



EMBARGOED UNTIL 00:01 FRIDAY 7 MARCH 2008

RESEARCH NOTE 28

## **THE ECONOMIC AND POLITICAL CASE AGAINST HIGHER FUEL DUTY**

### Key points

- With the surging oil prices of recent months, the high level of fuel duty is once again a prominent issue for the 56 per cent of people who drive or ride a motorcycle to work every day. Alistair Darling's first Budget should scrap the 2p rise in Fuel Duty planned for April. In the medium term, Fuel Duty should be on a downward path.
- There are several factors that make lower fuel duty politically popular:
  - The population of the **most marginal 100 Westminster constituencies** in England and Wales are almost **7 per cent** more likely to drive to work than those in the least marginal 100 constituencies and **travel 13 per cent further to work**.
  - People on **middle incomes**, often swing voters, spend the most on petrol as a share of their earnings – as high as **3.5 per cent of their gross weekly income** – and, therefore, pay the most Fuel Duty.
  - YouGov polling commissioned by the TaxPayers' Alliance has found that **60 per cent** of the public **consider Fuel Duty unfair** against just 17 per cent who think it fair.
- Academic and official estimates of the social cost of carbon dioxide emissions, when compared to the amount of UK road transport emissions and net motoring taxes, suggest that motorists are already heavily overtaxed:
  - Net motoring taxes (Fuel Duty and Vehicle Excise Duty, net of road spending) are **between three and thirty-nine** times the **social cost** of UK road transport carbon emissions.
  - This means each motorist is already paying **between £413 and £571 a year more than is fair** – as defined by environmental economists – in motoring taxes.

These high rates of specific motoring taxes are unfair as motorists already pay other taxes such as VAT on petrol and cars. Overcharging motorists can do serious economic harm by increasing the costs of commuting and moving goods.

## Comment from the TaxPayers' Alliance

Matthew Elliott, Chief Executive of the TaxPayers' Alliance, said:

*"If Alistair Darling goes ahead with the 2p rise in Fuel Duty in April, he will be ignoring the interests of ordinary motorists and their families. This move would also hit the Government in their marginal constituencies, where people are more likely to drive to work."*

### Lower fuel duty would be politically popular

#### People in marginal constituencies are more likely to drive to work

Data on parliamentary majorities at the 2005 election from the Electoral Commission<sup>1</sup> and constituency-level census data on the numbers driving to work (not including passengers) established by the Office for National Statistics was used to estimate the likelihood that people in the most and least marginal 100 constituencies by 2005 election majority drive to work.<sup>2</sup>

- 56.8 per cent of people drive or ride a motorcycle to work in the most marginal 100 constituencies against 53.3 per cent in the least marginal 100. This means that the population of the most marginal 100 Westminster constituencies in England and Wales are 6.6 per cent (3.5 percentage points) more likely to drive or ride a motorcycle to work than those in the least marginal 100 constituencies.
- Daily journeys to work are also longer in the most marginal 100 constituencies. The average distance travelled to a fixed place of work is 13.9 km in the most marginal 100 constituencies compared with 12.3 km in the least marginal 100 constituencies – a gap of 13 per cent.

Table 1: Propensity to drive to work and distanced travelled to work in the most marginal compared with the least marginal 100 constituencies

	People aged 16-74 who usually travel to work by: driving a car or van; riding a motorcycle, scooter or moped, %	Average distance travelled to fixed place of work, km
Most marginal 100 constituencies	56.8%	13.9
Least marginal 100 constituencies	53.3%	12.3
Percentage difference	6.6% (3.5 percentage points)	13.0%

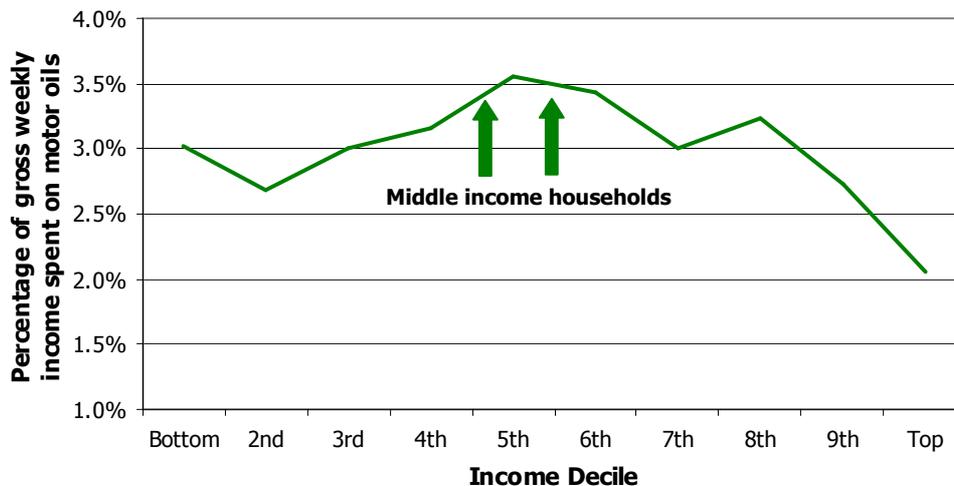
<sup>1</sup> Electoral Commission, *General election 2005 A-Z constituency results*, October 2005, [http://www.electoralcommission.gov.uk/files/dms/Generalelection2005\\_A-Zconstituencyresults\\_18784-13893\\_E\\_N\\_S\\_W.xls](http://www.electoralcommission.gov.uk/files/dms/Generalelection2005_A-Zconstituencyresults_18784-13893_E_N_S_W.xls)

<sup>2</sup> Office for National Statistics, *Neighbourhood Statistics*, Travel to Work (KS15)

## Fuel Duty hits those on middle incomes hardest

Office for National Statistics data on family spending<sup>3</sup> and household income<sup>4</sup> is used to estimate the share of the income of families in different income deciles that is spent on petrol. The results can be seen below and clearly show those on middle incomes spending the most – as much as 3.5 per cent of their weekly income – on petrol and, hence, Fuel Duty.

Chart 1: Spending on motor oils as a percentage of gross weekly income by household income decile, 2005-06



## The public think that fuel duty is unfair

In August 2007, a YouGov poll<sup>5</sup> for the TaxPayers' Alliance asked "Using a scale of 1 to 5, where 1 means 'very fair' and 5 means 'not at all fair', please indicate what you think of these taxes in terms of fairness." 60 per cent think that Fuel Duty is unfair (i.e. those who answer 4 and 5), against just 17 per cent who think it is a fair tax (i.e. those who answer 1 or 2).

<sup>3</sup> Office for National Statistics, *Family Spending 2005-06*, Table A8

<sup>4</sup> Office for National Statistics, *The Effects of Taxes and Benefits on Household Income 2005-06*, Table 24, Appendix 1

<sup>5</sup> All figures, unless otherwise stated, are from YouGov Plc. Total sample size was 2,162 adults. Fieldwork was undertaken between 28th-30th August 2007. The survey was carried out online. The figures have been weighted and are representative of all GB adults (aged 18+). YouGov is a member of the British Polling Council, further information at [www.yougov.com](http://www.yougov.com). The full poll tables are available upon request.

## Motoring taxes are excessive

Academic and official estimates of the social cost of carbon dioxide emissions, when compared to the amount of UK road transport emissions and net motoring taxes (Fuel Duty and Vehicle Excise Duty, net of road spending), can allow us to estimate the level of green taxation that covers the negative externalities associated with road transport emissions.

Earlier assessments of whether motoring taxes are set at the appropriate level have compared them to a range of different externalities from noise to air pollution and congestion:<sup>6</sup>

- Noise and air pollution are created by a vast spectrum of industrial activity. They are controlled by regulation which limits acceptable levels of noise and particle emissions in different geographical areas. If Fuel Duty is intended to correct for these localised externalities then two questions need to be asked. Why is road transport taxed for localised externalities while other industries are not? And, if these externalities are being corrected for by motoring taxes, why are they also regulated?
- By far the largest externality identified in the earlier study is congestion. There are problems with using Fuel Duty or Vehicle Excise Duty to correct for congestion. First, the taxes do not alter by the time of day or the location of the road. Second, they form a large part of the rationale for spending on road building, which is subtracted in our calculation of net motoring taxes.

The only externality that Fuel Duty and Vehicle Excise Duty can effectively correct for is greenhouse gas emissions, by raising the cost of road fuels and of owning a car.

The estimates of social cost used are some of the most widely quoted in the academic and official literature:



**Nordhaus** (2007). William D Nordhaus is Stirling Professor of Economics at Yale University and a member of the National Academy of Sciences. He was a member of the Council of Economic Advisers to the Carter administration in the late 1970s. The *Economist* has described him as the “father of climate-change economics”.<sup>7</sup> His 2007 study<sup>8</sup> is

<sup>6</sup> Leicester, A. “The UK Tax System and the Environment”, Institute for Fiscal Studies, November 2006. <http://www.ifs.org.uk/comms/r68.pdf>

<sup>7</sup> Economist, “How to value a grandchild”, December 2006

<sup>8</sup> Nordhaus, W. “The Challenge of Global Warming: Economic Models and Environmental Policy”, July 2007, [http://nordhaus.econ.yale.edu/dice\\_mss\\_072407\\_all.pdf](http://nordhaus.econ.yale.edu/dice_mss_072407_all.pdf)

based upon a model which has been refined over more than 30 years.



**Intergovernmental Panel on Climate Change (IPCC) (2007).** The United Nations body established in 1988 that is generally described as the “scientific consensus” on climate change. Its estimate<sup>9</sup> of the social cost of CO<sub>2</sub> is an average (mean) of over 100 peer-reviewed estimates.



**Tol (2007).** Richard Tol is Senior Research Officer at the Economic and Social Research Institute in Dublin, Principle Researcher at the Institute for Environmental Studies in Amsterdam and Adjunct Professor at the Department of Engineering and Public Policy of the Carnegie Mellon University in Pittsburg. He is an author (contributing, lead, principle and convening) of Working Groups I, II and III of the Intergovernmental Panel on Climate Change. His estimate<sup>10</sup> of the social cost of CO<sub>2</sub> is an average (mean) of 211 estimates from 47 published studies.



**Stern (2006).** Sir Nicholas Stern was Chief Economist and Senior Vice President of the World Bank between 2000 and 2003. Between 2003 and 2005 he was Second Permanent Secretary at HM Treasury with responsibility for public finances and the Government Economic Service. He was commissioned by HM Treasury in July 2005 to review the economics of climate change.<sup>11</sup>

The estimates given in the reports are expressed in USD, and have been converted to GBP using the 2006 (same year as the latest year for which full emissions data is available) conversion rate of USD 1.84 = GBP 1.<sup>12</sup> The Tol estimate uses the social cost per tonne of carbon, which has been converted to the social cost per tonne of CO<sub>2</sub> by a ratio of 100:27.29 (1 tonne of CO<sub>2</sub> contains 0.2729 tonnes of carbon – see IPCC report).

The number of motorists is based on the number of licensed vehicles.<sup>13</sup>

<sup>9</sup> Intergovernmental Panel on Climate Change, "Climate Change 2007: Impacts, Adaptation and Vulnerability", April 2007, <http://www.ipcc.ch/SPM13apr07.pdf>

<sup>10</sup> Tol, R.S.J. 'The Social Cost of Carbon: Trends, outliers and catastrophes', August 2007

<sup>11</sup> Stern, N. et. al. "Stern Review: The Economics of Climate Change", HM Treasury, 2006.

<sup>12</sup> Lawrence H. Officer, *Exchange rate between the United States dollar and the British pound, 1791-2005* Economic History Services, EH.Net, 2006 <http://eh.net/hmit/exchangerates/pound.php>

<sup>13</sup> DVLA, 'DVLA Annual Report and Accounts 2006-07', July 2007

Table 2: Amount paid in net motoring taxes compared with the social cost of road transport carbon emissions

	Nordhaus	IPCC	Tol	Stern
Social Cost of Carbon Dioxide (per ton)	£4.02	£6.52	£3.41	£46.20
UK Road Transport Carbon Dioxide Emissions (tons), 2006	120,299,111	120,299,111	120,299,111	120,299,111
UK Nitrous Oxide emissions (CO <sub>2</sub> -equiv tons), 2006	5,185,433	5,185,433	5,185,433	5,185,433
<b>Road Transport Total Social Cost of Carbon, 2006</b>	<b>£504,666,098</b>	<b>£818,377,456</b>	<b>£428,059,148</b>	<b>£5,796,840,314</b>
Fuel Duty Total Revenue, 2006-07	£23,600,000,000	£23,600,000,000	£23,600,000,000	£23,600,000,000
Vehicle Excise Duty Total Revenue, 2006-07	£5,100,000,000	£5,100,000,000	£5,100,000,000	£5,100,000,000
Road Spending, 2006-07	-£8,871,000,000	-£8,871,000,000	-£8,871,000,000	-£8,871,000,000
<b>Net Motoring Taxes, 2006-07</b>	<b>£19,829,000,000</b>	<b>£19,829,000,000</b>	<b>£19,829,000,000</b>	<b>£19,829,000,000</b>
Net Motoring Taxes/Road Transport Social Cost of Carbon, 2006-07	39	24	46	3
Net Motoring Taxes in Excess of Road Transport Social cost of Carbon, 2006-07	£19,324,333,902	£19,010,622,544	£19,400,940,852	£14,032,159,686
Number of Motorists, 2006-07	34,000,000	34,000,000	34,000,000	34,000,000
<b>Net Motoring Taxes in Excess of Road Transport Social cost of Carbon/Number of Motorists, 2006-07</b>	<b>£568</b>	<b>£559</b>	<b>£571</b>	<b>£413</b>

This clearly establishes that net motoring taxes are already set substantially above road transport's social cost of carbon:

- Net motoring taxes are between three and thirty-nine times the social cost of UK road transport carbon emissions.
- This means each motorist is already paying between £413 and £571 a year more than is fair in motoring taxes.



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