Chapter 1
Introduction

Abstract Over the last decades, the Spanish economy has stood out as the advanced country with the highest unemployment rate. This outrageous figure has encouraged many international researchers to embark on the study of this phenomenon from different perspectives, with the hope of coming up with an adequate solution. In addition to being exceptionally high, the Spanish rate of unemployment has also turned out to be abnormally persistent, as many econometric studies have highlighted. Empirical work using unit root and stationarity tests has tried to discriminate among alternative macroeconomic schools/paradigms as regards the distinct approach to the labour market. In the case of the Spanish unemployment rate, the majority of such work overall points to a highly hysteretic scenario.

Keywords Unemployment rate · Spanish labour market · Hysteresis

Over the last decades, the Spanish economy has stood out as the advanced country with the highest unemployment rate. Actually, in the second quarter of 2013, the unemployment rate made available by the Spanish Labour Force Survey (EPA) reached the astonishing number of 26.2 %, becoming even 10 % points higher in regions like Andalusia (Usabiaga 2004). Moreover, according to the so-called Okun's law (Usabiaga 2010), the dismal economic growth figures forecast for 2014 by both national and international analysts anticipate that no meaningful unemployment reduction will occur shortly –see García-Cintado and Usabiaga (2013). Thus, although it is a problem that dates back some decades –see Blanchard and Jimeno (1995)–, it still remains a highly topical subject, having become even more important in recent times.

This outrageous figure, both in absolute and relative terms, even within a neighbourhood of countries whose unemployment rates are worrisome (Blanchard 2006), has encouraged many international researchers to embark on the study of this phenomenon from different perspectives, with the hope of coming up with an adequate solution. In addition to being exceptionally high, the Spanish rate of unemployment has also turned out to be abnormally persistent, as many econometric studies have highlighted. In fact, previous works have made an attempt to explicitly discriminate among alternative macroeconomic schools/paradigms as

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regards the distinct approach to the labour market. More specifically, on the one hand, there is the traditional natural rate theory, pioneered by the work of Friedman (1968) and Phelps (1967, 1968), that holds the view that the unemployment rate tends to fluctuate around some equilibrium level associated with a fully equilibrated labour market where all adjustments have worked themselves out. This natural rate hypothesis can be featured with a stationary autoregressive process in which the variable reverts back to its mean at a rapid pace. It should be noted that this mean is not independent from the structural characteristics of each economy, but rather it does hinge on them. On the other hand, the structuralist hypothesis –Phelps (1994) and Phelps and Zoega (1998)– delves into the same line of argument and indeed upholds that a natural rate of unemployment exists, toward which the actual rate tends to revert back, but it differs from the former hypothesis in that the natural rate may be subject to infrequent changes as a result of the occurrence of shocks to fundamental variables of the economy, some of which can be internationally determined—energy prices, real interest rates, real exchange rates, technological factors, etc. Only if the unemployment rate showed a behaviour compatible with that of an I(0) time series, once structural breaks had been accounted for in the analysis, would it be safe to assert that the structuralist hypothesis held. Finally, even if after controlling for structural breaks, this behaviour resembled more that of an I(1) process, an extreme form of persistence (or "hysteresis"[1]) would be expected to prevail –Blanchard and Summers (1986, 1987)–, thereby rendering the mean-reverting process non-existent, which in practical terms means that any potential shock would have a permanent effect on the economy. Think of, say, contractionary macroeconomic policies as having long-lasting effects on the unemployment rate. Although it might sound somewhat striking to those unfamiliar with the literature, many macroeconomists and labour economists see this otherwise unlikely scenario –that of complete hysteresis– as entirely suitable for the case of the Spanish economy.

From a unit-root tests perspective, this literature, which has strived to account for those aforesaid theoretical frameworks, has basically evolved in the following way: (i) Individual time series without breaks; (ii) Individual time series with breaks; (iii) Panel data without breaks; (iv) Panel data with breaks. In some cases, instead of unit root tests –which are mainly linear–, stationarity tests are employed. The latter involve switching the null hypothesis. As panel data techniques have become more fashionable, special heed has been paid to the cross-sectional dependence across series. It is worth noting that the analysis of the Spanish rate of unemployment has been approached from all these distinct perspectives,[2] in

[1] Digging deeper into the terminology, the (full) hysteresis case implies that every temporary shock affects unemployment permanently, thus making the traditional concept of natural rate irrelevant (Karanassou and Snower 1997). On the other hand, the partial hysteresis or persistence case entails that temporary shocks have long-lasting but not permanent effects. The hysteresis case can be modelled as a unit root process while the persistence one as a near unit root.

[2] There are some alternative econometric approaches which could also be employed to measure persistence: fractional integration, estimation of half-lives in the presence of a disturbance, etc.

isolation from or in conjunction with other economies (at the European level, OECD, etc.), and even in certain cases, have some studies been undertaken at the regional level. As already mentioned above, in the case of the Spanish unemployment rate, the majority of such work overall points to a highly hysteretic scenario. In addition, it may be interesting to stress that European unemployment rates are found to be more persistent than the U.S. one—see as a sample Romero-Ávila and Usabiaga (2007, 2008, 2009).[3]

At this stage, from an industrialised country perspective, a question that immediately comes to mind is how the Spanish unemployment rate can be so high and persistent. One of the traditional explanations goes as follows: Spain –and other European countries– suffers from "Eurosclerosis" –see Layard et al. (1991) and Nickell et al. (2005)–; that is, Spain could be regarded as an extreme case within Europe as far as the existence of rigidities in the goods and labour markets is concerned (firing costs, unemployment insurance, taxes, barriers to free market, etc.). As is well known, Blanchard and Wolfers (2000), working on a panel of OECD countries, enhanced this line of argument by focusing on the interactions of shocks and unemployment-prone institutions as the correct way to account for the high and persistent European unemployment.

As for the high persistence, the long-term unemployment trap approach[4] (discouragement effect, loss of specific skills, stigma effect, etc.) and, especially, the insider–outsider models –Blanchard and Summers (1986, 1987), and Lindbeck and Snower (1988)– can be thought of as the two most widely used explanations for the Spanish case. It is no surprise that the main Structural Vector Autoregression (SVAR) analyses carried out for the Spanish economy, which comprise the variable unemployment, have relied on the insider–outsider framework under complete hysteresis (Gómez and Usabiaga 2001). The focus on long-term unemployment as a plausible account of the Spanish unemployment problem only makes sense primarily up to 1992–1993, when a profound reform of the unemployment insurance system was enacted, leading the country to go unnoticed when compared to other European countries concerning the generosity of those benefits. On the other hand, the "insider–outsider" interpretation closely relates to the dual or segmented labour market approach, and it arises as a powerful potential reason for explaining the notoriously high share of fixed-term labour contracts[5] and its

[3] Romero-Ávila and Usabiaga (2007) make use of a panel unit root test (Lee and Strazicich 2003) and Romero-Ávila and Usabiaga (2008, 2009) employ a panel stationarity test (Carrión-i-Silvestre et al. 2005), allowing for up to two and five level shifts, respectively.

[4] The long-term unemployment problem has virulently returned as a result of the current economic crisis. Thus, throughout the second quarter of 2013, around 60 % of the unemployed were out of work for more than 12 months.

[5] Due to the 1984 labour reform, which gave birth to a regularly used non-causal fixed-term contract with low severance pay, the Spanish temporary employment rate climbed from roughly 12 % to a number that has been hovering around 30–35 % since 1990, thereby doubling the European Union average. This number has declined approximately 10 % points during the current crisis owing to the intense destruction of temporary employment. On the problem of excessive temporary employment predicament in Spain, see for example Dolado et al. (2002).

side effects (excessive rotation, low productivity, low company-based education, job-related accidents, etc.). It is therefore no wonder that this model has lived on as a satisfactory accounting of the Spanish labour market behaviour (Bentolila et al. 2012a, b, c).

In fact, the unsuccessful attempts of reforming the Spanish labour market (1984, 1994, 1997, 2001, 2002, 2006) –see Usabiaga (2007)–, have ended up giving rise to a widespread and lively debate on the effects of the last labour reforms in the wake of the Great Recession (2010, 2011, 2012), and especially on the proposal of the "single open-ended labour contract", whose foremost feature turns out to be the increasing –with tenure– severance pay for all new hiring. According to its advocates, it aims at tackling the insider–outsider predicament, by doing away the existing severance pay gap between permanent and temporary labour contracts.[6] Other theories that might succeed in accounting for the dynamics and persistence of the Spanish regional unemployment are the Chain Reaction Theory (Karanassou and Snower 1997, 1998), whereby movements in unemployment can be viewed as the outcome of the interplay between macroeconomic shocks and a network of lagged adjustment processes; the theories that rest on adjustments through labour participation versus those brought about via migration –Blanchard and Katz (1992), Decressin and Fatás (1995)–; and finally those approaches relying more on wage behaviour (Blanchflower and Oswald 1994).

In this work, we intend to shed some new light on the high and persistent Spanish unemployment rate –a variable that sparks a great deal of attention among international observers– by employing a novel econometric methodology that allows for strong forms of cross-sectional dependence. This methodology has proven to be very useful in other fields and we think it really fits the nature of the issue at hand, leading to a new analytical perspective. Given that it is a panel data technique, we shall work with series of the Spanish regions, mainly focusing on the data provided by EPA. We should underline that we also apply the same methodology to two other indicators of excess labour supply stemming from the National Public Service of Employment (Servicio Público de Empleo Estatal, SPEE) –the former National Institute of Employment (Instituto Nacional de Empleo, INEM)–, without significant changes in the main conclusions, which leads us to think of our results as highly robust.

More specifically, this work employs the Panel Analysis of Nonstationarity in Idiosyncratic and Common components (PANIC) framework developed by Bai and Ng (2004). Unlike most tests employed in this field, the PANIC approach allows for strong forms of cross-sectional correlation such as cross-cointegration. Previous studies have emphasised the fact that failure to allow for cross-dependence when it is present in the data can cause severe size distortions (see O'Connell 1998; Maddala and Wu 1999; Banerjee et al. 2005). PANIC methods

[6] As a proposal based on search and matching models endorsing the use of the single open-ended contract, see Costain et al. (2010) and García-Pérez and Osuna (2012). In these papers, the authors contend that such a type of contract induces better dynamics in the labour market than the dual employment protection legislation.

will enable us to (i) investigate whether there is cross-sectional dependence driven by one or several common factors and (ii) determine whether the source of non-stationarity is the common factors or the idiosyncratic components. In this work, we thus extend the analysis of the time series properties of Spanish unemployment at the regional level by employing these PANIC techniques. The high and persistent level of Spanish unemployment which has sustained over the past three and a half decades is considered to be one of the most striking cases for the hysteresis hypothesis. Determining which components of the observed unemployment rate series are driving the high persistence in the series is necessary if one wants to formulate economic policy prescriptions in order to tackle the unemployment problem over the medium term. Overall, our empirical analysis renders overwhelming evidence of nonstationarity in the regional unemployment rate series, which appears to be driven by a common stochastic factor. In the event of stationary idiosyncratic series, the evidence supports the existence of pairwise cointegration across regional unemployment rate series. In practical terms, these results indicate that the hysteretic behaviour in Spanish unemployment observed across all regions is caused by a common force that appears to exhibit nonstationarity. Remarkably, the results are robust to the use of three different proxies for the excess of labour supply.

The second part of the study tries to identify which factors (macroeconomic, labour, institutional, etc.) are able to characterise the common stochastic trend driving Spanish regional unemployment rates. Towards this end, we will employ Granger-causality testing based on VAR analysis with variables entering the system in stationary form. By determining the factors responsible for such common hysteretic patterns in Spanish unemployment, we will be in a position to suggest policies that can help tackle this problem.

The remainder of this study is structured as follows. Chapter 2 describes the unemployment data, the PANIC econometric methodology, and the results from the decomposition of the observed unemployment rate series of the Spanish regions into a common and an idiosyncratic component and their respective time series properties obtained via PANIC. Chapter 3 tries to determine the economic and/or institutional variables able to explain the common stochastic trend present in Spanish regional unemployment. Chapter 4 draws policy lessons from our overall empirical results. Finally, Chap. 5 concludes.

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