



# Evaluating the effects of the last fiscal reform on tax revenues in Spain.

Agustín Molina-Parra <sup>1,2,\*</sup> and Diego Martínez-López <sup>1</sup>

<sup>1</sup> University Pablo de Olavide, Seville, Spain. <sup>2</sup> University of Almería, Almería, Spain.

\* amolpar@upo.es

## 1. Introduction

**Aim** To evaluate the Spanish income tax revenue increase in the event of exogenous changes in income.

**Why?** New **fiscal reform** in Spain modifies the national income tax. It can affect **tax revenues** at national level but also at regional level, given the decentralised properties of the tax.

Such changes are introduced in a moment where **fiscal resources are scarce**. The new structure of the tax is intended to be in place when recovering from the Great Recession.

## 2. What do we need?

Revenue elasticity of the income tax (simplified version) (Creedy and Gemmell 2002, 2006).

Multi-step income tax function:

$$\begin{aligned} T(y_i) &= 0 & 0 < y_i \leq a_1 \\ T(y_i) &= t_1(y_i - a_1) & a_1 < y_i \leq a_2 \\ T(y_i) &= t_1(a_2 - a_1) + t_2(y_i - a_2) & a_2 < y_i \leq a_3 \end{aligned}$$

$$\eta_{T,y_i} = \frac{dT(y_i)/dy_i}{T(y_i)/y_i} = \frac{mtr_i}{atr_i}$$

$$dT_Y = \sum_{i=1}^N \frac{\partial T(y_i, a'_k)}{\partial y_i} dy_i = \sum_{i=1}^N \eta_{T,y_i} T(y_i, a'_k) \frac{dy_i}{y_i}$$

$$\eta_{T_Y, Y} = \frac{dT_Y}{dY} \frac{Y}{T_Y} = \sum_{i=1}^N \eta_{T,y_i} \frac{T(y_i, a'_k)}{T_Y}$$

$$\eta_{T_Y, Y} = \frac{\sum_{i=1}^N y_i \eta_{y_i, Y} T'(y_i)}{T_Y}$$

## 3. EUROMOD

The EUROMOD G2.0+ version allows us to:

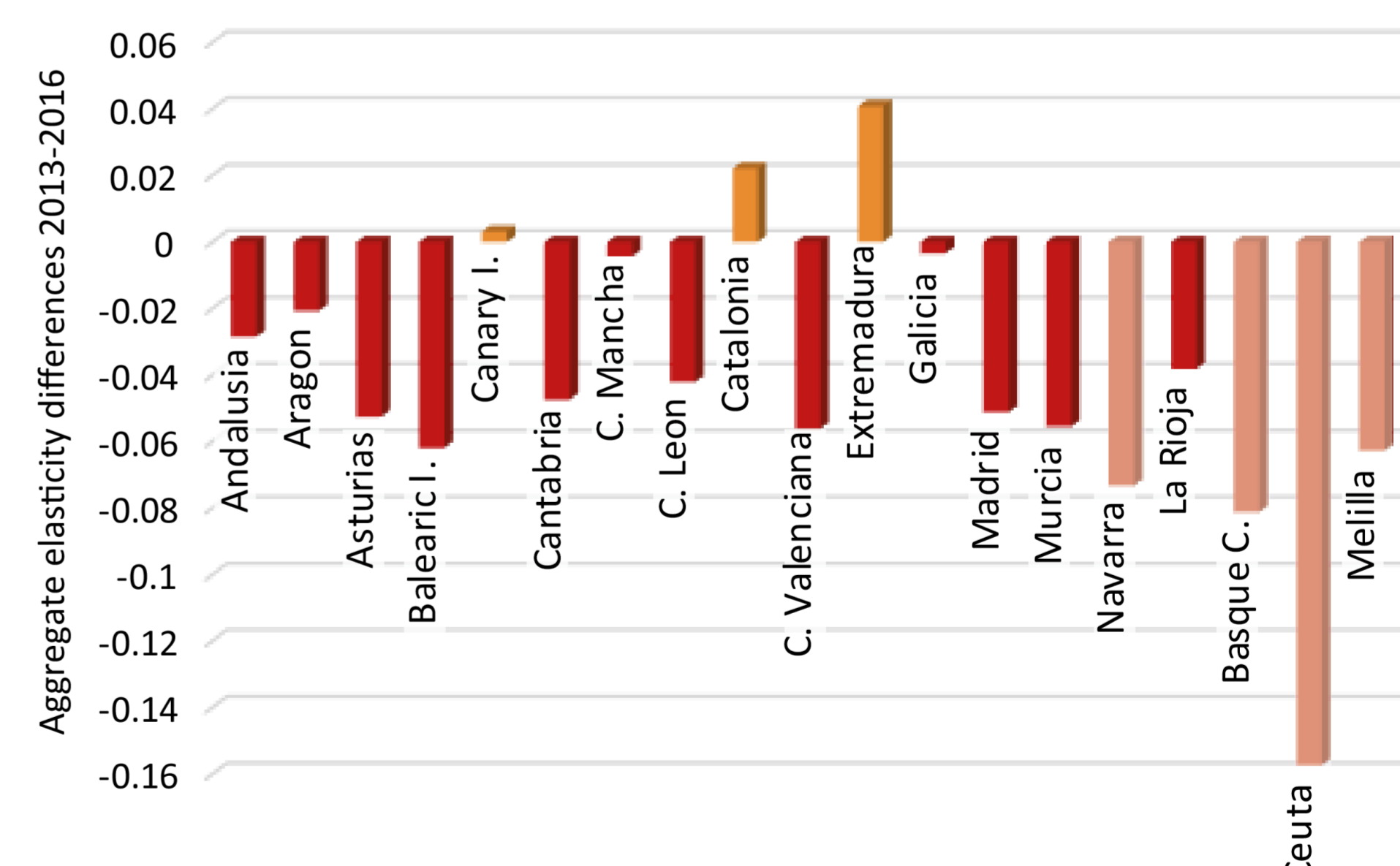
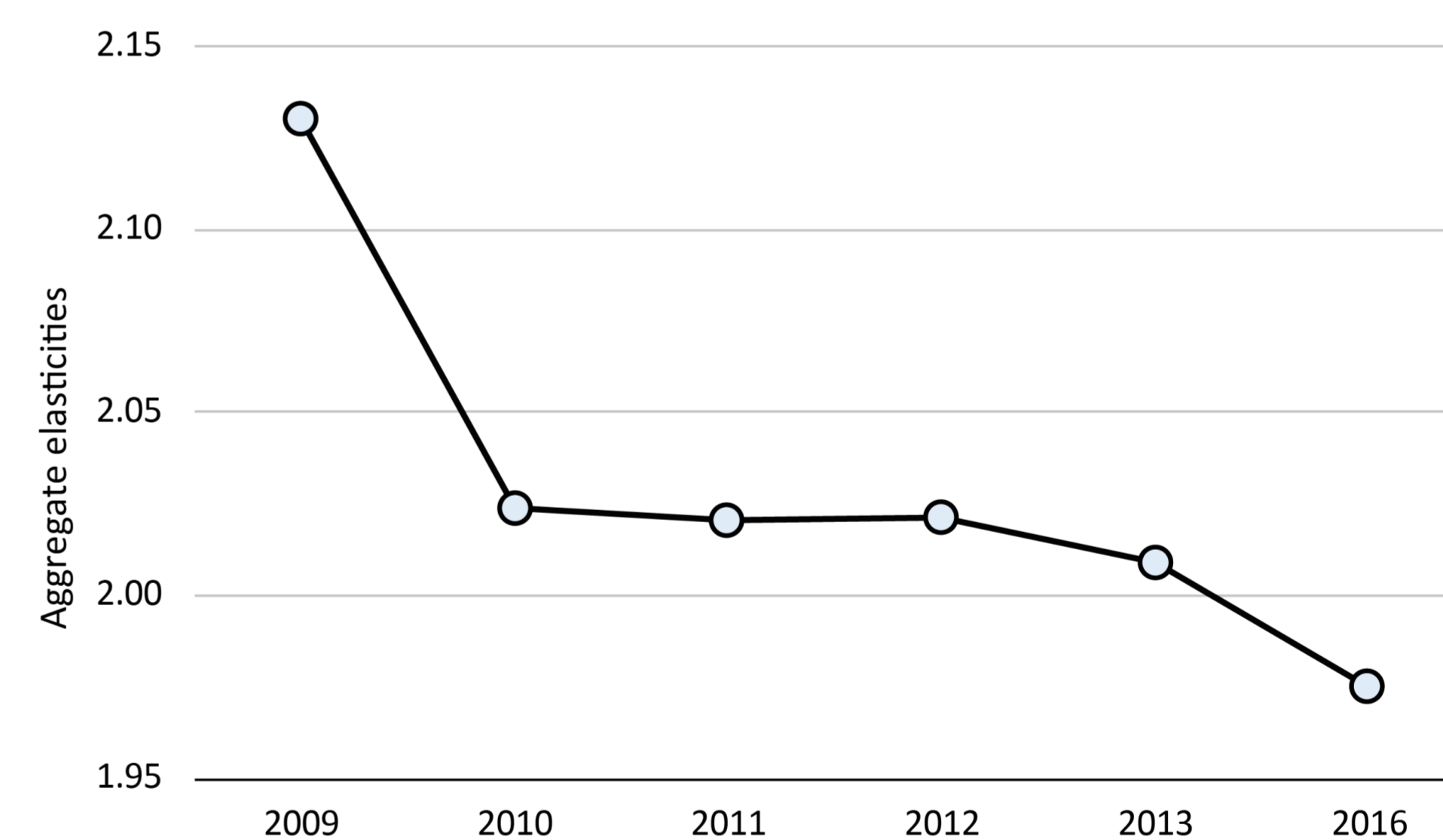
→ Calculate elasticities including the special **complexities** of the **Spanish case** such as allowances and deductions related to income, tax credits and different levels of government (Creedy and Sanz, 2010).

→ Assess the fiscal reform:

- Increases on personal and family tax allowances.
- New deductions on taxable income related to work.
- Reduction on tax brackets and tax rates.
- Final tax credits discontinued.

→ Obtain **marginal tax rates** for each tax unit with positive income (Jara and Tumino, 2013).

## 4. Results



## 5. Conclusions and further research

- Evaluation of income tax revenue elasticities in Spain after a fiscal reform.
- Low negative impact on tax collection at both levels of government.
- Policy implication: the reform is an unsuccessful attempt to improve fiscal accounts through increases in tax resources.
- Need for developing non-proportional income increases.
- Would it be possible to use different income distributions in EUROMOD?
- Understand different patterns in regional finances.

## References

Creedy, J. and N. Gemmell (2002). The built-in flexibility of income and consumption taxes: A survey. *Journal of Economic Surveys* 16(4), 509-532.

Creedy, J. and N. Gemmell (2006). *Modelling Tax Revenue Growth*. Cheltenham: Edward Elgar.

Creedy, J. and J.F. Sanz-Sanz (2010). Revenue elasticities in a complex income tax structure: An application to Spain. *Fiscal Studies* 31(4), 535-561.

Jara, H.X. and A. Tumino (2013). Tax-benefit systems, income distribution and work incentives in the European Union. *International Journal of Microsimulation* 6(1), 27-62.

## Acknowledgements

This research was funded by Fundación Centro de Estudios Andaluces through the project PRY054/14.