



Road Fuel And Vehicles Taxation In Light Of EU Enlargement

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1. Introduction

The European Union has declared its intention to open negotiations with 11 candidate countries in Central and Eastern Europe (CEE). In the first round Hungary, Poland, Estonia, the Czech Republic, Slovenia and Cyprus have been invited. Becoming a member means countries will have to comply with the *aquis communitaire*. The environmental approximation process will present greater challenges than any previous accession and will involve high costs.

Environmentally related issues in the transport sector include emission limit values of different kind of (new) vehicles, new fuel standards, the environmental impact from new road, rail and aviation infrastructure (including Trans-European Networks), and complying with current as well as the proposed new minimum levels of the taxation of transport fuels. The aim of this paper is to identify possible problems connected with the taxation of road fuels and vehicles in the light of EU enlargement.

The large differences in environmental standards and per capita income between present Member States and most of the candidate countries will have to be tackled in the negotiations. The European Council has made it clear that no large sums of EU money will be available this time for facilitating the accession process. As recognised in the Commission's Agenda 2000, there is thus an obvious risk that approximation will in some cases require considerable time.

Medium and long-term transitional provisions or derogations from the environmental *aquis* will affect intra-European competition and trade differently in open and less open sectors of the economy. The size of the incremental cost for complying with the *aquis communitaire* is, of course, also decisive. Environmental requirements on how municipal waste is stored, for instance, have little impact on the costs of open sectors of the economy. In such cases the risk is small that allowing candidate countries derogation from current EU directives will hold back the speed of future progress in the Union as such. However, in situations where moving at two speeds may cause distortions to intra-European competition and trade, there is a considerable risk of a slowdown in EU policy making. Taxation of international traffic is a case in point.

2. Road fuel taxes

The minimum levels for the taxation of road fuels are currently regulated in Directive 92/12/EEC. The Commission, however, has proposed a Council Directive for Restructuring the Community Framework for the Taxation of Energy Products (COM (97) 30 final) which is now being discussed. Table 1 shows the current minimum levels for the taxation of diesel and unleaded petrol as well as the proposed values for 1998, 2000 and 2002.¹

Table 1.
Minimum levels of taxation applicable to road fuels in the EU. ECU/1000 litres.

	Current	Proposed for 1/01/1998	Proposed for 1/01/2000	Proposed for 1/01/2002
Petrol	287	417	450	500
Diesel	245	310	343	393

Source: COM (97) 30 final

2.1 Road fuel taxes in EU15

¹ The Council has not yet come to an agreement on the proposal

Most of the present Member States have excise duties well above the current minimum level for petrol and some of them will not even have to raise the tax in order to comply with the proposed minimum level for 2002. The situation is different where diesel is concerned. Most Member States will have to increase their excise duties to meet the proposed 1998 requirement, and Greece, Luxembourg, Spain and Portugal will have to raise levels by more than 10 per cent. Complying with the proposed levels for 2000 and 2002 would require additional lifts.

Table 2 shows the levels of road fuel taxation in EU 15 plus Norway and Switzerland in September 1998. In addition, the table provides information on the VAT levels applied to road fuels.

Table 2.
Excise duties and value added tax on road fuels in the countries of Western Europe in September 1998. ECU/1000 litres and per cent.

Member State	Unleaded petrol	Diesel	VAT %
Austria	409.9	286.5	20
Belgium	501.7	286.9	21
Denmark	447.5	304.1	25
Finland	556.3	302.8	22
France	584.2	367.5	20.6
Germany	495.6	313.5	16
Greece	329.6	241.6	18
Ireland	386.0	336.4	21
Italy	526.1	384.7	20
Luxembourg	343.5	250.1	12*
Netherlands	568.5	335.9	17.5
Portugal	464.2	278.8	17
Spain	362.8	263.4	16
Sweden	512.7	306.5*	25
United Kingdom	662.5	677.5**	17.5
Norway	565	438	23
Switzerland	470	489	6.5

15 % VAT on diesel.

* Low sulphur diesel (environmental class 1) which dominates the Swedish market. The tax on standard diesel (class 3) is 367 ECU/1000 l.

** The British tax on ultra low sulphur diesel is 632.3 ECU per 1000 litres.

Sources: The Oil Bulletin, European Commission, DG XVII based on exchange rates of 05.01.1998 and T&E's member associations in Norway and Switzerland.

Two Member States, Denmark and the United Kingdom, have taken policy decisions to raise fuel taxes further in coming years. The excise duty on petrol in Denmark will increase by DDK 0.40 per litre from 1.1.1999 and by an additional DDK 0.10 per year during the following three years. This means the tax level will have reached ECU 542 in

2002. Where diesel is concerned there will only be a small increase from 1.1.1999 and none thereafter. The British government has decided to continue to raise fuel duties by at least 6 per cent per year (above inflation). One can thus expect the taxes on petrol and diesel in Britain to reach 837 and 856 ECU per 1000 litres respectively by 2002.

2.2 Road fuel taxes in the accession countries

Road fuels are generally taxed much lower in the accession countries than in the present Member States. The tax levels applied to petrol in Poland and diesel in Hungary, however, are higher than those of Greece and Luxembourg. The VAT levels of the CEE countries, on the other hand, are similar to the levels found in Western Europe. Table 3 shows the rates of road fuel duties and VAT in the candidate countries.

Table 3.
Excise duties on road fuels in the candidate countries in September 1998.
ECU/1000 litres and level of value added tax.

	Petrol Unleaded	Diesel	VAT %
Bulgaria	220	67	22
Czech Republic	275*	185*	22
Estonia	159	122	18
Hungary	311	273	25
Latvia	206	147	18
Lithuania	294	100	18
Poland	354	189	22
Romania	191	110	22
Slovakia	258	197	23
Slovenia	No information	No information	No information

Will increase by 32 and 21 ECU from 1.1.1999 for petrol and diesel respectively.

Source: Network of contact persons. Based on indicative exchange rates between national currencies and the Swedish krona (Svenska Handelsbanken 31.10.1998) and 1 ECU equalling SEK 9.3.

2.3 What is required to meet the proposed 2002 minimum duties?

Table 4 shows the increase on current levels of excise duties that the 15 Member States will have to undertake in order to comply with the proposed minimum levels for 2002. Nobody expects the accession countries to implement the current EU minimum levels immediately or to raise their duties at the rate of the current Member States. Table 4 therefore shows the annual increase on current levels that will be needed for accession countries to comply with the proposed 2002 minimum levels of the EU in 2010.

An obstacle in this context is the possible need for raising the minimum levels further after 2002. If and when this happens, it will probably be necessary to allow a new round of transitional provisions for new Member States.

The need for raising the level further is particularly obvious in the case of diesel. The proposed minimum tax level of 2002 will by no means cover the social costs associated with the use of diesel vehicles at that time. The outcome, however, is dependent on whether the EU will by then have decided to replace the annual vehicle tax and part of the (need for) diesel tax by a km-tax. If, on the other hand, km-tax is not applied to diesel cars, it will also in the longer term be necessary to use the fuel tax for making such vehicles pay their full costs.

This would imply having different tax rates for diesel used by heavy duty vehicles and diesel used in cars, as well as making use of different pumps and different additive colours.

Table 4.

Required increase on 1998 levels for complying with the proposed EU minimum levels for excise duties in 2002.

Percentage increase and annual increase in ECU/litre when equally divided over the remaining years until 2002 for present members and until 2010 for candidates.

	Petrol % total increase	Petrol annual Increase ECU/l	Diesel % total increase	Diesel annual Increase ECU/l
Austria	22	0.023	37	0.027
Belgium	0	0	37	0.027
Denmark	12	0.013	29	0.022
Finland	0	0	30	0.023
France	0	0	7	0.006
Germany	1	0.001	25	0.020
Greece	52	0.043	63	0.038
Ireland	30	0.029	17	0.014
Italy	0	0	2	0.002
Luxembourg	46	0.039	57	0.036
Netherlands	0	0	17	0.014
Portugal	8	0.009	41	0.029
Spain	38	0.034	49	0.032
Sweden	0	0	28	0.022
UK	0	0	0	0
Norway	0	0	0	0
Switzerland	6	0.008	0	0
Bulgaria	127	0.023	487	0.027
Czech Rep.	82	0.019	112	0.017
Estonia	215	0.028	222	0.023
Hungary	61	0.016	44	0.010
Latvia	143	0.025	167	0.021
Lithuania	70	0.017	293	0.024
Poland	41	0.012	108	0.017
Romania	162	0.026	257	0.024
Slovakia	94	0.020	100	0.016

3. Current prices at the pump

The current prices at the pump are shown in Table 5. The price at the pump is influenced by differences in the pre-tax price of fuels, the rates of excise duties and, where private consumers are concerned, by differences in value added tax (VAT).

Table 5.
Current prices at the pump. ECU per litre of unleaded petrol and diesel. September-October 1998.

	Unleaded petrol VAT included	Diesel	
		VAT incl.	VAT not incl.
Austria	0.79	0.62	0.51
Belgium	0.85	0.58	0.48
Denmark	0.66	0.62	0.50
Finland	0.94	0.62	0.51
France	0.90	0.63	0.52
Germany	0.81	0.53	0.45
Greece	0.63	0.43	0.37
Ireland	0.75	0.69	0.57
Italy	0.90	0.70	0.59
Luxembourg	0.62	0.51	0.44
Netherlands	0.94	0.64	0.54
Portugal	0.79	0.55	0.47
Spain	0.66	0.53	0.46
Sweden	0.90	0.71	0.57
UK	0.98	0.99	0.84
Norway	1.02	0.88	0.72
Switzerland	0.70	0.73	0.69
Bulgaria	0.42	0.32	0.28
Czech Rep.	0.58	0.52	0.43
Estonia	0.41	0.29	0.25
Hungary	0.61	0.57	0.46
Latvia	0.46	0.40	0.34
Lithuania*	0.39	0.26	0.22
Poland	0.46	0.36	0.30
Romania	0.39	0.29	0.24
Slovakia	0.53	0.46	0.38

* Average

4. Annual vehicle taxes in Europe

Differences in annual circulation taxes may cause distortions where international competition between hauliers from different Member States is concerned. Table 6 shows the annual vehicle tax for a 40-tonne truck-and-trailer. Differences in the vehicle taxation of other types of road vehicles cannot be expected to have any real impact on competition.

Table 6.
Vehicle tax in EU Member States in June 1998.
17-tonne truck with 23-tonne trailer. ECU/year.

	Truck + trailer	Comments
Austria	2723	
Belgium	1070	25 % reduction for trucks < 5 years. 10-40 % reduction for > 3 trucks
Denmark	702	516 ECU for trucks with air suspension
Finland	1541	
France	213	
Germany	2641 2386 1876 1519	For "old trucks" G1 trucks S1 trucks = Euro 1 emission standards S2 trucks = Euro 2 emission standards
Greece	429	
Ireland	1028	
Italy	705	Regional differences. Discount for air suspension
Luxembourg	693	510 ECU for trucks with air suspension
Netherlands	447	
Portugal	439	423 ECU for trucks with air suspension
Spain	534	Medium value. Large local differences.
Sweden	991	
United Kingdom	2648	38 tonnes domestic vehicle weight limit
Norway	1099	
Switzerland	1646	28 tonnes domestic weight limit. Regional differences

Source: Bundesverband Güterkraftverkehr und Logistik (BGL), 1998. Exchange rates between national currencies and DEM of 25 June 1998, and exchange rate between DEM and ECU of 12 November 1998.

It should be noted that some Member States have a derogation allowing them to apply tax rates below the Community minimum rate laid down in Directive 93/89/EEC, whilst other Member States apply rates several times higher than these minimum levels. Directive 93/89, which also governs the use of toll charges for heavy goods vehicles, is to be replaced by a new directive as it was annulled by the European Court of Justice on 5 July 1995. The Court, however, ruled that the effects of the annulled Directive were to be postponed until new legislation has been adopted. The new proposal by the Commission (from 1996) envisages greater differentiation of vehicle taxes and user charges according to environmental and/or infrastructural damage criteria.

In December 1998 the Council reached an agreement on a new directive (which has not yet been confirmed by the European Parliament). The Council agreed to differentiate the minimum charges according to number of driving axles and the maximum amounts according to number of axles and environmental performance. Vehicles with a minimum of four axles complying with EURO II (or cleaner) will from 1 July 2000 pay a maximum of 1250 ECU per year. Non-EURO and EURO I vehicles of the same size will pay 1550 and 1400 ECU respectively.

5. Problems connected to raising the taxes on vehicles and fuels

In an assessment of the need for making accession countries implement current and future minimum duties on petrol and diesel at least five aspects need close elaboration:

- fairness,
- the risk of distortions to international trade and competition,
- the risk of "fuel tourism" and loss of government revenue,
- possible risks of negative distributional effects,
- the impact on employment and economic growth.

5.1 Fairness

One can assume that candidate countries will in the negotiations point at the existing large differences in per capita income. The average wage-earner in a low-income country will, of course, have to work more hours to earn the equivalent of the excise duty on one litre of petrol than the average household of a richer country. Such differences exist also between the current Member States. This is illustrated in Table 7, which shows the annual revenue of road fuel taxes as a percentage of GDP. To calculate the relative burden of paying duties on one litre of fuel one would also have to take account of overall sales of road fuels in the different countries.

Table 7 does not give a complete picture of the taxation of road traffic. In addition to excise duties on road fuels and annual vehicle taxes, most Member States enforce registration tax and tax on motor insurance premium. Ten Member States have toll roads or toll bridges and six countries are parties to an integrated toll system known as "the Eurovignette". Toll systems, however, are non-discriminatory as all vehicles have to pay regardless of where they are registered.

The revenues generated by the overall taxation of road fuels and road vehicles amount to 2-3 per cent of GDP in most EU Member States. The lowest share is found in Sweden (1.96 %), the highest in Portugal (3.91). There are fairly large differences even between neighbouring countries with similar income per capita. Denmark's 3.21 per cent compared to the 1.96 and 2.32 in Sweden and Germany respectively is just one example (European Commission, 1997).

Table 7.
Revenue of road fuel duties as a percentage of GDP in 1995.

	Petrol tax	Diesel tax	Both fuel taxes
Austria	1.14	0.49	1.63
Belgium	0.82	0.67	1.49
Denmark	0.76	0.32	1.08
Finland	1.28	0.52	1.80
France	0.99	0.74	1.73
Germany	1.15	0.55	1.70
Greece	1.62	0.74	2.36
Ireland	1.03	0.67	1.70
Italy	1.37	0.76	2.13
Luxembourg	1.98*	1.33*	3.31*
Netherlands	0.95	0.58	1.53
Portugal	1.48	1.21	2.69
Spain	0.98	0.78	1.76
Sweden	1.29	0.30	1.69
United Kingdom	1.41	0.72	2.13

* The high figure for Luxembourg is a to a large degree a result of "fuel tourism", ie. people from neighbouring countries take advantage of the low excise duties and fill up in Luxembourg.

Source: European Commission, DG XXI

When large differences in per capita income make it difficult for low-income Member States to introduce taxes on level with those of high-income countries, it is desirable from an international competitiveness point of view that the former maintain lower taxes on purchase and ownership of vehicles rather than on road fuels. Where international freight transport is concerned, it should be recognised that hauliers from low-income countries have an advantage over competitors from high-income Member States because of low labour costs. Thus, there is little reason for the EU to accept medium or long-term derogations from the minimum excise duties on large trucks.

5.2 The risk of distortions and loss of revenue

Distortions of trade and competition can be expected to occur mainly as a result of large or fairly large differences in the taxation of vehicles and fuels. Loss of government revenue, on the other hand, is almost entirely caused by cross-border differences in the taxation of diesel and petrol.

5.2.1 Distortions caused by differences in vehicle circulation taxes

Differences in annual vehicle taxes may cause distortions in international competition between hauliers. To be able to judge the impact on competition of differences in the taxation of vehicles it is necessary to look at the relative importance of different cost elements. Table 8 is based on figures from a comparative analyses of road haulage costs in different European countries, including Poland (Enarsson, 1998). The differences in annual writing-off and interest is partly caused by differing pay-off requirements. The vehicle and trailer are usually written-off in 7-8 years, whilst the calculation behind the German figures in Table 8 is based on only 5 years.

Table 8.
Road haulage expenditure divided into major cost elements. ECU per year for a 40 tonne truck in international traffic (120 000 km/y).

	Belgium	Denmark	Germany	Netherlands	Poland
Writing-off	9422	10705	13123	8651	9423
Interest	3602	3997	1878	2867	3064
Vehicle tax	817	1631	2456	1666	3441
Insurance	4898	4419	5779	2874	2357
Total fixed cost	(18809)	(20752)	(23236)	(16058)	(18285)
Tyres	1873	2424	1734	1642	1886
Fuel	18490	18786	16710	18578	18856*
Maintenance	4644	4610	4816	4721	4714
Total running cost	(25007)	(25820)	(23260)	(24941)	(25456)
Labour cost	43412	45393	39357	48240	16499
Company cost*	12201	7774	11077	12419	6128
Total costs	99429	99739	96930	101658	66368
Cost per vkm	0.83	0.83	0.81	0.85	0.55

Including profit.

* Compared to the information provided in Table 5 (based on a different source) this figure appears to be too high even if part of the difference may be explained by a comparatively high specific fuel consumption and trucks in international traffic filling up abroad.

Source: Enarsson (1998)

From Table 8 it is evident that the annual vehicle tax makes up a very small share of the overall costs of road haulage while fuel expenditure is more important. Table 9 shows expenditure as a percentage of overall costs in Poland and an average of four Member States (based on B, D, DK and NL). The average share of the vehicle tax in the four Member States is less than 2 per cent, while the Polish tax amounts to 5.2 per cent of total costs. The higher share in Poland is explained by a higher tax rate and lower overall costs.

The existing differences in vehicle taxation do not appear to be large enough to cause anything but minor distortions. It is essential, however, that accession countries enforce tax rates on a level with the present Member States. Fuel costs, on the other hand, make up 18 per cent in EU4 and 28 per cent in Poland, reflecting much lower labour costs and total costs (and the fuel costs provided in Table 8).

Table 9.
The elements of road haulage costs as a percentage of overall expenditure.

	Poland	Average of EU4*
Writing-off	14.2	10.6
Interest	4.6	3.1
Vehicle tax	5.2	1.7
Insurance	3.6	4.5
Total fixed cost	(27.6)	(19.9)
Tires	2.8	1.9
Fuel	28.4	18.2
Maintenance	7.1	4.7
Total running cost	(38.3)	(24.8)
Labour cost	24.9	44.3
Company cost*	9.2	10.9
Total costs	100.0	99.9
Cost per vkm	0.55 ECU	0.83 ECU

Belgium, Denmark, Germany and the Netherlands.

Source: Based on data from Enarsson, 1998

5.2.2 Distortions and loss of government revenue due to differences in fuel tax

From Table 9 it is obvious that large differences in fuel taxation can cause distortions of competition and result in loss of revenue in countries with relatively high tax rates.

Diagram 1 illustrates the current difference in diesel tax between Germany and its neighbours, and the difference in total price (excluding VAT).

Diagram 2 shows the tax rates applied to unleaded petrol and the price at the pump (including VAT) in Germany and neighbouring countries.

Because of its large population and geographical location, Germany will no doubt be a key player in any concerted effort to raise fuel taxes in Europe. Diagram 1 reveals a 20 per cent difference in diesel price between Germany and the Netherlands which is equal to approximately 3.5 per cent of the overall costs of road haulage in the countries concerned. The difference between Germany and Poland is even more pronounced. The Czech Republic, on the other hand, will after the tax increase of 1 January 1999 come very close to the German price level.

As shown in Diagram 2, the differences in petrol prices are of the same magnitude as for diesel and may cause a considerable loss of government revenue in cases where a significant part of the population of a high price country lives close to the border of a neighbouring country with low prices. Differences of more than 15 to 20 per cent should in such cases be expected to create a considerable amount of "fuel tourism".

Diagram 1.
Diesel taxes and diesel prices. Differences between Germany and surrounding countries. Germany = 100.

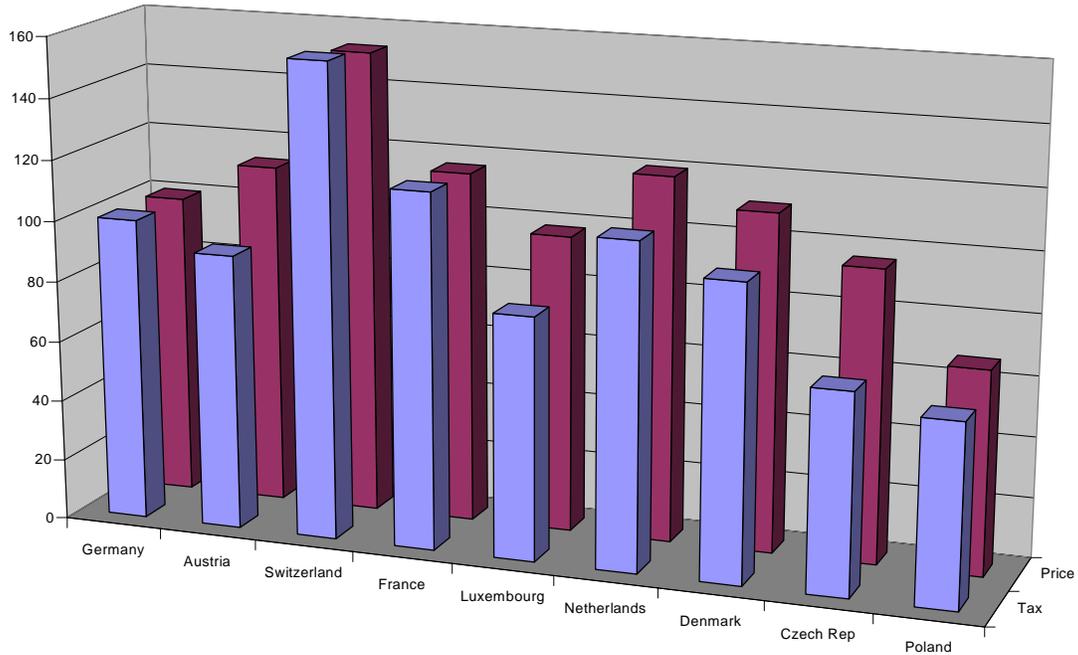
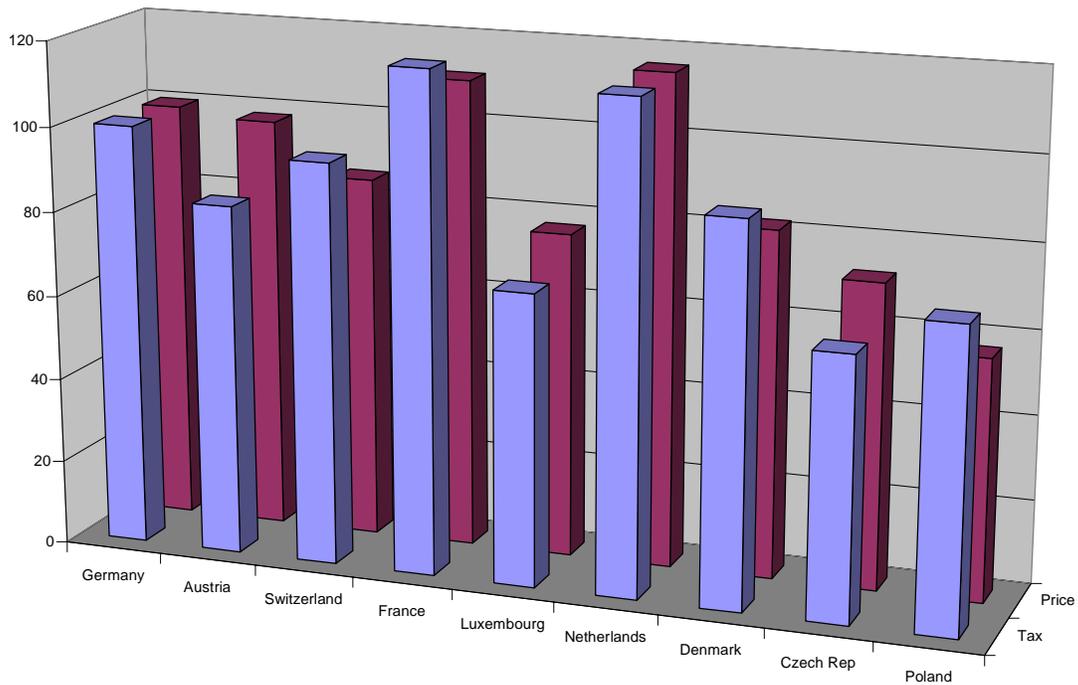


Diagram 2.
Petrol taxes and petrol prices. Differences between Germany and surrounding countries. Germany = 100.



From the figures in Table 6 it is evident that Luxembourg, which taxes both petrol and diesel 20-30 per cent below the rates of most neighbours, enjoys tax revenues from foreign customers equivalent to at least 2 per cent of GDP. This means close on 5 per cent of the country's total tax revenues originate in this trade. The large difference in taxes and prices between Austria and Slovakia indicate the possibility of a similar situation as the population of Vienna has less than 50 kilometres to drive to the border.

Large trucks have fuel tanks which enable them to travel 1000 kilometres without filling-up. This means cross-border traffic can in many cases choose where to buy its fuel. This will contribute towards a loss of tax revenue in countries with high rates. However, cross-border traffic makes up only a small amount of total diesel sales in most countries. Competition between hauliers from different countries is even less affected as in many cases all competitors can choose where to fill up. It is only in situations where foreign trucks are competing with domestic hauliers for local contracts (ie. cabotage) that a high tax rate is a disadvantage to the domestic firms.

High environmental fuel standards are a second potential source of extra-ordinary costs. Swedish hauliers suffer from the very high price on diesel of "environmental class 1" which many domestic customers require them to use. This, however, is a home-made problem that Sweden can avoid if it chooses to abandon "class 1" in favour of the new European diesel standard that becomes mandatory in 2005. What makes Swedish class 1 diesel so expensive (despite a low tax rate) is the fact that the specifications for this fuel demand a density and a boiling point that makes it compete at the refineries with the production of aviation kerosene. Finland has avoided this problem by introducing a standard for low sulphur "city diesel" that is less extreme where boiling point and density are concerned. One common low-sulphur diesel standard will also create more price competition among suppliers compared to a system with several different blends.

When the accession countries have become members of the EU and have raised their taxes accordingly, some of them will face trade problems and loss of revenue at their eastern borders so long as neighbouring Russia, Belarus and Ukraine maintain very low tax rates and prices. Fuel tourism on the borders with Romania and Ukraine is estimated by the National Customs Office to cost the Hungarian state an annual loss of HUF 20 billion (ECU 78 million) (Andras Lukacs, personal communication, 29 Nov. 1998). Hungarian prices are currently 56 and 97 per cent higher for petrol and diesel respectively compared to Romania (see Table 5 above).

5.3 Distributional effects

Increased taxes on petrol and diesel will make travelling by car more expensive. However, studies from Germany, the Netherlands, Britain and Sweden have shown that high income groups use considerably more road fuel annually than low income households (Bakker, 1992, IFS, 1990, Kågeson, 1995, and Davidson, 1996). Data from the four countries show that the percentage of income spent on petrol and diesel is roughly the same in all income groups except the richest and the poorest percentiles. Most households belonging to the latter cannot afford to have a car, which explains why they spend less on road fuel. The European Commission (1998) concludes in its recent White Paper "On Fair Payment for Infrastructure Use" that "a rise in transport charges may have a progressive, rather than regressive distributional effect" (p 31). The progressive effect is probably even more pronounced in countries with fewer cars per 1000 inhabitants than the present 15 Member States of the European Union. On the individual level, however, all income groups include both losers and winners and, of course, a rich loser can always cope with a difficult economic situation more easily than a poor one.

ECMT (1998) notes that fuel duties, km-charges and annual vehicle taxes all have different impacts on income distribution. Fuel taxes put a smaller burden on low-income groups compared to other car related duties. This is explained by the fact that high-income earners tend to have larger and more fuel consuming cars and they also drive more kilometres per year. ECMT underlines that the tax cuts used to recycle the revenues from increased road taxes will largely determine the net impact on personal income distribution.

In the longer term higher fuel taxes will to a large extent be compensated for by improved fuel efficiency. The recent agreement between the European Union and the car industry is expected to reduce the specific fuel consumption of new cars by 25 per cent by 2008.

5.4 Impact on employment and economic growth

Based on studies by Bleijenberg et al (1990), CPB (1996) and DRI (1994), the ECMT (1998) draws the following conclusions on the impact of duties that are substantially higher than those proposed by the European Commission (1997):

- the macroeconomic impact is likely to be very small and depends on the details of the policy package;
- the impact on GDP growth may be slightly positive or slightly negative;
- the impact on employment is likely to be positive.

The limited macroeconomic impact can largely be explained by the fact that a full internalisation of the externalities will raise transport costs by no more than 10 to 30 per cent and that transport costs make up only a few per cent of the overall costs of most branches of industry. Recycling of tax revenues diminishes the impact by reducing other cost elements.

6. Analysis and recommendations

The European Commission's Green Paper "On Fair and Efficient Pricing of Transport" (European Commission, 1995) says transport externalities should be internalised as a means of improving the social efficiency of traffic. Fuel taxes are not the only instruments that can be used in this context. In an optimal solution, environmentally differentiated purchase and annual circulation taxes and/or kilometre tax would supplement the taxes on diesel and petrol. The rates of the latter would in such a case be set to correspond with the environmental impact of the fuel as such, ie. carbon dioxide and sulphur dioxide emissions which result from combustion.

While waiting for a more sophisticated system for internalising the full costs of transport, Europe will for some time have to rely on the traditional methods for taxing vehicles and road fuels. In 1993, T&E was able to show that even with very modest assumptions concerning the external costs, the rates of excise duties on diesel and petrol would have to reach 700 ECU/1000 litres before the annual revenue of these taxes would correspond to the social cost of rural traffic in Member States with comparatively low costs (Kågeson, 1993).

ECMT (1998) confirms that the levels identified by T&E are of the right magnitude. According to calculations carried out by the ECMT task force, the internalisation of road transport externalities in rural areas will require user charges corresponding to 790 and 970 ECU/1000 litres for petrol and diesel respectively (ECMT, 1998, Annex D).

From an efficiency point of view the European Union has good reasons to continue striving for minimum excise rates which would enable most Member States to internalise the full costs of road infrastructure, traffic accidents and environmental damage without running the risk of losing tax revenue to neighbouring "free riders" or damaging part of the competitiveness of their hauliers. Keeping in mind the negative effects on competition and the allocation of tax revenue which comes with large differences in fuel tax, the recommendation of this paper is to allow only short-term transitional provisions where the minimum rates of diesel and petrol are concerned. It is by comparison less harmful to international competition to accept medium or long-term derogations concerning the rates of taxes on purchase and ownership of vehicles. However, where international freight transport is concerned, it should be recognised that hauliers from low-income countries have an advantage over competitors from high-income Member States because of low labour costs. In a situation where the accession treaties do not limit the right to cabotage, there is no reason for the EU to accept medium or long-term provisions from the minimum excise duties on large trucks.

The fact that the Council and the European Parliament have not yet decided on the Commission's proposal for new minimum excise rates on diesel and petrol may cause problems in the first round of negotiations with the candidate countries. If it remains difficult for Member States to come to a common position on the whole package (which includes proposals for taxes on all types of fossil fuels), it may in the light of enlargement be a good idea to take a separate decision on the rates applied to road fuels. Completing the process of updating these rates before entering into detailed negotiations with the candidate countries will facilitate the accession process. As 1998 has already come to an end, it will be necessary to select new dates for the step-wise increase of the minimum duties. One option would be to increase the rates by 1 January 2000, 2002 and 2004. Even better would be to add a fourth step. This would make the new Directive take care of most of the envisaged transition period.

Diesel fuel has a greater energy and carbon content relative to petrol and when used in modern diesel engines it gives rise to emissions of nitrogen oxides and particulate matter 300 and 1000 per cent above those caused by an equal amount of petrol used in a car of the same size. Nevertheless, all Member States but one discriminate against petrol by enforcing a much higher tax rate than on diesel. The United Kingdom, being the only exception, taxes diesel somewhat above petrol and explains why: "The higher duty increase for diesel reflects the fact that using diesel is worse than petrol for urban air quality." (Press release on budget 17 March 1998, HM Customs and Excise). In the process of revising its present minimum rates, the European Union should take the opportunity of gradually diminishing the gap between the minimum rates of diesel and petrol so that both are taxed in an equal manner by 2008.

In the context of enlargement it should be recognised that the harm which medium to long-term transitional provisions can do to trade and competition depends largely on how they compare to the rates of the candidate country's immediate neighbours. This means Bulgaria should be compared with Romania, Greece and Turkey, while the rates of Poland must be related primarily to those of Germany and the Czech Republic. Some countries may be large enough to allow for a (limited) regional differentiation of the transitional minimum rates. Such arrangements could make it possible to adapt more closely to the conditions of several neighbouring countries. It may be particularly important for new Member States bordering Russia, Belarus and Ukraine.

The accession countries have per capita income levels well below those of most current Member States. Having relatively low purchasing power makes the transition economies more sensitive to high fuel prices. Raising tax levels too fast may also undermine public support for environmental protection policies and put strain on inflation as measured by

consumer price indexes. On the other hand, road transport demand is sharply rising in all accession countries and will cause costs for road wear, traffic accidents and environmental pollution to increase. What also needs to be considered is the likelihood of a fast increase in per capita income in the candidate countries, partly as a result of their accession. Some candidate countries, most notably Poland and Hungary, already have petrol taxes on a level with those of some Member States. Hungary also levies an excise duty on diesel which is on a par with the levels of the current cohesion countries. These examples show that a rapid transition to relatively high levels is possible. A transition period of 12 years, counting from today, should be sufficient, at least for the economically most advanced candidates.

The conclusion of this paper is that there are mechanisms with the potential to allow accession countries short to medium-term derogations from current and revised EU directives on the taxation of road fuels which will not have any significantly negative effect on the speed of progress in the Union as such. However, if the Commission and the Council fail to make use of them, the risk is evident that the EU will soon get to a point where it will in this respect have to start moving at two speeds or refrain from moving at all. Allowing two completely different sets of rules for the taxation of road fuels will distort intra-European competition and trade and make it difficult for the accession countries to honour their commitments to the Kyoto Protocol on Climate Change.

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