



**SILESIA
UNIVERSITY**

SCHOOL OF BUSINESS
ADMINISTRATION IN KARVINA

TAXING VEHICLES

Ing. Šárka Sobotovičová, Ph.D.
INTERNATIONAL TAXATION AND TAX SYSTEMS/NPMZD

OUTLINE OF THE LECTURE

1. TYPES OF TAX INSTRUMENTS
2. TAXES ON ACQUISITION
3. TAXES RELATED TO THE USE
4. TAXES ON OWNERSHIP (ROAD TAX)
5. EXTERNAL COSTS OF ROAD TRANSPORT

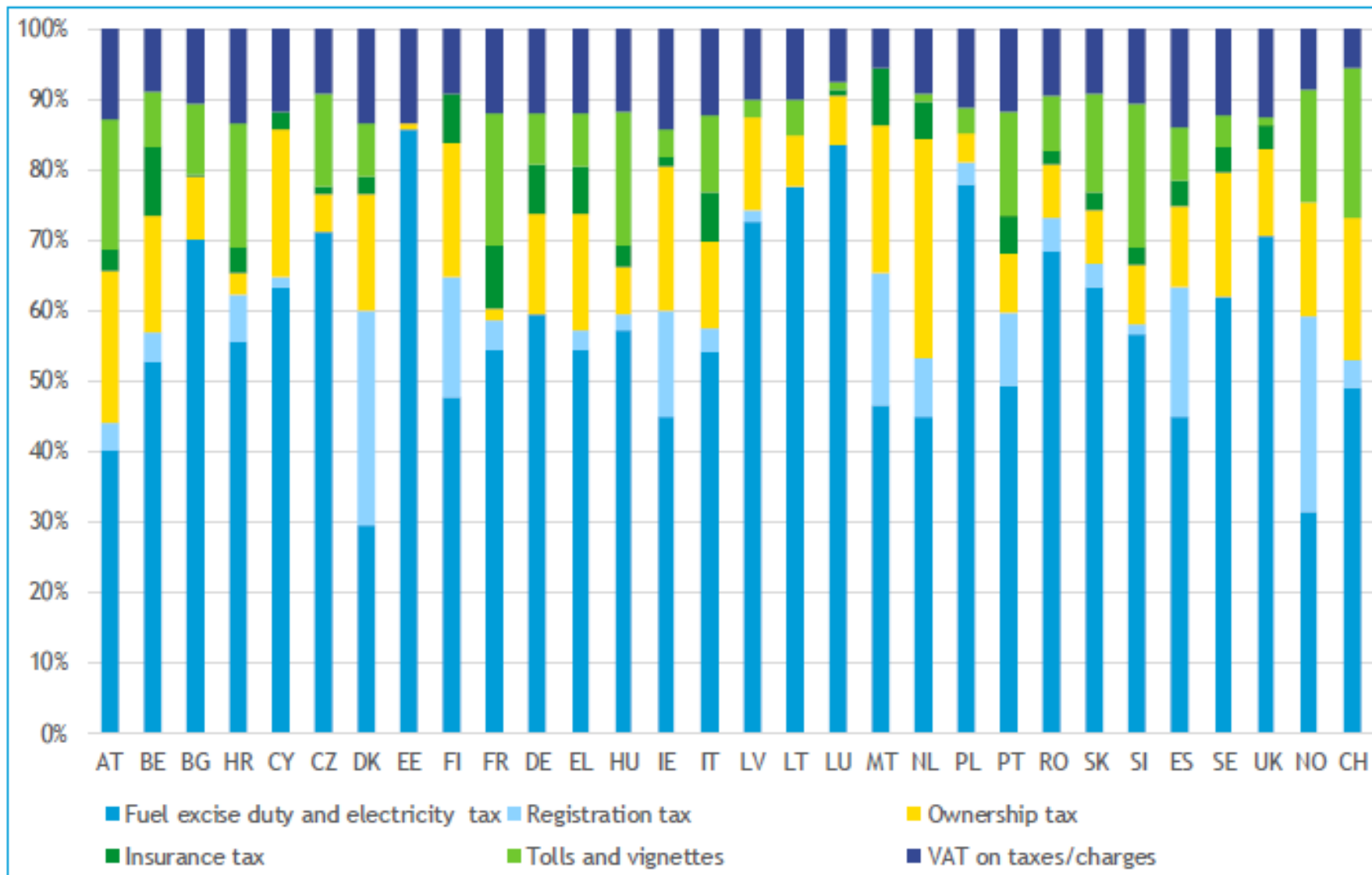
TAXING VEHICLES

- Two problems make the optimal design of taxes on motoring especially difficult.
- First, driving causes multiple spillovers, and different instruments are likely to be appropriate for the different problems.
- Second, for a number of the externalities that driving causes, there is no simple link between either the amount of fuel consumed or the distance driven and the cost imposed on society.
- Greenhouse gas emissions are approximately proportional to the quantity of fuel consumed and so a tax on petrol and diesel should capture this effect directly.
- Congestion costs, on the other hand, depend on when and where driving takes place.
- The cost of adding to local air pollution varies both by location and by the particular features of the vehicle.

TYPES OF TAX INSTRUMENTS

- Motor vehicles are subject to many types of taxation. Vehicles used for business are subject to tax, but in some states private vehicles are also taxed.
- The various tax instruments can be divided into three broad categories:
 1. taxes associated with the acquisition, purchase or registration of a vehicle, for example VAT and registration taxes.
 2. taxes payable in connection with possession or ownership of a vehicle, such as circulation taxes and insurance taxes.
 3. taxes directly or indirectly related to the use of vehicles, including fuel taxes and road tolls.

Figure 46 – Share of different types of taxes and charges in total road tax/charge revenue in 2016





Passenger car

Privately owned (individual's perspective)

Company owned (employee's perspective)

Tax payments

Car purchase and registration



- ▶ Value added tax (VAT)
- ▶ Registration tax

Car ownership



- ▶ Motor vehicle tax

Consumption of fuel/electricity



- ▶ Fuel tax
- ▶ Electricity tax

Use of road infrastructure



- ▶ Road charges

Private use of company car



- ▶ Tax on private use of a company car

Subsidies

Grants



- ▶ Grants for low-emission passenger cars

Grants



- ▶ Special grant plans for low-emission passenger cars

TAXES ON ACQUISITION

- Motor vehicles are subject to **VAT, goods and service tax or retail sale tax.**

- **Registration taxes** are payable in advance of, or at the time of, registration of a vehicle. They are charged only once, at the time of first registration. The tax may be charged by reference to the value of the vehicle, according to some measurement such as horsepower, engine cubic capacity, emission levels, or a combination of factors.

The registration plates and documentation will not be issued until the tax has been paid or guaranteed. Various types of vehicle may be exempted from the tax, either on the basis of their physical characteristics or on the nature of use to which they are put.

In this context it is useful to distinguish between taxes and fees:

- **Registration taxes** are levied for fiscal reasons and thus the level of taxation can be substantial.
- **Registration fees** are levied to cover the cost of the operation of national vehicle registers.

TAXING VEHICLES

1.1 TAXES ON ACQUISITION

Country	VAT	Registration Tax
Austria	20%	Based on CO2 emissions (max 32% + bonus/malus)
Belgium	21%	Based on cylinder capacity and age (Brussels-Capital) Fuel, age, emission standards and CO2 (Flanders) Cylinder capacity, age and CO2-based bonus/malus scheme (Wallonia)
Bulgaria	20%	Plate costs (BGN 25) + eco tax (BGN 160)
Croatia	25%	Based on vehicle sale price, CO2 emissions and fuel type
Cyprus	19%	Based on CO2 emissions and cylinder capacity
Czech Republic	21%	Registration tax (max CZK 800) + eco tax based on emission standards
Denmark	25%	85% of vehicle's value up to DKK 197,700 + 150% of the rest. Reductions based on safety equipment and fuel consumption.
Estonia	20%	Registration label (€62) + registration card (€130)
Finland	24%	Based on retail value and CO2 emissions (min 2.7%, max 50%)
France	20%	Registration tax (varies by region) + CO2-based bonus/malus scheme
Germany	19%	Registration fees (€26.3)
Greece	24%	Based on net retail price, emissions technology and CO2
Hungary	27%	Based on cylinder capacity and emission standards
Ireland	23%	Based on market selling price, NOX and CO2 emissions
Italy	22%	Based on vehicle type and horsepower + registration fees (€145.00 for new vehicles) + CO2-based bonus/malus scheme
Latvia	21%	Registration costs (€43.93) + national resources tax (€55)
Lithuania	21%	Registrations fees by vehicle type
Luxembourg	17%	Registration stamp (€50) + supplement (€24 or €50)
Malta	18%	Based on vehicle's value, CO2 emissions and length
Netherlands	21%	Based on CO2 emissions and fuel efficiency
Poland	23%	Excise tax based on cylinder capacity (up to 18.6% of vehicle's value) + registration fees (PLN 180.50 for cars) + identification card (PLN 75)
Portugal	23%	Based on cylinder capacity and CO2 emissions + registrations fees (€55) + plate costs (€45)
Romania	19%	Registration fees (RON 40)
Slovakia	20%	Registration fees (min €33 based on vehicle's value, engine power and age) + plate costs (€16.5)
Slovenia	22%	Based on selling price, CO2 emissions and fuel type
Spain	21%	Based on CO2 emissions (max 14.75% for 200g/km or more)
Sweden	25%	No registration tax at the purchase.

TAXES RELATED TO THE USE

- **Excise duties** on mineral oils are charged on motor fuels by reference to the quantity of product released for consumption. The motor fuels are also the subject of **VAT**.
- **Tolls** are charged in some states as a means of recovering infrastructure costs. They can be charged as a fixed amount or as a function of the distance travelled. It is also possible to have a periodic payment system, which allows unlimited use of the network for the period in question.
- Special schemes to promote the scrapping of old cars are or have been used in some Member States to promote replacement of old cars with new, less polluting cars. Normally these schemes are temporary and involve a tax reduction on the purchase of a new car when an old car is scrapped.

TAXING VEHICLES

1.3 TAXES ON MOTORING¹

Excise duties on fuels in €/1,000 litres		
Country	Unleaded Petrol	Diesel
Austria	515	425
Belgium	600	600
Bulgaria	363	330
Croatia	520	413
Cyprus	429	400
Czech Republic	499	425
Denmark	631	429
Estonia	563	493
Finland	702	530
France	683	594
Germany	654	470
Greece	700	410
Hungary	366	338
Ireland	602	495
Italy	728	617
Latvia	509	414
Lithuania	466	372
Luxembourg	472	355
Malta	549	472
Netherlands	800	503
Poland	383	337
Portugal	643	486
Romania	373	342
Slovakia	555	393
Slovenia	547	469
Spain	504	379
Sweden ²	619	436
EU minimum rates	359	330

Source: European Commission, TEDB - "Taxes in Europe" database

ROAD TOLLS AND VIGNETTES

- Distance-based road tolls and vignettes are applied in almost all European countries.
- National road charging schemes for passenger cars and LCVs are applied in most European countries, of which nine apply a distance-based road charge, while the other eight countries have implemented time-based road charges (vignettes).
- As for heavy goods vehicles, most EU countries applied distance-based road charges, by using physical barriers or by applying an electronic network-wide scheme.
- For buses/coaches, road pricing schemes are applied in most EU countries, especially distance-based charges.

- In the US states California and Missouri and the Canadian provinces Alberta and British Columbia, no road tolls or vignettes are applied for any vehicle categories.
- In Japan, on the other hand, road toll is levied on all motorways for all vehicle categories.

ROAD TAX (TAXES ON OWNERSHIP)

- The main advantage of this taxation is a more stable source of income, as vehicles are subject to tax throughout their life cycle.
- **Circulation taxes (road tax)** are charged on a periodic basis, and usually confer the right to use the public road network. These taxes are also charged according to various criteria, such as engine capacity, horsepower, fuel type, region of registration etc. In some cases, the age of the vehicle is taken into account. They are often controlled by means of a windscreen sticker, or vignette.
- **Motor insurance premium taxes** are usually charged as a percentage of the amount paid to insure the vehicle. In some cases it takes the form of a general tax on all insurance premiums, but may equally be specific to motor insurance.

TAXING VEHICLES

1.2 TAXES ON OWNERSHIP

Country	Passenger cars	Commercial vehicles
Austria	Engine power (kW)	Gross vehicle weight (GVW)
Belgium	Cylinder capacity, CO2 emissions, fuel type and emission standards	Brussels-Capital and Wallonia: maximum permissible weight (MPW) Flanders: MPW, CO2 emissions, fuel type and emission standards
Bulgaria	Engine power (kW), year of production and emission standards	MPW and number of axles
Croatia	Engine power (kW) and age	Engine power (kW) and age
Cyprus	CO2 emissions	CO2 emissions
Czech Republic	Engine size	Weight and number of axles
Denmark	Fuel consumption and weight	Fuel consumption and weight
Estonia	None	Weight, number of axles and suspension type
Finland	CO2 emissions, weight and fuel type	Weight and number of axles
France	Fiscal power (hp) and CO2 emissions	Weight, number of axles and suspension type
Germany	CO2 emissions and cylinder capacity	Weight, pollution and noise category
Greece	Engine capacity or CO2 emissions	Gross vehicle weight
Hungary	Engine power and year of production	Weight (reduction based on emission standards)
Ireland	Cylinder capacity or CO2 emissions	Deadweight
Italy	Engine power (kW), emission standards and fuel type	Global weight, number of axles and suspension type
Latvia	GVW, engine capacity (cc), power (kW)	Weight, number of axles and suspension type
Lithuania	None	Weight, number of axles and suspension type
Luxembourg	CO2 emissions or cylinder capacity	Maximum vehicle weight (MVW), axles, suspension type
Malta	CO2 emissions and age	CO2 emissions and age
Netherlands	GVW, province, fuel, CO2 emissions	GVW and number of axles
Poland	None	Weight and number of axles
Portugal	Cylinder capacity and CO2 emissions	GVW, number of axles and suspension type
Romania	Cylinder capacity (cc)	GVW and number of axles
Slovakia	Cylinder capacity and age	GVW and number of axles
Slovenia	None	None
Spain	Engine rating (hp)	Payload
Sweden	CO2-emission and fuel type	GVW, number of axles, fuel type

TAX LEVELS

- In most EU countries ownership/circulation taxes for electric passenger cars are lower than for cars with an internal combustion engine as was the case for purchase/registration taxes.
- In many countries electric cars are even fully exempted from an ownership tax.
- On the other hand in most countries older cars are taxed higher than new cars.

- Outside Europe, the Canadian state of British Columbia does not levy ownership/circulation taxes on passenger cars, while the Canadian state of Alberta has low tax levels which are not differentiated.
- Also the situation in the US states differs per state: Missouri does not tax the ownership of passenger cars, while in California tax levels are comparable with European levels.
- Japan also has ownership/circulation tax levels that are comparable with the ones in European countries.

ROAD TAX IN EU

- The aim of the European Commission in the field of taxation of road motors vehicles is mainly to improve the functioning of the internal market by removing existing tax obstacles for transfer of passenger vehicle from one Member State to another and restructuring of tax bases in the European Union within the meaning of inclusion of carbon dioxide emissions caused by operation of vehicles.
- At present there is little EU legislation, or harmonisation of national fiscal provisions, applied by the Member States in the area of passenger car taxation. Therefore, it is for each Member State to lay down national provisions for the taxation of these cars.
- As to EU Law, there is one Council Directive that restrict the rights of Member States to apply consumption taxes to vehicles:
Council Directive 83/182/EEC of 28 March 1983 on tax exemptions within the Community for certain means of transport temporarily imported into one Member State from another

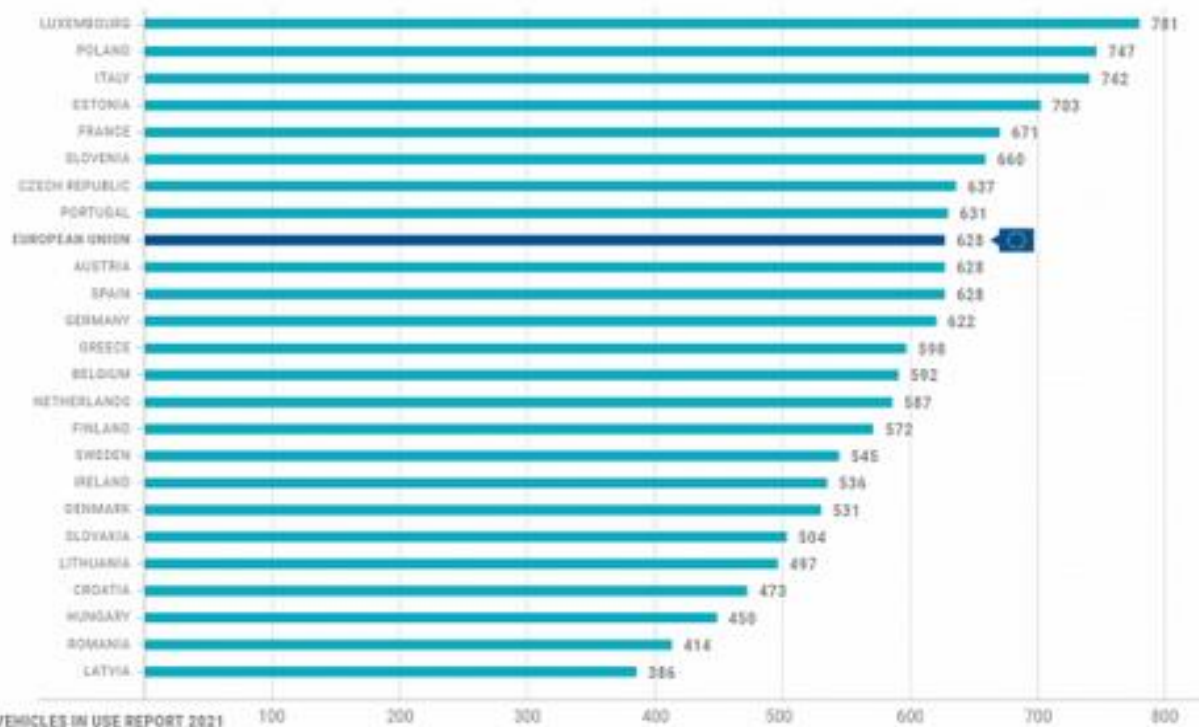
ROAD TAX

- The purpose of the road tax is to tax the use of roads by road motor vehicles. It is therefore a kind of contribution from the holders of these vehicles to the construction, maintenance and renewal of the road network. A characteristic feature is the gradation of the amount of this contribution depending on the wear of roads by individual types of vehicles.
- In some countries, road tax revenue is the income of funds that finance the repair and construction of roads and highways. In other states, the revenue from the road tax is the income of the municipality in which the vehicle is registered. This very interesting concept is based on the argument that the vehicle is the most burdensome on the roads and the environment at the place of its registration, and based on the principle of benefit, the tax revenue belongs to the municipalities. It also strengthens the fiscal autonomy of municipalities, which have sufficient resources to repair managed roads.

Vehicles per capita, by country

Motorisation rates in the EU

VEHICLES PER
1,000 INHABITANTS
2019



SOURCE: ACEA VEHICLES IN USE REPORT 2021

acea.be
linkedin.com/company/ACEA
twitter.com/ACEA_eu

EXTERNAL COSTS OF ROAD TRANSPORT

- The list of potential negative side-effects, or external costs, from road transport activities is long.
- The main externalities where quantification has been attempted, namely climate change, local air pollution, traffic congestion, accidents, noise, and road damage.
- Combusting road fuel causes emissions of carbon dioxide (CO₂). Emissions are proportional to the volume of fuel used but differ between fuel types.
- For example, CO₂ emissions per litre of diesel are moderately higher than for gasoline.
- The resulting climate damage is mostly borne by future generations across the globe, because CO₂ stays in the atmosphere for more than a century and the climate system adjusts only gradually to rising atmospheric CO₂ concentrations.

EXTERNAL COSTS OF ROAD TRANSPORT

- While fuel taxes are well suited to reflect external costs from CO₂ emissions, distance based taxes have the potential to reflect effectively road damage and other infrastructure related costs.
- If distance charges can be made to depend on vehicle characteristics, they can help address air pollution, and more so if they can also relate to population exposure to air pollution (e.g., by using population density at the place of driving as a proxy).
- Place-dependent charges also allow a degree of alignment with congestion levels, but time-varying charges will perform better in this regard.
- Unlike for other externalities, fuel taxes are the most efficient policy for promoting an efficient combination of behavioural responses that reduce carbon emissions (less driving, shifting to fuel efficient vehicles, etc.).
- Vehicle taxes are increasingly used to steer consumer choices towards the purchase of more fuel efficient and less polluting vehicles.