard and Gali, 2005, 2006).
20. Since traditional estimates of the output gap do not have the predicted impact, more recent research uses the labour's share of national income as a proxy (for example, Woodford, 2003). Rudd and Whelan (2005) criticise this approach on theoretical grounds (real marginal costs are likely to be pro-cyclical and the labour share counter-cyclical) and also find it to be unsustainable empirically (see also Paloviita, 2006).
21. Unemployment appears only in passing in their approach and then only to show the similarity between the central equation of their model, the relation between inflation and the modified output gap, and the more conventional representation of the Phillips curve. Blanchard and Gali (2005: 4) justified this by claiming that the focus of their paper is on the 'meaningful trade-off between stabilisation of inflation and the welfare-relevant output gap'. Presumably, we do not have to worry about unemployment because it will approach the natural rate over the short- to medium-term horizon. Blanchard and Gali (2006) have a more nuanced view, however, even finding that 'those without a job in any given period are *involuntary* unemployed. Thus, any inefficiency in the equilibrium level of employment cannot be attributed to an inefficiently low labor supply' (ibid.: 19, emphasis in original).

# 5. The shift to full employability

## 5.1 INTRODUCTION

In Chapter 3 we traced the route that natural rate economists took in resisting the Keynesian consensus in the post-Second World War period. Their attempts were bolstered in the late 1960s by the inflationary impulses associated with the Vietnam War which provided opportunities for natural rate economists to attack activist macroeconomic policy. However the paradigm break, and the resurgence of pre-Keynesian (natural rate) thinking, came with the economic dislocation that followed the first oil price rise in 1974 and the resulting international inflation surge (Thurow, 1983).

As explained in Chapter 3, the natural rate approach redefined full employment in terms of a unique unemployment rate (the NAIRU) where inflation is stable. The NAIRU is determined by supply forces and is invariant to Keynesian demand-side policies. The approach alleged that free markets guarantee full employment and Keynesian attempts to drive unemployment below the NAIRU will ultimately be self-defeating and inflationary. The Keynesian notion that unemployment represents a macroeconomic failure that can be addressed by expansionary fiscal and/or monetary policy was categorically rejected, with little resistance offered by those who had advocated this position over many years. Instead, the new macroeconomic orthodoxy was built on the assertion that unemployment reflects supply failures such as poor incentive structures facing individuals as a result of welfare provision, skill mismatches and excessive government regulations (OECD, 1994). Extreme versions of the natural rate hypothesis consider unemployment to be voluntary and the outcome of optimising choices by individuals between work (bad) and leisure (good).

Governments embraced this new NAIRU orthodoxy during the 1980s. Conservative regimes dominated in many Western countries (for example, Thatcherism in the UK and Reaganomics in the US) and the widespread retrenchment of the traditional welfare state structures was vehemently pursued (Atkinson, 1999). The winds of change were even felt in countries governed under solidaristic arrangements. For example, Sweden significantly changed tack and dismantled key social protections (Lindbeck et al., 1993). The wide-scale retrenchment of public sector activity occurred in earnest during this period with evidence of cuts to public employment,

privatisations and increasingly harsh approaches to the provision of transfer payments and income support (Mitchell, 2001b).

However, the new policy environment failed to provide economic conditions whereby full employment was restored. The high unemployment which had prevailed across the OECD since the mid-1970s persisted, with serious spikes occurring in most countries during the recessions of the early 1980s and 1991. At the same time, a new form of labour underutilisation emerged in the form of underemployment. This was associated with the increasing tendency of the capitalist system to generate precarious and casualised employment, and both the number of jobs and the hours of work on offer were rationed over this period. The political consequences of this apparent policy anomaly could not be overlooked and, consistent with the paradigm shift being promoted under the guise of the NAIRU construct, policy developments started to focus more intensely on labour market activism within a deregulated market system.

The paradigm shift in macroeconomics effectively meant that governments relinquished the first major pillar of the full employment framework outlined in Chapter 1 – the commitment to full employment. Instead, by increasing the reliance on market-based economic outcomes with a diminished public sector involvement, governments began to systematically dismantle what writers such as LNJ (1991) had claimed to be key supply impediments (such as labour regulations, minimum wages and social security payments). By adopting the diminished goal of full employability, governments have downgraded their responsibility for ensuring the optimum use of the nation's labour resources.

In this chapter we consider the increasing use of active labour market programmes under the reform agenda set out in the 1994 OECD *Jobs Study* and their failures. The *Jobs Study* defined the parameters for what we term the full employability framework. The abandonment of full employment by governments in the 1970s created a new problem in the form of increased numbers of unemployed workers becoming welfare dependent. Other welfare-dependent groups such as those who had been pushed onto disability support benefits – to reduce the labour force and hence the official unemployment rate at the height of the recession – were also growing in number. At the same time, the macroeconomic debate, with the guiding hand of the natural rate theorists on the wheel, focused heavily on the so-called 'fiscal crisis' of the state. The accompanying forebodings warned of intergenerational debt burdens being incurred by profligate debt-laden governments and the futility of welfare support. In the 1980s, calls began for wide-scale reductions in the size of the public sector, urgent deregulation and welfare cutbacks, and have continued unabated. The 1994 OECD *Jobs Study* exemplified this supply-side approach and has set the contemporary

policy agenda across the Western world. In Chapter 6 we shall examine the role that central bankers played in reinforcing the microeconomic emphasis on the supply side. They now pursue low inflation and passive fiscal policy at the expense of other objectives. This approach relies on the market system to generate the NAIRU, which remains an article of faith rather than a rigorous theoretical or empirical construct.

## 5.2   THE FULL EMPLOYABILITY FRAMEWORK

In Figure 5.1 we sketch the parameters of the full employability framework in contradistinction to the full employment framework (see Figure 1.1). Figure 5.1, which replicates Figure 1.3, shows that the three major pillars of the post-war full employment consensus have been abandoned and full employability is the major economic aim to accompany price stability. Further, market-based outcomes unfettered by government intervention are now seen as the major source of economic prosperity, with disequilibrium being resolved via supply shifts in response to relative price changes. For example, in the labour market context, orthodox economists consider that any regional unemployment disparities will be resolved via migratory responses by workers to relative wage differentials, which in turn operate in favour of growing areas (see Mitchell and Bill, 2006 for a contrary analysis). Finally, the concept of individuality has replaced collective will and the intrinsic rights of citizenship in defining the role of the state in relation to its people.

The full employability framework allegedly prepares the unemployed worker for paid employment as opposed to providing the policy environment that ensures there are enough jobs. This preparation is achieved through training and compliance programmes designed to re-skill the worker and/or create more work-orientated attitudes and intensive search endeavour. The motivation for this emphasis comes directly from the theoretical underpinnings of the NAIRU that we examined in Chapter 3. The focus is on the supply-side characteristics of the workers and returns macroeconomics to the days when the aberrant Say's Law was thought to explain the impossibility of generalised gluts in production through deficient aggregate demand. Importantly, the role that public sectors previously played as employers of last resort was abandoned. This role was critical to the maintenance of true full employment in the post-Second World War period.

Many OECD governments sought ways to reduce their involvement in direct employment creation. This withdrawal was, in part, facilitated by the wave of privatisations which also shed public jobs. The major role that the public sector played in skill development and the provision of
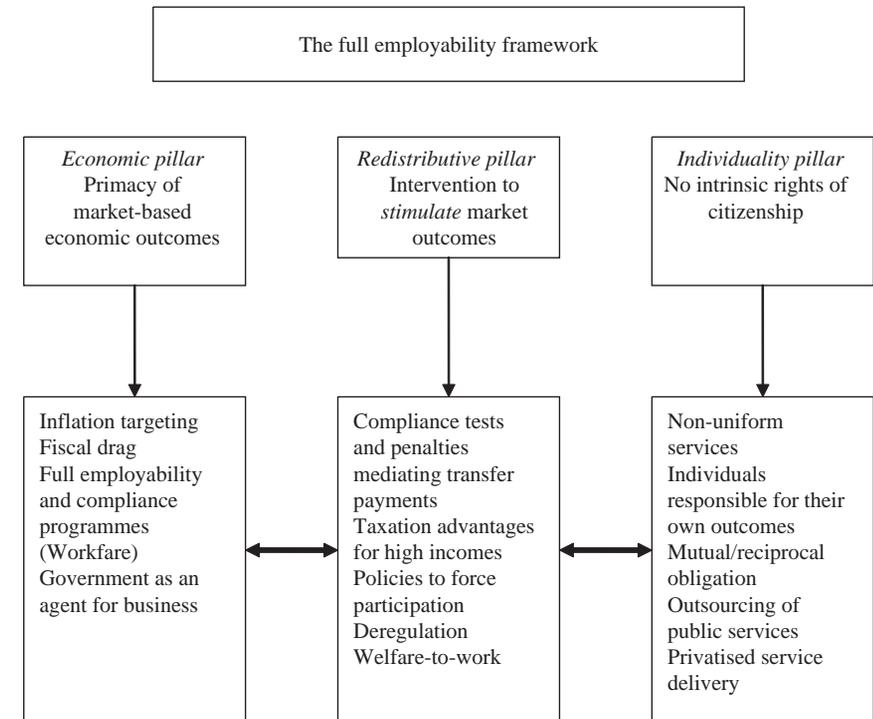
*Figure 5.1   The full employability framework*

apprenticeships is poorly understood. This role was also downgraded as public employment growth slowed, then became negative, in many countries. We shall examine the macroeconomic components of the paradigm – inflation targeting and passive fiscal policy in Chapter 6.

The abandonment of the full employment pillar presented neo-liberal governments with a new problem. The persistently high unemployment, which was the product of the deliberate constraints imposed on the economy by contractionary fiscal (and monetary) policy, caused welfare payments to grow in volume and duration through the operation of the redistributive pillar. Neo-liberals erroneously interpreted this as being an unsustainable fiscal crisis of the state, which required urgent surgery. In Chapter 8 we shall show why the presumption that the national government has financial constraints is fallacious. However, we now discuss the consequences of this false presumption. Atkinson (1999: 4–5) notes that to 'a considerable extent, the results of the present welfare state are the result of economic failures. When advocating austere macroeconomic policies, policymakers often assume that

the social costs can be dealt with by a social safety net, but a safety net can easily become overloaded'.

In the past, transfers to the unemployed were considered to be for short-term income support. The rise of long-term unemployment meant that these transfers were providing semi-permanent incomes rather than palliative support. These pressures were erroneously seen as a threat to the fiscal position of government.

To resolve this tension and reduce their commitment to income support, governments – aided by the urgings of the neo-liberal intellectuals in the media and in the conservative thinktanks – set about redefining the 'collective pillar'. As a result, accompanying orthodox attacks on counter stabilisation macroeconomic policy were concerted attacks on the rationale for supplementary institutions such as the industrial relations system and the welfare state (Atkinson, 1999). To force individuals to become accountable for their own outcomes, welfare policy makers have alleged that individual responsibilities are the necessary counterbalance to existing rights while promoting the movement from passive to active welfare (Cook et al., 2003). Individuals now face broader obligations and their rights as citizens have been replaced by compulsory contractual relationships with behavioural criteria imposed as a condition of benefit receipt. The aim of the redistributive pillar has become one of using government transfer systems to *stimulate* rather than ameliorate market outcomes. In doing this, considerable power has been transferred from workers to employers.

A further aspect of this new approach was that governments began to bias taxation systems in favour of higher-income earners. This shift has its roots in the unfounded assertion from orthodox labour economics that income taxation provides a disincentive to work effort. We started to hear about trickle-down theories whereby low-income workers including the unemployed would allegedly be better motivated to search and/or work harder if they could see that the returns were significant. Envy was thought to drive a bottom-up wave of effort.

Relatedly, the hallmark of the full employability era is that individuals have to accept responsibility, be self-reliant, and fulfil their obligations to society (Giddens, 1998). Unemployment is couched as a problem of welfare dependence rather than a deficiency of jobs. To break this welfare dependency, responsibility has to be shifted from government to the individual. The necessity of reintegrating the, allegedly, welfare-dependent underclass into the community provides the justification for mutual obligation and the abandonment of rights of citizenship *per se*. For example, the concept of *reciprocal obligation* in Australia was developed by the previous Labor regime and refined into an art form by the conservative Howard government under the guise of mutual obligation (Cook et al., 2003). While sounding

like an agreement between two parties, the reality is that no reciprocal obligation is placed on government to provide enough jobs and enough hours of employment for all those seeking work. The major shortcoming is that the focus on the individual ignores the role that macroeconomic constraints play in creating welfare dependence. The preoccupation with instituting behavioural requirements and enforcing sanctions for welfare recipients suggest that governments perceive dependence as an individual preference. However, if jobs are rationed then it is a compositional fallacy to consider that the difference between getting a job and being unemployed is a matter of individual endeavour. Adopting welfare dependency as a lifestyle is different from an individual, who is powerless in the face of macroeconomic failure, seeking income support as a right of citizenry.

Governments have also conducted public campaigns to reinforce the notion that poor economic outcomes are the result of the (deficient) capacities of individuals rather than the result of systems failure. The use of pernicious compliance regimes to blame the unemployed for being jobless obfuscates how the pursuit of budget surpluses and cuts to public sector employment has left the government unable to provide enough jobs to go round. The role of the state with respect to the welfare of its citizenry has been radically altered by the changed conception of citizenship under the full employability framework. Unlike the traditional welfare state – which was predicated on the notion of uniform public service delivery from a professional, apolitical state administration (bureaucracy) and a regard for equity through collective will – citizens now have to make do with non-uniform (categorical) and privatised service delivery and take individual responsibility for an increasing ambit of socio-economic outcomes. Many of these outcomes were once deemed to be systemically rather than individually driven. The hollowing-out of the state, and the increased emphasis on private market activity, has also redefined the functions of the public service administration in many countries. While governments cannot politically abandon responsibility for many components of the welfare state, such as general health provision, they now distance themselves from this responsibility through the outsourcing or franchising out of service delivery. That is, instead of providing these services directly, the public administration now increasingly functions as a contract broker and monitoring agency.

Finally, rights are no longer necessarily embodied in legislation. In some countries – to escape the glare of parliamentary scrutiny on contested reforms – governments have assigned the key operational functions to (non-legislated) regulations administered by the relevant government department under the control of the minister concerned. This allows for speedy changes to operational rules which do not attract public attention. The

Australian government, for example, has made an art form of using regulations to replace legislative detail in controversial policy changes such as the work choices industrial relations legislation which provided for wide-scale deregulation of the labour market (Cowling et al., 2006).

## 5.3 THE 1994 OECD *JOBS STUDY*

### 5.3.1 Introduction

The link between the NAIRU theories (developed in Chapter 3) and the implementation of the full employability framework was provided by the policy developments overseen by the OECD in the early 1990s. In 1992, the OECD commissioned a major study which aimed to develop a reform agenda. The research was designed to provide a blueprint for the reform of economic policies in its member countries most of whom were deeply affected by the recession in 1991. The final report, entitled *The OECD Jobs Study: Facts, Analysis, Strategies*, was published in 1994 and reflected the theoretical foundations laid out in LNJ (1991) and the related research. There was an air of empirical certainty that the NAIRU propositions – which targeted product and labour market rigidities as the principal reason for the failure of countries to generate sufficient employment – were well established and worthy as a guide to policy reform. As we shall argue below and in Chapter 7, this empirical authority has proved to be, by the OECD's own reasoning, extremely fragile if not invalid.

The wide scope of the *Jobs Study* is symptomatic of a general trend among international organisations such as the OECD and the International Monetary Fund (IMF) to broaden their original role and to become fierce and influential public advocates for the emerging NAIRU ideology. Stiglitz (2002: 42) provides a fascinating account of how the IMF has dominated thinking about economic policy in both developed and developing countries. He not only strongly criticised the 'one-size-fits-all' nature of the IMF policy prescriptions, but he also observed that the 'IMF is like so many bureaucracies; it has repeatedly sought to extend what it does, beyond the objectives originally assigned to it. As IMF's mission creep brought it outside its core area of competency in macroeconomics, into structural issues such as privatisation, labour markets, pension reforms and so forth . . .'.

Stiglitz argued that the combination of the IMF's fierce promotion of the current dominant ideology in economics, its simplistic yet well-defined policy framework and its good political contacts in the Western world, renders it a very powerful institution. It often overrides the World Bank in

its dealing with poor countries and Stiglitz is also highly critical of the World Bank.

Although he does not refer to Stiglitz's experiences, Dostal's (2004) account of how the OECD framed welfare and labour market policies in the EU reveals striking similarities. Dostal (p. 441) describes how the OECD deliberately used the *Jobs Study* to position itself in the policy debate and its remarkable success in doing so. An important observation is that: 'preparation for the economic and monetary union separated macroeconomic policy making from the agenda of employment policy [in Europe]. Instead, liberal labour market theorists explained unemployment as a structural issue arising from over-regulation of the wage labour relationship and over-generous wage replacement payments'.

This is entirely consistent with the NAIRU approach sketched in Chapter 3 (see also Casey, 2004; Watt, 2004). It is widely recognised that the OECD recommendations are framed by NAIRU-based beliefs which provide a unified form of discourse.[1] Moreover, one should realise that in the words of Atkinson (1999: 187): 'the future of the welfare state is a highly political issue . . . Calls by economists for rolling back the welfare state are themselves part of the political process; we have not just endogenous politicians but also endogenous economists, whose behaviour has to be explained'.

### 5.3.2 The Policy Recommendations

The *Jobs Study* advocated extensive macroeconomic and supply-side reform with a particular focus on the labour market. The emphasis was on increasing what were termed 'speed limits to growth' by reducing structural impediments. These were all basic concepts in the LNJ (1991) explanation of persistent unemployment. The main planks of the OECD job strategy are outlined in OECD (1994: 45):

1. Set macroeconomic policy such that it will both encourage growth and, in conjunction with good structural policies, make it sustainable.
2. Enhance the creation and diffusion of technological know-how by improving frameworks for its development.
3. Increase flexibility of working-time (both short-term and lifetime) voluntarily sought by workers and employers.
4. Nurture an entrepreneurial climate by eliminating impediments to, and restrictions on, the creation and expansion of enterprises.
5. Make wage and labour costs more flexible by removing restrictions that prevent wages from reflecting local conditions and individual skill levels, in particular of younger workers.
6. Reform employment security provisions that inhibit the expansion of employment in the private sector.

7. Strengthen the emphasis on active labour market policies and reinforce their effectiveness.
8. Improve labour force skills and competences through wide-ranging changes in education and training systems.
9. Reform unemployment and related benefit systems – and their interaction with the tax system – such that societies' fundamental equity goals are achieved in ways that impinge far less on the efficient functioning of the labour markets.

These nine major policy recommendations aimed to increase the capacity of economies to adapt to change and generate more employment. The proposed reform agenda was variously adopted, in varying forms and degrees, by many governments, and the OECD provides annual reports for each member country outlining the extent to which the particular economy has introduced and benefited from the *Jobs Study* package.

Closer examination of the discussion supporting the main planks of the OECD strategy reveals that it is heavily infused with the NAIRU logic. Macroeconomic policy was deemed appropriate if budget deficits were reduced and public debt levels cut, irrespective of the saving desires of the private sector. The logic underpinning this recommendation is that fiscal consolidation would 'allow interest rates to be reduced and hence provide a better environment for private sector investment' (ibid.: 44). In other words, the OECD appealed to a simple-minded crowding-out argument based on the primacy of market-driven private spending over public spending. In Chapter 8, we shall show that this macroeconomic conception is invalid in a modern monetary economy that uses fiat currency.

Under wage and labour cost flexibility, the OECD rehearsed the standard NAIRU arguments that wage rigidities, rather than inadequate effective demand for goods and services cause and prolong unemployment. There was a particular focus on the negative roles played by legislated minimum wages; non-wage labour costs; social security payments; and direct taxation in general. Employment security provisions were also considered to be constraints on hiring because they allegedly encourage firms to adopt an overly cautious approach to job creation.

### 5.3.3 The Shift to Full Employability

In advocating an increased emphasis on active labour market policies, the OECD (ibid.) defined the responsibilities of government in terms of full employability rather than true full employment. The OECD (p. 44) suggested that public spending should be redirected from 'passive measures of income support to active labour market policies'. This undermined one of

the fundamental planks of the post-Second World War welfare state which conceived income support as a basic right of citizenship designed to attenuate market fluctuations. The goal of a state in pursuing true full employment was to ensure that monetary and fiscal policy tools maintained sufficient employment despite private sector spending fluctuations. Income support would be provided to able-bodied workers on a short-term basis only. The failure of the governments in the period after 1975 to achieve these goals meant that people were forced to rely on income support payments for long periods in order to survive.

The OECD openly acknowledged that the unemployment benefit schemes were intended to 'provide temporary income support to the unemployed during the process of finding a new job' (p. 48). With long-term unemployment becoming endemic, these workers became reliant on these benefits as 'quasi-permanent income support in many countries' (p. 48). What the OECD failed to acknowledge was that the persistent unemployment was predominantly the result of the fiscal and monetary policy constraints impinging on the ability of the world economy to produce enough work. By failing to construct the problem correctly, the OECD proposed a wrong-headed solution. Accordingly, they advocated widespread reform of unemployment and related benefit systems. The intent was to ensure that disincentive effects were minimised and governments were encouraged to 'legislate for only moderate levels of benefits, maintain effective checks on eligibility, and guarantee places on active programmes as a substitute for paying passive income support indefinitely' (p. 48).

In short, the OECD's response to the macroeconomic policy failure that resulted in rising and persistent unemployment was to recommend a further diminution in state responsibility and push the onus back onto individuals despite the presence of a system failure which led to an insufficient pool of jobs This 'blame-the-victims' approach has become the hallmark of the OECD policy agenda. The mechanism to enforce the imposed activism has been the introduction of increasingly pernicious compliance and penalty frameworks.

The move away from passive income support was to be accompanied by investment in formal education and training as a means of improving the skill base of disadvantaged workers. Under the full employability framework, this brief has been interpreted by many OECD governments as the implementation of active labour market programmes which force the unemployed to churn through training programmes and/or participate in workfare-type compliance programmes. Training has typically been offered outside the paid-work environment by private firms and unemployment has been turned into a business. It is clear that many market-based organisations have benefited from this new approach to delivering labour market services.

Small entrepreneurs, community activists and private welfare agencies have become the agencies that administer neo-liberal labour market policies (Peck, 2001). However, governments and their advisers seem oblivious to the absurdity of forcing people to relentlessly search for work – and to engage in ongoing training divorced of a paid-work context – given the stark evidence that since 1975 most countries have not created enough employment to match the willing labour supply. Clearly, the NAIRU approach has seduced them all.

There is ample evidence that this approach to training, in the active labour market programme environment, has failed. In this context, Australia is an interesting case. The OECD (2001: 11) praised Australia for its pathbreaking lead in introducing 'market-type mechanisms into job-broking and related employment services'. The OECD (p. 14) concluded that in terms of labour market policies Australia 'has been among the OECD countries complying best' with the OECD *Jobs Strategy*. The ideas embodied in the OECD reform proposals have strongly influenced policy makers in Australia over the last 15 years. Successive Australian governments have pursued macroeconomic programmes of fiscal consolidation and inflation-linked monetary policy. This has been accompanied by the introduction of supply-side measures, notably severe labour market deregulation, privatisations, and the extension of activity tests to a cohort of single mothers and people with disability in receipt of income support. The Australian government privatised the public employment service and created a new structure for delivering labour market services including training. The resulting Job Network exploits a host of private, community and public groups operating at the regional level who compete among each other to win the contracts provided by government to deliver labour market programmes. The government confidently claimed that competition among the Job Network agencies would deliver the highest-quality service at the lowest costs. This was a meagre statement of faith in the textbook competitive model and the reality of their operations is a far cry from the rhetoric. Job Network agencies – both private providers and faith-based community organisations – have been willingly co-opted to implement the neo-liberal mutual obligation agenda and attendant breaching. 'Breaching' refers to the system of heavy fines (benefits withdrawn for lengthy periods) imposed on an unemployed worker by government for failing an activity test. Among those most affected by penalties for breaching activity test requirements (such as missing an appointment with a case manager) are people with psychiatric disability, mental illness and/or drug- and alcohol-related problems, and people who are homeless or at risk of homelessness. There is no evidence that treating the most disadvantaged workers in this way provides any long-term benefits. Conversely, there is a

host of studies that demonstrate the actual harm that is borne by the unemployed who are deprived of benefits (see Cowling and Mitchell, 2003 for a summary).

The most damning indictment of the system is that in recent years employer groups have argued that Australia is suffering from a skills shortage. The existence of a skills shortage, suggests that the hundreds of thousands of unemployed Australian workers who have been shunted continually through these training and compliance programmes under the Job Network and related bodies, have not acquired any significant durable skills (see Mitchell and Quirk, 2005). Why would there be a skills shortage when billions of dollars have been plunged into privatised employment service providers by the Federal government over the last 8 years? Cowling and Mitchell (2003) provide a comprehensive account of the failure of the Job Network in providing employment services (see also Productivity Commission, 2002).

## 5.4 THE WINDS OF CHANGE ARE BLOWING AND THE OECD BRICKS ARE CRUMBLING

### 5.4.1 Empirical Failings

The 1994 OECD *Jobs Study* was designed to provide a blueprint for the reform of economic policies in its member countries following the deep recession in 1991. However, some 13 years after it was released, the OECD economies still generate an unemployment rate of 5.8 per cent (January 2007 Main Economic Indicators rate for all OECD), down from 6.9 per cent in 1994. This equates to some 35 million job-seekers. The Eurozone still generates an unemployment rate of 7.4 per cent (down from 10.7 in 1994) which is around 11.1 million job seekers (down from 14 million in 1994). Worse, though, is the fact that the official unemployment rate data significantly underestimate the extent of labour market slack. Since the 1991 recession, underemployment has risen in all OECD countries such that in Australia, for example, CofFEE (2007) estimates some 9.5 per cent of willing labour are underutilised in various ways (through unemployment, hidden unemployment and underemployment) despite the official unemployment rate being at 5.8 per cent. The same trend is occurring for many countries in Europe (see ILO, 2006 for the latest data). So as the official unemployment rate has fallen, time-related underemployment has risen. The trend to part-time and casualised employment which fails to provide enough hours of work to match the preferences of the workforce is widespread throughout OECD countries.

This can be directly linked to recommendation 3 of the *Jobs Study*, which urged governments to 'foster the growth of voluntary part-time work . . . by removing obstacles to, and facilitating reductions in working-time and by reviewing existing taxation and social security provisions which discriminate against part-time work' (OECD, 1994: 45).

However, while portrayed as providing the flexibility for families to voluntarily balance their work–life commitments, part-time (and casualised) work has, in fact, become the new form of labour underutilisation as official unemployment rates have dropped (see Mitchell, 2001a). Unemployed workers have been increasingly absorbed into casualised jobs and rendered among the working poor. For instance, OECD (2006: 40) reported:

> [In] a large majority of the countries for which data are available, temporary employment remains largely involuntary, with more than half of the workers indicating that they would prefer permanent jobs [and] half of the countries for which data are available have reported increasing proportions of working poor after 1994, sometimes by a significant extent, such as in the Netherlands, Ireland and the United States (in the latter country from already high levels).

We shall analyse some of these trends in more detail in Chapter 7. The evidence supports our conclusion that it is difficult to agree with the OECD (ibid.: 12) position on the *Jobs Study* that 'the record shows that those countries which implemented its recommendations outperformed those who did not'. There is also strong evidence to show that active labour market programmes of the type praised by the OECD have been largely ineffective in reducing unemployment and improving the outcomes of the most disadvantaged workers in the labour market (Mitchell and Muysken, 2006a, 2006b).

Many academic studies have sought to establish the empirical veracity of the neoclassical relationship between unemployment and real wages and to evaluate the effectiveness of active labour market programme spending. This has been a particularly European and English obsession. There has been a bevy of research material coming out of the OECD itself, the ECB, and various national agencies such as the Centraal Planning Bureau in the Netherlands, in addition to academic studies. The overwhelming conclusion to be drawn from this literature is that there is no conclusion. These various econometric studies, which have constructed their analyses in ways that are most favourable to validating the OECD position, provide no consensus view as Baker et al. (2004) show convincingly. Freeman (2005: 135) concluded:

> [T]hese analyses are akin to a prosecutor's case in a trial. They give the evidence that suggests the institutions are guilty but do not reflect on the weaknesses of

> that evidence. To reach a verdict, it is necessary to see the arguments by analysts who take the other side of the debate – the defence attorneys, as it were. These researchers give a different reading of what the data show and, most important, of the robustness of the case against labour institutions.

### 5.4.2 The Winds of Change

In recent years, partly in response to the empirical reality that active labour market policies have not solved unemployment and have instead created problems of poverty and urban inequality, some notable shifts in perspective are evident among those who had wholly supported (and motivated) the OECD approach. Layard (1997: 202), for example, began to doubt the supply-side labour market policies that he had earlier promoted (see LNJ, 1991) concluding:

> If we seriously want a big cut in unemployment, we should focus sharply on those policies which stand a good chance of having a really big effect. It is not true that all policies which are good in general are good for unemployment. There are in fact very few policies where the evidence points to any large unambiguous effect on unemployment and . . . some widely advocated policies for which there is little clear evidence.

He included changes to 'social security taxes', changes to 'job protection rules', 'productivity improvements', and 'decentralizing wage bargaining' as 'policies whose effects are difficult to forecast'. He argued that further cuts in the duration of benefits would only increase employment at the cost of the creation of an underclass with an 'ever-widening inequality of wages'. Layard (p. 192) now prefers government job creation, which would allow people to reacquire 'work habits . . . to prove their working capacity [and to restore] them to the universe of employable people. This is an investment in Europe's human capital'. Another LNJ author (Nickell), recently wrote (Nickell and Quintini, 2001: 13):

> [S]imply because a change in the benefit system reduces equilibrium unemployment [by making unemployment less attractive] it does not necessarily imply that it is a good thing. It is arguable, for example, that the current benefit system [in the UK] is simply too mean. In fact, to have a system which operates well, it is not necessary to plunge households into poverty should the sole breadwinner lose his or her job.

In the face of the mounting criticism and empirical argument, the OECD has also begun to back away from its hardline *Jobs Study* position. In the 2004 *Employment Outlook*, the OECD (2004: 81, 165) admitted that 'the evidence of the role played by employment protection legislation on

aggregate employment and unemployment remains mixed' and that the evidence supporting their *Jobs Study* view that high real wages cause unemployment 'is somewhat fragile'.

The winds of change have strengthened with the publication of the June 2006 OECD *Employment Outlook: Boosting Jobs and Income*s, which is based on a comprehensive econometric analysis of employment outcomes across 20 OECD countries between 1983 and 2003. The sample includes those who have adopted the *Jobs Study* as a policy template and those who have resisted labour market deregulation. The report provides an assessment of the *Jobs Study* strategy to date and reveals significant shifts in the OECD position. Among other things, the OECD (2006) found:

- there is no significant correlation between unemployment and employment protection legislation;
- the level of the minimum wage has no significant direct impact on unemployment; and
- highly centralised wage bargaining significantly reduces unemployment.

This latest statement from the OECD confounds those who have relied on its previous work including the *Jobs Study*, to push through harsh labour market reforms, retrench welfare entitlements, and attack the power bases on trade unions.

Further, the OECD (2006) found that unfair dismissal laws and related employment protection do not impact on the level of unemployment, merely its distribution. Critics of the OECD approach have consistently pointed this out (Mitchell, 2001a). In a job-rationed economy, supply-side characteristics will always serve to shuffle the queue.

Internationally, there is a growing sentiment that the creation of paid public employment must be a part of the employment policy mix. The lack of consideration given to job creation strategies in the unemployment debate stands as a major oversight. There is growing recognition that programmes to promote employability cannot, alone, restore full employment and that the national business cycle is the key determinant of regional employment outcomes (Peck, 2001).

In Australia, for example, the limited role of public sector job creation, and the withdrawal of the public sector from its historical role as a countercyclical employer, have served to entrench high unemployment (Mitchell, 2001a). By contrast, low-unemployment countries such as Ireland, Norway, Portugal and the US have been very active in providing paid public sector employment. In a comprehensive analysis of public sector job creation programmes in the US, Ellwood and Welty (2000) found

that while poorly designed programmes can be inefficient and displacing, carefully designed and implemented programmes increase employment, minimise displacement effects, raise the earnings of low-skilled workers and produce genuinely valuable output.

## 5.5   THE BRUSSELS–FRANKFURT CONSENSUS

### 5.5.1   Defining the Consensus

Accompanying the OECD *Jobs Study* policy agenda were developments in Europe which have redefined the conduct of macroeconomic policy in that region. In the European context the so-called 'new policy framework' is dubbed in the influential Sapir (2003: 41) Report as the 'Brussels–Frankfurt consensus' and is represented as follows:

> The maintenance of price stability – reflected in low rates of inflation – facilitates achieving higher rates of economic growth over the medium term and helps to reduce cyclical fluctuations. This shows up in a lower variability of output and inflation. In turn, sound public finances are necessary both to prevent imbalances in the policy mix, which negatively affect the variability of output and inflation, and also to contribute to national savings, thus helping to foster private investment and ultimately growth. The latter beneficial effect is magnified as low deficits and debt, by entailing a low interest burden, create the room for higher public investment, 'productive' public spending and a low tax burden. Finally, the beneficial effects of price stability and fiscal discipline on economic performance reinforce each other in various ways. On the one hand, fiscal discipline supports the central bank in its task to maintain price stability. On the other hand, prudent monetary and fiscal policies avoid policy-induced shocks and their unfavourable impact on economic fluctuations while ensuring a higher room for manoeuvre to address other disturbances that increase cyclical instability.

The Sapir Report is broadly sympathetic to the view underlying this consensus, although it stresses that some of the recommendations following from it should consider the possibility that shocks may be asymmetric. This implies that the policy rules it espouses might be applied differently across countries to consider specific circumstances.

As Mitchell and Muysken (2006b) emphasise, implicit in the Brussels–Frankfurt consensus is the view that there is no relevant sustainable trade-off between inflation and unemployment (Sapir, 2003: 44–5). In other words, unemployment will converge to the NAIRU and needs little separate policy action. The Brussels–Frankfurt consensus and the *Jobs Study* thus provided a common macroeconomic–microeconomic vision of reform based on a faith in the NAIRU market-clearing ideology. For EU countries,

the Jobs Study and its underlying faith became especially important after the Luxembourg Summit of 1997. The European Employment Strategy which was agreed at the Summit is largely modelled along the lines set out by the *Jobs Study* (Dostal, 2004).

### 5.5.2   The European Employment Strategy

While the OECD *Jobs Study* strategy dominates the European Employment Strategy (EES) there are still differences between the two approaches that are worth exploring. Dostal (2004) correctly pointed out that many elements of the *Jobs Study* have been fully absorbed within the EES, as reflected in the latter's four pillars: employability, entrepreneurship, adaptability and gender equality. Casey (2004:333) presents a detailed overview of the similarities between the recommendations of both strategies, pointing out that the recommendations reflect a structural interpretation of unemployment, 'symptomatic of an insufficient ability to adapt to change [implying] a focus on policies concerned with labour'.

Other authors prefer to stress the differences between the *Jobs Study* and the EES, which lie, not so much in the underlying analysis, but in the implementation of the recommendations. It is widely recognised that the OECD recommendations are framed by NAIRU-based beliefs which provide a unified form of discourse, while the EU approach is much more eclectic, balancing the competing demands of various interest groups (Noaksson and Jacobsson, 2003; Casey, 2004; Dostal, 2004). This is also reflected in the so-called 'open coordination method' which is an integral part of the EES, and was introduced at the outset of the Luxembourg process (Goetschy, 1999). Mosher and Trubeck (2003: 83) argued that the open coordination method 'has been touted as a third way in EU governance to be used when harmonisation is unworkable but mutual recognition and the resulting regulatory competition may have unwelcome consequences'. Key elements of this method include the use of best-practice techniques to encourage learning between units within the EU; benchmarking; consultation; and action plans. The last are defined in terms of concrete targets but are without attendant punishments for non-achievement. Consistent with the Third Way approach, Mosher and Trubeck (p. 64) commented:

> Where some see a creative breakthrough that will solve problems up till now considered intractable, others see another threat to Europe's generous social policies. For the optimists, the EES is not only a methodological breakthrough for the Union, but also an innovation with superior capacity to solve the many social problems Europe faces . . . Others, however, fear that by moving away from efforts to mandate uniform and social standards, the Union might contribute to the gradual erosion of social programmes and policies.

These differences in approach between the OECD and the EU led Casey (2004: 19) to conclude that there is 'one view of the labour market, but two views of the welfare state'.

Finally it is interesting to observe that both the OECD *Jobs Strategy* and the EES are under revision (Watt, 2004). But our expectations of a fundamental change towards a job creation approach are not high. As Watt (p. 135) observed:

> [In] the wider context of employment policy as a whole, however, the changes [in the EES] pale into insignificance compared to the short-term threats to employment posed both by global economic developments and risks, and the inability to reach agreement . . . to promote output stability and growth that are needed to bring about a sustained raise in employment.

This observation brings us to the Stability and Growth Pact (SGP).

### 5.5.3   The Stability and Growth Pact: Neither Stability Nor Growth

The SGP emerged out of the Maastricht meetings in 1992. The Maastricht Treaty, 1992, stipulated that countries seeking inclusion in the eurozone had to fulfil among other things the following two requirements: (a) a debt to GDP ratio below 60 per cent, or converging towards it; and (b) a budget deficit below 3 per cent of GDP. It is now widely recognised that these figures are highly arbitrary without any solid theoretical foundation or internal consistency (see Mitchell et al., 2006). The rationale of controlling government debt and budget deficits were consistent with the rising neo-liberal orthodoxy that promoted inflation control as the macroeconomic policy priority and asserted the primacy of monetary policy (a narrow conception notwithstanding) over fiscal policy. Fiscal policy was forced by this inflation first ideology to become a passive actor on the macroeconomic stage. Many countries have taken this route in the 1990s including Canada, Australia, New Zealand, the UK and, to a lesser extent, the US. We shall analyse the inflation-first ideology in more detail in Chapter 6. In this section we focus on EU behaviour because of its unusual central banking arrangements where the ECB's brief spans fiscal zones (countries).

As a result of the establishment of the ECB, European member states now share a common monetary stance. The SGP was designed to place nationally determined fiscal policy in a straitjacket to avoid the problems that would arise if some runaway member states might follow a reckless spending policy, which in its turn would force the ECB to increase its interest rates (Mitchell and Muysken, 2006b). Germany, in particular, wanted fiscal constraints put on countries such as Italy and Spain, to prevent

reckless government spending which could damage compliant countries through higher ECB interest rates.

Aided by the growth period following the 1991 recession, the fiscal constraints were met by all aspiring member states. Emboldened by this success, and more alert because the date for the euro introduction was approaching, the euro countries decided in the 1997 Amsterdam Treaty that the rules should be sharpened. The deficit should be either zero or in surplus, and when it threatened to reach 3 per cent of GDP, countries should take appropriate measures. This requirement, formalised in the SGP, was criticised by many economists.

Even economists operating from within the so-called 'orthodox deficit dove paradigm',[2] such as De Grauwe (2003) argue that there is no rationale for zero government debt, which a zero deficit would imply in the long run. While the doves work within the government budget constraint framework – which we shall show in Chapter 8 to be flawed at the most fundamental level – these economists still argue that it is more fruitful to concentrate on stimulating economic growth, than it is to anxiously guard government deficits (see also Fitoussi and Saraceno, 2004). From the dove viewpoint, public borrowing is constructed as a way to *finance* capital expenditures. Since government invests a lot in infrastructure and other public works, those investments should at least allow for a deficit. This was already recognised by the classical economists as a golden rule of public finance (see Buiter and Grafe, 2004 for a modern variant). So even within an orthodox public finance model, the stipulations of the SGP are difficult to justify.

In Chapter 8, we shall develop a modern monetary macroeconomic framework which demonstrates that economists who advocate the SGP fail to comprehend the basis of government spending and, in imposing these voluntary financial constraints on government activity, deny essential government services and the opportunity for full employment to their citizenry.

The requirement that budget deficits should be zero on average and never exceed 3 per cent of GDP not only restricts the fiscal powers that governments would ordinarily enjoy in fiat currency regimes (see Chapter 8), but also violates an understanding of the way in which fiscal outcomes are effectively endogenous. Any economist with even the simplest understanding of the way in which automatic stabilisers operate will see the lack of wisdom in the SGP rule. A sharp negative demand shock which causes an economic downturn will reduce tax receipts and increase benefits, automatically increasing the deficit. Reducing government expenditures in that situation to meet the rule will worsen (prolong) the recession, which is then likely to involve the country in further SGP rule violations. The vicious

circle of spending cuts implied is unsustainable and amounts to fiscal vandalism. In other words, fiscal policy becomes pro-cyclical under the SGP rule, violating any sensible ambitions that are the ambit of responsible fiscal management. This is the major reason why France and Germany have refused to comply with the 3 per cent rule over the last several fiscal years (Mitchell and Muysken, 2006b).

Another problem relates to the bias in the way that fiscal adjustment is conceived. In particular, it is automatically assumed that discretionary actions to reduce the budget deficit will involve spending cuts rather than increasing taxes. We cannot help but have the impression that some politicians are not primarily concerned about the size of the budget deficit, but covet the 3 per cent rule as a welcome excuse to force their ideological predilection for small government. In other words, the ideological bias against public activity, particularly in the social security sphere, is dressed up as prudential economic management to give the crude religious zeal an air of authority and respectability.

The SGP rule cannot be seen in isolation of the acceptance by EU countries of the voluntary monetary policy straitjacket that the ECB acceptance imposes. While the ECB now has a monetary policy monopoly across the EU countries, it is not politically responsible for its actions. The EU countries have voluntarily allowed the ECB to be an unelected and independent body whose sole aim is to control inflation. The fundamental democratic principle that the citizens have the ability to cast judgement on the policies of their representatives at regular intervals has been abandoned in this setup. We shall consider this issue more in Chapter 6. Former World Bank adviser, Joseph Stiglitz (2002: 45) has criticised this aspect of the EU model:

> There is a wide-spread feeling that Europe's independent Central Bank exacerbated Europe's economic slowdown in 2001, as, like a child, it responded peevishly to the natural political concerns over growing unemployment. Just to show that it was independent, it refused to allow the interest rates to fall, and there was nothing anyone could do about it. The problems partly arose because the European Central Bank has a mandate to focus on inflation, a policy . . . that can stifle growth or exacerbate an economic down turn.

This voluntary monetary policy straitjacket suggests that countries have to use fiscal policy to react to economic shocks which affect the real economy. However, the SGP has imposed an inflexibility on this discretion and stagnant economic outcomes have been the norm (see also Bofinger, 2003; Arestis and Sawyer, 2004b; Buiter, 2006b).

It is often said that the European economies are sclerotic, which is usually taken to mean that their labour markets are overly protected and their welfare systems are overly generous. However, the real European

sclerosis is found in the inflexible macroeconomic policy regime that the euro countries have chosen to contrive. The rigid monetary arrangements conducted by the undemocratic ECB and the irrational fiscal constraints that are required if the SGP is to be adhered to, render the nation states within the eurozone incapable of achieving low levels of unemployment and increasing income growth.

These observations lead to our more embracing criticism of the Brussels–Frankfurt consensus from the perspective of the functional finance paradigm. As we shall argue in Chapter 8, there is a difference between governments being financially constrained and situations where governments accept voluntary financial constraints. The SGP, coupled with the common ECB monetary policy, is an example of the latter but does not negate the fact that EU countries could exploit the powers that issuing fiat currency provides them. They would make this choice if they wished to pursue a macroeconomic strategy aimed at restoring full employment with price stability.

## 5.6   CONCLUSION

This chapter has critically assessed the microeconomic aspects of the policy agenda that followed the acceptance of the NAIRU approach by the economic profession. The dominance of this supply-side agenda has led policy makers to abandon the goal of full employment and to replace it with the diminished goal of full employability. Accordingly, the attention of policy makers was shifted away from aggregate demand management and refocused on microeconomic reforms including labour market deregulation, privatisation, and significant retrenchments of public employment and key components of the welfare state.

Ingrained in the *Jobs Study* approach is the notion that the cause of unemployment lies in individual behaviour encompassing motivations, attitudes and endeavour. This notion comes directly from the orthodox microeconomic approach. Under the full employment framework, social policy was designed to provide income support when the economy temporarily deviated from full employment. The role of macroeconomic policy was to ensure that the economy stayed as close to full capacity as was possible. Under the full employability framework, the role of social policy becomes one of helping individuals to position themselves in the labour market and maximise their chances of gaining work should a job be available. This typically miserly assistance is enforced by a harsh compliance regime, yet no effort is made to ensure that there are enough jobs available to match the preferences of the labour force.

Mitchell and Muysken (2002c) showed that the dynamics of unemployment and vacancies over the period of interest are inconsistent with the search effectiveness explanation, and are instead consistent with the constrained aggregate demand thesis (see also Modigliani, 2000). We shall expand on these points in Chapter 7 after showing, in Chapter 6, how monetary policy changes have buttressed the austerity imposed by the full employability framework. In that regard, we critically assess whether the inflation targeting approach that is now in vogue has delivered outcomes to match the rhetoric coming from its zealous supporters. We conclude that it is a flawed approach.

By promoting inflation as the number one bogey person and reducing the importance of unemployment as a policy priority, neo-liberal policy makers were able to promote the supply-side microeconomic policy emphasis to centre stage and downgrade the importance of an active, counter-cyclical macroeconomic policy stance (see Blinder, 1987; Solow, 1998). Panić (2006: 155–61) provides an interesting comparison of the economic performance of France, Germany, the Netherlands, Norway, Sweden, the UK and the US and concludes:

> In summary, two important conclusions emerge from the experience of the seven economies since the end of the 1980s. First, whatever the model of capitalism, economic growth slows down and unemployment rises if a country adopts the classical approach to macroeconomic management advocated by neoliberals. In contrast, whatever the model of capitalism, the Keynesian approach to macro-economic management . . . will improve economic performance. Second, those models of capitalism that give high priority to social well-being, solidarity and trust have an important advantage in minimising the impact of a stagnant environment on economic welfare, not least by being able to respond more rapidly and adequately to the challenges of globalisation.

These observations illustrate the importance of engendering social well-being, solidarity and trust as fundamental building blocks for achieving better economic performance. It is in this spirit that our emphasis on full employment should be understood.

## NOTES

1.   In this context, the Stiglitz (2002: 24) critique of the IMF is instructive: 'One should not see unemployment just as a statistic, and economic "body count", the unintended causalities in the fight against inflation . . . The unemployed are people, with families whose lives are affected – sometimes devastated – by the economic policies that outsiders recommend [or] effectively impose. Modern high-tech warfare is designed to remove physical contact: dropping bombs from 50,000 feet ensures that one does not "feel" what one does. Modern economic management is similar: from one's luxury hotel, one can callously impose

policies about which one would think twice if one knew the people whose lives one was destroying'.

2.  We use the term 'deficit dove' to refer to economists who are not opposed to governments using deficits to stimulate the economy but who adopt cautionary positions as to the extent of this net spending. They usually express their caution in terms of the need to maintain stable public debt to national income ratios and balanced budgets on average over the course of the business cycle. They therefore operate within the flawed government budget constraint paradigm, whereby they consider that the issuance of public debt is to finance net public spending (at a federal level). See Chapter 8 for more discussion.

# 6. Inflation first: the new mantra of macroeconomics

## 6.1 INTRODUCTION

With the commitment to full employment abandoned by most governments in the OECD bloc, variously in the 1970s, a new policy framework took some time to emerge and its manifestation was not uniform across all countries. But essential common elements can be identified that have defined macroeconomic policy making, especially since the 1990s.

The rise of monetarism occurred as the world economies were struggling to absorb the consequences of the OPEC oil price shock in 1973. The cost shocks posed the problem of how the real income losses were to be shared among labour, capital and government. Many economies failed to accomplish this absorption in a consensual way and the distributional struggles that ensued further fuelled the inflation process. The 1970s was the 'battle of mark-ups' period *par excellence*. However, neoclassical macro economists opportunistically seized the serendipitous moment and elevated the forecasts of Phelps and Friedman to centre stage. In doing so they were able to resurrect into the policy domain the pre-Keynesian natural rate approaches that had been discredited during the Great Depression. In this momentous policy shift, it was overlooked that the Phelps–Friedman account of the dangers of continued full employment, inasmuch as they had any relevance, rested on demand-side shocks feeding into an expectations spiral rather than a supply-side shock provoking distributional conflict and incompatible claims. Despite this clear anomaly, the Keynesians gave in with barely a whimper and thus allowed the monetarists to reinstate their faulty logic as the new mainstream approach to economic policy making.

By the late 1970s, many economists within this new orthodoxy considered that inflation had become the number one economic problem. With labour markets slack after the stagflation period, they focused their attention on the persistence of inflationary expectations as the ongoing source of the inflation. Analysing the change in macroeconomic policy in the US in the 1980s, DeLong (2002: 449) observed that: 'only after [inflation] had reached the level of a political crisis – did a consensus develop that priorities needed to be changed, and steps were taken to reduce inflation'.

The misadventure in the 1980s started with the monetarist doctrine of monetary control, which was a direct application of the discredited quantity theory of money, being interpreted literally by policy makers. The aim was to automate monetary policy by forcing the money supply to follow some long-run real output growth path. If this trend growth rate was 4 per cent per annum, and a 2 per cent inflation rate was desired, then the monetary growth target would be set at 6 per cent per annum. Maintenance of that growth volume would result in stable macroeconomic conditions. The erroneous assumptions underlying this experiment were that the monetary authorities actually had control over the money supply and that there was a solid connection between the volume of money and nominal GDP (that is, velocity was stable and predictable). These assumptions were simply assertions derived from the quantity theory of money. Velocity was constructed as being a stable trending variable moving over time in response to technology changes in banking and elsewhere (for example, payments methods).

Many OECD countries explicitly adopted monetary targeting as their monetary policy framework, including the US, Australia, Canada and the UK. The monetary targeting experiment during the 1980s failed everywhere as measured velocity proved to be highly volatile, as different measures of money moved in different ways and as commercial banks and other financial intermediaries innovated around regulations imposed by the monetary authorities (Bernanke and Mishkin, 1997; Mishkin and Posen, 1997; Mishkin, 2000). Mishkin (2000: 18) argued that the best outcomes during this period were in Germany and Switzerland and 'that German and Swiss monetary policy was actually far closer in practice to inflation targeting than it is to Friedman-like monetary targeting, and thus might best be thought of as "hybrid" inflation targeting'.

As a consequence of the failure of monetary targeting, monetary authorities in many OECD countries reconstructed their approach to monetary policy during the 1990s by introducing regimes that targeted the inflation rate directly – or, similarly, regimes that placed a large and explicit emphasis on inflation. In this chapter we shall evaluate this development.

We begin by rehearsing the main arguments made by proponents of inflation targeting and the alleged benefits of the monetary policy framework (Section 6.2). We then consider some recent empirical evidence of the effectiveness of inflation targeting which lead us to reject the claims that it has been a successful strategy (Section 6.3). In order to measure the costs of reducing inflation related to the excessive emphasis on bringing inflation down, we develop the concept of the sacrifice ratio and report on estimates of that (Section 6.4) ratio. We conclude by emphasising the link between inflation targeting and an ideology based on the NAIRU,

passive fiscal policy and persistently high rates of labour underutilisation (Section 6.5).

## 6.2 INFLATION TARGETING: FURTHER INTO THE MIRE

### 6.2.1 The Triumph of the NAIRU Ideology

Once the monetary targeting experiment of the 1970s and 1980s was abandoned as a failure, the monetary authorities in many OECD countries reconstructed the conduct of monetary policy during the 1990s by introducing regimes that targeted the inflation rate directly. As Issing (2004: 170) commented:

> The inflation experience of the 1970s and developments in the theory of monetary policy analysis over the past 20 years have made clear the importance of the monetary authority making a firm commitment. However, contrary to the debate of the 1960s, it is a commitment on an objective rather than on a simple rule.

The emphasis became one of directly maintaining price stability (see Ball, 1993; Mishkin and Posen, 1997; Bernanke et al., 1999).

Several countries formally adopted inflation targeting. The Reserve Bank of New Zealand adopted it first in 1990. This is no surprise given that the country had been undergoing a vast neo-liberal unwinding of its Keynesian welfare state since the mid-1980s. Canada was next to formally announce inflation targeting guidelines in February 1991 then Israel in December 1991, followed by the UK in 1992, and Sweden and Finland in 1993. Australia and Spain followed in 1994.

Inflation targeting refers to a monetary policy framework where the central bank explicitly and publicly declares a target inflation (or price) quantum and changes short-term interest rates to manipulate economic activity (and inflationary expectations) in order to maintain actual inflation within the pre-announced target, which may be represented by an acceptable range. However, as Issing (2004: 176) noted: 'in practice, probably no central bank follows the strict characterization of inflation targeting and . . . differences in the practices of central banks oriented to price stability should not be exaggerated' (see also Siklos, 2004).

Inflation targeting as described is differentiated from the use of a quantitative definition of price stability as in the case of the ECB. The latter approach may require medium-term compliance but cannot be construed as something the ECB targets, given that the ECB does not act in a

rule-driven way if the inflation rate exceeds some threshold (Solans, 2000). Issing (2004: 174), a member of the executive board of the ECB, emphasised that its policy has a medium-term orientation and:

> [C]entral banks can only affect the price level with 'long and uncertain lags'; consequently they cannot be overambitious and try to steer price developments in the short run, nor should they seek to precisely define the horizon of their action. Moreover they need to respond gradually to economic shocks, taking output fluctuations into account.

And in a similar vein, Bernanke (2004: 168), who was then a member of the Board of Governors of the Federal Reserve System, stated:

> The FOMC might say to Congress: 'We don't want long-run inflation to be too high, because low inflation promotes growth and productivity. On the other hand, inflation shouldn't be too low, because we want to have all the room we need to respond to the dangers that deflation poses for output and employment. We pose the objective in terms of inflation only because that is what the Fed can control in the long run.' It does not seem to me to be such a difficult case to make in terms of the existing dual mandate.

Hence, although the practice of monetary policy may differ somewhat between countries, they all share a strong focus on maintaining a low and stable inflation. This is consistent with the belief in a NAIRU view of the world, whereby there is some unique real level of activity (summarised in either output or employment) that the economy gravitates to, and any episodes of price disinflation will only temporarily push the real economy below these levels.

The move to inflation targeting, be it formally announced or more pragmatically implemented, reflecting an overwhelming faith in NAIRU ideology, marked the final stages in the abandonment of full employment in OECD countries. The modern policy framework is in contradistinction to the practice of governments in the post-Second World War period to 1975, which sought to maintain levels of demand using a range of fiscal and monetary measures that were sufficient to ensure that full employment was achieved. Over this period, which we have described as the Keynesian era of full employment, unemployment rates were usually below 2 per cent. Since the mid-1980s, unemployment rates in most OECD countries have usually been above 6 per cent.

### 6.2.2 Claimed Advantages of Inflation Targeting

Inflation targeting proponents claim that it has several advantages over previous monetary policy approaches. Many of the gains are attributed to the

fact that inflation targeting allegedly provides the central bank with the independence it needs to be credible, transparent and accountable – essential conditions for an effective policy regime. The enhanced policy credibility allegedly allows a higher sustainable growth rate (Barro, 1995; Cecchetti and Rich, 1999). The enhanced central bank independence overcomes the time-inconsistency problem (Sargent, 1983) whereby an inflation bias is generated by the pressure that the elected government places (implicitly or explicitly) on non-elected officials in the central banks to achieve popular outcomes. Thus inflation targeting can allegedly lock in a low-inflation environment. As Masson et al. (1997: 6–7) stated:

> [C]entral banks . . . are subject to continual pressure to stimulate activity and/or pursue other objectives that may conflict with price stability. Inflation targeting in principle helps to redress this asymmetry by making inflation, not output or some other target variable, the explicit goal of monetary policy and by providing the central bank a forward-looking framework to undertake a *pre-emptive* tightening of policies before inflationary pressures become visible. (Emphasis in original)

Svensson (1997) argued that inflation targeting not only reduces inflation variability but also reduces the variance of output growth (see also Alesina and Summers, 1993). If certainty in monetary policy generates more-stable nominal values, it is argued that lower interest rates and reduced risk premiums follow. This allegedly stimulates higher real growth rates via an enhanced investment climate. Further, inflation persistence is allegedly reduced because one-time shocks to the inflation rate are quickly eliminated by the policy coherence. The reduced inflation variability allows more certainty in nominal contracting with less need for frequent wage and price adjustments. This in turn means that there is less need for indexation and short-term contracts. However, the implications of this are a flatter short-run Phillips curve. In other words, higher disinflation costs (Ball et al., 1988; Jordan, 1997).

While some extreme elements of the profession, who still consider rational expectations to be a reasonable assumption, will deny any real output effects, most economists acknowledge that any disinflation engendered by this approach will be accompanied by a period of reduced output and increased unemployment (and related social costs) because a period of (temporary) slack is required to break inflationary expectations (Fuhrer, 1995). There is a growing literature on NK models dealing with these problems. Blanchard and Gali (2005: 2) argued that the standard NK model

> implies that the two goals do not conflict: Stabilizing inflation also stabilizes the output gap. Thus, for example, in response to an increase in the price of oil, the

best policy is to keep inflation constant; doing so implies that output remains equal to its natural level.

This property, which we shall call the *divine coincidence* contrasts with a widespread consensus on the undesirability of policies that seek to fully stabilize inflation at all times and at any cost in terms of output. That consensus underlies the *medium-term* orientation adopted by most inflation targeting central banks. (Emphasis in original)

The challenge for NK models therefore is to explain this latter consensus. Blanchard and Gali introduced real-wage rigidities to that end, while Ball et al. (2005) emphasised slow adjustment of price setters. As we saw in Chapter 4, the NK models struggle to accommodate any of the interesting questions that surround the abandonment of full employment by governments around the world, and when they do respond to the empirical anomalies they compromise their so-called 'rigorous underpinnings' for which they claimed so much virtue.

How large are the output losses following discretionary disinflation? Can these output losses be attenuated by the design of the monetary policy? Sargent (1983) argued that the losses were minimised if the disinflation is rapid. Ball (1993) found that the losses are inversely related to the speed of disinflation. Others, such as Blinder (2000) rejected the notion that a more politically independent central bank can engineer disinflations with attenuated real output losses. Blinder (p. 1425) concluded that 'to my knowledge, there is no statistical evidence whatsoever on the other side of the debate'. Modigliani (2000) argued emphatically that inflation-first monetary policy has caused the lack of jobs, especially in European economies, over the 1990s (we shall discuss this from an empirical perspective in Chapter 7).

A complete understanding of the consequences of a low-inflation economy for unemployment is required before we can implicate inflation targeting in the persistence of high unemployment over the last 20 years. Some unresolved issues centre on whether the costs of maintaining a low-inflation economy outweigh the benefits which, in part, necessitates more explicit estimates of the short- and long-run costs. There is also no consensus involving the preferred econometric (or estimation) approach.

We shall argue that while inflation targeting does not generate significant improvements in the real performance of the economy, the ideology that accompanies inflation targeting does damage the real economy because it embraces a bias towards passive fiscal policy which, in our view, locks in persistently high levels of labour underutilisation. Disinflationary monetary policy and tight fiscal policy can bring inflation down and stabilise it but it does so at the expense of creating and maintaining a buffer stock of unemployment. The policy approach is seemingly incapable of achieving

both price stability and full employment (Mitchell, 2001a; Arestis and Mouratidis, 2004). We shall address these last issues in Chapters 8 and 9.

## 6.3 HAS INFLATION TARGETING BEEN EFFECTIVE?

### 6.3.1 Claims of Success and the Rebuttal

In commenting on the move to a single monetary policy goal of price stability in a number of countries (such as Canada, the UK, New Zealand, Sweden, Finland and Australia), Saxton (1997: 3) claims that: 'evidence to date indicates these experiments have been quite successful. Those countries adopting a price stability goal, for example, have significantly improved their inflation performances. Specifically they have all dramatically lowered their inflation rates since adopting targets for inflation, often to lower rates not observed for decades'.

These observations are confirmed by a minority of empirical research. For instance, Choi et al. (2003) found that inflation targeting policy in New Zealand significantly reduced the volatility of real GDP growth. Levin et al. (2004) concluded from the past decade of experience that for industrial countries, inflation targeting has played a role in anchoring inflation expectations and reducing the persistence of inflation. Cecchetti et al. (2006) found in a study of 25 countries that the adoption of inflation targeting increased central bank independence, which among other factors, has been associated with more stable real growth.

By way of contrast, Arestis and Mouratidis (2004) observed a clear trade-off between inflation variability and output gap variability in the EU, which varies among EMU countries. Aspergis et al. (2005) concluded that for EU countries, forward-looking rules contribute to macroeconomic stability and monetary policy credibility, and that a positive inflation target, as opposed to zero inflation, leads to higher and less volatile output. Roger and Stone (2005) deduced from a world-wide study that inflation targets are missed about 40 per cent of the time and often by substantial amounts and for prolonged periods.

The most comprehensive and rigorous work on the impact of inflation targeting is the study by Ball and Sheridan (2003) who aimed to measure the effects of inflation targeting on macroeconomic performance in 20 OECD economies, of which seven adopted inflation targeting in the 1990s. To examine whether the introduction of inflation targeting improves economic performance, they adopted the standard 'differences in differences' regression method, using the equation

$$X_{post} - X_{pre} = \alpha_0 + \alpha_1 D + \varepsilon,$$

where $X$ is the value of a variable of interest (for example, inflation, interest rate or real output), $X_{pre}$ and $X_{post}$ are the values of $X$ in the period prior to targeting and afterwards, respectively, and $D$ is a dummy variable discriminating between targeters and non-targeters. The coefficient $\alpha_1$ measures the effect of targeting on variable $X$.

Ball and Sheridan ran several regressions corresponding to different start dates for the pre- and post-targeting periods, and also differentiated between targeting countries that had maintained a constant target and those that had varied its target over the targeting period. Moreover, they controlled for the 'regression to the mean' problem where poor performers in the pre-targeting period tend to improve more than good performers simply because initial performance depends partly on transitory factors by adding the initial value of $X$, $X_{pre}$, to the differences regression. That is, they estimated

$$X_{post} - X_{pre} = \alpha_0 + \alpha_1 D + \alpha_2 X_{pre} + \varepsilon.$$

Ball and Sheridan (p. 13) maintained that the coefficient $\alpha_1$ on the targeting dummy variable then indicates 'whether targeting affects a country's change in performance for a given initial performance. If $\alpha_1$ is significant, then a targeter with poor initial performance improves more than a non-targeter with equally poor initial performance. This difference implies the true effect of targeting'.

Their results confirm that for mean inflation, regression to the mean is strong and targeting has no statistically significant effect. Most of the change in mean inflation is explained by the initial inflation. Further, there is 'no evidence that inflation targeting reduces inflation variability' (ibid.: 17). Ball and Sheridan showed that inflation targeting increases variability, with the effect being statistically significant for some samples and marginally so for others. For average growth and variability of real output, inflation targeting has no statistically significant impact in any sample comparison. For long-term interest rates, the results showed that non-targeters enjoy lower rates but the results are not statistically significant when initial values are controlled for. Finally, seeking to shed light on whether, inflation targeting central banks adjust their short-term interest rates more than non-targeting countries, Ball and Sheridan examined the variability of short-term interest rates. The results showed that interest rate volatility is low for non-targeters but the significance of the effects is eliminated when initial values are taken into account.

Overall, the more formal analysis by Ball and Sheridan does not support the case that inflation targeting delivers superior economic outcomes which

vary 'greatly across individual countries, both targeters and non-targeters [but] there is no evidence that inflation targeting improves performance as measured by the behaviour of inflation, output, or interest rates' (p. 2). Both targeting and non-targeting countries experienced improvements in the period when some adopted the new regime.

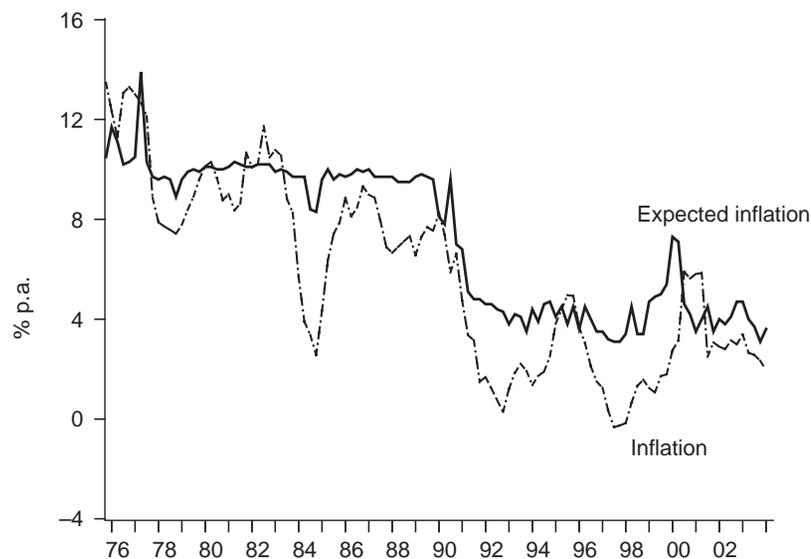### 6.3.2 The Impact on Inflation Persistence and Expectations

One of the claims made for inflation targeting is that central bank independence and the alleged credibility bonus that this brings should encourage faster adjustment of inflationary expectations to the policy announcements (Walsh, 2005). Gali and Gertner (1999) and Adam and Padula (2003) provided supporting evidence for the US, while Coenen and Wieland (2005) found evidence in favour of this idea for the EU.

Different results are found by Ball and Sheridan (2003), who use impulse response functions analysis of quarterly inflation for the 20 countries in their sample, which show the effects of inflation shocks on future inflation. They reported that the pattern whereby inflation shocks die out slowly but are less important for the targeting period 'holds for both targeting and non-targeting countries . . . there is no evidence that targeting affects inflation behaviour' (p. 18). Mitchell and Bill (2004) found similar results for Australia, with the degree of persistence in the inflation rate being unaffected by the transition to inflation targeting in 1994.

A related perceived benefit of inflation targeting is that it expunges inflationary expectations from the economy. There is virtually no research in this area that uses survey data on expectations from consumers, and only a little that uses forecasters' data. For example, Adam and Padula (2003) showed that price expectations in the US became more forward looking as inflation declined during the so-called 'credible era' of monetary policy (see Paloviita, 2006 for similar results pertaining to the EMU).

However, Grant and Thomas (1999) used three survey-based measures of inflationary expectations for the US, and find, at best, evidence of weak rationality. Using more advanced techniques with the same data as Grant and Thomas, Branch (2004) concluded that consumers will use rules of thumb when predicting inflation and will only switch to the more complicated VAR-like predictions when inflation volatility exceeds a threshold. Ungar and Zilberfarb (1993) reported a similar finding using Israeli data.

Against this background the findings of Mitchell and Bill (2004) are interesting. They used survey data on consumers' expectations of inflation from Australia, one of the early inflation targeters. Figure 6.1 shows that price-change sentiments in percent for a year ahead are consistently above the evolution of the actual inflation rate measured as the annualised change in the

in which it has been introduced has been characterised by a long growth cycle, increasingly tough approaches by government towards labour unions and wage determination, deregulation of many sectors of the economy, and an absence of major cost shocks. Dueker and Fischer (2006: 448) concluded that 'on the heels of a decade of low global inflation, it has been hard to argue that formal inflation targets have led to any divergence between targeters and non-targeters in terms of inflation performance'.

Considered in isolation, inflation targeting does not appear to make much difference. It is certainly hard to distinguish it from non-inflation targeting countries, especially those which have adopted the broader fight inflation first monetary stance, such as the US. But the real damage comes from the discretionary fiscal drag which is the ideological partner to inflation targeting. In Chapters 8 and 9 we shall provide a theoretical framework for understanding why labour has been persistently wasted in many rich OECD countries since the mid-1970s.

## 6.4 MEASURING THE COSTS OF DISINFLATION USING THE SACRIFICE RATIO

### 6.4.1 The Sacrifice Ratio

The sacrifice ratio is a standard measure of the costs of disinflation as defined by Neely and Waller (1997: 51):

> [The] cumulative loss of output during a disinflation episode as a percentage of initial output divided by the cumulative reduction in the inflation rate. Thus, a sacrifice ratio of three implies that a one-point reduction in the trend inflation rate is associated with a loss equivalent to 3 per cent of initial output.

There is a vast literature on the estimation of sacrifice ratios which typically find that disinflations are not costless (for good summaries, see Ball, 1993; Boschen and Weise, 2001; and Zhang, 2005).

While the concept of the sacrifice ratio is relatively uncontroversial, save issues about when the disinflation actually ceases to influence the actual output path and whether, in fact, the disinflation reduces the trend output path, the empirical application of the concept has been highly debated. In practice, computation must employ a number of (more or less) *ad hoc* assumptions about: (a) trend inflation; (b) trend or potential output; and (c) episodes that can be deemed disinflations. There is the additional problem of netting out policy-induced episodes from those that might be provoked by external shocks (cost shocks). The sacrifice ratio estimates have been

*Source:* Westpac/Melbourne Institute inflation expectations (% next year) from RBA database and AUSTATS. Rates are in annual terms.

*Figure 6.1 Inflation and inflation expectations, Australia, 1974–2004*

quarterly CPI. If the inflationary expectations series is a valid indicator of underlying sentiment in the economy, then consumers are persistently erring in their forecasts, that is, failing to learn. This observation is consistent with Mishkin and Simon (1995), who observed for Australia in the 1980s a strong discrepancy between expectations as revealed by the short-run interest rate and inflation – they observe only a long-run Fisher effect.

The other important point to note from Figure 6.1 is that the major mean-shift in inflation and inflationary expectations occurred during the 1991–92 recession and had nothing at all to do with the onset of inflation targeting (1994). In fact, there were no inflationary pressures in the economy (apart from a brief period in early 2000 when a 10 per cent value added tax was introduced for the first time) after the 1991–92 recession. For Australia, at least, it is hard to attribute the improved inflationary performance to the conduct of inflation targeting at all. The decline in the inflation juggernaut occurred around the 1991 recession in most countries.

### 6.3.3 Conclusions from Empirical Literature

There is no hard evidence available at this point in time that can support the rhetoric of the proponents of inflation targeting. Generally, the period

found to be sensitive to the assumptions employed, which prompted Neely and Waller (1997: 56) to maintain:

> [T]he robustness of these estimates is a serious matter: They may overestimate the true sacrifice ratio if they ignore the role of real shocks to the economy, or they may underestimate the true cost for other reasons. Using other estimates of trend output dramatically illustrates that sacrifice ratios are really back-of-the-envelope calculations and are subject to a great deal of uncertainty.

Taking these issues into account, Mitchell and Bill (2004) took advantage of the longer datasets to examine sacrifice ratios for targeting and non-targeting countries as a means of comparing whether any significant differences in outcomes could be discerned. They use the episode-specific approach to measurement introduced by Ball (1993), to counter criticisms of the then standard methodology based on the linear Phillips curve approach, which constrains the output–inflation trade-off to be the same during disinflation episodes as during increases in trend inflation and fluctuations in temporary demand. It also constrains the sacrifice ratio to be the same for all disinflations within the sample. The episode-specific approach allows for comparisons of sacrifice ratios (the actual change (decline) in real output during designated disinflation episodes) across countries and time periods to see if there is any systematic variation.

### 6.4.2 Defining the Disinflation Episodes

Ball (p. 4) defined the disinflation episodes as 'episodes in which trend inflation falls substantially' and trend inflation as a centred, nine-quarter moving average of actual annualised inflation rate. Peak inflation quarters are then derived from the trend inflation series when a quarter is the highest inflation rate compared to the previous and next four quarters. Similarly, a trough is defined as the lowest inflation rate compared to the previous and next four quarters. Following Ball (p. 4) a disinflation episode 'is any period that starts at an inflation peak and ends at a trough with an annual rate at least two points lower than the peak. These definitions assure that an episode is not ended by a brief increase in inflation in the midst of a longer-term increase'. Ball considered that this ensures that the disinflation is policy induced rather than a contraction in demand.

### 6.4.3 Modelling Trend Output

The sacrifice ratio is computed for each disinflation period as the ratio of output loss over the period to change in trend inflation. Ball (p. 5) maintained that the 'numerator is the sum of output losses – the deviation

between actual output and its "full employment" or trend level'. He then considered the measure of trend (potential) output to be 'the most delicate issue' in the exercise (p. 160). Standard approaches to computing potential output series which are common in OECD publications and elsewhere include: (a) linear trend fitted from peak to peak and variations (Ball, 1993); (b) linear filters computed using the Hodrick–Prescott (HP) formula (Zhang, 2005); (c) forecasts from peaks using from autoregressive models of log output (Boschen and Weise, 2001). Mitchell and Bill (2004) compared all three methods to check the sensitivity of the results.

If there are strong persistence effects then the short-term loss will be less than the overall cost. Thus the sacrifice ratio in the face of persistence becomes biased towards short-term losses. Ball (1993: 7) ignored this issue by assuming 'that trend output is unaffected by disinflation'. Zhang (2005: 231) argued that 'demand shifts may reduce output permanently. That is, contractionary monetary policy can reduce trend output as well as cause temporary deviations from the trend. It is likely that a larger recession leads to a larger permanent loss' (see also Romer, 1989).

An obvious problem with calculating long-term loss is that there is more uncertainty about potential output and in the short run it is easier to argue that the essential reason for the recession is the monetary contraction (Zhang, 2005). Another problem is whether actual output will return to the potential level. For this reason most researchers have estimated sacrifice ratios in the short run, Ball (1993), Jordan (1997) and Boschen and Weise (2001). Mitchell and Bill (2004) also estimated long-term sacrifice ratios, following Zhang (2005), and found that they are somewhat higher than their short-run estimates.

### 6.4.4 Sacrifice Ratio Estimates

Mitchell and Bill (2004) calculated three measures of the sacrifice ratio for eight countries over country-specific episodes. Figure 6.2 graphically summarises the average sacrifice ratios for the eight countries. The results confirm that disinflations are not costless; the average ratio for all countries over the 1970s and 1980s episodes is 1.3, which is comparable to the Ball (1993) average of 1.4. However, the average estimated GDP sacrifice ratios have increased over time, from 0.6 in the 1970s to 1.9 in the 1980s and to 3.4 in the 1990s. That is, on average reducing trend inflation by one percentage point results in a 3.4 per cent cumulative loss in real GDP in the 1990s. The increase in the sacrifice ratio might be explained by the flattening of the Phillips curve, as has been noted by Ball et al. (1988), Jordan (1997) and Cunado and de Garcia (2003).

The average sacrifice ratios also differ substantially between countries. Negative sacrifice ratios are recorded in five of the seven episodes recorded in the 1970s: Australia, Canada, France, Italy and the UK. For the other countries, except Germany, the sacrifice ratios in the 1970s are very low. In the 1980s episodes, the ratios for all countries are much higher. Diverging experiences between countries can then be observed in the 1990s episodes. In Canada, Italy, the UK and the US the sacrifice ratio increases further. It is notable that both Canada and the UK adopted inflation targeting early during this period.

In Australia, the sacrifice ratio also increased in the early 1990s episode, but was lower in the late 1990s episode – however, this decline cannot be attributed to inflation targeting (Mitchell and Bill, 2004). Finally, for Germany, Japan and France, the sacrifice ratio also decreased, although these countries were not involved in any formal inflation targeting.

### 6.4.5 Formally Modelling Sacrifice Ratios

An obvious alternative to the calculation of sacrifice ratios along the lines of Ball (1993) is to estimate a structural labour market and inflation model, and calculate the sacrifice ratio directly from the econometric estimates of the relevant coefficients. This method has been applied by Andersen and Wascher (1999) for 19 industrial countries. Mitchell and Bill (2004) reproduced their estimation results for Australia, and find results that are in the mid-range of values published by Andersen and Wascher. Moreover, since the full sample sacrifice ratio is 1.405 and the ratio in the pre-inflation targeting sample is 1.397, they conclude that inflation targeting has not affected the sacrifice ratio for Australia. Blanchard and Gali (2005) also used their model to calculate the sacrifice ratio, albeit for stylised values of their coefficients. They found a sacrifice ratio of 2 for their modified NK model (we assume a disinflation episode of 4 years), whereas it would be only 0.2 in the standard NK model.

### 6.4.6 Has Inflation Targeting Made a Difference?

The summary results presented in Figure 6.2 taken together with the more robust results that underpin the graph (see Ball and Sheridan, 2003; Mitchell and Bill, 2004) allow us to assess the proposition that inflation targeting has lowered the costs of disinflation. Australia, Canada and the UK, which announced policies of inflation targeting in the 1990s, do not have substantially lower sacrifice ratios compared to G7 countries which did not announce such policies. Australia does record a lower average ratio during the targeting period than in the 1980s, averaged across the three methods it
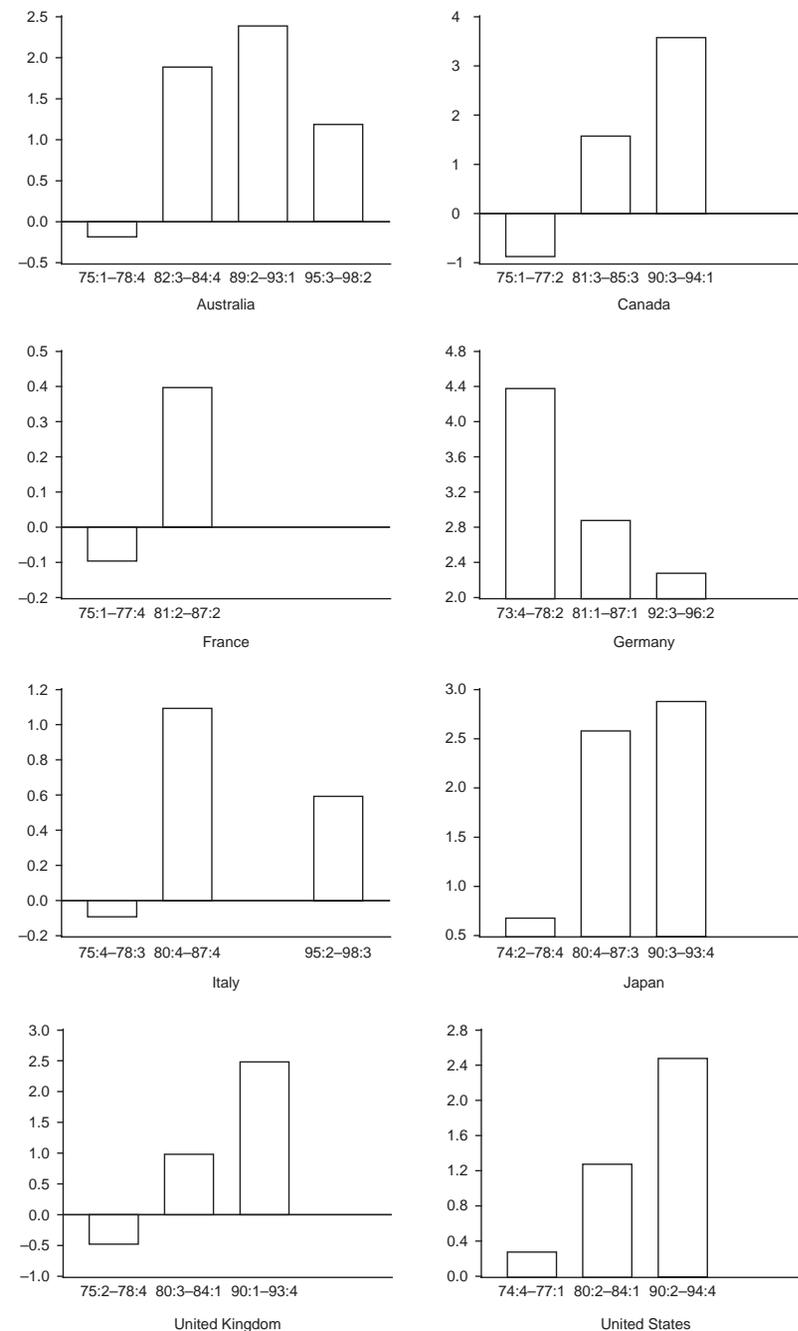
*Figure 6.2   Summary average sacrifice ratios*

is 1.2 per cent; however, this figure is not lower than the average for all previous periods. Canada records a higher sacrifice ratio in the 1990s of 3.6 per cent. The ratio for the UK during inflation targeting is significantly higher at 2.5 per cent (relative to quite low sacrifice ratios in previous periods). Meanwhile Italy, Germany, Japan and the US average 0.6, 2.3, 2.9 and 5.8, respectively. Thus inflation targeting does not appear to have produced better outcomes in terms of reducing the costs of disinflation (although obviously we have not controlled for other factors).

## 6.5  CONCLUSION

Taken together, Ball and Sheridan (2003) and Mitchell and Bill (2004) show that inflation targeting countries have failed to achieve superior outcomes in terms of output growth, inflation variability and output variability; moreover there is no evidence that inflation targeting has reduced persistence.

Other factors have been more important than targeting *per se* in reducing inflation. Most governments adopted fiscal austerity in the 1990s in the mistaken belief that budget surpluses were the exemplar of prudent economic management and provided the supportive environment for monetary policy as we discussed in Chapter 5. The fiscal cutbacks had adverse consequences for unemployment and generally created conditions of labour market slackness, even though in many countries the official unemployment fell. However, labour underutilisation defined more broadly to include, among other things, underemployment, rose in the same countries. Further, the comprehensive shift to active labour market programmes, welfare-to-work reform, dismantling of unions and privatisation of public enterprises also helped to keep wage pressures down. It is clear from statements made by various central bankers that a belief in the long-run trade-off between inflation and employment embodied in the NAIRU has led them to pursue an inflation-first strategy at the expense of unemployment, even though the existence of long-term unemployment itself, beyond the cycle, cannot be explained in this context – see also the previous chapter.

Disinflations are not costless irrespective of whether targeting is used or not. They have risen for the seven countries from on average 0.7 in the 1970s to 3.5 in the 1990s. This implies that any attempt to bring down inflation nowadays by one percentage point will result in a cumulative loss in GDP of 3.5 per cent on average. In terms of unemployment the latter can be interpreted roughly speaking as a cumulative increase of 7 per cent.

The increase in the sacrifice ratio over time illustrates that reduced inflation variability allows more certainty in nominal contracting with less

need for frequent wage and price adjustments. The latter in turn means less need for indexation and short-term contracts and leads towards a flatter short-run Phillips curve. Thus a consequence of inflation targeting is that the costs of disinflation become higher.

We argue that the real costs of inflation targeting lie in the ideology that accompanies it, such that fiscal policy has to be passive. The failure of economies to eliminate persistently high rates of labour underutilisation despite having achieved low inflation is a direct consequence of this fiscal passivity. We thus need to move towards a new paradigm where inflation control can coincide with full employment. Elsewhere, Mitchell and others have argued that this paradigm would embrace a job guarantee (see Mitchell, 1998; Wray, 1998). We shall outline the fundamentals of this paradigm in Chapters 8 and 9.

# 7. The neglected role of aggregate demand

## 7.1 INTRODUCTION

In Chapters 4 and 5 we discussed some of the major theoretical or conceptual challenges that have been made against the NAIRU and its use in the policy arena. In this chapter we examine more closely the empirical anomalies that lead one to reject the basic underpinnings of the full employability framework. In particular we focus on the role that aggregate demand plays in employment generation and unemployment. We are reminded of the warning from Beveridge (1909: 3): 'the inquiry must be one into unemployment rather than into the unemployed'. In this regard, we argue that the overwhelming empirical evidence supports the notion that persistent unemployment and underemployment has been produced by systemic macroeconomic failures, rather than intrinsic flaws in the individuals who have fallen victim to the failure of economies to produce enough hours of work. Freeman (2005: 138) provides an entrée into the rest of the chapter:

> What explains strong adherence to a claim whose empirical support is 'fragile', 'mixed', 'contingent on factors that need to be clarified', and so on? The best interpretation I can give is that these economists come to the problem of explaining unemployment with the prior that markets work well absent interventions, and thus that the right place to look for causes of problems is at institutions that may impede the operation of the markets. They have fairly tight bands around this prior, so that it dominates weak evidence, and thus produces posteriors close to the priors, as in standard Bayesian inference.

In line with this observation, existing labour market policy based on the OECD *Jobs Study* has two main deficiencies. First, there has been an overemphasis on supply-side factors as the principal causes of unemployment, which has led to a raft of supply-side policies being implemented to combat unemployment. Our assessment based on the evidence is that these policy initiatives have largely failed. Second, as a consequence of this focus on full employability and the excessive concern about inflationary expectations, much higher levels of unemployment are considered to be acceptable in present societies when compared to the situation of strong economic growth in the 1950–75 period. From the perspective of the full employment

period, it is totally inconceivable that situations with an unemployment rate of 6 per cent would be considered 'normal' and unemployment rates in the 8–10 per cent range would not call for immediate action. In Australia, for example, unemployment rates of 4.5 per cent are now considered by policy makers to reflect 'full employment', whereas rates above 2 per cent in the golden age of the 1960s would have seriously imperilled the political prospects of the incumbent government. The situation in most European countries is even worse than that of Australia. This willingness to accept higher than necessary unemployment levels means that policy makers are also willingly allowing their economies to sacrifice large real income losses, not to mention the social costs that are borne by the jobless individuals and their families but also society at large.

To counter the overemphasis on supply-side measures, aiming to eradicate alleged institutional rigidities in order to let the market do its work, we start with the obvious proposition that seems to have been lost in the shift to full employability – that the unemployed cannot find jobs that are not there (Mitchell, 2001a). In this chapter we review the empirical evidence that supports the view that aggregate demand is an important determinant of employment, which, in turn, suggests that the best attack on unemployment is to increase employment directly rather than pursue supply-side approaches. To that end we present empirical evidence from different perspectives for a selection of OECD countries, which shows the tight link between aggregate demand on the one hand and employment and unemployment on the other. To contain the amount of data presented, we also at times concentrate on eight, mostly major, countries (with Australia and the Netherlands included to reflect the authors' personal interests). The countries chosen are sufficiently representative to permit generalisation of the results to other OECD countries (particularly comparing the European economies). We consider that the role for demand-side policies and job creation strategies in particular is not sufficiently recognised in the current debate on the causes and cures of unemployment.

We also introduce a new element into the discussion by considering labour underutilisation more broadly, given that official unemployment is now only partly responsible for the wasted labour resources that are endemic in most OECD countries. In this respect we consider the rising significance of underemployment as a manifestation of deficient demand. We define an augmented misery index (AMI) which adds underemployment to the standard misery index (MI) pair – official unemployment and inflation. Tracing the AMI for various OECD economies indicates how significant the departure from full employment under the full employability framework has become.

In Chapter 5 we documented the shift in sentiment which followed the introduction of reform measures in the mid-1990s inspired by the OECD's

1994 *Jobs Study*. On the basis of the empirical evidence presented in this chapter, we conclude that the claims made by the OECD and others that the *Jobs Study* agenda has been a policy success have to be seriously questioned. There is a growing awareness that programmes designed to promote employability cannot, alone, restore full employment, and that maintaining sufficient levels of aggregate demand is the key determinant for achieving full employment. As we saw in Chapter 5, even the OECD's own recent statements cast doubt on the edifice of policy that they have strongly advocated over the last decade and a half.

## 7.2  THE FAILURE OF THE OECD *JOBS STUDY* PARADIGM: THE EMPIRICAL SCORECARD

### 7.2.1  Introduction

Some 13 years after the OECD *Jobs Study* was released, the OECD economies on average still generate an unemployment rate of around 6.2 per cent (down from 7.3 per cent in 1994) which means that some 35 million job seekers are without employment. The eurozone still generates an unemployment rate of 8.2 per cent (down from 10.5 in 1994) which is around 12.2 million job seekers (down from 13.9 million in 1994). Unemployment rates in the big European economies such as France and Italy have persisted at levels of 8 per cent or more since the early 1980s, and in the last decade Germany has deteriorated in a similar fashion. Even the so-called 'successful reformers' (OECD, 2001) such as Australia, the Netherlands and the UK have failed to generate the low unemployment rates of the golden age of the 1960s. Taken alone, the dynamics of OECD unemployment rates over the last decade can hardly be seen as a success of the *Jobs Study* approach to policy.

Compounding this malaise is the fact that the official unemployment data significantly underestimate the extent of labour market slack. Since the 1991 recession, underemployment has risen in all OECD countries. The trend towards lower official unemployment rates and rising underemployment that is common in many OECD economies belies the claim that falling unemployment is a signal of a movement towards full employment. In Australia, for example, the Centre of Full Employment and Equity (2007) estimates that some 9.5 per cent of willing labour are underutilised in various ways (unemployment, hidden unemployment and underemployment) despite the official unemployment rate being at 4.8 per cent (as at February 2007). European underemployment was estimated by the ILO (2006) to be 1.7 per cent of the labour force in 1995 and by 2005 it had risen to 2.2 per cent, with varying experiences in constituent countries. Japan has

seen a worsening of both the official unemployment rate and its underemployment rate (the latter going from 1.4 to 4.4 per cent over the decade from 1995). We conclude that the period since the release of the OECD *Jobs Study* has seen an accelerating trend towards precarious employment (limited dismissal protection) in the form of part-time and casualised employment, and the commensurate failure of economies to provide enough hours of work to match the preferences of the workforce.

### 7.2.2  Unemployment and Inflation Equals Misery

Table 7.1 shows the decade-by-decade MI (the sum of the unemployment and inflation rates) data for selected OECD countries. By comparison with the full employment golden age of the 1960s, all countries experienced sharp increases in misery in the 1970s, as inflation reacted to the OPEC crisis and poor macroeconomic policy responses constrained demand and caused unemployment to rise (see Table 7.2).

Governments in most countries chose to allow unemployment rates to rise in a misguided fear of inflation. Only Austria, Japan, Norway and to a

*Table 7.1   Misery index (%), selected OECD countries, 1960–2006*

| Country | 1960–1970 | 1970–1980 | 1980–1990 | 1990–2000 | 2000–2006 |
|---|---|---|---|---|---|
| Australia | 4.8 | 13.4 | 15.4 | 11.0 | 9.1 |
| Austria | 5.0 | 7.1 | 7.0 | 7.4 | 6.3 |
| Belgium | 4.4 | 10.5 | 13.7 | 10.9 | 14.0 |
| Canada | 7.5 | 14.1 | 15.4 | 11.5 | 9.4 |
| Denmark | 6.8 | 12.4 | 12.9 | 8.9 | 7.6 |
| Finland | 6.8 | 13.5 | 11.6 | 13.9 | 10.3 |
| France | 5.7 | 13.0 | 15.8 | 12.7 | 11.3 |
| Germany | 3.1 | 6.3 | 7.9 | 9.8 | 10.3 |
| Italy | 7.6 | 17.0 | 18.6 | 14.5 | 10.9 |
| Japan | 6.7 | 10.1 | 5.0 | 4.2 | 4.4 |
| Netherlands | 6.3 | 9.7 | 10.6 | 7.9 | 6.0 |
| Norway | 6.0 | 9.9 | 10.6 | 7.2 | 6.0 |
| Portugal | 8.0 | 21.7 | 23.2 | 11.0 | 8.8 |
| Spain | 7.8 | 17.3 | 23.0 | 19.1 | 14.1 |
| Sweden | 5.6 | 10.7 | 10.2 | 9.0 | 6.2 |
| Switzerland | 3.3 | 4.9 | 4.0 | 5.2 | 4.2 |
| UK | 6.0 | 16.2 | 16.6 | 11.5 | 7.6 |
| US | 7.4 | 13.7 | 12.5 | 8.6 | 7.8 |
| Average | 6.0 | 12.2 | 13.0 | 10.3 | 8.6 |

*Source:*   OECD Economic Outlook database and Main Economic Indicators database.

*Table 7.2  Components of the MI, selected OECD countries, 1960–2006*

| Country | 1960–1970 | | 1970–1980 | | 1980–1990 | | 1990–2000 | | 2000–2006 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | UR | INF | UR | INF | UR | INF | UR | INF | UR | INF |
| Australia | 1.7 | 2.4 | 4.1 | 9.3 | 7.4 | 8.0 | 8.4 | 2.6 | 5.9 | 3.3 |
| Austria | 1.7 | 3.5 | 1.6 | 5.8 | 3.3 | 3.7 | 3.8 | 2.3 | 4.4 | 2.0 |
| Belgium | 1.5 | 3.0 | 3.9 | 6.8 | 11.0 | 4.6 | 12.2 | 2.2 | 11.9 | 2.1 |
| Canada | 5.1 | 2.7 | 6.8 | 7.3 | 9.3 | 6.1 | 9.3 | 2.2 | 7.1 | 2.3 |
| Denmark | 1.1 | 5.8 | 4.2 | 9.1 | 8.9 | 6.3 | 9.1 | 2.2 | 5.5 | 2.1 |
| Finland | 2.0 | 4.8 | 3.7 | 9.8 | 4.7 | 6.8 | 11.7 | 2.2 | 8.9 | 1.5 |
| France | 1.8 | 3.9 | 4.1 | 8.8 | 9.0 | 6.7 | 10.9 | 1.8 | 9.5 | 1.8 |
| Germany | 0.7 | 2.5 | 2.5 | 4.8 | 6.7 | 2.8 | 7.9 | 2.4 | 8.7 | 1.6 |
| Italy | 5.2 | 3.9 | 6.5 | 12.2 | 10.2 | 10.1 | 10.8 | 3.9 | 8.6 | 2.4 |
| Japan | 1.3 | 5.4 | 1.7 | 8.4 | 2.5 | 2.5 | 3.2 | 1.0 | 4.8 | −0.4 |
| Netherlands | 0.9 | 3.9 | 2.9 | 6.7 | 7.8 | 2.8 | 5.5 | 2.4 | 3.7 | 2.3 |
| Norway | 1.6 | 4.4 | 1.7 | 8.2 | 3.0 | 7.6 | 4.7 | 2.5 | 4.0 | 2.0 |
| Portugal | 3.4 | 4.4 | 5.2 | 16.5 | 7.4 | 15.8 | 5.5 | 5.5 | 5.7 | 3.1 |
| Spain | 2.0 | 5.9 | 4.7 | 13.4 | 17.6 | 9.4 | 19.2 | 4.1 | 10.9 | 3.2 |
| Sweden | 1.7 | 4.0 | 2.1 | 8.6 | 2.5 | 7.8 | 6.1 | 3.0 | 4.9 | 1.4 |
| Switzerland | 0.0 | 3.3 | 0.2 | 4.7 | 0.6 | 3.4 | 3.0 | 2.2 | 3.3 | 1.0 |
| UK | 2.0 | 4.0 | 4.6 | 12.2 | 9.7 | 7.3 | 7.9 | 3.6 | 5.0 | 2.6 |
| US | 4.8 | 2.7 | 6.3 | 7.4 | 7.1 | 5.3 | 5.6 | 3.0 | 5.1 | 2.7 |
| Average | 2.0 | 4.0 | 3.6 | 9.0 | 7.2 | 6.6 | 8.2 | 2.7 | 6.6 | 2.0 |

*Note:*  UR is the official unemployment rate and INF is the annual inflation rate.

*Source:*  See Table 7.1.

lesser extent Sweden and Switzerland resisted the step jump in unemployment that was common across the OECD bloc. During the 1980s, inflation fell in all 18 countries shown, as demand constraints started to bind. But the MI fell in only Austria, Finland, Japan, Switzerland and the US. During this decade, rising unemployment persisted in all countries shown and long-term unemployment, previously unobserved to any degree, became endemic in most economies. The recession of the early 1980s caused step increases in the average unemployment rate in most countries.

The recession of the early 1990s all but purged inflation from the global economy but caused unemployment to spike, and the experience in the growth period following that recession has been variable. In the English-speaking countries (Australia, Canada, the UK and the US), official unemployment rates have slowly fallen over this period (comparing the 1990–2000 decade to the last 6 years). However, the continental European experience has been mixed. The two decades of constrained macroeconomic policy driven by the upsurge in monetarist–NAIRU zeal have shown that reliance on unemployment buffers will drive inflation down eventually – but at the high cost of persistent excess labour. Even the better-performing economies with respect to official unemployment rates can hardly claim to have returned to a state of true full employment.

Table 7.3 shows the shift in inflation misery since the 1960s. Overall misery in the 1960s was largely due to inflation, although this was hardly misery given that inflation was uniformly low during this period. The 1991 recession largely flushed inflation from the world economy, but the nearly two decades of constrained demand delivered huge output losses and attendant social costs as a result of the persistently high unemployment that was tolerated by policy makers.

In the current period, with inflation remaining under control, misery is almost exclusively due to the lack of employment growth in relation to available labour supply. On this assessment alone, we conclude that the full employability agenda, exemplified by the 1994 OECD *Jobs Study* approach and the accompanying macroeconomic policy constraints we examined in Chapters 5 and 6, have largely failed to produce low unemployment rates. However, the movements in the official unemployment rates tell only part of the story. We now consider the more recent trends in underemployment.

### 7.2.3  The Increase of Labour Underutilisation

While the theme of this book is the abandonment of full employment, we have also used the Phillips curve as a vehicle to demonstrate the way in which the economic debate has evolved. The emphasis on full employability followed the overwhelming theoretical acceptance of the natural rate

*Table 7.3   Inflation as a percentage of misery, selected OECD countries, 1960–2006*

| Country | 1960–1970 | 1970–1980 | 1980–1990 | 1990–2000 | 2000–2006 |
| --- | --- | --- | --- | --- | --- |
| Australia | 65.0 | 69.7 | 51.3 | 22.5 | 35.3 |
| Austria | 68.1 | 81.2 | 50.3 | 30.8 | 31.2 |
| Belgium | 65.2 | 66.1 | 31.8 | 20.1 | 15.1 |
| Canada | 35.4 | 50.3 | 38.5 | 18.5 | 24.6 |
| Denmark | 83.5 | 75.5 | 46.3 | 24.9 | 27.2 |
| Finland | 68.2 | 71.2 | 57.4 | 18.5 | 13.5 |
| France | 67.6 | 68.1 | 39.5 | 14.5 | 16.2 |
| Germany | 81.2 | 76.6 | 33.8 | 24.4 | 15.4 |
| Italy | 48.1 | 69.0 | 51.4 | 26.6 | 21.6 |
| Japan | 81.0 | 80.3 | 43.9 | 21.6 | −8.9 |
| Netherlands | 84.3 | 69.7 | 23.6 | 31.7 | 38.7 |
| Norway | 70.3 | 82.6 | 70.3 | 34.6 | 32.3 |
| Portugal | 53.7 | 75.8 | 66.8 | 46.4 | 35.5 |
| Spain | 69.7 | 77.6 | 40.2 | 21.2 | 23.2 |
| Sweden | 67.9 | 80.1 | 75.1 | 27.8 | 21.4 |
| Switzerland | 99.5 | 91.8 | 81.1 | 37.5 | 23.4 |
| UK | 65.0 | 74.3 | 42.3 | 30.0 | 33.6 |
| US | 34.8 | 52.3 | 40.7 | 34.4 | 34.9 |
| Average | 67.1 | 72.9 | 49.1 | 27.0 | 24.1 |

*Source:*   See Table 7.1.

version of the Phillips curve with all its accompanying admonishments against the use of discretionary (expansionary) fiscal policy. The OECD *Jobs Study* era has, however, been marked by a shift in the way the labour market generates work as a result of the extensive deregulation that has occurred in various countries, as we discussed in Chapter 5.

It is now clear that consistent with the NAIRU ideology the focus is no longer exclusively on unemployment to discipline the wage formation process. This reliance has given way to a multi-dimensional attack on the power of workers to engage in collective bargaining. We now observe an increasing incidence of underemployment in many countries, which is measured not only in terms of inadequate hours of work but also in a declining quality of employment. In this context, a focus on labour underutilisation rather than official unemployment is appropriate.

Underutilisation describes the wastage of willing labour resources. It arises for various reasons that can be subdivided into two broad functional categories: (a) *unemployment or its near equivalent*, which includes the official unemployed under ILO criteria and those classified as being not in

the labour force on search criteria (discouraged workers), availability criteria (other marginal workers), and broader still, those who take disability and other pensions as an alternative to unemployment (forced pension recipients). These workers share the characteristic that they are jobless and would desire work if there were available vacancies. They are, however, separated by the statistician on other grounds; and (b) *suboptimal employment relations* where workers satisfy the ILO criteria for being classified as employed but suffer 'time-related underemployment', sometimes referred to as 'visible underemployment'. This might arise when full-time workers are forced to work less than the full-time working week for reasons beyond their control or when part-time workers prefer to work longer hours but are constrained by the demand side. Suboptimal employment can also arise from 'inadequate employment situations', sometimes referred to as 'invisible underemployment', such that skills are wasted, income opportunities denied and/or where workers are forced to work longer than they desire. A more detailed discussion appears in Mitchell (2004). In conceptual terms, a part of an underemployed worker is employed and a part is unemployed, even though they are wholly classified by the statistician as being among the employed.

Invisible underemployment is very difficult to quantify and is typically ignored in empirical studies. In this context, the ILO (2006: 12) argues: 'Time-related underemployment [is] the only component of underemployment, to date, that has been agreed on and properly defined within the international community of labour statisticians [and] is, therefore, the best available proxy of the underutilized labour force'.

While the trend towards part-time work is well established and dates back to the rising participation rates of married females in the 1970s among other things, the casualisation and precariousness of work has intensified in many countries since the 1991 recession and now represents a significant aspect of the labour underutilisation required under the NAIRU regimes. It is perhaps more appropriate therefore to now refer to a 'non-accelerating inflation rate of labour underutilisation' (NAIRLU) rather than a strict NAIRU. We consider this question more fully in Section 7.2.4.

Table 7.4 summarises the trend in time-related underemployment by gender since 1985 for selected OECD countries. Traditionally, underemployment has been considered a female problem given the higher likelihood of women working in part-time positions and having an instrumental attachment to the workforce. The data indicate that women still suffer higher rates of time-related underemployment than men in the countries examined. However, males are now also being confronted with increasing shortages of hours on offer as a result of the collapse in full-time work opportunities and the deindustrialisation of many economies (see Mitchell, 2001a).

*Table 7.4 Underemployment, males, females, persons, selected OECD countries, various periods, per cent of the labour force*

| | Females | | | | | Males | | | | | Total persons | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1985 | 1990 | 1995 | 2000 | 2005 | 1985 | 1990 | 1995 | 2000 | 2005 | 1985 | 1990 | 1995 | 2000 | 2005 |
| Australia | 4.9 | 6.2 | 8.6 | 8.1 | 9.5 | 1.4 | 2.1 | 3.8 | 3.9 | 4.6 | 2.8 | 3.8 | 5.9 | 5.8 | 6.8 |
| Austria | n.a. | n.a. | 1.0 | 1.8 | 2.4 | n.a. | n.a. | 0.3 | 0.5 | 0.7 | n.a. | n.a. | 0.6 | 1.1 | 1.5 |
| Belgium | 4.6 | 5.9 | 6.2 | 5.1 | 3.7 | 0.5 | 0.6 | 0.7 | 1.0 | 0.9 | 2.0 | 2.7 | 3.0 | 2.8 | 2.2 |
| Canada | 6.4 | 4.9 | 8.1 | 6.2 | 6.3 | 2.3 | 1.7 | 3.2 | 2.7 | 2.7 | 4.1 | 3.1 | 5.4 | 4.3 | 4.4 |
| Denmark | 4.0 | 3.1 | 3.9 | 2.8 | 3.9 | 0.8 | 0.7 | 0.9 | 0.7 | 1.1 | 2.3 | 1.8 | 2.3 | 1.7 | 2.4 |
| France | n.a. | n.a. | 6.7 | 4.3 | 5.5 | n.a. | n.a. | 1.6 | 1.2 | 1.1 | n.a. | n.a. | 3.9 | 2.6 | 3.1 |
| Germany | 1.4 | 1.1 | 1.9 | 2.9 | 5.3 | 0.1 | 0.2 | 0.3 | 0.7 | 1.8 | 0.7 | 0.6 | 1.0 | 1.7 | 3.4 |
| Italy | 1.6 | 1.7 | 2.8 | 3.6 | 6.9 | 0.3 | 0.3 | 0.6 | 0.9 | 1.6 | 0.8 | 0.8 | 1.4 | 1.9 | 3.7 |
| Japan | n.a. | 1.9 | 2.1 | 3.1 | 7.0 | n.a. | 0.5 | 0.6 | 0.8 | 2.5 | n.a. | 1.1 | 1.2 | 1.7 | 4.4 |
| Netherlands | 4.3 | 9.2 | 2.5 | 1.8 | 2.2 | 0.6 | 1.8 | 1.2 | 0.6 | 1.0 | 1.9 | 4.7 | 1.8 | 1.2 | 1.6 |
| Norway | n.a. | 4.8 | 6.0 | 1.8 | 2.6 | n.a. | 1.0 | 1.3 | 0.6 | 1.1 | n.a. | 2.7 | 3.5 | 1.2 | 1.8 |
| Portugal | n.a. | 1.6 | 2.2 | 3.6 | 3.4 | n.a. | 0.2 | 0.3 | 0.7 | 0.8 | n.a. | 0.8 | 1.1 | 2.0 | 2.0 |
| Spain | n.a. | 2.3 | 2.4 | 3.0 | 6.0 | n.a. | 0.3 | 0.4 | 0.6 | 1.1 | n.a. | 1.0 | 1.2 | 1.6 | 3.1 |
| Sweden | n.a. | 3.8 | 7.7 | 5.0 | 4.0 | n.a. | 0.8 | 1.9 | 1.6 | 1.9 | n.a. | 2.2 | 4.7 | 3.2 | 2.9 |
| Switzerland | n.a. | n.a. | 2.1 | 1.4 | 2.3 | n.a. | n.a. | 0.4 | 0.6 | 0.6 | n.a. | n.a. | 1.1 | 1.0 | 1.4 |
| UK | 2.6 | 1.7 | 3.6 | 2.4 | 2.0 | 0.7 | 0.6 | 1.5 | 1.3 | 1.1 | 1.5 | 1.1 | 2.4 | 1.8 | 1.5 |
| US | n.a. | n.a. | n.a. | 0.9 | 1.2 | n.a. | n.a. | n.a. | 0.5 | 0.7 | n.a. | n.a. | n.a. | 0.7 | 0.9 |
| Europe | 1.6 | 1.7 | 3.1 | 2.5 | 3.8 | 0.3 | 0.3 | 0.7 | 0.7 | 1.0 | 0.8 | 0.9 | 1.7 | 1.4 | 2.2 |
| Average | 3.5 | 3.6 | 4.2 | 3.4 | 4.3 | 0.8 | 0.8 | 1.1 | 1.1 | 1.5 | 1.9 | 1.9 | 2.5 | 2.1 | 2.7 |

*Note:* n.a. indicates that no underemployment data were available in that period for the relevant country.

*Source:* OECD Involuntary Part-time Work Series.

Between 1985 and 2005, underemployment tripled both in Europe and in Australia.[1] It is significant that while the OECD (2001) considers Australia to be its 'dream economy', the latter is also suffering large spikes in underemployment. Cowling and Mitchell (2005) argue that the implementation of the *Jobs Study* agenda in Australia has helped employers scrap full-time jobs in favour of increasingly casual and precarious employment. The data in Table 7.4 are consistent with this claim.

It is also not surprising that European underemployment lagged behind the path set by Australia. Pocock et al. (2004: 27) comment: 'In contrast to Australia, in most OECD countries [precarious casualised employment] is regarded as inappropriate and is directly or indirectly proscribed'. However, while true historically, the recent trends in Europe clearly show that underemployment is worsening as traditional barriers against casualisation and precariousness are abandoned or subverted.

The rising importance of underemployment suggests that the MI concept should also be revised to reflect this new labour market reality. Accordingly, we propose the augmented misery index (the AMI) which has none of the connotations that the French translation of the acronym would invite. The AMI is the sum of unemployment, time-related underemployment and inflation expressed as a percentage.

Table 7.5 compares movements in the MI and the AMI for selected countries (selection based on underemployment data availability) for the years 1985, 1995 and 2005. This period is broadly aligned with the lead up to, and then the introduction and execution of, the OECD *Jobs Study* policy agenda. The increasing underemployment shown in Table 7.4 shows that the AMI is higher in all countries relative to the MI and that the decline in the AMI for most countries is smaller than the decline in the MI.

We would argue that the magnitude of the AMI in 2005 for all countries reinforces our conclusion that the full employability policy agenda has failed to deliver outcomes consistent with the rhetoric coming from governments which have vigorously implemented the activist programme.

### 7.2.4 The NAIRLU and the Phillips Curve

The Phillips curve typically uses some form of the unemployment rate as the proxy for excess demand in the labour market. The changing labour market dynamics outlined above suggests that wage discipline may also be exerted by underemployment, through the precariousness of employment. In this case, a respecified wage adjustment equation would be warranted.

Carlson and Mitchell (2003) applied the broader hours-based under-utilisation measures developed by the Centre of Full Employment and Equity at the University of Newcastle to consider the role that such

*Table 7.5  Comparison of the MI and the AMI, various OECD countries, 1985, 1995 and 2005 (%)*

|  | 1985 | | 1995 | | 2005 | |
|---|---|---|---|---|---|---|
|  | MI | AMI | MI | AMI | MI | AMI |
| Australia | 17.0 | 19.7 | 10.8 | 16.6 | 8.6 | 15.4 |
| Austria | 5.3 | 5.3 | 5.2 | 5.8 | 6.6 | 8.1 |
| Belgium | 14.5 | 16.5 | 16.1 | 19.2 | 14.6 | 16.8 |
| Canada | 14.7 | 18.8 | 11.1 | 16.4 | 8.8 | 13.2 |
| Denmark | 12.6 | 14.9 | 12.4 | 14.7 | 7.6 | 10.0 |
| France | 12.8 | 12.8 | 13.4 | 17.3 | 11.6 | 14.7 |
| Germany | 7.9 | 8.5 | 9.5 | 10.5 | 10.2 | 13.5 |
| Italy | 16.0 | 16.7 | 15.1 | 16.5 | 9.8 | 13.5 |
| Japan | 3.2 | 3.2 | 3.3 | 4.5 | 4.6 | 9.0 |
| Netherlands | 9.3 | 11.2 | 9.1 | 10.8 | 6.3 | 7.8 |
| Norway | 9.5 | 9.5 | 6.1 | 9.6 | 6.9 | 8.7 |
| Portugal | 19.9 | 19.9 | 10.2 | 11.3 | 9.1 | 11.1 |
| Spain | 29.9 | 29.9 | 26.4 | 27.6 | 12.7 | 15.8 |
| Sweden | 7.1 | 7.1 | 8.2 | 12.9 | 7.1 | 10.0 |
| Switzerland | 1.6 | 1.6 | 4.1 | 5.3 | 4.5 | 5.9 |
| UK | 14.8 | 16.2 | 11.1 | 13.5 | 7.9 | 9.4 |
| US | 9.1 | 9.1 | 8.5 | 8.5 | 8.3 | 9.2 |
| Average | 12.1 | 13.0 | 10.6 | 13.0 | 8.5 | 11.3 |

*Source:*  See Table 7.4.

measures might play in the Australian inflation process. They reasoned that proximity to the wage determination process was important to influence wage outcomes. In that respect, the long-term unemployed may be considered too distant to discipline the wage process. However, while the short-term unemployed may be proximate enough to influence wage and price movements, an even more proximate source of surplus labour available to employers to condition wage bargaining is the underemployed. This pool of hours can be clearly redistributed among a smaller pool of persons in a relatively costless fashion if employers wish. The conjecture then is that the underemployed pose a viable threat to those in full-time work who might be better placed to set the wage norms in the economy. This argument clearly modifies the insider–outsider dichotomy that was common in the battle of the mark-up literature. For now, some of the insiders – those who are forced into precarious and hours-constrained employment – are used as excess labour supply, which reduces the power of the workers generally.

This conjecture also raises an interesting parallel to another aspect of the hysteresis hypothesis. Ball (1999: 230) argues that 'hysteresis is reversible: a demand expansion can reduce the NAIRU [because employers] would rather pay the training costs than leave the jobs vacant'. A similar observation underpins the hysteresis models in Mitchell (1987, 1993). In a high-pressure economy, firms lower hiring standards and address the skill deficiencies of the long-term unemployment by offering on-the-job training. Using Australian data, Carlson and Mitchell (2003) find that while the short-term unemployment rate exerts a negative influence on the annual rate of inflation, the added effect of the underemployment variable is statistically significant and reduces the magnitude of the negative impact of the unemployment rate. They rationalise their results by suggesting that in a downturn, short-term unemployment increases sharply, which reduces inflation because the inflow into short-term unemployment comprises those currently employed and active in wage-bargaining processes. In a prolonged downturn, the average duration of unemployment rises and the pressure exerted on the wage-setting system by unemployment overall falls. This requires higher levels of short-term unemployment being created to reach low inflation targets, with the consequence of increasing proportions of long-term unemployment being created. In addition, as real GDP growth moderates and falls, underemployment also increases, placing further constraint on price inflation. Carlson and Mitchell's other notable result was that a long-term trade-off between unemployment and inflation is implied in all regressions based on a NAIRU dynamics test statistic from Fair (2000). In that sense, the constant NAIRU hypothesis was strongly rejected as there is no convergence to a constant equilibrium rate of short-term unemployment after an employment shock. The transitory equilibrium short-term unemployment rate is contingent on the evolution of employment growth and demand in general. The results indicate that a deflationary strategy using demand repression (tight monetary and fiscal policy) will be costly in terms of unemployment and other forms of labour underutilisation.

## 7.3  THE IMPORTANCE OF AGGREGATE DEMAND FOR EMPLOYMENT GROWTH REMAINS CENTRAL

### 7.3.1  Using Stylised Facts to Generate Questions

The aim of this section is to set out some of the stylised facts that would lead to the conclusion that aggregate demand remains the dominant determinant of employment, a fact that seems to have been lost in the shift to

the full employability framework. For several reasons, we do not seek to present detailed econometric estimation results for various countries. First, we have already presented singly and jointly, econometric evidence to establish aspects of this relationship in various papers (for example, Mitchell, 2001a; Mitchell and Muysken, 2004, 2006a). Second, such structural models are difficult to construct and the available data are generally inadequate. Freeman (2005: 130) maintains that: 'the cross-country aggregate data at issue is weak, too weak to decisively reject strong prior views or to convince those with weaker priors. Barring a Great Depression level collapse of the US or EU economies, I cannot imagine the aggregate evidence being so clear as to overwhelm strong priors'.

While structural models are typically not tractable, any model should have as a reduced form a positive relationship between aggregate demand growth and employment growth, which can be used as the basis for empirical enquiry. The stylised facts presented are consistent with the existence of a direct and strong relationship between employment growth and aggregate demand, and leave us unsurprised that the supply-side focus of the *Jobs Study* has failed to fulfil its obligations.

### 7.3.2    Employment Gaps that Need Explanation

For the unemployment rate to remain constant, real GDP growth has to be equal to the sum of labour force and labour productivity growth, *other things being equal*. A simple way to document these relationships is to examine the evolution of the labour force and total employment. A necessary condition for full employment is that total employment must keep pace with the labour force. Figure 7.1 depicts this relationship for the eight economies under review. The reality is that over the last three decades (with country-specific variations), actual employment has not been sufficient to meet the preferences of the labour force. The full employment era is starkly contrasted with the latter period, where employment growth has been deficient. So what drives employment growth?

### 7.3.3    Employment Growth and Output Growth

Figure 7.2 shows the annual percentage growth in GDP and employment from 1960 to 2006 for the eight selected OECD countries. It is clear that employment dynamics are closely related to similar directional changes in real demand. We acknowledge that it is hard to distinguish between cyclical fluctuations and structural changes on the basis of these graphs. However, Mitchell (1987, 2001a) established that cyclical changes generate structural consequences due to cyclically reversible changes in labour
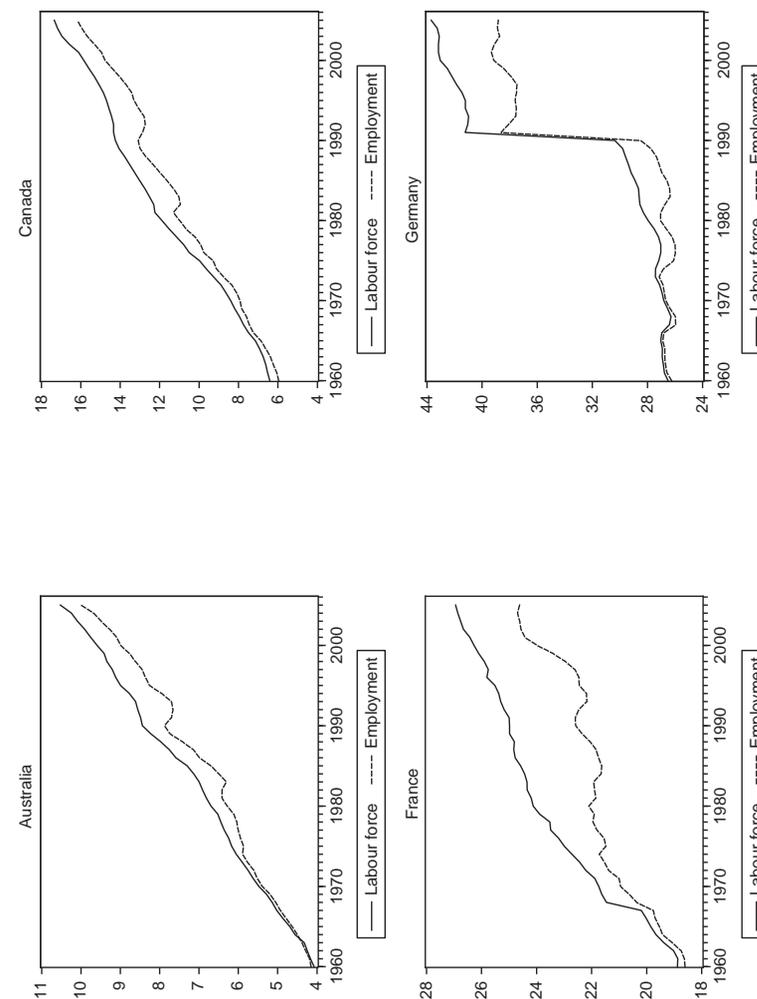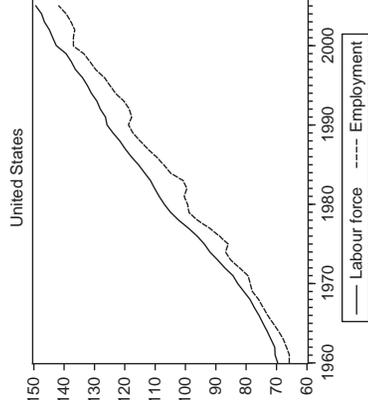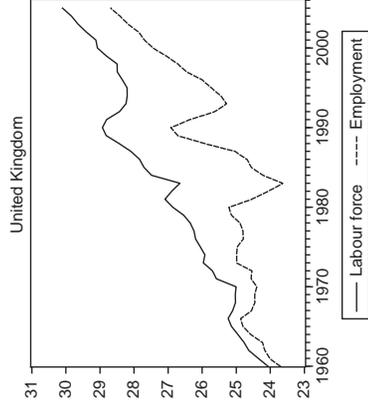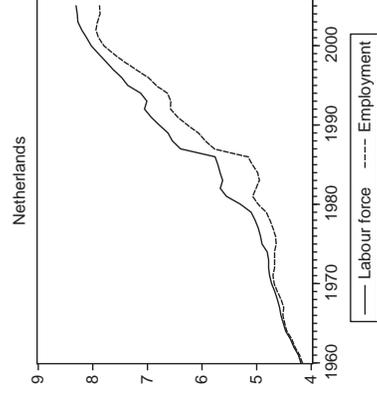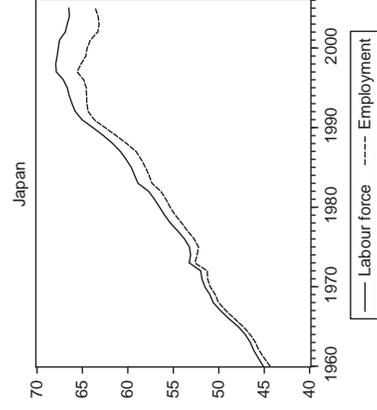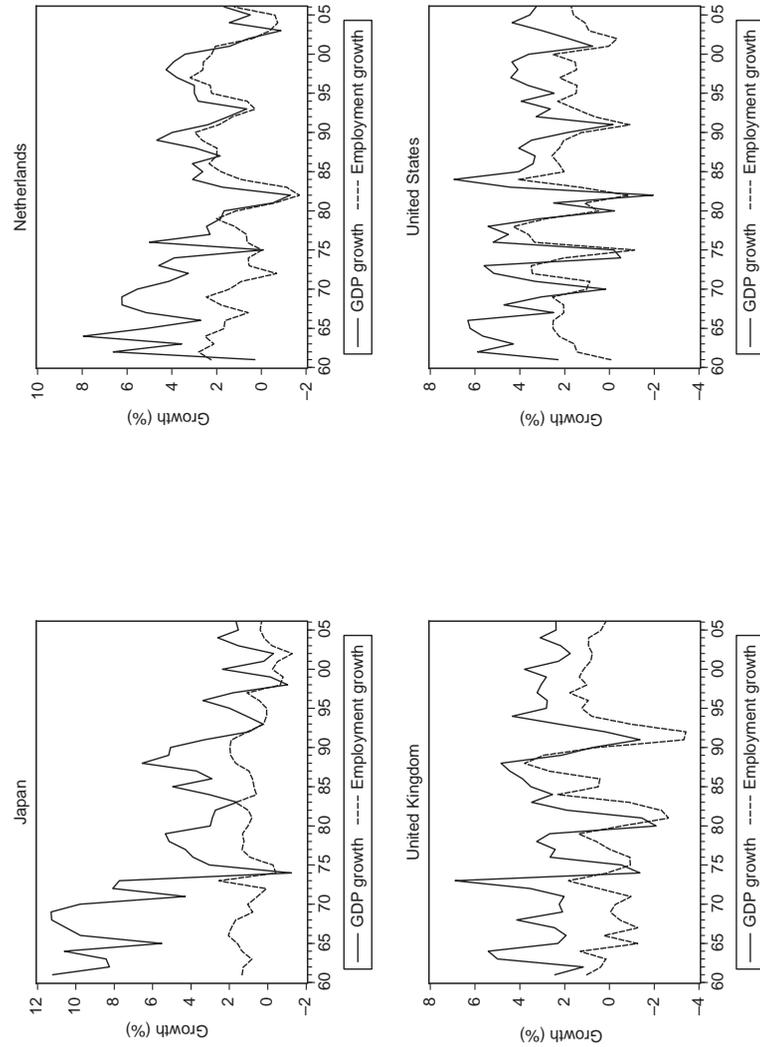
*Source:* Bureau of Labor Statistics, Comparative Labour Force data.

*Figure 7.1  Employment gaps, selected countries, 1960–2005 (thousands)*
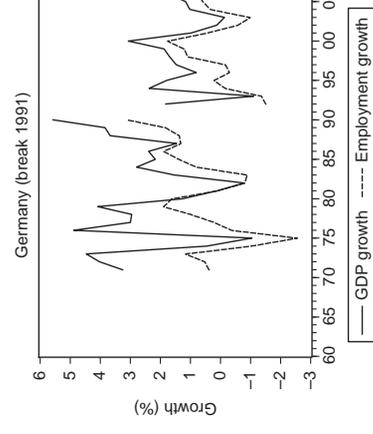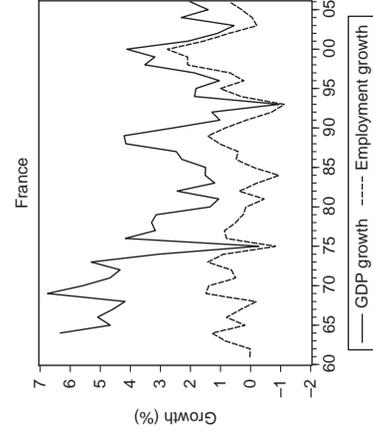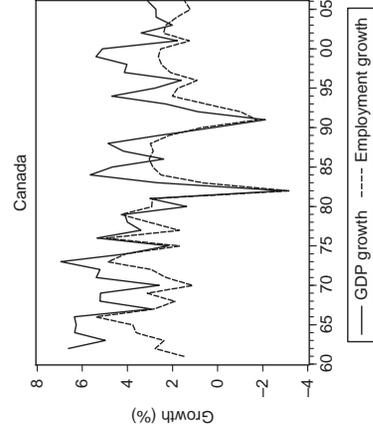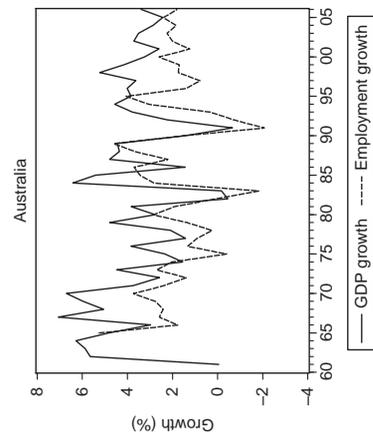
*Source:* OECD Economic Outlook database.

*Figure 7.2* *Employment growth and GDP growth for eight OECD countries, 1960–2006*

market behaviour. For example, hiring standards tighten as the labour market slackens. Some workers and their skill sets deemed to be unemployable when unemployment is high (and therefore conceptualised as being structurally unemployed) are seen in a different light once hiring standards are relaxed as labour becomes less abundant.

When the labour market is very tight, employers are less able to indulge in simple prejudice. Mitchell and Muysken (2004) show that the so-called 'structural variables' that dominate orthodox explanations of movements in the NAIRU, a finding which is used to justify their attacks on government attempts to reduce unemployment through demand management, are, in fact, driven by cyclical events. In other words, the econometric models which highlight these so-called 'structural influences' on the estimated NAIRU are merely picking up the state of the business cycle. Moreover, we consider Beveridge curves again in Section 7.6 and demonstrate how cyclical events drive the labour market dynamics which orthodox economists have labelled 'structural' in origin but which should correctly be interpreted as being dependent on the state of aggregate demand.

Figure 7.2 shows that both GDP growth and employment growth were relatively high across all eight countries in the 1960s. The period of decline after the first OPEC crisis then merged into the severe recessions of the early 1980s and early 1990s which, taken together, has rendered this a period of lower overall economic growth relative to the golden age. Moreover, the close cyclical relationship between output and employment is clearly portrayed.

Figure 7.3 provides a different perspective on the relationship between employment and output growth by summarising the respective growth rates (based on quarterly data) for each of the eight countries averaged over three broad periods: (a) the golden age between 1960:1 and 1973:3; (b) the OPEC twin recession period between 1973:4 and 1991:4; and (c) the post-1991 recovery period from 1992:1 to 2006:1. For most countries the strong fall in GDP growth was accompanied by declining employment growth.[2] Given the close relationship between aggregate demand and output growth, the data are consistent with the view that declining aggregate demand led to a fall in employment.

For the 1990s the picture is more varied, given the diverse growth performance of the eight countries. First, GDP growth changes are modest compared to the earlier changes. Only the UK improves, although it was a poor performer in the 1960s. Second, while Japan and Germany experience a further decline in GDP growth, growth in France and the US remains more or less at its previous level. The other countries enjoy increasing GDP growth. For most countries employment growth reacts in

the expected way – the exceptions are France, Canada and the US. The diverging developments in the 1990s are related to the weak recovery of aggregate demand, as we shall argue below. On the one hand, low GDP growth led to a structural decline in private investment, which was further weakened by a decline in public investment. As a consequence of the multipliers associated with this demand weakening, labour demand stagnated. Even in countries where employment growth was positive, the rate of growth was low relative to the golden age (see Mitchell and Muysken, 2002a, 2006a).

In conclusion, the claim that output growth has a direct and strong cyclical impact on employment growth is irrefutable, even though their interaction over time is influenced by other unspecified factors. Supporting this conclusion is the close correspondence found between measured output gaps and movements in unemployment rates using Okun's Law (see Mitchell, 1996, 2001a; Mitchell and Muysken, 2003).

## 7.4 EMPIRICAL CHARACTERISTICS OF THE NAIRU

These mediocre labour market data clearly undermine the *Jobs Study* strategy. Further, major anomalies exist in the econometric work that was used as 'scientific authority' to strategy. Baker et al. (2004) comprehensively dismantle the econometric veracity of a number of studies in this vein.

Most of these studies rely on the structural determinants of the NAIRU to explain the steady-state dynamics of the inflation process and omit cyclical factors, as we discussed extensively in Section 3.5. In Section 3.5.1 we noted that LNJ (1991: 10) conclude: 'there is however some "short run NAIRU", which *would* be consistent with stable inflation, and which of course depends on last year's unemployment' (emphasis in original). Consequently, LNJ (pp. 18, 16) allow the short-run NAIRU to lie 'between last period's unemployment and the long-run NAIRU [which also implies that] in the short-run, unemployment is determined by the interaction of aggregate demand and short-run aggregate supply. [However] in the long-run, unemployment is entirely determined by long-run supply factors and equals the NAIRU'. This would suggest that there is no hysteresis/persistence present in the NAIRU in the long run. We deal with this last aspect in Section 7.4.2, but now we show the close correspondence between the estimated NAIRU (from OECD Economic Outlook data) and the official unemployment rate (see Figure 7.4).
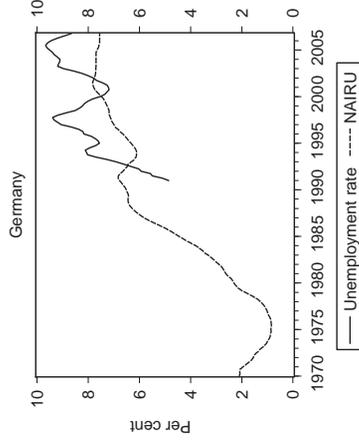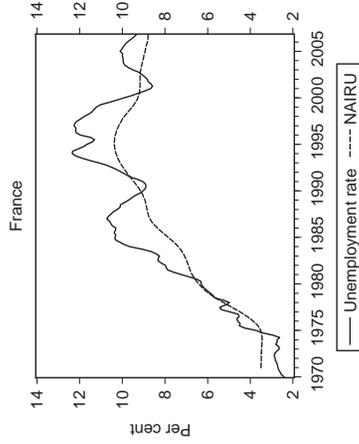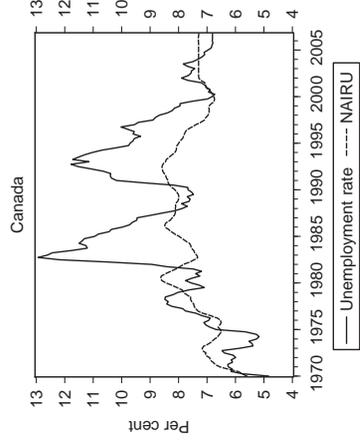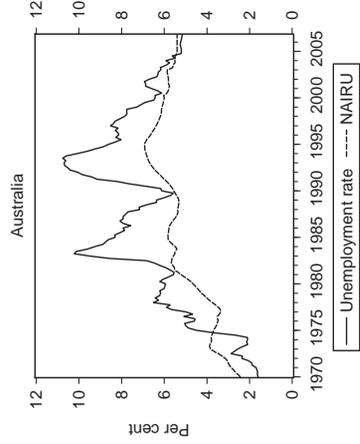
Two irrefutable facts emerge from a study of Figure 7.4. First, the estimated NAIRU follows the long-run trend in the official unemployment rate
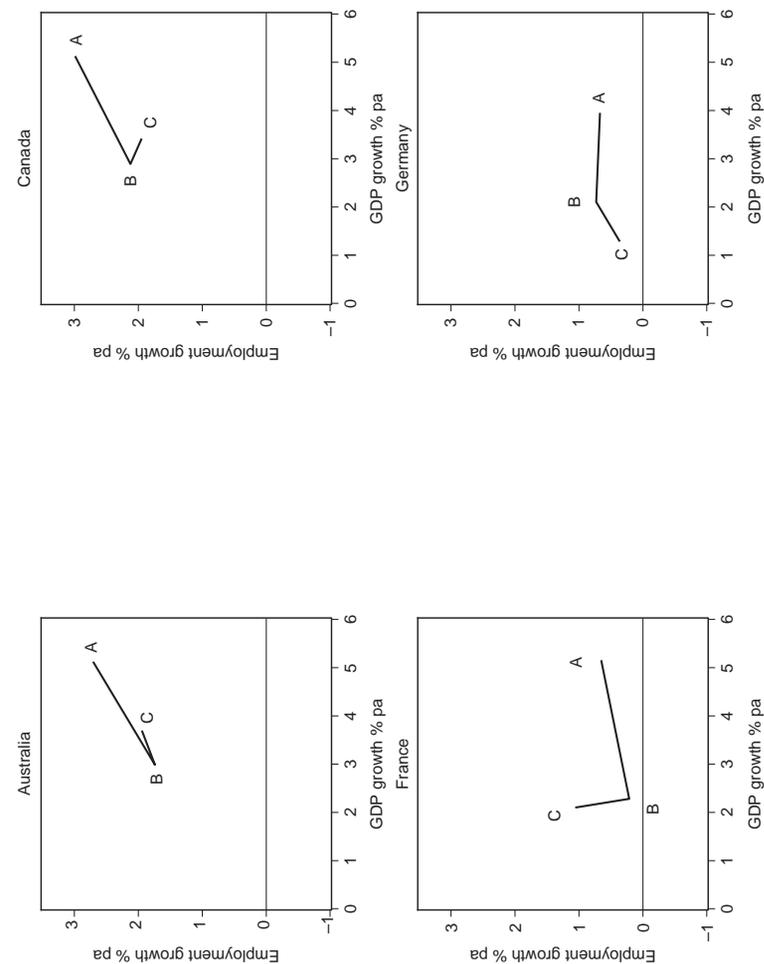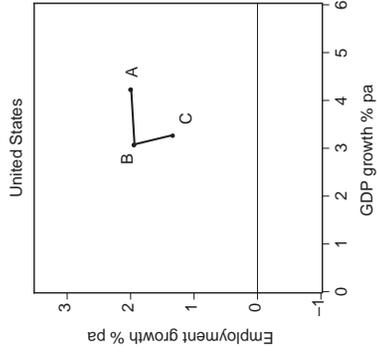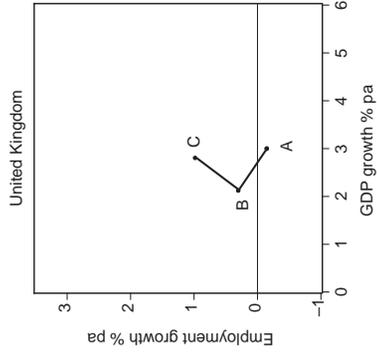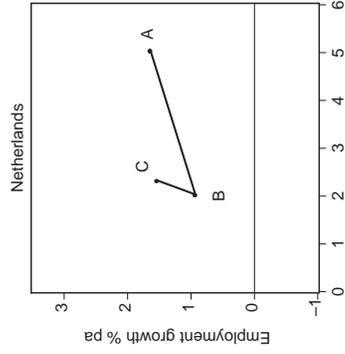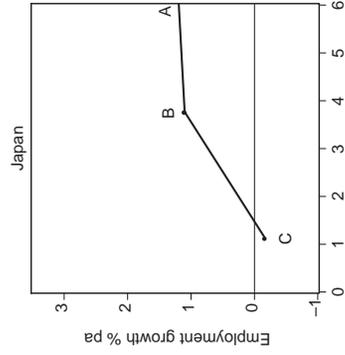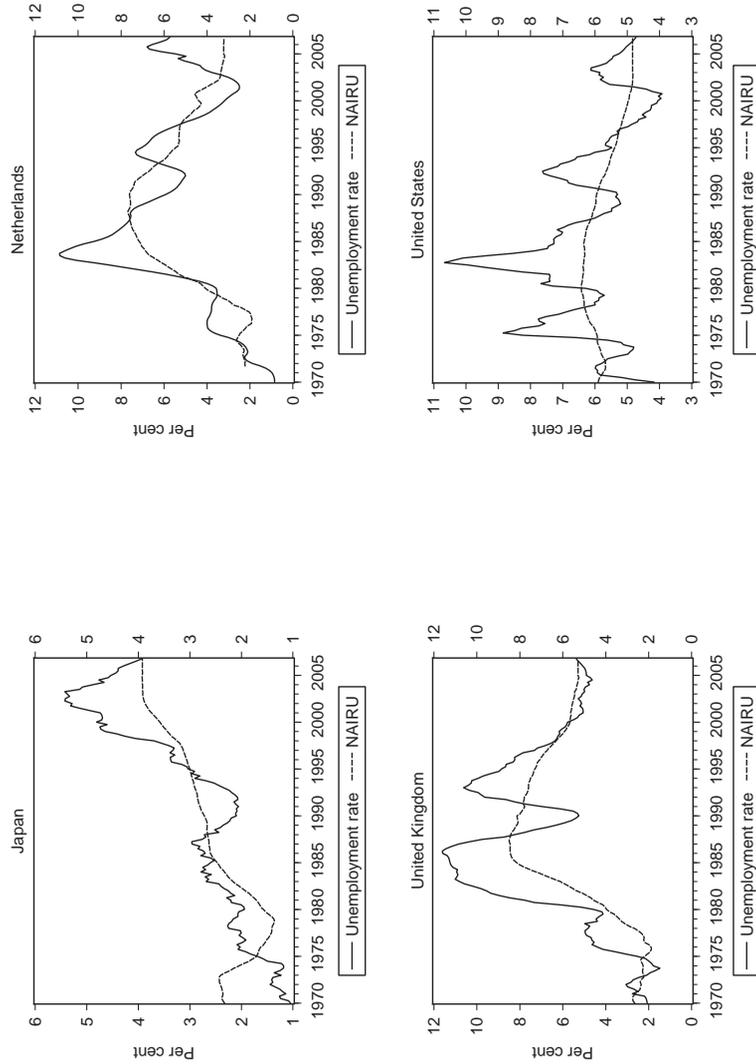
*Source:*   See Figure 7.2.

*Figure 7.3    Average employment growth and GDP growth for eight OECD countries, 1960:1–1973:3 (A), 1973:4–1991:4 (B), 1992:1–2006:1 (C)*

and as a consequence changes in the NAIRU can be considerable (see Table 7.6, Column 2), whereas structural changes are more gradual or stepped. For example, proponents of the NAIRU include generous unemployment compensation payments among factors that prevent the NAIRU from falling to low levels. However, the behaviour of these payments within OECD countries over time bears no relation to the dynamics of the estimated NAIRU.

Second, the NAIRU is downward biased with respect to average unemployment, which means that actual unemployment is more often above than below the NAIRU. Table 7.6 presents a simple ratio which demonstrates this point. Column 3 gives the ratio of absolute value of positive and negative sums, representing the positive and negative differences between the unemployment rate and the NAIRU, respectively. This suggests that the notion that the short-run NAIRU lies 'between last period's unemployment and the long-run NAIRU' should be taken with a pinch of salt. Moreover, this would suggest that in the period from 1970 to 2006 there has been on average much more deflationary pressure than inflationary if the difference $(u* - u)$ is taken as an indication of inflationary pressure. However, the conduct of monetary policy, particularly in Australia and Europe, does not appear to have given this deflationary bias much consideration. This suggests that central banks have different estimates of the NAIRU from those supplied by the OECD, which would not be surprising, given the empirical anomalies that plague NAIRU estimations (see Baker et al., 2004).

*Table 7.6    Characteristics of OECD NAIRU estimates, selected countries, 1970–2006*

|  | NAIRU Ratio of max. to min. | UR minus NAIRU Ratio of positive/negative sums |
|---|---|---|
| Australia | 3.84 | 8.85 |
| Canada | 1.73 | 4.31 |
| France | 3.01 | 7.49 |
| Germany | 9.29 | 6.71 |
| Japan | 2.94 | 1.78 |
| Netherlands | 4.03 | 2.38 |
| UK | 5.61 | 4.72 |
| US | 1.33 | 3.23 |

*Source:*    See Table 7.2.



*Source:*    See Figure 7.2.

*Figure 7.4    The official unemployment rate and OECD NAIRU estimates, selected countries, 1970–2006 (%)*

## 7.5  UNEMPLOYMENT PERSISTENCE

### 7.5.1  The Concept of Persistence

The degree of persistence is the effect of a contemporaneous shock on the deviation of a time-series process from its trend at some future date. In Chapter 5 we discussed the concept of persistence in terms of trend- and difference-stationary processes. We represent this distinction in Figure 7.5, which captures the types of processes classified according to their degree of persistence.

We assume that the time series has some underlying trend. Following a unit shock at time $t$ of AB magnitude, the time path of the adjustment is then shown according to the type of process. A process that resumes trend at D following the unit shock would be called 'trend stationary'. The degree of persistence in this case will be governed by the combination of moving average and autoregressive (AR) components in the time series. A stationary time series with high degrees of autoregressivity will take many periods to settle back at D. A non-stationary process like a random walk (difference stationary) would follow the BC path after a unit shock. Processes that have trajectories between CD and never return to the trend-reversion line are difference-stationary (DS) processes (containing at least
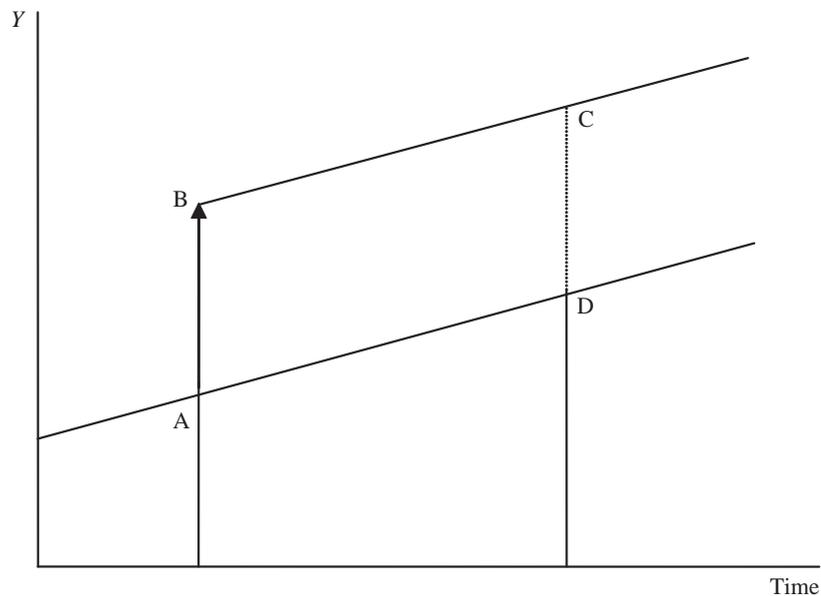


*Figure 7.5   Difference- and trend-stationary processes and persistence*

one unit root) with long-run impacts being less than unity.[3] The time path that these persistent DS processes take depends on the other roots in the process.

An interesting case arises where the AR process is persistent but does not have a unit root. Simple near-unit root AR(1) processes with AR coefficients of, say 0.98 will revert to their pre-shock values but are highly persistent (in this case the reversion takes 50 periods). The general conclusion is that if a process has a unit root then there will be some permanent effect on the level of the time series following a shock. However, persistence is common to unit root and near unit root processes alike and can be measured independently of testing for the presence of a unit root. From a policy perspective it may be moot whether the process in fact formally tests for a unit root(s). Given the difficulty with the formal unit roots test framework, measuring persistence directly is a useful exercise.

The presence of persistence challenges the basis of orthodox macroeconomics. The overriding orthodox view is that there are two stylised facts about the business cycle:

> First, fluctuations in output are assumed to be driven primarily by shocks to aggregate demand, such as monetary policy, fiscal policy, or animal spirits. Second, shocks to aggregate demand are assumed to have only a temporary effect on output; in the long run the economy returns to the natural rate. These two premises underlie many monetarist and neo-Keynesian theories. (Campbell and Mankiw, 1987: 876)

Accordingly, if real variables are highly persistent it is clear that one or both of these facts is in error.

### 7.5.2  Measuring Persistence in OECD Unemployment Rates

What has been the experience of OECD countries? Table 7.7 shows the AR(1) coefficients on the lagged unemployment rate for regressions, which also included a constant. The full-sample periods are shown in Column 2. The results are indicative only as the AR(1) specification may not be the best representation of the underlying data-generating processes. With that qualification in mind, the results reveal that, in general, the degree of persistence captured by the AR(1) coefficient has shifted over time. In most cases (where estimation was possible), there was a noticeable rise following the first oil shock in 1974. In all countries, persistence is now considered high.

In the majority of countries, unemployment was not highly persistent prior to 1975, with AR(1) coefficients below 0.75. Persistence then rose

*Table 7.7    Shifting AR parameters for OECD unemployment rates, various periods*

| Country | Full sample | Full sample AR1 | 1960:1–1975:1 AR1 | 1975:1–1990:1 AR1 | 1990:1–2006:4 AR1 |
|---|---|---|---|---|---|
| Australia | 1970:3–2006:4 | 0.947 | 0.731 | 0.895 | 0.967 |
| Austria | 1970:3–2006:4 | 0.988 | 0.454 | 0.963 | 0.869 |
| Belgium | 1970:3–2006:4 | 0.906 | 0.997 | 0.904 | 0.885 |
| Canada | 1970:3–2006:4 | 0.938 | 0.606 | 0.756 | 0.951 |
| Denmark | 1970:3–2006:4 | 0.883 | 0.952 | 0.823 | 0.897 |
| Finland | 1970:3–2006:4 | 0.967 | 0.814 | 0.792 | 0.801 |
| France | 1970:3–2006:4 | 0.974 | 0.727 | 0.956 | 0.895 |
| Germany | 1991:3–2006:4 | | | | 0.793 |
| Italy | 1970:3–2006:4 | 0.981 | 0.695 | 0.978 | 0.977 |
| Japan | 1970:3–2006:4 | 0.980 | 0.429 | 0.899 | 0.974 |
| Netherlands | 1970:3–2006:4 | 0.890 | 0.862 | 0.956 | 0.877 |
| Norway | 1970:3–2006:4 | 0.972 | 0.704 | 0.947 | 0.960 |
| Portugal | 1970:3–2006:4 | 0.964 | 0.260 | 0.819 | 0.955 |
| Spain | 1970:3–2006:4 | 0.975 | 0.815 | 0.953 | 0.970 |
| Sweden | 1970:3–2006:4 | 0.967 | 0.632 | 0.969 | 0.840 |
| Switzerland | 1970:3–2006:4 | 0.956 | 0.768 | 0.736 | 0.834 |
| UK | 1970:3–2006:4 | 0.953 | 0.568 | 0.830 | 0.925 |
| US | 1970:3–2006:4 | 0.850 | 0.955 | 0.783 | 0.914 |
| Average | | 0.938 | 0.704 | 0.880 | 0.911 |

*Source:*    OECD Main Economic Indicators database. The full samples are defined in Column 2.

sharply as unemployment rose in response to the policy tightening after the first OPEC shock. Belgium is the only economy where persistence fell steadily over the three periods, albeit remaining high throughout. Australia, Canada, Italy, Japan, Norway, Portugal, Spain and the UK all experienced increases in persistence over the sample. Four countries, Denmark, Finland, Switzerland and the US experienced declines in persistence in the 1975–90 period but reversals in the last period (1990–2006). Finally, unemployment persistence in Austria, France, the Netherlands and Sweden persistence was initially high, rose further in the 1980s and then fell marginally in the 1990–2006 period.

The continuing high unemployment persistence in the selected OECD countries means that any cyclical event that impacts negatively on unemployment will reverberate across many time periods. The full employability reform agenda has been unable to influence this.

*Table 7.8    AR(1) estimates for unemployment and the NAIRU, selected countries, 1970:3–1995:1 and 1995:1–2006:4*

| Country | 1970:3–1995:1 | | 1995:1–2006:4 | |
|---|---|---|---|---|
| | Unemployment | NAIRU | Unemployment | NAIRU |
| Australia | 0.964 | 0.950 | 0.974 | 0.962 |
| Canada | 0.856 | 0.912 | 0.953 | 0.816 |
| France | 0.973 | 0.983 | 0.882 | 0.923 |
| Germany | 0.969 | 0.717 | 0.851 | 0.869 |
| Japan | 0.957 | 0.973 | 0.927 | 0.929 |
| Netherlands | 0.936 | 0.950 | 0.832 | 0.957 |
| UK | 0.973 | 0.931 | 0.943 | 0.950 |
| US | 0.987 | 0.784 | 0.892 | 0.949 |

*Source:*    OECD Economic Outlook database.

### 7.5.3    Persistence in OECD NAIRU Estimates

Table 7.8 shows the AR(1) coefficients on the lagged unemployment rate and the NAIRU for regressions, which also included a constant. The first sample covered the 1970:3–1995:1 period and the second, 1995:1–2006:4. The high degree of unemployment persistence is mirrored in the NAIRU estimates. The full employability policy agenda has had no significant effect on estimated NAIRU persistence (based on a Chow breakpoint test). Only France had a statistically significant shift in its NAIRU persistence estimate in the second period, and their persistence worsened.

As we observed in Section 7.4 above, the strong persistence in the NAIRU is inconsistent with the notion of LNJ (1991: 18) that 'in the long-run, unemployment is entirely determined by long-run supply factors and equals the NAIRU'.

## 7.6    MODIGLIANI'S APPROACH: UNEMPLOYMENT AND LABOUR DEMAND

Modigliani (2000: 5) argued that: 'Everywhere unemployment has risen because of a large shrinkage in the number of positions needed to satisfy existing demand'. He illustrates his point by plotting the unemployment rate (left-hand scale) against a measure of labour demand, that is, the sum of employment and vacancies (as a percentage of the labour force, right-hand scale inverted).[4] The striking correspondence between the labour

demand and supply series he presented for France, Germany and the UK for the 1963–98 period suggests that variations in unemployment appear to be strongly associated with movements in labour demand. We reproduce these series for the above-mentioned countries in Figure 7.6, with more recent data, and plot the same relationships using data from Australia, Canada, Japan, the Netherlands and the US. These figures provide over-whelming empirical support for Modigliani's assertion that aggregate demand deficiency is the overwhelming cause of the persistently high unemployment (and labour underutilisation in general).

## 7.7　THE MOVEMENTS IN UNEMPLOYMENT AND VACANCIES

In seeking an explanation for the rise in unemployment from the 1970s, Ormerod (1994: 126) notes:

> Actual unemployment in Europe has risen fourfold in the past twenty years, and most estimates of the 'natural rate' in the various countries have risen by a similar amount. Yet flexibility of labour markets . . . has not changed markedly over this period [and has] not been sufficient to account for the enormous rise in unemployment which Europe has experienced.

Recent research finds strong empirical relationships between employment and vacancy 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 (Ball, 1999; Modigliani, 2000; Mitchell, 2001a). In this section we show that Beveridge curve shifts are driven by demand events which render a structural interpretation difficult to maintain.

Mitchell (2001a) analysed the cyclical movements in both unemployment and vacancies. He produces phase diagrams which plot current and lagged unemployment (vacancies) against each other, that reveal counterclockwise (clockwise) fluctuations along the 45 degree line. Mitchell observed that we can look at these scatter plots in four distinct ways. First, the charts provide information on whether cycles are present in the data. Second, the presence of 'attractor points' (Ormerod, 1994: 154) can be determined. Ormerod adds that the points might loosely be construed as the 'centre of the ellipses traced out in such a plot'. Third, the magnitude of the cycles can be inferred by the size of the cyclical ellipses around the attractor points. Fourth, the persistence (strength) of the attractor point can be determined by examining the extent to which it disciplines the cyclical observations following a
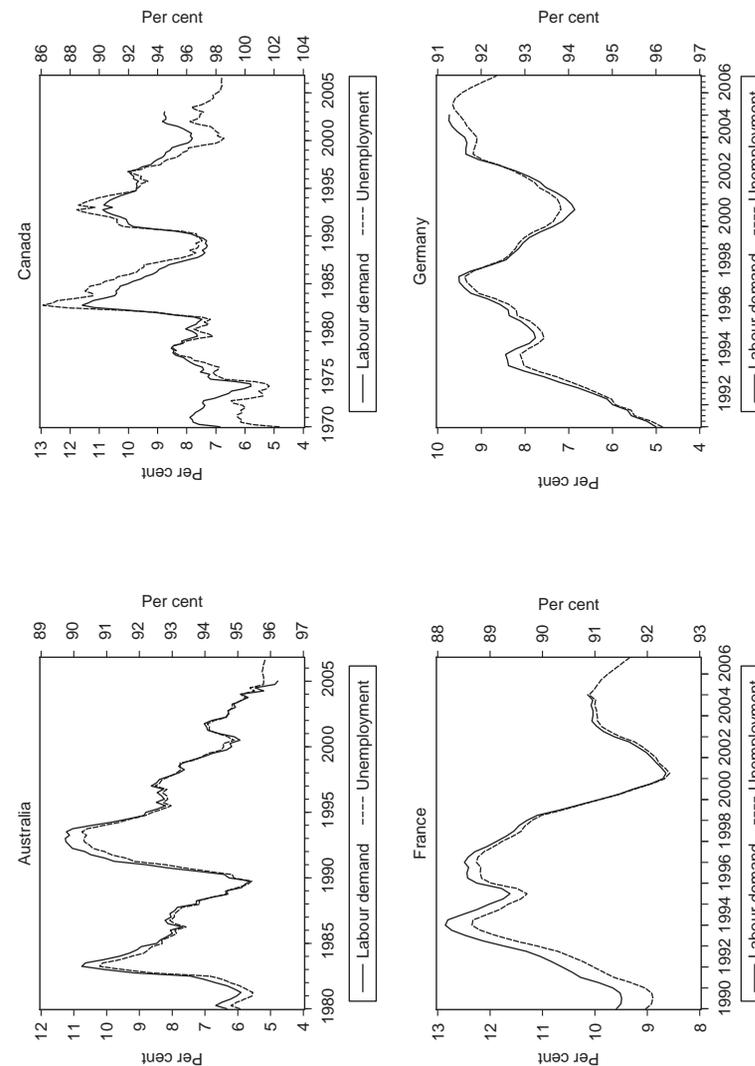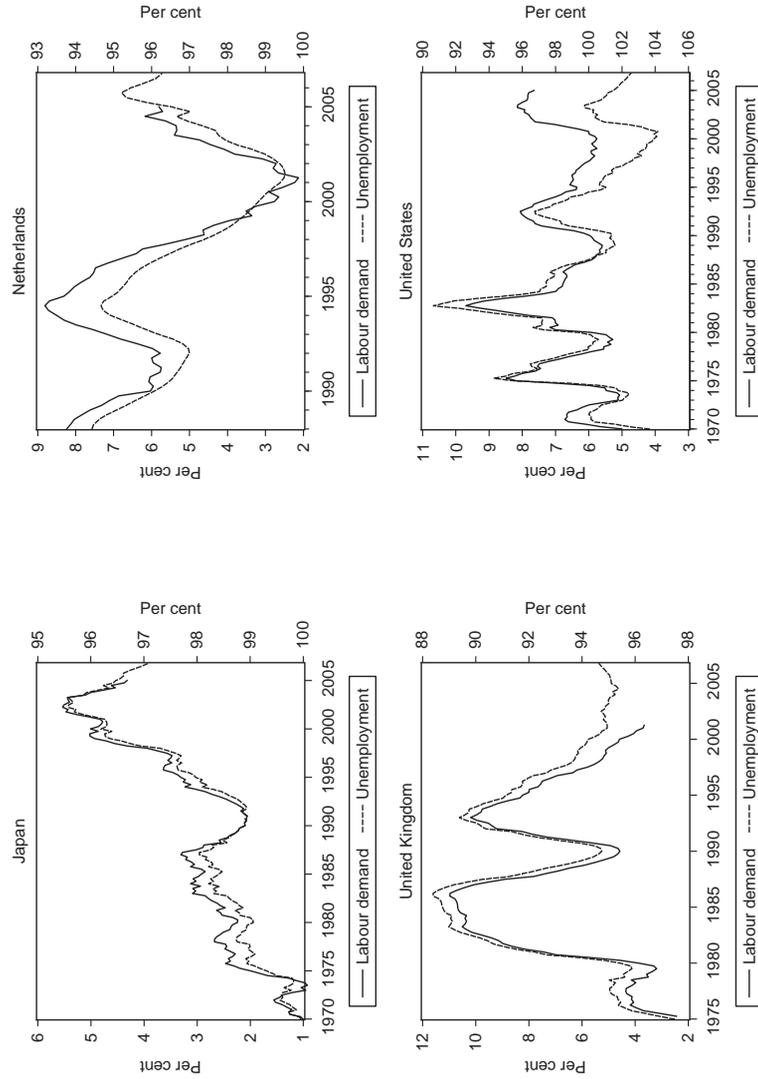
shock. Weak attractors will not dominate a shock and the relationship will shift until a new attractor point exerts itself.

Figures 7.7a and 7.7b show phase diagrams for unemployment and vacancy rates, respectively, for the study countries from 1960 to 2006 (with the exception of Germany, which starts at 1970). Both illustrate the presence of (counter)clockwise cyclical movements and attractors for the eight OECD countries. These movements take place along the 45-degree line which indicates a strong persistence in both unemployment and vacancies. The figures also show that the points of attraction for unemployment and vacancies, $u^*$ and $v^*$, respectively, have shifted over time.

In most cases, there have been large displacements in the attractor coinciding with major cyclical events (typically the 1970s OPEC oil shock, the 1981 recession and/or the 1991 recession). These major cyclical events tended to push the unemployment rate attractor out but pushed the vacancy rate attractor downwards.

The LNJ (1991) NAIRU approach and the view subsequently expressed in the OECD *Jobs Study*, which we considered in Chapters 4 and 5, interpret these outward unemployment shifts in terms of declining labour market efficiency. But using the same logic, the downward shifts in the vacancy rate attractor would be interpreted as increasing matching efficiency. Clearly, both states cannot hold. A consistent interpretation can be found in the view that demand constraints imposed by macroeconomic policy failing to match cyclical spending gaps drive unemployment up and vacancy rates down. If these cyclical episodes are large, then the subsequent economic growth with the ongoing labour force and productivity growth is typically unable to reverse the stockpile of unemployed. Any endogenous supply effects that may have occurred in skill atrophy and work attitudes were not causal but reactive (Mitchell, 2001a).

## 7.8   THE PARADOX OF THE QUIT RATE

In the classical labour market model which was considered in Chapter 2, the real wage is assumed to be determined in the labour market at the intersection of the labour demand ($L_d$) function and the labour supply ($L_s$) function. The equilibrium employment level is constructed as full employment because it suggests that every firm that 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. Frictional unemployment is easily derived from the classical labour market representation, as is voluntary unemployment.



*Source:* OECD Economic Outlook database and data for the Netherlands from the Central Planning Bureau (CPB).

*Figure 7.6   Unemployment and labour demand (inverted) for eight OECD countries, various periods*

Holding technology constant (and hence the $L_d$ curve fixed), all changes in employment (and hence unemployment) are driven by labour supply shifts. In Chapter 3 we noted that various theoretical constructs have been developed to explain how business cycles are driven by labour supply shifts (for example, Friedman, 1968). The essence of all these supply shift stories is that quits are constructed as being countercyclical despite all evidence to the contrary. This induces Thurow (1983: 185) to ask: 'why do quits rise in booms and fall in recessions? If recessions are due to informational mistakes, quits should rise in recessions and fall in booms, just the reverse of what happens in the real world'. If quits are not countercyclical then the orthodox labour market model that constructs unemployment as being a supply-side phenomenon is flawed.

It is hard to acquire robust data on the behaviour of quits to put this proposition to the test. However, there are some limited data available which are of use. Davis et al. (2006) produce compelling evidence against the neoclassical theory for the US covering a period from 1947 to 2005:

> [Figure 9] provides direct evidence on cyclical movements in the ratio of layoffs to separations . . . The figure shows a strong negative relationship between employment growth and the percentage of separations that take the form of layoffs. The fitted curves in Figure 9 also indicate that the layoff–separation ratio is more sensitive to employment growth at the margin when the percentage employment decline is larger. (p. 19)

Osterman (2001: 9) also infers quits for the US from the employment and earnings data by examining the fraction of the unemployed that became unemployed due to quits. He concludes:

> [I]t is no surprise that these data show a cyclical trend, with quits declining in bad times (in 1992 the unemployment rate was 7.0 per cent, compared to 5.4 per cent in 1989 and 4.3 per cent in 1999. It is also notable, that quits decline as a fraction of unemployment in 1999 compared to 1989, which implies greater caution on the part of the workforce.
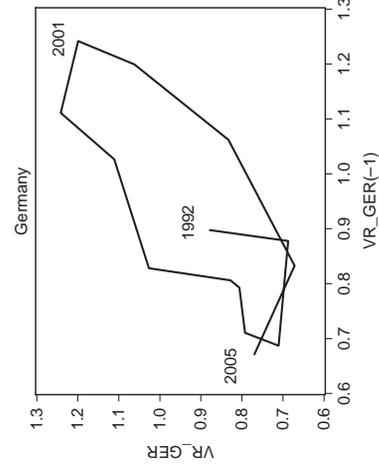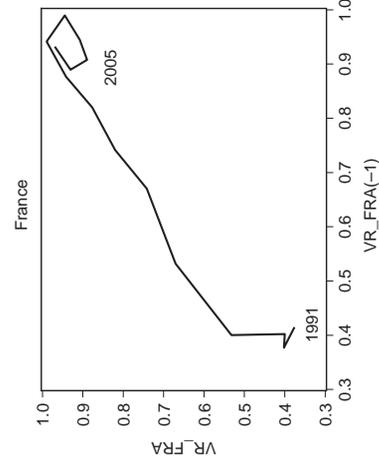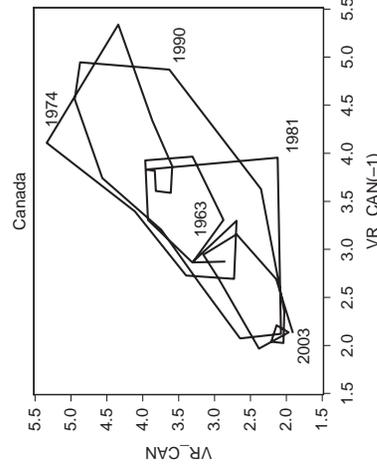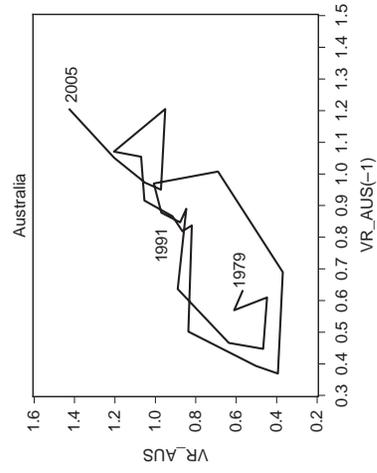
Finally, Statistics Canada (1998) provides a valuable dataset covering the period from 1978 to 1995 for separations and hires. The data provide hiring rates (number of all persons employed in a firm during a given year who were not with the firm during the previous years expressed as a percentage of the number of persons employed in the firm at any time during the year) and separation rates (the number of separations from the firm divided by the number of persons employed by the firm at any time during the year). Separations are divided into employee initiated flows called 'quits' and firm-initiated flows called 'layoffs'. Figure 7.8 plots the hiring, quit and
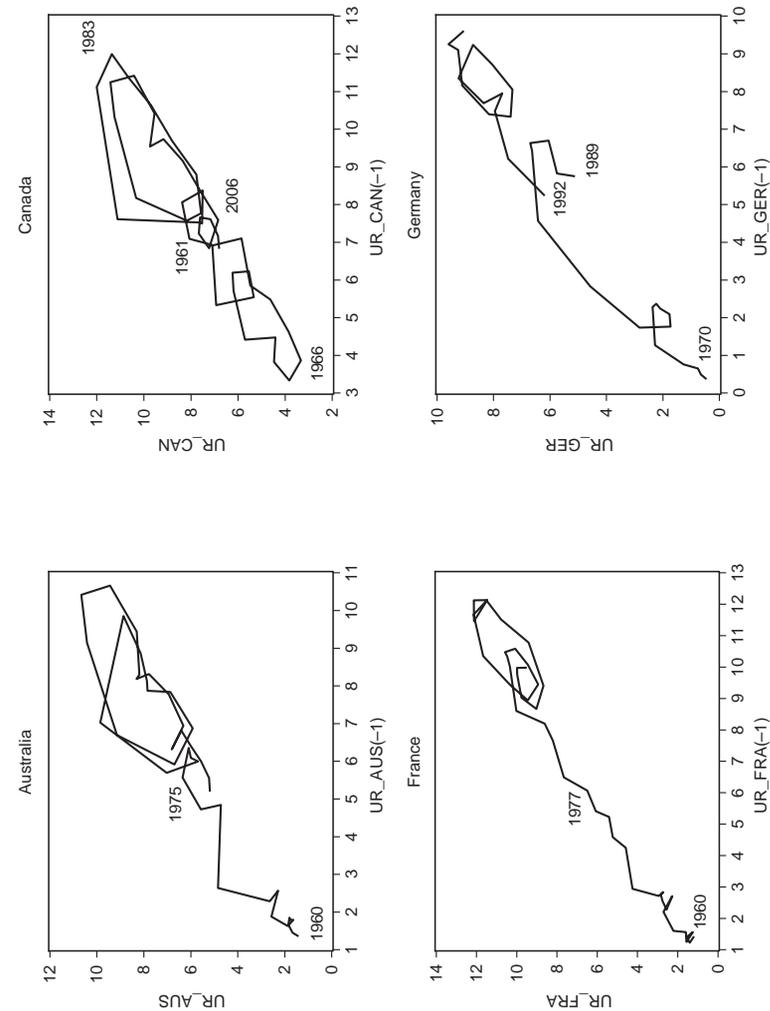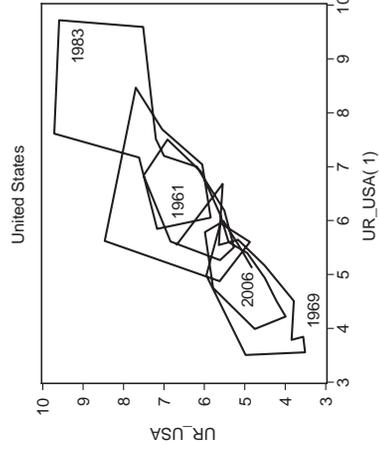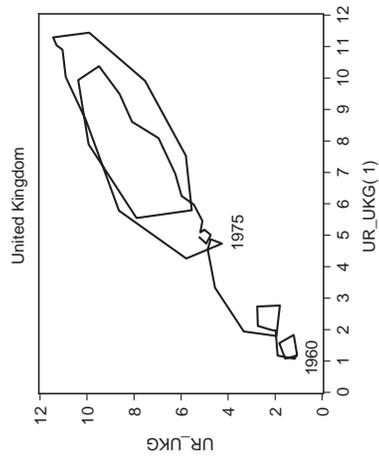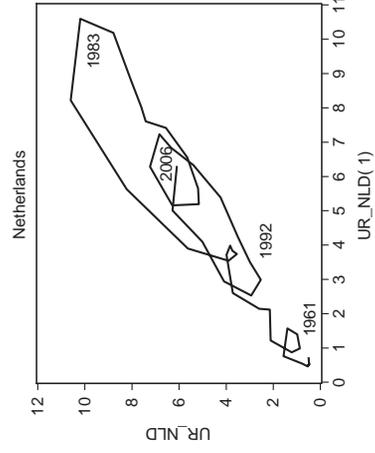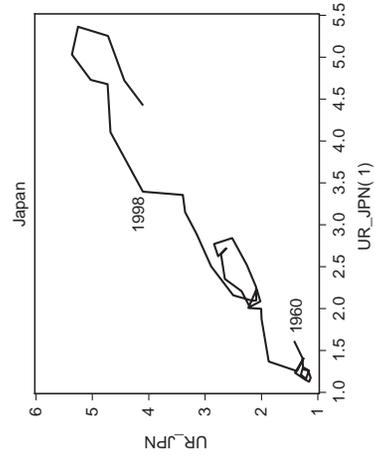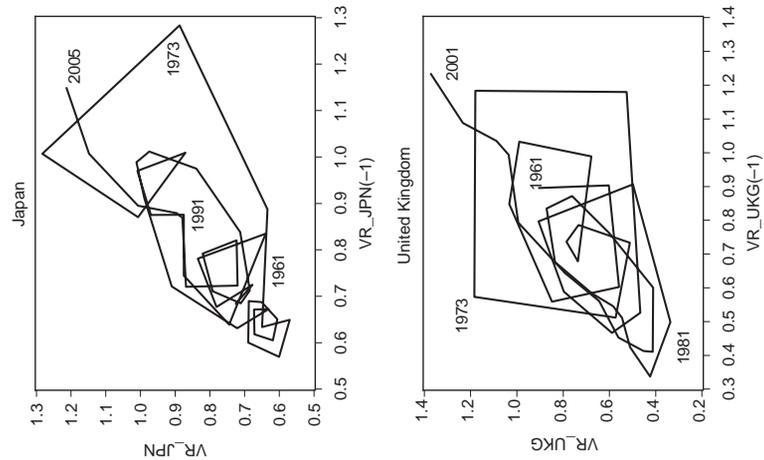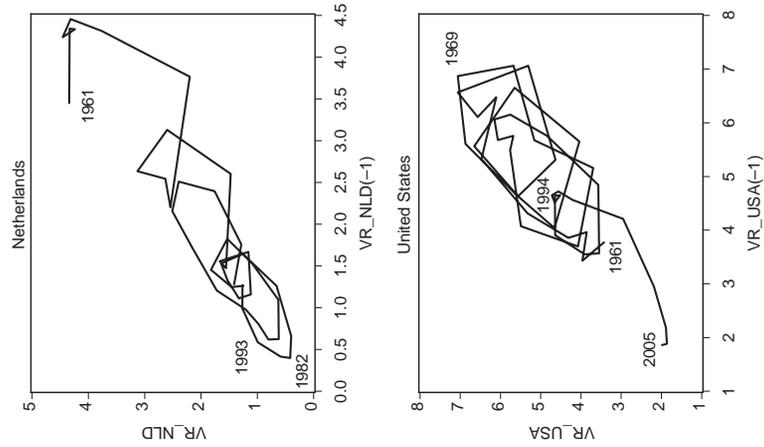
*Source:*   OECD Economic Outlook database. The data for Germany start at 1970.
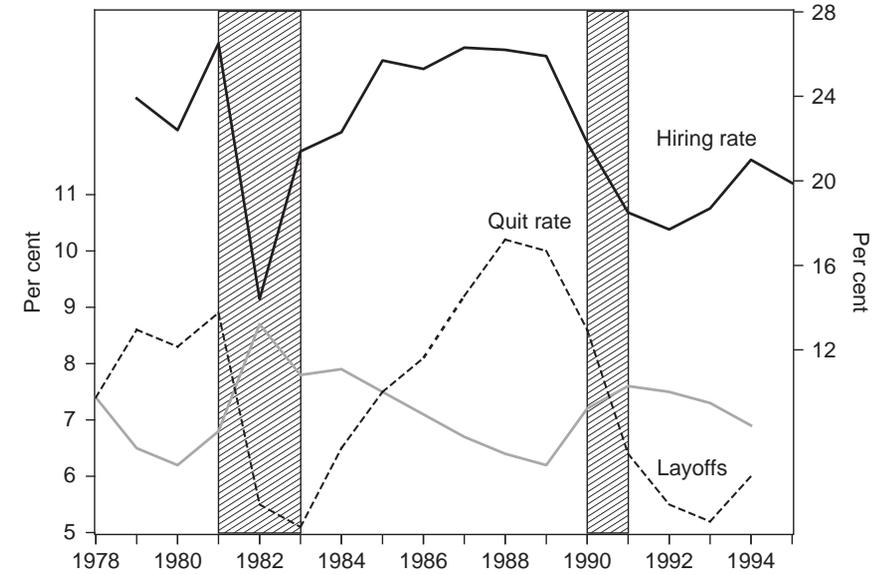
*Figure 7.7a   Current and lagged unemployment, 1960–2006*

*Note:*　The hiring rate is depicted on the RH axis.

*Source:*　Statistics Canada (1998).

*Figure 7.8　Layoffs, quits and hiring rates, Canada, 1978–1994*

layoff rates. The cyclical turning points in GDP were 1981:2 (peak) and 1982:4 (trough) and 1990:1 (peak) and 1991:1 (trough). The approximation arises because the exact turning-points – 1981:2 (peak) and 1982:4 (trough) and 1990:1 (peak) and 1991:1 (trough) – cannot be delineated on a graph using annual flow data. Figure 7.8 supports one of the major conclusions drawn from the Canadian data:

> The overall rate at which workers permanently separate from their employers (through quits, permanent layoffs or separations for other reasons) has generally been stable since 1978, although it tends to fall in recessions, as quits fall more than permanent layoffs increase. However, there is a substantial change in the mix of separations by type over the business cycle. During recessions quits fall and permanent layoffs increase. For example during the 1992 recession quits fell 45% (between 1989 and 1992) and permanent layoffs increased by 21%. (Statistics Canada, 1998: 5)

Again, it turns out that the orthodox explanation of unemployment is not supported by empirical reality.



*Source:*　OECD Main Economic Indicators database.

*Figure 7.7b　Current and lagged vacancies, 1960–2006*

## 7.9 CONCLUSION

In this chapter we have largely taken an empirical approach to our critique of the full employability framework. We sought to compile uncontroversial evidence based on standard OECD datasets to investigate whether there is any support for the view that aggregate demand is an important determinant of employment, which, in turn, suggests that the best attack on unemployment is to increase employment rather than pursue supply-side approaches. We have shown that the reliance on supply-side measures since the mid-1990s has not delivered superior outcomes in terms of consistently lower unemployment rates or reduced unemployment persistence.

Moreover, the full employability era has coincided with the rise in underemployment which necessitates taking a broader view of labour underutilisation than would be gained by concentrating on movements in official unemployment. By adding underemployment to the standard MI we derived the AMI. Tracing the AMI for various OECD economies indicates how significant the departure from full employment has been under the full employability framework.

On the basis of the empirical evidence presented in this chapter, we conclude that the claims made by the OECD and others that the *Jobs Study* agenda has been a policy success have to be seriously questioned. There is a growing awareness that programmes designed to promote employability cannot, alone, restore full employment and that maintaining sufficient levels of aggregate demand is the key determinant for achieving full employment. As we saw in Chapter 5, even the OECD's own recent statements cast doubt on the policy edifice that they have been advocating for the last decade.

There is strong evidence to support the significance of aggregate demand in determining labour market outcomes. The robustness of our results is strengthened by the fact that there is considerable diversity in economic structure across the OECD countries under consideration. We thus concord with Modigliani (2000: 3), who argued:

> 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)

While our empirical evidence is convincing, there is a need for further more rigorous research into the demand-side determinants of unemployment. We

hope that we shall succeed in focusing the interest of the profession more in that direction.

## NOTES

1. Similar observations can be made from a new set of hours-based labour market indicators (called the CLMI) developed by the Centre of Full Employment and Equity (CofFEE) at the University of Newcastle, to improve on the traditional persons-based indicators which do not provide any information about the forgone working hours associated with underemployment and hidden unemployment (see Mitchell, 2004). The information contained in the CLMI suggest that a reliable yet conservative rule of thumb is to double the official unemployment rate to get an indication of the extent of labour wastage in the economy.
2. This does not hold for the UK, where employment started to decline in the mid-1960s, followed by a period of revival in the mid-1980s, and for Germany, which witnessed hardly any employment growth in the 1960s.
3. Take a process with an A(L) polynomial $(1-0.5L-0.5L^2)$. This still has a unit root but the second non-zero (negative root) reduces the degree of persistence. In this case, the level of $y$ in the long run would be 0.67 units higher following a unit shock but will oscillate towards this new equilibrium.
4. The data on vacancies are quarterly data, taken from the OECD. In most countries the vacancy data are based on vacancies registered at employment offices or the like, while in Canada and the US vacancies are based on help-want advertisements. The data for Australia and the Netherlands are based on survey data, which are generally considered to be a more reliable source of information.

   To analyse Modigliani's relationship it is useful to note that relative labour demand $l_d$ is given by: $l_d = 1 - u + v$. This implies that when we interpret Modigliani's relationship as a log-linear relationship we find the following non-log-linear UV curve: $u = c(1 - u + v)^{-\beta}$. The curve is downward sloping; its asymptotic properties are that when $v$ approximates infinity, $u$ becomes zero, but when $v$ becomes zero, $u$ is a positive constant $u_0$.

# 8. A monetary framework for fiscal policy activism

## 8.1 INTRODUCTION

The essential operations of the macroeconomic system are often well explained in an introductory macroeconomics course. Sadly, the rudiments are quickly obfuscated as academic economists seek to replace them with increasingly difficult formal conceptions that distort the understanding students have of actual monetary economies. In this chapter, the rudiments of macroeconomics are restated to present a theoretical framework which demonstrates the actual options and responsibilities that apply to modern governments which issue fiat currency (see Mitchell, 1998; Wray, 1998; Mitchell and Mosler, 2002, 2006).

We propose this monetary framework as a challenge to the orthodox macroeconomic consensus that we developed in Chapters 5 and 6 which has provided the so-called 'intellectual authority' to policy makers who have been intent on pursuing full employability rather than full employment policies. We show that the full employability consensus is not grounded in any logical understanding of the modern monetary system and negates many of the actual options that are available to fiat-currency issuing governments.

## 8.2 MODERN MONETARY ECONOMIES USE FIAT CURRENCIES

The starting-point is to understand the central role that government can play in a modern monetary economy. Modern monetary economies use money as the unit of account to pay for goods and services. An important notion is that money is a fiat currency, that is, it is convertible only into itself and not legally convertible by government into gold, for instance, as it was under the gold standard. The fact that the government has the exclusive legal right to issue the particular fiat currency it also demands as payment of taxes renders it a monopoly supplier of that currency. Further, given that this money is the only unit which is acceptable for payment of taxes and

other financial demands of the government presents the government with a range of options it would not otherwise have, as we elaborate in the next two sections.

In Figure 8.1, we see the essential structural relations between the government and non-government sectors. First, despite claims that central banks are largely independent of government, we consider that there is no real significance in separating treasury and central bank operations. The consolidated government sector determines the extent of the net financial assets position (denominated in the unit of account) in the economy. For
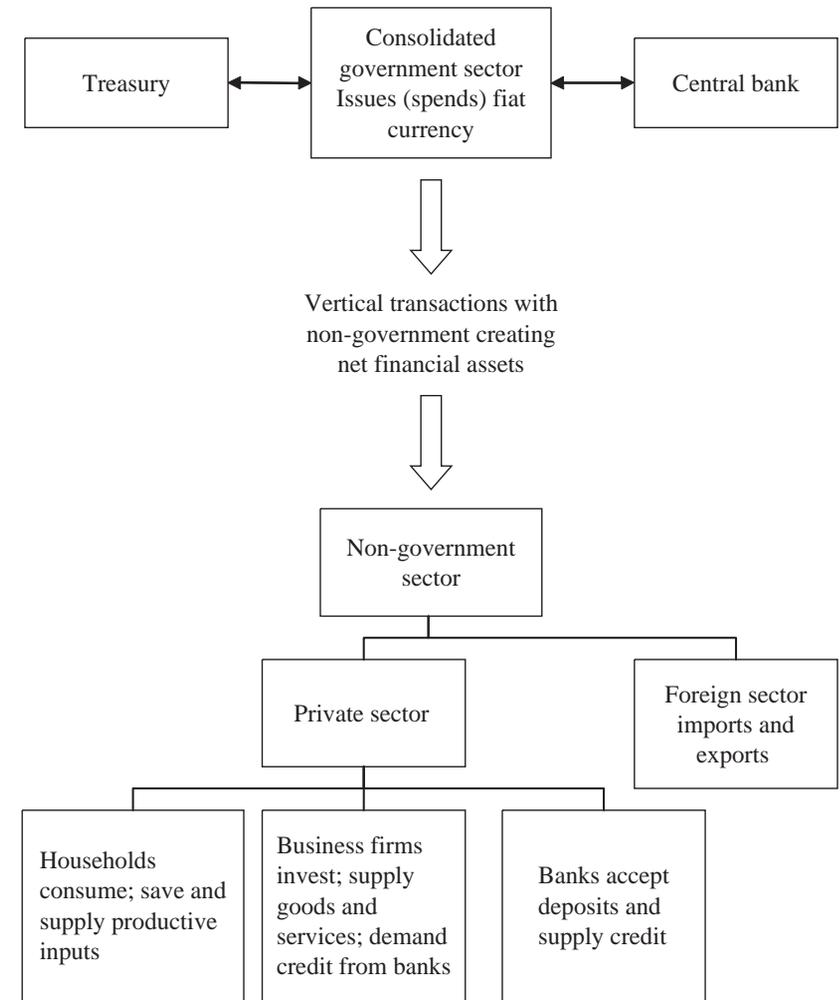


*Figure 8.1   The essential government and non-government structure*

example, while the treasury operations may deliver surpluses (destruction of net financial assets) this could be countered by a deficit (of, say, equal magnitude) as a result of central bank operations. This particular combination would leave a neutral net financial position.

While the above is true, most central bank operations merely shift non-government financial assets between reserves and securities, so for all practical purposes the central bank is not involved in altering net financial assets. The exceptions include the central bank purchasing and selling foreign exchange and paying its own operating expenses.

While within-government transactions occur, they are of no importance to understanding the vertical relationship between the consolidated government sector (treasury and central bank) and the non-government sector. Section 8.3 outlines this argument. Second, extending the model to distinguish the foreign sector makes no fundamental difference to the analysis and as such the private domestic and foreign sectors can be consolidated into the non-government sector without loss of analytical insight. Foreign transactions are largely distributional in nature.

As a matter of accounting between the sectors, a government budget deficit adds net financial assets (adding to non-government savings) available to the private sector and a budget surplus has the opposite effect. The last point requires further explanation as it is crucial to understanding the basis of modern money macroeconomics.

While typically obfuscated in standard textbook treatments, at the heart of national income accounting is an identity – the government deficit (surplus) equals the non-government surplus (deficit). Given that effective demand is always equal to actual national income, *ex post* (meaning that all leakages from the national income flow is matched by equivalent injections), the following sectoral flows accounting identity holds:

$$(G - T) = (S - I) - NX, \tag{8.1}$$

where the left-hand side depicts the public balance as the difference between government spending $G$ and government taxation $T$. The right-hand side shows the non-government balance, which is the sum of the private and foreign balances where $S$ is saving, $I$ is investment and $NX$ is net exports. With a consolidated private sector including the foreign sector, total private savings has to equal private investment plus the government budget deficit. In aggregate, there can be no net savings of financial assets of the non-government sector without cumulative government deficit spending. In a closed economy, $NX = 0$ and government deficits translate dollar-for-dollar into private domestic surpluses (savings). In an open economy, if we disaggregate the non-government sector into the private and foreign sectors,

then total private savings is equal to private investment, the government budget deficit, and net exports, as net exports represent the net financial asset savings of non-residents.

It remains true, however, that 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 (financial assets) and thus eliminate unemployment is the currency monopolist – the government. It does this by net spending. Additionally, and contrary to mainstream rhetoric, yet ironically, necessarily consistent with national income accounting, the systematic pursuit of government budget surpluses is dollar-for-dollar manifested as declines in non-government savings. If the aim was to boost the savings of the private domestic sector, when net exports are in deficit, then as Wray (1998: 81) suggested: 'taxes in aggregate will have to be less than total government spending'.

A simple example helps reinforce these points. Suppose that the economy is populated by two entities, one being government and the other deemed to be the private (non-government) sector (see Nugent, 2003). If the government runs a balanced budget (spends 100 dollars and taxes 100 dollars) then private accumulation of fiat currency (savings) is zero in that period and the private budget is also balanced. Say the government spends 120 dollars and taxes remain at 100 dollars, then private saving is 20 dollars which can accumulate as financial assets. The corresponding 20 dollar notes have been issued by the government to cover its additional expenses. The government may decide to issue an interest-bearing bond to encourage saving but operationally it does not have to do this to finance its deficit. The government deficit of 20 dollars is exactly the private savings of 20 dollars. Now if government continued in this vein, accumulated private savings would equal the cumulative budget deficits. However, should government decide to run a surplus (say spend 80 dollars and tax 100) then the private sector would owe the government a net tax payment of 20 dollars and would need to sell something back to the government to get the needed funds. The result is that the government generally buys back some bonds it had previously sold. The net funding needs of the non-government sector automatically elicit this correct response from government via interest rate signals.

Either way, accumulated private saving is reduced dollar-for-dollar when there is a government surplus. The government surplus has two negative effects for the private sector: (a) the stock of financial assets (money or bonds) held by the private sector, which represents its wealth, falls; and (b) private disposable income also falls in line with the net taxation impost. Some may retort that government bond purchases provide the private wealth-holder with cash. That is true, but the liquidation of wealth is driven

by the shortage of cash in the private sector, arising from tax demands exceeding income. The cash from the bond sales pays the government's net tax bill. The result is exactly the same when expanding this example by allowing for private income generation and a banking sector.

From the example above, and further recognising that currency plus reserves (the monetary base) plus outstanding government securities constitutes the net financial assets of the non-government sector, the fact that the non-government sector is dependent on the government to provide funds for both its desired net savings and payment of taxes to the government becomes a matter of accounting.

This framework also allows us to see why the pursuit of government budget surpluses will be contractionary. Pursuing budget surpluses is necessarily equivalent to the pursuit of non-government sector deficits. They are two sides of the same coin. The decreasing levels of net savings financing the government surplus increasingly leverage the private sector and the deteriorating debt-to-income ratios will eventually see the system succumb to ongoing demand-draining fiscal drag through a slow-down in real activity. We expand on these insights further in Section 8.7.

To summarise the macroeconomic principles that emerge from this discussion: budget surpluses can be achieved only through decreases in non-government savings (increases in non-government debt) and reductions in private savings (increase private debt). Moreover, budget surpluses do not add to government wealth or their ability to spend. Finally, budget surpluses have an inherent tendency to reduce aggregate demand.

## 8.3   GOVERNMENT SPENDING IS NOT INHERENTLY REVENUE CONSTRAINED

Spending by private citizens is constrained by the sources of available funds, including income from all sources, asset sales and borrowings from external parties. Federal government spending, however, is largely facilitated by the government issuing cheques drawn on the central bank (see also the discussion of Figure 8.2, below). The arrangements the government has with its central bank to account for this are largely irrelevant.[1] When the recipients of the cheques (sellers of goods and services to the government) deposit the cheques in their bank, the cheques clear through the central banks clearing balances (reserves), and credit entries appear in accounts throughout the commercial banking system. In other words, government spends simply by crediting a private sector bank account at the central bank. Operationally, this process is independent of any prior revenue, including taxing and borrowing. Nor does the account crediting in

any way reduce or otherwise diminish any government asset or government's ability to further spend.

Alternatively, when taxation is paid by private sector cheques (or bank transfers) that are drawn on private accounts in the member banks, the central bank debits a private sector bank account. No real resources are transferred to government. Nor is government's ability to spend augmented by the debiting of private bank accounts.

In general, mainstream economics errs by blurring the differences between private household budgets and the government budget. For example, Barro (1993: 367) noted: 'we can think of the government's saving and dissaving just as we thought of households' saving and dissaving'. This errant analogy is advanced by the popular government budget constraint framework (GBC) that now occupies a chapter in any standard macroeconomics textbook. The GBC is used by orthodox economists to analyse three alleged forms of public finance: (i) raising taxes; (ii) selling interest-bearing government debt to the private sector (bonds); and (iii) issuing non-interest-bearing high-powered money (money creation). Various scenarios are constructed to show either that deficits are inflationary if financed by high-powered money (debt monetisation), or that they squeeze private sector spending if financed by debt issue. While in reality the GBC is just an *ex post* accounting identity, orthodox economics claims it to be an *ex ante* financial constraint on government spending.

The GBC leads students to believe that unless the government wants to print money and cause inflation it has to raise taxes or sell bonds to get money in order to spend. Bell (2000: 617) noted that the erroneous understanding that a student will gain from a typical macroeconomics course is that 'the role of taxation and bond sales is to transfer financial resources from households and businesses (as if transferring actual dollar bills or coins) to the government, where they are re-spent (i.e., in some sense "used" to finance government spending)'.

What is missing is the recognition that a household, the user of the currency, must finance its spending beforehand, *ex ante*, whereas government, the issuer of the currency, necessarily must spend first (credit private bank accounts) before it can subsequently debit private accounts, should it so desire. The government is the source of the funds that the private sector requires to pay its taxes and to net save (including the need to maintain transaction balances) as we have seen in the previous section. Clearly the government is always solvent in terms of its own currency of issue.

Standard macro textbooks struggle to explain this to students. Usually, there is some text on so-called 'money creation' but no specific discussion

of the accounting that underpins spending, taxation and debt issuance. Blanchard (1997: 429) is representative:

> [Government] can also do something that neither you nor I can do. It can, in effect, finance the deficit by creating money. The reason for using the phrase 'in effect', is that . . . governments do not create money; the central bank does. But with the central bank's cooperation, the government can in effect finance itself by money creation. It can issue bonds and ask the central bank to buy them. The central bank then pays the government with money it creates, and the government in turn uses that money to finance the deficit. This process is called debt monetization.

To monetise means to convert to money. Gold used to be monetised when the government issued new gold certificates to purchase gold. Monetising occurs when the central bank buys foreign currency. Purchasing foreign currency converts, or monetises, the foreign currency to the currency of issue. The central bank then offers federal government securities for sale, to offer the new dollars just added to the banking system a place to earn interest. This process is referred to as 'sterilisation'. In a broad sense, a federal (fiat-currency issuing) government's debt is money, and deficit spending is the process of monetising whatever the government purchases. As Wray (1998: ix) noted: 'in reality, all government spending is "financed" by "money creation", but this money is accepted because there is an enforced tax liability that is, by design, burdensome'.

However, this conception has no application for the subject of debt monetisation as it frequently enters discussions of monetary policy in economic textbooks and the broader public debate. Following Blanchard's conception, debt monetisation is usually referred to as a process whereby the central bank buys government bonds directly from the treasury. In other words, the federal government borrows money from the central bank rather than from the public. Debt monetisation is the process usually implied when a government is said to be printing money. Debt monetisation, all else equal, is said to increase the money supply and can lead to severe inflation. However, fear of debt monetisation is unfounded, not only because the government does not need money in order to spend but also because the central bank does not have the option to monetise any of the outstanding government debt or newly issued government debt. We shall demonstrate in the next section that as long as the central bank has a mandate to maintain a target short-term interest rate, the size of its purchases and sales of government debt are not discretionary. The central bank's lack of control over the quantity of reserves underscores the impossibility of debt monetisation. The central bank is unable to monetise the government debt by purchasing government securities at will because to do so would cause

the short-term target rate to fall to zero or to any support rate that it might have in place for excess reserves.

In summary, we conclude from the above analysis that governments spend (introduce net financial assets into the economy) by crediting bank accounts in addition to issuing cheques or tendering cash. Moreover, this spending is not revenue constrained. A currency-issuing government has no financial constraints on its spending, which is not the same thing as acknowledging self-imposed (political) constraints.

## 8.4   VERTICAL AND HORIZONTAL RELATIONSHIPS IN A MODERN MONETARY ECONOMY

In Figure 8.1, we depicted the vertical relationship between the government and non-government sectors whereby net financial assets enter and exit the economy. What are these vertical transactions between the government and non-government sectors and what is the importance of them for understanding how the economy works?

In Figure 8.2, the juxtaposition between vertical and horizontal relationships in the economy is shown as the basis for the following discussion. Arrows going down depict vertical transactions between the government and non-government sectors and horizontal arrows depict transactions between agents within the non-government sector.

In terms of the vertical relationships, Mosler and Forstater (1999: 168) noted:

> The tax liability lies at the bottom of the vertical, exogenous, component of the currency. At the top is the State (here presented as a consolidated Treasury and Central Bank), which is effectively the sole issuer of units of its currency, as it controls the issue of currency units by any of its designated agents. The middle is occupied by the private sector. It exchanges goods and services for the currency units of the state, pays taxes, and accumulates what is left over (State deficit spending) in the form of cash in circulation, reserves (clearing balances at the State's Central Bank), or Treasury securities ('deposits' offered by the CB) . . . The currency units used for the payment of taxes, or any other currency units transferred to the State, for this analysis, is considered to be consumed (destroyed) in the process. As the State can issue paper currency units or accounting information at the CB at will, tax payments need not be considered a reflux back to the state for the process to continue.

The two arms of government (treasury and central bank) have an impact on the stock of accumulated financial assets in the non-government sector and the composition of the assets. The government deficit (treasury

operation) determines the cumulative stock of financial assets in the private sector. Central bank decisions then determine the composition of this stock in terms of notes and coins (cash), bank reserves (clearing balances) and government bonds.

Figure 8.2 shows how the cumulative stock is held in what we term the 'Non-government Tin Shed' which stores fiat-currency stocks, bank reserves and government bonds.[2] Following our earlier discussion, any payment flows from the government sector to the non-government sector that do not finance the taxation liabilities remain in the non-government sector as cash, reserves or bonds. So we can understand any stocks in the Tin Shed as being the reflection of the cumulative budget deficits.

Taxes are at the bottom of the exogenous vertical chain and go into the rubbish bin, which emphasises that they do not finance anything. In fact, if one pays taxes with actual cash, generally the central bank shreds the cash once the transaction is accounted for. While taxes reduce balances in private sector bank accounts, the government does not actually get anything – the reductions are accounted for but go nowhere. Thus the concept of a fiat-issuing government saving in its own currency is of no relevance. A government may use its net spending to purchase stored assets (spending the surpluses for instance on gold or as in Australia on private sector financial assets stored as the 'Future Fund') but that is not the same as saying when governments run surpluses (taxes in excess of spending) the funds are stored and can be spent in the future. This concept is erroneous. Finally, payments for bond sales are also accounted for as a drain on liquidity but then also scrapped. These points are elaborated on further in Section 8.5.

The private credit markets represent relationships (depicted by horizontal arrows) and house the leveraging of credit activity by commercial banks, business firms and households (including foreigners), which many economists in the post-Keynesian tradition consider to be endogenous circuits of money (Lavoie, 1985, 2001). The crucial distinction is that the horizontal transactions do not create net financial assets – all assets created are matched by a liability of equivalent magnitude, so all transactions net to zero. The implications of this are dealt with in the next section, when we consider the impacts of net government spending on liquidity and the role of bond issuance.

The other important point is that private leveraging activity, which nets to zero, is not an operative part of the Tin Shed stores of currency, reserves or government bonds. The commercial banks do not need reserves to generate credit, contrary to the popular representation in standard textbooks. We learn more about this in the next section.
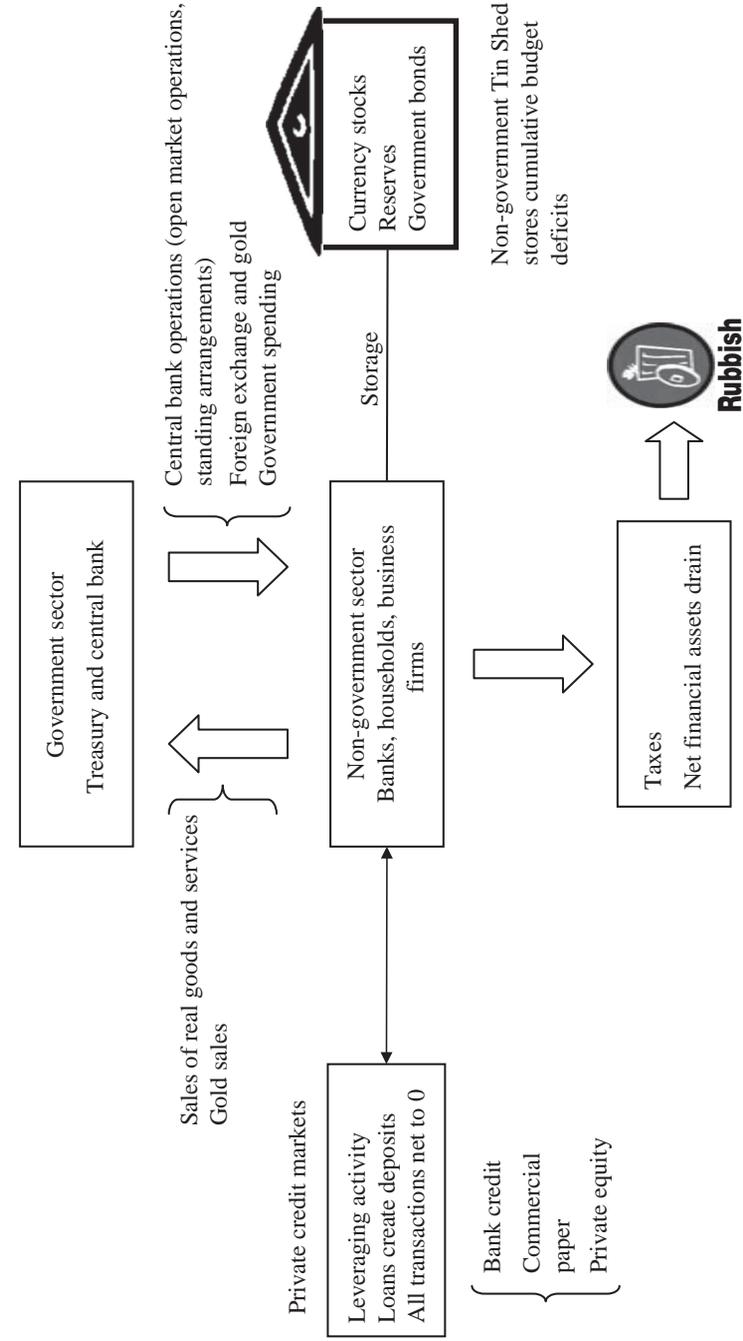


*Source:* Mitchell and Juniper (2007: 198).

*Figure 8.2 Vertical and horizontal macroeconomic relations*

## 8.5 THE CENTRAL BANK ADMINISTERS THE RISK-FREE INTEREST RATE AND GOVERNMENT DEBT FUNCTIONS TO SUPPORT IT

In Section 8.3 we concluded without detailed analysis that the central bank sets the interest rate – the so-called 'price of money' – but cannot directly control the quantity of reserves (and hence the money supply) in the banking system. In this section we examine in more detail the way in which the central bank operates and the impacts of government sector balances in the money market. In most countries the central bank conducts monetary policy by controlling the short-run interest rate.

The central bank operations aim to manage the liquidity in the banking system such that short-term interest rates match the official targets which define the current monetary policy stance. In achieving this aim the central bank may: (a) intervene in the interbank money market (for example, the Federal funds market in the US) to manage the daily supply of and demand for funds; (b) buy certain financial assets at discounted rates from commercial banks; and (c) impose penal lending rates on banks that require urgent funds, In practice, most of the liquidity management is achieved through (a). That being said, central bank operations function to offset operating factors in the system by altering the composition of reserves, cash and securities, and do not alter net financial assets of the non-government sectors.

Money markets are where commercial banks (and other intermediaries) trade short-term financial instruments between themselves in order to meet reserve requirements or otherwise gain funds for commercial purposes. In terms of Figure 8.2, all these transactions are horizontal and net to zero.

Commercial banks maintain accounts with the central bank, which permits reserves to be managed and also the clearing system to operate smoothly. In addition to setting a lending rate (discount rate), the central bank also sets a support rate which is paid on commercial bank reserves held by the central bank. Many countries (such as Australia, Canada and zones such as the European Monetary Union) maintain a default return on surplus reserve accounts (for example, the Reserve Bank of Australia pays a default return equal to 25 basis points less than the overnight rate on surplus exchange settlement accounts). Other countries such as the US and Japan do not offer a return on reserves, which means that persistent excess liquidity will drive the short-term interest rate to zero (as in Japan until mid-2006) unless the government sells bonds (or raises taxes). As we shall show presently, the support rate becomes the interest rate floor for the economy.

The short-run or operational target interest rate, which represents the current monetary policy stance, is set by the central bank between the discount and support rates. This effectively creates a corridor or a spread within which the short-term interest rates can fluctuate with liquidity variability. It is this spread that the central bank manages in its daily operations.

In most nations, commercial banks by law have to maintain positive reserve balances at the central bank, accumulated over some specified period. At the end of each day commercial banks have to appraise the status of their reserve accounts. Those that are in deficit can borrow the required funds from the central bank at the discount rate. Alternatively banks with excess reserves are faced with earning the support rate which is below the current market rate of interest on overnight funds if they do nothing. Clearly it is profitable for banks with excess funds to lend to banks with deficits at market rates. Competition between banks with excess reserves for custom puts downward pressure on the short-term interest rate (overnight funds rate) and depending on the state of overall liquidity may drive the interbank rate down below the operational target interest rate. When the system is in surplus overall this competition would drive the rate down to the support rate.

The demand for short-term funds in the money market is a negative function of the interbank interest rate since at a higher rate fewer banks are willing to borrow some of their expected shortages from other banks, compared to the risk that at the end of the day they will have to borrow money from the central bank to cover any mistaken expectations of their reserve position. Moschitz (2004: 14) characterised the operational aspects of monetary policy as the central bank 'minimizing deviations of the interbank rate . . . from the policy rate . . . The central bank supplies liquidity in order to fulfill (expected) demand for reserves at an interest rate consistent with the policy rate . . .'.

The main instrument of this liquidity management is through open market operations, that is, buying and selling government debt. When the competitive pressures in the overnight funds market drives the interbank rate below the desired target rate, the central bank drains liquidity by selling government debt. This open market intervention therefore will result in a higher value for the overnight rate. Importantly, we characterise the debt issuance as a monetary policy operation designed to provide interest rate maintenance. This is in stark contrast to orthodox theory which asserts that debt issuance is an aspect of fiscal policy and is required to finance deficit spending.

As a precursor for understanding the interaction between government spending and the money market, Table 8.1 presents the central bank

*Table 8.1   Central bank balance sheet*

| Assets | Liabilities |
|---|---|
| Open market operations (net) | Banknotes in circulation |
| | Treasury deposits |
| | Reserves held by private banks |
| Marginal lending facility | Deposit facility |

balance sheet in a highly stylised way focusing only on some of the possible vertical transactions shown in Figure 8.2 (see Moschitz, 2004). On the asset side, the open market operations funds are used for liquidity management, while the marginal lending facilities are used to lend money at the discount rate to commercial banks (the central bank as lender of last resort). The liabilities consist of banknotes in circulation, and reserves held by private banks at the central bank (including excess reserves receiving the support rate). Finally, the liabilities also consist of treasury deposits given that the central bank is the government's own banker and the treasury draws on its account by the central bank when it credits private bank accounts during its spending operations.

Moschitz (p. 11) argued that the central bank not only supplies liquidity to commercial banks but 'also provides liquidity for the so-called autonomous factors. [that is] banknotes in circulation and Treasury deposits [and] decides how much liquidity to supply, taking into account expected demand for reserves (at the policy rate) and the expected size of the autonomous factors'.

The significant point for this discussion which we build on in Section 8.6 to expose the myth of crowding out is that net government spending (deficits) which is not taken into account by the central bank in its liquidity decision, will manifest as excess reserves (cash supplies) in the clearing balances (bank reserves) of the commercial banks at the central bank.[3] We call this a 'system-wide surplus'. In these circumstances, the commercial banks will be faced with earning the lower support rate return on surplus reserve funds if they do not seek profitable trades with other banks, which may be deficient in reserve funds. The ensuing competition to offload the excess reserves puts downward pressure on the overnight rate. However, because these are horizontal transactions and necessarily net to zero, the interbank trading cannot clear the system-wide surplus. Accordingly, if the central bank desires to maintain the current target overnight rate, then it must drain this surplus liquidity by selling government debt – a vertical transaction.

Therefore, it is clear that government debt does not finance spending but rather serves to maintain reserves such that a particular overnight rate can

be defended by the central bank. What would happen if the US government, for example, sold no securities? The penalty for the government that does not pay interest on reserves would be a Japan-like zero interest rate. For the central bank running a default support rate, the penalty would be that the interest rate would fall to its support rate. Importantly, any economic ramifications (such as inflation or currency depreciation) would be due to the lower interest rate rather than any notion of monetisation.

In the next section, we use the insights we have gained in terms of the fundamental distinction between vertical and horizontal transactions and the way in which central bank operations maintain interest rate targets to examine the myth of financial crowding out. In Section 8.7, we extend the analysis to consider the notion that the monopoly control over money as the legal currency presents the government with a range of options that no other sector has. We explicitly trace mass unemployment to the introduction of state money and show the relationship between net government spending and excess labour supply.

## 8.6   THE MYTH OF FINANCIAL CROWDING OUT

In Section 8.3 we disposed of the myth that a currency-issuing government is financially constrained. This myth underpins arguments by orthodox economists against government activism in macroeconomic policy. In this section we build on the monetary analysis in Section 8.5 to deal with another persistent myth – that government expenditures crowd out private expenditures through their effects on the interest rate.

We have seen that the central bank necessarily administers the risk-free interest rate and is not subject to direct market forces. The orthodox macroeconomic approach argues that persistent deficits 'reduce national savings [and require] higher real interest rates and lower levels of investment spending' (DeLong, 2002: 405). Unfortunately, proponents of this logic, which automatically links budget deficits to increasing debt issuance and hence rising interest rates, fail to understand the analysis in Section 8.5, which shows how interest rates are set and the role that debt issuance plays in the economy. Clearly, the central bank can choose to set and leave the interest rate at 0 per cent, regardless, should that be favourable to the longer-maturity investment rates.

While Section 8.3 has shown us that the funds that government spends do not come from anywhere and taxes collected do not go anywhere, there are substantial liquidity impacts from net government positions as discussed. If the funds that purchase the bonds come from government spending as the accounting dictates, then any notion that government spending rations finite

savings that could be used for private investment is a nonsense. Nugent (2003) noted:

> One can also see that the fears of rising interest rates in the face of rising budget deficits make little sense when all of the impact of government deficit spending is taken into account, since the supply of treasury securities offered by the federal government is always equal to the newly created funds. The net effect is always a wash, and the interest rate is always that which the Fed votes on. Note that in Japan, with the highest public debt ever recorded, and repeated downgrades, the Japanese government issues treasury bills at [0].0001%! If deficits really caused high interest rates, Japan would have shut down long ago!

As explained in Sections 8.4 and 8.5, only transactions between the federal government and the private sector change the system balance. Government spending and purchases of government securities (treasury bonds) by the central bank add liquidity and taxation and sales of government securities drain liquidity. These transactions influence the cash position of the system on a daily basis, and on any one day they can result in a system surplus (deficit) due to the outflow of funds from the official sector being above (below) the funds inflow to the official sector. The system cash position has crucial implications for central bank monetary policy in that it is an important determinant of the use of open market operations (bond purchases and sales) by the central bank.

As we explained in Section 8.5, government debt does not finance spending but rather serves to maintain reserves such that a particular overnight rate can be defended by the central bank. Accordingly, the concept of debt monetisation is a *non sequitur*. Once the overnight rate target is set, the central bank should trade government securities only if liquidity changes are required to support this target. Given that the central bank cannot control the reserves, then debt monetisation is strictly impossible. Imagine that the central bank traded government securities with the treasury, which then increased government spending. The excess reserves would force the central bank to sell the same amount of government securities to the private market or allow the overnight rate to fall to the support level. This is not monetisation but rather the central bank simply acting as broker in the context of the logic of the interest rate-setting monetary policy.

Returning to the discussion about bank reserves and drawing on our earlier two-entity economy, in an accounting sense the money that is used to buy bonds (which is allegedly regarded as financing government spending) is the same money (in aggregate) that the government spent. Nugent (2003) noted: 'in other words, deficit spending creates the new funds to buy the newly issued securities'. To use the language of central bankers, government securities function to 'offset operating factors that add

reserves', the largest 'operating factor' being net spending by the treasury. In this sense, the purchase (or sale) of bonds by (to) the non-government sector alters the distribution of the assets in the Tin Shed shown in Figure 8.2.

Ultimately, private agents may refuse to hold any further stocks of cash or bonds. With no debt issuance, the interest rates will fall to the central bank support limit (which may be zero). It is then also clear that the private sector at the micro level can dispense with unwanted cash balances only in the absence of government paper by increasing its consumption levels. Given the current tax structure, this reduced desire to net save would generate a private expansion and reduce the deficit, eventually restoring the portfolio balance at higher private employment levels and lower the required budget deficit as long as saving desires remain low. Clearly, there would be no desire for the government to expand the economy beyond its real limit. Whether this generates inflation depends on the ability of the economy to expand real output to meet rising nominal demand, which is not compromised by the size of the budget deficit. We elaborate on this point in the next section.

At this point it seems useful to summarise the main conclusions from the above discussion. First, the central bank sets the short-term interest rate based on its policy aspirations. Operationally, budget deficits put downward pressure on interest rates, contrary to the myths that appear in macroeconomic textbooks about crowding out. The central bank can counter this pressure by selling government bonds, which is equivalent to government borrowing from the public. Second, the penalty for not borrowing is that the interest rate will fall to the bottom of the corridor prevailing in the country which may be zero if the central bank does not offer a return on reserves. For example, Japan has been able to maintain a zero interest rate policy for years with record budget deficits simply by spending more than it borrows. This also illustrates that government spending is independent of borrowing, with the latter best thought of as coming after spending. Third, government debt issuance is a monetary policy consideration rather than being intrinsic to fiscal policy. Finally, a budget surplus describes from an accounting perspective what the government had done, not what it has received.

## 8.7 STATE MONEY INTRODUCES THE POSSIBILITY OF UNEMPLOYMENT

Once we realise that government spending is not revenue constrained then we have to analyse the functions of taxation in a different light. We have

noted in Sections 8.3 and 8.4 that taxation functions to promote offers from private individuals to government of goods and services in return for the necessary funds to extinguish the tax liabilities. The orthodox conception is that taxation provides revenue to the government which it requires in order to spend. In fact, the reverse is the truth. Government spending provides revenue to the non-government sector, which then allows the latter to extinguish its taxation liabilities. So the funds necessary to pay the tax liabilities are provided to the non-government sector by government spending. It follows that the imposition of the taxation liability creates a demand for the government currency in the non-government sector, which allows the government to pursue its economic and social policy programme.

This insight allows us to see another dimension of taxation which is lost in orthodox analysis. Given that the non-government sector requires fiat currency to pay its taxation liabilities, in the first instance, the imposition of taxes (without a concomitant injection of spending) by design creates unemployment (people seeking paid work) in the non-government sector. The unemployed or idle non-government resources can then be utilised through demand injections via government spending, which amounts to a transfer of real goods and services from the non-government to the government sector. In turn, this transfer facilitates the government's socio-economics programme. While real resources are transferred from the non-government sector in the form of goods and services that are purchased by government, the motivation to supply these resources is sourced back to the need to acquire fiat currency to extinguish the tax liabilities. Further, while real resources are transferred, the taxation provides no additional financial capacity to the government of issue. Conceptualising the relationship between the government and non-government sectors in this way makes it clear that it is government spending that provides the paid work which eliminates the unemployment created by the taxes.

So it is now possible to see why mass unemployment arises. It is the introduction of state money (which we define as government taxing and spending) into a non-monetary economics that raises the spectre of involuntary unemployment. As a matter of accounting, for aggregate output to be sold, total spending must equal total income (whether actual income generated in production is fully spent or not during each period). Involuntary unemployment is idle labour offered for sale, with no buyers at current prices (wages). Unemployment occurs when the private sector, in aggregate, desires to earn the monetary unit of account through the offer of labour but does not desire to spend all it earns, other things being equal. As a result, involuntary inventory accumulation among sellers of goods and services translates into decreased output and employment. In this situation,

nominal (or real) wage cuts *per se* do not clear the labour market, unless those cuts somehow eliminate the private sector desire to net save, and thereby increase spending.

## 8.8 UNEMPLOYMENT OCCURS WHEN NET GOVERNMENT SPENDING IS TOO LOW

In the previous section we saw that the purpose of state money is to facilitate the movement of real goods and services from the non-government (largely private) sector to the government (public) domain. Government achieves this transfer by first levying a tax, which creates a notional demand for its currency of issue. To obtain funds needed to pay taxes and net save, non-government agents offer real goods and services for sale in exchange for the needed units of the currency. This includes, of course, the offer of labour by the unemployed. 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.

This analysis also sets the limits on government spending. It is clear that government spending has to be sufficient to allow taxes to be paid. In addition, net government spending is required to meet the private desire to save (accumulate net financial assets). From the previous paragraph it is also clear that if the government does not spend enough to cover taxes and the non-government sector's desire to save, the manifestation of this deficiency will be unemployment. Keynesians have used the term 'demand-deficient unemployment'. In our conception, the basis of this deficiency is at all times inadequate net government spending, given the private spending (saving) decisions in force at any particular time.

For a time, what may appear to be inadequate levels of net government spending can continue without rising unemployment. In these situations, as is evidenced in countries such as the US and Australia over the last several years, GDP growth can be driven by an expansion in private debt. The problem with this strategy is that when the debt service levels reach some threshold percentage of income, the private sector will 'run out of borrowing capacity' as incomes limit debt service. This tends to restructure their balance sheets to make them less precarious and as a consequence the aggregate demand from debt expansion slows and the economy falters. In this case, any fiscal drag (inadequate levels of net spending) begins to manifest as unemployment.

The point is that for a given tax structure, if people want to work but do not want to continue consuming (and going further into debt) at the previous rate, then the government can increase spending and purchase goods

and services and full employment is maintained. The alternative is unemployment and a recession

## 8.9   CONCLUSION

The monetary macroeconomic framework outlined in this chapter provides a clear guide to the options that a fiat-currency issuing national government has in terms of maintaining full employment. It is clear that most national governments in recent years have eschewed these options and have instead adopted voluntary government budget constraints. By voluntarily constraining themselves, these national governments have acted as if the GBC is an *ex ante* financial constraint. However, as we have shown there is no fundamental financial constraint on such governments.

Once we accept this truth then it is useful to explore some of the options available to a government of this type which would help restore full employment. In the next chapter we consider two buffer-stock approaches to maintaining price stability. The first, grounded in the NAIRU tradition, uses the buffer of unemployment to suppress inflationary pressures. The second uses an employment buffer stock to maintain full employment but ensures that inflationary pressures are contained. The employment buffer stock approach is the logical outcome of the modern monetary approach that we have outlined in this chapter.

## NOTES

1. The situation in the EMU is slightly different. The member states voluntarily agreed to legally constraining the ECB from providing credit positions to its EMU member governments (which is one of the reasons the UK declined to join the EMU). However, EMU member governments can issue treasury bills to finance their expenditures, which the ECB has to accept eventually since it has to maintain its interest rate target as we discuss in Section 8.5.
2. The reference to the Tin Shed is a light-hearted juxtaposition of the logic that government surpluses create storage piles of liquidity which can be used for later spending. The Shed must be where they store them! While the notion that government can save its own currency is not sensible, the private sector can accumulate financial assets which can be liquidated in the future to finance spending.
3. This point is also recognised by Moschitz (2004: 12): 'given the supply of liquidity . . . a change in the autonomous factors must be matched by an equal change of opposite sign in the reserve position'. However, consistent with the public position of the central banks, Moschitz did not acknowledge the implication that the central bank must accommodate a 'change in the autonomous factors' when it wishes to maintain its target interest rate. Hence the central bank also has to accommodate an increase in treasury bills issued by the government.

# 9.   Buffer stocks and price stability

*What motivates people and leads them to high endeavor is not fear but hope.*
(Arthur Altmeyer, 1968)

## 9.1   INTRODUCTION

In Chapter 8 we developed a broad theoretical macroeconomic framework based on the recognition that fiat-currency systems are in fact public monopolies *per se*, and introduce imperfect competition to the monetary system itself, and that the imposition of taxes coupled with insufficient government spending generates unemployment in the private sector. An understanding of this widespread monetary framework allows us, once we have appreciated how unemployment occurs, to detail the role that government can play in maintaining its near universal dual mandates of price stability and full employment (see Mosler, 1997–98; Mitchell, 1998; Wray, 1998; Mitchell and Mosler, 2002, 2006; Mitchell and Juniper, 2007).

In this chapter, we compare inflation control under a NAIRU regime with an economy that exploits the fiscal power embodied in a fiat-currency issuing national government to introduce full employment based on an employment buffer stock approach. In the context of such a policy approach we specifically consider the job guarantee (JG) model developed by Mitchell (1996, 1998, 2000a, 2000b) (see also Mosler, 1997–98; Wray, 1998).[1] Under a NAIRU regime, inflation is controlled using tight monetary and fiscal policy, which leads to a buffer stock of unemployment. In Section 9.2 we show that the NAIRU is a costly and unreliable target for policy makers to pursue as a means of inflation proofing. Under a JG, the inflation anchor is provided in the form of a fixed wage (price) employment guarantee.

Full employment requires that there are enough jobs created in the economy to absorb the available labour supply. Focusing on some politically acceptable (though perhaps high) unemployment rate is incompatible with sustained full employment. We further recognise that central banks have, increasingly, been given the responsibility by government for managing the price level. In conducting monetary policy to fulfil their major economic objectives, central banks manipulate the interest rate and attempt to

manage the state of inflation expectations. These policy tools are employed to achieve an optimal level of price stability and capacity utilisation (typically assumed to be invariant in the long run to nominal aggregates). Where negative real effects from the operation of inflation-first monetary policy are acknowledged, they are theorised to be necessary for optimal long-term growth and employment and small in magnitude.

These considerations suggest that the central bank, as part of the consolidated currency-issuing government sector, has another, somewhat similar yet far more effective buffer stock option which is in fact an alternative way of managing the unemployment programme. We shall argue that a superior use of the labour slack necessary to generate price stability is to implement an employment programme for the otherwise unemployed as an activity floor in the real sector, which both anchors the general price level to the price of employed labour of this (currently unemployed) buffer and can produce useful output with positive supply-side effects (see Mitchell and Mosler, 2006).[2]

The employment buffer stock approach (the JG) exploits the imperfect competition introduced by fiat (flexible exchange rate) currency, which provides the issuing government with pricing power and frees it of nominal financial constraints. The JG approach represents a break in paradigm from both traditional Keynesian policies and the NAIRU–buffer stock approach. The difference is a shift from what can be categorised as spending on a *quantity rule* to spending on a *price rule*. For example, under current policy, the government generally budgets a quantity of dollars to be spent at prevailing market prices. In contrast, with the JG option, the government additionally offers a fixed wage to anyone willing and able to work, and thereby lets market forces determine the total quantity of government spending. We categorise this as spending based on a price rule.

Under the JG scheme, the government continuously absorbs workers displaced from private sector employment. The JG workers thus constitute a buffer employment stock and would be paid the minimum wage. Many economists who are sympathetic to the goals of full employment are sceptical of the JG approach because they fear it will make inflation impossible to control. To answer these claims, the inflation control mechanisms inherent in the JG model are outlined in detail in Section 9.3. If the private sector is inflating, a tightening of fiscal and/or monetary policy shifts workers into the fixed-wage JG sector to achieve inflation stability without unemployment. We also examine the arguments posed by Kaleckians who suggest that capitalism and sustained full employment are incommensurate and that the capitalist sector would undermine the JG policy.

In Section 9.4 we discuss the macroeconomics aspects of the JG policy, in particular its comparison with a generalised demand expansion. The

social policy aspects of the JG are elaborated in Section 9.5 and the JG in practice is discussed in Section 9.6. Section 9.7 concludes.

## 9.2 UNEMPLOYMENT BUFFER STOCKS AND PRICE STABILITY

As outlined in Chapters 3 to 7, there have been two striking developments in economics over the last thirty years. First, a major theoretical revolution has occurred in macroeconomics (from Keynesianism to monetarism and beyond) since the mid-1970s. Second, unemployment rates have persisted at the highest levels known in the post-Second World War period.

In Chapter 3 we analysed how full employment as a genuine policy goal was abandoned with the introduction of the natural rate hypothesis and its assertion that there is only one unemployment rate consistent with stable inflation. In the natural rate hypothesis, there is no discretionary role for aggregate demand management and only microeconomic changes can reduce the natural rate of unemployment. Accordingly, the policy debate became increasingly concentrated on deregulation, privatisation and reductions in the provisions of the welfare state with tight monetary and fiscal regimes instituted, as we discussed in Chapters 4 to 6.

The almost exclusive central bank focus on maintaining price stability on the back of an overwhelming faith in the NAIRU ideology has marked the final stages in the evolution of an abandonment of earlier full employment policies. The modern policy framework is in contradistinction to the practice of governments in the post-Second World War period to 1975 which sought to maintain levels of demand using a range of fiscal and monetary measures that were sufficient to ensure that full employment was achieved. Unemployment rates were usually below 2 per cent throughout this period.

Under inflation targeting (or inflation-first) monetary regimes, which we considered in Chapter 6, central banks shifted their policy emphasis. They now conduct monetary policy to meet an inflation target and, arguably, have abandoned any obligations they have to support a policy environment which achieves and maintains full employment (Mitchell, 2001b). Unemployment since the mid-1970s has mostly persisted at high levels although in some economies low-quality, casualised work has emerged in the face of persistently deficient demand for labour hours.

However, central bankers do not characterise their approach in this way and they avoid recognition of the empirical fact that contractionary monetary policy continues to generate output and employment losses which are permanent. Instead the dominant paradigm suggests that full employment is a natural derivative of the maintenance of price stability even though this

approach to price stability requires the maintenance of an unemployed buffer stock.

The use of unemployment as a tool to suppress price pressures has, based on the OECD experience in the 1990s, been successful in that inflation is now no longer driven by its own expectations. One explanation is that unemployment temporarily balances the conflicting demands of labour and capital by disciplining the aspirations of labour so that they are compatible with the profitability requirements of capital. Similarly, low product market demand, the analogue of high unemployment, suppresses the ability of firms to pass on prices to protect real margins. Other explanations for the effectiveness of unemployment in controlling inflation are possible. The empirical evidence is clear that most OECD economies have not provided enough jobs since the mid-1970s, and the conduct of monetary policy has contributed to the malaise (see Modigliani, 2000). Central banks around the world have forced the unemployed to engage in an involuntary fight against inflation and the fiscal authorities in many cases have further worsened the situation with complementary austerity.

How useful is the NAIRU as a guide to policy? In earlier chapters we analysed this issue and, based on a growing literature, we conclude that the NAIRU is useless as a guide to policy (see also Mitchell, 2000b). While there may be some stability between inflation and unemployment for a period, experience from many OECD countries suggests that a sudden shock, especially from the supply side (as in 1974) can worsen the unemployment resulting from a deflationary strategy, which is attempting to exploit a given Phillips curve. Evidence from the OECD experience since 1975 suggests that deflationary policies are effective in bringing down inflation but impose huge costs on the economy and certain demographic groups, which are rarely computed or addressed.

Alcaly (1999) commented that Solow 'admits that there are limits to growth and unemployment, but holds that we don't know what they are. In his view the harm to an economy caused by restricting growth prematurely through higher interest rates is very great, and that caused by a rise in inflation relatively modest'. Solow argued that part of the damage is to worsen the inflation constraint by sustaining high unemployment for lengthy periods of time. The unemployed adjust to a life on welfare and other means and require higher wages to induce labour supply (see also Solow and Taylor, 1999).

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 (Rowthorn, 1980;

Cornwall, 1983). As a basis for policy, the NAIRU approach is thus severely restrictive and provides no firm basis for full employment and price stability.

Further, despite its centrality to policy, the NAIRU evades accurate estimation and the case for its uniqueness and cyclical invariance is weak. Given these vagaries, its use as a policy tool is highly contentious.

## 9.3 EMPLOYMENT BUFFER STOCKS AND PRICE STABILITY

It is clear that central bankers are now using buffer stocks of unemployed to achieve a desirable price-level outcome. While the real effects of such a policy have been contested, there is overwhelming evidence to suggest that the cumulative costs of this strategy in real terms have been substantial. In addition to lost output, other real costs are suffered by the nation, including the depreciation of human capital, family breakdowns, increasing crime and increasing medical costs. However, and most important to a central banker, the effectiveness of an unemployed buffer stock has been shown to deteriorate over time, with ever-larger numbers of fresh unemployed or underemployed required to function as a price anchor that stabilises wages. For example, from empirical observation, the EU currently requires unemployment in excess of 7 to 8 per cent for price stability!

The question that arises is whether using a persistent pool of unemployed (or casualised underemployed) is the most cost-effective way to achieve price stability. The understanding we achieved from Chapter 8, where we outlined the imperfectly competitive macroeconomic framework in which modern governments operate, would suggest that a better alternative would be to utilise an employed buffer stock approach.

We recognise that central banks have, increasingly, been given the responsibility by government for managing the price level. In conducting monetary policy to fulfil their major economic objectives, central banks manipulate the interest rate and attempt to manage the state of inflation expectations. These policy tools are employed to achieve an optimal level of price stability and capacity utilisation (typically assumed to be invariant in the long run to nominal aggregates). Where negative real effects from the operation of inflation-first monetary policy are acknowledged, they are theorised to be necessary for optimal long-term growth and employment and small in magnitude.

However, several researchers have found that sacrifice ratios remain significant and persistent, meaning that GDP losses during disinflation episodes are substantial. Additionally, a major component of this monetary policy stance is the persistent pool of unemployed (and other forms of

labour underutilisation, for example, underemployment) (see Ball, 1993; Ball and Sheridan, 2003; Mitchell and Bill, 2004) as a buffer stock for wage and thereby price stability. The unemployment pool is thus widely recognised and monitored as a price anchor, a primary concern for price stability in general, and a prime object of monetary policy. Recognising that the effectiveness of unemployment *per se* as a price anchor is a further function of the terms, conditions and administration of the unemployment programme, we also recommend that management of the unemployment policy and programmes be made a function of the agency responsible for the said price stability – the central bank.

Additionally, we shall show that the central bank, as part of the consolidated currency-issuing government sector, has another, somewhat similar yet far more effective buffer stock option which is in fact an alternative way of managing the unemployment programme. We argue that a superior use of the labour slack necessary to generate price stability is to implement an employment programme for the otherwise unemployed as an activity floor in the real sector, which both anchors the general price level to the price of employed labour of this (currently unemployed) buffer and can produce useful output with positive supply-side effects.

In this vein we are suggesting that politicians should set a minimum acceptable living standard and ensure that a base-level job is always available to allow all citizens to achieve that living standard independent of welfare payments. This is the essence of the JG. Analogous to the central bank's function of lender of last resort, the JG functions as a buffer which absorbs all potential employment, at the accepted minimum wage. Government then is also the employer of last resort. An additional advantage is that by creating an employment buffer stock government also facilitates inflation control. After presenting the concept of a JG, the inflation control mechanisms inherent in the JG model are outlined in detail in this section. If the private sector is inflating, a tightening of fiscal and/or monetary policy shifts workers into the fixed-wage JG sector to achieve inflation stability without unemployment. This also implies that the inflation-neutral buffer, the non-accelerating inflation rate buffer employment ratio (NAIBER), is lower than the NAIRU. We finally examine the arguments posed by Kaleckians who suggest that capitalism and sustained full employment are incommensurate and that the capitalist sector would undermine the JG policy.

### 9.3.1   The Concept of a Job Guarantee

The JG proposal was conceived independently by Mitchell (1996, 1998) and Mosler (1997–98). It has since been developed further by a range of authors

(see Wray, 1998; Forstater, 2003; Fullwiler, 2005, among others). In the period spanning the immediate post-war years through to the mid-1970s, most advanced Western nations maintained very low levels of unemployment. This era was marked by the willingness of governments to manipulate levels of aggregate demand to ensure that enough jobs were created to meet the preferences of the labour force, given labour productivity growth. Governments used a range of fiscal and monetary measures to stabilise the economy in the face of fluctuations in private sector spending.

While both private and public employment growth was relatively strong, the major reason why the economy was able to sustain full employment was that it maintained a buffer of jobs that were always available, and which provided easy employment access to the least-skilled workers in the labour force (see Ormerod, 1994). Some of these jobs, such as process work in factories, were available in the private sector. However, the public sector also offered many buffer jobs that sustained workers with a range of skills through hard times. In some cases, these jobs provided permanent work for the low-skilled and otherwise disadvantaged workers.

The JG proposal recognises that a stock of jobs providing opportunities for the less skilled must be maintained by the public sector if there is to be a true path to full employment. This type of cohesion is a precondition for strong communities. The introduction of a JG would restore the buffer stock capacity to any economy and ensure that, at all times, the least-advantaged workers in our community have opportunities to earn a wage and to live free of welfare support.

While it is easy to characterise the JG as purely a public sector job creation strategy, it is important to appreciate that it is actually a macroeconomic policy framework designed to deliver full employment *and* price stability based on the principle of buffer stocks where job creation and destruction is but one component. Mitchell (2000b) discusses the link between the JG approach and the agricultural price support buffer stock schemes such as the Wool Floor Price Scheme introduced by the Australian government in 1970. While generating full employment for wool production, there was an issue of what constituted a reasonable level of output in a time of declining demand. The argument is not relevant when applied to unemployed labour. If there is a price guarantee below the prevailing market price and a buffer stock of working hours constructed to absorb the excess supply at the current market price, then a form of full employment can be generated without tinkering with the price structure. The other problem with commodity buffer stock systems is that they encouraged overproduction, which ultimately made matters worse when the scheme was discontinued and the product was dumped onto the market. These objections do not apply to maintaining a labour buffer stock as no one is

concerned that employed workers would have more children than unemployed workers (see Graham, 1937).

Graham discussed the idea of stabilising prices and standards of living by surplus storage. He documents how a government might deal with surplus production in the economy. Graham (p. 18) commented: '[The] State may deal with actual or threatened surplus in one of four ways: (a) by preventing it; (b) by destroying it; (c) by "dumping" it; or (d) by conserving it'. In the context of an excess supply of labour, governments now choose the dumping strategy via the NAIRU. It makes much better sense to use the conservation approach via a JG. Graham (p. 34) noted:

> The first conclusion is that wherever surplus has been conserved primarily for future *use* the plan has been sensible and successful, unless marred by glaring errors of administration. The second conclusion is that when the surplus has been acquired and held primarily for future *sale* the plan has been vulnerable to adverse developments . . . (Emphasis as in original.)

The distinction is important in the JG model. The Australian Wool Scheme was an example of storage for future sale and was not motivated to help the consumer of wool but the producer. The JG policy is an example of storage for use where the 'reserve is established to meet a future need which experience has taught us is likely to develop' (Graham, p. 35). Graham also proposed a solution to the problem of interfering with the relative price structure when the government built up the surplus. In the context of the JG policy, this means setting a JG wage below the private market wage structure. To avoid disturbing the private sector wage structure and to ensure that the JG is consistent with price stability, the JG wage rate should probably be set at the current legal minimum wage, though an initially higher JG wage may be offered if the government sought to combine the JG policy with an industry policy designed to raise productivity (see Naastepad and Kleinknecht, 2004 for a similar argument).

Under the JG, the public sector offers a fixed-wage job, which we consider to be price-rule spending, to anyone willing and able to work, thereby establishing and maintaining a buffer stock of employed workers. This buffer stock expands (declines) when private sector activity declines (expands), much like today's unemployed buffer stocks, but potentially with considerably more liquidity if properly maintained.

The JG thus fulfils an absorption function to minimise the real costs currently associated with the flux of the private sector. When private sector employment declines, public sector employment will automatically react and increase its payrolls. The nation always remains fully employed, with only the mix between private and public sector employment fluctuating as

it responds to the spending decisions of the private sector. Since the JG wage is open to everyone, it will functionally become the national minimum wage.

### 9.3.2  Inflation Control under a Job Guarantee

The fixed JG wage provides an in-built inflation control mechanism. Mitchell (1998) called the ratio of JG employment to total employment the 'buffer employment ratio' (BER). The BER conditions the overall rate of wage demands. When the BER is high, real-wage demands will be correspondingly lower. If inflation exceeds the government's announced target, tighter fiscal and monetary policy would be triggered to increase the BER, which entails workers transferring from the inflating sector to the fixed-price JG sector. Ultimately this attenuates the inflation spiral. So instead of a buffer stock of unemployed being used to discipline the distributional struggle, the JG policy achieves this via compositional shifts in employment. The BER that results in stable inflation is called the 'non-accelerating inflation rate buffer employment ratio' (NAIBER) (Mitchell, 1998). It is a full employment steady-state JG level, which is dependent on a range of factors including the path of the economy.[3]

A plausible story to show the dynamics of a JG economy compared to a NAIRU economy would begin with an economy with two labour submarkets – A (primary) and B (secondary) – which broadly correspond to the dual labour market depictions. Prices are set according to mark-ups on unit costs in each sector. Wage setting in A is contractual and responds in an inverse and lagged fashion to relative wage growth (A/B) and to the 'wait unemployment' level (displaced Sector A workers who think that they will be re-employed soon in Sector A). A government stimulus to this economy increases output and employment in both sectors immediately. Wages are relatively flexible upwards in Sector B and respond immediately. The compression of the A/B relativity stimulates wage growth in Sector A after a time. Wait unemployment falls due to the rising employment in A but also rises due to the increased probability of getting a job in A. The net effect is unclear. The total unemployment rate falls after participation effects are absorbed. The wage growth in both sectors may force firms to increase prices, although this will be attenuated somewhat by rising productivity as utilisation increases. A combination of wage–wage and wage–price mechanisms in a soft product market can then drive inflation. This is a Phillips-curve world. To stop inflation, the government has to repress demand. The higher unemployment brings the real income expectations of workers and firms into line with the available real income and the inflation stabilises – a typical NAIRU story.

Introducing the JG policy into the depressed economy puts pressure on Sector B employers to restructure their jobs in order to maintain a workforce. For given productivity levels, the JG wage constitutes a floor in the economy's cost structure. The dynamics of this economy change significantly.

The elimination of all but wait unemployment in Sector A and frictional unemployment does not distort the relative wage structure so that the wage–wage pressures that were prominent previously are now reduced.

The wages of JG workers (and hence their spending) represents a modest increment to nominal demand, given that the state is typically supporting them on unemployment benefits. It is possible that the rising aggregate demand softens the product market, and demand for labour rises in Sector A. But there are no new problems faced by employers who wish to hire labour to meet the higher sales levels in this environment. They must pay the going rate, which is still preferable, to appropriately skilled workers, than the JG wage level. The rising demand *per se* does not invoke inflationary pressures if firms increase capacity utilisation to meet the higher sales volumes.

With respect to the behaviour of workers in Sector A, W. Gordon (1997: 833) commented: '[If] there is a job guarantee program, the employees can simply quit an obnoxious employer with assurance that they can find alternative employment'. With a JG, wage bargaining is freed from the general threat of unemployment. However, it is unclear whether this will lead to higher wage demands than otherwise. In professional occupational markets, some wait unemployment will remain. Skilled workers who are laid off are likely to receive payouts that forestall their need to get immediate work. They have a disincentive to immediately take a JG job, which is a low-wage and possibly stigmatised option. Wait unemployment disciplines wage demands in Sector A. However, demand pressures may eventually exhaust this stock, and wage–price pressures may develop.

A crucial point is that the JG does not rely on the government spending at market prices and then exploiting multipliers to achieve full employment which characterises traditional Keynesian pump-priming. In Section 9.4.1 we argue that traditional Keynesian remedies fail to provide an integrated full employment–price anchor policy framework. In fact, a Keynesian policy agenda would impact more significantly on inflation if it were true that a JG was inflationary as a result of its impacts on demand in the product market.

### 9.3.3    Would the NAIBER Be Higher than the NAIRU?

This last point invokes a fierce debate as to relative sizes of the NAIBER *vis-à-vis* the NAIRU. Some commentators argue that the NAIBER would

have to be greater than the NAIRU for an equivalent amount of inflation control (for example, Sawyer, 2003). There are two strands to this argument. First, the intuitive but somewhat inexact view is that because JG workers will have a higher income (than when they were unemployed) a switch to this policy would always see demand levels higher than under a NAIRU world. As a matter of logic then, if the NAIRU achieved output levels commensurate with price stability then, other things being equal, a higher demand level would have to generate inflationary impulses. So according to this view, the level of unemployment associated with the NAIRU is intrinsically tied to a unique level of demand at which inflation stabilises.

Second, and related, it is claimed that the introduction of the JG reduces the threat of unemployment which serves to discipline the wage-setting process. The main principle of a buffer stock scheme like the JG is straightforward – it buys off the bottom (at zero bid) and cannot put pressure on prices that are above this floor. The choice of the floor may have one-off effects only.

It should be noted that while it is clear that JG workers will enjoy higher purchasing power under a JG compared to their outcomes under a NAIRU policy, it is not inevitable that aggregate demand overall would rise with the introduction of the JG. We take this issue up in Section 9.4.1 but for now assume for argument's sake that aggregate demand overall does rise when the JG is introduced.

When aggregate demand is higher after the JG is introduced than that which prevailed in the NAIRU economy, a traditional economist (and some post Keynesians, such as Sawyer, 2003) might wonder why inflation is not inevitable as we replace unemployment with (higher-paying) employment. Sawyer (p. 898) represented the problem as 'the level of unemployment achieved could be below a supply-side-determined inflation barrier . . . the NAIRU'. The higher demand may stimulate private investment which then puts upwards pressure on prices. However, the government could react by introducing contractionary measures which would increase the JG pool (as employment was redistributed from the inflating sector to the fixed-wage JG pool) and thus keep inflation under control.

We note that rising demand *per se* does not necessarily invoke inflationary pressures because by definition, given the logic developed in Chapter 8, the extra liquidity is satisfying a net savings desire by the private sector. Additionally, in today's demand-constrained economies, firms are likely to increase capacity utilisation to meet the higher sales volumes. Given that the demand impulse is less than that required in the NAIRU economy, it is clear that if there were any demand–pull inflation it would be lower under the JG. So there are no new problems faced by employers who wish to hire labour to meet the higher sales levels. Any initial rise in

demand will stimulate private sector employment growth while reducing JG employment and spending.

The impact on the price level of the introduction of the JG will also depend on qualitative aspects of the JG pool relative to the NAIRU unemployment buffer. It is here that the so-called 'threat debate' enters. In our view the JG buffer stock is a qualitatively superior inflation fighting pool than the unemployed stock under a NAIRU. Therefore the NAIBER will be lower than the NAIRU, which means that employment can be higher before the inflation barrier is reached.

In the NAIRU logic, workers may consider the JG to be a better option than unemployment. Without the threat of unemployment, wage-bargaining workers then may have less incentive to moderate their wage demands, notwithstanding the likely disciplining role of wait unemployment in skilled labour markets (see Sawyer, 2003). However, when wait unemployment is exhausted, private firms would still be required to train new workers in job-specific skills in the same way they would in a non-JG economy. However, JG workers are far more likely to have retained a higher level of skill than those who are forced to succumb to lengthy spells of unemployment. It is thus reasonable to assume that an employer would consider a JG worker, who is already demonstrating commitment to working, a superior training prospect relative to an unemployed and/or hidden unemployed worker. This changes the bargaining environment rather significantly because the firms now have reduced hiring costs. Previously, the same firms would have lowered their hiring standards and provided on-the-job training and vestibule training in tight labour markets.

The functioning and effectiveness of the buffer employment stock is critical to its function as a price anchor. Condition and liquidity is the key. Just as soggy rotting wool is useless in a wool price stabilisation scheme, labour resources should be nurtured as human capital constitutes the essential investment in future growth and prosperity. There is overwhelming evidence that long-term unemployment generates costs far in excess of the lost output that is sacrificed every day the economy is away from full employment (see Mitchell, 2001a). It is clear that the more employable are the unemployed the better the price anchor will function.

The JG policy thus would reduce the hysteresis inertia embodied in the long-term unemployed and allow for a smoother private sector expansion. Therefore JG workers would constitute a credible threat to the current private sector employees. When wage pressures mount, an employer would be more likely to exercise resistance if he/she could hire from the fixed-price JG pool. As a consequence, longer-term planning with cost control would be enhanced. So in this sense, the inflation restraint exerted via the NAIBER is likely to be more effective than using a NAIRU strategy.

Another associated factor relates to the behaviour of professional occupational markets. In those markets, while any wait unemployment will discipline wage demands, the demand pressures may eventually exhaust this stock and wage–price pressures may develop. With a strong and responsive tertiary education sector combined with strong firm training processes, skill bottlenecks can be avoided more readily under the JG than with an unemployed buffer stock in place. The JG workers would already be maintaining their general skills as a consequence of an ongoing attachment to the employed workforce. The qualitative aspects of the unemployed pool deteriorate with duration, making the transition back into the labour force more problematic. As a consequence, the long-term unemployed exert very little downward pressure on wages growth because they are not a credible substitute. The ILO (1996/97: 56) commented: 'prolonged mass unemployment transforms a proportion of the unemployed into a permanently excluded class'. The ILO argued that these people 'cease to exert any pressure on wage negotiations and real wages'. The result is that 'the competitive functioning of the labour market is eroded and the influence of unemployment on real wages is reduced'.

In summary, Mitchell and Wray (2005: 238) concluded:

> [In] hiring off the bottom [the JG] does not seek to employ any specific number of workers nor does it seek specific skills. Most importantly, it does not chase wages upward and thus never competes with higher and rising private sector wage offers. As a consequence, ELR [employment of last resort] can achieve and sustain noninflationary full employment at any level of aggregate demand.

We thus hypothesise that the threat factor under the JG would be higher and as a consequence we anticipate that the NAIBER would in fact be lower than the NAIRU.

### 9.3.4 The Political Aspects of the Job Guarantee

Some commentators (for example, Sawyer, 2003) invoke political arguments to suggest that the JG will be inflationary. In this context they cite the arguments raised by Kalecki's 1943 'Political aspects of full employment', which laid out the blueprint for socialist opposition to Keynesian-style full-employment policy. The critique has been used to oppose the JG as a viable progressive economics policy option. Kalecki (1971b: 138) commented: 'the assumption that a Government will maintain full employment in a capitalist economy if it knows how to do it is fallacious. In this connection the misgivings of big business about maintenance of full employment by Government spending are of paramount importance'.

Kalecki (p. 139) listed three reasons why the industrial leaders would be opposed to full employment 'achieved by Government spending'. The first asserted that the private sector opposes government employment *per se*; the second that the private sector does not like public sector infrastructure development or any subsidy of consumption; and the third that the private sector merely dislikes 'the social and political changes resulting from the *maintenance* of full employment' (emphasis in original).

One is tempted to respond to these assertions by referring to the long period of growth and full employment in the post-Second World War period up until the first oil shock. Most economies experienced strong employment growth, full employment and price stability, and strong private sector investment over that period under the guidance of interventionist government fiscal and monetary policy. This period of relative stability was broken only by a massive supply shock, which then led to ill-advised policy changes that provoked the beginning of the malaise we are still facing after 25 years. In Kalecki's defence it might be argued that it took 30 odd years of the welfare state to generate the inflationary biases that were observed in the 1970s (Cornwall, 1983).

Kalecki (1971b: 139–40) explained:

> [The dislike by business leaders of government spending] grows even more acute when they come to consider the objects on which the money would be spent: public investment and subsidising mass consumption [and if public spending overlaps with private spending then] the profitability of private investment might be impaired and the positive effect of public investment upon employment offset by the negative effect of the decline in private investment.

This criticism is inapplicable to the JG because the JG jobs would most likely be located in the areas that have been neglected or harmed by capitalist growth. The chance of overlap and substitution is minimal. Of course, government industry policy may deliberately target an overlap to drive out inefficient private capital.

Kalecki (p. 140) acknowledged that the 'pressure of the masses' in democratic systems may thwart the capitalists and allow the government to engage in job creation. His principle objection then seems to be that 'the *maintenance* of full employment would cause social and political changes which would give a new impetus to the opposition of the business leaders' (emphasis as in original). The issue at stake is the relationship between the threat of dismissal and the level of employment. Kalecki (pp. 140–41) added that 'under a regime of permanent full employment, "the sack" would cease to play its role as a disciplinary measure. The social position of the boss would be undermined and the self assurance and class consciousness of the working class would grow'.

Kalecki was really considering a fully employed private sector that is prone to inflation rather than a mixed private–JG economy. The JG creates what we call 'loose full employment' because the JG wage is fixed (growing with national productivity). The issue comes down to whether the JG pool is a greater or lesser threat to those in employment than the unemployed when wage bargaining is underway. For reasons outlined in Section 9.3.3, the JG workers do comprise a credible threat to the current private sector employees and are a superior inflation-fighting force than large pools of unemployment.

Kalecki (pp. 142–4) said that counter-stabilisation policy would not worry business as long as the 'businessman remains the medium through which the intervention is conducted'. Such intervention should target private investment and should not

> involve the Government either in . . . (public) investment or . . . subsidising consumption [and if attempts are made to] maintain the high level of employment reached in the subsequent boom a strong opposition of 'business leaders' is likely to be encountered . . . lasting full employment is not at all to their liking. The workers would 'get out of hand' and the 'captains of industry' would be anxious to teach them a lesson.

Kalecki was very vague about the form that capitalist opposition would take.[4] He implied that the reaction would work via business and rentier interests pressuring the government to cut its budget deficit. Presumably, corporate investors could threaten to withdraw investment.

There is ample evidence available to show that the investment ratio moves as a mirror image to the unemployment rate in most OECD countries, which reinforces the demand deficiency explanation for the swings in unemployment (Mitchell, 2001a; Mitchell and Muysken, 2004). The rapid rise in the unemployment rate in the early 1970s followed a significant decline in the investment ratio. The mirrored relationship between the two resumed, albeit the unemployment rate never returned to its 1960s levels in many countries still suffering high unemployment. Far from being a reason to avoid active government intervention, the JG is needed to insulate the economy from these investment swings, whether they are motivated by political factors or technical profit-orientated factors.

Another factor bearing on the way we might view Kalecki's analysis is the move to increasingly deregulated and globalised systems. Many countries have dismantled their welfare state and enacted legislation aimed at deregulating their labour market, in particular, in relation to wage determination and the welfare-to-work interface. Trade union membership has also declined substantially in many countries as the traditional manufacturing sector has shrunk and the service sector has grown. Trade unions

have traditionally found it hard to organise or cover the service sector due to its heavy reliance on casual work and gender bias towards women. It is now much harder for trade unions to impose costs on the employer. Far from being a threat to employers, the JG policy becomes essential for restoring some security for workers.

## 9.4 EMPLOYMENT BUFFER STOCKS AND MACROECONOMIC POLICY

While we have analysed the inflation control mechanisms inherent in the JG model in detail in the previous section, we focus in this section on other macroeconomic aspects. An important insight relates to the differences between the JG and a generalised demand expansion. We explain why the focus of the JG makes it a better instrument to pursue full employment compared to a generalised Keynesian expansion. Using the analysis from Chapter 8 we also discuss the financial considerations of the JG in a modern monetary economy and argue that the JG does not violate balance of payments constraints.

### 9.4.1 Does the JG Operate Akin to a Generalised Demand Expansion?

In the discussion of the relative magnitudes of the NAIBER versus the NAIRU we noted that aggregate demand may or may not increase with the introduction of a JG. A common misconception considers the JG to be similar to any Keynesian approach that 'increases employment by raising aggregate demand' (Mitchell and Wray, 2005: 235). This misconception has been at the heart of a debate within post-Keynesian economics about the JG approach, characterised by the exchange between Sawyer (2003, 2005) and Mitchell and Wray (2005). Sawyer (2003) perpetuated the view that the JG is similar to any traditional Keynesian generalised demand expansion. The point is important because if Sawyer's representation is valid then the debate quickly moves to comparing different options that could be pursued by expansionary fiscal policy – that is, by increasing government spending, lowering taxes, or, in Friedman's conception, dropping money from helicopters.

Mitchell and Wray (2005: 236) showed that the JG approach cannot be characterised as Keynesian 'pump-priming' because it is a buffer stock programme, which 'hires off the bottom' (paying the minimum wage). The size of the buffer stock of jobs is determined by private activity levels (principally fluctuations in private investment) and non-JG government spending. The stock will fluctuate with movements in aggregate demand. However,

the maintenance of full employment under a JG is independent of the state of aggregate demand. This relates to our description above that the JG creates loose full employment.

While Sawyer (2003: 884) maintained that the 'ELR scheme seeks to remove demand-deficient unemployment through the provision of required aggregate demand', Mitchell and Wray (2005: 237) demonstrated that the 'ELR *can be* implemented without raising aggregate demand' (their italics). While aggregate demand will increase by more than the JG wage bill (for example, to pay for working capital used by the JG workers), the government can tighten fiscal policy to ensure that this demand increase does not threaten inflation. It is thus not inevitable that the introduction of a JG policy would stimulate aggregate demand. In that sense, the introduction of the JG could be accompanied by either deflationary or expansionary fiscal policy. Mitchell and Wray (p. 236) concluded that the JG approach 'represents the minimum stimulus required to achieve full employment and does not rely on market spending and multipliers – and "works" regardless of the level of demand'.

So in contradistinction to Keynesian pump priming, which competes for labour at market prices, the JG buys labour which attracts a zero bid (that is, no employer is currently prepared to offer these workers employment at the going wage) in the market economy.

### 9.4.2 Why Not Just Pursue Full Employment through Generalised Keynesian Expansion?

Progressive economists are mostly united by the proposition that the orthodox NAIRU approach to inflation control is costly and unacceptable. The neo-liberal solution to the resulting unemployment is to pursue supply-side policies (labour market deregulation, welfare state retrenchment, privatisation and public–private partnerships) to give the economy room to expand without cost pressures emerging. Progressive economists in general reject this strategy because the sacrifice ratios are high and the distributional implications (creation of an underclass and working poor and loss of essential services) are unsavoury.

However, most progressive economists still advocate, as an alternative, the policy recommendations of Keynes himself. Specifically, they advocate generalised fiscal and monetary expansion mediated by incomes policy and controlled investment as a solution to unemployment (Davidson, 1994; Seccareccia, 1999; Kadmos and O'Hara, 2000; Ramsay, 2002–03; Sawyer, 2003, 2005). Davidson (1994: 79) is representative of this mainstream post-Keynesian approach: 'Government fiscal policy is conceived as the balancing wheel, exogenously increasing aggregate demand whenever private

sector spending falls short of a full employment level of effective demand and reducing demand if aggregate demand exceeds the full employment level'.

Under the generalised expansion approach the government ensures that spending is sufficient to purchase all available output by the government itself purchasing goods and services at market prices or by the government providing incentives to profit-seekers to expand activity. Both policy measures will be conducive to private employment expansion. Typically, public and private capital formation is targeted.

Four major criticisms of the generalised expansionary approach can be made. First, indiscriminate demand expansion in isolation is unlikely to lead to employment opportunities for the most disadvantaged members of society. Second, generalised expansion fails to address spatial labour market disparities which are now common across OECD economies. Third, generalised expansion does not incorporate an explicit counter-inflation mechanism. Fourth, how does generalised expansion address environmental concerns, given that market allocations are the basis for the employment expansion?

The regional disparity issue is addressed by Mitchell and Juniper (2007) in what they call a 'spatial Keynesian framework'. They show that a generalised expansion will not have the capacity as a stand-alone policy to target regions in need of employment creation which may be reliant on a declining industry. Further, aggregate policy is not able to account for feedback or spillover effects between regions such that social networks and neighbourhood effects transmit shocks from one region to another. This behaviour underpins the observations common in OECD economies that clusters of high unemployment regions or *hot spots* form as a result of spatial interdependency (Mitchell and Bill, 2006). Arestis and Sawyer (2004a: 11, 18) argued correctly that 'the industrial structure of a region and . . . variations in productive capacity as well as in aggregate demand of the region [drive these disparities and conclude] in terms of policy implications, appropriate demand policies are required to stimulate investment and underpin full employment'. But how can we be sure that the investment will provide jobs in failing regions? Upon what basis are the most disadvantaged workers with skills that are unlikely to match those required by new technologies going to be included in the generalised expansion?

Accordingly, public investment is unlikely to benefit the most disadvantaged workers in the economy. The JG is designed to explicitly provide opportunities for them. By way of example, during the golden age in Australia (1945–75) when public capital formation and social wage expenditure was strong, full employment was achieved only because the public

sector (implicitly) provided a JG for low-skilled workers (Mitchell, 1998). This experience is shared across all advanced economies.

Where is the inflation anchor in the standard Keynesian approach? Most progressive economists who still advocate this approach construct the solution to unemployment in terms of solving the deficient effective demand (closing the aggregate spending gap) by stimulating net spending via purchasing goods and services and/or labour at market prices. An economy struggling with high unemployment will typically react to increases in nominal demand by quantity adjustments (rising output). This applies to the introduction of a JG as well as a generalised expansion. However, the generalised expansion approach will inject considerably more nominal demand into the spending system, directly and via the multiplier processes, than would be the case under the JG. Accordingly, the generalised expansion approach relies on demand stimulus approach to full employment and provides no nominal anchor to the economy. If the quantity adjustment gives way to price adjustment then full employment may never be achieved. The advocates of generalised expansion argue that the expansion could be accompanied by the introduction of an incomes policy. While an incomes policy may help constrain cost pressures, there are few examples of a successful incomes policy being implemented and sustained in any economy. Ultimately, they do not provide a long-term inflation anchor.

By way of sharp contrast, the JG does not rely on the government spending at market prices and then exploiting multipliers to achieve full employment. The latter approach characterises Keynesian pump-priming and as a consequence fails to provide an integrated full employment–price anchor policy framework. Under a JG policy, the net spending to finance the JG pool is the minimum required to restore full employment, as defined above.

The generalised Keynesian expansion relies on the market to provide the increased employment. Therefore the allocations that follow largely reflect private costs and benefits, hence environmental constraints are likely to emerge. As noted above, JG proponents emphasise the regional dispersion of unemployment. Higher output levels are required to increase employment, but the composition of output remains a pivotal policy issue. JG jobs would be designed to support local community development and advance environmental sustainability. Indeed, an environmental criterion could be used to determine which jobs are acceptable for the JG, introducing an environmental planning aspect to the policy framework. JG workers could participate in many community-based, socially beneficial activities that have intergenerational payoffs, including urban renewal projects, community and personal care, and environmental schemes such as reforestation, sand dune stabilisation, and river valley and erosion control. Most of this labour-intensive work requires very little capital equipment and training (Mitchell, 1998).

It is this spatially targeted employment policy that Mitchell and Juniper (2007) called 'spatial Keynesianism', in contrast to the bluntness of orthodox Keynesian tools which fail to account for the spatial distribution of social disadvantage.

We do not want it thought that the JG is the only solution available to government. While advocates of the generalised expansion approach usually ignore any role for a buffer employment stock policy that allows the government to guarantee full employment using automatic stabilisers by purchasing at fixed prices, the fact is that both approaches can co-exist, although such a co-existence, for reasons noted below, may not be optimal. This position also qualifies our discussion in Section 8.8, where we advocated government spending when unemployment is too low. As we argued above, that spending should not necessarily be of a general nature. Further, the JG does not replace social security payments to persons unable to work because of illness, disability, or parenting and caring responsibilities. Clearly, and emphatically, a mixture of both approaches is likely to be optimal – a generalised expansion alone is not preferred.

### 9.4.3 Financial Considerations of the Job Guarantee in a Modern Monetary Economy

Following the analysis in Chapter 8 of the options facing a government which issues fiat currency in a modern monetary economy, several specific issues are relevant to a discussion of the JG. First, does the implementation of the JG imply that it would be financed entirely by net spending? In Chapter 8 it was shown that the government can always meet the financial demands involved in implementing the JG. Whether the government budget is in deficit or not is endogenous and dependent on the saving desires of the non-government sector. There is little doubt that in a stagnant economy, the JG pool would increase (as private employment falls) and the government budget would be expected to reveal larger deficits. But logically, the budget could be in surplus with a JG policy operating if there were a strong private sector expansion underway. The major point is that the size of the budget is not a reasonable policy target for governments interested in maintaining full employment.

Second, some commentators who have criticised the JG do not reveal a solid understanding of the material discussed in Chapter 8. For example, Kadmos and O'Hara (2000: 10) stated that 'government spending can never be restrained. The government is in a position to hire all unemployed workers at any price it chooses, financing this labour force by printing as much money as required that will achieve full employment'. In reality, the appeal to 'printing money' is erroneous. Mitchell and Wray (2005: 242) argued:

[G]overnment always spends by crediting bank accounts and taxes by debiting them. If spending exceeds taxes, then HPM [high powered money] remains as bank reserves, but it is misleading to say that deficits are financed by printing money. . . . ELR will be 'financed' in the same manner as any other government spending. . . . If the government credits to bank balance sheets resulting from payment of ELR wages (and other associated spending) lead to excess banking system reserves, these are immediately drained by automatic central bank intervention – either by winding down loans at the discount window or through open market sales of bonds.

This notion was explained more fully in Chapter 8.

Third, some economists believe that the HPM creation required to finance the budget deficits created by the JG will generate inflation. But this common perspective, firmly monetarist in origin, profoundly misrepresents central bank operations. As indicated in the quote of Mitchell and Wray above, central bank operations are always defensive and are undertaken to drain excess reserves. So unless the central bank sets a zero cash target interest rate there will not be any excess money in the system.

Fourth, will the JG place upward pressure on interest rates as in the crowding-out story? While the JG is not necessarily financed by net government spending, it is likely that the government would be in deficit if the JG pool were rising. The crowding-out hypothesis suggests that if this deficit were financed by debt issuance, interest rates would rise and damage private spending which was sensitive to interest rates. In response, we emphasise that central banks set the short-term interest rate, taking into account a range of considerations including the expected inflation rate, currency rates and other aggregates. With a deficit, the central bank (or the treasury) has to sell bonds to drain excess reserves and keep control of its target rate of interest (unless it is targeting a zero overnight rate). So as we discovered in Chapter 8, a deficit-financed JG will actually place downward pressure on interest rates.

### 9.4.4 Does the Job Guarantee Violate Balance of Payments Constraints?

The JG approach has attracted further criticism from those concerned with external stability. Some post-Keynesian economists focus their critique of the JG on alleged stop–go constraints on growth emerging from current account constraints (Davidson, 1994). The alleged constraint is often used to justify contractionary policies. This made sense under fixed exchange rates because the current account influenced central bank reserves and made domestic expansion dependent on the defence of the external parity. Under floating exchange rates the constraint is not binding and domestic policy can pursue full employment targets, leaving the exchange rate to

absorb any adjustment. In claiming that flexible exchange rates are a 'liberal notion', Ramsay (2002–03: 275) demonstrates his misunderstanding of the options facing a government in a fiat-currency economy, which are difficult to construct as being liberal. By denying these options, the full employability policy agenda has generated persistent unemployment and rising underemployment.

Given the monetary perspective outlined in Chapter 8, there are strong grounds for doubting the relevance of post-Keynesian and post-Kaleckian analysis to a floating exchange rate world. In effect, the analysis indirectly ratifies the erroneous notion of government budget constraints, through the medium of the external constraint (Dow, 1988).

But it is clear that a further source of cost pressure could come via the exchange rate for small trading economies. Under a fixed exchange rate regime, unless there is a coordinated fiscal policy among countries it would be difficult for a small open economy to pursue its own full employment strategy. If the JG were introduced into a fixed exchange rate regime, and if the JG increased aggregate demand, then higher import spending would spread throughout the fixed exchange rate bloc. Then the small country would face a borrowing crisis that would negate its full employment ambitions.

However, a pure fiat-currency economy is by definition a flexible exchange rate regime and the JG is a viable approach in these conditions. In this context, we can identify two external sources of inflation. First, imports may rise because JG workers would have higher disposable incomes than before. Once again we stress that this is not inevitable – the government could tighten demand elsewhere. However, if demand increases, the higher imports may promote exchange rate depreciation. Second, depending on export and import price elasticities, net exports may increase their contribution to local employment and demand.

One traditional Keynesian way to insulate the wage–price system from the depreciation is to introduce an incomes policy. This could involve a framework whereby workers and firms agree to allow the real depreciation to stick. So to provide jobs for everyone, current labour and profit-income recipients would have to reduce their real claims on national income to provide space for the unemployed to increase their consumption.

The JG, however, directly controls any inflation arising from higher import prices and/or higher export demand. The JG wage provides a floor that prevents serious deflation from occurring and defines the private sector wage structure. However, if the private labour market is tight, the non-JG wage will rise relative to the JG wage, and the JG pool will drain. The smaller this pool, the less influence the JG wage has on wage patterning. Unless the government stifles demand, the economy will then

enter an inflationary episode, depending on the behaviour of labour and capital in the bargaining environment. In the face of wage–price pressures, the JG ensures inflation control by choking aggregate demand and inducing slack in the non-JG sector. The slack reveals itself as loose full employment.

We would also argue that under flexible exchange rates these sustainability concerns are no longer applicable. Balance of payments considerations should not be allowed to get in the way of deficit spending to achieve full employment. A current account deficit merely indicates that foreigners desire to accumulate financial assets denominated in the domestic currency and are willing to ship more real goods and services (in aggregate) than they receive in return to accomplish this desire. While the desires of the foreign sector may change over time, a fiat-issuing sovereign government under flexible exchange rates should not determine its net spending decisions (aimed at maintaining full employment) with reference to any particular foreign balance.

## 9.5    JOB GUARANTEE AND SOCIAL POLICY

The social policy aspects of the JG have been a topic of heated debate from the very beginning. In this section we discuss the various questions at issue: are the jobs under the JG real jobs? Does the JG produce zero value output? Does the JG provide career paths back into private employment? Does the JG replace unemployment with underemployment? Should the JG be accompanied by an abolition of unemployment benefits and other income support payments?

### 9.5.1    What about the Quality of Jobs under the Job Guarantee? Are They Real Jobs?

Some commentators have criticised the JG approach on the basis that there would not be enough meaningful opportunities to efficiently utilise the unemployed. Sawyer (2003: 891) argued that if the JG is to be inclusive to all it would 'not require much skill' or 'use skills which are widely available in the population' and would 'lead to the production of useful output' which is not 'necessary in that the output is only forthcoming when aggregate demand is low and the ELR jobs are required'. In other words, only when demand is low does the JG increase output, which is precisely when the output is not desired.[5]

In relation to this, Sawyer (p. 894) provided a strange twist on marginal productivity theory, when he argued that if the JG pays low wages, then

productivity of JG workers must be low. We see productivity as mostly socially determined, not as some characteristic of the individual worker. Further, the productivity in question should be social productivity, not productivity in a market sense. We do not believe that low pay in the JG programme necessarily ensures low *social* productivity of the programme. For example, a childcare programme employing JG workers could have very high social productivity.

Taking a similar tack, Kadmos and O'Hara (2000: 10–12) criticised the focus on government consumption of low-skilled services by JG advocates. They claimed that the leading sectors rely on information, knowledge, communications and networking. They advocated a boost to public infrastructure investment which enhances the profitability of private sector investment, in addition to contributing to aggregate demand and employment. Clearly, if a political will exists to construct public infrastructure then employment levels will rise subject to real resource availability. This is independent of the need for a JG. Yet, the JG should be accompanied by social wage spending to increase employment in education, health care and the like (Mitchell, 1998). But, as we discussed in Section 9.4.2 above, sole reliance on public sector investment to achieve full employment, would create considerable economic inflexibility. The ebb and flow of the private sector would not be readily accommodated and an increasing likelihood of inflation would result (Forstater, 2000).

Further, it is surprising that these types of criticism are applied exclusively to public sector job creation (usually vilified as so-called 'make-work' plans or 'raking and boondoggling') while the fact that in all OECD economies thousands of low-wage, low-skill private sector jobs are created every day is largely ignored. Sawyer (2003) is representative of this dualism. Mitchell and Wray (2005: 239) noted that

> [Sawyer] is disturbed only when the public sector creates such jobs, because of problems of switching on jobs which have capital requirements, problems in 'undercutting of wages for mainline public sector jobs' by being 'substitutes for mainline public sector employment,' problems in yielding output 'in competition with output which is or could be produced by the private sector', problems relating to the spatial and temporal distribution of unemployment and the like.

It is remarkable that the invisible hand of the market is presumed to operate smoothly without creating problems, while the visible hand of government is believed to be incapable of dealing with logistical complications.

The JG is based on the employment buffer stock principle and this places some specific requirements on the structure of the jobs. Importantly, the JG has to provide for a fluctuating labour force that varies inversely with private demand. The cyclical nature of JG jobs presents an operational

design challenge for the administration of such a scheme and the design of the JG jobs. As Mitchell and Wray (p. 239) put it:

> JG jobs would have to be productive yet amenable to being created and destroyed in line with the movements of the private business cycle. While challenging this is not an impossible requirement for public policy to meet. The private sector does not have a monopoly on being able to mobilise a diverse range of resources and successfully complete thousands of tasks within a tight and complex schedule.

The cyclical nature of the jobs suggests that in designing the appropriate ELR jobs the buffer stock should be split into two components:

1. a core component that represents the average buffer stock over the typical business cycle given government policy settings, the trend in private spending growth, and a mismatch of labour force characteristics and employer preferences; and
2. a transitory component that fluctuates around the core as private demand ebbs and flows.

The existence of a stable core, which might change slowly and predictably as government policy settings change, would allow JG administrators to allocate workers to jobs more easily. Many of these core jobs would be more or less permanent. More ephemeral JG activities could then be designed to switch on when private demand declined below the trend. These activities would not be used to deliver outputs that might be required on an ongoing basis, but would still advance community welfare (see Mitchell, 1998 for examples of such jobs). It is difficult to be precise about the size of the typical average buffer stock over the course of a business cycle.

However, it would not be difficult to establish what the national unemployment rate would be, given the stance of fiscal and monetary policy and levels of private spending at any point in time. The difference between this rate and the full employment rate (around 2 per cent of the labour force) is then the implied size of the JG pool. Finally, if the government decided to play a more substantial role in the economy by expanding its commitment to areas such as public education, public health or environmental sustainability, then the core buffer would fall substantially.

Sawyer (2003) raised the issue of 'labour force churning' whereby a high proportion of those who enter official unemployment exit that status regularly. While large movements in and out of the short-term unemployment pool are common in most labour markets it does not make the operation of the JG any more difficult, as Sawyer implied. Mitchell and Wray (2005:

239) noted that in fact many of those who lose jobs 'will prefer to undertake full-time search rather than accepting temporary ELR work . . . The relatively low pay will act as a disincentive for many job losers'. Therefore there is no reason for ELR to induce all of those with short-term spells of unemployment into ELR work.

Sawyer (2003) also argued that if aggregate demand were high enough then the JG pool would disappear. While logically correct, there is very little chance that the private sector demand (coupled with standard government demand for labour) would ever create that many jobs. Mitchell (2001b) argued that full employment was only sustained during the post-war period by the implicit existence of a public sector buffer stock (see also Ormerod, 1994).

Once modelling along the lines outlined above provided a guide to the steady-state JG jobs that would be required, work allocations would be prioritised among a broad array of community-enhancing activities. In this way, it is unlikely that any important function or service would be terminated abruptly, due to a lack of buffer stock workers, when the private demand for labour rises. Thus, the design and nature of JG jobs would reflect the underlying notion of a buffer stock. This stock would, in turn, have a steady-state or core component determined by government macroeconomic policy settings, and a transitory component determined by the vagaries of private spending. In the short term, the buffer stock would fluctuate with private sector activity and workers would move between the two sectors as demand changes. Longer-term changes in the size of the average buffer stock would reflect discrete changes in government policy. Given that unemployed people are already supported by the public sector welfare system, the JG would require only a low level of additional public investment to allow currently unutilised labour to perform a range of useful activities of benefit to the broad community.

By ensuring that there are always employment opportunities for people within the target groups, the JG strategy would help to reduce poverty. It is a policy direction that facilitates social inclusion, not exclusion, and the focus on community development recognises the multi-faceted nature of the problems confronting areas of high unemployment. The JG would also serve to reduce regional disadvantage. The policy would not eliminate inequality between geographical regions on its own. However, it would help communities in disadvantaged areas to maintain continuity of income and labour force attachment, without recourse to welfare dependence.

Importantly, the JG strategy also acknowledges the strains on our natural ecosystems and the need to change the composition of final output towards environmentally sustainable activities. Environmental projects are ideal targets for public sector employment initiatives as they are likely to be

underproduced by the private sector due to their heavy public good component. If a portion of JG jobs were used to repair and restore the environment, the workers would regain personal dignity, and society would gain from the increased provision of goods and services which support sustainability. It is not increased demand *per se* that is necessary, but increased demand in sustainable areas of activity.

In determining whether a JG job is superior to unemployment (that is, whether it is socially beneficial to employ unused labour) we only have to determine whether the marginal benefits are positive. With creative thinking and professional administration this very low benchmark would easily be exceeded by the JG jobs on offer.

The JG is thus designed to ensure that the lowest-skilled and least-experienced workers are able to find employment. The JG is a full employment–price stability policy and should be judged on those terms. It does not presume that JG jobs will suit all skills. For some skilled workers who become unemployed in a downturn, the income loss implied would be significant. Yet, Seccareccia (1999) acknowledged that a fully employed economy with the JG workers paid minimum wages represents a Pareto improvement, when compared to the current unemployment.

### 9.5.2 Does the Job Guarantee Produce Zero-value Output?

Sawyer (2003: 895) approached the quality of jobs issue by concluding that JG workers would usually be 'paid more than they produce', which implies that the output they produce is not valued by the economy. Indeed, the criticism that JG jobs are not 'real jobs' carries with it the related claim that the output produced is not 'real output'. So if the JG wage ($w$) is greater than the productivity of the JG job ($q$) then according to Sawyer (p. 895): 'the ELR workers are making net claims on the rest of the economy (equal to $w - q$) [and] that the net claims . . . are greater than those currently made by the unemployed'. Sawyer (p. 895) then concluded that if the output 'is not valued by others, it is as though the ELR worker is producing nothing'. How should we assess this claim?

First, it suggests that the only mechanism that can validate output as being of value is the private market (which includes government spending that competes in the private market for resources). Even neoclassical theory acknowledges that private benefits and costs can diverge from social benefits and costs. Many activities which produce outputs are possible which have zero private market value but deliver positive contributions to the community (positive social value). The JG would likely focus on labour-intensive activities which would fall into this category. It is also obvious that many jobs are created in the private sector, especially in the low-skill service

sector (for example, fast-food shops) which may have very little or even negative social value. In assessing social value, we also have to consider the impacts on the previously unemployed individual who transits from welfare dependence via the JG. There is substantial evidence that these benefits are likely to be significant (Mitchell, 1998). Mitchell and Wray (2005: 241) concluded that it 'is difficult to believe that ELR will produce less social value than fast food production'.

Second, there is a problem that economists have to confront relating to the static concepts of work and productivity which underpin the criticism that JG jobs are not productive. To accommodate the benefits of technological progress, a debate about the future of paid work is clearly important. The concept of gainful work which relates to performing work for profit will have to be broadened to embrace a range of other activities not usually considered to be work. Clearly, we will need to make a transition in the way we link work and income generation such that old-style capitalist concepts of the work ethic are replaced by more creative uses of human activity. Further, the right to work and hence income has to be preserved for all. In advocating a transition, we do not support those who advocate institutionalising non-work via a basic income guarantee. We do not consider that society is advanced enough as yet to embrace a culture whereby some do not work at all but receive state support without commensurate activity being required. Social attitudes take time to evolve and are best reinforced by changes in the educational system.

In this context, the JG is a progressive, forward-looking approach for a state aiming to rebuild communities based on the purposeful nature of work that can extend beyond the creation of surplus value for the capitalist employer. It also provides the framework whereby the concept of work itself can be extended and broadened to include activities that we would dismiss as being leisure using the current ideology and persuasions, as well as to encourage private sector activities currently counted as productive in a narrow sense that societies of the future will view as socially destructive.

### 9.5.3 Does the Job Guarantee Provide Career Paths Back into Private Employment?

Seccareccia (1999) and Kadmos and O'Hara (2000) claimed that the low-wage service JG employment produces skills which are of little benefit to the private sector (see also Sawyer, 2003). Kadmos and O'Hara alleged that in a tightening labour market with structural unemployment, firms drive up wages to retain skilled staff, thereby maintaining unemployment in the context of wage/wage inflation. But structural unemployment is itself a loaded term because it ignores the fact that firms adjust hiring standards

across the business cycle, and offer training slots as part of their recruitment strategies when labour markets tighten. Certain individuals are excluded from job/training offers by discriminating firms because they are deemed to possess undesirable personal characteristics, although discrimination reduces as activity increases (Thurow, 1976; Friedlander et al., 1997; Welters and Muysken, 2006).

For that reason, economists should question why these discriminative practices occur rather than perpetuating the idea that there are structural labour market impediments. Moreover, the JG redresses this discrimination that many wrongly call 'structural unemployment'. For instance, via regionally-based job-creation programmes, the JG can productively employ all workers who cannot find a private employer.

The JG also does not preclude training initiatives (see Mitchell, 1998). Appropriately structured training within a paid employment context helps overcome the churning of the unemployed through training programmes, workfare and other schemes under current neo-liberal policies. Specific skills are usually more efficiently taught on the job.

As a consequence, a properly designed JG can help previously unemployed persons to make the transition into a career in the private sector and also stimulate employers to modify their recruitment behaviour.

### 9.5.4 Does the Job Guarantee Replace Unemployment by Underemployment?

Related to the criticism that the JG does not provide real jobs to the unemployed, Sawyer (2003: 894) argued that the JG 'in effect constitutes unemployment by another name' because it would create jobs that are prone to underemployment. The ILO defined two types of underemployment: (a) time-related underemployment which relates to insufficient hours of work (and is the measure of underemployment adopted at the Sixteenth International Conference of Labour Statisticians (ICLS) (ILO, 1998)); and (b) underemployment reflecting an 'inadequacy of employment situations', which refers to 'situations in the workplace which reduce the capacities and well-being of workers compared to an alternative employment situation' (ibid.). While imprecise, the ILO suggested that these situations might include 'inadequate use of occupational skills; excessive hours of work; inadequate tools, equipment or training for the assigned tasks; travel to work difficulties; inconvenient work schedules; and recurring work stoppages because of delivery failures of raw material or energy'. Before the 1998 ICLS convention, the ILO used the ICLS 1966 definition of underemployment which separated 'visible underemployment' (time related) from 'invisible underemployment' which referred to

situations where workers were not fully using their skills in their current employment (because the job itself is low skill and/or the worker is idle part of the time) (ILO, 1990).

Clearly the JG solves the problem of time-related underemployment. The JG workers can voluntarily choose what fraction of full-time hours they wish to work. In fact, the introduction of the JG is likely to reduce time-related underemployment. In recent expansions, many OECD economies (notably, the English-speaking ones) have reduced official unemployment but at the same time created a growing proportion of part-time work which has been associated with increasing time-related under-employment. Much of the recorded underemployment is in the low-skill service sector. A full-time JG job at wages commensurate with those pre-vailing in the low-pay private sector service industries would be attractive when compared to a low-skill private job that rations worker hours. As a consequence, the introduction of a JG, which provides the opportunity for workers to engage in full-time employment, would likely place pressure on private employers, who have failed to provide sufficient hours of work to satisfy the preferences of their workforces, to restructure their workplaces to overcome the discontent of their underemployed workers.

However, the attack on the JG in this context is based on the allegation that it will introduce invisible underemployment. This argument has been advanced by the post Keynesian economist Sawyer (2003), who surpris-ingly employed a neoclassical-inspired human capital analysis to outline three scenarios which compare the implied productivity of a JG job ($q$) to the 'true' productivity of the worker in an alternative job ($Q$). The neoclas-sical nature of this analysis rests on Sawyer's idea that productivity is embodied in the individual (a central plank of human capital theory) instead of the more reasonable and realistic notion that productivity results from a 'complex mix of individual capacities, team-based collaboration, on-the-job training, and job design and management' (Mitchell and Wray, 2005: 241; see also Sattinger, 1993).

Sawyer (2003: 894) characterised $q < Q$ as the general case because 'ELR jobs are low-skill, low-productivity jobs' and accordingly concluded that 'underemployment replaces unemployment'. It is quite clear that if the JG is to be a functional employment safety net, then the jobs made available have to be accessible for the most-disadvantaged workers in the labour market. It is empirically irrefutable that this cohort is usually disproportionately repre-sented in the unemployment pool (particularly in long-term unemployment).

If productivity is more complex as noted above then it is likely that $q$ will approximate $Q$, for most individuals who will rely on JG employment in between stints in the low-pay private labour market (see Mitchell and Wray, 2005).

In severe downturns, when unemployment is widespread and impacting on the broader occupational structure it is likely that the higher-skilled workers will face the choice between taking a JG position or entering wait unemployment. Logically, if they choose a JG (presumably as a temporary option) then some skill-based underemployment will exist. However, the output loss implied by this underutilisation is less than under a NAIRU economy and reflects the negative consequences of allowing the level of activity to fall below full employment. The likelihood of skilled workers opting for wait unemployment is also high, as they usually receive more generous redundancy payments which help to tide them over during a period of idleness. They may also conceive a career disadvantage in taking a low-wage JG position, given that they would expect the business cycle to improve and their spell of unemployment to be relatively short in duration.

Overall, the introduction of the JG is likely to more closely align the pref-erences of the workforce with the provision of hours of work than under the current NAIRU approach. JG jobs can clearly be offered at a fraction of full-time hours to suit the workers relying on them. There would be no enforced time-related underemployment and workers would be sovereign in the final number of hours they worked. In this sense, workers could more easily align their other commitments (family, recreational) with their working lives (see Wray, 1998).

### 9.5.5 Would the Job Guarantee Be Accompanied by an Abolition of Unemployment Benefits and Other Income Support Payments?

The introduction of a JG has no necessary bearing on the availability or operation of existing income support payments. Existing unemployment benefit schemes could easily co-exist with a JG scheme and workers could be given a choice as to whether they accept income support or work in a JG job for a wage. Mitchell (1998), in the Australian context, advocated the abandonment of usual unemployment benefits payments once a JG is introduced, barring the paying of transition income support capacity based on an activity test. This test would be the availability of a JG position and once this offer was made no further access to unemployment benefits would be provided.

Sawyer (2003: 897) is critical of this approach and asked 'who would be required to undertake ELR employment (or otherwise receive no income and who would, in effect, be exempt (and receive forms of income support from the State)?'. However, this is not a problem specific to the JG but in fact is a basic issue in any categorical benefits system. Workers who are unable to work would have access to the other forms of state-provided income support as they currently do (depending on the country concerned).

This form of income support is typically split into different categories such as old-age pension, sickness benefit, disability support pension, and other types of payment. To be eligible for one of these payments particularly before one qualifies on age alone, individuals have to fit themselves into a relevant category. For its part, the state has to establish mechanisms to screen applicants to ensure the integrity of the pension system. Unemployment benefits are subjected to activity tests and other forms of screening. No new problem is introduced with the JG that does not already exist.

What the JG does is to provide jobs to all who want to work. Most public policy today uses the stick to force the able-bodied off welfare without providing the carrot in the form of jobs. Most welfare-to-work schemes are little more than a cruel joke, precisely because there is no job for most welfare-leavers.

## 9.6   THE JOB GUARANTEE IN PRACTICE

The full employability agenda has come under fire from a number of sources in recent years (see, for example ILO, 2004). There are now several countries which have implemented direct job creation schemes to counter the major problems associated with persistent unemployment. For example, the Argentinian government introduced the *Jefes de Hogar* programme in 2001 to combat the social malaise that followed the financial crisis in that year.[6] Similarly, the Indian government has recently introduced a five-year plan, the National Rural Employment Guarantee Act (NREGS), to bridge the vast rural–urban income disparities inequality that has emerged as India's information technology service sector has boomed. Finally, the South African government has introduced the Expanded Public Works Programme (EPWP) to overcome the extremely high unemployment and accompanying poverty in that country. The programmes run against the full employability tide because they recognise that the solution to joblessness and the poverty that this brings is in the provision of employment opportunities rather than a focus on the victims. They also recognise that the government (federal down to local) has a major role to play in providing for employment guarantees.

While there is a growing interest among governments in several countries in the use of employment guarantees, none of the programmes noted above is consistent with a JG framework as outlined earlier in this chapter. In this section, we briefly consider the main features of these programmes and how they depart from the JG ideal. Allen (2006) provided a comparative assessment of the three programmes noted above, while Tcherneva and Wray

(2005) provided a comprehensive analysis of the first four years of the operation of the *Jefes* programme.

Table 9.1 compares the three programmes against main desirable characteristics of a true JG policy aimed at maintaining full employment with price stability. The lack of universality of the programmes means that unemployed workers are unable to freely enter and exit the programme. Given that the categories for qualification are fairly tight, the programmes cannot be seen as offering a perfectly elastic demand curve for labour. So unlike a true JG policy, the three national programmes do not operate as a buffer stock of jobs which allows the wage to serve as a price anchor. A lack of universality is not the only way that these schemes fail to serve the buffer stock role. Each of the programmes provides employment opportunities in labour-intensive infrastructure development, social development, environmental protection and business incubation. The *Jefes* programme also produces consumables (for example, bread). In India, an emphasis is placed on creating assets for, say, water conservation and then implementing maintenance programmes to protect the wealth created (see Allen, 2006: 11). However, the jobs are typically available in 'project blocs', which according to Allen (p. 11): 'leaves beneficiaries waiting until the next round of projects start before they can gain employment under the program'. A JG buffer stock approach would ensure that there was work available on demand, which clearly requires that an infrastructure be developed by government to support the policy. Governments must create an inventory of employment opportunities which can quickly be made operational when required. In many of the job creation schemes, particularly in India and South Africa, the jobs on offer were mostly designed to accommodate women and/or those with disabilities. An effective JG policy would ensure that an inclusive range of jobs would accommodate all workers in need of employment.

Allen (p. 10) concluded:

> [A]ll three programs . . . have innovative components to them, and each are trying to . . . address situations of mass unemployment, employment growth stagnation, and poverty. However, there are considerable proven deficiencies that hinder the operation of the programs and lead to exclusion of some of the most vulnerable within society. Ultimately only a universal model, which is capable of coming to grips with the complexities of spatial inequality, would be able to achieve the objectives that the current programs are trying to achieve.

In comparing the *Jefes* plan to the JG ideal, Tcherneva and Wray (2005: 20) concluded:

> *Jefes* . . . has many institutional features, which could potentially make it a true employer of last resort program . . . However, it is still a partial employment

Table 9.1  A comparison of selected national employment creation schemes with the JG ideal

| Features of policy | JG | Jefes de Hogar (Argentina) | EPWP (South Africa) | NREG (India) |
|---|---|---|---|---|
| Universal – unconditional job offer to anyone at fixed wage | Yes | No, means-tested and restricted to heads of household with under 18 or disabled dependents | No, 40% women, 20% youth, 2% disabled, locally determined via a lottery and required valid ID card | No – rural heads of household with 'job cards' |
| Buffer stock capacity – permanent offer with choice of hours worked | Yes | 20 hours per week only, no choice | Maximum of 24 months in a four-year cycle, no choice | 100 days of work per household year, no choice |
| National scale | Yes | Yes | Yes | Yes |
| Wage provides effective wage floor | Yes | No, 75% of minimum wage | No, locally negotiated minimum wage | No, part of wage can be paid in-kind as food |
| Wage fixed | Yes | Yes (but not set at a sustainable living level) | No, locally negotiated minimum wage | Yes, 60 rupees per day |
| Loose full employment (price anchor) | Yes | Very little, given lack of universality | No | No |
| Training opportunities for skill upgrades | Yes | Yes, but restricted | 2 days of training for every 20 days worked | No |
| Useful work | Yes | Yes | Yes | Yes |
| Federal funded | Yes | No, partial federal funding with World Bank loans up to 80% of total costs; rest comes from NGOs etc. | Yes, but out of capital budgets of departments and municipalities | No, state provides 25% of costs |
| Agency of delivery | Local | NGO, local government and local activist groups | Public–private partnerships with contractor and NGOs | 50% Gram Panchayat, 50% district management with NGOs |

*Sources:*  See Allen (2006: 51, Table 1); Tcherneva and Wray (2005: 20, Table 1).

257

program and therefore, in its present state, it does not benefit from all the desirable ELR features. It is clear that *Jefes* has not eliminated unemployment. Furthermore, it is difficult to assess its anti-inflationary features, because it is not clear that the program has a powerful countercyclical bufferstock mechanism. We can however see that it provides an institutional framework which can be further enhanced and elaborated to achieve the desired outcomes. In sum, until the program stops limiting entry, eliminates means tests and offers a living wage, it cannot be considered a true employer of last resort. Furthermore, for its long-term viability it needs to be entirely financed out of pesos and not through dollar denominated loans.

On the positive side, the Argentinian and Indian experiences suggest that a large-scale direct job creation programme can be introduced within a matter of months to provide productive work opportunities and improve the circumstances for its participants. According to Tcherneva and Wray (2005: 20) the *Jefes* plan also shows that 'a federally funded program can be administered locally with heavy participation of non-profit and non-governmental institutions [and] help broaden the meaning of work by remunerating activities such as family care and community involvement'.

A complete operational plan within the Australian context for the implementation of a JG has been developed by researchers at CofFEE and is available on request from the centre administration.

## 9.7  CONCLUSION

Given the overwhelming central bank focus on price stability, and the critical role of today's unemployed buffer stocks of unemployed, we argue that functioning and effectiveness of the buffer stock is critical to its function as a price anchor.

Condition and liquidity are the keys. Just as soggy rotting wool is useless in a wool price stabilisation scheme, labour resources should be nurtured as human capital constitutes the essential investment in future growth and prosperity. There is overwhelming evidence that long-term unemployment generates costs far in excess of the lost output that is sacrificed every day the economy is away from full employment (see Mitchell, 2001a).

It is clear that the more employable are the unemployed, the better the price anchor will function. The government has the power to ensure that a high-quality price anchor is in place and that continuous involvement in paid work provides returns in the form of improved physical and mental health, more stable labour market behaviour, reduced burdens on the

criminal justice system, more coherent family histories and useful output, if well managed.

It is also the case that training in a paid-work environment is more effective than contextually isolated training schemes, which have become the fashion under the active labour market programmes pursued by governments in all countries over the last two decades.

## NOTES

1. The term 'employment of last resort' (ELR) is interchangeable with the term 'buffer stock employment' (BSE) and 'job guarantee' (JG). The last two descriptions of the approach to full employment are found in the work of Mitchell, whereas the ELR terminology is used by Mosler and Wray and the US commentators. Wray now prefers 'public service employment' (PSE). While ELR is accurate in one sense, it also provides a negative connotation that neither PSE nor JG implies.
2. Much of this chapter is based on the work of Mitchell (1998), Mitchell and Mosler (2002, 2006) and Wray (1998), to name the principal primary sources.
3. There is an issue about the validity of an unchanging nominal anchor in an inflationary environment. The JG wage would be adjusted in line with productivity growth to avoid changing real relativities. Its viability as a nominal anchor relies on the fiscal authorities reigning in any private wage–price pressures. Clearly, in a hyperinflation environment, the discipline of the JG wage would fail. But in historical experience these circumstances have been rare.
4. We leave aside the political rationale where presumably funds directed to sympathetic political parties and control of the media could all be effective means to oppose an incumbent government.
5. Elsewhere, he argued that at full employment, output cannot be increased. Since the JG achieves full employment, output cannot be increased once it is implemented. From the analysis earlier in this chapter, it should be clear that this is incorrect. A JG can achieve full employment at any level of aggregate demand and at any rate of economic growth. Obviously, this does not imply that aggregate demand can be at any level given full employment.
6. *Jefes de Hogar* translates as 'Head of Households'.

# 10.    Conclusion: the urgency of full employment

Our motivation for writing this book, which underpins the research to which we have dedicated our academic careers, is straightforward and linked to our understanding of employment as a basic human right. We also adopt a simple rule of thumb when considering the effectiveness of public policy such that a good policy initiative is seen not in terms of 'how rich it makes the rich', but rather in terms of 'how rich it makes the poor' in a given society. Further, in terms of social justice, we consider that relative assessments of inequality are as justified as absolute comparisons.

In this regard, we unapologetically started from a values perspective which emphasised the underlying rights of citizens to be fully involved members of their communities. We then extended the discussion to define what these underlying rights imply for the design and operation of the economic system. Our starting-point from this perspective is espoused clearly in Article 23 of the 1948 Universal Declaration of Human Rights: 'everyone has the right to work, to free choice of employment, to just and favourable conditions of work and to protection against unemployment'.

Our articulation of the full employment framework in Chapter 1 captured the reality that prevailed in the post-Second World War period up until the mid-1970s, whereby governments used aggregate demand policies to maintain full employment as an overriding goal of economic policy. Within this framework, mass unemployment was constructed as a systemic failure that restrained living standards through loss of national income and imposed significant personal costs on those without work. It was also clearly understood that it was the collective responsibility of society, expressed through the macroeconomic policy settings, to ensure that full employment was achieved and maintained.

This framework has been systematically abandoned in most OECD countries over the last 30 years. Governments now typically reject the notion that mass unemployment is their responsibility and have discarded the insights gained from the writings of Keynes and others into how deficient demand in macroeconomic systems constrains the employment opportunities and forces some individuals into involuntary unemployment. Governments now aim for full employability. Under the full employability

framework, the responsibility for economic outcomes now rests firmly with the individual, following the logic of textbook microeconomic free market theory. Accordingly, anyone who is unemployed is now considered to have chosen to be in that state because they have not invested in appropriate skills; have not searched effectively for available job opportunities (in some cases have not searched at all); or have become overly selective in the jobs they would accept. Governments are now considered to have encouraged this individual lethargy and/or inefficiency by providing excessively generous income support payments and legislating restrictive hiring and firing regulations. The prevailing view held by economists and policy makers is that individuals should be willing to adapt to changing circumstances, and individuals should not be prevented from doing so by outdated regulations and institutions. The role of government is then prescribed as one of ensuring that individuals reach a state where they are considered employable, although defining that state is not without controversy. This involves reducing the ease of access to income support payments via pernicious work tests and compliance programmes; reducing or eliminating other alleged barriers to employment (for example, unfair dismissal regulations); and forcing unemployed individuals into a relentless succession of training programmes.

The framework was exemplified in the OECD *Jobs Study.* The *Jobs Study* (1994: 74) was also associated with the growing conservatism in macroeconomic policy practice such that 'inflation first' central bankers conducted monetary policy with little concern for the real effects of their actions, and the virtuosity of fiscal policy was judged by the size of the budget surplus that the government could generate.

While the OECD (2001) initially claimed that its policy recommendations delivered unambiguous successes in countries that have implemented them, the empirical reality has told another story. So much so that in recent years, even the OECD has been forced to admit that the authority it claimed from numerous orthodox empirical studies over many years is fragile at best and untenable at worst. In this book we have argued that in the 13 years that have passed since the OECD policy agenda was declared, most countries have languished in a high state of labour underutilisation and low to moderate economic growth. Underemployment has become an increasingly significant source of wastage as official unemployment rates have eased. Youth unemployment remains high in most countries and income inequalities have increased. The only achievement that could reasonably be claimed is that inflation is now under control, although it was the severity of the 1991 recession that expunged inflationary expectations from the OECD bloc rather than the active labour market programmes pursued since 1994. It is true, though, that

labour costs have been kept down as a result of the *Jobs Study* agenda through dint of harsh industrial relations deregulation and a concerted attack on the labour unions.

We have argued that over the last 30 years, full employment has been abandoned by most OECD countries. The unrelenting cutbacks in public expenditure, and, more recently, the increasing government bullying of the jobless under the guise of so-called 'activism', has left OECD economies in a state of chronic labour underutilisation. Whatever else we might conclude, the striking empirical fact that has persisted in most countries over the last three decades is that actual output and employment growth has rarely reached the rate required to sustain true full employment.

Our contention in this book has been that most of the blame for this labour underutilisation across OECD countries lies with the policy failures of national governments. At a time when budget deficits should have been used to stimulate demand to generate enough jobs (indirectly in the private sector and via direct public sector job creation), the growing voluntary conservatism in macroeconomic policy has stifled the ability of economies to utilise fully the available labour resources. In addition, the attacks on the welfare system have been driven by the economists and policy makers who have an overall distaste for activist fiscal policy.

We have built our case in two ways. First, we have stressed the importance of critically analysing the theoretical structures that have underpinned the major policy shifts that have occurred in the last 20 years or so. In part, we consider that a thorough understanding of the history of economic thought is an essential precursor to any reasonable assessment of the contribution of economic theory to the policy debate. For example, we demonstrated that the monetarist resurgence was not the result of a simple correction to the money illusion that allegedly underpinned the Phillips curve. It was, in fact, a return to the economic reasoning that had been discredited during the Great Depression. There has been nothing since that time that would suggest that it had more relevance and applicability now than then. We consider this resurgence in neoclassical theory to be driven more by ideology and a general distaste among orthodox economists for government intervention than by any new research indicating that the essential causes of mass unemployment had changed from deficient demand. We have shown that the various NAIRU conceptions have represented a hoax that has been used by policy makers to undermine the pursuit of full employment. During the growth phase following the 1991 recession, official unemployment rates in many countries have fallen well below the various estimates of the NAIRU produced by influential organisations (for example, the OECD). Yet at the same time, inflation rates have also fallen. The reaction of the profession has been to 'doodle' with several *ad hoc*

variations to the NAIRU story rather than to abandon the construct altogether in the face of overwhelming empirical contradiction. In addition to exposing the folly of current orthodox economic theories of unemployment, we also wanted to present a positive vision for the future based on an alternative macroeconomic explanation for the presence of unemployment, which is grounded in the principles of modern monetary economics. We return to this point below.

Second, we have stressed the importance of using sound empirical analysis to hold theoreticians and policy makers to account. If the outcomes predicted by the monetarists or the OECD *Jobs Study* have not been realised then how should we respond? The startling fact is that in the face of robust and sustained evidence of labour underutilisation, the economics profession has refused to challenge the theoretical underpinnings of what has been a dramatic but failed policy shift. Economists have seemingly refused, as evidenced by the developments in the literature that we have critically examined, to consider the possibility that the labour market malaise that bedevils most advanced economies is the result of a systemic failure to generate enough work. The current state of thinking, which we find repugnant, simply assumes that policy failure indicates the need to extend the neoliberal agenda even further by making 'active labour market programmes' more coercive and compliance-orientated and trashing the regulatory and representative framework which was designed to protect workers. For example, in Australia, the privatised public employment service, the Job Network, was designed to 'enhance employability' and 'enhance skills'. With skill shortages emerging in sections of the Australian economy despite more than 10 per cent of the willing labour resources being underutilised, why are policy makers refusing to ask serious questions about the effectiveness of this service delivery model? Instead, the Federal government has recently announced its intention to push more workers into workfare-type compliance programmes rather than reassess the links between job creation and skill development.

So in expressing our strong concern as macro economists about the significant and persistent costs associated with the abandonment of full employment as the principal goal of macroeconomic policy, we aimed to restore the urgency of a full employment policy among policy makers and to raise consciousness about the importance of elevating fiscal policy activism back into the mainstream policy-making arena. In our view, the major priority of national governments throughout the world should be to ensure that there are enough jobs in their economy to sustain full employment.

In assessing the best way to advance our case for a return to macroeconomic stability, by which we mean full employment and price stability, we need to consider the policy options that are available in a modern

monetary system. Central bankers and treasury officials in every country have to be cognisant of the powers that flow from a floating exchange rate and monopoly provision of the fiat currency – both intrinsic characteristics of a modern monetary system. We do not suggest that they abandon their concerns about inflation but rather consider policy design that simultaneously allows them to generate full employment with low and stable inflation. This is in contradistinction to the current approach that asks the limited and limiting question of how we keep inflation in a particular target range.

In this regard, we provided a logically coherent and empirically sustainable alternative macroeconomic vision in Part III. The sustainability of this vision is based on the fact that it reflects the reality that modern monetary systems use fiat currency. This reality means that the monopoly issuer of this currency, the national government, has the ability to pursue full employment without compromising price stability through appropriate fiscal policy initiatives. The development of this alternative framework allowed us to demonstrate that the budget surplus obsession pursued by most OECD governments is the anathema of fiscal prudence and imposes significant costs and lost opportunities on their economies. As a starting-point we showed that government spending is not inherently revenue constrained, which means that the government budget constraint literature that dominates orthodox practice is flawed at the most fundamental level. Once we jettison the erroneous notions that arise from orthodox public finance, we are in a better position to juxtapose the NAIRU approach to maintaining price stability (which uses unemployment buffer stocks) with an alternative approach which relies on the creation of employment buffers.

In this regard, we argued that an essential plank in a modern macroeconomic policy position should be the introduction of employment guarantees, which we termed the 'job guarantee'. The introduction of a JG provides the superior basis for achieving price stability because it simultaneously maintains full employment and avoids the heavy costs of unemployment. While the notion that any society would want to provide guaranteed employment at a minimum wage for anyone who is unable to otherwise find work is at odds with the current economic orthodoxy, we would highlight the seeming contradictions in our current approach to policy. We now allow central banks that are largely independent of the political process to fight inflation through the manipulation of interest rates. Why, then, would we balk at the notion that a politically accountable government should have the mandate to guarantee full employment and ensure that the base-level wage in the economy is sufficient that everyone can participate at a reasonable level in society?

While the JG is a means of achieving full employment and price stability, it also would allow us to restore the important social dimension of work that is lost when we use unemployment buffer stocks to control inflation. The JG would allow us to avoid the wastage of resources and to ensure that human dignity is maintained. It would make the workforce, currently unused as a consequence of the dominant NAIRU policies, available to enhance many useful activities which advance community development. It would also provide workers who are currently unemployed or underemployed with income certainty and opportunities to undertake meaningful training in a paid-work environment.

An unemployed buffer stock is difficult to maintain in qualitative terms and human skills and motivation as the duration of joblessness increases. It is thus difficult for government to maintain what we might term the 'liquidity' of the unemployment buffer, an essential requirement if it is to be an effective discipline on the inflation process. The JG is a far better way to maintain an inflation-fighting buffer stock because the pool is employed, receiving training and maintaining normal work habits.

In closing we aimed to raise awareness among our readers for the urgency of full employment and to reinforce the notion that labour underutilisation is a scourge that badly managed modern monetary systems impose on individuals. These monetary systems provide government with extensive opportunities to maintain full employment. Persistent labour underutilisation is a sign that governments are failing to take advantage of these opportunities to generate sufficient employment. Individual volition has little to do with the existence and persistence of mass unemployment and underemployment.

We emphasised the importance of considering both the costs of action and the costs of inaction. The costs incurred by the economy, by individuals, by families and by communities from the current tolerance by governments of contemporary levels of unemployment and underemployment dwarf those that would accompany the introduction of a JG. In the main, the extra 'costs' of the JG would be the real goods and services that the JG workers would consume relative to those consumed by them as the unemployed. We assess these costs as minimal.

We consider that the theoretical, historical and empirical case presented in this book means that policy makers can no longer claim that the economic and social costs which flow from the full employability framework are a necessary evil. If we now understand that active fiscal policy can provide for full employment and price stability, then our collective failure to drive policy change can only mean that we do not regard employment (and the dignity, self-respect and security which flows from paid work) as a human right.

We do not presuppose that the golden years of full employment were not without problems and policy mistakes. But as Wildon Carr stated many years ago (Shove, 1942: 323): 'it is better to be vaguely right than precisely wrong'. We owe it to the victims of the current policy folly to introduce solutions that increase the wealth of the poorest members of our society. In our view, any other option amounts to policy failure.

# References

Acemoglu, D. and R. Shimer (1999), 'Efficient unemployment insurance', *Journal of Political Economy*, **107**(5), 893–928.

Acemoglu, D. and R. Shimer (2000), 'Productivity gains from unemployment insurance', *European Economic Review*, **44**, 1195–224.

Adam, K. and M. Padula (2003), 'Inflation dynamics and subjective expectations in the United States', ECB Working Paper Series, 222.

Akerlof, G.E., W.T. Dickens and G.L. Perry (2000), 'Near-rational wage and price setting and the long-run', *Brookings Papers on Economic Activity*, **1**, 1–8.

Albaek, K. and H. Hansen (2004), 'The rise in Danish unemployment: reallocation or mismatch?', *Oxford Bulletin of Economics and Statistics*, **66**(4), 515–36.

Alcaly, R. (1999), 'He got the whole world in his hands', *The New York Review of Books*, **46**(15), 7 October, www.nybooks.com/articles/355, accessed 18 August 2007.

Alesina, A. and L. Summers (1993), 'Central-bank independence and macroeconomic performance: some comparative evidence', *Journal of Money, Credit and Banking*, **25**(2), 151–62.

Allen, E. (2006), 'Searching for responses to global challenges: unemployment and inequality', in G. Wrightson (ed.), *The Constraints to Full Employment*, Newcastle, NSW, Australia, Proceedings of the 8th Path to Full Employment Conference/13th National Conference on Unemployment, 1–12.

Altmeyer, A. (1968), Speech entitled 'Social security and the human touch' given at the 33rd anniversary ceremony of the establishment of Social Security America, 14 August 1968. This was one of his last speeches. From his archives, which are available at the State Historical Society of Wisconsin at Madison, Wisconsin.

Amid-Hozour, E., D.T. Dick and R.L. Lucier (1971), 'Sultan schedule and Phillips curve: an historical note', *Economica*, **38**(151), February, 319–20.

Andersen, P.S. and W.L. Wascher (1999), 'Sacrifice ratios and the conduct of monetary policy in conditions of low inflation', BIS Working Paper 82, Bank for International Settlements, Basel.

Arestis, P. and K. Mouratidis (2004), 'Is there a trade-off between inflation variability and output-gap variability in the EMU countries?', *Scottish Journal of Political Economy*, **51**(5), 691–706.

Arestis, P. and M.C. Sawyer (2004a), 'Can monetary policy affect the real economy?', *European Review of Economics and Finance*, **3**(3), 7–30.

Arestis, P. and M.C. Sawyer (2004b), 'Alternatives for the policy framework of the euro', in Mitchell et al. (eds), *Growth and Cohesion in the European Union, The Impact of Macroeconomic Policy*, Cheltenham: Edward Elgar, 57–73.

Aspergis, N., S. Miller, A. Panethimitakis and A. Vamvakisis (2005), 'Inflation targeting and output growth: empirical evidence for the European Union', IMF Working Paper, 05-89.

Atkinson, T. (1999), *The Economic Consequences of Rolling Back the Welfare State*, Cambridge, MA: MIT Press.

Attwood, T. (1964), *Selected Economic Writings of Thomas Attwood*, F.W. Fetter (ed.), London: London School of Economics and Political Science.

Baily, N.M. (1982), *Workers, Jobs and Inflation*, Washington, DC: Brookings Institution.

Baker, D., A. Glyn, D. Howell and J. Schmitt (2004), 'Labor market institutions and unemployment', in D. Howell (ed.), *Fighting Unemployment: The Limits of Free Market Orthodoxy*, Oxford: Oxford University Press, Chapter 3.

Ball, L. (1993), 'What determines the sacrifice ratio', *NBER Working Paper 4306*, National Bureau of Economic Research, Cambridge, MA.

Ball, L. (1999), 'Aggregate demand and long-run unemployment', *Brookings Papers on Economic Activity*, **2**, 189–251.

Ball, L. and N.G. Mankiw (2002), 'The NAIRU in theory and practice', NBER Working Paper Series, 8940.

Ball, L., N.G. Mankiw and R. Reis (2005), 'Monetary policy for inattentive economies', *Journal of Monetary Economics*, **52**(4), 703–25.

Ball, L., G. Mankiw, D. Romer, G. Akerlof, A. Rose, J. Yellen and C. Sims (1988), 'The new Keynesian economics and the output–inflation trade-off', *Brookings Papers on Economic Activity*, **1**, 1–82.

Ball, L. and N. Sheridan (2003), 'Does inflation targeting matter?', NBER Working Paper Series, 9577.

Bancroft, G. (1950), 'The Census Bureau estimates of unemployment', *Review of Economics and Statistics*, **32**(1), 59–65.

Barber, W.J. (1997), 'Irving Fisher (1867–1947) in retrospect', *American Economic Review, Papers and Proceedings*, **87**(2), 445–7.

Barro, R.J. (1993), *Macroeconomics*, 4th edn, New York: John Wiley.

Barro, R.J. (1995), 'Inflation and economic growth', *Quarterly Review of the Bank of England*, May, 166–76.

Barro, R.J. and H.I. Grossman (1971), 'A general disequilibrium model of income and employment', *American Economic Review*, **61**(1), 82–93.

Bean, C.R., P.R.G. Layard and S.J. Nickell (eds) (1986), *The Rise in Unemployment*, Oxford: Blackwell.

Bekaert, G., S. Cho and A. Moreno (2005), 'New-Keynesian macroeconomics and the term structure', NBER Working Paper Series, 11340.

Bell, S. (2000), 'Do taxes and bonds finance government spending?', *Journal of Economic Issues*, **34**, 603–20.

Bergstrom, A.R., A.J.L. Catt, M.H. Peston and B.D.J. Silverstone (eds) (1978), *Stability and Inflation: A Volume of Essays to Honour the Memory of A.W.H. Phillips*, Chichester: John Wiley & Sons.

Bernanke, B.S. (2004), 'Inflation targeting', *Federal Reserve Bank of St. Louis Review*, **86**(4), 165–8.

Bernanke, B.S., T. Laubach, F. Mishkin and A. Posen (1999), *Inflation Targeting: Lessons from the International Experience*, Princeton, NJ: Princeton University Press.

Bernanke, B.S. and F. Mishkin (1997), 'Inflation targeting: a new framework for monetary policy?', *Journal of Economic Perspectives*, **11**(2), 97–116.

Beveridge, W.H. (1909), *Unemployment? A Problem of Industry*, New York: Ams Press.

Beveridge, W.H. (1944), *Full Employment in a Free Society*, London: Allen & Unwin.

Blanchard, O. (1990), 'Unemployment: getting the questions right – and some of the answers', in Drèze and Bean (eds), 66–89.

Blanchard, O. (1997), *Macroeconomics*, Upper Saddle River, NJ: Prentice-Hall.

Blanchard, O. (2000a), 'Lecture 1. Shocks, factor prices, and unemployment', *Lionel Robbins Lectures*, The economics of unemployment. Shocks, institutions and interactions, London School of Economics, October, econ-www.mit.edu/files/708, accessed 21 August 2007.

Blanchard, O. (2000b), 'Lecture 3: Employment protection, sclerosis, and the effect of shocks on unemployment', *Lionel Robbins Lectures*, The economics of unemployment. Shocks, institution and interactions, London School of Economics, October, econ-www.mit.edu/files/708, accessed 21 August 2007.

Blanchard, O. (2006), 'European unemployment: the evolution of facts and ideas', *Economic Policy*, **45**, 5–47.

Blanchard, O. and P. Diamond (1994), 'Ranking, unemployment duration and wages', *Review of Economic Studies*, **61**(3), 417–34.

Blanchard, O., R. Dornbusch, J. Drèze, H. Giersch, R. Layard and M. Monti (1986), 'Employment and growth in Europe: a two-handed approach', in Blanchard (ed.) (1986), *Restoring Europe's Prosperity*,

Macroeconomic papers from the Centre for European Policy Studies, Cambridge, MA: MIT Press, 95–124.

Blanchard, O. and J. Gali (2005), 'Real wage rigidities and the new Keynesian model', NBER Working Paper Series, 11806.

Blanchard, O. and J. Gali (2006), 'A new Keynesian model with unemployment', National Bank of Belgium Working Paper Series, 92.

Blanchard, O. and L. Summers (1986), 'Hysteresis and the European unemployment problem', in S. Fischer (ed.), *NBER Macroeconomics Annual 1*, Cambridge, MA: MIT Press, 15–74.

Blinder, A. (1987), *Hard Heads, Soft Hearts*, Reading, MA: Addison-Wesley.

Blinder, A. (1988), 'The fall and rise of Keynesian economics', *Economic Record*, **64**(187), 278–94.

Blinder, A. (2000), 'Central-bank credibility: Why do we care? How do we build it?', *American Economic Review*, **90**(5), 1421–31.

Bodart, V., O. Pierrard and H.R. Sneessens (2006), 'Nominal wage rigidities in a new Keynesian model with frictional unemployment', IZA Discussion Paper Series, 2528, Bonn.

Bofinger, P. (2003), 'The stability and growth pact neglects the policy mix between fiscal and monetary policy', *Intereconomics*, **38**(1), 1–7.

Boschen, J. and C. Weise (2001), 'The *ex ante* credibility of disinflation policy and the cost of reducing inflation', *Journal of Macroeconomics*, **23**(3), 323–47.

Branch, W.A. (2004), 'The theory of rationally heterogeneous expectations: evidence from survey data on inflation expectations', *Economic Journal*, **114**(497), 592–621.

Broer, P., N. Draper and H. Huizinga (2000), 'The equilibrium rate of unemployment in the Netherlands', *The Economist*, **148**(3), 345–71.

Brown, A.J. (1955), *The Great Inflation, 1939–51*, London: Oxford University Press.

Buiter, W.H. (1987), 'The right combination of demand and supply policies: the case for a two handed approach', NBER Working Paper Series, 2333.

Buiter, W.H. (2006a), 'The elusive welfare economics of price stability as a monetary policy objective. Why new Keynesian central bankers should validate core inflation', ECB Working Paper Series, 609.

Buiter, W.H. (2006b), 'The "sense and nonsense of Maastricht" revisited: what have we learnt about stabilization in EMU?', *Journal of Common Market Studies*, **44**(4), 687–710.

Buiter, W.H. and C. Grafe (2004), 'Patching up the pact: suggestions for enhancing fiscal sustainability and macroeconomic stability in an enlarged European Union', *Economics of Transition*, **12**(1), 67–102.

Burgess, J. and W.F. Mitchell (1998), 'Employment, unemployment and the right to work', *Australian Journal of Human Rights*, **4**(2), 76–94.

Burns, M.E. and W.F. Mitchell (1985), 'Real wages, unemployment and economic policy in Australia', *Australian Economic Papers*, **24**(44), 1–23.

Cahuc, P. and A. Zylberberg (2004), *Labor Economics*, Cambridge, MA: MIT Press.

Campbell, J.Y. and N.G. Mankiw (1987), 'Are fluctuations transitory?', *Quarterly Journal of Economics*, **102**, 875–80.

Carlin, W. and D. Soskice (1990), *Macroeconomics and the Wage Bargain*, Oxford: Oxford University Press.

Carlin, W. and D. Soskice (2005), 'The 3-equation new Keynesian model: a graphical exposition', *B.E. Journal of Macroeconomics: Contributions to Macroeconomics*, **5**(1), 1–36.

Carlin, W. and D. Soskice (2006), *Macroeconomics: Imperfections, Institutions and Policies*, Oxford: Oxford University Press.

Carlson, E. and W.F. Mitchell (2003), 'Labour underutilisation in Australia and inflation', in S. Cowling (ed.), *The Underutilisation of Europe's Labour Resources*, Proceedings of the CofFEE–Europe Workshop, University of Maastricht, 4–5 October, 72–97.

Casares, M. (2006), 'Time-to-build, monetary shocks, and aggregate fluctuations', *Journal of Monetary Economics*, **53**(6), 1161–76.

Casey, B.H. (2004), 'The OECD jobs strategy and the European employment strategy: two views of the labour market and of the welfare state', *European Journal of Industrial Relations*, **10**(3), 329–52.

Cecchetti, S.G., A. Flores-Lagunes and S. Krause (2006), 'Assessing the sources of changes in the volatility of real growth', NBER Working Paper Series, 11946.

Cecchetti, S. and R. Rich (1999), 'Structural estimates of the US sacrifice ratio', *Federal Reserve Bank of New York Staff Report*, 71.

Centre of Full Employment and Equity (CofFEE) (2007), *CLMI1 Total Labour Underutilisation, Australia*, February.

Chang, R. (1997), 'Is low unemployment inflationary?', *Federal Reserve Bank of Atlanta Economic Review*, **82**(1), 4–13.

Chick, V. (1983), *Macroeconomics after Keynes: A Reconsideration of the General Theory*, Deddington, Oxford: Phillip Allan.

Choi, K., C. Jung and W. Shambora (2003), 'Macroeconomic effects of inflation targeting policy in New Zealand', *Economics Bulletin*, **5**(17), 1–6.

Christoffel, K. and T. Linzert (2006), 'The role of real wage rigidity and labor market frictions for unemployment and inflation dynamics', ECB Working Paper Series, 556.

Clarida, R., J. Gali and M. Gertler (1999), 'The science of monetary policy: a new Keynesian perspective', *Journal of Economic Literature*, **37**, 1661–707.

Clower, R.W. (1965), 'The Keynesian counterrevolution: a theoretical appraisal', in F.H. Hahn and F.P.R. Brechling (eds), *The Theory of Interest Rates*, London: Macmillan, 103–25.

Coenen, G. and V. Wieland (2005), 'A small estimated euro area model with rational expectations and nominal rigidities', *European Economic Review*, **49**, 1081–104.

Cook, B., C. Dodds and W.F. Mitchell (2003), 'Social entrepreneurship: false premises and dangerous forebodings', *Australian Journal of Social Issues*, **38**(1), 57–75.

Copeland, M. (1936), 'Discussion of Fisher (1936)', *Journal of the American Statistical Association*, **31**, 507–9.

Cornwall, J. (1983), *The Conditions for Economic Recovery*, Oxford: Martin Robertson.

Cowling, S. and W.F. Mitchell (2003), 'False promise or false premise? Evaluating the job network', *Australian Journal of Labour Economics*, **6**(2), 207–26.

Cowling, S. and W.F. Mitchell (2005), 'Taking the low road: minimum wage determination under "work choices"', in G. Wrightson (ed.), *Creating a Culture of Full Employment*, Newcastle, NSW, Australia, Proceedings of the 7th Path to Full Employment Conference/12th National Conference on Unemployment, 196–206.

Cowling, S., W.F. Mitchell and M.J. Watts (2006), 'The right to work versus the right to income', *International Journal of Environment, Workplace and Employment*, **2**(1), 89–113.

Cross, R. (1982), *Economic Theory and Policy in the United Kingdom*, Oxford: Martin Robertson.

Cunado, J. and F.P. de Garcia (2003), 'Sacrifice ratios: some lessons from EMU countries, 1960–2001', *International Review of Applied Economics*, **17**(3), 327–37.

Davidson, J.E.H., D.F. Hendry, F. Srba and S. Yeo (1978), 'Econometric modelling of the aggregate time-series relationship between consumers: expenditure and income in the United Kingdom', *Economic Journal*, **88**, 661–92.

Davidson, P. (1972), *Money and the Real World*, London: Macmillan.

Davidson, P. (1983), 'The marginal product curve is not the demand curve for labor and Lucas' labor supply function is not the supply curve for labor in the real world', *Journal of Post Keynesian Economics*, **6**(1),105–17.

Davidson, P. (1994), *Post-Keynesian Macroeconomic Theory: A Foundation for Successful Economic Policies for the Twenty-first Century*, Aldershot, UK and Brookfield, US: Edward Elgar.

Davidson, P. and C.L. Smolensky (1964), *Aggregate Supply and Demand Analysis*, New York: Harper & Row.

Davis, S.J., R.J. Faberman and J. Haltiwanger (2006), 'The flow approach to labor markets: new data sources and micro–macro links', NBER Working Paper Series, 12167.

De Grauwe, P. (2003), *The Stability and Growth Pact in Need of Reform*, Brussels: Centre for European Policy Studies.

De Grauwe, P. (2006), 'What have we learnt about monetary integration since the Maastricht Treaty?', *Journal of Common Market Studies*, **44**(4), 711–30.

de Vroey, M. (2004), *Involuntary Unemployment*, London: Routledge.

de Vroey, M. (2006), 'Getting rid of Keynes? A reflection on the history of macroeconomics', UCL Discussion Paper 2006-51, University College London.

DeLong, J.B. (2002), *Macroeconomics*, Sydney: McGraw-Hill.

Desai, M.J. (1973), 'Growth cycles and inflation in a model of the class struggle', *Journal of Economic Theory*, **6**, 527–45.

Desai, M.J. (1975), 'The Phillips curve: a revisionist interpretation', *Economica*, **42**(165), 1–19.

Desai, M.J. (1981), *Testing Monetarism*, London: Frances Pinter.

Dimand, R.W. (1997), 'Irving Fisher and modern macroeconomics', *American Economic Review, Papers and Proceedings*, **87**(2), 442–4.

Donner, A. and J.F. McCollum (1972), 'The Phillips curve: an historical note', *Economica*, **33**, 323–4.

Dostal, J.M. (2004), 'Campaigning on expertise: how the OECD framed EU welfare and labour market policies – and why success could trigger failure', *Journal of European Public Policy*, **11**(3), 440–60.

Dow, S.C. (1985), *Macroeconomic Thought*, Oxford: Basil Blackwell.

Dow, S.C. (1988), 'Incorporating money in regional economic models', in F. Harrigan and P.G. McGregor (eds), *Regional Advances in Regional Economic Modelling*, London Papers in Regional Science, Pion Ltd, London, **19**, 208–18.

Drèze, J.H. and C.R. Bean (eds) (1990), *Europe's Unemployment Problem*, Cambridge, MA: MIT Press.

Drèze, J.H. and E. Malinvaud (1994), 'Growth and employment: the scope of a European initiative', *European Economic Review*, **38**(3–4), 489–504.

Dueker, M.J. and A.M. Fischer (2006), 'Do inflation targeters outperform non-targeters?', *Federal Reserve Bank of St. Louis Review*, **88**(5), 431–50.

Dunlop, J.T. (1950), 'Estimates of unemployment: some unresolved problems', *Review of Economics and Statistics*, **32**(1), 77–9.

Ellwood, D. and E. Welty (2000), 'Public service employment and mandatory work: a policy whose time has come and gone and come again?', in D.E. Card and R.M. Blank (eds), *Finding Jobs: Work and Welfare Reform*, New York: Russell Sage Foundation, 299–372.

Epstein, R.J. (1987), *A History of Economics*, Amsterdam: North-Holland.

Ezekiel, M. (1928), 'Statistical analyses and the "laws" of price', *Quarterly Journal of Economics*, **42**(2), 199–227.

Fair, R.C. (1984), 'Estimated trade-offs between unemployment and inflation', NBER Working Paper Series, 1377.

Fair, R. (2000), 'Testing the NAIRU model for the United States', *Review of Economics and Statistics*, **82**(1), 64–71.

Fetter, F.W. (1964), 'Introduction', in Attwood, Introductory chapter.

Fisher, I. (1926), 'A statistical relationship between unemployment and price changes', *International Labour Review*, **13**(6), 185–92, reprinted in (1973) *Journal of Political Economy*, **81**(2), 496–502.

Fisher, I. (1928), *Money Illusion*, New York: Adelphi.

Fisher, I. (1936), 'Changes in the wholesale price index in relation to factory employment', *Journal of the American Statistical Association*, **31**, 496–506.

Fisher, I. (1973), 'I discovered the Phillips Curve: A statistical relation between unemployment and price changes', *The Journal of Political Economy*, **81**(2), Part 1, 496–502.

Fitoussi, J.P., F. Modigliani, B. Moro, D.J. Snower and R. Solow (1998), 'An economist's manifesto on unemployment in the European Union', *Banco Nazionale del Lavoro Quarterly Review*, **206**, 1–35.

Fitoussi, J.P. and F. Saraceno (2004), 'The Brussels–Frankfurt–Washington Consensus: old and new tradeoffs in economics', *Document de Travail 2004-02*, Observatoire Français des Conjonctures Économiques: Paris.

Forstater, M. (2000), 'Full employment and economic flexibility', in W.F. Mitchell and E. Carlson (eds), *The Path to Full Employment*, Sydney: University of NSW Press, 49–88.

Forstater, M. (2003), 'Public employment and environmental sustainability', *Journal of Post Keynesian Economics*, **25**(3), 385–406.

Franz, W. (1990), *Structural Unemployment*, Heidelberg: Physica.

Freeman, R. (2005), 'Labour market institutions without blinders: the debate over flexibility and labour market performance', *International Economic Journal*, Korean International Economic Association, **19**(2), 129–45.

Friedlander, D., D. Greenberg and P. Robbins (1997), 'Evaluating government training programs for the economically disadvantaged', *Journal of Economic Literature*, **35**(4), 1809–55.

Friedman, M. (ed.) (1956), *Studies in the Quantity Theory of Money*, Chicago, IL: University of Chicago Press.

Friedman, M. (1968), 'The role of monetary policy', *American Economic Review*, **58**, 1–17.

Friedman, M. (1975), 'Unemployment versus inflation', *Institute of Economic Affairs*, lecture no. 2, Occasional Paper 44, London.

Friedman, M. (1977), 'Barro and Grossman: *Money, Employment and Inflation*: book review', *Journal of Political Economy*, **85**, 1087–92.

Friedman, M. (1991), *Monetarist Economics*, Oxford: Blackwell.

Friedman, M. and G. Becker (1957), 'A statistical illusion in judging Keynesian models', *Journal of Political Economy*, **65**, 64–75.

Friedman, M. and D. Meiselman (1963), 'The relative stability of monetary velocity and investment multiplier in the United States 1897–1958', in *Commission on Money and Credit: Stabilization Policies*, Englewood Cliffs, NJ: Prentice-Hall, 165–268.

Friedman, M. and A. Schwartz (1963), *A Monetary History of the United States, 1867–1960*, Princeton, NJ: Princeton University Press.

Fuhrer, J. (1995), 'The persistence of inflation and the cost of disinflation', *New England Economic Review*, **14**, January/February, 3–16.

Fuhrer, J. (2000), 'Habit formation in consumption and its implications for monetary policy models', *American Economic Review*, **90**(3), 367–90.

Fullwiler, S. (2005), 'The job guarantee and economic stability', in G. Wrightson (ed.), *Creating a Culture of Full Employment*, Newcastle, NSW, Australia: Proceedings of the 7th Path to Full Employment/12th National Conference on Unemployment, 1–23.

Galbraith, J.K. (1997), 'Time to ditch the NAIRU', *Journal of Economic Perspectives*, **11**(1), 93–108.

Gali, J. and M. Gertner (1999), 'Inflation dynamics: a structural econometric analysis', *Journal of Monetary Economics*, **44**, 195–222.

Giammarioli, N. and N. Valla (2003), 'The natural real rate of interest in the euro area', ECB Working Paper Series, 233.

Giddens, A. (1998), *The Third Way: The Renewal of Social Democracy*, Cambridge: Cambridge University Press.

Gilbert, C.L. (1976), 'The original Phillips curve estimates', *Economica*, **43**(169), 51–7.

Goetschy, J. (1999), 'The European employment strategy: genesis and development', *European Journal of Industrial Relations*, **5**(2), 117–37.

Goodfriend, M. and R.G. King (1997), 'The new neoclassical synthesis and the role of monetary policy', in *NBER Macroeconomics Annual*, Cambridge, MA: MIT Press, 231–83.

Goodhart, C.A.E. (1977), 'Barro and Grossman: *Money, Employment and Inflation*: book review', *Economica*, **44**, 95–7.

Goodwin, R.M. (1967), 'A growth cycle', in C.H. Feinstein (ed.), *Socialism, Capitalism, and Economic Growth*, Cambridge and New York: Cambridge University Press, 54–8.

Gordon, R.J. (1971), 'Inflation in recession and recovery', *Brookings Papers on Economic Activity*, **2**(1), 105–66.

Gordon, R.J. (1976), 'Recent developments in the theory of inflation and unemployment', *Journal of Monetary Economics*, **2**(2), 185–219.

Gordon, R.J. (1981), *Macroeconomics*, 2nd edn, Boston, MA: Little Brown.

Gordon, R.J. (1997), 'The time-varying NAIRU and its implications for economic policy', *Journal of Economic Perspectives*, **11**(1), 11–32.

Gordon, W. (1997), 'Job assurance – the job guarantee revisited', *Journal of Economic Issues*, **31**(3), 826–34.

Graham, B. (1937), *Storage and Stability*, New York: McGraw-Hill.

Grant, A.P. and L.B. Thomas (1999), 'Inflationary expectations and rationality revisited', *Economics Letters*, **62**(3), 331–8.

Groth, C. (2006), 'Calibrating capital adjustment costs in the new-Keynesian model', *Economics Letters*, **93**(1), 26–30.

Hahn, F. (1980), 'Unemployment from a theoretical viewpoint', *Economica*, **47**, 285–98.

Hall, R.E. (2005), 'Employment fluctuations with equilibrium wage stickiness', *American Economic Review*, **95**(1), 50–65.

Hargreaves Heap, S.P. (1980), 'Choosing the wrong "natural" rate: accelerating inflation or decelerating employment and growth?', *Economic Journal*, **90**, 611–20.

Havrilesky, T. (1977), 'Barro and Grossman: *Money, Employment and Inflation*: book review', *Economic Record*, **53**, 123–5.

Hendry, D.F. (1980), 'Econometrics – alchemy or science?', *Economica*, **47**, 387–406.

Holmlund, B. (1995), 'Edmond Malinvaud: *Diagnosing Unemployment*: book review', *Economica*, **62**, 578–9.

Howitt, P. (1977), 'Barro and Grossman: *Money, Employment and Inflation*: book review', *Journal of Money, Credit and Banking*, **9**(1), 122–7.

Hughes, B. (1980), *Exit Full Employment*, Sydney: Angus & Robertson.

Hume, D. (1955), '*Of Money*' (1752), reprinted in Hume, *Writings on Economics*, edited by Eugene Rotwein, Madison, WI: University of Wisconsin Press.

Humphrey, T.M. (1977), 'Two views of monetary policy: the Attwood–Mill debate revisited', *Federal Reserve Bank of Richmond Economic Review*, **63**, 14–22.

Humphrey, T.M. (1985), 'The early history of the Phillips curve', *Federal Reserve Bank of Richmond Economic Review*, **71**, 17–24.

International Labour Organisation (ILO) (1990), *Surveys of Economically Active Population, Employment, Unemployment and Underemployment: An ILO Manual on Concepts and Methods*, Geneva: ILO.

International Labour Organisation (ILO) (1996/97), *World Employment*, Geneva: ILO.

International Labour Organisation (ILO) (1998), *Report of the Sixteenth Conference of Labour Statisticians*, Geneva: ILO.

International Labour Organisation (ILO) (2004), *Macroeconomic Policy for Growth and Employment*, Committee on Employment and Social Policy, Governing Body 291st session, Geneva: International Labour Office.

International Labour Organisation (ILO) (2006), *Key Indicators of the Labour Market (KILM)*, 4th edn, Geneva: International Labour Office.

Issing, O. (2004), 'Inflation targeting: a view from the ECB', *Federal Reserve Bank of St. Louis Review*, **86**(4), 169–79.

Jamrozik, A. (2001), *Social Policy in the Post-welfare State*, Sydney: Longman.

Jones, M. and G. MacLeod (2002), 'Where's the value in the new regionalism?', presented to the Royal Geographical Society-Institute of British Geographers' Annual Conference, Queen's University, 2–6 January.

Jordan, T.J. (1997), 'Inflation costs, accelerating inflation gains, and central bank independence', *Weltwirtschaftliches Archiv*, **133**(1), 1–21.

Kadmos, G.A. and P. O'Hara (2000), 'The taxes-drive-money and employer of last resort approach to government policy', *Journal of Economic and Social Policy*, **5**, 1–22.

Kalecki, M. (1971a), *Selected Essays on the Dynamics of the Capitalist Economy*, Cambridge: Cambridge University Press.

Kalecki, M. (1971b), 'Political aspects of full employment', in Kalecki (1971a), 138–45.

Keynes, J.M. (1973), *The General Theory of Employment, Interest and Money*, London: Macmillan.

Klein, L. (1985), *Economic Theory and Econometrics*, J. Marquez (ed.), Oxford: Basil Blackwell.

Klein, L.R. and R.J. Ball (1959), 'Some econometrics of the determination of absolute prices and wages', *Economic Journal*, **69**(257), 465–82.

Klein, L.R. and A. Goldberger (1955), *An Econometric Model of the United States, 1929–1952*, Amsterdam: North-Holland.

Lavoie, M. (1985), 'Credit and money: the dynamic circuit, overdraft economics, and post Keynesian economics', in M. Jarsulic (ed.), *Money and Macro Policy*, Boston, MA: Kluwer-Nijhoff, 63–84.

Lavoie, M. (2001), 'Endogenous money in a coherent stock-flow framework', Jerome Levy Economics Institute Working Paper, 325, Bard College, Annandale-on-Hudson, NY.

Lavoie, M. (2006), 'A post-Keynesian amendment to the new consensus on monetary policy', *Metroeconomica*, **57**(2), 165–92.

Layard, R. (1997), 'Preventing long-term unemployment', in J. Phillpott (ed.), *Working for Full Employment*, London: Routledge, 190–203.

Layard, R. (1998), 'Getting people back to work', *CentrePiece*, Autumn, 24–7.

Layard, R. (2005), *Happiness: Lessons from a New Science*, London: Penguin Group.

Layard, R., S. Nickell and R. Jackman (1991), *Unemployment: Macroeconomic Performance and the Labour Market*, 2nd edn 2005, Oxford: Oxford University Press.

Leeson, R. (1996), 'The rise and fall of the Phillips-curve in British policy-making circles', *History of Economics Review*, **25**, 232–48.

Leeson, R. (1997), 'The political economy of the inflation–unemployment trade-off', *History of Political Economy*, **29**(1), 117–56.

Leeson, R. (1998), 'The origins of the Keynesian discomfiture', *Journal of Post-Keynesian Economics*, **20**(4), Summer, 597–619.

Leijonhufvud, A. (1967), 'Keynes and the Keynesians: a suggested interpretation', *American Economic Review*, **57**, 401–11.

Leijonhufvud, A. (1968), *On Keynesian Economics and the Economics of Keynes*, Oxford: Oxford University Press.

Levin, A.T., F.M. Natalucci and J.M. Piger (2004), 'The macroeconomic effects of inflation targeting', *Federal Reserve Bank of St. Louis Review*, **86**(4), 51–80.

Lindbeck, A., P. Molander, T. Persson, O. Peterson, A. Sandmo, B. Swedenborg and N. Thygesen (1993), 'Options for economic and political reform in Sweden', *Economic Policy*, **8**(2), 220–63.

Lindbeck, A. and D.J. Snower (1986), 'Wage setting, unemployment and insider–outsider relations', *American Economic Review*, **76**(2), 235–40.

Lipsey, R.G. (1960), 'The relation between unemployment and the rate of change of money wage rates in the UK 1862–1957: a further analysis', *Economica*, **27**, 1–31.

Lipsey, R.G. (1978), 'The place of the Phillips curve in macroeconomic models', in Bergstrom et al. (eds), 49–75.

Lodewijks, J. (1988), 'Arthur M. Okun: Economics for Policymaking', *Journal of Economic Surveys*, **2**(3), 245–64.

Lucas, R.E. (1978), 'Unemployment policy', *American Economic Review*, **68**(2), 353–7.

Lucas, R.E. (1981), 'Tobin and monetarism: a review article', *Journal of Economic Literature*, **19**, 558–67.

Lucas, R.E. and L. Rapping (1969), 'Real wages, employment and inflation', *Journal of Political Economy*, **77**(5), 721–54.

Lucas, R.E. and T.J. Sargent (1978), 'After Keynesian econometrics', in *After the Phillips Curve: Persistence of High Inflation and High Unemployment*, Conference Series 19, Boston, MA: Federal Reserve Bank of Boston, 49–72.

Maddison, A. (2001), *The World Economy: A Millennial Perspective*, Development Center seminars, Washington, DC: Organisation for Economic Cooperation and Development.

Malinvaud, E. (1977), *Theory of Unemployment Reconsidered*, Oxford: Blackwell.

Malinvaud, E. (1980), *Profitability and Unemployment*, Cambridge: Cambridge University Press.

Malinvaud, E. (1984), *Mass Unemployment*, Oxford: Blackwell.

Malinvaud, E. (1986), as cited in the discussion of C.A. Pissarides (1986), 'Unemployment and vacancies in Britain', *Economic Policy*, **3**, 499–540.

Malinvaud, E. (1994), *Diagnosing Unemployment*, Cambridge and New York: Cambridge University Press.

Marshak, J. (1946), Memorandum to Social Sciences Research Council, 6 February, *Cowles Commission Archives*, Chicago.

Marx, K. (1975), *Theories of Surplus Value*, London: Lawrence & Wishart.

Masson, P., M. Savastano and S. Sharma (1997), 'The scope for inflation targeting in developing countries', Research Department IMF Working Paper, 97/130.

McCombie, J.S.L. (1987–88), 'Keynes and the nature of involuntary unemployment', *Journal of Post Keynesian Economics*, **10**, 202–15.

Mill, J.S. (1964), *Principles of Political Economy: With Some of Their Applications to Social Philosophy*, J. Ashley (ed.), New York: Augustus M. Kelley.

Minford, A.P.L. (1993), 'Review article: has labour market economics achieved a synthesis?', *Economic Journal*, **103**, 1050–56.

Mishkin, F.S. (2000), 'International experiences with different monetary policy regimes', NBER Working Paper 7044.

Mishkin, F.S. and A.S. Posen (1997), 'Inflation targeting: lessons from four countries', NBER Working Paper 6126.

Mishkin, F.S. and J. Simon (1995), 'An empirical examination of the Fisher effect in Australia', *Economic Record*, **71**(214), 217–29.

Mitchell, W.F. (1985), 'Structural imbalance and the macroequilibrium unemployment rate', Bureau of Labour Market Research Seminar Paper, Canberra.

Mitchell, W.F. (1987), 'The NAIRU, structural imbalance and the macro-equilibrium unemployment rate', *Australian Economic Papers*, **26**(48), 101–18.

Mitchell, W.F. (1993), 'Testing for unit roots and persistence in OECD unemployment rates', *Applied Economics*, **25**, 1489–501.

Mitchell, W.F. (1995), 'Econometrics, realism and policy in post Keynesian economics', mimeo, Department of Economics, University of Newcastle, NSW, Australia.

Mitchell, W.F. (1996), 'Inflation and unemployment: a demand story', presented to the European Unemployment Conference, sponsored by the

European Commission, at the European University Institute, Florence, 12–13 April.

Mitchell, W.F. (1998), 'The buffer stock employment model: full employment without a NAIRU', *Journal of Economic Issues*, **32**(2), 547–55.

Mitchell, W.F. (1999), 'The origins of the Phillips curve', Centre of Full Employment and Equity Working Paper, 99-02, Newcastle, NSW, Australia, based on unpublished PhD thesis.

Mitchell, W.F. (2000a), 'The causes of unemployment', in Stephen Bell (ed.), *The Unemployment Crisis: Which Way Out?*, Cambridge and Sydney: Cambridge University Press, 49–87.

Mitchell, W.F. (2000b), 'The job guarantee in a small open economy', *Economic and Labour Relations Review*, **11**, 89–116.

Mitchell, W.F. (2001a), 'The unemployed cannot find jobs that are not there!', in Mitchell and E. Carlson (eds), *Unemployment: The Tip of the Iceberg*, Sydney: CAER/UNSW Press, 85–116.

Mitchell, W.F. (2001b), 'Full employment abandoned – the role of the public sector', in Mitchell and E. Carlson (eds), *Unemployment: The Tip of the Iceberg*, Sydney: CAER/UNSW Press, 193–218.

Mitchell, W.F. (2004), 'Labour underutilisation and regional labour force data estimates', in E. Carlson (ed.), *A Future That Works: Economics, Employment and the Environment*, Newcastle, NSW, Australia, Proceedings of the 6th Path to Full Employment Conference/11th National Conference on Unemployment, 294–311.

Mitchell, W.F. and A. Bill (2004), 'The problem with inflation targeting', Centre of Full Employment and Equity Working Paper Series, 04-04, University of Newcastle, NSW, Australia.

Mitchell, W.F. and A. Bill (2005), 'A spatial econometric analysis of the irreversibility of long term unemployment in Australia', Centre of Full Employment and Equity Working Paper Series, 05-05, University of Newcastle, NSW, Australia.

Mitchell, W.F. and A. Bill (2006), 'Who benefits from growth? Disadvantaged workers in growing regions', *Australian Journal of Labour Economics*, **9**(2), 239–55.

Mitchell, W.F. and J. Juniper (2007), 'Towards a spatial Keynesian macroeconomics', in P. Arestis and G. Zezza (eds), *Advances in Monetary Policy and Macroeconomics*, London: Palgrave Macmillan, 192–211.

Mitchell, W.F. and W. Mosler (2002), 'The imperative of fiscal policy for full employment', *Australian Journal of Labour Economics*, **5**(2), 243–59.

Mitchell, W.F. and W.B. Mosler (2006), 'Understanding the economic fallacies of the intergenerational debate', *Australian Journal of Social Issues*, **41**(2), 159–70.

Mitchell, W.F. and J. Muysken (2002a), 'The Phillips curve, the NAIRU, and unemployment asymmetries', Centre of Full Employment and Equity Working Paper, 02-05, University of Newcastle, NSW, Australia.

Mitchell, W.F. and J. Muysken (2002b), 'Labour market asymmetries and inflation', Centre of Full Employment and Equity Working Paper Series, 02-09, University of Newcastle, NSW, Australia.

Mitchell, W.F. and J. Muysken (2002c), 'Aggregate demand should do the job' in E. Carlson and W.F. Mitchell (eds), *The Urgency of Full Employment*, Sydney: CAER/UNSW Press, 133–58.

Mitchell, W.F. and J. Muysken (2002d), 'Investment asymmetries, inflation and unemployment', in E. Carlson (ed.), *The Path to Full Employment*, Newcastle, NSW, Australia: Proceedings of the 4th Path to Full Employment Conference/9th National Conference on Unemployment, 154–66.

Mitchell, W.F. and J. Muysken (2003), 'Misrepresentation and fudge – the OECD NAIRU consensus', in E. Carlson (ed.), *The Full Employment Imperative*, Newcastle, NSW, Australia: Proceedings of the 5th Path to Full Employment Conference/10th National Conference on Unemployment, 165–82.

Mitchell, W.F. and J. Muysken (2004), 'Involuntary unemployment getting to the heart of the problem', in E. Carlson (ed.), *A Future That Works: Economics, Employment and the Environment*, Newcastle, NSW, Australia: Proceedings of the 6th Path to Full Employment Conference/11th National Conference on Unemployment, 327–39.

Mitchell, W.F. and J. Muysken (2006a), 'Employment is driven by aggregate demand', in G. Wrightson (ed.), *The Constraints to Full Employment*, Newcastle, NSW, Australia: Proceedings of the 8th Path to Full Employment Conference/13th National Conference on Unemployment, 169–90.

Mitchell, W.F. and J. Muysken (2006b), 'The Brussels–Frankfurt consensus: an answer to the wrong question', in Mitchell et al. (eds), 3–31.

Mitchell, W.F., J. Muysken and T. van Veen (2006), *Growth and Cohesion in the European Union: The Impact of Macroeconomic Policy*, Cheltenham, UK and Northampton, MA, USA: Edward Elgar.

Mitchell, W.F. and V. Quirk (2005), 'Skills shortages in Australia: concepts and reality', in G. Wrightson (ed.), *Creating a Culture of Full Employment*, Newcastle, NSW, Australia: Proceedings of the 7th Path to Full Employment Conference/12th National Conference on Unemployment, December, 307–23.

Mitchell, W.F. and L.R. Wray (2005), 'In defense of employer of last resort: a response to Malcolm Sawyer', *Journal of Economic Issues*, **39**(1), 235–45.

Modigliani, F. (2000), 'Europe's economic problems', Carpe Oeconomiam Papers in Economics, 3rd Monetary and Finance Lecture, Freiburg, 6 April.

Mortensen, D.T. and C.A. Pissarides (1994), 'Job creation and job destruction in the theory of unemployment', *Review of Economic Studies*, **61**(3), 397–415.

Moschitz, J. (2004), 'The determinants of the overnight interest rate in the euro area', ECB Working Paper Series, 393.

Mosher, J.S. and D.M. Trubeck (2003), 'Alternative approaches to governance in the EU: EU social policy and the European employment strategy', *Journal of Common Market Studies*, **41**(1), 63–88.

Mosler, W.B. (1997–98), 'Full employment and price stability', *Journal of Post Keynesian Economics*, **20**(2), 167–82.

Mosler, W.B. and M. Forstater (1999), 'A general framework for the analysis of currencies and commodities', in P. Davidson and J. Kregel (eds), *Full Employment and Price Stability in a Global Economy*, Cheltenham, UK and Northampton, MA, USA: Edward Elgar, 166–77.

Muysken, J., T. van Veen and E. de Regt (1999), 'Does a shift in the tax burden create employment?', *Applied Economics*, **31**(10), 1195–205.

Naastepad, C.W.M. and A. Kleinknecht (2004), 'The Dutch productivity slowdown: the culprit at last?', *Structural Change and Economic Dynamics*, **15**(2), 137–64.

Neely, C.J. and C. Waller (1997), 'A benefit cost analysis of disinflation', *Contemporary Economic Policy*, Vol xv, January, 50–64.

Nelson, C.R. (1981), 'Adjustment lags versus information lags: a test of alternative explanations of the Phillips curve phenomenon', *Journal of Money, Credit and Banking*, **13**, 1–11.

Nelson, C.R. and C.I. Plosser (1982), 'Trends and random walks in macroeconomic time series: some evidence and implications', *Journal of Monetary Economics*, **10**(2), 139–62.

Nickell, S. and G. Quintini (2001), 'The recent performance of the UK labour market', talk given to Economics Section of the British Association for the Advancement of Science, Glasgow, September.

Nickell, S.J. and J.C. van Ours (2000), 'Falling unemployment: the Dutch and British cases', *Economic Policy*, **30**, 137–80.

Noaksson, N. and K. Jacobsson (2003), 'The production of ideas and expert knowledge', in OECD, *The OECD jobs strategy in contrast with the EU employment strategy*, SCORE Report, 2003:7.

Nugent, T.E. (2003), 'The budget deficit/the budget surplus: the real story', www.mosler.org/docs/docs/budget_deficit_real_story.htm, accessed 18 August 2007.

O'Brien, D.P. (1975), *The Classical Economists*, Oxford: Clarendon.

OECD (1994), *The OECD Jobs Study: Facts, Analysis, Strategies*, Paris: Organisation for Economic Cooperation and Development.

OECD (2001), *Innovations in Labour Market Policies, the Australian Way*, Paris: Organisation for Economic Cooperation and Development.

OECD (2004), *Employment Outlook*, Paris: Organisation for Economic Cooperation and Development.

OECD (2006), *Employment Outlook: Boosting Jobs and Incomes*, Paris: Organisation for Economic Cooperation and Development.

Okun, A.M. (1973), 'Upward mobility in a high-pressure economy', *Brookings Papers on Economic Activity*, **1**, 207–52.

Okun, A.M. (1981), *Prices and Quantities: A Macroeconomic Analysis*, Oxford: Basil Blackwell.

Ormerod, P. (1994), *The Death of Economics*, London: Faber & Faber.

Osterman, P. (2001), 'Flexibility and commitment in the United States labour market', International Labour Office Employment Paper, 2001/18.

Paloviita, M. (2006), 'Inflation dynamics in the euro area and the role of expectations', *Empirical Economics*, **31**, 847–60.

Panić, M. (2006), 'Does Europe need neoliberal reforms?', *Cambridge Journal of Economics*, **31**, 145–69.

Patinkin, D. (1956), *Money, Interest, and Prices: An Integration of Monetary and Value Theory*, New York: Row Peterson.

Patinkin, D. (1976), 'Keynes and econometrics: on the interaction between the macroeconomic revolutions of the interwar period', *Econometrica*, **44**(6), 1091–123.

Peck, J. (2001), *Workfare State*, New York: Guilford.

Pesaran, M.H. and R. Smith (1985), 'Keynes on econometrics', in T. Lawson and M.H. Pesaran (eds), *Keynes' econometrics: Methodological Issues*, London: Croom Helm, 134–50.

Petrongolo, B. and C.A. Pissarides (2001), 'Looking into the black box: a survey of the matching function', *Journal of Economic Literature*, **39**(2), 390–431.

Phelps, E.S. (1967), 'Phillips curves, expectations of inflation and optimal unemployment over time', *Economica*, **34**, 254–81.

Phelps, E.S. (1968a), 'Phillips curves, expectations of inflation and optimal unemployment over time: reply', *Economica*, **35**(139), 288–96.

Phelps, E.S. (1968b), 'Money-wage dynamics and labour market equilibrium', *Journal of Political Economy*, **76**, 678–711.

Phelps, E.S. (1970), 'Introduction: the new microeconomics in employment and inflation theory', in Phelps (ed.), *Microeconomic Foundations of Employment and Inflation Theory*, New York: Norton, 1–23.

Phelps, E.S. (1972), *Inflation Policy and Unemployment Theory*, London: Macmillan.

Phelps, E.S. (1979), *Studies in Macroeconomic Theory: Employment and Inflation (Economics, Vol. 1)*, New York: Academic Press.

Phelps, E.S. (1990), *Seven Schools of Macroeconomic Thought*, Oxford: Oxford University Press.

Phelps, E.S. (1994), *Structural Slumps: The Modern Equilibrium Theory of Unemployment, Interest, and Assets*, Cambridge, MA and London: Harvard University Press.

Phelps, E.S. (1997), *Rewarding Work: How to Restore Participation and Self-support to Free Enterprise*, Cambridge, MA and London: Harvard University Press.

Phelps, E.S. and G. Zoega (1998), 'Natural-rate theory and OECD unemployment', *Economic Journal*, **108**(448), 782–801.

Phillips, A.W. (1954), 'Stabilization policy in a closed economy', *Economic Journal*, **64**(254), 290–323.

Phillips, A.W. (1956), 'Some notes on the estimation of time-forms of reactions in interdependent systems', *Economica*, **23**, 99–113.

Phillips, A.W. (1957), 'Stabilization policy and the time-form of lagged responses', *Economic Journal*, **67**(266), 265–77.

Phillips, A.W. (1958), 'The relation between unemployment and the rate of change of money wage rates in the United Kingdom, 1861–1957', *Economica*, **45**, 283–99.

Pigou, A.C. (1933), *The Theory of Unemployment*, London: Macmillan.

Piore, M.J. (1979), *Unemployment and Inflation, Institutionalist and Structuralist Views*, White Plains, NY: M.E. Sharpe.

Pissarides, C.A. (2000), *Equilibrium Unemployment Theory*, 2nd edn, Cambridge, MA: MIT Press.

Pocock, B., J. Buchanan and I. Campbell (2004), *Securing Quality Employment: Policy Options for Casual and Part-time Workers in Australia*, Canberra: Chifley Research Centre.

Productivity Commission (2002), 'Independent review of the job network', Inquiry Report, 21, September, Melbourne, Australia.

Quirk, V. (2003), 'The problem of a full employment economy, in E.A. Carlson (ed.), *The Full Employment Imperative*, Newcastle, NSW, Australia: Proceedings of the 5th Path to Full Employment Conference/10th National Conference on Unemployment, 209–22.

Ramsay, A. (2002–03), 'The jobs guarantee: a post Keynesian analysis', *Journal of Post Keynesian Economics*, **25**(2), 273–91.

Robbins, L. (1932), *An Essay on the Nature and Significance of Economic Science*, London: Macmillan.

Roger, S. and M.R. Stone (2005), 'On target? The international experience with achieving inflation targets', IMF Working Paper 05-163.

Romer, D. (1989), 'Comment', *Brookings Papers on Economic Activity*, **2**, 117–25.

Rowthorn, R.E. (1977), 'Conflict, inflation and money', *Cambridge Journal of Economics*, **1**, 215–39.

Rowthorn, R.E. (1980), *Capitalism, Conflict and Inflation*, London: Lawrence & Wishart.

Rowthorn, R.E. (1999), 'Unemployment, wage bargaining and capital–labour substitution', *Cambridge Journal of Economics*, **23**(4), 413–26.

Rudd, J. and K. Whelan (2005), 'Modelling inflation dynamics: a critical review of recent research', *FEDS Working Paper* 2005-66, Washington, DC.

Samuelson, P.A. and R.M. Solow (1960), 'Problem of achieving and maintaining a stable price level: analytical aspects of anti-inflation policy', *American Economic Review*, **50**, 177–94.

Santomero, A.M. and J.J. Seater (1978), 'The inflation–unemployment trade-off: a critique of the literature', *Journal of Economic Literature*, **16**, 499–544.

Sapir, A. (2003), *An Agenda for a Growing Europe: Making the EU Economic System Deliver*, Report of an independent high-level study group established on the initiative of the President of the European Commission, Brussels.

Sargent, T. (1983), 'Stopping moderate inflations: the methods of Poincaré and Thatcher', in R. Dornbusch and M. Simonsen (eds), *Inflation, Debt and Indexation*, Cambridge, MA: MIT Press, 54–96.

Sattinger, M. (1993), 'Assignment models of the distribution of earnings', *Journal of Economic Literature*, **31**(2), 831–80.

Sawyer, M.C. (1989), 'The political economy of the Phillips curve', in P. Arestis and Y. Kitromilides (eds), *Theory and Policy in Political Economy*, Aldershot, UK: Edward Elgar, 100–129.

Sawyer, M. (2002), 'The NAIRU, aggregate demand and investment', *Metroeconomica*, **53**(1), 66–94.

Sawyer, M. (2003), 'Employer of last resort: could it deliver full employment and price stability?', *Journal of Economic Issues*, **39**, 881–907.

Sawyer, M. (2005), 'Employer of last resort: a response to my critics', *Journal of Economic Issues*, **39**, 256–64.

Saxton, J. (1997), 'Lessons from inflation targeting experience', A Joint Economic Committee Report, United States Congress, www.house.gov/jec/fed/fed/lessons.htm, accessed 18 August 2007.

Schultz, H. (1928), *The Theory and Measurement of Demand*, Chicago, IL: University of Chicago Press.

Seccareccia, M. (1999), 'What type of full employment: a critical evaluation of ELR policy proposal', Paper presented at the CEA–PEF meeting at the University of Toronto, 30 May.

Shimer, R. (2005), 'The cyclical behaviour of equilibrium unemployment and vacancies', *American Economic Review*, **95**(1), 25–49.

Shove, G.F. (1942), 'The place of Marshall's "Principles" in the development of economic theory', *Economic Journal*, **52**, 294–329.

Siegel, R.L. (1994), *Employment and Human Rights: The International Dimension*, Philadelphia, PA: University of Pennsylvania Press.

Siklos, P.L. (2004), 'Central bank behaviour, the institutional framework, and policy regimes: inflation versus noninflation targeting countries', *Contemporary Economic Policy*, **22**(3), 331–43.

Skidelsky, R. (1977), *The End of the Keynesian Era*, London: Palgrave Macmillan.

Smets, F. and R. Wouters (2002), 'An estimated stochastic dynamic general equilibrium model of the euro area', ECB Working Paper Series, 171.

Solans, E.D. (2000), 'How should monetary policymakers respond to the new challenges of global economic integration?', presented at *Symposium Global Economic Integration: Opportunities and Challenges*, sponsored by the Federal Reserve Bank of Kansas City, Jackson Hole, Wyoming, 24–26 August.

Solow, R.M. (1980), 'On theories of unemployment', *American Economic Review*, **70**(1), 1–11.

Solow, R.M. (1981), 'E. Malinvaud: *Profitability and Unemployment*: book review', *Journal of Economic Literature*, **19**, 572–3.

Solow, R.M. (1997), 'Irving Fisher in retrospect: one little piece of Irving Fisher', *American Economic Review, Papers and Proceedings*, **87**(2), 433–5.

Solow, R.M. (1998), *Work and Welfare*, Princeton, NJ: Princeton University Press.

Solow, R.M. and J.B. Taylor (1999), *Inflation, Unemployment, and Monetary Policy*, Cambridge, MA: MIT Press.

Stanley, T.D. (2004), 'Does unemployment hysteresis falsify the natural rate hypothesis? A meta-regression analysis', *Journal of Economic Surveys*, **18**(4), 589–612.

Statistics Canada (1998), *Permanent Layoffs, Quits and Hirings in the Canadian Economy 1978–1995*, Ottawa: Minister of Industry, Catalogue no. 71-539-XIB.

Stegman, A. and T. Stegman (2004), 'Labour market reform and the macroeconomic efficiency of the labour market in Australia', *Cambridge Journal of Economics*, **28**, 743–66.

Stiglitz, J.E. (1997), 'Reflections on the natural rate hypothesis', *Journal of Economic Perspectives*, **11**(1), 3–10.

Stiglitz, J.E. (2002), *Globalization and Its Discontents*, London: Penguin Group.

Stone, R.M. (1978), 'Keynes, political arithmetic and econometrics', *Proceedings of the British Academy*, **64**, 55–92.

Sultan, P. (1957), *Labor Economics*, New York: Henry Holt.

Svensson, L. (1997), 'Inflation forecast targeting: implementing and monitoring inflation targets', *European Economic Review*, **41**, 1111–46.

Taylor, J. (1979), 'Staggered wage setting in a macro model', *American Economic Review*, **69**(2), 108–13.

Tcherneva, P. and L.R. Wray (2005), 'Is *Jefes de Hogar* an employer of last resort program? An assessment of Argentina's ability to deliver the promise of full employment and price stability', Center for Full Employment and Price Stability Working Paper 43, University of Missouri, Kansas City.

Thaler, R.H. (1997), 'Irving Fisher: modern behavioral economist', *American Economic Review, Paper and Procedings*, **87**(2), 439–41.

Thirlwall, A.P. (1972), 'The Phillips curve: an historical note', *Economica*, **33**, 325.

Thornton, H. (1939), *An Enquiry into the Nature and Effects of the Paper Credit of Great Britain* (1802), F.A. Hayek (ed.), New York: Rinehart & Company.

Thurow, L. (1976), *Generating Inequality*, New York: Basic Books.

Thurow, L.C. (1983), *Dangerous Currents: The State of Economics*, Oxford: Oxford University Press.

Timmins, N. (1995), *The Five Giants: A Biography of the Welfare State*, London: Harper Collins.

Tinbergen, J. (1936), 'An economic policy for 1936', reprinted in L.H. Klaassen, L.M. Koyck and H.J. Wittteveen (eds) (1959), *Jan Tinbergen: Selected Papers*, Amsterdam: North-Holland, 37–84.

Tinbergen, J. (1939), *Statistical Testing of Business Cycle Theories* (two volumes), Geneva: League of Nations.

Tinbergen, J. (1951), *Business Cycles in the United Kingdom, 1870–1914*, Amsterdam: North-Holland.

Tobin, J. (1972), 'Inflation and unemployment', *American Economic Review*, **62**(1), 1–18.

Tobin, J. (1980), 'Stabilization policy ten years after', *Brookings Papers on Economic Activity*, Tenth Anniversary Issue, **1**, 19–89.

Tobin, J. (1996), 'Edmond Malinvaud: *Diagnosing Unemployment*: book review', *Journal of Evolutionary Economics*, **6**, 325–33.

Ungar, M. and B.-Z. Zilberfarb (1993), 'Inflation and its unpredictability: theory and empirical evidence', *Journal of Money, Credit, and Banking*, **25**(4), 709–20.

van der Ploeg, F. (2005), 'Back to Keynes?', *CESifo Economic Studies*, **51**(4), 777–822.

Vickrey, W. (1993), 'Today's task for economists', *Challenge*, **36**(2), 4–14.

Wall, H.J. and G. Zoega (2002), 'The British Beveridge curve: a tale of ten regions', *Oxford Bulletin of Economics and Statistics*, **66**(3), 257–67.

Walsh, C.E. (2003), *Monetary Theory and Policy*, 2nd edn, Cambridge, MA: MIT Press.

Walsh, C.E. (2005), 'Endogenous objectives and the evaluation of targeting rules for monetary policy', *Journal of Monetary Economics*, **52**, 889–911.

Wang, P. and Y. Wen (2005), 'Another look at sticky prices and output persistence', Federal Reserve Bank of St. Louis Working Paper 2005-051.

Watt, A. (2004), 'Reform of the European employment strategy after five years: a change of course or merely of presentation?', *European Journal of Industrial Relations*, **10**(2), 117–37.

Watts, M.J. and W.F. Mitchell (1991), 'Inflation dynamics in the presence of hysteresis', mimeo, Department of Economics, University of Newcastle, NSW, Australia.

Watts, M.J. and W.F. Mitchell (2000), 'The costs of unemployment', *Economic and Labour Relations Review*, **11**(2), 180–97.

Webster, D. (2005), 'Long term unemployment, the invention of "hysteresis" and the misdiagnosis of structural unemployment in the UK', *Cambridge Journal of Economics*, **29**(6), 975–95.

Weintraub, S. (1958), *An Approach to the Theory of Income Distribution*, Philadelphia, PA: Chilton.

Welters, R. and J. Muysken (2006), 'Employer search and employment subsidies', *Applied Economics*, **38**(12), 1435–48.

Woodford, M. (2000), 'Monetary policy in a world without money', *International Finance*, **3**, 229–60.

Woodford, M. (2003), *Interest and Prices: Foundations of a Theory of Monetary Policy*, Princeton, NJ: Princeton University Press.

Woodford, M. (2006), 'How important is money in the conduct of monetary policy?', Department of Economics Working Paper 1104, Queen's University, Kingston, Canada.

Wray, L.R. (1998), *Understanding Modern Money: The Key to Full Employment and Price Stability*, Cheltenham, UK and Lyme, USA: Edward Elgar.

Zhang, L. (2005), 'Sacrifice ratios with long-lived effects', *International Finance*, **8**(2), 231–62.