

Analyse the present tax treatment of road transport; does it represent a commitment to “green taxation”?

The UK government, as a result of the Kyoto conference¹ on climate change, has committed to a legally binding agreement to reduce greenhouse gas emission levels. The combustion of fossil fuels results in CO₂ accounting for 42%² of net greenhouse emissions. Such emissions must be reduced by 12.5 % of their 1990 levels by the period 2008-12. To achieve this aim the government have to date focused mainly upon raising road fuel duties, yet this has met with widespread criticism and resulted in Britain having some of the highest fuel prices in Europe. Given the Kyoto agreement, and the government's additional target of cutting carbon dioxide (CO₂) levels by 20%³, a new approach has become necessary. Over the last few years a number of budget measures have fallen under the heading “Green” or “environmental”; such measures are in the main well received. However, the “green” justification cannot overcome inequities – a recent study has criticised the governments green road fuel tax policy as the burden falls heavier upon the rural, (as opposed to urban) road user.

Although areas such as landfill sites and business (factory) emissions have been subjected to “green taxes”, most focus has been placed on the green taxation of road transport. Despite the fact that the transport sector accounts for only 23% of CO₂ emissions in Britain, the government appears keen to push greener motoring as it can also reduce congestion and pressure on the road infrastructure. Road transport is the fastest growing sector producing harmful CO₂ gas. Better protection for the environment is one of the key objectives set out in the Government's White paper: A New Deal for Transport⁴. This paper sees pollution reduction as an essential goal of a package of measures aimed at generally improving Britain's transport infrastructure.

Following a look at what falls within the definition of “green taxation”, this paper will look at how the government currently taxes road transport. In each sector of road transport the paper will consider to what extent such taxation measures represent a commitment to green taxation. It will be necessary also to look briefly at what future steps the government plans to take in order to meet their commitments; this will show which areas the government sees as in need of improvement. This will be followed by a comparative review of other countries' “green” road transport measures, looking particularly at the Scandinavian countries which appear to have been most pro-active in this area.

There are a number of factors that contribute towards a tax being “green”. For a tax to be truly “green”, the effect of its imposition should be to create a *better environmental position*. Rating such an effect is, however, difficult; often emission reductions are due to a mixture of factors.

To ensure taxation has a positive environmental effect, it is necessary firstly to *eliminate distortionary provisions* already in existence. An example of such a distortion would be a company car allowance that made it cheaper for the taxpayer to drive more miles, rather than less.

Taxes should be structured to make taxpayers *suffer tax in proportion to the damage they do to the environment*. The difficulty for tax authorities is the need to also observe the constraints of equality and neutrality; the car itself is a luxury to some and a necessity for others.

In a recent OECD report⁵ it was found that *eliminating tax benefits and subsidies* on particular transport services can lead to substantial changes in choices of transport, and hence in environmental impact. Due to the high taxation of road fuels in Europe, (particularly in the UK), high subsidies are not a problem with regard to road transport. Some *individual* benefits and subsidies, however, have the effect of encouraging environmentally damaging behaviour. For example, in some jurisdictions commuting expenses are tax deductible.

Structuring existing taxes to lessen environmental damage is the usual method of “greening” a tax system. The main example of this is the differentiation of fuel prices between leaded and unleaded petrol, which has led to the less polluting (unleaded) fuel being used almost exclusively.

The introduction of completely *new, green taxes* has been relatively rare. Norway has used a CO₂ tax relatively successfully, and other countries have introduced fuel taxes that are graduated according to their carbon content. Such taxes on fuel are often termed “Eco-taxes”; (i.e. they are applied directly to the polluting material).

Often only the *reasoning* or *motive* behind the introduction or change to a tax will be environmental.

A totally “green” road transport tax system would be one with no environmentally harmful taxes, which makes road users pay for the roads infrastructure and which imposes taxes in proportion to the

¹ (United Nations Kyoto conference on climate change, December 1997).

² Von Weizsacker, Ernst U, and Jochen Jesinghaus, *Ecological Tax Reform*, (Zed / Books London, 1992).

³ (Self-imposed target) 20% below 1990 levels by 2010.

⁴ White paper: *A New Deal for Transport: Better for everyone*, July 1998.

⁵ *Reforming Energy and Transport Subsidies: Environmental Implications*, (OECD: Paris 1996)

environmental damage road users cause. These objectives have to be balanced with the traditional tax concepts of equity and neutrality. Often an element of violation of the principle of neutrality *can* be justifiable, provided that the objectives of the tax are met. The effects of changing road transport taxation are far reaching, the government must in particular consider the impact on parties such as rural car users, haulage firms, car manufacturers, company car drivers, etc.

The government sees their main 'green' road transport tax as being road fuel duties. They have committed, in successive budgets, to raise fuel duty using a 'price escalator'⁶ system. In terms of equity, both vertical and horizontal, such an increase appears to be flawed.

In terms of horizontal equity, on a global level, UK road vehicle users suffer a far higher tax burden. UK petrol prices are five times those in the US and, closer to home, 40% higher than those prices in the Republic of Ireland. Haulage firms tend to make significant savings by filling up with fuel outside the UK. On a domestic level, road users will find that it is generally cheaper to fill up with fuel in urban areas. Fuel is more expensive in rural areas, fuel companies justify the price difference through the greater delivery costs to remote areas. UK road fuel tax makes no allowance for this difference, rural road users are penalised and recent studies have shown that rural economies suffer as a result.

Road fuel duty also contradicts the principle of vertical equity. Where the taxpayer is based in an urban area there may be alternative means of transport, whereas in rural areas the taxpayer will have little option but to use their car and hence suffer a proportionately higher tax burden. One could also argue that rural road users do less environmental damage, and should hence suffer less tax than urban car users. Rural roads are less congested, therefore the rural car user spends less time stationary when the engine is running at its least efficient. In cities the pollution is more concentrated, emissions therefore combine to do more damage. In a relatively recent report⁷ on the real social costs of raising fuel prices, researchers found that poorer households, (especially in rural areas), felt the effects of raising fuel prices most. An RAC spokesman, commenting on the road fuel duty increase in the 1998 budget, stated that fuel was taxed as a luxury whereas in reality it is for many a necessity.

With the UK having such high petrol prices, the principle of neutrality is deliberately breached on a number of levels. Obviously those who use road fuel to a great extent will make choices based solely on tax considerations. Haulage firms who fill up with fuel outside the UK, (where possible) illustrate this. Poorer car owners will be made much worse off, given the ever-increasing running costs associated with car ownership. Because of the artificially high petrol prices, car buyers (who can afford to change vehicles) will generally purchase more efficient vehicles to reduce running costs. It also follows that car manufacturers should be inclined to produce more efficient cars. These are the positive effects that can result from breaching the neutrality principle. However, higher petrol prices reduce "miles travelled" only to a small extent⁸.

Certain factors point to increasing petrol prices being an unsuccessful part of the government's commitment to green taxation. The negative impact felt by rural motorists and hauliers has been widely commented upon. Additionally, the present 'price escalator' increase in fuel prices is to be changed. The chancellor Gordon Brown has agreed to stop increasing fuel taxes by 6% above inflation. In spite of serious pressure from industry and rural road users, the government would probably not bow to such pressure unless it felt that its objectives were not being met or indeed had been achieved. The economist behind the price escalator system, Prof. David Pearce, has himself concluded that the tax now fully covers all the environmental costs of car ownership and cannot continue to reduce emissions. Continued increases would strangle many industries and see a lot of road haulage firms moving to the continent or to Ireland, without necessarily reducing CO2 emissions.

In terms of tax on road fuel, the UK government's only comprehensive success has been in promoting the use of unleaded as opposed to leaded fuel. The issues of vertical and horizontal equity are not contradicted as above. In terms of vertical equity, only those motorists with cars that cannot use or be adjusted to use unleaded fuel feel any disadvantage. Presently such vehicles are rare, being made up mostly by classic cars. For these motorists (more expensive) leaded fuel and lead substitute products are available. The government has justifiably breached the principle of neutrality, with the unleaded/leaded choice being available to nearly all motorists. The differential in tax imposed upon the two types of fuel has seen the use of leaded fuel drop away to almost nothing. Recently diesel and ultra low sulphur diesel (ULSD) fuel has been subjected to similar leaded/unleaded-style tax differentiation, in order to reduce the use of conventional diesel – which has a greater carbon content than petrol and is a greater contributor to urban pollution. Combustion of ULSD results in lower emissions of harmful particulates in comparison with normal diesel. These measures are likely to meet with the same success as the leaded/unleaded

⁶ (by a set percentage above inflation, presently 6%).

⁷ *Institute for Fiscal Studies Report*, Laura Blow and Ian Crawford, December 1997.

⁸ increasing the cost per mile of driving by one percent results in a reduction in car mileage of less than one half percent

differential; diesel cars can generally run on either diesel or ULSD. When the road user has the option as to what fuel he or she uses, the road fuel tax system is an effective means of persuading such persons to make a more environmentally friendly choice.

The second main tax imposed on private car use is vehicle excise duty (VED). This is an annual tax imposed at a standard rate of 150 pounds, with cars of engine sizes less than 1100cc's subject to a reduced rate of 100 pounds. Recent steps have been taken to bring UK VED in line with other countries where it is graduated according to factors directly related to vehicle emissions. The first step to be taken was the 100-pound rate for smaller, cleaner cars, which was announced in the 1998 Budget. The government subsequently published a consultation document⁹ seeking responses as to how to reform VED in general – steps are likely to be taken in the future to graduate VED fully to account for CO2 emissions. At present, and in many respects, the effect of having two categories of VED is minimal.

In terms of the principle of equity, VED has not really penalised or prejudiced any sector of the car-buying public. Persons running small cars will be 50 pounds a year better off, and for a minority the lower VED level may be an extra incentive to run a smaller engined car. Other car owners will continue to be charged the same (£150) VED rate.

Again, in terms of neutrality, the current imposition of VED is unlikely to make car users change their buying habits. VED is unlikely to have a great effect on car-buying decisions. Given that in many cases a tank of fuel will cost 30 pounds, an annual VED saving of 50 pounds does not amount to much in the overall running costs of a car.

Altering VED rates is an uncontroversial step which shows car users that the government intends to reward green behaviour. However, differentiating VED rates is unlikely to result in a noticeable lowering of emissions. A one-off annual payment is not likely to influence how much a person actually uses their vehicle. The government believes that in the future VED could be of use in influencing the taxpayer's choice of vehicle. In the case of new vehicles, emission level information is already being made available – an Internet guide¹⁰ has recently been launched supplying VCA¹¹ new car fuel consumption and emission figures. With second-hand vehicles, it is anticipated that a graduated VED system may alter sales patterns, with less efficient cars scrapped quicker and more efficient cars commanding a greater market share. Undoubtedly this is a possibility, but only if VED levels are charged so as to have a real effect on car running costs.

Vehicle excise duty (VED) is necessary to ensure vehicle records are adequately maintained, it also is an aid to ensuring compliance with MOT and insurance certification requirements. Although the publication of a consultation paper and the subsequent VED graduation that is likely to follow illustrate green motives, the tax itself is too weak to noticeably aid the government in reaching their emission reduction targets. As an annual payment, VED cannot be made directly proportional to the environmental damage caused; it provides no incentive to use cars in a way that reduces emissions.

Large vehicle excise duty (VED) reductions¹² have been announced for greener buses. Additionally, heavy lorries will be subjected to a higher level of VED, but they too get a sizeable reduction¹³ for having a clean (low emission) engine. Again key tax principles have to be borne in mind. In terms of horizontal equity, this VED graduation poses no great problems.

Unfortunately, there *is* a conflict with the principle of vertical equity. For example, hauliers who cannot afford to replace their ageing fleets will be subjected to a heavier tax burden. Generally, companies who can afford to regularly replace vehicles will be the ones who benefit most from the reduced rates.

Looking at the VED measures in terms of neutrality, graduating VED for cleaner lorries and buses will not make a great change to the current fleet. The large VED reductions will act as a good incentive to keep bus and lorry fleets as young and as green as possible. However, those who did not or could not replace vehicles often are unlikely to immediately purchase cleaner and greener lorries and buses.

Over time, this VED differentiation will result in a fleet that is cleaner. Generally, lorries and buses tend to be replaced relatively often – their high mileage use generally sees them wear out quicker than private, smaller vehicles. The government is justified in conflicting slightly with the neutrality principle. The VED reductions are of such a level as to, over time, offer significant savings for bus and lorry operators running a greener fleet. Haulage firms and bus operators will generally find that it makes economic sense to run cleaner vehicles.

The area of company car taxation provides an ideal example of where taxation measures can be re-structured to cut CO2 emissions. Eliminating distortions is an important step towards creating a green

⁹ November 1998 Consultation paper, A questionnaire on grading VED.

¹⁰ <http://www.roads.detr.gov.uk/vehicle/fuelcon/index.htm>

¹¹ Vehicle Certification Agency.

¹² Normal large bus VED - £480, Greener large bus VED - £155.

¹³ Large, cleaner engine lorries receive a £1000 VED discount.

tax system. Even at present, for example, **more** business miles can mean **less** tax. When the driver does over 18000 business miles a year, the tax charge upon the car is reduced.

The UK government in both 1998 and 1999 introduced measures designed to make company car taxation more sensitive to car use, and hence CO2 emissions. In the 1998 Budget the Chancellor committed to increasing scale charges on petrol for private motoring in company cars by 20% over and above the standard increases on petrol pump prices. Diesel scale charges were also brought in line with the new petrol levels. Such measures are designed to dissuade companies from providing 'free' fuel which employees put to private use.

Comparing this change with the principle of horizontal equity shows a couple of areas of potential friction. A conflict may result from companies adopting different policies on the supply of fuel. Some companies may take a very strict approach as to the definition of private and business use, whereas others may ignore the change due to the extra administration necessary. There is also some scope for individuals to avoid taxation, with some reliance being placed upon the taxpayer to honestly declare what category the car-use falls within.

In terms of vertical equity, increasing scale charges have little effect. This tax change was intended to make company and private car users face similar costs in terms of *private* motoring. If anything, this change will penalise those in higher income bands, (who tend to be given the benefit of running a company car). Given that the change only effects a small group, (company car drivers claiming fuel), any effect to the vertical equity principal will be minimal.

The change in scale charges may conflict with the principle of neutrality. For example, reducing the benefit of the company car may see employees choosing to take a pay increase as a substitute for the car. As a general rule, company car taxation has always run contrary to the neutrality principle – other than revenue raising; it has always been a main goal of this taxation to reduce the benefit of the provision of the company car. An increase in company car taxation is a justifiable breach of the neutrality principle to the extent that it makes private and company car users suffer the same (or similar) burdens; both have the capacity to do the same environmental damage.

In 1999, Budgetary changes included measures designed to encourage employers to get employees to travel to work in a less polluting fashion. The government envisaged the creation of company 'green' transport plans that would take advantage of the tax exemptions they introduced in this Budget for green commuting benefits. Such benefits included – works buses to bring employees to and from work, subsidies to bus companies providing employee transport (provided that the public pay the same fare as employees), bicycles and cycle safety equipment made available to employees and parking for such bicycles. No tax will be paid on such benefits, and additionally, employees who cycle to work will be able to claim capital allowances on a portion of the bicycle cost. Employers can pay their employees 12p per mile tax free for using their own bicycles, and if this is not paid then employees will be able to claim it as a tax relief. Tax concessions will be extended, allowing companies to promote employee car sharing.

There may be a conflict with the principle of horizontal equity depending on the extent to which companies actually use the above tax exemptions. This is likely to vary considerably depending on the location of the business and the transport network already in place; therefore employees of different companies will enjoy different benefits. If a consistent approach *is* taken by businesses in general, then the benefits should not contradict the horizontal equity principle to any great extent.

In terms of vertical equity, there does not appear to be any great problem resulting from the introduction of these tax benefits. It *is* likely that the use of green transport plans would be particularly beneficial to lower income groups. Generally such groups will tend to use public transport more, and this would be made even cheaper. Higher income individuals may still use their cars but other options are made more attractive.

In allowing the above benefits to be provided tax-free the government appears to be deliberately breaching the principle of neutrality. The provisions are designed to make commuters travel in a more environmentally friendly fashion. These benefits are new and, unlike many aforementioned measures, are not restricted by the need to also raise revenue. The government is justified in not observing the neutrality principle; as a result of the measures both employers and employees can benefit from commuting in a more "environmentally friendly" way. The success of green-commuting measures could be limited, however, if companies choose not to develop green commuting plans.

The company car sector is a large one; therefore restructuring the tax system has the potential to dramatically reduce CO2 emissions. Due to this and the possibility of making taxation encourage the use of more efficient (or greener) cars, plans have been introduced to fundamentally reform company car taxation.

In *Budget 99: Building a Stronger Economic Future for Britain*¹⁴, HM Treasury introduced new proposals to radically change how company car tax is imposed from April 2002. Existing charges will be

¹⁴ Details given in: "Got a car? Take a Train", Allison Plager, (Taxation, July 1999).

replaced by a system based on the percentage price of the car's list price graduated by its CO₂ emissions. Despite some uncertainty, it is clear that reforms will be revenue-neutral and the government intends that key environmental aims will be met. The government intends that its reforms will remove any incentive to drive extra business miles (see above), give employers and employees more incentive to choose more fuel efficient cars and encourage manufacturers to produce more fuel efficient cars. These aims appear ambitious; in order to be achieved comprehensive green reforms of company car taxation will be needed.

Clearly the provision of affordable alternative forms of transport is essential if the public are to be persuaded to cut down on car use. In the field of road transport taxation the government has, to this end, committed to increasing the rebate available on bus fuel duty. The rebate is intended to cancel out the effect of the periodic increase in diesel fuel duty and to help the bus sector maintain its competitiveness. There is also some suggestion that an additional rebate should also be targeted at those operators running cleaner vehicles and those running (less profitable) rural services; such steps are currently under investigation.

The UK government's road transport taxation measures are broadly similar to those used on the continent. The UK has, however, been relatively slow to make such measures environmentally sensitive.

With regard to road fuel taxation, nearly all countries impose VAT and other excise taxes. Most European countries have lower tax levels for unleaded as opposed to leaded fuel; surveys have shown that this has had a very positive environmental impact¹⁵.

A number of countries¹⁶ impose what is termed a carbon or energy tax on road fuel. Both the Netherlands and Sweden impose a tax proportional to the carbon content of the fuel. Although Sweden's tax has been stated to reduce emissions in line with Swedish environmental policy, no clear figures can be provided as to the amount of the reduction. Carbon taxes are imposed along-with other energy taxes, hence their precise impact cannot be ascertained. Carbon taxes, as with the leaded/unleaded fuel tax differential, tend to result in a particular fuel type being favoured – they do not directly target 'car-use'.

Looking towards annual road taxes, the UK's consultation document on VED graduation¹⁷ showed that all other European countries had different annual taxes depending on the size and fuel type of the vehicle in question. Smaller, cleaner cars are taxed at the lowest levels while larger vehicles received the highest taxes. In general, most countries have found that graduating annual vehicle tax is a straightforward method of making a positive environmental impact. The UK is likely to soon join the rest of Europe in fully graduating VED. However, the impact of changes to an annual tax will always be limited – recent surveys¹⁸ have shown that raising the fixed costs of cars by 1% results in a 0.1% smaller fleet of cars. Altering the variable costs, (those that change with miles driven), is a more effectual way of altering road users behaviour.

The only other road transport taxes related to environmental damage are "sales" and "registration" taxes. On new car sales, in Belgium, Greece and Portugal, an additional tax is imposed which varies according to the cubic capacity of the car's engine. In Austria, cars are subjected to a registration tax that varies according to the car's fuel consumption¹⁹. Research²⁰ into the effect of such measures has shown only a *moderately* positive effect. Although increased car prices lead to a smaller car fleet, they can also lead to an older fleet – which is generally more polluting. Car manufacturers would generally not make less polluting cars when only a few countries varied the costs of a car in this way.

The government has taken several steps which fall into the categories of green taxation discussed earlier. With regards to road fuel tax and VED, the government has chosen to *structure existing taxes* in a way as to lessen environmental damage. With regard to company car taxation, the government chose to *reduce a tax benefit* that had distortionary effects. In promoting green commuting plans, the government introduced *completely new tax measures* aimed at encouraging the use of less polluting transport. Public transport has also been given favourable tax treatment.

Clearly there does exist a commitment to green taxation, but the success of this commitment can only be ascertained by analysing the tax measures individually. All the measures *are* flawed to some extent when compared with the principles of equity and neutrality. Such flaws are generally excusable provided the tax measures reduce emissions, yet statistics to this effect are either unclear or unavailable. Perhaps some conclusions can be drawn from the government's behaviour. Their movement away from

¹⁵ Survey statistics available in most OECD publications (see bibliography).

¹⁶ Such as Finland, the Netherlands and Sweden.

¹⁷ November 1998 Consultation paper, A questionnaire on grading VED.

¹⁸ *Tax Provisions with a Potential Impact on Environmental Protection*, European Commission Report, June 1996.

¹⁹ (E.g. cars with higher fuel consumption are taxed at a higher rate).

²⁰ *Tax Provisions with a Potential Impact on Environmental Protection*, European Commission Report, June 1996

price escalator fuel prices and their plans to overhaul company car taxation could be taken to be an indication that current green tax measures have run their course or alternatively, are lacking in effect. With regard to current VED levels, they do not conflict to any real extent with the main tax principles discussed. However, as an annual tax they are unlikely to significantly reduce CO₂ emissions. Green commuter plans also comply with the traditional tax principles, yet it is too early to say whether they will effectively reduce emissions. Promoting public transport should be beneficial, yet this does not directly target the problem of CO₂ emissions.

The leaded/unleaded tax differential stands out as the only main tax measure that has clearly had a positive impact on emissions, and has not conflicted with the traditional tax principles. The situation appears to be identical in Europe. Although some countries use different green road transport taxes, they do not appear to have had any marked effect on emission levels. The government has plans for new green taxes in the future, yet previous UK and European experiences suggest that no single or combination of measures will be capable of significantly lowering emission levels towards the government's targets. The government *is* committed to green taxation, yet with changes to road transport taxation having far reaching consequences in politically sensitive areas²¹ and with transport emission levels accounting for only 23% of total greenhouse gases, perhaps their commitment needs to be focused upon other areas.

²¹ Changes effect - rural transport, the haulage industry, car manufacturers, company car drivers, public transport, etc.