

## **Abstract**

In response to the European Union transport authorities' need portrayed in the "Transport White Paper" in the year 2001, of orienting the common transport policy towards a better modal split, in order to enhance the efficacy and efficiency of the transport system, Germany, Austria, Denmark, UK and Switzerland have introduced or are studying the possibility of introducing a new toll on freight road transport proportional to the distance travelled, as opposed to the old system consisting of a fixed annual charge depending only on vehicle characteristics – the "Eurovignette".

The objective of this monograph is to imagine a hypothetical scenario where a kilometre-based charge is introduced in the Spanish road network, based on the regional experience and background, and with this scenario as a starting point, study the impact of this type of charging system on the road freight transport sector and on the retail prices of a series of products, as well as on the national Consumer Price Index.

The monograph first revises the concept of charging for the use of transport infrastructure, from the normative viewpoint and from a transport economics perspective. The Swiss, Austrian and German experiences in the subject are described both in their operational and economic aspects.

In order to understand the impact of a kilometre-based charge in Spain, the research includes an extensive analysis of the road freight transport sector. The composition, nature and evolution of freight flows along the Spanish roads are assessed in detail. The first objective is to determine how many vehicles-kilometre are travelled by Spanish trucks each year and, assuming a hypothetical value for the kilometre-based charge, estimate the additional economic burden placed on the road transport entrepreneurs. The result of this analysis, under the hypothesis of a 0,12 euro/km charge, turns out to be an over cost of nearly 1.900 million euros per annum.

Second, and assuming that the extra cost of transport is entirely transmitted to the final consumer and that there are no changes in the business strategy applied by the transport entrepreneurs, in the transport demand and in the freight modal share in the short and medium run, the impact of the new toll is assessed on the transport costs component, and the importance of this component in the retail prices of a series of products of the Consumer Price Index basket is evaluated. This cost breakdown is performed by studying historic series of CPI variations for different classes of products and comparing them to the variations for road transport prices in the same periods, so as to eventually find correlations between the behaviour of both variables. Once the relation is defined, the kilometre-based charge is applied to the products' retail prices in which a significant correlation exists, and the percentage increase in price due to the charge is calculated for each class of products.

Finally, once the impact on individual prices is known, the relative weights established for each kind of products on calculating the CPI are used to calculate the impact of the kilometre-based charge on the variations of the general price level of the Spanish economy. Under the hypothesis of 0,12 euros/km the impact on the CPI would be an additional 0,17% increase.