Chapter 9
The Dynamics of Economic Growth and Unemployment

This chapter analyses a vector error correction model of economic growth and unemployment in four major European economies – France, Germany, Italy and the United Kingdom. We find that unemployment and economic growth are cointegrated, and driven by the same autoregressive unit root present in most endogenous growth models. In the long run, economic growth and unemployment are positively correlated, as suggested by recent economic theories on endogenous growth and unemployment. In the short run, an increase in the equilibrium unemployment rate leads to a decline in economic growth rates. The short-run dynamics of economic growth and unemployment therefore remain consistent with Okun’s law. Okun’s coefficient is in line with previous estimates for all countries except in the case of the United Kingdom, whose labor market appears to be much more flexible in accommodating adverse transitory shocks than continental labor markets.

9.1 Motivation

Over the past few decades, Europe has experienced both an increase in its unemployment figures and a decline in economic rates of growth. This apparent long-run correlation, known as Eurosclerosis, did not hold in the short run. Indeed, the empirical evidence in recent years has typically tended to contradict Okun’s law, the once-fundamental insight that a one per cent per annum increase in GDP (in excess of 2 to 3 per cent GDP growth) would reduce the unemployment rate by a third to one fifth of a per cent (Okun, 1970). This chapter addresses the question of why we have observed an apparent breakdown in the short-run relation between output and unemployment. The ambition is to empirically test a theoretically convincing explanation, which can explain a breakdown of
a short-run relationship between unemployment and economic growth, without necessarily rejecting a long-run relation.

The long-run relationship between unemployment and economic growth has received renewed attention in the literature due to the emergence of endogenous growth literature. Whilst neoclassical exogenous growth literature postulates that there is no long-run relationship between economic growth and unemployment, the endogenous growth literature finds a clear relationship between economic growth and unemployment in the long run, with potential implications even for shorter horizons.

The presence of a long-run relationship between unemployment and economic growth, as suggested by the endogenous growth literature and the soft evidence presented above, is known as cointegration in the empirical literature, and can in principle be tested. Moreover, once we have detected a long-run relationship between economic growth and unemployment, we can continue to analyse their short-run behavior without the need to invoke much theory. If adjustment to the long-run equilibrium is slow, we may observe a very different behavior over the short run than over the longer horizon, thus potentially explaining the breakdown of Okun’s law.

9.2 Related literature

For a long time, economists – and in particular macroeconomists – have tended to separate their explanations of the cyclical and the trend behavior of the economy. This view was challenged in a seminal paper by Campbell and Mankiw (1987), who find that shocks to US output are persistent, and that by separating trends and cycles, some important information on the behavior of the economy may be lost. Campbell and Mankiw (1989) repeat the univariate time series analysis for a range of countries, and find once again that shocks to output are persistent or – equivalently – that output is characterized by a unit root process.

Blanchard and Quah (1989) and Evans (1989) both challenge the analysis of Campbell and Mankiw, claiming that output is hit by both transitory and persistent shocks. By assuming a single type of shock, the persistence of output shocks in Campbell and Mankiw may be explained by a combination of these shocks. Both Blanchard and Quah (1989) and Evans (1989) separate transitory from permanent shocks by introducing a second time series, the unemployment rate. However, they still find that output is characterized by a unit root process, thus the principal