REPORTS AND COMMENTS

This section summarizes the main findings of the analysis developed in sections 2.1 and 2.2. Some data limitations have been found when collecting information from official sources. Therefore, the study finding should be taken good approximations of the true values rather than the exact ones.

3.2 ANNUAL AMOUNT OF CHARGES PAID PER DRIVER

In order to make the previous analysis more understandable, the following figures show the annual charges levied on light and heavy type-vehicles, as defined in the methodology. Despite the differences among nations, we observed that road charges in the US are noticeably lower than those in European countries.

Annual specific road charges paid by the type of light vehicles

Annual specific road charges paid by the type of heavy vehicle

CONCLUSIONS

1. The implementation of new tolls to heavy vehicles in Europe has not been accompanied by a reduction of other road charges, such as fuel, vehicle-ownership, etc. By contrast, the US has conducted little reform in its roads funding model, leading to raise scarce revenue to cover the necessary road expenditure.

2. European roads subsidize other government policies, whereas US roads have to be subsidized by the public sector through general fiscal revenues.

3. Low road charges are applied in the US when compared to European countries (127 – 214% higher for light vehicles, 46 – 162% higher for heavy vehicles), especially with regard to fuel taxes.

4. In spite of the high Road Allocation Ratio of the US, road-generated revenue has not been able to cover road expenditure needs in the last few years. This might suggest that the level of road charges in the US is becoming lower than needed.

5. Further research should explore issues such as: the impact of road-charging in sustainability, the impact of cross-subsidies from the road sector to other transportation modes or other sectors of the economy with lower externalities, and the optimal revenue to be allocated to the road sector.

PREVIOUS STUDIES:

• A direct comparison of American and European approaches for funding roads has never been conducted in the literature.

OBJECTIVES:

• Fill the research gap found in the literature on transport financing, and derive conclusions about the funding system in selected countries.

• Update previous analysis of road funding and transportation policy both in Europe and the US.

METHODOLOGY

1. The study conducts the balance between road-generated revenue and road expenditure in the US and several European countries. Main facts:

   – Countries selected: US, Germany, France, UK, Spain, Switzerland. Different characteristics in terms of area, population, GDP, location in the continent, etc.
   – Covering the whole interurban network as identified in the record of each country.

2. The methodology for this research has required 2 Steps:

   • Revenue vs. Expenditure balance of the road sector.
   • Comparison of the annual amount of road charges paid per driver.

REVENUE versus EXPENDITURE BALANCE

The analysis we conduct in this research establishes a balance between charging for the use of, and expenditure on, the road sector. By collecting a great amount of data from official government sources (Ministries, Departments, Institutes, etc.), three items have been calculated:

• Road Expenditure (RE): includes annual expenditure for both roads supported at different government levels (federal, regional, local) and for private roads (see table below).

• Road-Generated Revenue (RGR): includes all kinds of fee-charges applied to road users, and taxes applicable in a special way to road vehicles (see table below).

• Allocated Revenue (AR): annual RGR that is directly dedicated to funding highways, not necessarily specific road projects. RGR allocated to other policies is not accounted within the road sector balance.

The difference in the sample range from 2.7 to 3.6 for gasoline vehicles, and from 2.2 to 3.4 for diesel vehicles. The greatest divergences are caused by the low level of fuel tax rates applied in the US (77-83% lower for gasoline vehicles, and 66- 81% lower for diesel vehicles).

REVENUE vs. EXPENDITURE BALANCE

With the data collected from national sources, we have calculated three ratios:

• Expenditure/Revenue Ratio: shows the money spent on roads per dollar levied.

• Expenditure/GDP Ratio: shows the effort made in terms of road expenditure as compared to GDP.

• Road Allocation Ratio: shows the share of road-generated revenue allocated to road purposes.

For European governments, RGR greatly exceeds RE, what means that road transport revenues are being used to fund other government policies. By contrast, the US road system has needed additional funds from general taxation to fund roads, especially after FY2007.

Most of the countries in the sample exhibit an road expenditure on transport between 0.5 and 1.0% of GDP. The most suitable ratio in each country is not necessarily comparable since it might vary according to population, area, density, etc.

For heavy vehicles, average annual US charges ranged from being 32% lower than those in the US to 62% lower in the UK. Again, the main difference between US and European countries has to do with the rates of fuel taxes.

1. We make a comparison of charges applied to different kind of vehicles across the selected countries for the sample. Three types of vehicles – whose characteristics are shown in the table below – have been considered.

2. We apply rates according to what was imposed as of January 1, 2012.

We include only the user charges eligible for road-generated revenue, as set out in Section 2.1.

Due to the great variability of road fees in the US at state and local level, several state DOTs were asked to supply figures for road taxation.

The type-of-vehicle approach is not intended to reflect a hypothetical “average” vehicle either in the US or in Europe. Rather, it is meant to show the charging differences across different countries in a way that allows for easy and homogenous comparison, controlling differences among nations, we observed that road charges in the US are noticeably lower than those in European countries.

• Low road charges are applied in the US when compared to European countries (127 – 214% higher for light vehicles, 46 – 162% higher for heavy vehicles), especially with regard to fuel taxes.

• In spite of the high Road Allocation Ratio of the US, road-generated revenue has not been able to cover road expenditure needs in the last few years. This might suggest that the level of road charges in the US is becoming lower than needed.

• Further research should explore issues such as: the impact of road-charging in sustainability, the impact of cross-subsidies from the road sector to other transportation modes or other sectors of the economy with lower externalities, and the optimal revenue to be allocated to the road sector.

1. The implementation of new tolls to heavy vehicles in Europe has not been accompanied by a reduction of other road charges, such as fuel, vehicle-ownership, etc. By contrast, the US has conducted little reform in its roads funding model, leading to raise scarce revenue to cover the necessary road expenditure.

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