The nature of regional unemployment in Italy

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Abstract  Taking as a starting point the evidence of growing disparities for most of the 1984–2007 period, this article investigates the nature of regional unemployment in Italy. In particular, we assess whether the Italian regional unemployment rates contain a unit root and are, thus, subject to pure hysteresis, considering as alternative hypotheses both a linear and a non-linear stationary process. For that purpose, we employ three recently developed panel unit-root tests, taking account of structural breaks, cross-section dependence and non-linearities. Contrary to previous studies in the literature, our results reject the pure hysteresis hypothesis and support the characterisation of regional unemployment in Italy as a stationary but non-linear process, subject to multiple equilibria, in line with the ‘structuralist hypothesis’ advanced by Phelps (1994).

Keywords  Unemployment rate · Panel unit root test · Structural breaks · Cross-dependence

1 Introduction

After the low levels of the post-war years, the Italian unemployment rate started to rise significantly from the mid-1970s, reached the 10% threshold in the early 1980s and remained above it until the end of the 1990s. The high-unemployment regions, located in the South (or Mezzogiorno), saw unemployment grow more consistently and are now experiencing to a lesser extent the recent reversion to lower rates recorded at the
national level. As a result, most of the last three decades have been characterised by a widening of regional unemployment differentials in Italy, a distinctive feature of the Italian economy.

This pattern does not constitute an anomaly at the EU level. Indeed, the high and highly persistent unemployment rates experienced by many countries and regions in Europe in the same period are commonly cited as evidence in favour of the ‘hysteresis’ hypothesis. The traditional structural approach, developed by Friedman (1968) and Phelps (1967, 1968), describes the unemployment rate as a stationary, mean-reverting process, so that shocks will cause only temporary (cyclical) deviations from the natural rate or Non-Accelerating Inflation Rate of Unemployment (NAIRU). On the contrary, theories which depict the unemployment rate as hysteretic suggest that transitory shocks may have long-lasting effects. Formally, in most of the literature hysteresis is equated to the presence of a unit root (or near unit root) in a linear dynamic model of the unemployment rate, so that every transitory shock will have permanent (or very persistent) effects. A further view of hysteresis highlights that this is ultimately a non-linear phenomenon, characterised by multiple stable equilibria (Røed 1997). Thus, akin to the structuralist theory proposed by Phelps (1994), in this context the unemployment rate is portrayed as a stationary process around an occasionally changing mean.

Several studies have investigated the issue, both on a cross-country and cross-regional basis, but very little work has so far addressed systematically this problem in the context of the Italian regions (Eichengreen 1993; Brunello et al. 2000). The evidence so far gathered depicts regional unemployment in Italy as a unit-root process (Brunello et al. 2001), but is entirely based on the use of time-series unit root tests which are characterised by well-known power problems. This article contributes to the literature assessing the stochastic properties of the Italian regional unemployment rates using more powerful panel unit-root tests. Contrary to previous studies, our results lead us to reject the linear (pure) hysteresis hypothesis in favour of the ‘structuralist hypothesis’, i.e. the alternative representation of the unemployment rate as a stationary but non-linear process, characterised by multiple equilibria.

The article is organised as follows. The next section provides a short theoretical review about the concept of and tests for hysteresis in unemployment, while the third section illustrates some stylised facts as regards regional unemployment in Italy and highlights a few data issues. A brief description of the panel unit root tests used in

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1. Italy’s so called Mezzogiorno comprises the eight southern regions of Abruzzo, Molise, Campania, Puglia, Basilicata, Calabria, Sicilia and Sardegna.
2. Following a fairly well-established practice in the literature (Staiger et al. 1997), in this article the terms ‘natural rate of unemployment’ and ‘NAIRU’ are used interchangeably.
3. At a theoretical level the notion of a non-stationary unemployment rate is clearly problematic since, strictly speaking, a bounded variable cannot be a random walk. However, as León-Ledesma and McAdam (2004) point out, ‘hysteresis as a unit root should not necessarily be understood as a “true” description of the data generating process but as local approximation over a sample period’ (p. 384). Moreover, as argued by Brunello et al. (2000), the time required for the series to manifest its stationarity may be quite long and ‘during this interval the unemployment rate is exactly equivalent to a standard unrestricted random walk’ (p. 158).