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Article

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ROAD USER CHARGING IN THE EUROPEAN UNION

Overview

Road user charging is now widely implemented throughout the European Union. The charging schemes, however, vary considerably between EU member states. This article provides a brief overview of the different road user charging schemes and their implementation for heavy goods vehicles and for light vehicles.¹

Policy background

Road user charging for heavy goods vehicles is regulated by the European Union through *Directive 1999/62/EC* (also known as the *Eurovignette Directive*). It was introduced to create a road charging regime across the EU that allows heavy goods vehicles to operate across borders (AECOM 2014). The Directive authorises (but does not oblige) EU member states to levy time-based or distance-based road charges for vehicles over 12 t. *Directive 2006/38* extended the scope of road user charging to cover commercial vehicles over 3.5 t.² For light private vehicles, by contrast, no such Directive exists. The reason for this is that the movement of goods is directly linked with the EU's core purpose and principles: free trade and the free movement of goods among EU member states. Hence the *Eurovignette Directive* ensures that Member States do not use road user charges on heavy goods vehicles as a way of penalising competition from other member states (Booz & Company 2012). This does not apply to private vehicles, meaning that the principle of subsidiarity entitles member states to install their own charging / taxation policies.³

Methods of road user charging

Broadly, three methods are adopted by EU member states to charge road users:

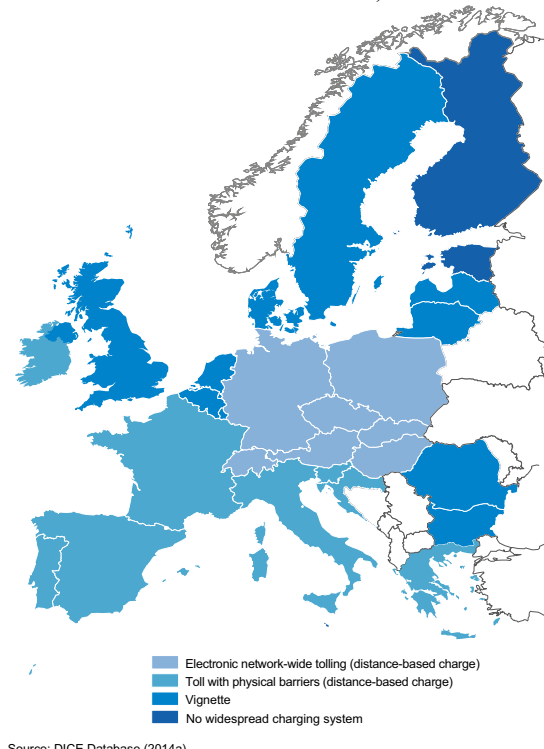
¹ Heavy goods vehicles > 3.5 t, light vehicles < 3.5 t (i.e. passenger cars, motorcycles and light commercial vehicles).

² This requirement became mandatory from 2012, except in circumstances that would create adverse effects on traffic flow or externalities, or if the administrative costs would amount to over 30 percent of the additional revenue (Ricardo-Aea 2014).

³ The core principle of non-discrimination applies regardless and EU member states are still required to be compliant with the EU Treaty and EU law in their application of road user charging systems (Booz & Company 2012).

Figure 1

Charging of heavy goods vehicles in the EU and Switzerland, 2014



Source: DICE Database (2014a).

1. **Concession motorway tolls** are distance-based charges and typically use “toll plazas” (manned/unmanned barriers), although increasingly these may have lanes that allow electronic charging without vehicles needing to stop (Ricardo-Aea 2014).
2. **Vignettes** are time-based charges. The purchase of a vignette gives the user the right to use the infrastructure for a given period of time (i.e. a week, a month or a year).
3. **Network-wide electronic tolls** allow access to the whole network of charged roads, and have electronic charging systems that are common across the network.

Heavy goods vehicles

Figure 1 shows the geographical coverage of road user charging systems for heavy goods vehicles in the European Union and Switzerland. Concession motorway tolls are in place in Croatia, Ireland, France, Spain, Italy, Slovenia and Greece and Portugal.⁴ Eleven countries use the vignette (Bulgaria, Belgium, Denmark,

⁴ Other countries have manual tolling on a small number of roads, the scale is not significant.

Hungary, Latvia, Luxembourg, Lithuania, the Netherlands, Romania, Sweden and the UK).⁵ Electronic network-wide tolling systems are in place in Germany, Austria, the Czech Republic, Hungary, Slovakia, Poland and Switzerland. Only a handful of countries have no widespread charging system in place, namely Finland, Estonia, Malta and Cyprus.

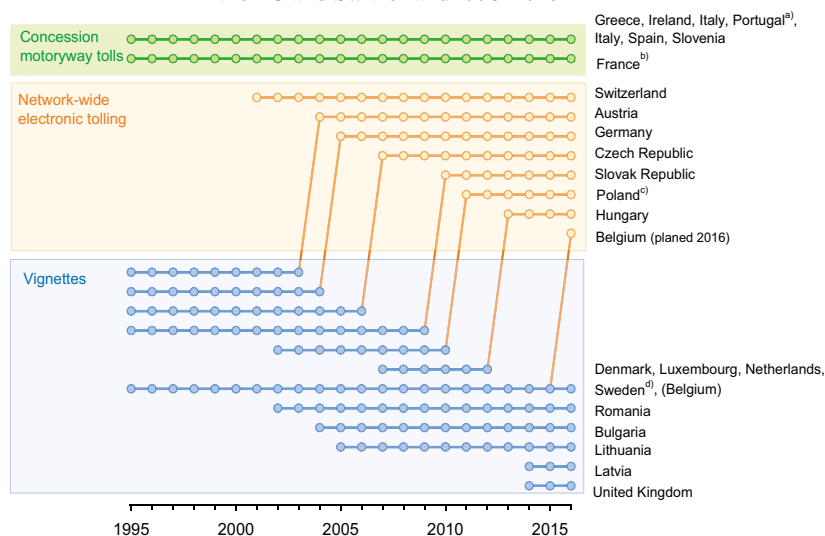
The *Eurovignette* countries,⁶ Germany and the UK restrict their charging to heavy goods vehicles above 12 t. All other countries charge from 3.5 t. Most countries also include buses in their charging policy. All three schemes typically differ in price according to the vehicle's Euro emission class and/or number of axles. Thus, actual prices charged vary considerably, depending on the vehicle type, and are not covered in this short article.⁷

Figure 2 shows the development of road user charging methods used by EU member states over time. There appears to be a trend towards the use of electronic network-wide tolling. Austria, Germany, the Czech Republic, Slovakia, Poland, Hungary and Belgium have started with the vignette and have now moved (or have plans to do so) to the electronic system. France is the only country with plans to move to electronic network-wide tolls that did not initially start with a vignette.

Electronic tolling schemes, however, operate on a national level and the technologies used are not necessarily

Figure 2

Development of infrastructure charging systems for heavy goods vehicles in the EU and Switzerland 1995–2016



Notes:

- Portugal is a hybrid case, there is no nationwide network tolling across all major highways, but many of its major motorways are tolled on the fully electronic *Via Verde* system.
- France plans to apply charges to existing untolled state owned motorways, so it will retain its present system of tolls with physical barriers on motorway concessions. The introduction in France has been further delayed, and no date has yet been announced.
- Poland has tolls with physical barriers on part of the network but is classified as having electronic network-wide tolling in place.
- Sweden joined the Eurovignette in 1998.

Source: DICE Database (2014d).

compatible across borders. *Directive 2004/52/EC* and the related *Commission Decision 2009/750/EC* (which defines the European Electronic Toll Service EETS) aim to ensure the interoperability of electronic road tolling systems across the European Union. There have been delays in implementing EETS, but some effort has been made (mainly bilateral interoperability agreements to date) to make systems interoperable. Currently, interoperable systems exist between France and Norway (with the potential to include Spain, Austria and Slovenia); Germany and Austria; Norway, Sweden and Denmark (see Ricardo-Aea 2014 for more details).

Light private vehicles

Figure 3 shows the countries with road infrastructure charges for light private vehicles. In Croatia, France, Greece, Ireland, Italy, Poland, Portugal, and Spain a toll is charged for the use of a specific road section. In addition, most countries charge for the use of

⁵ The UK introduced a vignette on 1 April 2014, Latvia on 1 July 2014.

⁶ The Eurovignette system was the first harmonised agreement in the EU (vignette, since 2008 electronic). It was set up in 1995 by Belgium, Denmark, Luxembourg, the Netherlands, Germany and Sweden. Germany left the Eurovignette in 2003 to set up an electronic toll, Belgium plans to move to an electronic system.

⁷ An overview of road user charging under the *Eurovignette Directive* can be accessed at DICE Database (2014a). For heavy goods vehicles charges see DICE Database (2014e).

some tunnels or bridges.⁸ Seven EU countries have vignette systems for light private vehicles: Austria, Bulgaria, Czech Republic, Hungary, Romania, Slovak Republic and Slovenia. Vignettes are also compulsory in Switzerland. Germany is planning to introduce a vignette for light vehicles in 2016.

There are two types of vignettes in operation: sticker/paper vignettes and electronic vignettes. The latter are only currently in use in Hungary and Romania. In Romania and Bulgaria, a vignette is required for most of the national road network, while in the remaining countries a vignette is needed to use motorways and major highways (Booz & Company 2012).

In each of the vignette countries (except Switzerland) vignettes are available on a weekly basis (between seven and ten days), per month⁹ or annually. The price for a weekly ticket ranges from EUR three (Romania) to EUR 15 (Slovenia). Monthly prices range from EUR seven (Romania) to EUR 30 (Slovenia). The annual vignette costs between EUR 28 (Romania) and EUR 154 in Hungary. In Switzerland, the only option available is a full year (14 months) for the price of EUR 33 (see Table 1).

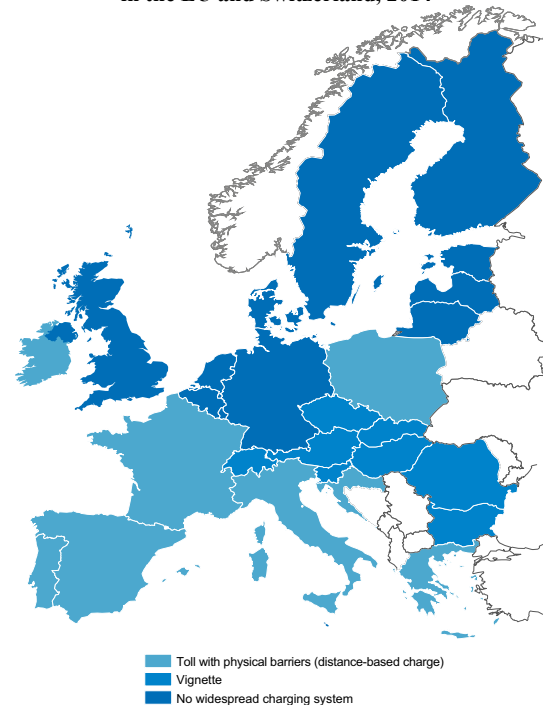
Short-term users pay much higher prices on a per day basis than long-term users: if the price for a vignette (weekly/monthly/annually) is divided by the number of days for which it provides access to a network, the ratio between the longest and shortest term product varies considerably between countries (Booz & Company 2012). Table 2 shows the average daily prices for short-term versus long-term vignettes. On a per day basis, the price for a short-term vignette ranges between 3.8 (Austria) and 8.2 (Slovenia) times more than the price for an annual vignette.

Conclusion

Across the European Union, road user charging (both for heavy goods vehicles and light private vehicles) is now widely applied, but different infrastructure charging systems are in place. This reflects the different national political priorities that have – in combination with the respective institutional frameworks – developed over time. Subsequent amendments to the *Eurovignette Directive* allowed a greater variation in tolls to reflect

Figure 3

Charging of light private vehicles in the EU and Switzerland, 2014



Source: DICE Database (2014b).

not only the costs of infrastructure construction and maintenance, but also external costs, caused by pollution, noise and congestion. It is up to each member state to choose how to implement the *Eurovignette Directive*. Consequently, individual countries have designed approaches that are most acceptable to their stakeholders, or legacy issues, such as concession contracts dating from before the *Eurovignette Directive* was in place. This has also resulted in different approaches to system technologies, so that today electronic tolling – although increasingly applied – is not necessarily compatible between countries. The lack of interoperability between charging systems creates greater costs for users, particularly for international hauliers that often have to equip their vehicles with multiple on-board units for different systems (Ricardo-Aea 2014). In the light of growing international transport, it now seems important to focus more on the interoperability between road user charging systems, as set out in the European Commission's European Electronic Toll Service (EETS).

Sabine Rumscheidt

⁸ See DICE Database (2014a), www.ifo.de/w/My2AYtt6 and DICE Database (2014b), www.ifo.de/w/3aBYPChBS.

⁹ Bulgaria also provides a three month vignette.

Table 1

Charges for vignettes, vehicles < 3.5 t in the EU and Switzerland (in EUR), 2014

| | Week | Month | Year |
|------------------------------|-------|-------|--------|
| Austria ^{a)} | 8.50 | 24.80 | 82.70 |
| Bulgaria ^{b)} | 5.00 | 13.00 | 34.00 |
| Czech Republic ^{a)} | 14.00 | 20.00 | 64.00 |
| Hungary ^{a)} | 10.60 | 17.00 | 154.00 |
| Slovakia ^{a)} | 10.00 | 14.00 | 50.00 |
| Slovenia ^{b)} | 15.00 | 30.00 | 95.00 |
| Romania ^{b)} | 3.00 | 7.00 | 28.00 |
| Switzerland | | | 33.00 |
| ^{a)} Week = 10 days | | | |
| ^{b)} Week = 7 days | | | |

Source: DICE Database (2014c).

Table 2

Average daily prices for short-term versus long-term vignettes, 2014

| | Short-term (week) | Long-term (year) | Ratio short-term/ long-term |
|----------------|----------------------|---------------------|--------------------------------|
| Austria | 0.85 | 0.23 | 3.75 |
| Bulgaria | 0.71 | 0.09 | 7.67 |
| Czech Republic | 1.40 | 0.18 | 7.98 |
| Hungary | 1.06 | 0.42 | 2.51 |
| Romania | 0.43 | 0.08 | 5.59 |
| Slovakia | 1.00 | 0.14 | 7.30 |
| Slovenia | 2.14 | 0.26 | 8.23 |

Source: DICE Database (2014c).

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