

The Long-run Challenges of the Spanish Economy

Javier Andrés¹ and Rafael Doménech^{1,2}

1 University of Valencia

2 BBVA Research

Universidad Pablo Olavide

October 29th, 2015

Introduction

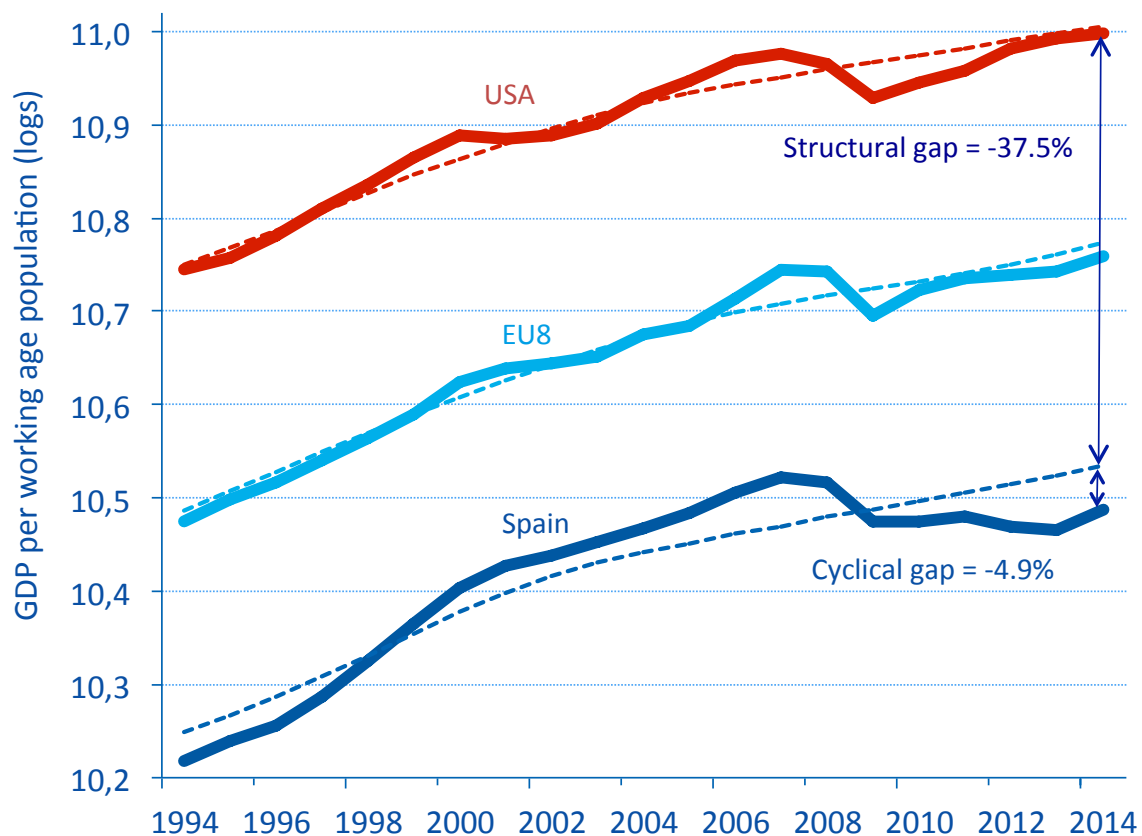
- Since the beginning of the Great Recession in 2008, economic analysis has devoted huge efforts to the design and evaluation of appropriate **stabilization policies**
 - **Deleveraging** and **financial crisis** (Koo, 2014, Eggertsson and Krugman, 2012, ...)
 - **Fiscal policy** and multipliers (Blanchard and Leigh, 2013, Andrés and Doménech, 2013a and 2013b, ...)
 - **Monetary policy** at the ZLB (Joyce et al, 2012, ...)
 - **Economic integration** in EMU (Wolff and Sapir, 2015,....)
 - **Inequality** and redistributive effects of the economic crisis (Piketty, 2014, ...)
- More recently the debate has focused on the **secular stagnation hypothesis**, after a speech by L. Summers (2014), who re-introduced an old term advanced by A. Hansen (1938) after the Great Depression

Introduction

- **Hansen's secular stagnation** relied on the exhaustion of three main growth forces:
 - private investment to maintain full employment and a rapid advance of technology,
 - the discovery and development of new territories, and
 - population growth.
- In terms of current challenges, **Spain faces similar challenges**:
 - convergence to the **world knowledge frontier** (see next page)
 - openness to **global markets**, and
 - attracting human capital to address **ageing and lower population growth**.

Introduction

GDP per working-age population



Trends estimates based on an Unobservable Component Model with GDP per working-age population, unemployment and investment rate. See Doménech (2013): "Potential Growth and Structural Unemployment in Spain, EMU and the US". BBVA Research. <http://goo.gl/bUJFwv>
EU8: Sweden, UK, Denmark, Finland, Germany, Netherlands, Austria and Belgium

Introduction

- According to the evidence for the Spanish economy, **closing the cyclical gap** (e.g., through demand policies and the reallocation of factors) is important but **less relevant than closing the distance with the world frontier**
- Why are people in Spain today not as rich as in the United States and in the most advanced European economies? → Basic question of **Economic Growth Theory**
- Why economic crises in Spain usually revert advances in convergence during expansion periods? → Better understanding of **Economic Cycles and the sustainability of growth dynamics**

Introduction

- After the economic crisis the challenge is not only to close the cyclical gap but, more importantly, to implement the structural reforms needed to **converge to those countries with better growth performance, employment and welfare:**
 - Identify the causes of the **structural gap**
 - Factors behind the low relative levels of **employment, productivity, and human and technological capital**, as a result of inappropriate economic, legal and institutional **incentives**
 - Reforms for a **balanced growth**, more resilient to economic crisis and **more inclusive**, with better and **equal opportunities**
- All these challenges pose **many important questions to economic analysis and its research agenda** for a proper **assessment of the ex-ante and ex-post results of these growth policies**

Index

1. Introduction
- 2. GDP per capita and its determinants**
3. The Long-run Challenges of The Spanish Economy
4. Conclusions

GDP per capita and its determinants

- Two useful and simple decomposition:

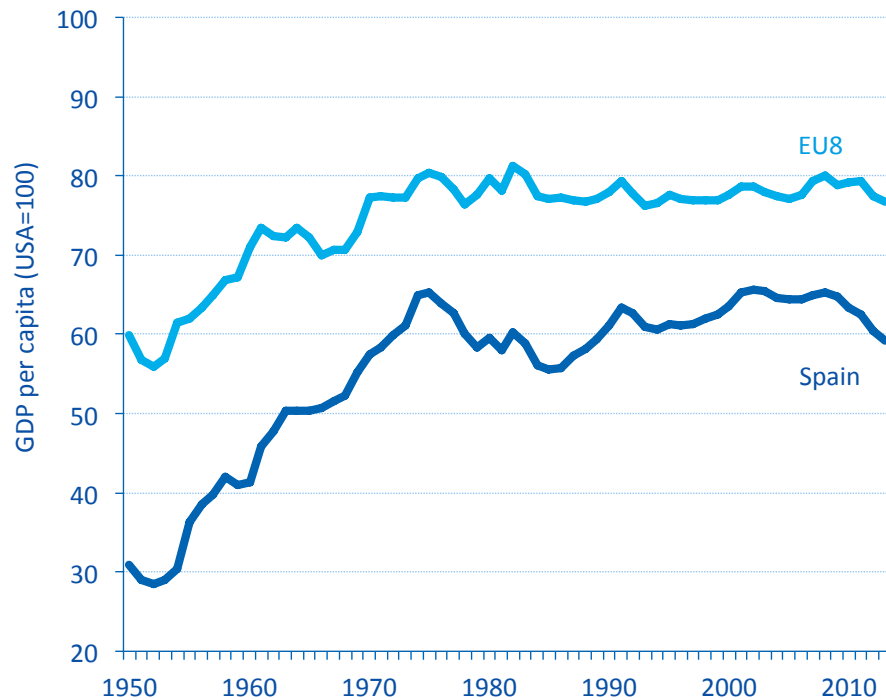
$$\text{GDP per capita} = \text{GDP per working-age population} \times \text{Share of working-age over total population}$$

$$\text{GDP per working-age population} = \text{GDP per hour} \times \text{Hours per worker} \times \text{1-unemployment rate} \times \text{Labour force participation rate}$$

GDP per capita and its determinants

GDP per capita

Source: Andrés and Doménech (2015)



We assume that GDP per capita is a reasonable proxy of economic welfare

Spain reduced the difference with the US until 1975, but since early eighties the gap has been around 40%

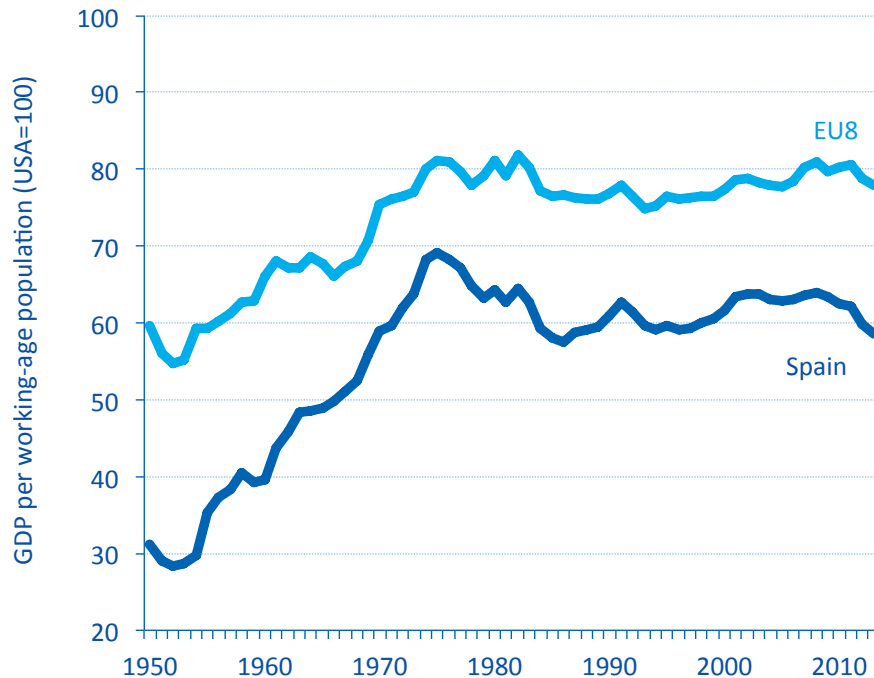
After four decades there is no evidence of the democracy bonus (around 20 pp) estimated by Acemoglu et al (2014)

EU8: Sweden, UK, Denmark, Finland, Germany, Netherlands, Austria and Belgium

GDP per capita and its determinants

GDP per working age population

Source: Andrés and Doménech (2015)



$$GDP_{pc} = GDP_{wap} \times L_{15-64} / Population$$

Small differences in the share of working-age population in total population ...

... GDP per capita and per working-age population have similar dynamics

GDP per capita and its determinants

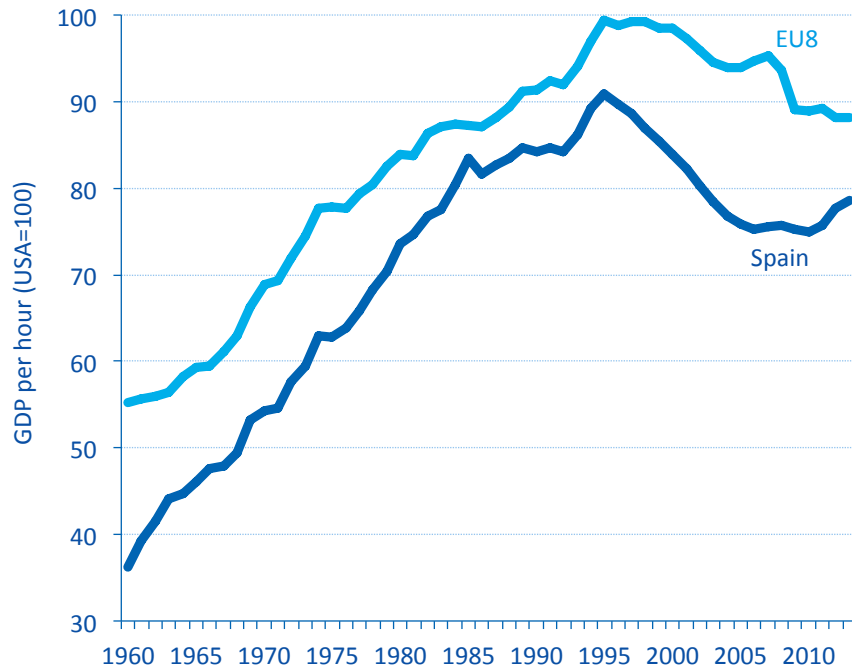
GDP per capita decomposition in 2013, relative gaps between countries

	<i>GDP per capita</i>	<i>Working-age population</i>	<i>Activity rate</i>	<i>Employment rate</i>	<i>Hours per worker</i>	<i>GDP per hour</i>
<i>Spain vs USA</i>	-40,8%	1,1%	0,2%	-20,0%	-6,9%	-21,5%
<i>Spain vs EU8</i>	-22,8%	2,8%	-4,1%	-20,3%	10,5%	-11,0%
<i>EU8 vs USA</i>	-23,3%	-1,6%	4,5%	0,4%	-15,7%	-11,8%

GDP per capita and its determinants

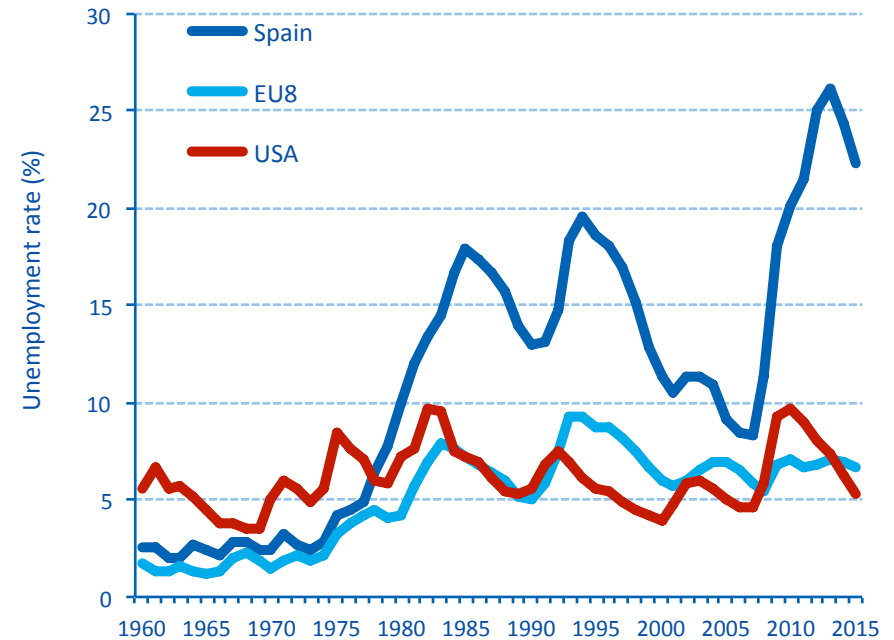
GDP per hour worked

Source: Andrés and Doménech (2015)



Unemployment rate

Source: Andrés and Doménech (2015)



GDP per capita and its determinants

- Compared to the USA, the lower GDP per capita of Spain is explained in equal parts by
 - the **productivity gap** (GDP per hour): **20 pp**
 - The **employment rate gap**: **20 pp**
- **Growth accounting** allows us to go further and decompose productivity into TFP and capital deepening. Starting point:

$$Y_t = A_t K_t^\alpha L_{h,t}^{1-\alpha}$$

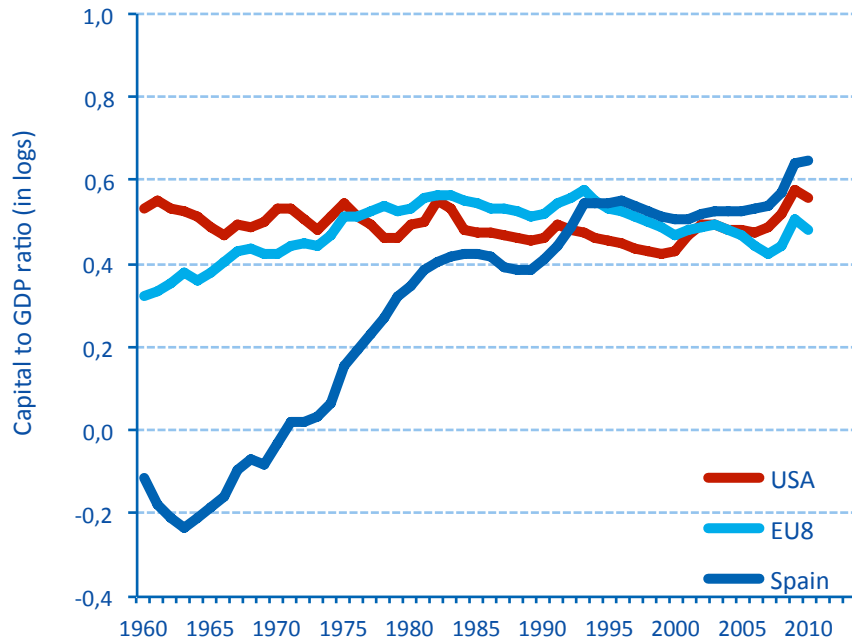
- Following Klenow and Rodriguez-Clare (1997) and Jones (2015), we can divide both sides by Y^α to obtain

$$\frac{Y}{L^h} = A^{1-\alpha} \left(\frac{K}{Y} \right)^{\frac{\alpha}{1-\alpha}}$$

GDP per hour and its determinants

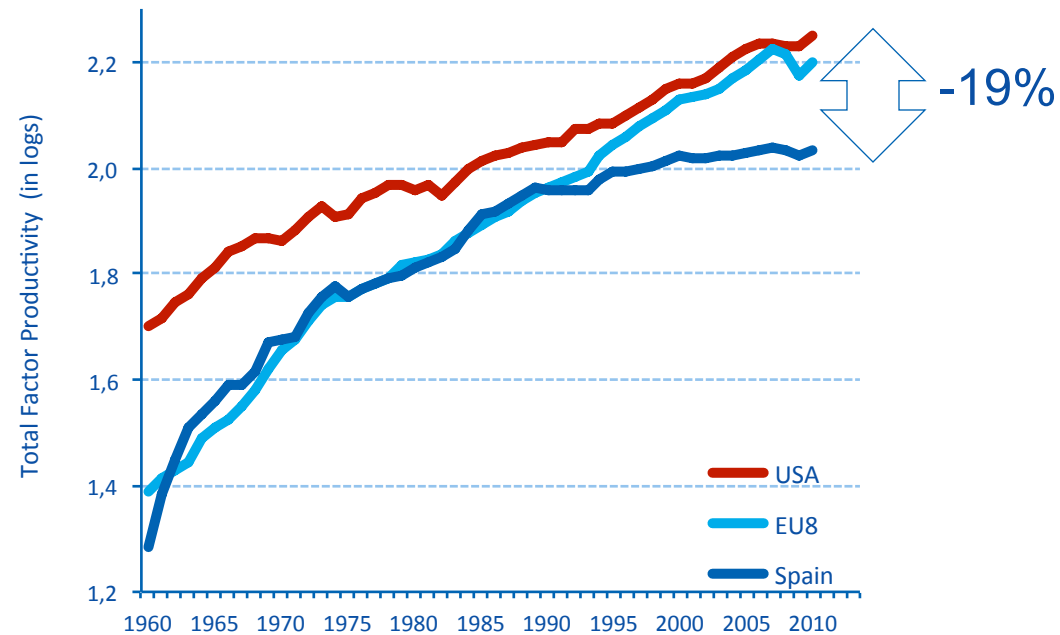
Capital-output ratio

Source: Andrés and Doménech (2015)



Total Factor Productivity

Source: Andrés and Doménech (2015)

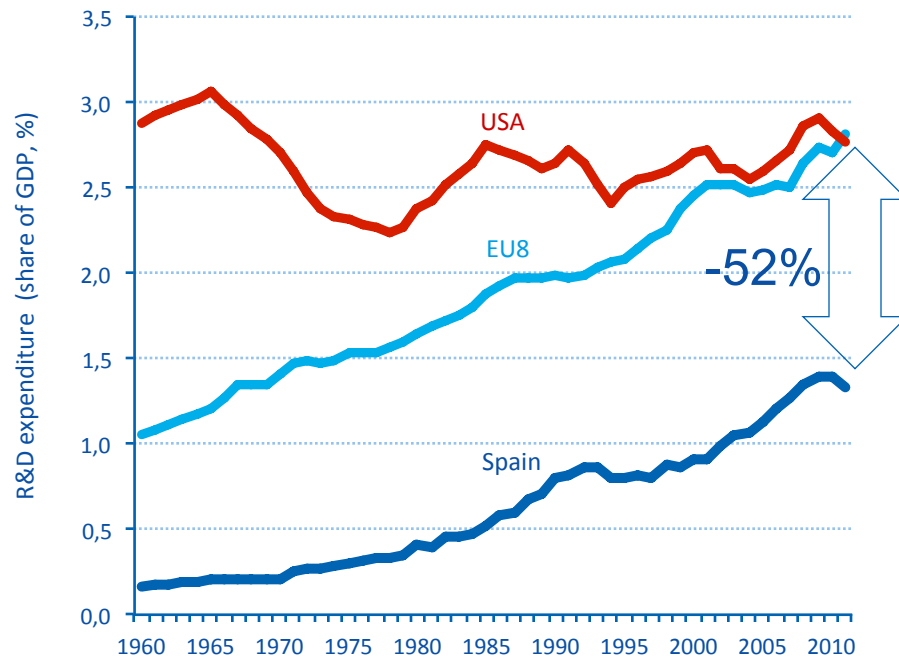


Note: Capital stock includes public capital and excludes housing.

Main determinants of Total Factor Productivity

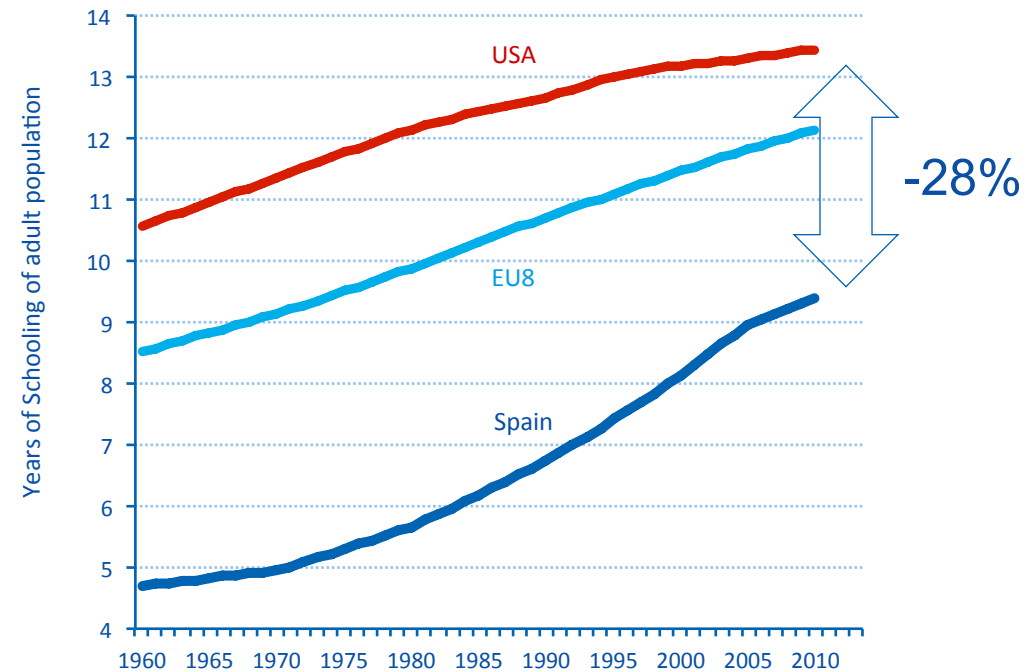
R+D spending over GDP

Source: Andrés and Doménech (2015)



Average years of schooling of adult population

Source: de la Fuente and Doménech (2015)



GDP per capita and its determinants: main results

- Three main determinants of GDP per capita gap: **employment rates, human capital and technological capital**
- The productivity and employment rates gaps not only affect GDP per capita. They also **hamper** a wide range of variables that determine **individual well-being**: wages, public services, pensions, etc.
- A **labour market** that works substantially worse than in other advanced countries
- Less **human capital** and lower **R&D effort** than in other countries
- This lack of convergence is also present at the Spanish **regional level**
- These weaknesses and gaps are not casual but the result of **inadequate incentives and institutions**

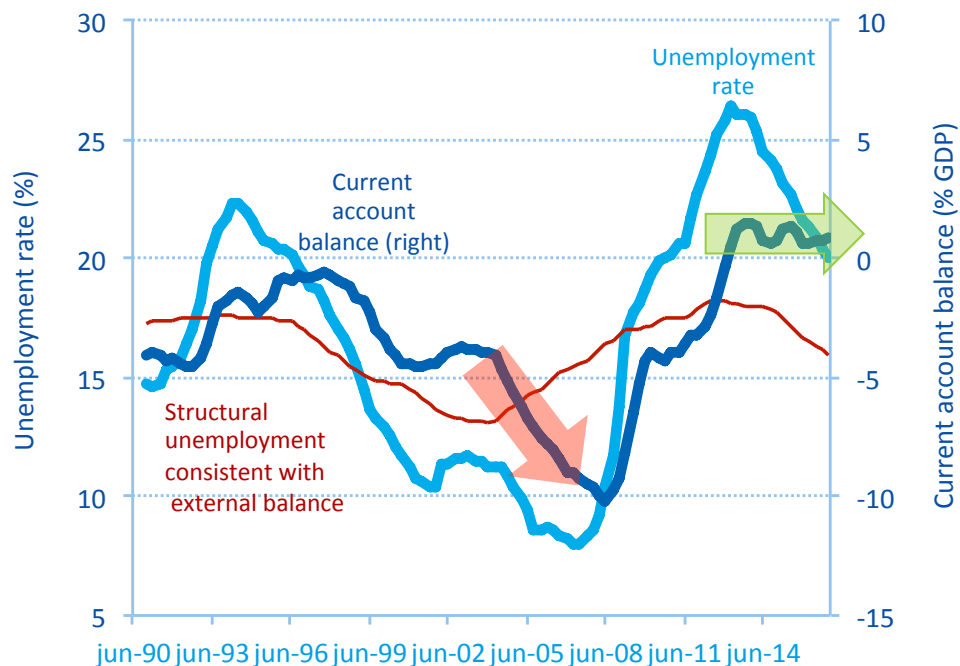
Index

1. Introduction
2. GDP per capita and its determinants
- 3. The Long-run Challenges of The Spanish Economy**
4. Conclusions

1. A lower structural unemployment rate

Spain: current account balance and unemployment rate

Source: Andrés and Doménech (2015)



In the past, job creation implied a large deficit in the current account with small effects on the structural unemployment rate

As Diamond (2013) points out, it is difficult to separate structural from cyclical unemployment ...

... but it is crucial to understand to what extent structural reforms are reducing the structural unemployment rate

1. A lower structural unemployment rate

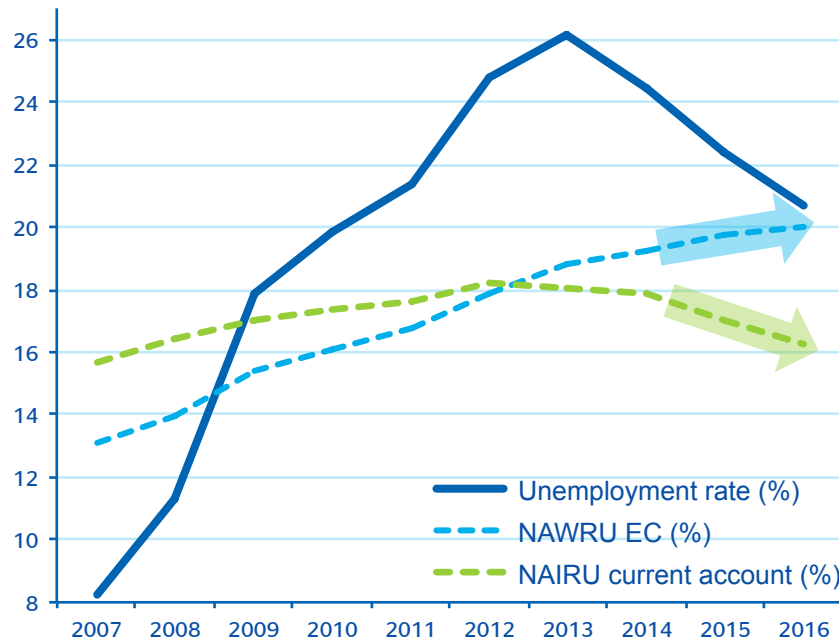
Different approaches to estimate structural unemployment rates

- **Structural models** (Nickell et al. 2005)
- **Unobservable components models:**
 - consumption or wage inflation, unit labour costs (e.g., Gordon, 2013, Watson, 2014),
 - Okun law (Ball et al, 2013, Doménech, 2013),
 - investment rates (Doménech and Gómez, 2006), etc.
- **Structural VAR models** (Dolado and Jimeno, 2007, Cardoso et al, 2013)
- **Beveridge curve** (Daly et al, 2012, *JEPers*, Diamond, 2013)
- **DSGE models** with non-stationary unemployment rates (e.g., Gali, 2015)

1. A lower structural unemployment rate

Spain: structural unemployment rate estimates

Source: BBVA Research and European Commission



The structural unemployment rate is a non-observable variable and estimates differ in the effects of structural reforms, ALMP, etc.

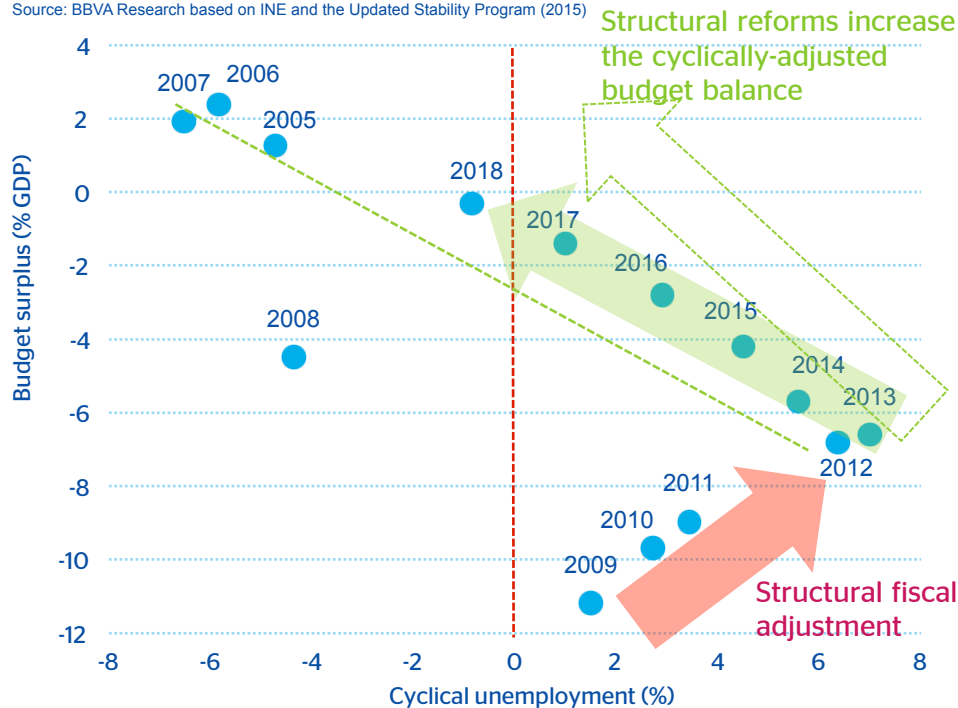
According to the EC, structural unemployment will be surprisingly growing in 2016 whereas alternative estimates suggest a decrease

Needed: better models and data for economic policy evaluation of labour market reforms

2. Public sector: sustainability, size and efficiency

Spain: unemployment rate and budget balance of general government, 2005-2018

Source: BBVA Research based on INE and the Updated Stability Program (2015)



Uncertainty about structural unemployment rates and automatic stabilizers affect the assessment of fiscal policy

Other issues: public debt sustainability (fiscal limit, Leeper & Walker, 2011), effects of debt on growth (Doménech and Garcia, 2013) ...

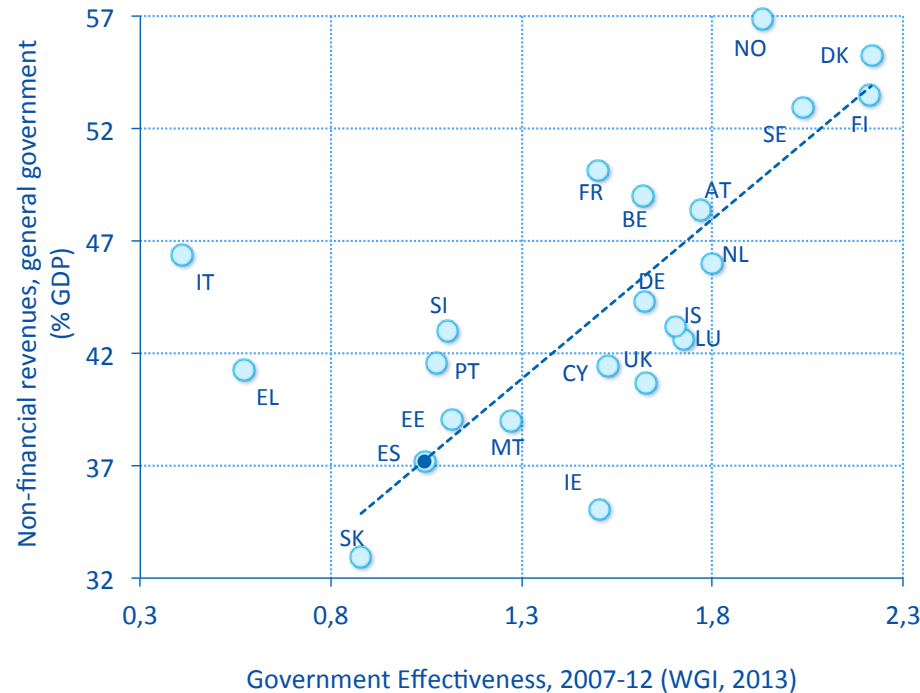
... government size, composition and efficiency of expenditures and taxes

Note: Structural unemployment assumed to remain constant at 18% from 2014 onwards in the dots representing the Updated Stability Program. A reduction of the structural unemployment rate increases the slope of the fiscal adjustment path, as in the arrow with a dashed line.

2. Public sector: sustainability, size and efficiency

Revenues and efficiency, general government

Source: Andrés and Doménech (2015) based on Eurostat and WGI (2013)



Government size is correlated with the efficiency of public sector (Kaufmann et al, 2010)

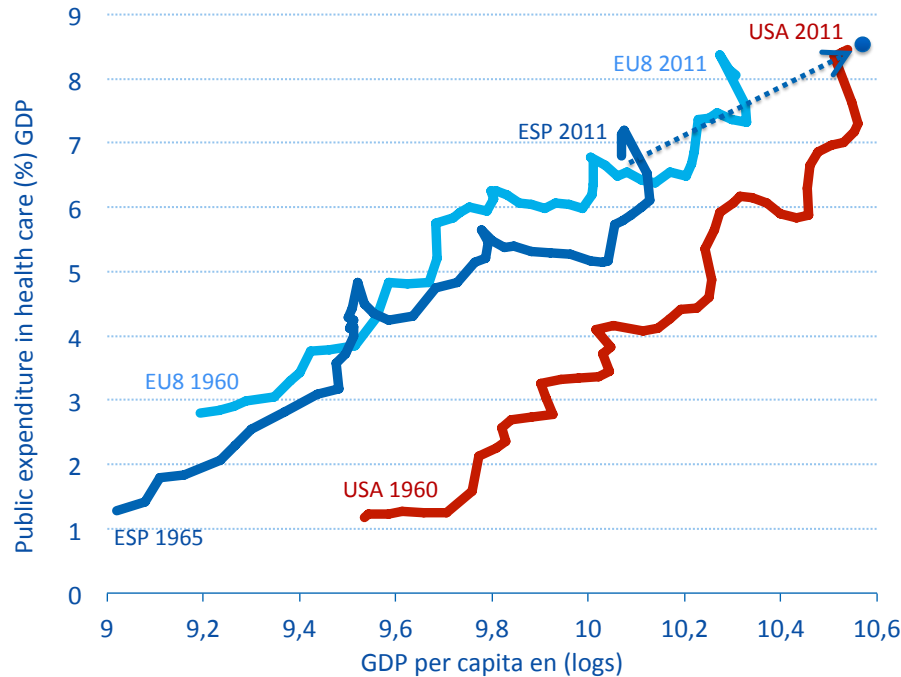
Dynamic process in which size should increase after the improvement of public sector efficiency (taxes and expenditures)

Needed: policy evaluation of public sector policies

3. Ageing and Welfare state sustainability

Public expenditure in health and GDP per capita

Source: Andrés and Doménech (2015) based on OECD.



Ageing will affect the sustainability of the welfare state in two important public expenditures: pensions and health

How will the last pension reform (ECM) will affect sustainability and individual decisions (e.g., Díaz and Saavedra, 2014)

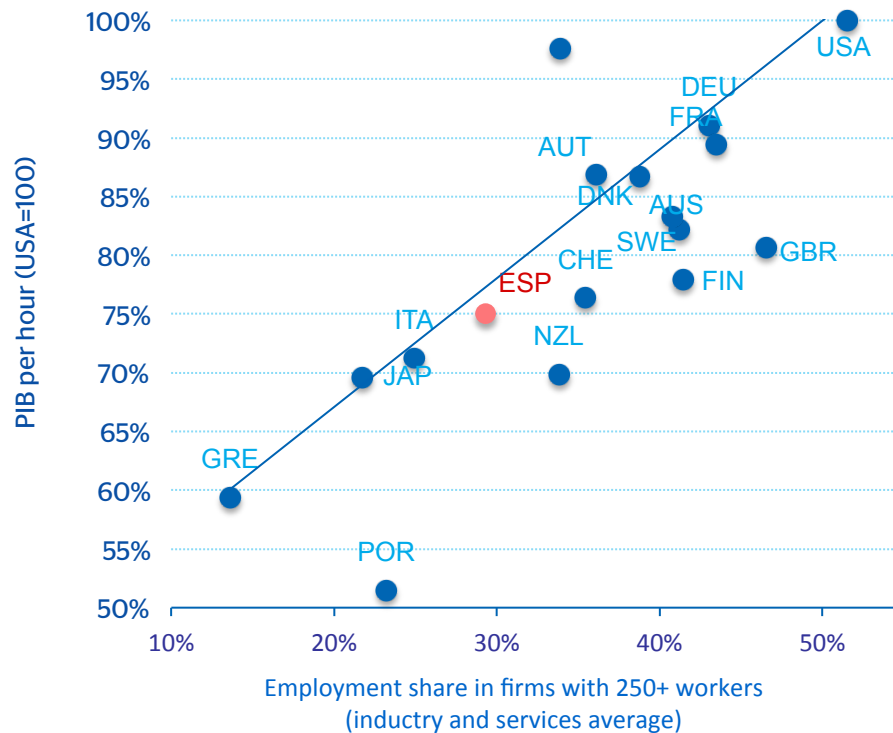
Ageing and the sustainability of the health system (Hall and Jones, 2007), given an elasticity to income greater than one

Note: the estimated elasticity of public expenditure in health care to GDP per capita is close to 1.5

4. Firm size and productivity

GDP per hour and average firm size, 2010

Source: Andrés and Doménech (2015) based on OECD *Entrepreneurship at a Glance* (2013)



Bigger firms show higher productivity, survival rates, open ended contracts, internal flexibility, human capital, R&D investment, *K/L*, ...

... increasing exports probability: size is its more important determinant (Correa and Doménech, 2012)

Firm size composition effects are more important than those resulting from sectoral composition

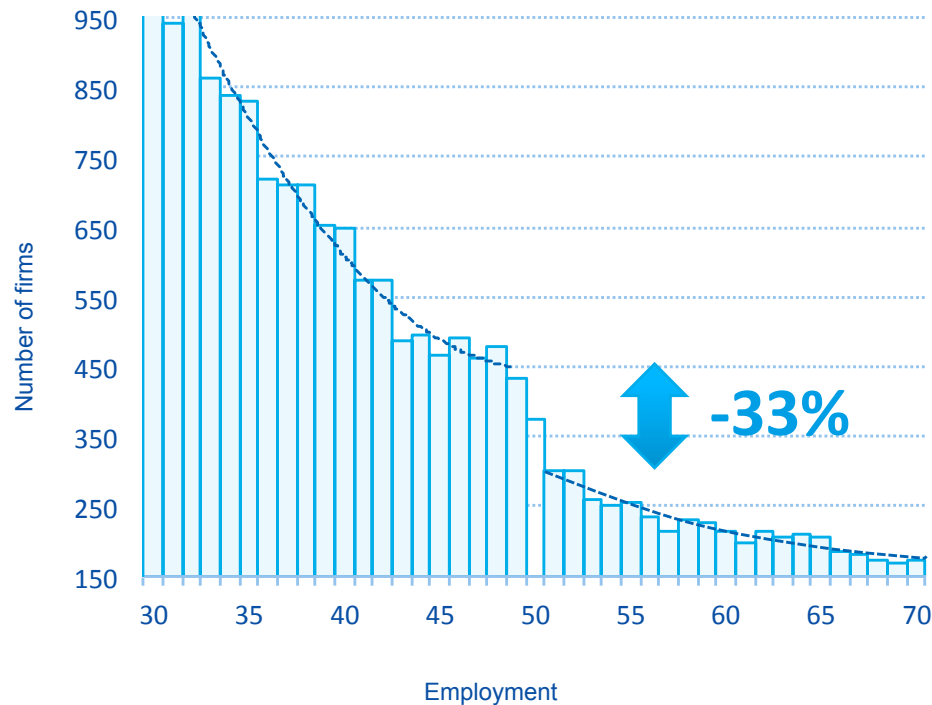
4. Firm size and productivity and competitiveness

- Level of development, market size and population density
 - Bidirectional causality with per capita income
 - Lucas, 1978: as productivity and wages increase, it is better to be a worker in a large company than a small entrepreneur
- Human capital (Lucas, 1978): existing distribution of human capital, with abilities to manage medium and large firms, also interacting with family ownership of small firms
- Institutions, regulations in product (Nicoletti et al, 2001) and labor markets (Garicano et al., 2013) and taxation (Almunia and López-Rodríguez, 2014)
- Access to external finance
- Sectoral specialization: composition effects at the country level
- Performance and efficiency of the judicial system (Kumar et al, 2001, García-Posada and Mora-Sanguinetti, 2013): safety and legal certainty

4. Firm size and productivity and competitiveness

Firm size and employment

Source: BBVA Research and Círculo de Empresarios (2015)



Regulations and other factors may explain the discontinuities found in the data ...

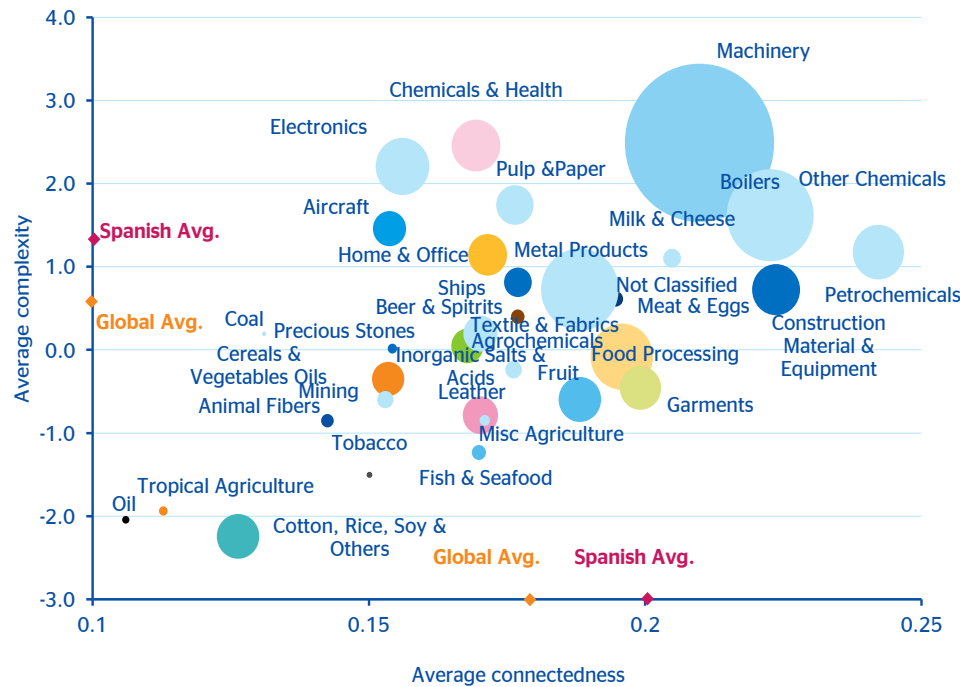
... as, for example, those related to the threshold of 50 employees

To avoid these discontinuities, regulations need a better design and compensating incentives to promote firm growth

5. Openness and international and competitiveness

Complexity and connectedness of Spanish exports, 1999-2011

Source: Correa and Doménech (2012)



Hausmann et al have proposed a very interesting methodology to analyse the comparative advantage of countries

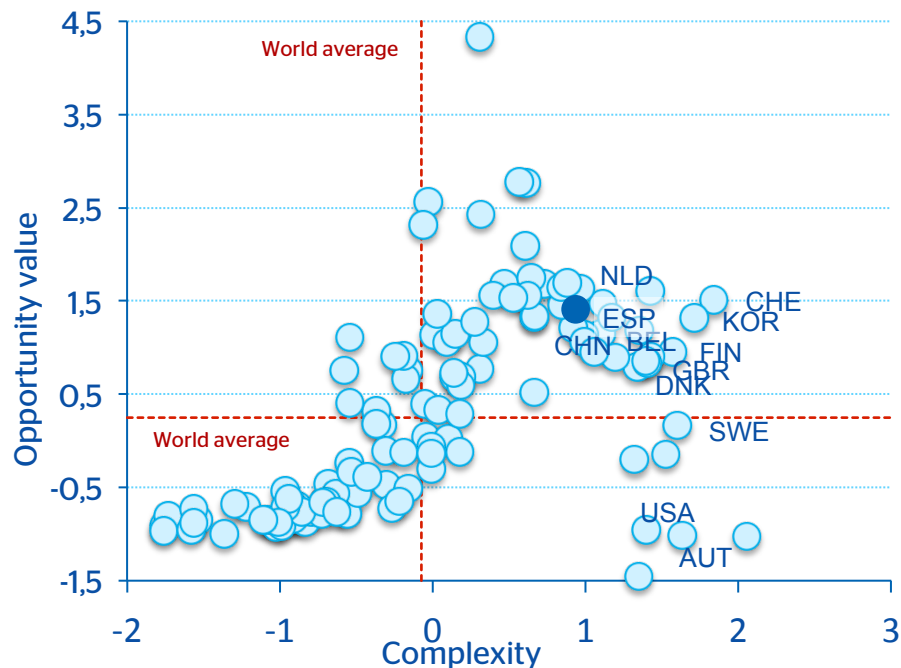
More complex sectors with higher connectedness increase international advantage and future growth

Needed: extend this analysis from manufactures to services

5. Openness and international and competitiveness

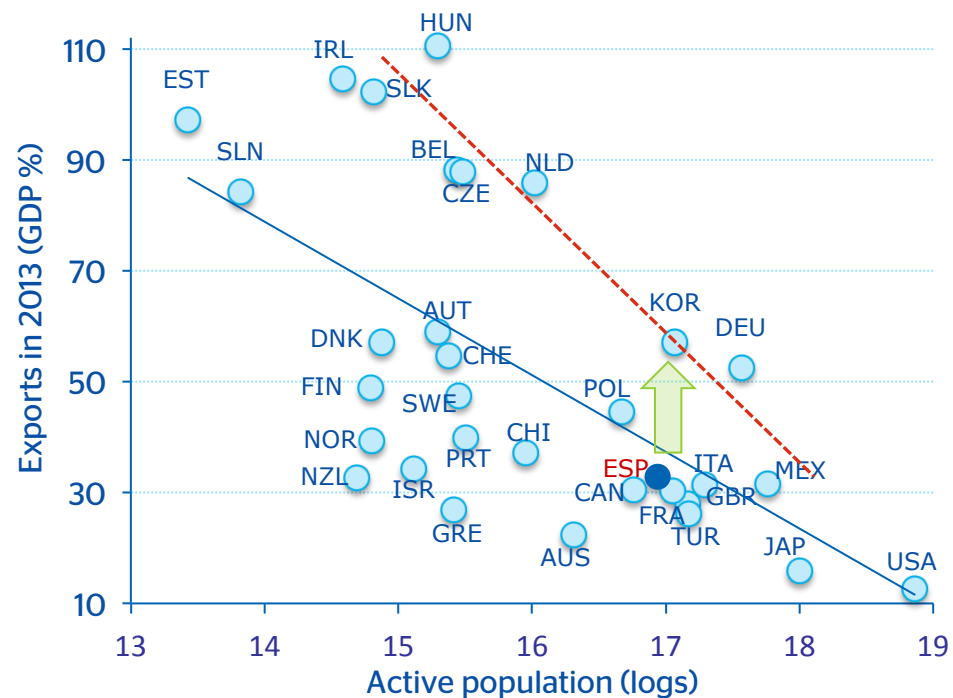
Complexity and opportunity value, 2012

Source: Hausmann et al (2014)



GDP share of exports and country size

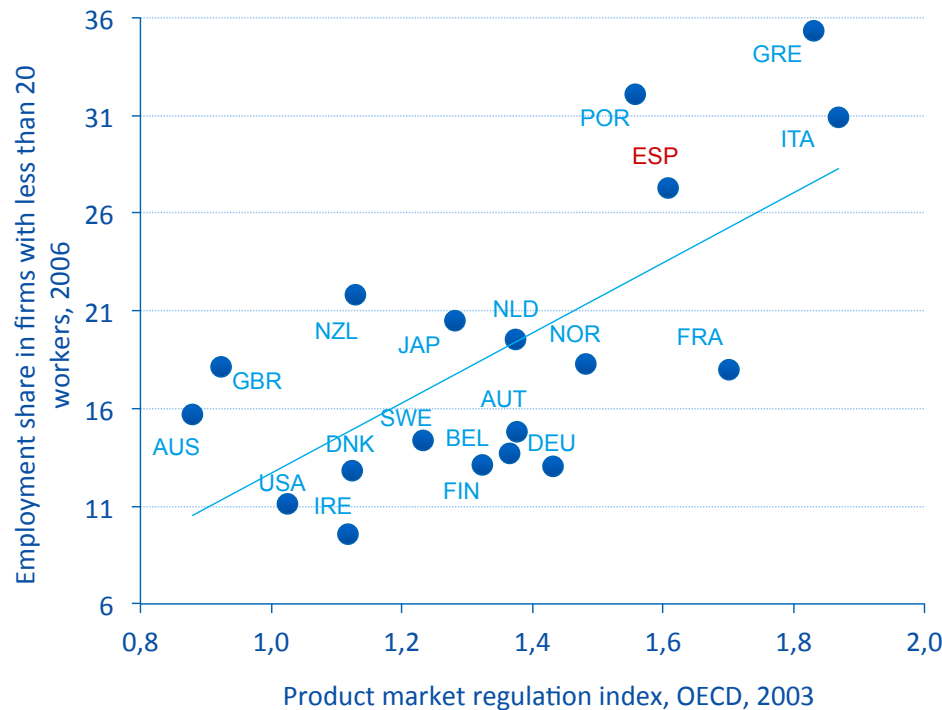
Source: Andrés and Doménech (2015)



6. Better regulations and business climate

Firm size and product market regulations, OECD

Source: Cuerpo, Doménech and González-Calbet (2011)



Giavazzi & Blanchard (2003), Nicoletti & Scarpetta (2003) have shown that regulations are crucial for productivity and employment

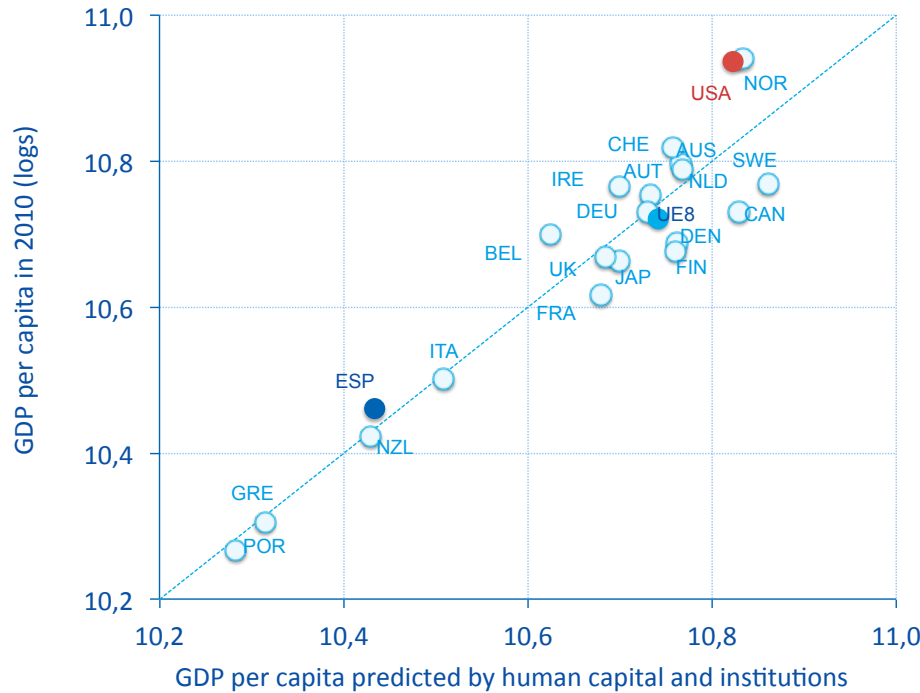
Further research needed on the effects of better regulations on firms dynamics, exports performance, R&D, etc. ...

... and the design and policy evaluation of regulation changes

7. Better institutions

Institutions, human capital and GDP per capita

Source: Andrés and Doménech (2014)



Acemoglu and Robinson (2012), among many others, have vindicated the relevance of institutions on economic growth

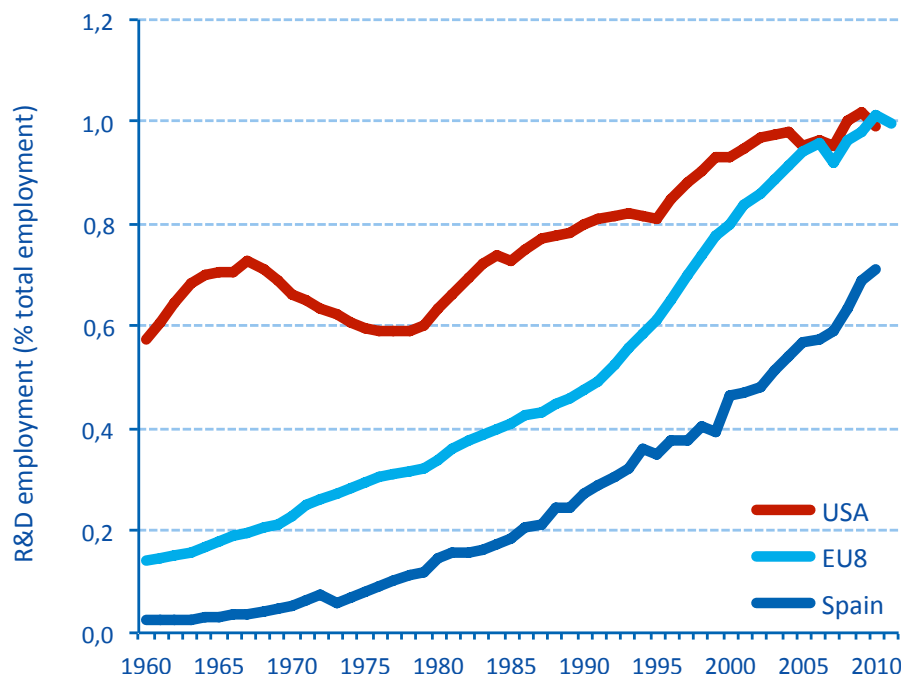
Institutions vs human capital (A&R vs Glaeser et al): a more eclectic approach since, at the end of the day, both are crucial

Which institutions are more relevant? How are they working? How to increase efficiency and transparency, reduce corruption, ...?

8. Technological capital

Research employment share

Source: Andrés and Doménech (2015) based on OECD



Part of the gap is explained by the small size of firms: most R&D activities are done by medium and large companies

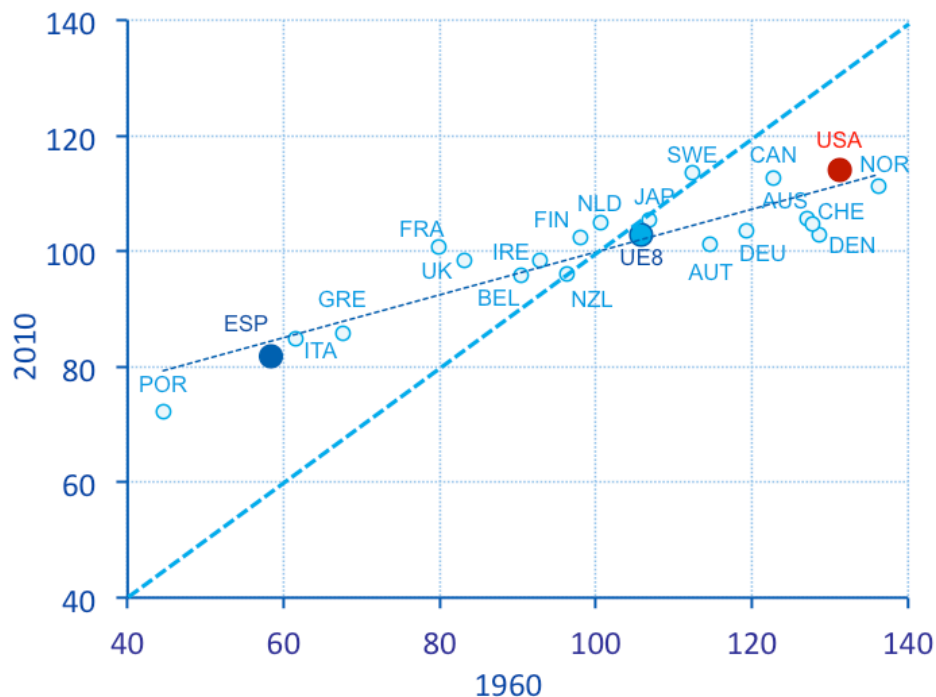
Better understanding of innovation and technology diffusion and adoption (Comin et al)

Role of public-private partnerships: Fraunhofer (Comin et al. 2012), ITRO, ETRI or TNO.

9. Human capital

Convergence in years of schooling, adult population

Source: De la Fuente and Doménech (2015)



Endogenous growth models: human capital affects most determinants of GDP per capita: productivity, LFPR, employment rate, etc.

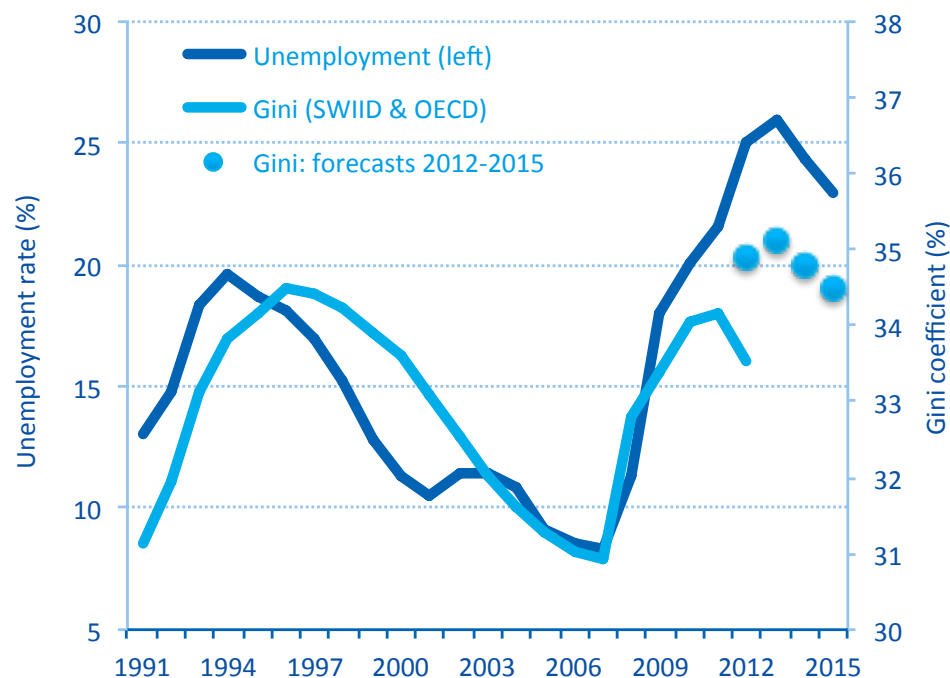
Convergence in human capital (years of schooling, quality, vocational training, etc.) is very slow due to demographic dynamics

Research on the effects of human capital on welfare and inequality is crucial to increase the demand for more and better education

10. Inequality

Spain: Income inequality and unemployment rate

Source: Andrés and Doménech (2015) based on OCDE, SWIID (2014) and de la Fuente (2012)



As expected at the beginning of the crisis, inequality has become one of the major economic challenges

Spain does not exhibit a positive trend in income inequality as a result of globalization and skill-biased technological change

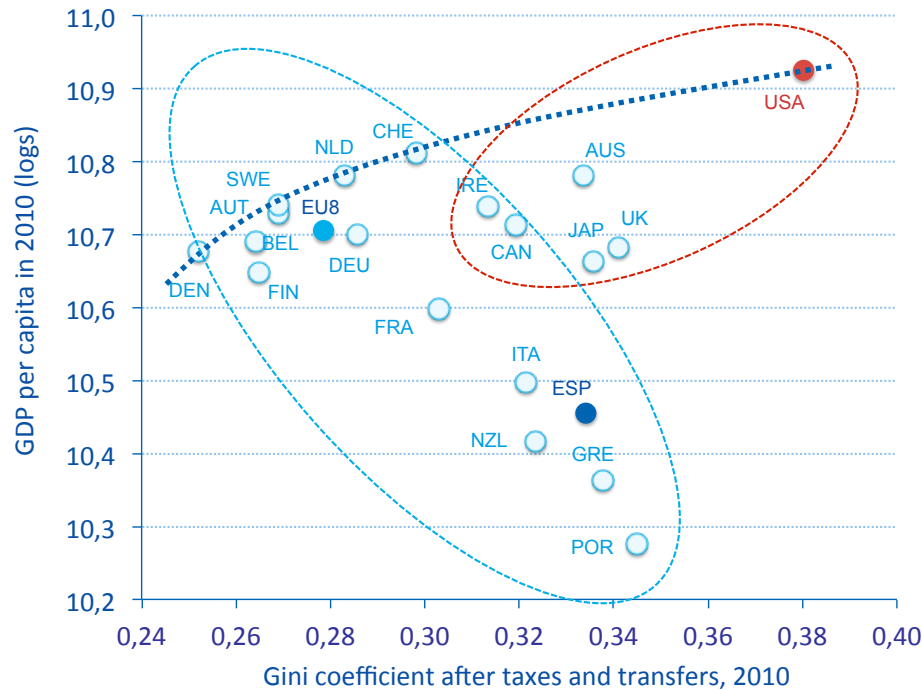
Inequality in Spain reflects a cyclical problem (unemployment explains 80% of the cyclical movements) but also a structural one

* Unemployment rate from de la Fuente (2012):
 "Series enlazadas de los principales agregados nacionales de la EPA, 1964-2009"
 Gini coefficients: OECD 2007-2011 from <http://oe.cd/idd>
 and SWIID 1991-2007 from <http://myweb.uiowa.edu/fsolt/swiid/swiid.html>
 Dots from 2012 to 2015 are forecasts based on the unemployment rate

10. Inequality and inclusive growth

Inequality and GDP per working-age population OECD, 2010

Source: Andrés and Doménech (2015)



The structural problem: Spain is well below the GDP per capita and income inequality frontier despite a relatively high fiscal redistribution

Inequality in Spain is not caused by the 1% at the top, but by temporary employment, low skills & long-term unemployment at the bottom

No trade-off between growth and redistribution: more education and targeted and well designed measures to alleviate relative poverty

Index

1. Introduction
2. GDP per capita and its determinants
3. The Long-run Challenges of The Spanish Economy
- 4. Conclusions**

Conclusions

- Spain not only faces the challenge of its cyclical recovery but, more importantly, what will be its **relative position in the world economy** in coming decades
- Implementation of best policies to **converge towards the most advanced economies**
 - Structural reforms, better human and technological capital, and improved institutions promoting a better business climate and more inclusive, sustainable and balanced growth
 - Remove barriers to growth and promote more efficient markets in order to foster firm growth, international competitiveness and openness
 - A more efficient and sustainable public sector
- These policies are even more relevant in the **process for a more integrated Europe**
- The challenges of this historical juncture pose **many questions to economic analysis** for a proper assessment of the ex-ante and ex-post results of these growth policies

References

- Acemoglu, D., Naidu, S., Restrepo, P., & Robinson, J. A. (2014): "Democracy does cause growth." NBER WP 20004. <https://goo.gl/rqfTTx>
- Acemoglu, D. and J. A. Robinson (2012): *Por qué fracasan los países. Los orígenes del poder, la prosperidad y la pobreza*. Editorial Deusto.
- Andrés, J. and R. Doménech (2013a): Budget Balance, Structural Unemployment and Fiscal Adjustments. Economic Watch, BBVA Research. <http://goo.gl/Xq2sr9>
- Andrés, J. and R. Doménech (2013b): "Fiscal Adjustment and Economic Growth in Europe". Economic Watch, BBVA Research. <http://goo.gl/CnU8U3>
- Andrés, J. and R. Doménech (2013c): "¿Puede la moderación salarial reducir los desequilibrios económicos?" BBVA Research. <http://goo.gl/2Wg6Zf>
- Andrés, J. and R. Doménech (2014a): "Políticas para el Empleo." Presentación BBVA Research. <http://goo.gl/TToUma>
- Andrés, J. and R. Doménech (2014b): "Los Retos a Largo Plazo del Sector Público en España", Mimeo. BBVA Research. <http://goo.gl/8owR4E>
- Andrés, J. and R. Doménech (2014c): "Los Retos de la Economía Española", en T. Stehling y E. Olier (eds.), *El Modelo de Economía Social de Mercado como Propulsor de la Salida de España de la Crisis Económica. Goeconomía*, 10. Institutio Choiseul. <http://goo.gl/BN6uM2>
- Andrés, J. and R. Doménech (2015): *En Busca de la prosperidad*. Ediciones Deusto.
- Ball, L., D. Leigh and P. Loungani, (2013): "Okun's Law: Fit at Fifty?" NBER Working Paper 18668. <http://goo.gl/dD0OrM>
- Blanchard, O. and D. Leigh (2013): "Growth Forecast Errors and Fiscal Multipliers." *American Economic Review*, 103(3).
- Boscá, J., Doménech, R., and Ferri, J., 2013, "Fiscal Devaluations in EMU," *Hacienda Pública Española/Review of Public Economics*, 206-(3/2013), 27-56. <http://goo.gl/zX6SnA>
- Cardoso, M., R. Doménech, J. R. García, and C. A. Ulloa (2013): "Labour markets reforms and unemployment: Estimating the effects of wage moderation in the Spanish economy". <http://www.voxeu.org/article/wage-moderation-spain>
- Circulo de Empresarios (2015): *Informe de la Mediana Empresa* (forthcoming).
- Correa, M. and R. Doménech (2012): "La Internacionalización de la Empresa Española." BBVA Research WP 12/30 <http://goo.gl/F4Oybc>
- Crafts, N. (2013): "Returning to Growth: Policy Lessons from History". *Fiscal Studies*, 34(2), 255-282. <http://goo.gl/Xzi4AP>
- Daly, M. C., Hobijn, B., Şahin, A., and Valletta, R. G. (2012). A search and matching approach to labor markets: Did the natural rate of unemployment rise?. *The Journal of Economic Perspectives*, 3-26.
- De la Fuente, A. and R. Doménech (2015): "Educational Attainment in the OECD, 1960-2010". *Economics of Education Review* (forthcoming) <http://goo.gl/53mrHB>
- Diamond, P. (2013). Cyclical unemployment, structural unemployment. *IMF Economic Review*, 61(3), 410-455. <http://goo.gl/Tyb62m>
- Diaz Gimenez, J., & Diaz Saavedra, J. (2014): "The Future of Spanish Pensions." WP 14/03. Universidad de Granada. <http://goo.gl/WbnVLa>
- Dolado, J. J. and J F Jimeno, (1997): "The causes of Spanish unemployment: A structural VAR approach," *European Economic Review* 41(7), pp. 1281-1307.
- Doménech (2013): "Potential Growth and Structural Unemployment in Spain, EMU and the US". BBVA Research. <http://goo.gl/bUiFwy>

References

- Doménech, R. (2014): “Pensiones, Bienestar y Crecimiento Económico”, en J. A. Herce (coord.) *Pensiones: Una Reforma Medular*, Fundación de Estudios Financieros y Círculo de Empresarios. <http://goo.gl/W1FvdY>
- Doménech, R., and A. García-Serrador (2013): “La Estabilidad Presupuestaria y El Sector Privado de la Economía”, en *Estabilidad Presupuestaria y Sostenibilidad Fiscal*, Instituto de Estudios Fiscales. <http://goo.gl/1vravV>
- Doménech, R. and V. Gómez (2006): “Estimating Potential Output, Core Inflation and the NAIRU as Latent Variables.” *Journal of Business & Economic Statistics*, 24(3). <http://goo.gl/yPTnqI>
- Eggertsson, G. B., and Krugman, P. (2012). Debt, deleveraging, and the liquidity trap: A fisher-minsky-koo approach*. *The Quarterly Journal of Economics*, 127(3), 1469-1513. <http://goo.gl/T9qm7y>
- Galí, J. (2015): “Hysteresis and the European Unemployment Problem Revisited,” presented at the *ECB Forum on Central Banking*. <https://goo.gl/fYOaSp>
- Gordon, R. J. (2013). “The Phillips Curve is Alive and Well: Inflation and the NAIRU During the Slow Recovery,” NBER Working Paper 19360, September. <http://goo.gl/aEnSqo>
- Hall, R. E., and C. I. Jones (2007): “The Value of Life and the Rise in Health Spending.” *The Quarterly Journal of Economics*, 122 (1), 39-72. <http://goo.gl/MjlxRm>
- Hausmann, R. et al (2014): *The Atlas of Economic Complexity: Mapping Paths to Prosperity*. Cambridge, MA. <http://goo.gl/XU3E2Z>
- Jones, C. I. (2015): “The Facts of Economic Growth”. NBER WP 21142. <http://goo.gl/TTFxQ5>
- Joyce, M., D. Miles, A. Scott and D. Vayanos (2012): “Quantitative Easing and Unconventional Monetary Policy—an Introduction”. *The Economic Journal*, 122(564), F271-F288. <http://goo.gl/R6eigw>
- Kaufmann, D., A. Kraay and M. Mastruzzi (2010): “The Worldwide Governance Indicators : A Summary of Methodology, Data and Analytical Issues”. World Bank Policy Research Working Paper No. 5430. <http://goo.gl/J2LtzO>
- Koo, R. (2014): *The Escape from Balance Sheet Recession and the QE Trap: A Hazardous Road for the World Economy*. Wiley.
- Leeper, E. M. and T. B. Walker, (2011): “Fiscal Limits in Advanced Economies,” *Economic Papers*, 30(1), 33-47. <http://goo.gl/qsaliF>
- Nickell, S., Nunziata, L. and Ochel, W. (2005): “Unemployment in the OECD since the 1960s. What do we know?” *Economic Journal*, Vol. 115, pp. 1-27. <http://goo.gl/wNmnML>
- Piketty, T. (2014): *Capital in the Twenty-First Century*. Harvard University Press.
- Reinhart, C. and Rogoff, K. (2012): “Public Debt Overhangs: Advanced Economies Episodes Since 1800.” *Journal of Economic Perspectives*, Vol. 26, No. 3, Summer 2012, 69-86. <http://goo.gl/7cZIH8>
- Watson, M. W. (2014): “Inflation Persistence, the NAIRU, and the Great Recession.” *American Economic Review*, 104(5), 31-36. <https://goo.gl/blrQaM>
- Wolff, G. B. and A. Sapir (2015): “Euro-area governance: what to reform and how to do it.” Bruegel Policy Brief 2015/01. <http://t.co/7Xs6mygOxf>

The Long-run Challenges of the Spanish Economy

Javier Andrés¹ and Rafael Doménech^{1,2}

1 University of Valencia

2 BBVA Research

Universidad Pablo Olavide

October 29th, 2015