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# 1

## Introduction: The Unsolved Unemployment–Inflation Puzzle

How do wage bargainers and central banks jointly influence output, employment and inflation? This question has – with varying focal points – been a topic for economists and political scientists for decades. Yet, while the answers have changed over time, the question is far from being solved and disagreement among academics persists.

In the 1960s, it was widely agreed that aggregate demand management through monetary and fiscal policy should be used to keep unemployment low. After the breakdown of the Keynesian revolution in the early 1970s and the emergence of the problem of stagflation – the simultaneous rise in inflation and unemployment – the focus shifted. In the new consensus, it was wage setters who were responsible for setting wages in such a way that full employment could be reached. The central bank was given sole responsibility for keeping prices stable. Cracks in the consensus of the 1980s and early 1990s have now begun to appear and a shift towards an interactionary approach to wage bargaining and monetary policy institutions seems to be underway. However, from a policy perspective, the basic question is as pressing today as it was twenty-five years ago: what causes unemployment and inflation, and what can be done about it? While inflation, the main problem in the 1970s, is now well under control in the industrialised world, unemployment remains a huge challenge.

Moreover, much of what economists concluded from their theoretical models could not be confirmed by the complex economic working of the real world. The Phillips-curve trade-off between inflation and unemployment, once thought to be stable, disappeared when the attempt was made to exploit it in economic policy. The permanent increase in unemployment in Europe during times of disinflation cast doubt on the idea that inflation had no benefits and disinflation could come at no costs, as expressed in Grilli, Masciandaro and Tabellini (1991).

In addition, some other real-world phenomena also could not be explained sufficiently by the mainstream models. After inflation had been brought under control, some countries experienced high economic growth and were able to reduce unemployment significantly, while others did rather poorly. This is true if one compares the USA and Europe, which arguably have experienced different monetary policy stances since 1990. However, this observation is also true within the European Monetary Union (EMU) and the preceding European Monetary System (EMS), arrangements which brought rather similar monetary conditions to countries with different institutional structures: some countries did especially well after going into EMS and EMU (especially smaller countries such as the Netherlands and Ireland, but also the southern European countries Spain and Portugal), while others did comparably worse than the times before EMS and EMU (e.g. Germany).

What might be the most pressing problem, however, is not the divergence of unemployment within EMU, but the high overall level of unemployment, leading back to the question of what role monetary policy can play in improving the level of employment and output, and which part of this task is the wage bargainers' responsibility.

This book will provide a possible answer to that question. By linking (post-)Keynesian considerations about endogenous money with modern supply-side models of monopolistic competition in the goods market, it shows that the classical dichotomy between the real and monetary sectors, as well as the notion that wage bargainers are responsible for unemployment, both hinge on some dubious assumption of orthodox economic theory: namely, the notion that money is net wealth to the private sector and that the money stock is exogenously set. When relaxing these assumptions, it is wage bargainers, together with the central bank, who have responsibility for output, employment and inflation. While unions and employers influence the supply-side price level with their wage contracts, the central bank can influence demand, which translates into demand prices and aggregate output and employment.

## **1.1 The macroeconomic consensus after the end of the Keynesian revolution**

For some twenty-five years after the breakdown of the 'Keynesian revolution', there has been a wide consensus among macroeconomists about the way the economy works. While the 'old Keynesians' had proclaimed up until the mid-1970s that there was an exploitable trade-off

between unemployment and inflation (the modified Phillips-curve),<sup>1</sup> The followers of Lucas' rational expectation revolution insisted on a strict dichotomy between the real and the monetary sector: according to their view (which quickly found its way into economic textbooks), in the medium and long run, unemployment could not be influenced by macroeconomic policy decisions.<sup>2</sup>

According to Lucas' followers' dominant view, employment and real wages are solely determined in the labour market. Firms hire workers until the market real wage equals the workers' marginal productivity. At the same time, workers provide labour until their marginal disutility from working equals their marginal utility from the real wage paid. As long as the labour market is free of any institutional features that keep wages from adjusting, equilibrium will be attained. All remaining unemployment is voluntary. Aggregate output is thus determined by the agents' decisions to work.

Monetary policy in this setting consists of providing the economy with an exogenously set money supply. If the money stock grows faster than output, inflation occurs. Only unexpected changes in the money supply might have any real consequences. However, since rational agents expect any systematic attempt to inflate the economy in order to push down unemployment, this does not leave any scope for macroeconomic policy to influence unemployment in the medium or long run. Consequently, all a central bank should do is maintain a low and stable inflation; unemployment and growth are not its concern. Moreover, as politicians might be inclined to inflate in order to reap short-term gains from a temporarily lower rate of unemployment, control over monetary policy should be given to some independent central bank, preferably headed by a central banker who has a strong distaste for inflation (Rogoff 1985). Since economic agents rationally anticipate the anti-inflationary stance of such an independent central bank, they adjust their inflation expectations to lower rates of inflation. Their real decisions remain unaffected. Reducing inflation thus comes without any real costs; an independent central bank just yields more macroeconomic stability as a quasi-'free lunch' (Grilli, Masciandaro, and Tabellini 1991).

Since unemployment is thus a labour market problem, the policy conclusions for this area are, in Calmfors words (1998, p. 141):

[E]quilibrium unemployment is determined mainly by the institutions in the labour market and . . . it can be reduced by well-designed labour-market reform.

Such reforms would include lowering the level and duration of unemployment benefits so that people have a higher incentive to increase their labour supply. Further, changes to the legal framework for wage setting with the aim of decreasing unions' bargaining power are advised, as unions could then no longer push for real wages too high for full employment.

The level of unemployment which grinds on at a given level of labour market rigidities is also called the NAIRU (the non-accelerating inflation rate of unemployment), as any attempt to increase employment beyond this point would accelerate inflation. The NAIRU has also often been dubbed as the part of unemployment which is 'structural'. It has also become a guideline for practical monetary policy, with central bankers becoming cautious as soon as actual employment approaches the estimated NAIRU.<sup>3</sup>

## 1.2 Empirical experience: challenging the consensus

Some economists have recently grown more and more uncomfortable with the consensus view of the world, as empirical experience seems to be out of line with what theory predicts. First, disinflation does not appear to be a 'free lunch' at all: during the first period of disinflation at the beginning of the 1980s, unemployment exploded in both Europe and in the USA. It took the USA almost a decade before unemployment was again reduced to the 1979 level. Europe never really recovered from this first strong rise in unemployment. The second period of restrictive monetary policy and disinflating in Germany in the early 1990s (which the other EMS countries had to follow) caused similar casualties: European unemployment rose above 10 per cent for several years.

But monetary policy also seems to play a role in the opposite direction. US monetary policy has often been credited with the longest peace-time expansion of the economy, which occurred in the 1990s. During this episode, unemployment fell well below 6.5 per cent, the level which had long been believed to be the US NAIRU – without igniting inflation (Solow 2000a, p. 157). Though, of course, only time will tell what consequences the bursting of the internet stock market bubble will hold for the US economy, this experience nevertheless remains remarkable and is not captured in the standard models.

Europe also experienced a monetary expansion, though a sadly short-lived one, at the end of the 1990s. The beginning of EMU brought all of Europe lower interest rates: first, in the Southern

European countries such as Italy, Spain and Portugal, nominal interest rates converged to the traditional low German level. Second, monetary policy switched to an expansionary stance. The European Central Bank (ECB) not only orchestrated a cut in the interest rates of all national central banks that were to become members of the euro-zone just prior to the beginning of EMU in late 1998, but also lowered interest rates again in early 1999. During the ensuing two years, growth in the euro-zone picked up and unemployment declined, in some cases, as in Spain, dramatically.

These developments came about at a time when labour market institutions remained unaltered. While union power was diminished in the USA during the Reagan years (1980–8), the late 1990s did not bring much change. That labour market institutions have played a role in the evolution of unemployment also seems highly dubious for Europe (Figure 1.1). True, at the beginning of the twenty-first century, labour markets in Europe are tightly regulated. Unemployment benefits are relatively high and centralised bargaining with strong unions is common. The European unemployment rate is well above that of the USA, where unemployment insurance indemnity periods

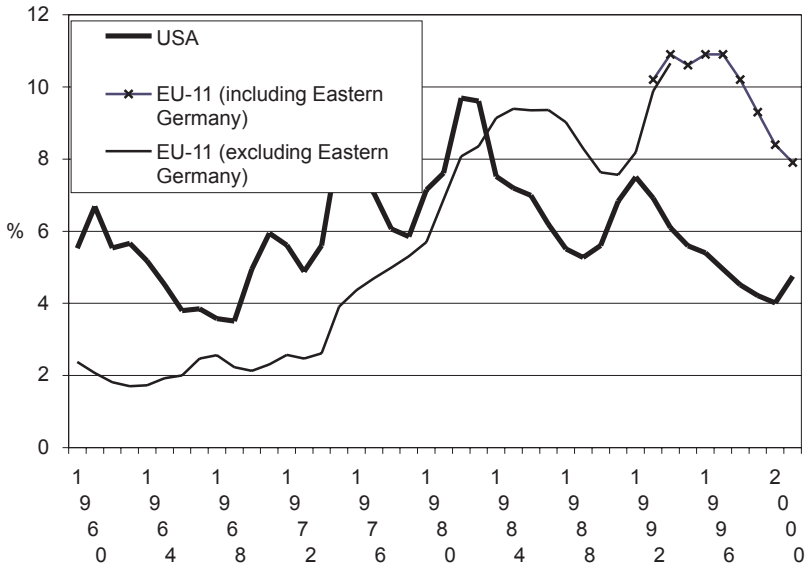


Figure 1.1 Unemployment in the USA and the euro-zone, 1960–2000

Source: European Commission (2002).

and payments are well below European standards, centralised wage contracts are hardly heard of and labour markets are said to be close to a perfect market. However, most of the European labour market institutions have been in place since the 1960s or early 1970s, but unemployment increased sharply only in the late 1970s–early 1980s and again in the early 1990s. Furthermore, European labour market regulations became increasingly more ‘employment-friendly’ from the mid-1970s (Blanchard and Wolfers 2000, p. C16), while unemployment in Europe continued to rise. Blanchard and Wolfers’ (2000, Table 8) and Freyssonet’s (2000, Table 7) indices for employment protection nicely demonstrate this fact: while employment protection strongly increased in Europe until the mid-1970s, a general downward trend can be observed since. As Solow (2000b, p. 5) notes, the timing of changes in labour market institutions and observed increases in unemployment seems to be wrong. Instead, some economists claim that there is ample evidence that macroeconomic factors played a crucial role (e.g. Fitoussi and Passet 2000).

The labour market developments which cannot be related to actual changes in labour market institutions nevertheless show up in the NAIRU estimates from the OECD (2000a) (see Figure 1.2). ‘Structural’ unemployment rose in most of Europe until the mid-1990s and began to fall from then on. The sharp fall in the Spanish NAIRU is particularly remarkable. The USA experienced a falling NAIRU during most of the 1990s expansion; if one includes the years 2000 and 2001 in the estimation period, a further fall should show up in the NAIRU, since US unemployment continued to fall in 2000 without inflationary pressure emerging.

### **1.3 Interaction between monetary policy and wage bargaining**

Even in the 1970s–1990s, Keynesianism was never quite dead. Some voices remained which claimed that there was such a thing as a persistent problem of lack of aggregate demand and that this lack of demand was at the root of high European unemployment (Riese 1995; Modigliani 1997; Betz 2001b; Collignon 2002a). Many of those Keynesian authors claimed that lower interest rates could help to get to a higher employment solution.<sup>4</sup> And they agreed on the necessity that wage developments should remain in line with increases in labour productivity. Collignon (2002a) even draws the connection between the NAIRU and monetary policy. In his model, it is the capital stock which limits inflation-free employment growth. Lower interest rates with

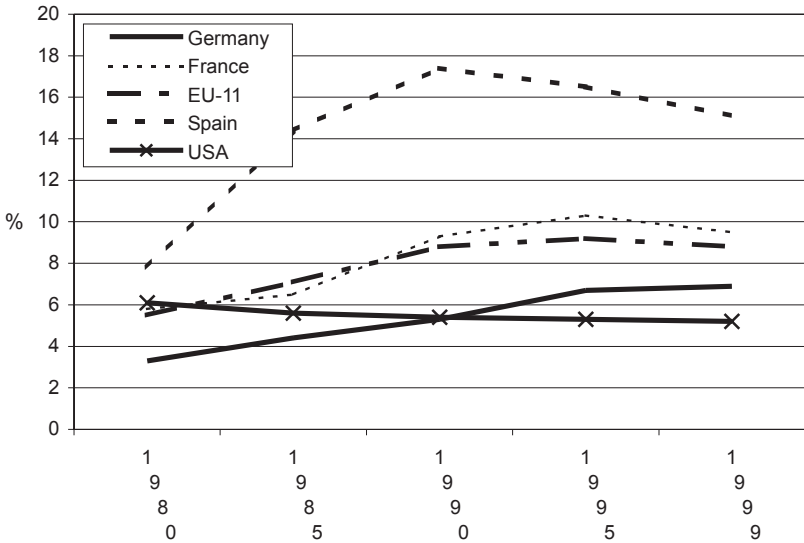


Figure 1.2 NAIUR estimates from the OECD, 1980–99  
 Source: OECD, *Economic Outlook* (2000a).

stable wages would lead to an investment boom, which could change the capital stock and thus help to shift the NAIUR downwards.

But the unease with the results from standard economic theory was not limited to economists of Keynesian origin, who had long disliked some of the extreme conclusions from Lucas' rational expectations revolution. As neither labour market institutions nor monetary policy seemed to live up to what standard theory had claimed, even economists not necessarily of a Keynesian background began to look for a way out. As the stagflation experience of the 1970s prevented them from returning to the simple Philips-curve Keynesianism of the 1960s and 1970s, they began to focus on the interaction of monetary policy and labour market institutions. And as one of the key features of the US expansion of the 1990s was that wage and consequently unit labour cost pressure remained low over most of the decade, the focus shifted to the question of how wages were determined. A wave of contributions following Hall and Franzese (1998) thus linked the theory of central bank independence and recent macroeconomic models with contributions which aimed at showing an influence of wage bargaining structures on macroeconomic outcomes.

To put it in a nutshell, these new contributions state that money is not neutral in the long run. As the central banks' behaviour or setup is anticipated by strategically acting economic actors, changes in monetary policy rules can change the private actors' behaviour in real terms. This change of behaviour then translates into changes in employment. Depending on the setup of the labour market – notably the number of bargaining unions and the substitutability of different types of labour – these effects vary.

This book is about these new developments in macroeconomics. But it is intended to be more than a mere survey; it also tries to ask what conclusions can be drawn from this new strand of literature for the real-world interaction of unions, employers and the central bank in EMU. To this end, this book questions some assumptions standard not only to the new interaction literature but also to textbook macroeconomic models which make their conclusions' practical relevance highly questionable. Then, linking the new literature on interaction of monetary policy and wage contracts with Keynesian considerations such as those from Riese (1995) or Collignon (2002a), it offers a new possible explanation for how the macroeconomy may work.

The book is organized as follows: Chapter 2 surveys the recent literature on interaction between monetary policy and wage bargaining. It then tries to judge which of the models are the most plausible, and contrasts their conclusions with the real-world experience of some selected European countries. Even the most plausible models do not seem able to explain the developments in all the country cases examined. Moreover, the quality of a fit between theory and empirics seems to vary with the size of the country in question: developments in small countries appear to be explained far better than those in large countries. While Soskice and Iversen (2000) and Coricelli, Cukierman and Dalmazzo (2000) (hereafter, SICCD) present a model in which falling nominal wages lead to increased aggregate demand and employment, this mechanism can be found to work only in Ireland and the Netherlands. For Germany, France, or EMU as a whole, wage deflation does not seem to bring any positive effects.

Chapter 3 then provides a possible explanation for why the models do not work for large economies. It is claimed that the heart of the problem lies with the assumption of a real balance effect. If the money supply is endogenously determined and money is not net wealth for the private sector, as can be well argued for the euro-zone, a real balance effect cannot be at work. Chapter 4 then develops *how* monetary policy can influence aggregate demand in a world without

real balances, by influencing the relevant interest rates via changes of the short-term interest rate instrument. Chapter 5 then presents a macro-model of monopolistic competition without building on the real balance effect. It is shown that, in such a world, changes in the nominal wage level do not change aggregate demand or aggregate employment. Instead, monetary policy plays a central role in managing aggregate demand, while nominal wages play a key role in determining the price level.

While it is found that changes in the short-term interest rate can indeed influence aggregate demand, Chapter 6 qualifies this conclusion. It shows that in a world of endogenous money it is the holding of monetary assets which finances the macroeconomic capital stock. If the central bank does not want private investors to dump domestic monetary assets from their portfolios, it is constrained by financial markets to keep prices relatively stable. Thus as Riese (1995) puts it: the central bank has to act as a market participant. However, its degree of market power varies with the openness and size of the currency area it controls. A large central bank such as the ECB is found to have some discretion; but as nominal wages are central to price stability, the degree of this discretion is also limited by the unions' behaviour.

Chapter 7 finally returns to the question of how wage bargainers and the central bank interact. As stable (but not falling) nominal wages are a necessary, albeit not sufficient condition, for higher aggregate demand, it is only central bank and wage bargainers *together* who can guarantee stable prices *and* expanding output. A policy mix to yield optimal employment and inflation outcomes would combine stability-oriented wage demands with a monetary policy which is as expansionary as possible, given the constraints from financial markets. This final chapter further examines within a game-theoretic approach why this optimal policy mix is not necessarily reached: coordination problems, a failure to cooperate between European wage bargainers and the central bank as well as a central banker who is overly conservative and risk averse are proposed as possible explanations. It is concluded that in principle a social pact between unions, employers and the central bank could solve these problems, but that the European Macroeconomic Dialogue as initiated by the European Council at the Cologne Summit in 1999 lacks both the setup and the public acceptance to meet these ends.

Two strands are thus interwoven in this book, both of which are necessary to understand what is going on in EMU between wage bargainers and the central bank, but which might be of varying interest to

different groups of readers. One strand is the narrow theory of interaction between monetary policy and wage bargainers, the other is the theoretical justification of the macroeconomic foundations used. The book is organised in a way that even those interested primarily in only one strand can read it and skip the other chapters. Those with a primarily political economic concern can read chapters 2, 5 and 7, those primarily interested in a theory of the macroeconomic mechanics of a system without exogenous outside money can read chapters 3, 4, 5 and 6. A reader with an interest in both strands should – of course – read the whole book.

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