

THE PETROL TAX DEBATE

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The petrol tax debate

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Recent increases in the price of petrol have led to the current debate about the rate at which petrol is taxed in the UK. Although rising oil prices have contributed to the increased cost, the government has been criticised for imposing a high tax rate on petrol and other road fuels. In the UK, two indirect taxes are imposed on road fuels. In addition to VAT, excise duty is also levied at the rates shown in Table 1.

Table 1. Duties on road fuels, March 2000

Fuel type	Duty, pence per litre
Unleaded petrol	48.82
Higher octane unleaded petrol (including lead replacement petrol)	50.89
Ultra low sulphur diesel	48.82

In July 2000, the total tax (duty plus VAT) on lead replacement petrol (LRP) was 72 per cent of the retail price and total tax on unleaded petrol was 73 per cent of the retail price. There has been particular concern that high taxes on road fuel impose a high burden on those who can least afford it – low-income groups, rural areas and the disabled, for example. This Briefing Note documents trends in the price of road fuel and shows how the tax rate has contributed to the change in price over time. It also examines the effect of the price increases on certain subgroups of the population.

Background

Figure 1 shows the retail prices of leaded/lead replacement petrol and of unleaded petrol over the last 10 years up to July 2000. The line labelled RPI shows how the price of petrol would have increased if it had increased exactly in line with inflation. The prices of both types of fuel increased broadly in line with inflation until 1993. After this date, both prices increased faster than the rate of inflation and there has been a particularly rapid increase over recent months. Since Labour came to office in May 1997, there has been a 37 per cent increase in the price of leaded petrol/LRP and 20 percentage points have been due to tax. In the case of unleaded petrol, the increase has been 42 per cent and 26 percentage points have been due to tax. For the period from May 1997 until June 2000, the increase in the price of leaded petrol/LRP was 25 percentage points greater than the rate of inflation and the increase in the price of unleaded petrol was 27 percentage points greater than the rate of inflation. In the period from March 2000 (after the budget) to September 2000, there has been a 8.6 per cent increase in the price of unleaded petrol. Of this 8.6 per cent increase, just over 1 percentage point has been due to tax with the remainder being due to the increase in the pre-tax price.

¹ From 1 January 2000, a virtual ban on leaded petrol was introduced except for 'specialist interest groups' such as classic car clubs. Leaded petrol was replaced with lead replacement petrol. The figures in this Briefing Note compare the price of leaded petrol before this date with the price of LRP after this date. Although they are not the same product, anyone with a car that used leaded petrol would have been forced to buy lead replacement petrol so the comparison between the prices of the two different products seems the natural one to make.

² This is comparing the price of leaded petrol in May 1997 with the price of LRP in July 2000.

Figure 1. The price of leaded petrol/LRP and unleaded petrol

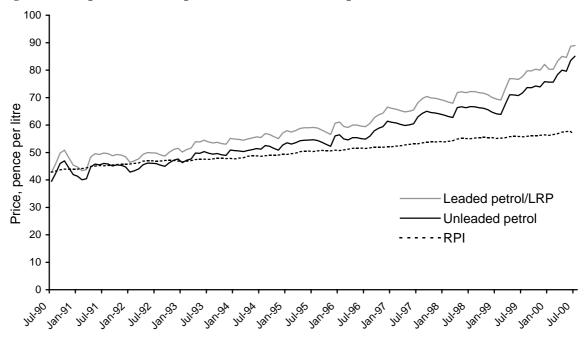
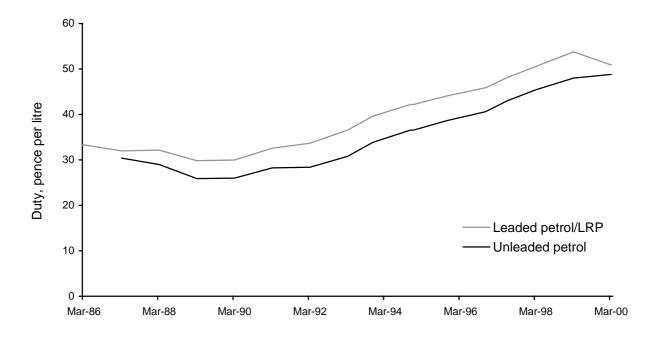


Figure 2. Real duty on leaded petrol/LRP and unleaded petrol, March 2000 prices



The government has blamed increased oil prices around the world, but despite this, there has been pressure on the Chancellor to cut the duty on road fuel. From 1993 to 1999, road fuel duty was been increased automatically by a fixed percentage above inflation. This escalator was set at 3 per cent in March 1993 and was increased the following November to 5 per cent and then to 6 per cent in 1997. In the November 1999 Pre-Budget Report,³ the escalator was abolished, with any future increases being decided on a Budget-by-Budget basis. Figure 2

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³ HM Treasury, Stability and Steady Growth for Britain: Pre-Budget Report, Cm. 4479, November 1999.

shows the effect that these increases have had on the real rate of duty on both leaded petrol/LRP and unleaded petrol.⁴

Over the period from 1987, duty on unleaded petrol has increased by over 60 percentage points more than the rate of inflation. Since the beginning of the 1990s, there has been a steady real increase in both duty rates every year except in March 2000 when there was a fall in duty on leaded petrol/LRP. The fall in duty on leaded petrol/LRP occurred because LRP is taxed at a lower rate than leaded petrol.

90 ■ Pre-tax price 80 ■ VAT Duty 70 Pence per litre 60 50 40 30 20 10 0 Jul-90 Jul-94 Jul-97

Figure 3. Components of the retail price of unleaded petrol

Table 2. European road fuel duty, June 1999

	Duty plus VAT,	Duty plus VAT, pence per litre	
	Leaded petrol	Unleaded petrol	
UK	62.13	55.47	
France	49.94	46.24	
Netherlands	-	44.84	
Finland	-	44.41	
Italy	45.13	42.29	
Denmark	-	41.25	
Sweden	-	40.82	
Germany	-	40.12	
Belgium	44.5	39.92	
Portugal	40.2	37.96	
Austria	-	32.35	
Ireland	36.11	29.80	
Spain	30.54	28.04	
Luxemburg	31.73	27.11	
Greece	28.18	24.39	

Notes: Leaded petrol was not available in Austria, Denmark, Finland, Germany, the Netherlands or Sweden in June 1999.

Source: HM Customs and Excise Annual Report (1998/9).

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⁴ Differential duty was introduced on unleaded petrol in 1987.

Figure 3 shows the three components of the retail price of unleaded petrol – duty, VAT and the pre-tax price – over the last 10 years. In April 1999, there was a sharp increase in the pre-tax price (the top band on the graph). Although the pre-tax price has risen in recent months, over the past few years increases in the tax rate have contributed to the rise in the retail price of petrol. The UK currently has a tax rate that is higher than that in any other European country on both leaded and unleaded petrol. Table 2 shows the European tax rates (duty plus VAT) on both products as at June 1999. The tax on unleaded petrol is 20 per cent higher in the UK than in France, which has the next highest rate in Europe.

The purpose of a fuel tax

There are two purposes of a road fuel tax in the UK. The first is an attempt to change behaviour and reduce the amount that people use their cars in order to protect the environment, and the other is to raise revenue.

When an individual makes decisions regarding vehicle ownership and usage, they will typically take into account those costs that are purely private, such as the price of the car, insurance and petrol prices, but they might not to take into account any of the additional costs which are not directly charged for. There are a number of ways in which road transport imposes additional or social costs on others. Social costs could include air and noise pollution, congestion and road damage. Attempting to reduce the consumption of road fuel and the amount of car usage is one way to try to restrict the amount of damage done to the environment. Imposing an additional tax on road fuel in the form of a fixed amount per unit of fuel consumed (a specific tax) attempts to raise the price the consumer pays to the level that more accurately reflects these additional social costs.

The question remains, 'to what extent will households alter their behaviour (drive their cars less, switch to more efficient cars) in the face of higher prices?'. The relationship we are interested in is that between miles driven and the cost of those miles, since it is by altering the cost per mile that taxes on road fuels will influence behaviour. Evidence suggests in fact that a one per cent increase in the real cost per mile of driving will reduce miles travelled by less than half of one per cent (in the short term). This is not a very large response, which suggests that any attempt to reduce reliance on the car by increasing the cost of fuel will not have been very successful. This is not to say that the high rate of duty has not had any effect on the behaviour of motorists. For example, people may have switched to buying more fuel-efficient cars, which helps to reduce the harmful effect on the environment. The fact that there is some response to increases in price, even though it is small, does imply that there will have been some reduction in miles driven, especially with such a high tax on petrol, but it is impossible to tell whether the price of petrol now adequately reflects the social costs of road transport.

Even if people did respond to price increases by reducing car use, the fact that some aspects of pollution from road transport (such as congestion or soot) are only loosely linked to the level of fuel used means that the policy is not very well targeted to protect the environment. One source of pollution – carbon dioxide emission – is closely related to fuel consumption, and the global warming effects of carbon dioxide depend linearly on emissions, so for this particular pollutant a fuel tax may be appropriate, but this is not generally true. Levels of congestion, for example, vary by time of day and location. Similarly, the harmful effects of some pollutants such as black smoke (which appear to contribute significantly to respiratory disorders) depend on when and where they are emitted – for example, the harmful effect can be greater in highly populated areas.

So attempting to reduce the social costs associated with road transport by imposing an additional tax on road fuel consumption is difficult because of the lack of response to changes

in the price of petrol and because fuel cost is not always very closely related to the social cost involved.

In fact, it is the lack of response by motorists to increases in the price of fuel that makes a fuel tax a very attractive source of revenue for the government. If people do not cut back the amount of fuel they buy after a tax increase, large amounts of money can be easily raised. In 1999/2000, fuel duties (excluding VAT) raised £22.3 billion, which represented 6 per cent of total government revenue. Six pence on all road fuel duties raises as much money as one penny on the basic rate of income tax.

A recent development in fuel taxation was the announcement in the November 1999 Pre-Budget Report that any further increases in fuel duty, above the rate of inflation, would be spent on 'improving public transport and modernising the road network'. Setting aside taxes to spend in specified areas in this way is referred to as hypothecation. Apart from the possibility that people are less averse to tax increases if they know where the money is being spent, it is difficult to see any real advantage of this policy. There is no way to guarantee that money allocated to spending on roads and transport is over and above the amount that would have been spent otherwise – particularly in the long term. This is because when the announcement was made, the government's spending plans were set out only until March 2002. In any spending plans set out after this date, any revenue allocated to transport could take into account that resources from increases in road fuels are to be spent in this area. For example, there is no way of knowing whether the transport spending plans announced in July 2000 took account of any possible future increases in fuel duties.

The distributional effects of road fuel tax

A frequent objection to high taxes on fuel is the effect that the tax has on certain groups of the population – those on low incomes and those living in rural areas, amongst others. This section examines the effect of the road fuel tax on sub-groups of the population, according to income and the density of population. The effect of a 6 per cent real increase in duties is analysed by comparing the cost of achieving a given level of economic welfare before the tax increase with the cost of achieving the same level of economic welfare after the tax increase. Everything else in the comparison is kept constant in order to isolate the effect of the tax increase. The cost-of-living index measures how much extra income is needed to get back to the original welfare level.

In Figure 4, households are ranked according to income and divided into 10 equal groups, so the first group (decile) contains the poorest 10 per cent of households. The effect of a 6 per cent real increase in duties on the cost of living of each household is then averaged across each income decile. The effect of the tax increase on the cost of living of the poorest households is smaller than the effect on richer households, with the greatest effect being on middle-income households. Although the increase in the cost of living even in the sixth decile

⁷ HM Treasury, Stability and Steady Growth for Britain: Pre-Budget Report, Cm. 4479, November 1999.

⁵ HM Treasury, *Prudent for a Purpose: Working for a Stronger and Fairer Britain*, HC 346, March 2000.

⁶ Treasury Ready Reckoner, November 1999.

⁸ Data from the National Travel Survey from 1988 to 1993 are used and income, price and mileage data are uprated to 1997 (see L. Blow and I. Crawford, *The Distributional Effects of Taxes on Private Motoring*, Commentary no. 65, Institute for Fiscal Studies, London, 1997, for more details).

⁹ For a more detailed explanation, see Blow and Crawford (1997) as in footnote 8.

is only around 0.2 per cent, repeated increases in fuel duty would have a much larger effect. However, the distribution of the effects is largely caused by many households in the lowest income groups not owning a car. If we take only households that own cars, as in Figure 5, the cost of living of the lowest (car-owning) income groups is most adversely affected by the tax increase, with the effect becoming smaller as we move up the income distribution.

Figure 4. Effect of a 6 per cent real increase in duty on cost of living, by income decile: all households

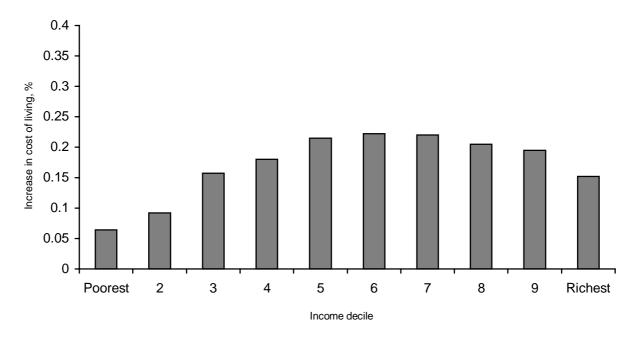


Figure 5. Effect of a 6 per cent real increase in duty on cost of living, by income decile: car-owning households

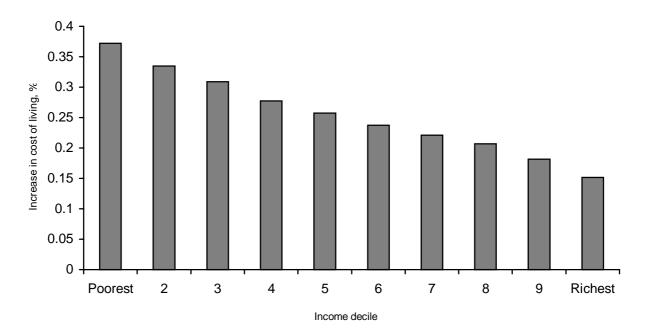


Figure 6. Effect of a 6 per cent real increase in duty on cost of living, by population density: all households

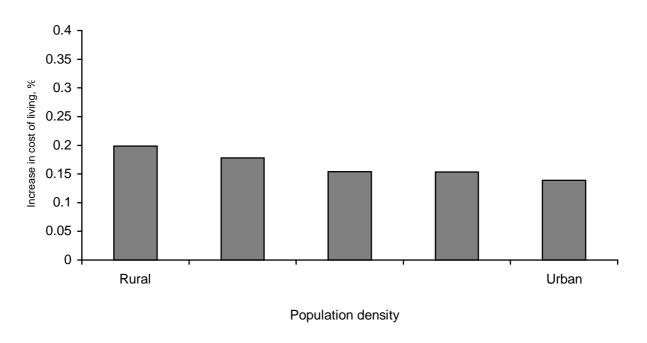
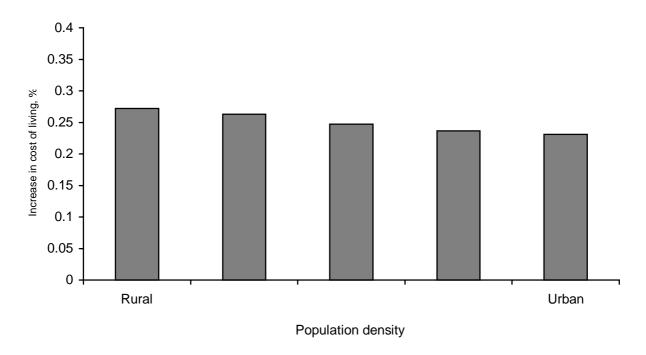


Figure 7. Effect of a 6 per cent real increase in duty on cost of living, by population density: car-owning households



Another possible area for concern is the effect on rural areas compared with more urban areas. Figure 6 shows the effect of a 6 per cent fuel duty increase on cost of living, averaged over all households according to the population density where each household lives. ¹⁰ Figure 7 does

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The four bands of population density are for local authorities with the number of people per hectare being <3.5 (most rural), 3.5-9.9, 10-19.9 and 20-34.9 (most urban).

the same for all car-owning households. For both groups, the cost of living increases slightly more in rural areas than it does in more urban areas.

Conclusions

There have been steep increases in the price of fuel in recent months and, although increases in the pre-tax price have played a part, high taxes have contributed to the rise. However, with the fuel duty escalator now ended, we are unlikely to see future real increases that are as high as this, since in his Pre-Budget Speech in November 1999, the Chancellor stated that future real increases would be lower than 6 per cent:

"... [we] are now in a position – instead of the pre-announced 6 per cent escalator – to make our decisions Budget by Budget with the following commitment: if there are any real term rises in road fuel duties, they will be lower and the revenues will go straight to a ring-fenced fund for the modernisation of roads and public transport."

The aims of the road fuel tax are conflicting. The property of demand for fuel that makes it difficult to reduce consumption through price rises makes it a good source of revenue for the Chancellor. If the government did succeed in getting people out of their cars and onto public transport, they would lose fuel as a valuable source of revenue.

Analysis of the effect of fuel duty rises on the cost of living of households across different income groups and across households living in areas of different population density suggests that an increase in fuel duty does impose a higher burden on poor car-owning households and on rural dwellers. But this does not mean that a fuel tax should not be used to try to protect the environment if it is decided that this is the most appropriate way to do so. It is the overall progressivity of the whole tax and benefit system that we are concerned about. The adverse effect on the cost of living of subsections of the population that we are concerned about could be compensated for, for example, by improving rural public transport.