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Same Spain, less pain?

Patricia Gomez-Gonzalez[a,*], Daniel M. Rees[b]

[a] Department of Economics, Fordham University, United States
[b] Economic Analysis Department, Reserve Bank of Australia, Australia

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ABSTRACT

We explore how the Spanish economy would have performed in the aftermath of the 2008 financial crisis if it had retained an independent monetary policy rather than joining the euro. A novel aspect of our approach is that we set up and estimate a structural model that takes account of the break in the conduct of monetary policy that occurred when Spain joined the euro, including anticipation effects. On average, Spanish economic growth would have been around 0.8 percentage points higher and consumption growth 0.5 percentage points higher between 2008 and 2013 if Spain had retained an independent monetary policy. But because euro entry led to a large boom prior to the crisis, the level of economic activity would have been similar by late 2016, regardless of Spain's monetary arrangements.

1. Introduction

In the aftermath of the 2008 financial crisis the Spanish economy experienced a deep and prolonged recession. Between 2008 and 2013 the level of GDP contracted by 9.3 percent and at the time of writing remains well below its pre-crisis peak. The unemployment rate increased from an average rate of 9.7 percent in the five years prior to the crisis to 26.2 percent at its peak in mid-2013.

The performance of the Spanish economy in this episode is a puzzle. Many European economies experienced deep recessions. But unlike some of its counterparts, Spanish macroeconomic policy settings prior to the crisis appeared sound. In the decade prior to the crisis the central government ran small budget deficits (and on occasion surpluses), its public debt-to-GDP ratio was modest, employment was expanding rapidly and the sovereign yield spread was low.

Admittedly, with the benefit of hindsight some aspects of the Spanish economy look to have been unsustainable.[1] Spain experienced a residential property boom that featured a large run-up in house prices, rapid expansion of the residential construction sector and, in some segments of the market, imprudent lending practices. Spain also ran large current account deficits. Some form of correction may have been necessary to resolve these imbalances. Yet, even allowing for this, Spain's economic downturn was unusually severe. The United States also experienced a large house price crash and saw a number of large financial institutions become insolvent. But by the end of 2013 per capita real GDP in the United States was above its pre-crisis level and its labour market was on the road to recovery.

* Corresponding author.
E-mail addresses: pgomezgonzalez@fordham.edu (P. Gomez-Gonzalez), reesd@rba.gov.au (D.M. Rees).

[1] Ortega and Penalosa (2012) provide a comprehensive analysis of the Spanish economy in the leadup to the 2008 financial crisis.

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One explanation for the poor performance of the Spanish economy is that, as a member of the euro currency union, it lacked an independent monetary policy (De Grauwe, 2015; Krugman, 2011; Wolf, 2011). Euro membership may have depressed the Spanish economy in several ways. The European Central Bank (ECB) targets economic conditions in the eurozone as a whole. Its monetary policy settings may have been tighter than optimal for Spain, whose economic conditions were particularly weak. Euro membership also meant that relative-price adjustment between Spain and its trading partners had to occur largely through changes in domestic wages and prices, which may be slower and more costly than a nominal exchange rate depreciation. And, had Spain retained an independent monetary policy, the shift in investor preferences away from Spanish assets that occurred between 2010 and 2013 may have translated into a weaker exchange rate rather than a rise in sovereign interest rates and firms' borrowing costs (Krugman, 2011).

Our first contribution is to take these hypotheses to the data and quantitatively evaluate how the Spanish economy would have fared during the Great Recession and sovereign debt crisis if it had retained an independent monetary policy. To do this, we set up and estimate a two-country small open economy model of Spain and the euro area over the period 1988 - 2016. We apply solution and estimation methods that account for Spain's entry into the euro in 1999, and the anticipation of future euro entry in the years prior. This model provides us with the economic shocks that explain the behavior of the Spanish economy over our sample. We evaluate the performance of the Spanish economy outside the euro through counterfactual exercises in which we feed into the model the estimated shocks that hit the Spanish economy but assume that Spain retained the monetary policy arrangements it had prior to 1999.[2] Comparing these counterfactual exercises to actual data tells us the extent to which euro membership influenced Spain's economic outcomes.

We find some support for the idea that euro membership contributed to the poor performance of the Spanish economy in the years following 2008. If it had retained an independent monetary policy, Spanish economic growth would have been around 0.8 percentage points higher and consumption growth around 0.5 percentage points higher in average annualised terms between 2008 and 2013. Core inflation would have also been closer to target. In part, this improved economic performance reflects a substantial depreciation of the nominal exchange rate, of around 20 percent.

These results come with two caveats. First, although Spain would have experienced faster economic growth since 2008, this would not have translated into a higher *level* of economic activity and consumption. This reflects the fact that euro entry led to a boom in economic activity that Spain would not have experienced if it had retained an independent monetary policy.

Second, our results are only a first step towards addressing the broader question of whether euro membership is desirable for Spain. A complete answer must also take account of the benefits of euro membership, including lower trade costs (Rose, 2000, Frankel, 2010 among many others) and the long-term productivity gains from realising economies of scale in a larger market (Balassa, 2012; Baldwin, 1989). Instead, we tackle the narrower question of the consequences of the loss of monetary policy autonomy and its implications for the Spanish economy during the Great Recession and its aftermath.

Our paper also contributes to the literature exploring Spanish economic outcomes since its adoption of the euro. A number of these papers focuses on the years prior 2008. For example, Rabanal (2009) explores the sources of persistent differences in trend inflation between Spain and eurozone, while Jimeno and Santos (2014), FEDEA (2010), Estrada et al. (2009) and Suarez (2010) have also sought to uncover the factors contributing to macroeconomic imbalances in Spain in the 2000s.

Like this earlier literature, Veld et al. (2014, 2015) describe the factors behind the buildup of imbalances in Spain prior to 2008. These papers, however, also explore the reasons for the subsequent slump in economic activity. Both papers conclude that tightening collateral constraints and falling house prices were important contributors to the Spanish economy's weak recovery from the crisis. We extend this literature by quantifying the extent to which the loss of monetary autonomy affected Spanish economic outcomes in the lead-up to, and aftermath of, the Great Recession and sovereign debt crisis.

Our paper also makes a methodological contribution to the literature estimating DSGE models of euro area economies. The transition from a system of individual monetary policies to a currency union represents a change in economic structure that standard solution methods can not account for. Reflecting this, euro-area DSGE models are typically estimated over short samples, over which the assumption of a single monetary regime is plausible (e.g. Andres et al., 2010; Rabanal, 2009; Veld et al., 2014; Veld et al., 2015). Others estimate over a longer sample and ignore the change in monetary policy regime associated with the transition to, and introduction of, the euro (e.g. Burriel et al., 2010; Smets and Wouters, 2005). Both approaches have drawbacks. The use of short samples may result in imprecise inference and overstate the importance of idiosyncratic aspects of recent economic episodes. Models estimated over longer samples that do not account for the shift in monetary policy regime are necessarily misspecified.

We show how to apply solution and estimation methods that account for changes in the conduct of monetary policy associated with euro entry. These methods also incorporate anticipation effects in the years prior to euro entry and endogenously account for the gradual shifts in inflation and interest rates observed in the data. The methods are straightforward to implement, produce credible results and could become a standard feature of estimated DSGE models of euro area economies.

[2] Aside from euro entry, there were additional changes to Spain's monetary policy arrangements in the 1990s associated with the introduction of an inflation target. We also account for these changes in our estimation and counterfactual simulations.