

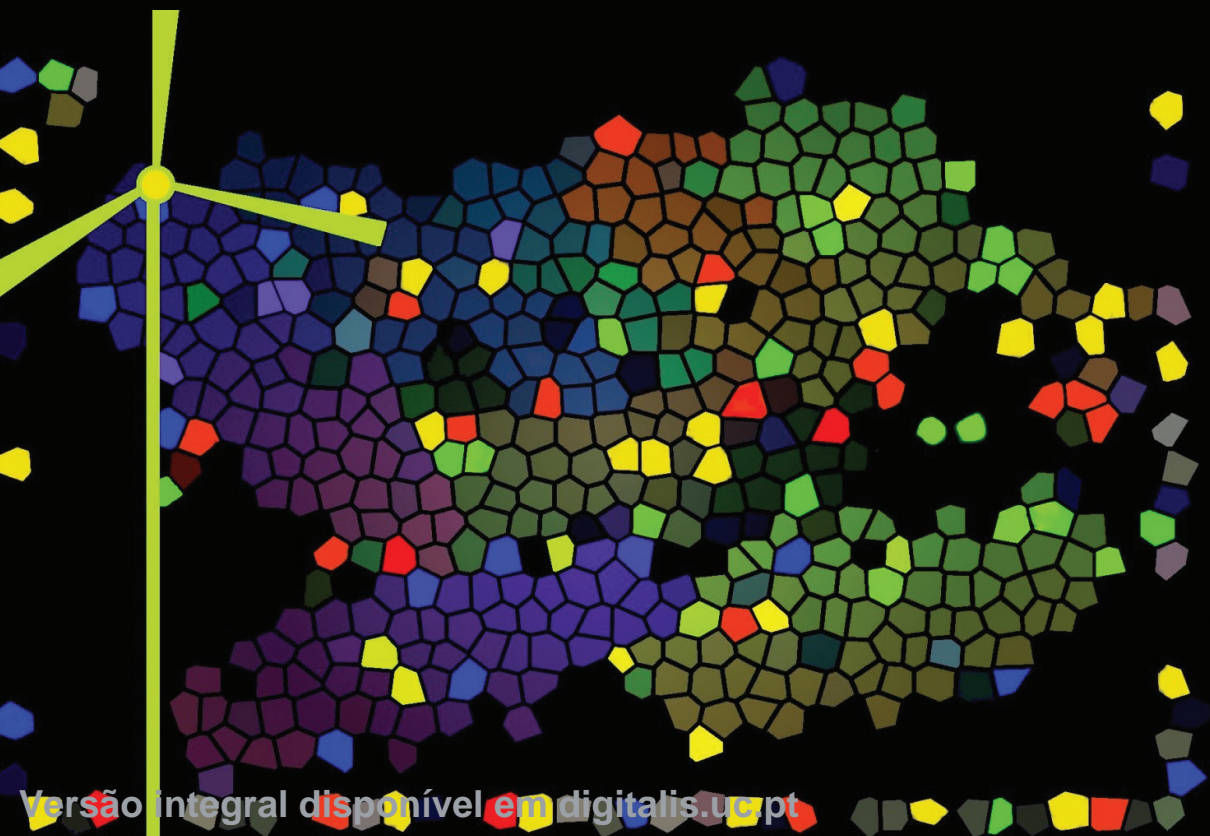
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# ASSESSMENT METHODOLOGIES

ENERGY, MOBILITY AND OTHER  
REAL WORLD APPLICATION

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**THE IMPACT OF A CRISIS IN A COST-BENEFIT ANALYSIS:  
WHAT HAS CHANGED IN THE DOURO INTERIOR  
SUB-CONCESSION ECONOMIC EVALUATION?**

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**Abstract**

In this paper we analyse the impact of a crisis in the economic evaluation of a road infrastructure. We consider the Douro Interior sub-concession, awarded by the Portuguese government to a private consortium in 2008, and concluded in 2012. The government decision was based on economic analysis made in 2008, which concluded that the economic benefits of the infrastructure would be larger than its economic costs. Today there are some doubts whether it was really worthwhile to build the infrastructure, but any analysis based on the current situation must take into account that Portugal underwent a severe crisis with significant impact on its macro-economic indicators. The exercise we undertake consists of analysing what would be changed in the 2008 analysis if it would have been possible to foresee the macro-economic changes in the Portuguese situation. In order to perform this analysis, we use the economic evaluations published in 2008 and we update the macro-economic data according to the information available at the beginning of 2015. The resulting evaluation highlights the components of the analysis that would have been altered if the crisis and other macro-economic changes had been foreseen.

We conclude that the changes in the Portuguese macro-economic situation would be enough to justify the alteration of the recommendation produced by the economic evaluations. This highlights the importance of using methodologies that allow the incorporation of risk in the assessment of such projects, as well as the

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explicit incorporation of the postponement option in the analysis. Additionally, it shows that some caution is necessary when performing ex-post analysis of economic studies: unforeseen changes in the macro-economic situation may be enough to alter the recommendation provided by such studies.

**Keywords:** Cost-Benefit Analysis; Highways and roads; Economic factors

## 1. Introduction

Over the last decades there has been a significant growth of the investment in road infrastructures in Portugal (Ferreira, 2013; Rosmaninho, 2010). Empirical studies show that such investment had positive impacts on employment, private investment and private output, and that it also contributed to increased labour productivity and purchasing power (Pereira & Andraz, 2007).

In order to carry out such investments within the constraints of the government budget, Portuguese authorities adopted a funding method based on Public-Private Partnerships (PPP) and “shadow tolls”, that is, tolls which are paid by the government instead of the user. Under this scheme, private companies are responsible for the design, construction, financing, operation and maintenance of the roads. In return, they are paid an amount that depends on the traffic volume, usually for a period of 30 years (Pereira & Andraz, 2012).

The Douro Interior Sub-Concession was awarded on 2008 to “AENOR – Douro Interior S.A.”, now “Ascendi Douro, Estradas do Douro Interior, S.A.” (Ascendi, 2015), and it was concluded in 2012 (Ascendi, 2015). The decision to build the infrastructure was supported by economic studies made in 2008: KPMG/VTM (2008) and Reis *et al.* (2008). Despite these studies, some political sectors expressed their skepticism about the benefits of the infrastructures whose construction was planned to start in 2008 and 2009, and criticised the costs that they would entail to the taxpayers.