European Commission

Review of the Common Transport Policy

Task 1.4 – Pricing and taxation – Final Report

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Contents

FIGURES

TABLES

1 Pricing and taxation

Executive summary

1.1 The White Paper set out a number of objectives relating to pricing and taxation. It identified that the prices/taxes paid by transport users and operators do not reflect external costs such as emissions, noise and congestion, and therefore the level of transport output is likely to be inefficient. In effect, it advocated a system of marginal social cost pricing. However, as most decisions about taxes and charges are still taken at the level of Member States or local/regional authorities, the main role envisaged for the Community was to facilitate and encourage best practice.

1.2 Most of the specific measures listed in the White Paper have been achieved. However, Member States have made relatively slow progress towards implementing systems of charges and taxes in transport which reflect external costs. Where these have been implemented, such as the congestion charges in London and Stockholm, they have generated significant benefits.

Introduction

1.3 This section sets out our review of the progress towards meeting the objectives in the White Paper and Mid-Term review relating to pricing and taxation. Pricing and taxation are not ends in themselves; as well as being necessary to fund the public sector, these are often a means to achieve some other objective, such as environmental sustainability. The White Paper identified that a large number of different charges and taxes applied to the transport sector, but these had little relationship with marginal social costs. Therefore, even if the transport sector was in aggregate heavily taxed, the incentive effect of this taxation was inappropriate.

Sources

1.4 This analysis has been undertaken primarily by evaluating the legislation that has been proposed or introduced relating to pricing and taxation, and comparing this to the objectives specified in the White Paper and the Mid-Term Review. We have also reviewed various communications from the Commission on issues relating to pricing and taxes, for example, the recent Communication on Greening Transport (COM(2008)433).

1.5 We have also evaluated the impacts of specific policy measures where these have been taken, such as the introduction of congestion charges.

Structure of the rest of this section

1.6 The rest of this section is structured as follows:

- Summary of the policy;
- Summary of the legislative framework;
- Qualitative analysis of the implementation of the policy;

- Quantitative analysis of the implementation of the policy;
- Conclusions regarding the impact of the policy and lessons that can be learnt.

Summary of the policy

1.7 Transport creates emissions and imposes noise costs on wider society. Transport users also impose congestion costs on other transport users. In most cases, these external costs are not taken into account in the prices that transport users or operators pay, and this may lead to an inefficient level of transport output. In order to address these issues, the 2001 White Paper built on previous policy documents, in particular the 1998 White Paper 'Fair Payment for Infrastructure Use: A Phased Approach to a Common Transport Infrastructure Charging Framework in the EU', which recommended marginal social cost pricing for transport infrastructure use aimed at improving the overall efficiency network usage and reducing congestion, whilst allowing markups to be applied in order to recover fixed costs and the costs of infrastructure investment. The White Paper continued this theme, advocating replacement of existing transport system taxes with more effective instruments for integrating infrastructure costs and external costs, particularly environmental costs.

1.8 Specific actions identified in the White Paper included:

- produce a framework Directive in 2002, to establish common infrastructure pricing principles to be followed in all modes of transport;
- a Directive to guarantee the interoperability of toll systems; and
- a Directive on energy products, to allow exemption of hydrogen and biofuels from taxation.

1.9 The White Paper also identified that it would be desirable to harmonise fuel tax levels between Member States, although in the context this appears only to refer to commercial services.

1.10 The 2006 Mid-Term Review stated that the Commission would launch a process of reflection and consultation on "smart charging" for infrastructure use, and by June 2008 would propose a common methodology for the assessment of external costs to be used in the calculation of charges. The 'Eurovignette' Directive[1], also required this, and required the Commission to produce an assessment of the impact of the internalisation of external costs on each mode of transport.

Legislative framework

1.11 The most significant legislation which has been introduced relating to pricing and taxation is:

- Directive 2001/14 on allocation of railway infrastructure capacity and charging for the use of infrastructure (as subsequently amended);

[1] The Eurovignette Directive, introduced in 1999 and modified in 2006, establishes common rules related to distance based tolls and time-based user charges for good vehicles over 3.5 tonnes. A new modification has been proposed which allows for the internalization of external costs.

- Directive 2003/96 on taxation of energy products;
- Directive 2004/52/EC on the interoperability of electronic road toll systems;
- Directive 2006/38/EC, amending the Eurovignette Directive; and
- Regulation 1794/2006 on laying down a common charging scheme for air navigation services.

1.12 A Directive on airport charges has also been adopted.

1.13 In addition, the Community has signed the Transport Protocol to the Alpine Convention. This does not primarily relate to pricing or taxation but does set out some related principles (such as the polluter pays principle).

1.14 There is also a proposal for a further Directive amending the Eurovignette Directive 1999/62/EC on the charging of heavy goods vehicles [COM(2008)436 final], as part of the Greening Transport Package, but this has not as yet been adopted.

1.15 We have not identified any legislation relating to pricing or taxation in the maritime or inland waterway sectors other than the fact that the Energy Products Directive exempts most intra-EU shipping from fuel tax. However, the Commission has also proposed that shipping should be included in the post-Kyoto international arrangements to combat climate change. It has also encouraged ports to introduce fees which encourage less-polluting ships[2].

Qualitative analysis

1.16 Progress has been made towards adopting most of the measures specified in the 2001 White Paper and the 2006 Mid-Term review (Table 1.1 below). Although there has been no progress with the proposal to produce a Framework Directive on infrastructure pricing principles, the Commission did propose a Directive on interoperability of tolling systems, which was adopted in 2004. In addition, as part of the Greening transport package [COM(2008)435], the Commission recently endorsed a strategy to ensure that the prices of transport better reflect their real cost to society in terms of environmental damage and congestion.

[2] Communication on a European Ports Policy, COM (2007) 616

TABLE 1.1 ASSESSMENT OF MEASURES FOR PRICING AND TAXATION

Measure	Introduction of legislation or other initiatives
Produce a Framework Directive on infrastructure pricing principles	**Not done.** No such Directive has been introduced and we understand that the Commission abandoned its efforts to do this in 2003.
Produce a Directive to guarantee the interoperability of tolling systems	**Done.** A Directive was adopted in 2004.
Uniform taxation for commercial road transport fuel by 2003	**Some progress made.** Tax rates have not been harmonised, but the Energy Products Directive (2003/96) did increase the minimum level of tax applying to transport fuel, and this will further increase in 2010. This is therefore a step towards the objective of harmonising taxes, although the impact of this is limited by the fact that many Member States already applied tax rates that were higher than the minimum required by the Directive. In addition, in 2007 the Commission proposed a Directive (COM(2007) 52) to further increase the minimum levels of tax applying to gas oil (diesel). However, this has not as yet been adopted.
Produce a Directive on energy products, to allow exemption of hydrogen and biofuels	**Done.** Directive 2003/96 allows Member States to exempt biofuels from taxation, as well as forms of energy which are of solar, wind, tidal or geothermal origin, or from biomass or waste, and energy used to produce electricity.
Launch a consultation process on smart charging for infrastructure use	**Done.** In 2007 the Commission undertook a consultation process to support the impact assessment for the internalisation of external costs. Amongst other things, this included means of charging for infrastructure use. On the basis of this consultation, as part of the Greening Transport Package, in 2008 the Commission proposed a Directive which would allow Member States to take into account air and noise pollution levels, and congestion costs, in the tolls applied to heavy goods vehicles (COM(2008) 436).
By June 2008, propose a common methodology for the assessment of external costs to be used in the calculation of charges	**Done.** As part of the Greening Transport Package, the Commission launched a Communication in July 2008 on a Strategy for the Internalisation of External costs, and proposed an amended Directive on the charging of heavy goods vehicles. A number of studies have also been undertaken to support this including a Handbook on the estimation of external costs in the transport sector and a study on Internalisation measures and policy for the external cost of transport[3]. The Communication was also supported by a Technical Annex and an Impact Assessment.

[3] CE/Delft, 2008

SWOT analysis

1.17 Table 1.2 sets out a SWOT analysis relating to pricing and taxation.

TABLE 1.2 SWOT ANALYSIS – PRICING AND TAXATION

Strength	The policy is based on a clear principle with a strong economic rationale – marginal social cost pricing – that in principle should have the potential to ensure that transport faces its full external costs, such as emissions and congestion, and therefore that the overall level of output of the sector is economically efficient and that the network is used in an efficient way. In some areas the policy has been successfully implemented. Directive 2001/14/EC requires that rail infrastructure charges reflect the costs that are directly incurred through operation of the train service, and may include charges to reflect the scarcity of capacity and environmental costs if comparable charges are applied to competing modes. The policy has remained reasonably consistent over a long period – dating from before the 1998 White Paper on Fair Payment for Infrastructure Use – and the potential for application of these principles to various modes of transport has now been developed in more detail. The policy has now been significantly developed as part of the Greening transport package.
Weakness	Although the European Union has some powers regarding infrastructure pricing and taxation, most decisions in this area are made by Member States and therefore it may be difficult for the objectives to be achieved. It is notable that, whilst since the 1990s the Commission has produced a large number of policy documents recommending marginal social cost pricing, actual achievement in terms of legislation is very limited, other than Directive 2001/14/EC as discussed above. Very different policy measures have been taken by different Member States – so for example Germany has introduced distance-based charges for trucks, but other Member States have not. There has been no European-level attempt to apply the policy to the mostly widely used means of transport (the private car) other than the rules on minimum levels of duty for fuel. Some limited measures have been taken by Member States and regional authorities, such as the London and Stockholm congestion charges. The policy cannot be applied in full to the air transport sector at present, because under the Chicago Convention airlines are exempt from paying fuel taxes or similar charges. However, even where the policy could be applied (for example airport charges could take into account local emissions, and air navigation charges could take into account congestion costs) it has not been. The Energy Products Directive exempts intra-EU shipping from fuel taxes, which does not appear to be consistent with the policy. In practice, marginal social cost pricing may be difficult to apply in some transport sectors. The marginal social costs of road transport differ depending on the time of day, the route and the type of vehicle, and how it is driven. It would be very difficult to reflect all of these factors in any charging scheme. Most policy measures to date have been much simpler (for example the congestion charge applied in central London, which is a flat fee applied to all vehicles which enter the area within the time the charge applies). In other sectors (such as rail) the introduction of marginal social cost pricing may conflict with other policy objectives.

Opportunities	The implementation of the policy represents an opportunity to ensure that the transport sector faces its external costs. This a very important area to address, as it has been identified in the Commission's impact assessment that environmental costs of transport (air pollution, CO2 emissions) could reach €210 billion by 2020 and that there could be congestion on one quarter of roads. The Commission's proposals in this area as part of the Greening Transport Package, such as the proposed Directive on charging of heavy goods vehicles, represent an opportunity to tackle this. The Commission has estimated that if implemented this would reduce truck emissions by 8%. Inclusion of air transport in the Emissions Charging Scheme represents an alternative way of ensuring that the air transport sector pays for the external costs of emissions that it causes.
Threats	Application of the policy to non-commercial users in the road transport sector is likely to face strong public opposition. An indicator of this is the recent result of the referendum in Manchester on introduction of a congestion charge which would have funded public transport development. Nearly 80% of people voted against the charge despite strong central government incentives to support it (in the form of increased grants to the region). In Stockholm, in contrast, a referendum found a narrow majority in favour of the congestion charge. Opposition is also likely to be encountered in other sectors. For example, in the air traffic control sector, studies undertaken during the 1990s for both EUROCONTROL and the European Commission supported the introduction of a fixed element (regardless of aircraft size) to air traffic control charges, in order to reflect congestion costs. However this was very strongly opposed by regional airlines that would have faced the largest increases in charges had this been implemented. There has been limited progress in making air navigation charges more cost-reflective. If charges are to be introduced in the road transport sector to reflect marginal costs, this will require development of relatively complex systems. As with any large systems project, this would be subject to a risks relating to costs, timescale and operations. There were particularly difficult issues with the distance-based tolls system in Germany, and some problems also initially occurred with the system for the congestion charge in London. In addition, attention needs to be paid to the operating costs of the toll collection system: in the London Congestion Charge, they reached up to 40% of the revenues collected, though more recent applications, such as the Milan Ecopass, proved to be less expensive. For long distance charges, operating costs will vary significantly according to the technology used and the kind of collection system implemented (with manual collection being more expensive).

Results

1.18 The Commission has carried out many of the actions set out in the White Paper. However, it should be noted that these measures were not particularly ambitious, relating primarily to consultation and proposals rather than policy actions with measurable outcomes. This partly reflects the fact that the powers to legislate in this area and impose most taxes/charges are retained by Member States (a remarkable exception is the mandate given to the Commission to prevent discrimination on the TEN-T network, which is the basis for the Eurovignette Directive), and the Council can only act with respect to taxes by unanimity (although it can act by qualified majority with respect to charges). The White Paper explicitly stated that it was not appropriate for the Community to intervene in issues such as pricing for local or national transport infrastructure, and therefore it would act to identify, disseminate and encourage best practice.

1.19 Little progress has been made to date by Member States in actually introducing charges/taxes for transport that reflect the best practice principles set out in the various research and policy documents that the Commission has produced. The main schemes which have been introduced are:

- In 2005 Germany introduced a distance-based tolling system, for heavy trucks (over 12 tonnes) only.
- Stockholm and London have introduced congestion charges and Milan experimented with a pollution charge (Ecopass) in 2008.
- A number of States including the UK and France have introduced or increased taxes on air passengers. However, the link between these charges and the external costs of air transport are weak, because the charges are applied at a flat per-passenger rate.

1.20 In addition, tolls were already applied on motorways in a number of Member States, including France, Austria, Italy and Spain.

Quantitative analysis

1.21 To date, as explained above, a number of policy proposals relating to pricing and taxation have been introduced, but few concrete measures have been taken at European level, reflecting the fact that the White Paper said that the Commission's role was to encourage and facilitate best practice and not interfere in areas of policy which are more appropriately developed by Member States. Therefore it is not possible to identify quantitative impacts from the policy in this area.

1.22 However, there is quantitative evidence available for the impact of some of the schemes which have been introduced by Member States. These show that these schemes have had significant benefits:

- The distance-based charges for trucks in Germany are estimated to have caused a reduction in empty trips of 6% and a 6% switch from road to rail transport[4]. The scheme raises around €3 billion per year.
- In London, the introduction of the congestion charge resulted in a 21% reduction in road traffic entering the central zone and congestion, measured in terms of excess journey time relative to uncongested conditions, was estimated to be reduced by 30% (although congestion has since increased for other reasons)[5].
- In Stockholm, peak traffic entering the charging zone was reduced by 25% and there was a substantial reduction in congestion.

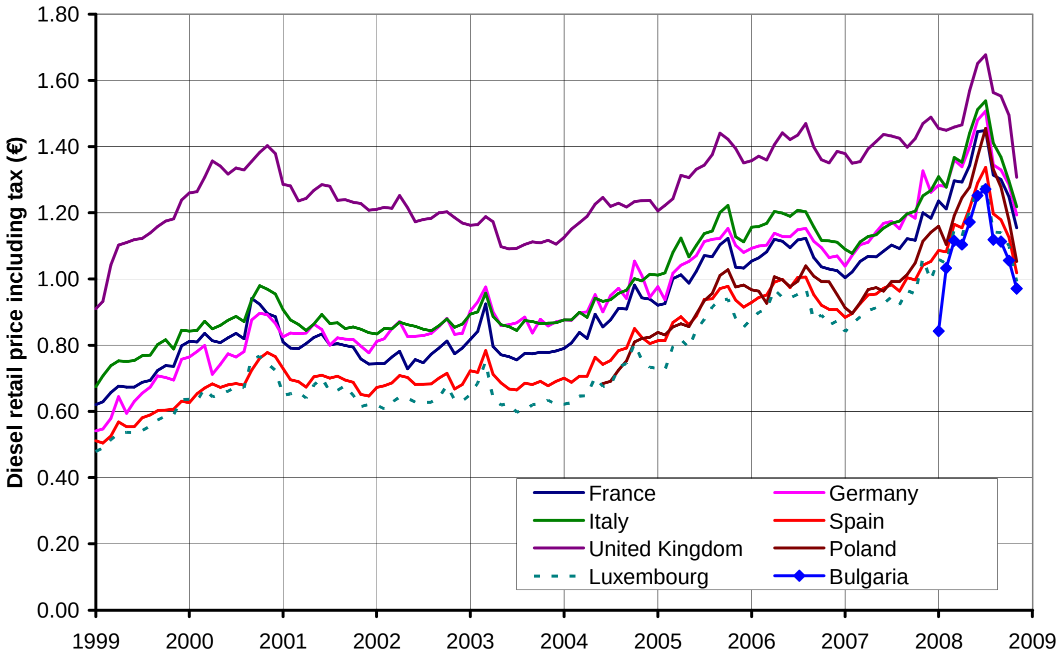
1.23 We have also analysed trends in fuel prices to evaluate whether the objective of price convergence for commercial fuels has been achieved. Figure 1.1 shows the trend in the retail price of diesel (the fuel for most commercial vehicles) in the six largest Member States, since 1999. It also shows Bulgaria and Luxembourg as these

[4] Source: Commission for Integrated Transport, 2007

[5] Source: Transport for London

are notable outliers. The data for Poland and Bulgaria is only available since their dates of accession to the EU.

FIGURE 1.1 TREND IN DIESEL RETAIL PRICES IN 6 LARGEST STATES AND OTHER SELECTED STATES



Source: European Commission Oil Bulletin, compiled by UK Department for Business; SDG analysis

1.24 Over the period for which time series data is available, there has been some reduction in the variation in prices between the States, and therefore the objective in the White Paper has been met. However, this is largely because the price of oil has increased so much, and because currency fluctuations have reduced the euro-denominated price in the State which imposes the highest fuel duty (the UK). Prices in Luxembourg continue to be well below those in France and Germany, which creates a particular distortion given its geographical location. Data published by the European Commission shows that there has been little convergence in tax rates, as States have pursued different policies (stepped increases in fuel duty Germany; rapid increases in the UK until 2001; and almost no increase in Spain).

Conclusions

The overall impact of the policy

1.25 Most of the actions set out in the White Paper have either been done or there has been significant progress towards them. The main exception is that there has been no Framework Directive on infrastructure pricing principles; however, there have been a number of measures to encourage application of these principles and this issue has been addressed as part of the Greening Transport Package and in particular in the Communication on Greening Transport [COM(2008)435]. In addition, although measures have been taken to increase the minimum level of fuel duty applying throughout the EU, the minimum rate is below the levels that already applied in many Member States, and therefore to date this has not resulted in significant convergence of commercial fuel prices.

1.26 However, the policy on taxation and charges has had little direct impact as yet. This reflects the fact that most decisions about pricing and taxation are still made at national level. Therefore, the main action that the Commission can take is to facilitate change and encourage best practice; this is what the White Paper stated would be done.

1.27 Some steps have been taken at a national level to implement policy measures which are consistent with the principles set out in the White Paper, such as the distance-based tolls introduced in Germany. Where these measures have been introduced, they have been successful, but there are relatively few examples of this. Public opposition has been a key problem that needs to be addressed.

1.28 In addition, it has not been possible to take measures to apply the pricing principles in sectors such as air transport in which, to a greater extent, decisions are made at the European level. The Regulation on air navigation charges (1794/2006) represents a step towards making charges more transparent, consistent and cost-related, but charges still will not include marginal social costs. The recently adopted Directive on airport charges also should improve the transparency of charges but again does not include any elements related to marginal social costs.

1.29 This policy has currently only been applied within certain transport sectors. We have not identified any proposals to extend it to the maritime or inland waterway sector, and the only legislation introduced in relation to these sectors appears to contradict the policy: the Energy Products Directive exempts intra-EU shipping from fuel taxes. The Mannheim Convention may also limit the scope to introduce marginal cost reflective charges on the Rhine, one of the most important European inland waterways.

Contemporary developments

1.30 The significant increase in oil prices during 2007 and 2008 may have made it more difficult to impose additional taxes or charges on transport, because the non-tax element of the fuel prices increased so much. The decline in oil prices in the later part of 2008 will have made this issue less significant, but the economic situation may have the same effect – it will be difficult for governments to propose introduction of new charges at a time of recession, and when many transport operators and users will face other financial pressures. The importance given to long term environmental objectives may be reduced at a time when short term economic objectives are obviously prominent.

1.31 Although the instability of oil prices is potentially a hurdle to the introduction of new taxes/charges in the transport sector, the fact that most Member States impose significant taxes on transport fuel does serve to reduce the impact of this instability on European consumers. The recent instability has resulted in much greater variation in consumer prices for petrol and diesel in countries such as the USA, where taxes are lower and typical fuel efficiency is also lower. It is also true, though, that in the Eurozone, exchange rate movements have helped mitigating the impact of fluctuating oil prices on consumer petrol prices.

Lessons learnt and going forward

1.32 Overall, the slow progress with the implementation of this policy is an indication that the ability of the Community to take steps towards a policy such as this is limited when most of the key decisions are still taken by Member States. With the exception of a few specific areas (such as air navigation charges) the Community sets a policy framework and certain minimum rules which have to be met, but there is no obligation on Member States to impose particular charges or taxes except in the rail sector. Directive 2001/14/EC requires that rail infrastructure charges reflect the costs that are directly incurred through operation of the train service, and may include charges to reflect the scarcity of capacity and environmental costs if comparable charges are applied to competing modes.

1.33 A particular issue is likely to be winning public acceptance for new charges, which is likely to be difficult. A referendum in Stockholm resulted in a narrow majority in favour of the congestion charge, but a referendum in Manchester in the UK resulted in a strong rejection of this, while Milan decided not to hold a public consultation on the Ecopass scheme originally planned at the end of the 1 year experimental period. Lessons could be learnt from the differences between these circumstances:

- The Stockholm referendum was held after the charge had been applied for a trial period, whereas the Manchester referendum was held before it was introduced. Therefore, the benefits of the charge may have been clearer to the electorate in Stockholm than the electorate in Manchester. In London, public support for the congestion charge rose after it was introduced, as its success was apparent and some negative claims that had been made about it were disproved.

- The Manchester referendum was held across the region, not just within the city itself, where the charge would have applied. Referenda were also held in the Stockholm region outside the city, but these votes were not binding. In both cases, there was more support for the charge in the city (even in Stockholm, all of the other areas voted against it). This raises a difficult democratic issue – depending on the city, citizens living in the city may be the most affected by the charge, and therefore it could be argued their views should carry more weight, but the charge also impacts on those living outside it.

- Stockholm has a more developed public transport system than Manchester does, with an extensive metro and suburban rail system. Therefore citizens may have perceived that public transport was a better alternative (although in economic terms this does not really affect the case for a road charge).

1.34 It may also be easier to win approval for new charges if it is clear that other taxes or charges will be replaced or reduced as a result.

1.35 A further potential issue is technology. Some taxes/charges could be introduced or amended to be more reflective of marginal social costs without significant new systems being required, for example, if airport or port charges were to reflect congestion costs. However, wider application of road user charges will require new systems, which are likely to be complex to design, install and operate. The distance-based tolls system introduced in Germany suffered from a number of technical problems which delayed its introduction and resulted in a significant loss of revenue for the German government, although it is now running smoothly. Addressing these issues will be important for any new schemes in the future. It may be possible to reduce the risk and cost inherent in this by building on the systems which have already been deployed successfully.