

The Effects of Wage Flexibility on Activity and Employment in the Spanish Economy

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Introduction

- We estimate the macroeconomic effects of the greater wage and firms' internal flexibility promoted by various changes in Spanish labour regulations since 2012 and by the Second Agreement on Employment and Collective Bargaining (AENC)
- We propose a model and a structural VAR that allows us to decompose the changes in the main macroeconomic variables into different structural shocks
- The simulation of two counterfactual scenarios allows us to conclude that the effects greater wage flexibility in the labour market from 2012 onwards have been significant, helping to explain the recovery since the end of 2013
- Other studies: OECD (2013), García-Pérez and Jansen (2015), García-Pérez and Mestres (2016) and Cuerpo, Geli and Herrero (2017)

Introduction

- Aside from Greece, Spain was the European country with the **highest unemployment** increase during the Great Recession, despite a fall in GDP similar to that of other economies
- Andrés and Doménech (2015) suggest that job destruction between 2008 and 2013 was due, among other things, to rigidities in the labour market, with an **adjustments in the level of employment** instead of in wages and hours per worker
- In this context, the **reforms in 2010 and, particularly, in 2012 onwards** were **necessary**, although they have not been enough to resolve all structural problems of the labour market
- **Objective of this paper:** to quantify the macroeconomic effects of the changes in the labour market since 2012
- We extend the evidence presented by BBVA Research (2013) and Cardoso et al. (2013) to 2015

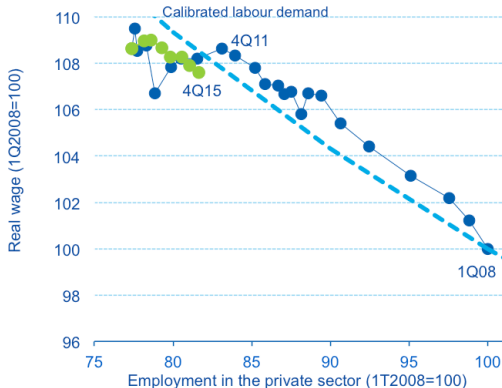
Introduction

- Our research also contributes to the debate on the effects of the structural reforms in countries with no monetary policy sovereignty when interest rates are close to or at zero
- There has been much debate on the possible negative short-term effects of the structural reforms in peripheral European countries (e.g., Krugman, 2014, Eggertsson, Ferrero and Raffo, 2014, Galí, 2013, or Galí and Monacelli, 2016)
- Other studies have found results more favourable to these reforms (Vogel, 2014, Andrés, Arce and Thomas, 2014)
- Our results show that the effects of the labour reforms on production and employment have been positive, despite their potentially deflationary effects
- In contrast with some previous results that propose the convenience of postponing structural reforms to periods of greater inflation, our results suggest that, if implemented at the beginning of the crisis, they could have avoided a significant part of the falls in GDP and employment

Preliminary evidence on the effects of wage flexibility

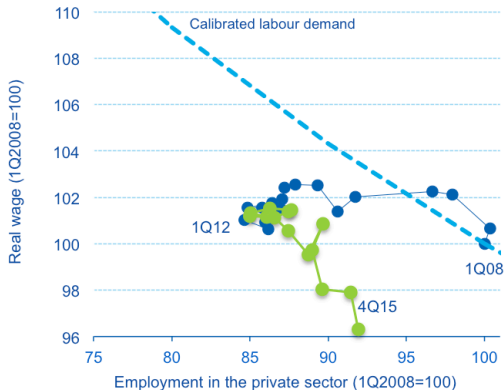
- Reduction of labour costs, facilitating the adjustment of the labour market and breaking the vicious cycle of increasing real wages and job destruction from 2009 to 2011 (Spain vs USA or Ireland)
- Less severe job destruction between 2012 and 2013 despite the more intense financial crisis (increase of risk premia and banking restructuring) and fiscal consolidation
- Positive surprise in employment expectations: the recovery of employment started earlier than anticipated in the consensus forecasts
- A shift of the Beveridge curve towards the origin since 4Q2013
- Job creation with a low inflation and GDP growth deflator, or negative ULC differentials with EMU
- For the first time in the past few decades, from the second half of 2013 onwards jobs have been created with a surplus in the current account

A tale of two recessions



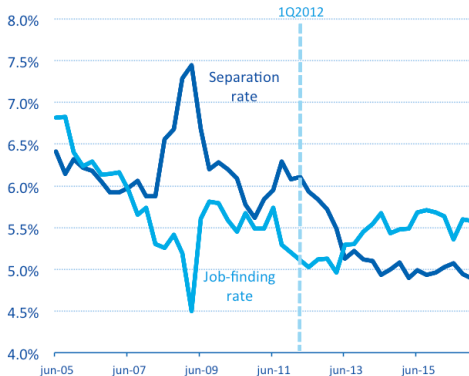
Spain: real wages and employment in the private sector (1Q08 = 100).

A tale of two recessions



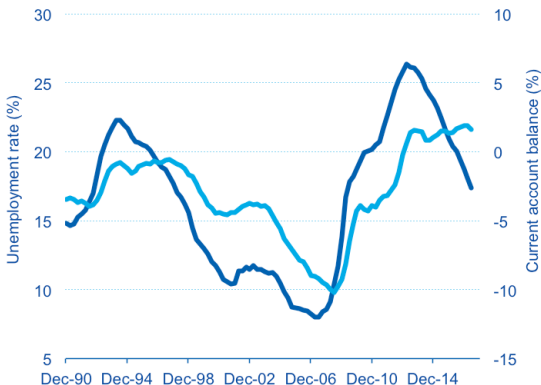
Ireland: real wages and employment in the private sector (1Q08 = 100).

Preliminary evidence on the effects of wage flexibility



Separation and job-finding rates (2005-2017). Source: Boscá et al (2017)

Preliminary evidence on the effects of wage flexibility



Unemployment rate and the current account balance 4Q1990-2Q2017

The model

- Our model is based on the theoretical framework of Layard et al (1991), as the contributions of Andrés (1993) and Dolado and Jimeno (1997) to explain the persistence of unemployment in Spain
- Following Fabiani et al. (2000), our model extends the standard Blanchard-Quah (1989) structure for GDP and unemployment, with a Layard et al's (1991) price-wage block for an economy with rigidities in prices and wages, and sign restrictions
- Unlike Fabiani et al. (2001), we assume that the market power of firms may also affect the share of wages in GDP and unemployment in the long run
- Additional details of the methodology can be found in Doménech, García and Ulloa (2016)

The model

$$y_t = \phi(z_t^d - p_t) + az_t^s \quad (1)$$

$$y_t = n_t + z_t^s \quad (2)$$

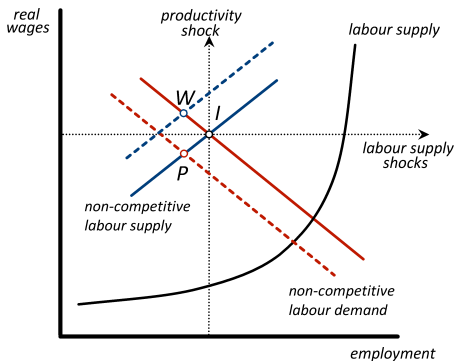
$$p_t = z_t^p + w_t - z_t^s - \beta u_t \quad (3)$$

$$l_t = \alpha E_{t-1}(w_t - p_t - z_t^s) + z_t^l \quad (4)$$

$$w_t = E_{t-1}(p_t + z_t^s) + z_t^w - \sigma E_{t-1} u_t \quad (5)$$

$$u_t \equiv l_t - n_t \quad (6)$$

The model



Long-run effects of shocks on real wages and employment in the model

The model

- After solving the model, we arrive to the following MA representation:

$$\begin{bmatrix} \Delta(w_t + n_t) - (p_t + y_t) \\ \Delta u_t \\ \Delta(w_t - p_t) \\ \Delta y_t \\ \Delta p_t \end{bmatrix} = C(L)_{5 \times 5} \begin{bmatrix} \varepsilon_t^w \\ \varepsilon_t^p \\ \varepsilon_t^s \\ \varepsilon_t^l \\ \varepsilon_t^d \end{bmatrix}$$

with the following long-term solution ($L=1$):

$$C(1) = \begin{bmatrix} \frac{\beta}{\sigma+\beta} & -\frac{\sigma}{\sigma+\beta} & 0 & 0 & 0 \\ \frac{1}{\sigma+\beta} & \frac{1}{\sigma+\beta} & 0 & 0 & 0 \\ \frac{\beta}{\sigma+\beta} & -\frac{\sigma}{\sigma+\beta} & 1 & 0 & 0 \\ -\frac{1-\alpha\beta}{\sigma+\beta} & -\frac{1+\alpha\sigma}{\sigma+\beta} & 1 & 1 & 0 \\ \frac{1-\alpha\beta}{\phi(\sigma+\beta)} & \frac{1+\alpha\sigma}{\phi(\sigma+\beta)} & \frac{a-1}{\phi} & -\frac{1}{\phi} & 1 \end{bmatrix}$$

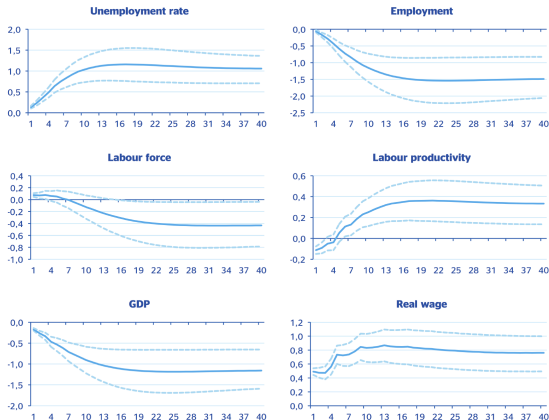
The model: identification restrictions

- $C(1)(1, 3) = C(1)(1, 4) = C(1)(1, 5) = C(1)(2, 3) = C(1)(2, 4) = C(1)(2, 5) = 0$: only price and wage shocks have permanent effects on the share of wages in national income and on the unemployment rate
- $C(1)(3, 4) = C(1)(3, 5) = 0$: neither labour supply shocks nor nominal demand shocks have permanent effects on real wages
- $C(1)(4, 5) = 0$: nominal demand shocks have no permanent effects on GDP
- $C(1)(1, 2) < 0$: price shocks have a negative and permanent effect on the share of wages in national income

Main results

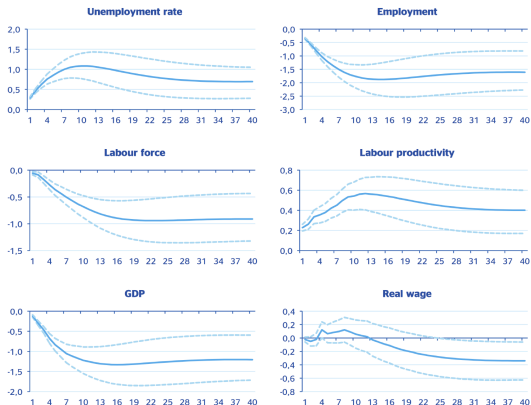
- Impulse-response functions confirm the predictions of the theoretical model
- Wage and price shocks have a negative, permanent and statistically significant effect on activity and employment.
- The reduction of employment is larger than the increase of real wages after a wage shock, reducing total real payrolls
- There has been an increase in the sensitivity of employment to changes in real wages when latest years are included in the sample
- The greatest part of the increase in the unemployment rate between 2008 and 2011 is explained by rigidities in price and wage formation
- In 2011 and 2012, the biggest contribution to the growth in unemployment came from price shocks: reaction to the wage shocks of previous years or to financial stress (self-financing retaining profits)?
- With greater wage flexibility between 2008 and 2011, as since 2012, the increase of 8 pp in the unemployment rate could have been avoided

Results: effects of a wage shock



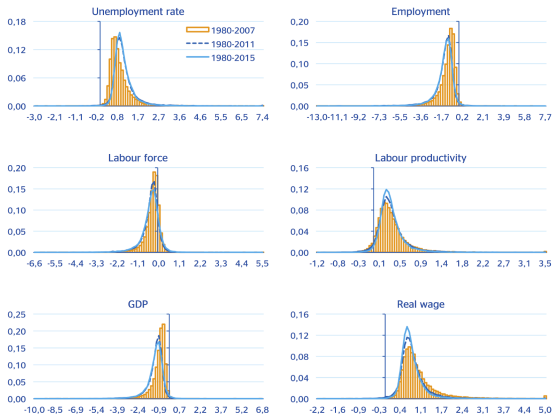
Impulse-response functions to a wage shock

Results: effects of a price shock



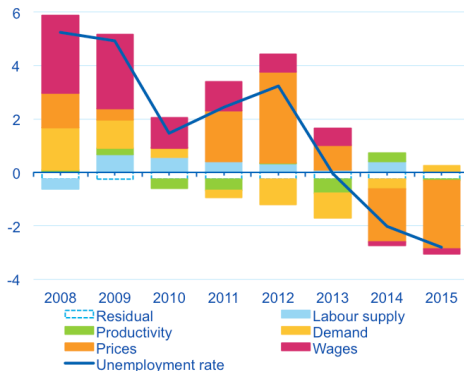
Impulse-response functions to a price shock

Results: slightly greater effects during the crisis



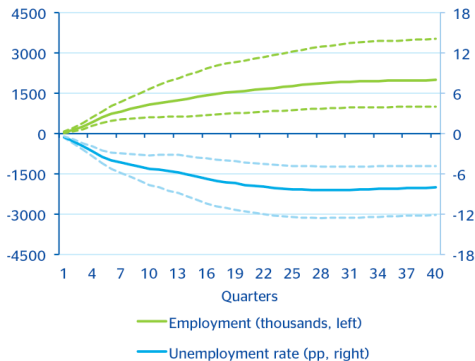
Probability density functions of long-term responses to a wage shock

Results: wage and price shocks contributions



Historical decomposition of annual changes in the unemployment rate

Counterfactual: no wage shocks since 2008



Results of the counterfactual (deviations from baseline scenario)

Conclusions

- Our results show that the effects of the greater wage flexibility observed since 2012 have been significant and economically relevant
- If wage shocks in 2010 and 2011 had continued between 2012 and 2015, close to nine hundred thousand additional jobs would have been lost, practically offsetting the net jobs created between 2014 and 2015
- With greater wage flexibility between 2008 and 2011, as since 2012, the increase of 8 pp in the unemployment rate could have been avoided
- Our results are consistent with the evidence that between 2012 and 2013 job destruction was less intense than in previous years (despite the fiscal adjustment and the greater financial stress) and a recovery since then that has been compatible with a surplus in the current account, the improvement in price competitiveness and an inward shift of the Beveridge curve
- High levels of unemployment and temporary employment demand new actions, as proposed by BBVA Research (2014b and 2016) and Andrés and Doménech (2015)