

Hylén, Bertil; Kauppila, Jari; Chong, Edouard

**Working Paper**

## Road haulage charges and taxes: Summary analysis and data tables 1998 - 2012

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# Road Haulage Charges and Taxes

Summary analysis and data tables 1998-2012

08

**Discussion Paper 2013 • 08**

**Bertil HYLÉN**

VTI, Sweden

**Jari KAUPPILA, Edouard CHONG**

International Transport Forum,  
Paris, France

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Summary analysis and data tables 1998-2012

**Discussion Paper No. 2013-8**

**Bertil HYLÉN**  
VTI, Sweden

**Jari KAUPPILA**  
International Transport Forum at the OECD

**Edouard CHONG**  
International Transport Forum at the OECD

**April 2013**

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## TABLE OF CONTENTS

1. INTRODUCTION .....	4
2. THE FRAMEWORK .....	5
3. OVERVIEW OF CHARGES AND TAXES .....	8
4. NET TAXATION .....	11
5. TAXES AND CHARGES IN AUSTRALIA, CANADA AND THE UNITED STATES .....	16
6. CONCLUSIONS .....	18
BIBLIOGRAPHY .....	19
ANNEX 1. DATA TABLES .....	20

## 1. INTRODUCTION

The International Transport Forum at the OECD has collected data on various taxes and charges levied on road haulage since 1998. The existing International Transport Forum database presents these results for selected years between 1998 and 2008. These data allow for comparison of road freight transport fiscal regimes in different countries in quantitative terms. They have also been used as core information in various international studies. Countries use them as a basis to study cost recovery of road infrastructure by relating all the various taxes and charges levied on transport activities to costs. The 2003 ECMT Report '*Reforming Transport Taxes*' developed a methodology for making such comparisons, including in relation to the marginal costs of using infrastructure (infrastructure wear, congestion and environmental and safety externalities). The data can also be used to study the existence of possible discriminatory charges. The impact of charges on competitiveness in road haulage markets can be assessed with the data by modelling trips by Heavy Goods Vehicles (HGVs) of different nationalities on standard hauls throughout Europe and by calculating appropriate indicators. The data have also been used in a recent study to compare the internationalisation of external effects of HGVs using a number of European freight corridors (CTS, 2012).

This paper updates the database on heavy goods vehicle charges and taxes in Europe, with figures for 2012 on taxes and charges on vehicles, fuel and road use, including relevant information on rebates and exemptions. A short analysis of the level of charges and expected future developments is included. Data are collected for nearly 30 countries. A brief discussion of similar taxes and charges in the United States, Canada and Australia is included as well. The VTI library is the source for most of the information on these countries.

The first step was to prepare an inventory of existing taxes and charges. This inventory is based mainly on a questionnaire forwarded to the respective Ministries of Transport or the responsible government agencies. Other sources include websites for ministries and toll operators. These data are used to analyse the fiscal and territorial structure of the charges. In order to allow for comparisons of road freight taxation regimes in different countries, net taxation levels are calculated for a standard domestic haul. These results are then assessed per vehicle-km and per tonne-kilometre.

This paper summarises the results of the analysis and provides an account of the methodology and sources used. The detailed data are available at the International Transport Forum webpage:

<http://www.internationaltransportforum.org/statistics/taxation/index.html>.

## 2. THE FRAMEWORK

The framework for the analysis consists of two parts: an inventory of the charges levied and a comparison in quantitative terms of all charges that countries levy on freight transport by road. The framework was first developed in the report *Reforming Transport Taxes* (ECMT, 2003) and the following description draws heavily on the above report.

First, the absolute levels of specific charges on road freight transport are collected. The inventory includes the following variables: vehicle taxes (for the possession of a vehicle), fuel excise duties and user charges, as well as taking into account any possible refunds, rebates and exemptions.

For each charge, the following data were compiled:

- Basis of imposition (vehicle, fuel or usage);
- Amount paid (per year, per km, per litre);
- Type of payment (time period, road segment, bridge);
- VAT on diesel and tolls paid in all EU Member States, Norway and Switzerland;
- Refunds, rebates and other exemptions obtainable.

Rates of fuel duty, vehicle taxes and user charges change on different dates in different countries and different years. The rates used in this study are set according to the rates enforced by each country at the beginning of each fiscal year. As charges and taxes differ by type of vehicle, a standard vehicle has been defined. The standard vehicle for this study is defined as a semitrailer with 3+2 axles weighing 40 tonnes, meeting Euro IV emission standards. For comparability, rates are collected for this standard vehicle. The exchange rates used in the calculations are from 12<sup>th</sup> October 2012.

The inventory includes the following countries for which data were available: Austria, Belgium, Bulgaria, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Information obtained is organised according to an economic standard defined in the previous study, ranging from purely fiscal charges to a price for infrastructure use (see Table 1). This system of classification can be used to make international comparisons of the fiscal structures applied to road haulage, by producing fiscal structures on the basis of the yearly revenues yielded in each country for each category of charge (see ECMT, 2003).

Table 1. **Economic categorisation of charges levied on road freight transport**

Charges	Vehicle taxes	Fuel excise duties	User charges	
			Vignettes	Tolls + user charges on a distance/weight basis
<b>Description</b>	HGV taxes are imposed on the basis of ownership in the country of registration	Weak link with usage	User charges due on a flat rate basis	The amount to be paid is determined by usage (number of km and admissible weight or tonnes transported)
<b>Economic criterion</b>	Fiscal charges	Earmarked charges	Fixed prices	Prices
<b>Result</b>	Purely fiscal structure according to share of revenue generated by each category of charge			

Four categories of taxes were also created according to the territorial characteristics of their application – i.e. the degree to which charges are linked to the use of particular sections or regions of the infrastructure network (Table 2). This is used to make comparisons of territorial structures by producing such structures on the basis of charges paid per standard domestic haul.

Table 2. **Territorial categorisation of charges levied on road freight transport**

Charges	Vehicle taxes	Fuel excise duties	User charges	
			Vignettes	Tolls + user charges on a distance/weight basis
<b>Description</b>	"National" charges relative to the territorial criterion	Hauliers may choose to not fulfil the territorial link (filling up in country A while using roads in country B)	Charges bounded to a specific territory though not linked to the quantity used (fixed price)	Charges strictly bounded to a specific territory and to the quantity used (price)
<b>Territorial criterion</b>	Nationality based charges	Weakly territorial charges	Moderately territorial charges	Strongly territorial charges
<b>Result</b>	Territorial structure of taxation according to share of fees paid on specific hauls			

Taxes on motor vehicles are considered as nationality based or purely fiscal because they are levied on the possession of a vehicle regardless of where and how much the vehicle is used. They are also directly related to the country of registration.

Fuel taxes have generally a weak territorial linkage as vehicles may fill up in one country while using the roads of another country. The fuel tax is the subject of EC Directive 2003/96/EC restructuring the Community framework for the taxation of energy products and electricity. The Directive sets a minimum tax of 0.33 EUR/litre for diesel (in the Directive called gas oil) but there is no maximum level.



Infrastructure charges applied on a flat rate basis (e.g. per day, per year), such as the Eurovignette, are categorised as moderately territorial charges. The Eurovignette has been successively phased out and remains only in five countries.

Charges for infrastructure use levied on the basis of usage, such as tolls, are considered as strongly territorial charges.

As countries do not all levy the same type of charges, simple comparisons of the levels are not meaningful. In order to allow for comparisons between countries, the first step is to calculate net taxation of road haulage in the countries under study. Some countries allow rebates on various excise taxes for road haulage companies. Therefore, all charges are calculated with allowed refunds, rebates and exemptions deducted.

The second step is to calculate a standard haul scenario (ECMT, 2003). Calculations are made on the basis of total charges for a 400-km domestic haul using a 40-tonne Euro IV HGV. In countries with tolls, toll roads are set to account for half of the standard haul (200 km). Results are produced in terms of total charges per standard haul, vehicle-km and tonne-km. Table 3 provides an overview of the calculations.

Table 3. **Calculation of net taxation for a standard haul**

Net taxation	Calculation
Total charges per trip (EUR/trip)	(vehicle taxes / 276 days) + (diesel taxes x 128 litres) + (user charges /276 days) + (motorway tolls * 200 km) + (charges per tkm *400 km * 40 tonnes)
Total charges per vkm (EUR/vkm)	Total charges per trip (EUR) / 400 km
Total charges per tkm (EUR/tkm)	Total charges per vkm (EUR/km) / 40 t

### 3. OVERVIEW OF CHARGES AND TAXES

An inventory of charges levied is shown in Table 4, while detailed data are presented in Annex 1.

*Tax for the ownership of HGV* (nationality-based charge) averages 1 417 EUR/year in the countries surveyed. However, the level shows great variations and the tax varies from 4 833 EUR/year in Ireland to zero in Slovenia where no such tax exists. In addition, nine countries have a 20-30% rebate for HGVs with air suspension, as road wear and tear has been shown to be significantly lower for vehicles with an air suspension. Germany and the United Kingdom have an additional reduction of tax for lorries with reduced pollution applied also to other than Euro V/VI standards. In Switzerland, Spain and Italy the ownership tax is set on a regional basis. A special rebate – not related to charges – is the subsidy for the purchase of clean (Euro V) HGVs in Germany. This has led to a substantial increase of Euro V/VI class HGVs (CTS, 2012).

*Fuel tax* (weakly territorial charge) is the subject of EC Directive 2003/96/EC restructuring the Community framework for the taxation of energy products and electricity. While not necessarily regarded as a road tax, the Directive's Recital 19 mentions the connection between diesel taxation and the introduction of a system of road user charges. The Directive sets a minimum tax of 0.33 EUR/litre for diesel (in the Directive called gas oil). There is, however, no maximum level set. Fuel tax varies typically between 0.40 EUR - 0.50 EUR per litre. Differing from the rest are, at the low end, Luxemburg, Lithuania and Romania where fuel tax is at 0.30 EUR per litre. At the high end, the fuel tax in the United Kingdom and Switzerland is 0.72 EUR and 0.63 EUR per litre, respectively.

*Time based charges* (moderately territorial charge) mainly consist of the Eurovignette which today exists in five countries, Sweden, Denmark, the Netherlands, Belgium and Luxembourg. A Vignette paid in one of these countries gives access to all roads in the other four countries (except for a few toll bridges). A similar highway vignette is in place in Hungary. These charges may be said to be on their way out and will probably be replaced by (electronic) tolls or distance based charges with considerably more differentiation.

*Toll roads and distance based charges* (strongly territorial charges) are in place mainly for motorways in several countries today. Toll roads with a barrier where a toll has to be paid when stopping or passing through at lower speed were originally found mainly in Spain, Italy and France. Since 2001 these networks show mixed developments; toll roads have been expanding strongly in Spain while growth has been more moderate in France and Italy. Today, large toll road networks are also found in Portugal, Slovakia, Slovenia, Poland and Austria.

Switzerland introduced an electronic km charge for trucks in 2001, followed by Germany in 2005 with a satellite-based system collecting a trip distance based toll from different

categories of HGVs. Austria, the Czech Republic and Slovakia followed suit and France has introduced an electronic km charge on parts of the trunk road network not already subject to tolls. While Germany, Switzerland and Slovenia have the same toll per vehicle-kilometre for all toll roads, Italy, France, Spain, Poland and Slovakia apply different tolls per vehicle-kilometre for different sections of the toll road network. In addition, several countries have charges differentiated according to the time of day (e.g. higher night charges in Austria) or reductions for Euro V or higher emission standards.

In addition to national toll schemes several countries have in place local congestion charges or charges for certain bridges/tunnels. Several countries also have low emission zones, in some cases HGV with Euro I - III standards are prohibited to enter certain zones.

Generalised road pricing for all vehicles (charging for wear and tear of infrastructure and externalities) has been the subject of research, policy debate and disagreement among the European countries for decades. Responses from countries participating in the survey indicate that several toll or congestion pricing schemes had been elaborated during the previous decade but resistance from stakeholder groups or politicians had stopped legislation and implementation.

#### **Box. Background for charges in Italy**

One of the countries with a mix of motorway concessionaires and a strong differentiation of charges presented the following rationale for the charging scheme(s);

The toll is the amount the user pays for the distance covered, connected with the investment carried out by the motorway concessionaire companies for both the design and construction of the infrastructure and for its maintenance/evolution in relation to traffic volumes. The toll consists of three components: the average tariff (Euro/km) pertaining to concessionaire companies, an additional fee (Euro/km) to the ANAS S.p.A. (the Italian Roads and Motorways National Company) fixed by the Law as well as VAT. The tolls are supposed to recover investment costs, including renewal, modernisation, innovation and operation, and also to properly remunerate the investors.

Tariffs are not freely determined but are constrained to specific levels, fixed in the concession agreements between the State and the concessionaire companies and related to the relevant financial plans. Therefore these agreements regulate the average toll, differentiated by type of vehicle, for each section of the motorway depending on its characteristics (i.e. mountain section) and on the specific investments.

The concessionaire company proposes tariff changes according to the elements provided by the contract, but it is the Government which, after specific assessments, approves or not the requested changes, setting the new tariff level by decree of the Ministry of Infrastructure and Transport in agreement with the Ministry of Economy and Finance.

In implementation of Directive 2006/38 and Directive 2011/76, the differentiation of road infrastructure charges to reduce air pollution (differentiation by Euro category of the vehicles) will be introduced at the time of renewal of concessions, and for new tolling systems, as the existing concessions are exempted from this requirement by the European legislation.

Table 4. **Inventory of applicable taxes and charges in 2012**

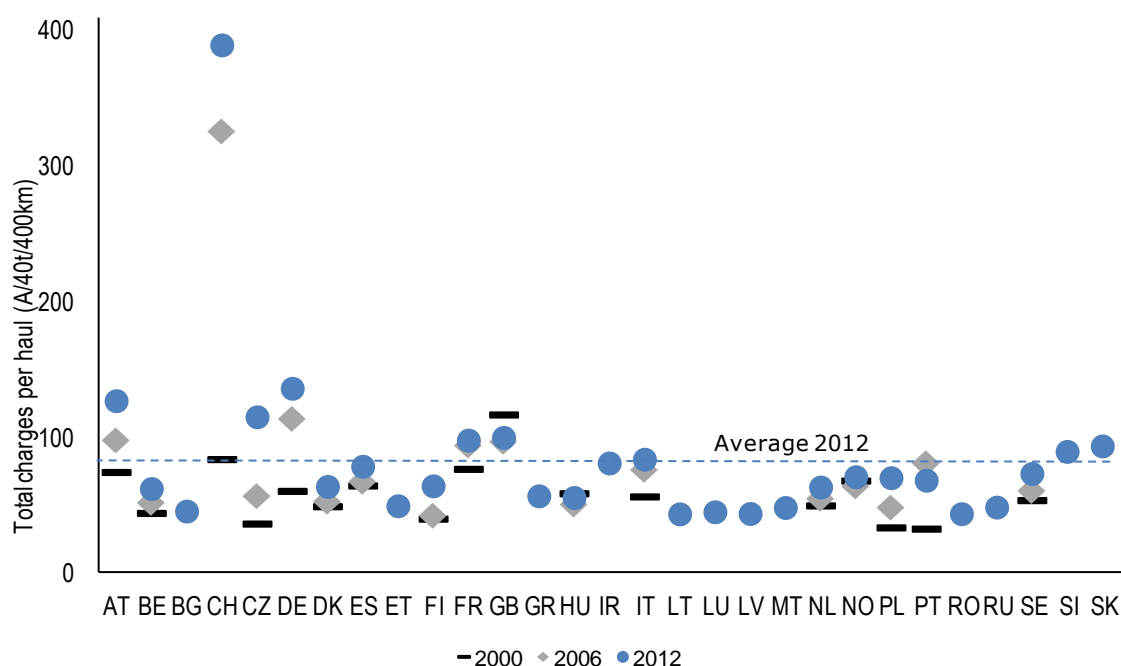
Country	Vehicle taxes	Fuel excise duties	User Charges	
			Vignettes	Tolls + User charges on a distance/weight basis
<b>Austria</b>	✓	✓		✓
<b>Belgium</b>	✓	✓	Eurovignette	
<b>Bulgaria</b>	✓	✓		
<b>Czech Republic</b>	✓	✓		✓
<b>Denmark</b>	✓	✓	Eurovignette	Bridge tolls
<b>Estonia</b>	✓	✓		
<b>Finland</b>	✓	✓		
<b>France</b>	✓	✓		✓
<b>Germany</b>	✓	✓		✓
<b>Greece</b>	✓	✓		
<b>Hungary</b>	✓	✓	Highway vignette	
<b>Ireland</b>	✓	✓		
<b>Italy</b>	✓	✓		✓
<b>Latvia</b>	✓	✓		
<b>Lithuania</b>	✓	✓		
<b>Luxembourg</b>	✓	✓	Eurovignette	
<b>Netherlands</b>	✓	✓	Eurovignette	Tunnel toll
<b>Norway</b>	✓	✓		Tunnel tolls etc.
<b>Poland</b>	✓	✓		✓
<b>Portugal</b>	✓	✓		✓
<b>Romania</b>	✓	✓		
<b>Russia</b>	✓	✓		✓
<b>Slovakia</b>	✓	✓		✓
<b>Slovenia</b>		✓		✓
<b>Spain</b>	✓	✓		✓
<b>Sweden</b>	✓	✓	Eurovignette	Urban toll
<b>Switzerland</b>	✓	✓		✓
<b>United Kingdom</b>	✓	✓		Urban tolls

#### 4. NET TAXATION

As the countries in the study do not all impose the same types of charges, comparing levels of a specific tax in isolation gives no indication of the impact of differences between the levels of that tax on hauliers. Therefore, in order to allow for comparisons, the following presents total charges per standardised domestic haul (for a description of the methodology used, see Chapter 2).

The net amount of charges paid on a standard domestic haul within the country of registration in selected years is presented in Figure 1. The results show significant differences in the size of the overall charge between countries. On average, a haulage company pays 84 EUR per haul within the country of registration. The lowest levels of charges are in Romania, Latvia and Lithuania where a national company pays 44 EUR for a standard domestic haul. Hauliers in the United Kingdom, Czech Republic, Germany, Austria and Switzerland are charged 100 EUR or more for undertaking a comparable haul within their own country. The introduction in Switzerland of a new distance/weight-based user charge in 2001 (*Redevance poids-lourds liée aux prestations, RPLP*) resulted in a large change in net charges paid.

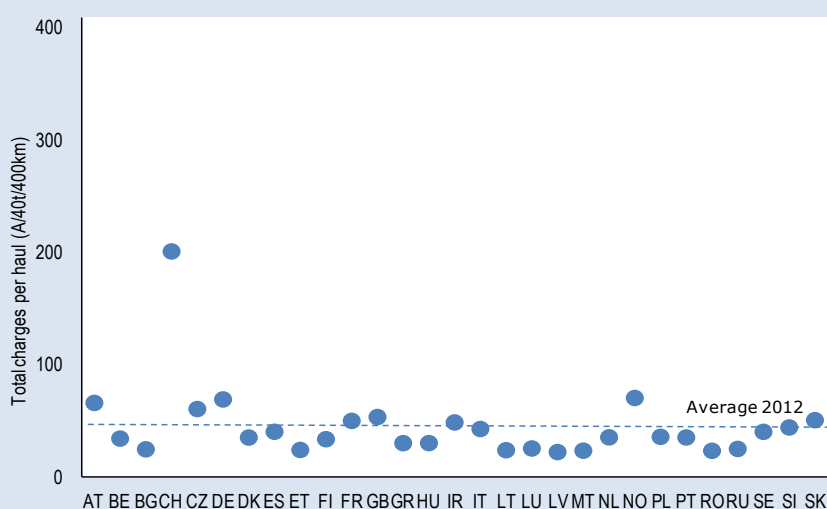
Figure 1. **Net amount of charges paid on a standard domestic haul (Euros)**



### Box. Sensitivity analysis of results

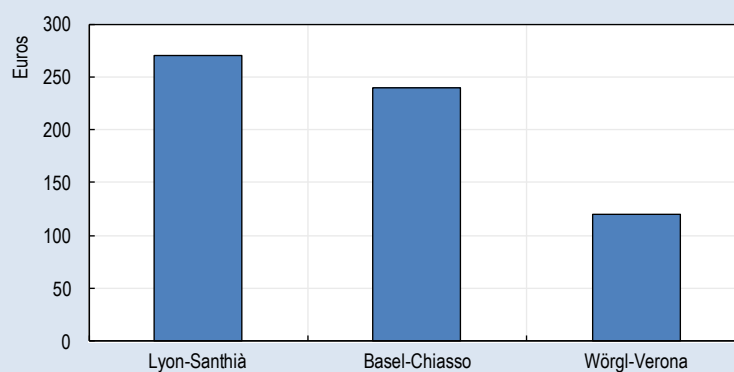
Assumptions regarding the standard domestic haul can have a significant impact on the calculation of the net amount of charges paid by country of registration. To illustrate this, a second scenario is presented in the figure below. The standard haul is set here to 200 kilometres. For countries with tolls, toll roads are set to account for half the haul (100 kilometres). The shorter haul reduces somewhat net charges for countries with tolls.

Figure. **Net amount of charges paid on a standard domestic haul**  
(alternative scenario 200 km)



The choice of route can also have an important effect on results. For example, the choice of the trans-alpine route affects results significantly. The following figure presents transit fees through Switzerland (Basel-Chiasso) compared with two alternative routes via France (Lyon-Santhià) and Austria (Wörgl-Verona). It shows that although the average amount of charges paid on a standard domestic haul in our calculations for Switzerland is high, route-specific charges have a more significant impact for trans-alpine traffic.

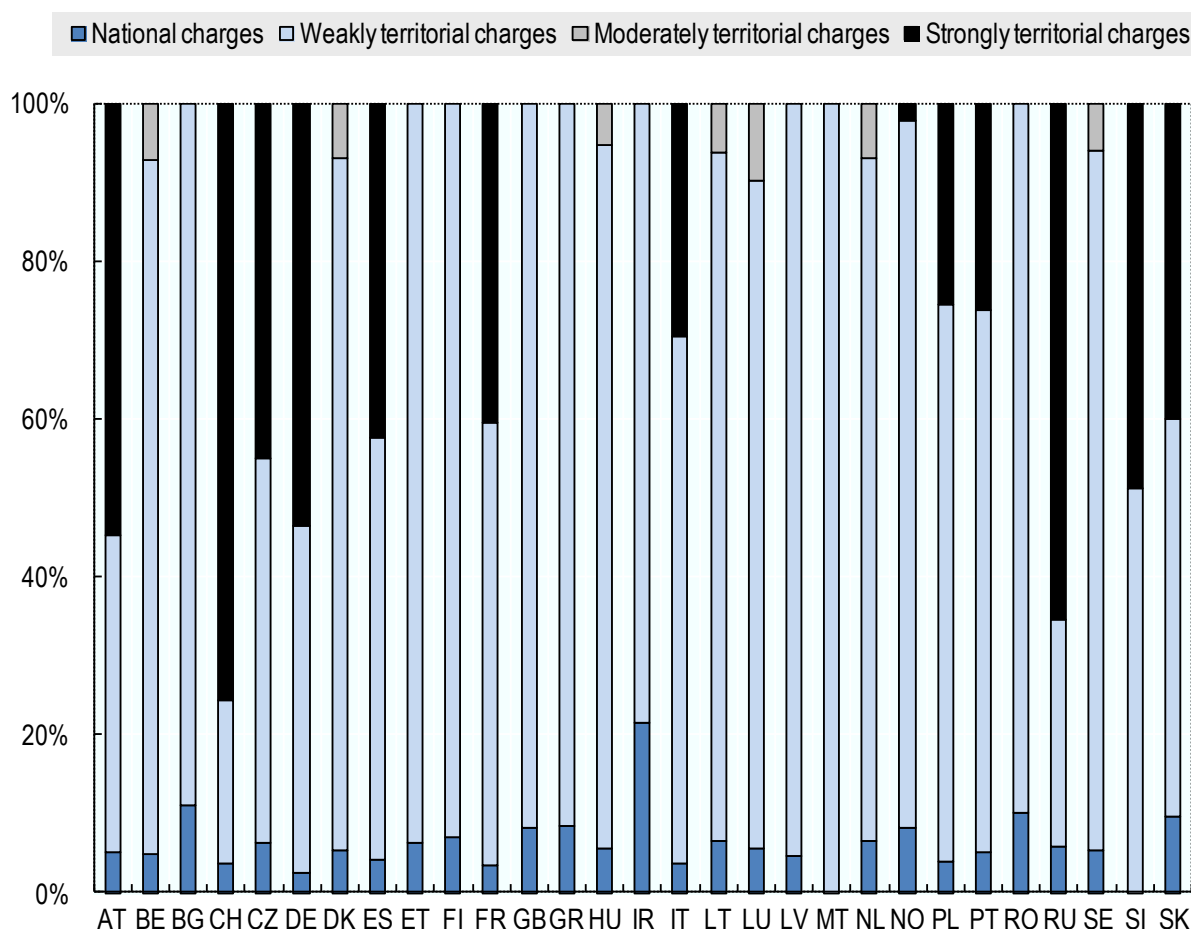
Figure. **Transit fees at alternative trans-alpine routes**



Source: Confédération Suisse (2012).

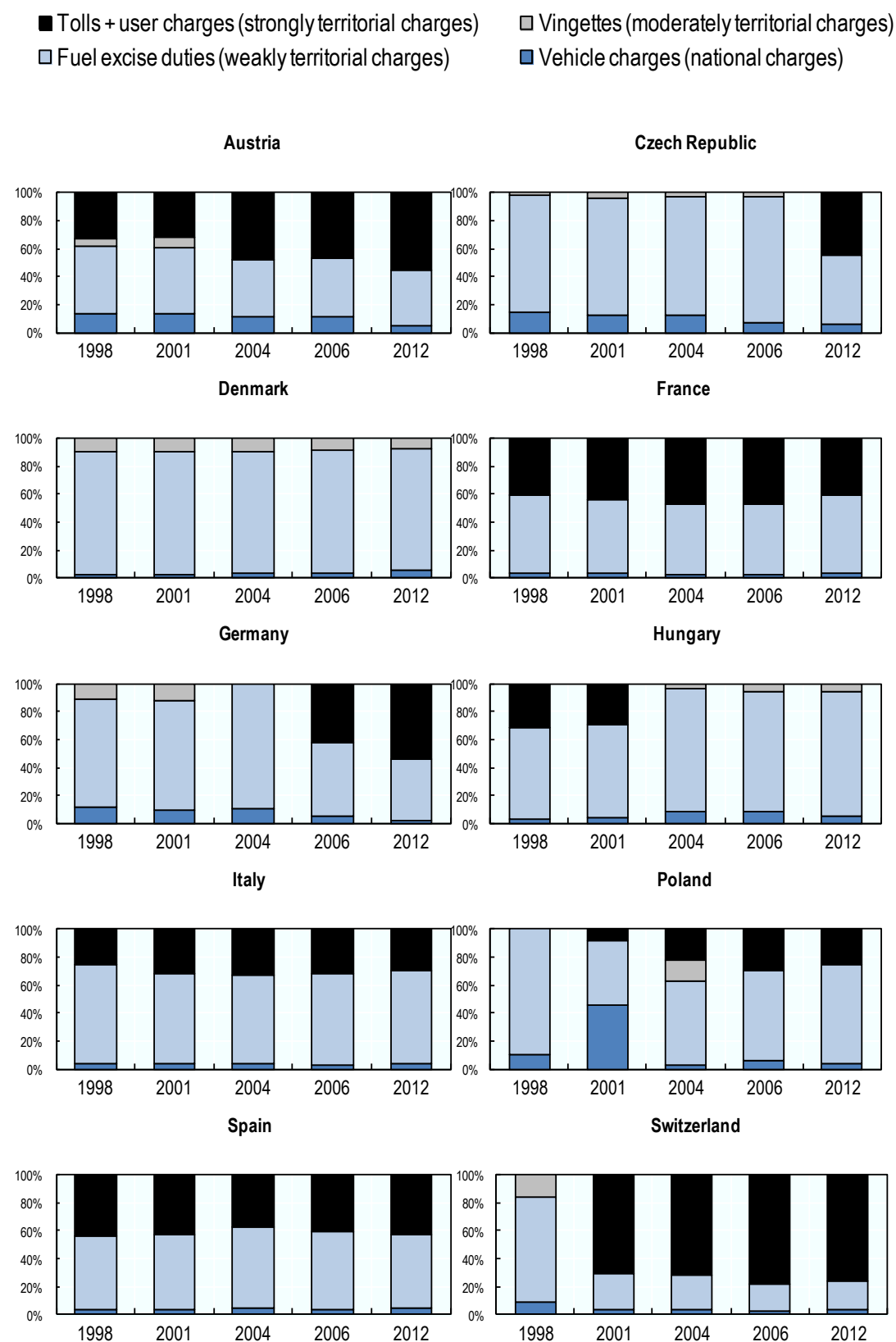
All countries except Estonia levy a nationality-based charge (vehicle ownership taxes). However, the share of these national charges in total charges for a domestic haul is relatively small, being highest in Ireland at 18% of the total. The largest share of overall tax revenue is collected from the weakly territorial charges (fuel excise duties) in most of the countries except for Czech Republic, Austria and Russia where tolls or distance based charges are the major part of the taxation (Figure 2). This clearly emphasizes the importance of fuel excise duties in the overall charges and taxes for the road hauliers.

Figure 2. **Territorial structure of taxation according to share of fees paid on domestic haul in 2012**



Earlier work (ECMT, 2005) examined the fairness and complexity of taxation in international haulage. The report focussed on non-discrimination as a basis for efficient international haulage markets. It emphasized abolishing transit charges and reducing the weight and complexity of nationality-based taxes, replacing them with territorial charges: tolls, km-charges or vignette-type charges (with the option to purchase vignettes at a daily rate).

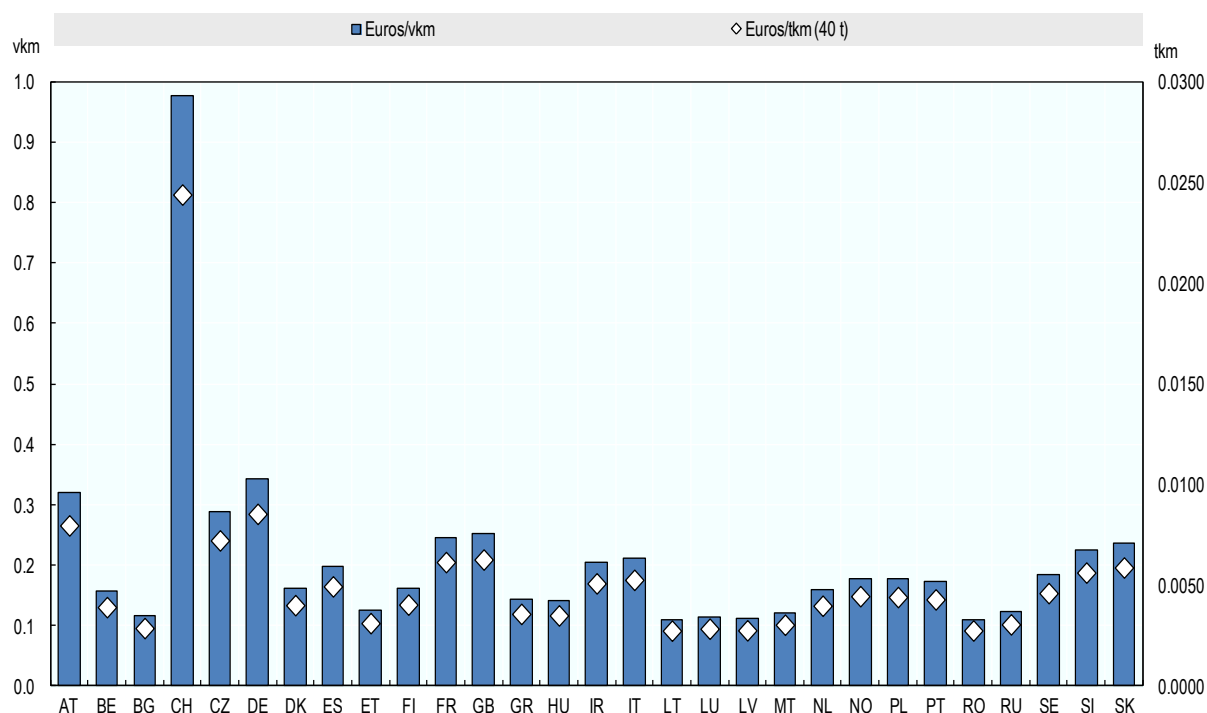
A number of potentially discriminatory taxes and transit charges have been abolished over recent years. Evolution of the territorial structure of taxation (Figure 3) further suggests a shift to territorially based charges, especially in the form of km-charges or tolls for the use of infrastructure.

Figure 3. **Evolution of territorial structure of taxation in selected countries**



The net amount of charges paid per vehicle kilometre average 0.20 EUR per vehicle kilometre with relatively little variation between countries except for few exceptions. The highest charges are collected in Switzerland (0.61 EUR/vkm) and the lowest in Bulgaria, Luxembourg, Latvia, Lithuania, and Romania (0.11 EUR/vkm). In terms of charges per tonne kilometre, the average net amount paid is 0.005 EUR/tkm.

Figure 4. **Net amount of charges paid on t-km and v-km basis (domestic haul, 2012)**



## 5. TAXES AND CHARGES IN AUSTRALIA, CANADA AND THE UNITED STATES

In order to compare European taxes and charges for HGVs with a few non-European countries, preliminary information on taxes and charges in Australia, Canada and the United States has been collected.

### *Ownership or registration tax*

Ownership or registration tax varies significantly in the countries reviewed. In the United States, motor vehicle registration rules and fees vary from state to state. The registration fee may be a flat fee or based on a car's weight, age or value (or a combination of these). The vehicle ownership tax varies from 90 EUR/year in Wyoming to 2 100 EUR/year in Illinois (FHWA, 2008). It should be noted that the classification of HGVs is also different from Europe.

There is no federal vehicle tax scheme in Canada but the provinces have their own vehicle ownership tax schemes. To illustrate, in Nova Scotia a haulier pays a Heavy Commercial Motor Vehicle Fee of 1 775 EUR/year (40 tonne HGV), in New Brunswick an annual registration fee of up to 2 400 EUR/year while in Ontario the haulier is responsible for a Heavy Commercial Vehicle Validation Fee of 2 600 EUR/year for a 63-tonne vehicle.

There are substantial variations between states also in Australia. The annual registration fee for the equivalent of a European HGV is 1 425 EUR/year in Western Australia, 3 650 EUR/year in Victoria and 4 050 EUR/year in the Northern Territories. It should be noted that several states permit considerably larger vehicles than 40 tonne HGVs, up to and exceeding 100 tonnes. The Australian vehicle tax regime has recently been reformed. The 2013 Heavy Vehicle National Law is intended to overcome jurisdictional inconsistencies between states and streamline heavy vehicle regulatory functions through one coordinated approach. However, the new law also has different tax levels for different states.

### *Net fuel tax*

The American Petroleum Institute uses a weighted average of local taxes by population of each municipality to come up with an average tax for the entire state. Similarly, the national average is weighted by population of each state. Because the states with the highest taxes also have higher populations, only about a third of the states are above the average.

According to the Institute's calculations, the average diesel fuel tax in the United States is 0.11 EUR/litre, significantly lower than the European average 0.41 EUR/litre. This tax (54.4 US cents/US gallon) includes a uniform federal tax of 24.4 US cents/US gallon. There are substantial variations between states. The combined local, state and federal tax diesel fuel tax is: Oklahoma and Wyoming 0.07 EUR/litre; California 0.15 EUR/litre; Connecticut 0.16 EUR/litre. In addition to these, there may be state sales taxes similar to the European VAT but at lower levels.

In 2008, the US federal diesel tax raised approximately EUR 6.4 billion and the gasoline (petrol) tax EUR 15.7 billion. This tax was last raised in 1993, and is not indexed to inflation. The federal petrol tax has therefore experienced a cumulative loss in purchasing power since 1993. According to the National Surface Transportation Infrastructure Financing Commission, an increase of 0.02 EUR/litre (10 US cents/gallon) would bring approximately EUR 15 billion of annual revenue into the US Federal Highway Trust Fund. As a comparison, it can be mentioned that the US spent nearly EUR 230 billion for imported oil in 2008.

In Canada the federal diesel tax is uniformly 0.03 EUR/litre. In addition to the federal tax there are: Provincial excise tax, Goods and Services Tax (5-15%) and in two provinces a Local excise tax. These taxes make the provincial variations even greater than in the United States. The total federal and provincial diesel taxes are 0.09 EUR/litre in Yukon, 0.19 EUR/litre in Quebec and 0.27 EUR/litre in Vancouver. The Federal Government of Canada collects about EUR 5 billion per year in various taxes on gasoline (petrol), diesel and aviation fuel.

In Australia, the federal diesel tax, including the Goods and Services Tax, varies between 0.29 and 0.31 EUR/litre. The lower rate (ultra-low sulphur) is the same as for unleaded petrol. In 2012, Australia has introduced a carbon tax but this does not apply to transport fuels.

#### *Other taxes and charges*

In the United States, the Heavy Vehicle Use Tax (HVUT) applies to highway motor vehicles having taxable gross weights of 25 metric tonnes (55 000 pounds) or more, including trucks, truck tractors (HGV) and buses. The tax information refers to the Nation's Highway Programs and Levelling the Playing Field. The tax does not apply to vehicles that are used for a distance of 8 000 km (5 000 miles) or less. The tax amounts to 410 EUR/year but a wide range of exceptions apply; for instance, for Federal Government vehicles and Mass Transportation Authorities. Finally, a tyre sales tax which depends on the weight of the vehicle and for a 40-tonne HGV this may amount to 625 EUR.

The United States has several thousand toll roads varying from short urban stretches, tunnels and bridges to roads covering entire states. High-Occupancy Toll Lanes (HOT) exist in many areas. Subsequently, the toll systems and levels are very different. Cash flat payments for a certain section are still common although some electronic payment systems do exist. Most widespread is the E-Zpass, an electronic toll-collection system used on most tolled roads, bridges and tunnels in the Northeastern United States. However, there are no GPS-based charging systems in place today like those in Europe. Relevant comparisons with European tolls are difficult but a 225-km trip for a five-axle HGV on the Ohio turnpike costs 0.09 EUR/km (cash) or 0.07 EUR/km (electronic payment), much lower than most European tolls.

Canada has, apart from a few tolled bridges, only a limited number of toll roads. One rare example is the 107-km 407 Highway in Ontario, where the charges vary between 0.42 – 0.56 EUR/km depending on the time of day.

In Australia, there are mainly short urban toll roads and toll bridges. The fees are relatively high compared with other countries (1.50 EUR/km for an HGV on a Sydney urban motorway).

## 6. CONCLUSIONS

The inventory of taxes and other charges levied in 2012 on road haulage in European countries shows differences in the charges paid for standard domestic hauls and rather different fiscal patterns associated with these charges, although the general trend shows some convergence of the main fiscal charges. Fuel taxes remain the largest charge in the overall mix of charges and taxes levied on road hauliers.

In Europe, the Eurovignette for unlimited operations each year was introduced in 1999 in 12 countries. This charging system is now on its way out and remains in force only in five countries. Increasingly, countries are introducing distance-based charging systems where the distance operated is tracked by on-board units, in some cases by satellite-based systems. Countries with older toll booth systems continue to expand their toll road networks. These developments are in line with the recommendation to abolish discriminatory charges by reducing the weight of national-based taxes and replacing them with territorial charges.

Directive 2011/76/EU on HGV charging requires that EU Member States (as well as Norway) shall implement this Directive by 16 October 2013. The Directive sets common rules on distance-related tolls and time-based user charges (still called vignettes) for heavy goods vehicles (above 3.5 tonnes) for the use of certain infrastructure. These rules stipulate that the cost of constructing, operating and developing infrastructure can be paid through tolls and vignettes levied on road users. The Directive permits but does not require charging for external costs such as air pollution, congestion and noise, subject to certain limits. Countries surveyed for this report did not report any need to adjust charges as a result of the Directive.

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## ANNEX 1. DATA TABLES

Table A1. **Vehicle taxes (EUR/year)**

Country	1998	2000	2005	2008	2012
<b>Austria</b>	2,747	2,747	2,962	1,500	1,752
<b>Belgium</b>	823	818	870	845	845
<b>Bulgaria</b>					1,390
<b>Czech Republic</b>	1,219	1,301	1,613	1,036	2,020
<b>Denmark</b>	335	337	537	537	926
<b>Estonia</b>					
<b>Finland</b>	2,015	2,015	2,015	2,015	1,233
<b>France</b>	707	707	600	600	932
<b>Germany</b>	1,790	1,790	1,523	929	929
<b>Greece</b>					1,320
<b>Hungary</b>	495	672	1,162	1,475	852
<b>Ireland</b>					4,833
<b>Italy</b>	802	697	722	731	825
<b>Latvia</b>					543
<b>Lithuania</b>			571		771
<b>Luxembourg</b>					705
<b>Malta</b>					
<b>Netherlands</b>	955	940	975	1,089	1,152
<b>Norway</b>	731	1,136	1,291	1,384	1,591
<b>Poland</b>	580	690	1,102	1,139	750
<b>Portugal</b>	424	424	514	627	941
<b>Romania</b>					1,210
<b>Russia</b>					787
<b>Slovakia</b>			1,533		2,471
<b>Slovenia</b>					
<b>Spain</b>	605	605	714	748	900
<b>Sweden</b>	2,203	2,203	2,083	2,001	1,093
<b>Switzerland</b>	2,063	2,063	2,135	2,033	3,800
<b>United Kingdom</b>	1,876	4,101	1,725	1,990	2,283

Table A2. **Net fuel taxes (EUR/litre)**

<b>Country</b>	<b>1998</b>	<b>2000</b>	<b>2005</b>	<b>2008</b>	<b>2012</b>
<b>Austria</b>	0.28	0.28	0.30	0.36	0.40
<b>Belgium</b>	0.29	0.29	0.34	0.31	0.43
<b>Bulgaria</b>					0.32
<b>Czech Republic</b>	0.20	0.24	0.38	0.36	0.44
<b>Denmark</b>	0.32	0.32	0.41	0.41	0.44
<b>Estonia</b>					0.39
<b>Finland</b>	0.26	0.26	0.27	0.27	0.47
<b>France</b>	0.37	0.34	0.39	0.39	0.43
<b>Germany</b>	0.32	0.38	0.47	0.47	0.47
<b>Greece</b>					0.41
<b>Hungary</b>	0.28	0.31	0.34	0.32	0.39
<b>Ireland</b>					0.50
<b>Italy</b>	0.39	0.28	0.40	0.40	0.44
<b>Latvia</b>					0.33
<b>Lithuania</b>					0.30
<b>Luxembourg</b>					0.30
<b>Malta</b>					0.38
<b>Netherlands</b>	0.29	0.33	0.36	0.38	0.43
<b>Norway</b>	0.46	0.50	0.42	0.49	0.50
<b>Poland</b>	0.15	0.22	0.33	0.36	0.39
<b>Portugal</b>	0.27	0.25	0.31	0.36	0.37
<b>Romania</b>					0.31
<b>Russia</b>					0.11
<b>Slovakia</b>					0.37
<b>Slovenia</b>					0.36
<b>Spain</b>	0.26	0.27	0.29	0.30	0.33
<b>Sweden</b>	0.29	0.32	0.37	0.41	0.51
<b>Switzerland</b>	0.47	0.49	0.49	0.49	0.63
<b>United Kingdom</b>	0.66	0.80	0.69	0.74	0.72

Table A3. **Time based charges (EUR/year)**

Country	1998	2000	2005	2008	2012
<b>Austria</b>	1,214	1,214			
<b>Belgium</b>	1,224	1,250	1,250	1,067	1,250
<b>Bulgaria</b>					
<b>Czech Republic</b>	115	354	443		
<b>Denmark</b>	1,250	1,250	1,251	1,251	1,250
<b>Estonia</b>					
<b>Finland</b>					
<b>France</b>					
<b>Germany</b>	1,250	1,250			
<b>Greece</b>					
<b>Hungary</b>	39	39	766	762	835
<b>Ireland</b>					
<b>Italy</b>					
<b>Latvia</b>					
<b>Lithuania</b>			43		754
<b>Luxembourg</b>					1,250
<b>Malta</b>					
<b>Netherlands</b>	1,250	1,250	1,250	1,250	1,250
<b>Norway</b>					
<b>Poland</b>	512	512	512	525	
<b>Portugal</b>					
<b>Romania</b>					
<b>Russia</b>					
<b>Slovakia</b>					
<b>Slovenia</b>					
<b>Spain</b>					
<b>Sweden</b>	1,233	1,359	1,250	1,210	1,250
<b>Switzerland</b>	3,689	3,850			
<b>United Kingdom</b>					



Table A4. **Tolls and distance based charges (EUR/km)**

Country	1998	2000	2005	2008	2012
<b>Austria</b>	0.15	0.15	0.27	0.36	0.35
<b>Belgium</b>					
<b>Bulgaria</b>					
<b>Czech Republic</b>				0.16	0.26
<b>Denmark</b>					
<b>Estonia</b>					
<b>Finland</b>					
<b>France</b>	0.17	0.16	0.21	0.22	0.20
<b>Germany</b>			0.12	0.16	0.18
<b>Greece</b>					
<b>Hungary</b>	0.19	0.19			
<b>Ireland</b>					
<b>Italy</b>	0.09	0.09	0.12	0.12	0.13
<b>Latvia</b>					
<b>Lithuania</b>					
<b>Luxembourg</b>					
<b>Malta</b>					
<b>Netherlands</b>					
<b>Norway</b>	0.06	0.06	1.63	1.57	-
<b>Poland</b>		0.02	0.09	0.09	0.09
<b>Portugal</b>			0.19	0.19	0.09
<b>Romania</b>					
<b>Russia*</b>					0.09
<b>Slovakia</b>					0.19
<b>Slovenia</b>					0.22
<b>Spain</b>	0.16	0.16	0.15	0.18	0.17
<b>Sweden</b>					
<b>Switzerland**</b>			0.017	0.016	0.0185
<b>United Kingdom</b>					

\* There were 430 km of toll roads in Russian Federation in 2012. For federal roads, the Ministry of Transport has limited tolls for 0.038 EUR/km but for concession roads there are no such limitations. The length of toll road network is planned to increase up to 3044 km by 2015.

\*\* Switzerland EUR / km / weight.

**International Transport Forum**

2 rue André Pascal

75775 Paris Cedex 16

[itf.contact@oecd.org](mailto:itf.contact@oecd.org)

[www.internationaltransportforum.org](http://www.internationaltransportforum.org)

