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NAIRU and the Structural Unemployment Policy Trap

Abstract

For the last twenty years the theory of the natural rate has dominated macroeconomic policy making. Attention has predominantly focused on its implications for the inflation - unemployment trade-off. However, another implication concerns the possibility that policy makers may get caught in a structural unemployment policy trap. Natural rate theory decomposes unemployment into structural and cyclical components, and it is claimed that the structural component predominates. As a result, counter-cyclical macroeconomic policy is diminished, and policy makers are led to focus on policies of labor market flexibility. This policy stance results in permanently higher aggregate unemployment, and promotes the remaking of labor markets in a fashion that increases worker economic insecurity and lowers wages. Moreover, to the extent that monetary authorities adopt a pre-emptive approach to inflation, they risk making high structural unemployment self-fulfilling. This is because they slow the economy whenever it approaches their point estimate of the natural rate, thereby making that point estimate self-fulfilling.

Keywords: Natural rate, structural unemployment, structural unemployment policy trap.

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NAIRU and the elevation of labor market flexibility

In an often quoted passage in The General Theory, Keynes (1936) wrote how the ideas of economists and political philosophers imperceptibly guide the actions of men of affairs:

"..the ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else. Practical men, who believe themselves to be quite exempt from intellectual influences, are usually the slave of some defunct economist (p.383)."
Nowhere is this claim more true than in the making of macroeconomic policy, which for the last twenty years has been dominated by the theory of the natural rate of unemployment (alias NAIRU or Non-Accelerating Inflation Rate of Unemployment).

Introduced by Edmund Phelps (1967) and Milton Friedman (1968), the theory of the natural rate was initially confined to laissez-faire academic economists and conservative think tanks. Since then, it has spread into the highest counsels of economic policy making. This is evidenced in the 1997 Economic Report of the President, an annual report submitted by the President to the U.S. Congress, which states "The non-accelerating inflation rate of unemployment is a useful concept for thinking about the state of the macroeconomy (p.45)."

The NAIRU has also served as the dominant intellectual framework within the OECD, where it has been used both to evaluate individual country economic performance and to guide policy recommendations. This dominance is particularly evident in the design of the OECD's Job Study (1994), which has been one of the major policy initiatives of the 1990s. In constructing the Jobs Study, the OECD used a NAIRU framework to decompose unemployment into structural and cyclical components, and the bulk of

OECD unemployment was identified as structural. Table 1 shows country actual unemployment rates for 1986, 1990 and 1996, and it also shows the OECD's estimates of country structural unemployment as a percentage of actual unemployment. In 1986, the average share of unemployment that was structural was 93%; in 1990 it was 115.3%, and in 1996 it was 91.1%. According to the OECD, structural unemployment therefore accounts for the vast bulk of unemployment.

In 1990 every country except Norway, Turkey and New Zealand was at full employment since structural unemployment exceeded actual unemployment. The OECD region was therefore at full employment despite average OECD country unemployment being 6.6%. Germany was at full employment with 6.2% unemployment; so too was France with 8.9% unemployment, Australia with 7% unemployment, and Canada with 8.2% unemployment. In 1996, Finland was close to full employment with 16.3% unemployment: so too was Germany with 10.3% unemployment, while Australia was actually at full employment with 8.5% unemployment.

Given the finding that unemployment largely consists of structural unemployment, the OECD has focused on policies that purportedly lower structural unemployment. Since little unemployment is deemed to be cyclical, traditional counter-cyclical macroeconomic employment policies have been largely ruled out. With many governments actively pursuing the OECD's policy recommendations, this concretely illustrates how the theory of the natural rate has dramatically impacted policy formation.

The reliance of the OECD's Jobs Study on the natural rate framework reveals the enormous significance of natural rate theory. If the theory is wrong and gives rise to a mistaken decomposition of unemployment into structural and cyclical components, the

result can be profoundly misguided economic policy that forces economies to live with unnecessarily high unemployment. Furthermore, by claiming unemployment to be largely structural in nature, policy makers are led to focus on policies that promote "labor market flexibility". These policies aim at a remaking of employment relations through reductions in minimum wage levels, reduced unemployment benefits, and reduced employment protections. Consequently, reliance on a natural rate framework may not only result in higher unemployment, but it may also result in workers being forced to endure greater employment insecurity and weakened bargaining power, which together reduce well-being and wages.

NAIRU as concept

The concept of the NAIRU derives from a perfectly competitive general equilibrium approach to thinking about the economy. The claim is that there exists a unique rate of equilibrium unemployment which is determined by structural conditions within an economy, and that competitive economies adjust to this rate of unemployment fairly quickly. Moreover, monetary policy and aggregate demand management policies can do little to affect this equilibrium natural rate of unemployment because it is essentially determined by supply-side conditions.

In perhaps the most famous passage in modern economics, Friedman (1968) describes the determination of the natural rate of unemployment as follows:

"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 embedded in them the actual structural characteristics of the labor and commodity markets, including market imperfections, stochastic variability in demands and supplies, the cost of gathering information about job vacancies and labor availabilities, and so on."

Normal unemployment is determined by the objective conditions governing labor exchange in labor markets. These objective conditions refer to the number of workers looking for jobs and the terms on which they are willing to work (i.e. labor supply), the productivity of labor once employed by firms (i.e. labor demand), firms' costs and ease of access to information about which workers want jobs, and workers' costs and ease of access to information about which firms have job vacancies. Given these objective conditions, workers and firms try to match up with one another, with labor productivity determining what firms are willing to pay workers. Owing to imperfect information amongst firms as to who job-seekers are and amongst workers as to where jobs are, some firms and workers inevitably fail to match up. As a result there are some unfilled vacancies and some unemployment.

NAIRU and the structural unemployment policy trap

Following the emergence of NAIRU, the main focus of policy discussions has been on its implications for the trade-off between inflation and unemployment. Earlier Keynesian Phillips curve analysis emphasized the existence of a negative trade-off between inflation and unemployment that allowed policy makers to systematically purchase a little less unemployment at the cost of a little more inflation. The theory of the natural rate denies this trade-off, and claims a complete separation between normal equilibrium unemployment and inflation. Equilibrium unemployment is determined by real forces and conditions governing labor markets, and these conditions are independent of aggregate demand, the money supply, and the rate of inflation. Neither aggregate demand, the money supply nor inflation affect worker productivity or firms' and workers' information

about who wants jobs and where jobs are. As a result, they have no effect on equilibrium unemployment, and the Phillips curve is therefore vertical.

Though attention has tended to focus on the implications of natural rate theory for the inflation - unemployment policy trade-off, there is a more dangerous policy implication that can be termed the "structural unemployment policy trap". This trap has policy makers abandoning macroeconomic policy as a means of lowering unemployment, and shifting to policies of labor market flexibility. The result is higher unemployment and increased economic insecurity.

The foundation of the structural unemployment trap lies in natural rate theory's creation of an artifactual separation between structural and cyclical unemployment. Structural unemployment is identified with natural unemployment, while cyclical unemployment is identified with unemployment resulting from normal business cycle fluctuations. It is then argued that macroeconomic policy can lower cyclical unemployment, but it can do nothing about structural unemployment. Addressing the latter can only be done through structural adjustment programs designed to create "labor market flexibility" through weakening of unions, elimination of minimum wage laws, and stripping away of worker employment protections.

The natural rate's construction of policy in terms of a divide between structural and cyclical unemployment becomes critical when empirical estimates of the natural rate lead to the conclusion that almost all unemployment is structural in character. It is for this reason that not only is the underlying theory of the natural rate an issue of contention, but so too is the econometric methodology that underlies empirical estimates of the natural rate. If structural unemployment were restricted to just one or two

percent, the policy significance of the natural rate would be greatly diminished. However, once the bulk of unemployment is identified as structural, the validity and plausibility of estimates of the natural rate become crucial.

A hallmark of the structural unemployment trap is the tendency for empirical estimates of the natural rate to follow the actual unemployment rate, thereby making structural unemployment self-fulfilling. This tendency is confirmed by a pooled regression of the OECD's estimates of structural unemployment rates against actual unemployment rates for the twenty three countries shown in table 1 for the years 1986, 1990 and 1996. The estimated equation is:

$$(1) \text{ STRUCTURAL} = 0.54 + 0.915 \text{ ACTUAL} \quad \text{Adj.R}^2 = 0.90 \quad \text{DW} = 2.15$$

(0.33) (0.04)

Figures in parentheses are estimated standard errors. Every one percent point increase in the actual unemployment rate raises the OECD's estimate of the structural unemployment rate by 0.915 percent points. A scatter plot of the regression is shown in figure 1.

The policy implication is clear. As unemployment rates have risen owing to deteriorating macroeconomic performance, so too have estimates of the natural rate. Policy makers have then been counselled that the increase in unemployment is structural and that stimulatory macroeconomic policy is inappropriate. This has tended to make natural rate analysis self-fulfilling. By ruling out counter-cyclical macroeconomic policy, cyclical unemployment has been increasingly transformed into long term structural unemployment.

The combination of a creation of a distinction between structural and cyclical unemployment and the claim that the bulk of unemployment is structural, has unleashed a policy dynamic that has diminished the standing of macroeconomic policy while

enhancing that of labor market flexibility. Such a policy dynamic was foreshadowed in Friedman's (1968) original exposition of the natural rate, in which unions and minimum wage laws are posited as increasing the natural rate of unemployment:

"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. In the United States, for example, legal minimum wage rates, the Walsh-Healy and Davis-Bacon Acts, and the strength of labor unions all make the natural rate of unemployment higher than it would otherwise be."

The natural rate's tendency to emphasize microeconomic labor market frictions rather than macroeconomic cyclical disturbances as the cause of unemployment, has also been amplified by both real business cycle theory and supply side economics. Real business cycle theory, which is the dynamic cousin of static natural rate theory, goes a step further. Not only does it describe equilibrium unemployment as determined by labor market imperfections, it argues that cyclical unemployment is also the result of supply-side disturbances. As a result aggregate demand management has no role to play even with regard to cyclical unemployment. Supply-side economics also emphasizes the structural causes of unemployment. However, rather than emphasizing production technology shocks, it focuses on the moral hazard and incentive effects of labor market interventions such as the provision of unemployment benefits. The argument is that these increase equilibrium unemployment by raising workers' reservation wage. For both real business cycle theory and supply side economics, policies of labor market flexibility are the best that policy makers can do. Both have therefore augmented the shift toward policies emphasize the structural foundations of unemployment and discount the demand side of unemployment.

The fallacy of the structural - cyclical divide

Whereas natural rate theory creates a dichotomy between cyclical and structural unemployment, a Keynesian approach does not. Tobin (1972) describes a multi-sector Keynesian economy in which there is a long run trade-off between inflation and unemployment, and that description of the Phillips curve is formalized in Palley (1994). In a multi-sector economy, individual sectors are subject to random sectoral disturbances. Some sectors are at full employment, while others have unemployment. Sectors at full employment receiving positive demand shocks experience inflation, while sectors receiving negative demand shocks experience unemployment.

Wage adjustment at the sectoral level is slow, and monetary policy can therefore facilitate employment adjustment by allowing a steady rate of nominal demand growth. In sectors below full employment, this nominal demand growth gets translated into jobs: in sectors at full employment, it gets translated into inflation. This is the microeconomic foundation of the Phillips curve.

As the unemployment rate falls and more sectors find themselves at full employment, faster nominal demand growth gets increasingly turned into price inflation. This is why the Phillips curve is negatively sloped and convex, with the trade-off between inflation and unemployment worsening as unemployment declines. The extent of unemployment for any given rate of demand growth depends on the variability of demand shocks across sectors. If sectoral demand is highly variable, there will tend to be more unemployment. This is because shifts of demand result in workers being stuck in negatively impacted sectors and it takes time for the adjustments needed to restore employment. In effect, unemployment is a disequilibrium state. Demand variability means that some sectors are

always in disequilibrium; the greater the extent of demand variability, the greater the extent of the economy affected by disequilibrium at any moment and the greater the extent of unemployment.

Whereas natural rate theory promotes a dichotomy between structural and cyclical unemployment, the above micro-founded Keynesian approach is more nuanced. The economy consists of many sectors. Aggregate demand shocks can be defined as shocks that impact every sector, while pure sector specific demand shocks are shocks that hit individual sectors. Aggregate demand policy can be used to offset pure negative aggregate demand shocks with no consequences for inflation. However, aggregate demand policy can also be used to offset negative sector specific shocks, but in this case it generates inflation in sectors that are at full employment and unaffected by the sector specific demand shock. Thus, macroeconomic demand management policy can always help reduce unemployment, even when shocks are purely sector specific. However, in the latter case, such policy carries a greater cost in terms of inflation.

In practice, the situation is even more complex because shocks range from the pure sector specific to the pure aggregate. Thus, some shocks may affect clusters of sectors rather than just individual sectors. Macroeconomic demand management policies are still effective in offsetting the employment effects of such shocks, but the smaller the size of the cluster the greater the inflation cost.

Another problem is that sectors may have differential sensitivities to aggregate shocks (Abraham and Katz, 1986; Palley, 1992), and also have differential sensitivities to aggregate demand management policies. Unless the sectoral impact of demand management policies exactly matches the sectoral sensitivities to aggregate shocks, the

application of such policies will tend to produce inflation in those sectors which are most policy sensitive by pushing them to full employment.

The upshot is that a Keynesian approach to unemployment deconstructs the distinction between structural and cyclical unemployment. Shocks vary from the pure sector specific to the pure aggregate. Using demand management to combat unemployment is most costly in terms of inflation when shocks are sector specific, but it is still effective. It also tends to be more costly the greater the differences in sectoral sensitivities to (a) common aggregate shocks, and (b) demand management policies. The implication is not that demand management policies should be discarded, but rather that there is a need to know more about the character and sectoral impact of disturbances, and a need to identify demand management policies that most closely match the sectoral impact of disturbances.

In effect, macroeconomic policy must recognize and respond to the multi-sector character of macroeconomic activity. Whereas natural rate theory has a tendency to discard macroeconomic policy as a means of dealing with unemployment, a multi-sector Keynesian approach encourages policy makers to take account of the differential sectoral impacts of macroeconomic policy instruments, and develop new instruments that can be targeted on specific sectors. An example of such an instrument is asset based reserve requirements (ABRR) which allow monetary authorities to adjust reserve requirements on loans by category of loan (Palley, 1997a). This means that domestic monetary authorities can alter the cost of credit to specific sectors, thereby rendering monetary policy sector specific.

The importance of such a measure can be illustrated by reference to the U.K. economy today. The U.K. is undergoing a consumer led boom that threatens to reignite inflation.

Raising interest rates to control consumer spending risks injuring the manufacturing sector by reducing investment spending, and by appreciating the exchange rate and lowering exports. With ABRR, policy makers could raise reserve requirements on consumer lending, thereby choking off such borrowing while avoiding the negative fall out of higher interest rates on investment spending and exports.

"Pre-emption" versus "testing the waters": escaping the structural unemployment policy trap

One dimension of the structural unemployment trap is the tendency of the natural rate approach to categorize all unemployment as structural, thereby ruling out the use of macroeconomic policies. Another dimension concerns the tendency of natural rate thinking to make unemployment self-fulfilling by actually encouraging contractionary macroeconomic policy.

The theory of the natural rate maintains that if unemployment falls below the natural rate, inflation will accelerate as long as the unemployment remains below the natural rate. Moreover, the economy will ultimately be pushed back to the natural rate with a permanently higher rate of inflation. The policy implication is clear: since there is no lasting reduction in unemployment but there is a lasting increase in inflation, the unemployment rate should not be allowed to fall below the natural rate.

As a result, policy makers have increasingly talked of the need for monetary policy to be "forward looking" and "pre-emptive" with regard to inflation. This new approach was clearly evident in the making of U.S. monetary policy in early 1997 when the Federal Reserve raised interest rates by a quarter percentage point despite the absence of any

increase in inflation. Chairman Greenspan justified this move on the grounds that since the unemployment rate had fallen below 5% and earlier estimates had pegged the natural rate at 6%, it was necessary to take out some "insurance" against an acceleration in inflation.

The pre-emption approach to conduct of monetary policy risks making estimates of the natural rate self-fulfilling. This is because every time the economy approaches the central bank's point estimate of the natural rate, the central bank raises interest rates thereby putting the break on unemployment. This is particularly troubling given the enormous variation in estimates of the natural rate. For instance, Staiger, Stock and Watson (1997) estimate that the U.S. natural rate of unemployment lay somewhere between 3.9% and 7.7% in 1994. Such a wide range of estimate risks having a policy of pre-emption impose huge and unnecessary unemployment on the economy.

Financial market expectations can also make the natural rate self-fulfilling. Thus, to the extent that financial markets believe that the central bank is guided by natural rate theory, then market participants will expect the central bank to start raising interest rates as the economy approaches the central bank's point estimate of the natural rate. With market participants expecting the central bank to raise rates, there will be upward pressure on market interest rates that will serve to slow the economy. Once again, the economy can get trapped with high unemployment.

In recent years, economists have increasingly argued the policy merits of inflation targeting (Mishkin and Posen, 1997). The natural rate pre-emption problem applies with equal force to inflation targeting. Given that monetary policy operates with long and variable lags, central banks will tend to tighten monetary policy whenever they suspect

inflation is about to start rising. If they are guided by natural rate thinking, they will start to tighten as the economy approaches their point estimate of the natural rate. This is illustrated by the current controversy over whether the Bank of England should raise rates. The Bank is committed to an inflation target, and there has been strong insider pressure to raise interest rates in light of falling unemployment. Similar pressures have also operated on the Bundesbank, which is also committed to inflation targeting. Thus, inflation targeting can easily produce the same self-fulfilling structural unemployment policy trap that does an outright commitment to the natural rate.

An alternative to pre-emptive policy is one that can be labelled "testing the water". This approach has been advocated by Galbraith (1997). Natural rate thinking tends to represent the economy as a cliff, whereby pushing unemployment below the natural rate results in a catastrophic acceleration of inflation. However, the economy may be more akin to a gently sloped beach, with a lowering of unemployment producing a slow gentle increase in inflation. Rather than engaging in pre-emption, policy makers should instead adopt a testing the waters approach which has them gradually nudging unemployment downward until the economy reaches a level of inflation that is deemed unacceptable. At this stage, monetary authorities can then step on the break.

A testing the waters approach to monetary policy can provide a way out of the structural unemployment trap. Macroeconomic policy is used to nudge the economy forward, thereby preventing policy from generating self-fulfilling high unemployment. Even if policy makers believe in the theory of the natural rate, they are freed from being trapped by mistaken point estimates of the natural rate. This is particularly important given that these estimates are subject to large margins of error. If the economy is

characterized by a negatively sloped Phillips curve which is horizontal over a significant range of unemployment, policy makers get to lower unemployment: if it is characterized by a natural rate, policy makers get to lower unemployment to the natural rate without stopping short. Though a testing the waters approach to monetary policy does nothing to resolve the theoretical differences between natural rate and Keynesian Phillips curve theory, it does produce an operational procedure that avoids the structural unemployment policy trap.

Such a testing the waters approach explains the success of the Federal Reserve in bringing down U.S. unemployment. Apart from a brief instance in early 1997 when the Fed raised rates despite any evidence of rising inflation, the Fed has adopted a wait and see approach that has involved holding off on raising rates thereby allowing unemployment to fall below the Fed's point estimate of the natural rate. Political monitoring of the Fed by the U.S. Congress has also helped by neutralizing unwarranted inflation hawkishness within the Fed. The result has been a major reduction in unemployment that has been accomplished without any increase in inflation. Unfortunately, European central banks have been unwilling to try this strategy, and Europe has therefore found itself stuck in a structural unemployment policy trap.

Finally, institutional frictions that generate an asymmetrical application of a testing the waters policy may also explain Europe's predicament. The U.S. has been subject to an economic recovery, and testing the waters has involved holding off on raising rates. Europe has been stuck in recession, and testing the waters has required actively cutting interest rates. Actively cutting rates appears harder to accomplish than passively holding

interest rates unchanged. This asymmetry likely reflects inertia and the pull of the *status quo* within institutional decision making.

Twixt the cup and the lip: slippages in natural rate policy making

Getting stuck in a structural unemployment trap is one problem of posed by a natural rate policy framework. Another set of problems concern slippages in policy that occur in the application of natural rate theory to policy.

Reflecting Milton Friedman's monetarist origins, the theory of the natural rate is essentially a monetary theory of inflation. Though "frictions" in the labor market such as minimum wage laws and trade unions may cause unemployment, they do not cause inflation. Instead, inflation is a monetary phenomenon that begins with excessive expansion of the money supply. This bids up the price of goods, thereby giving firms an incentive to expand production, which in turn increases the demand for labor. At this stage, firms then have an incentive to raise nominal wages to attract additional workers, though real wages actually fall because rising marginal costs of production drive up prices.

The important implication of this construction of the inflation process is that inflation is driven by excessive monetary expansion, and it first manifests itself through rising prices. According to natural rate theory inflation is therefore price led rather than wage led. However, when it comes to the making of monetary policy, all too often proponents of the natural rate have a tendency to reverse the causation and argue that inflation is wage led. The thinking is that as unemployment falls, the leverage of workers increases, thereby enabling them to bargain for higher wages which then get passed on in prices.

While coherent, such a wage-led description of the inflation process is inconsistent with Friedman's (1968) description of the natural rate. In fact, it is more akin to a reserve army - conflict approach to inflation, which has unemployment serving to discipline workers and ensure a distribution of income favorable to profits. If this is indeed the reality of labor markets, then the use of the natural rate to justify monetary policy is merely a screen for using monetary policy to conduct "backdoor incomes policy" (Palley, 1997b).

A second slippage concerns the policy of zero inflation (Palley, 1998). The theory of the natural rate treats inflation as economically neutral, and this is why the Phillips curve is purportedly vertical. This in turn implies that there are no special benefits to zero inflation. Indeed, to the extent that there are output costs to lowering inflation because inflation expectations are sluggish and can only be reduced by a period of high unemployment, then it is outright costly to lower inflation to zero while there are no compensating gains.

Despite this, policy makers who invoke a natural rate framework also frequently claim that zero inflation is optimal. The theory of the natural rate does not support this claim. Moreover, to the extent that the economy is actually governed by a Keynesian style Phillips curve, pushing for zero inflation means that the economy must suffer permanently higher unemployment. In this fashion, the slip from advocacy of the natural rate to support for zero inflation may reinforce the structural unemployment policy trap.

Conclusion

For the last twenty years the theory of the natural rate has dominated macroeconomic policy making. Attention has predominantly focused on its implications for the inflation - unemployment trade-off. However, another ominous implication concerns the possibility that policy makers may get caught in a structural unemployment policy trap. Natural rate theory decomposes unemployment into structural and cyclical components, and estimates based on the theory have the structural component predominating. As a result, counter-cyclical macroeconomic policy is diminished, and policy makers are led to focus on policies of labor market flexibility. This policy stance results in permanently higher aggregate unemployment, and also promotes remaking of labor markets in a fashion that increases worker economic insecurity and lowers wages. Moreover, to the extent that monetary authorities adopt a pre-emptive approach to inflation, they risk making high structural unemployment self-fulfilling. This is because they slow the economy whenever it approaches their point estimate of the natural rate, thereby making that point estimate self-fulfilling.

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Rates (%)	Actual Unemployment			OECD Estimates of		
	Structural Unemployment			as a Percent of Actual (%)		
Country	1986	1990	1996	1986	1990	1996
Finland	5.4	3.5	16.3	101.9	228.6	94.5
Sweden	2.5	1.6	8.1	84.0	200.0	81.5
Germany	7.7	6.2	10.3	94.8	111.3	93.2
Switzerland	0.7	0.5	4.7	100.0	260.0	66.0
Iceland	0.6	1.8	4.4	166.7	133.3	86.4
Spain	20.5	15.7	22.2	93.2	126.1	94.1
Greece	7.4	7.0	10.3	90.5	100.0	77.7
Italy	9.9	9.1	12.1	84.8	106.6	87.6
Portugal	8.6	4.7	7.3	70.9	104.3	79.5
Austria	4.5	4.7	6.3	91.1	104.3	85.7
France	10.4	8.9	12.3	85.6	104.5	78.9
Norway	2.0	5.2	4.9	155.0	80.8	98.0
Australia	8.0	7.0	8.5	101.3	117.1	100.0
Japan	2.8	2.1	3.4	89.3	119.1	79.4
United States	7.0	5.6	5.4	88.6	103.6	107.4
Turkey	7.9	8.0	6.5	94.9	95.0	115.4
Belgium	11.8	8.8	12.8	99.2	122.7	82.8
Canada	9.6	8.2	9.7	86.5	109.8	87.6
Denmark	7.8	9.6	8.8	110.3	100.0	102.3
Netherlands	8.4	6.0	6.7	95.2	116.7	94.0
New Zealand	4.0	7.8	6.1	117.5	93.6	98.4
U.K.	11.8	5.9	8.0	86.4	142.4	87.5
Ireland	17.1	12.9	11.9	89.5	124.0	107.6
Average	7.7	6.6	9.0	93.0	115.3	91.1

Sources: OECD Economic Outlook, December 1997, Implementing The OECD Jobs Strategy, February 1997, and author's calculations.

Table 1 Actual unemployment and OECD estimates of structural unemployment as a percent of actual for individual OECD member countries.

Figure 1 Country actual and structural unemployment rates according to the OECD for 1986, 1990, and 1996.

