



Revenues from HGV taxes and charges in the EU28 in 2013

Addendum to 'External and infrastructure costs of HGVs in the EU28 in 2013'



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1 Introduction

In 2015 CE Delft finalised the study ‘External and infrastructure costs of HGVs in the EU28 in 2013’ (CE Delft, 2015). This study, which was commissioned by Transport & Environment, was an update of ‘Are trucks taking their toll?’ (CE Delft, 2009). Next to external and infrastructure costs, the latter study also estimated total revenues from taxes and charges of HGVs in Europe and compared these with the external and infrastructure cost estimates. This comparison was not made in the recent CE Delft study, but will be made in this addendum.

In the remainder of this note we first discuss the objective and scope of this study (Section 2). Next, the methodology used to estimate the total revenues from taxes and charges of HGVs is discussed (Section 3), followed by a presentation of the results of our analyses in Section 4. Finally, total revenues are compared with the total external and infrastructure costs of HGVs in Section 5.

2 Objective and scope

The objectives of this study are:

- to estimate the total revenues from taxes and charges levied on HGVs in the EU28 in 2013;
- to compare these revenues with the total external and infrastructure costs of HGVs in the EU28 in 2013, as estimated in CE Delft (2015).

The following scope is applied for this study:

- Geographical scope: EU28
- The following HGV taxes and charges are considered:
 - *Fuel excise duties*: In all EU countries excise duties are levied on diesel. In some countries refund schemes are in place for HGVs, providing the opportunity to (partly) claim back excise duties paid. The impact of these schemes on total revenues is considered in this study.
 - *Infrastructure charges*: In general two types of infrastructure charges are applied in the EU, i.e. time-based charges (vignettes) and distance-based charges (tolls). HGV vignettes are applied in eight EU countries (i.e. Belgium, Bulgaria, Denmark, Lithuania, Luxembourg, Netherlands, Romania and Sweden), while road tolls are applied in fourteen EU countries (i.e. Austria, Czech Republic, Germany, France, Greece, Croatia, Hungary¹, Ireland, Italy, Poland, Portugal, Slovakia, Slovenia, Spain). The revenues from both types of charges are covered in this study.
 - *Vehicle taxes*: Two types of vehicle taxes are applied for HGVs in Europe: annual ownership taxes and registration taxes. The former type of taxes are applied in all EU countries, while the latter are only applied in six EU countries (i.e. France, Greece, Italy, Malta, Romania and Slovakia).
- All revenues are presented for the year 2013, expressed in euro price level 2013 (PPP adjusted).

¹ A distance based charging scheme was introduced in Hungary on 1 July 2013.



3 Methodology

A top-down approach is applied to estimate the revenues of all taxes and charges of HGVs in Europe. This implies that in a first step the total revenues of fuel excise duties (only for diesel), infrastructure charges and vehicle taxes are estimated. The sources used to estimate these total revenues are discussed in Table 1.

Table 1 Sources for the estimation of total revenues from road transport taxes and charges

| Tax/charge | Sources |
|------------------------|---|
| Fuel excise duties | Estimated by multiplying total diesel volumes sold to the road transport sector (from Eurostat) by diesel excise duty rates in the various Member States (from the T&E fuel tax database). |
| Infrastructure charges | <p>The total revenues from time-based charges (vignettes) are based on data from national data sources (Ministry of Transport, road authorities, or national statistical agencies), the OECD Environmental Tax Database and data from ASECAP country reports.</p> <p>The total revenues from distance based charges (tolls) are based on data from national data sources (Ministry of Transport, operators of national road charging schemes, or national statistical agencies) and ASECAP country reports.</p> |
| Vehicle taxes | The total revenues from registration and ownership taxes are mainly based on data from national sources (Ministry of Finance or national statistical agencies). For registration taxes, some data is from Eurostat. For ownership taxes some data is from the OECD Environmental tax database, CE Delft et al. (2012) and the ACEA Tax Guide 2013 as well. |

In a next step, these total revenues are allocated to the various vehicle categories (including HGVs). Different drivers for this allocation are used for the different types of taxes/charges:

- Total revenues from diesel excise duties are allocated based on total diesel consumption by the various vehicle categories. Based on CE Delft (ongoing) it is estimated that in the EU28 about 23% of the 2013 diesel excise duties can be allocated to HGVs².
- Total revenues from time-based infrastructure charges are allocated based on fleet sizes in 2013 (from Eurostat), weighted by average vignette tariffs (based on national data).
- Total revenues from distance-based infrastructure charges are allocated based on vehicle kilometres in 2013, weighted by average toll rates (based on national data).
- Total revenues from vehicle taxes were allocated based on total fleet sizes in 2013 (ownership taxes) or number of vehicles registered in 2013 (registration taxes), both weighted by average tax rates per vehicle (based on ACEA Tax Guide 2013).

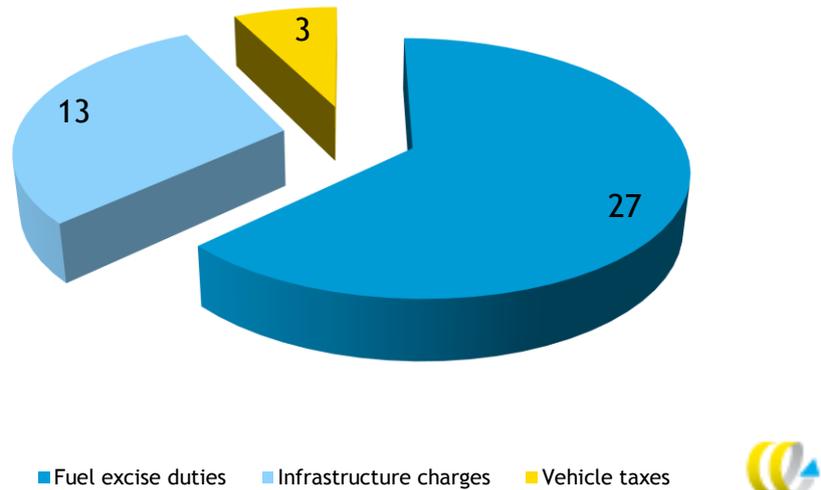
² In CE Delft (ongoing) the breakdown of total diesel consumption to the various vehicle categories is based on detailed vehicle kilometre data (based on a combination of data from Eurostat and national statistical agencies) and energy consumption data (MJ/vkm) from TREMOVE.



4 Total revenues from taxes and charges

In 2013 the total revenues from HGV taxes and charges are estimated to be € 43 billion. The main part of these revenues are from fuel excise duties (about 63%), followed by infrastructure charges (30%) and vehicle taxes (7%).

Figure 1 Breakdown of revenues from HGV taxes and charges in the EU28 (billion €₂₀₁₃, PPP adjusted)



In the study ‘Are trucks taking their toll?’ the total revenues from HGV taxes and charges are estimated at € 54 billion (price level 2006)³. The difference compared to current estimations are mainly methodological, as different approaches are applied to estimate the total tax/charge revenues. The figures in ‘Are trucks taking their toll?’ are based on CE Delft et al. (2008), which roughly estimated the revenues by multiplying the average tax/charge rate for nine archetype vehicles (i.e. small car, big car, motorcycle, bus/van, van/LDV, HGV 5.5 t, HGV 12 t, HGV 24 t and HGV 40 t) by the number of these vehicles or number of vehicle kilometres made by these vehicles. In this study, the tax/charge revenues are based on actual figures on total revenues which are allocated to the various modes. The latter approach is more accurate and hence the total tax/charge revenue figures in this study are considered to be more reliable.

³ The shares of the various tax/charge types in total revenues are comparable to the current estimations.



5 Comparison of costs and revenues

In CE Delft (2015) it was estimated that the total infrastructure and external costs of HGVs in the EU28 in 2013 amount to approximately € 143 billion (€ 119-167 billion). It is estimated that about 30% (26-36%) of these social costs of HGVs are covered by revenues from taxes and charges⁴.

The cost coverage ratio estimated is slightly lower than in 'Are trucks taking their toll?', in that study it was estimated that about 38% of the external and infrastructure costs are covered for by tax/charge revenues. This difference is almost completely explained by the lower tax/charge revenues from HGVs estimated in the current study.

6 References

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⁴ This comparison is not relevant from the perspective of providing optimal price incentives. In that respect a comparison between marginal external and infrastructure costs and marginal tax/charge revenues is required.

