



The economic benefits of lower fuel duty

A report for FairFuelUK

November 2016

Cebr

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Executive Summary

This report provides updated estimates of the economic benefits to UK consumers and businesses from the 2011 cut in road fuel duty, and subsequent freeze in duty rates. The report considers both the direct benefits to households and firms, in terms of lower costs, and the wider benefits arising through increased economic activity and job creation. The research also considers some of the particular issues around diesel taxation going forward.

The key findings of the research are:

- **The 2011 fuel duty cut and subsequent freeze has had a significant impact on prices for UK households.** Road fuel prices in October 2016 were 11% lower than would have been the case with retail price index (RPI) uprating of fuel duty since 2011, and 16% lower than would have been the case with uprating of RPI + 1p.
- **This is saving UK households billions of pounds in terms of reduced fuel spending -** We estimate that in October 2016 the average UK household is saving £126 per annum on road fuel bills compared to a situation in which fuel duty had risen each year by RPI inflation, and £196 compared with a situation in which an escalator of RPI + 1p had been in place. Aggregated up across all households, these savings amount to £3.4bn and £5.3bn respectively.
- **The savings are significant even for those on lower incomes, who tend to drive fewer miles.** For the poorest 50% of households, in terms of disposable income, the average annual savings in October 2016 from the fuel duty freeze stood at £73 compared with RPI uprating and £113 compared with RPI + 1p uprating. In aggregate across these households, this amounts to £1bn and £1.5bn respectively.
- **Up to and including May 2020, retaining the fuel duty freeze would save UK households £135 on average compared with inflation uprating from next year onwards, and £210 compared with RPI + 1p uprating.** Aggregated up across all households, the savings amount to £3.8bn and £5.9bn respectively. A 3p cut in fuel duty would save households an additional £116 on average- an aggregate saving of £3.2bn.
- **For the poorest 50% of households, in terms of disposable incomes, the average benefit of a continued fuel duty freeze for the rest of the parliament is £78 compared with RPI uprating and £121 compared with RPI + 1p uprating.** In aggregate, this amounts to

£2.2bn and £3.4bn respectively. A 3p cut in fuel duty would save the poorest 50% of households on average £67 - £1.9bn in aggregate.

- **Businesses also benefit significantly from lower fuel duty** – An increase in fuel duty has a significant impact on running costs for commercial vehicles. For example, we estimate that if fuel duty increases in line with the RPI next April, annual running costs for a 44-tonne truck would increase by £847. If duty increases by RPI + 1p, then running costs would increase by £1,318.

- **An increase in diesel duty could have a significant impact on consumers and businesses.** Diesel accounted for 35% of all household spending on motor fuels in 2014. A 1p rise in diesel duty would cost UK households £106 million in total in 2017, while a 5p rise would cost households £530 million.

Given these costs, and the fact government policy in the early 2000s encouraged UK households to buy diesel cars, there is a case for exploring a diesel scrappage scheme as an alternative to increasing diesel duty. Unlike the 2009 scrappage scheme introduced by the government during the financial crisis, a new diesel scrappage scheme could be extended to cover purchases of used (but less polluting) vehicles. This would provide a scheme that is more accessible for those on lower incomes, for whom purchase of a new car may be unachievable even with a government subsidy.

- **Our modelling suggests that a 3p fuel duty reduction would provide a host of economic benefits.** These include a boost to the gross value added (GVA) contribution of industries to GDP of about £0.85 billion and the creation of 8,000 jobs. In addition, there would be no change in the net tax position of the government with the loss of indirect taxes as a result of the fuel duty reduction compensated by the boost to income tax revenues.

Introduction

Cebr was commissioned by the FairFuelUK campaign to provide updated estimates of the economic benefits of the cut in fuel duty in the March 2011 Budget and subsequent freeze.

In addition, we provide estimates of the economic benefits that could arise from a further cut in fuel duty, in terms of economic output and job creation. The economic benefits of such a tax cut are particularly pertinent given the likelihood of rising fuel costs over the coming months, as the recent decline in the value of sterling pushes up import prices. Government can potentially offset this inflationary squeeze on household finances and company profit margins through a cut in fuel duty.

Finally, we provide a discussion of some of the issues around taxation of diesel. A fuel duty increase for diesel has been mooted, given concerns about the environment impact of emissions from older diesel vehicles. An issue with such a policy is that it would penalise drivers who purchased diesel cars in the past when environmental concerns were less evident. Indeed, the previous Labour Government introduced lower vehicle tax for diesel cars in 2001 to encourage purchases of such vehicles – on the basis that at the time they were seen as less polluting.

We discuss alternative policy responses that could help take older diesel vehicles off the road, while protecting household finances and stimulating the economy through boosting sales of new cars.

This report is structured as follows:

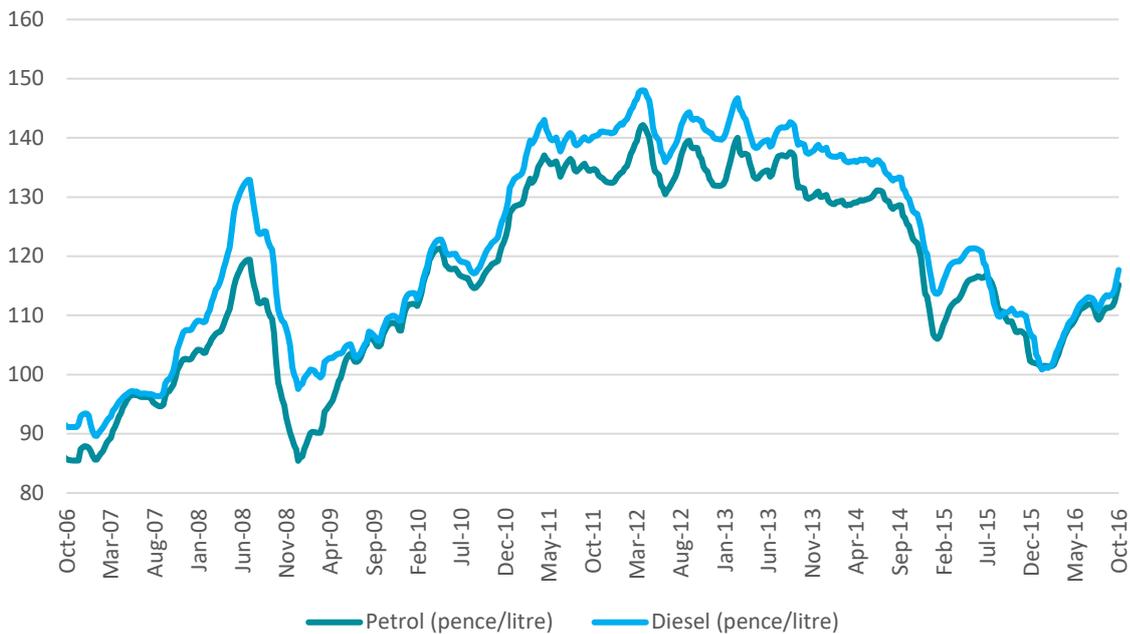
- **Section 1** examines recent trends in the price of road fuel.
- **Section 2** examines the direct consumer and business benefits from frozen fuel duty.
- **Section 3** considers some of the wider economic benefits of lower fuel duty.
- **Section 4** examines particular issues around taxation of diesel.
- **Section 5** draws conclusions from the preceding analysis.

1 Recent trends in fuel prices

Variation in forecourt prices for petrol and diesel are driven by changes in the price of crude oil, from which these products are refined. In addition, consumer prices are impacted by the prevailing rate of fuel duty and VAT.

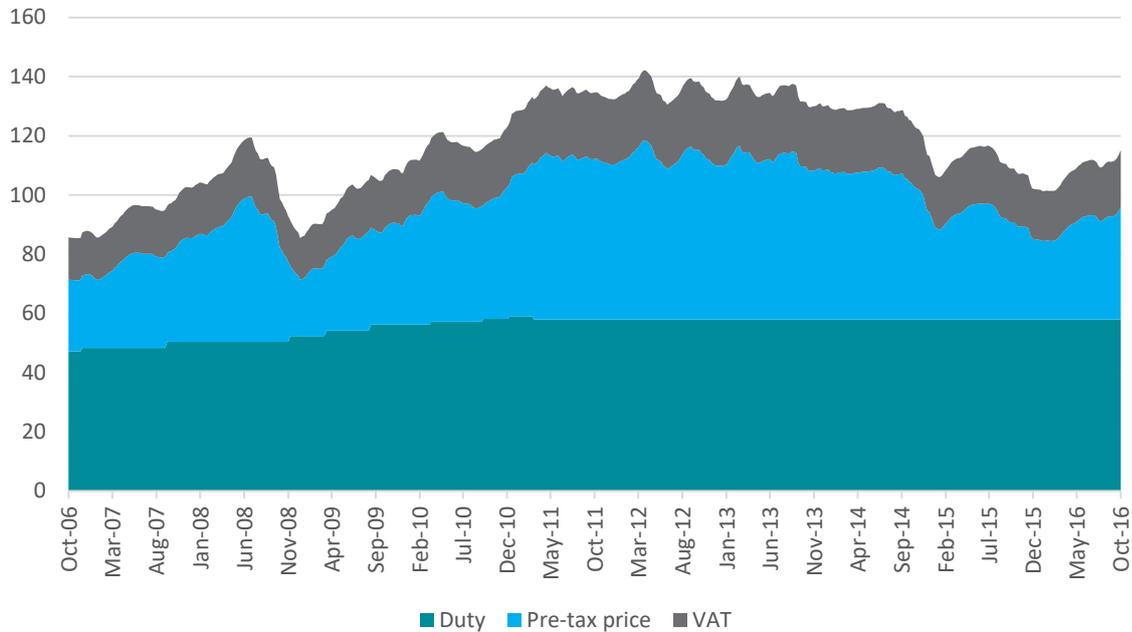
The end price of petrol and diesel fell sharply between 2013 and early 2016, as the collapse in the price of crude oil over this period led to a drastic reduction in pre-tax prices, easing cost pressures for UK households and businesses. The freeze in fuel duty over this period further supported households and businesses, stimulating economic activity.

Figure 1: Average monthly consumer price of fuel (inc. VAT) in the UK and spot price of a barrel of Brent Crude



Source: Department for Business, Energy & Industrial Strategy

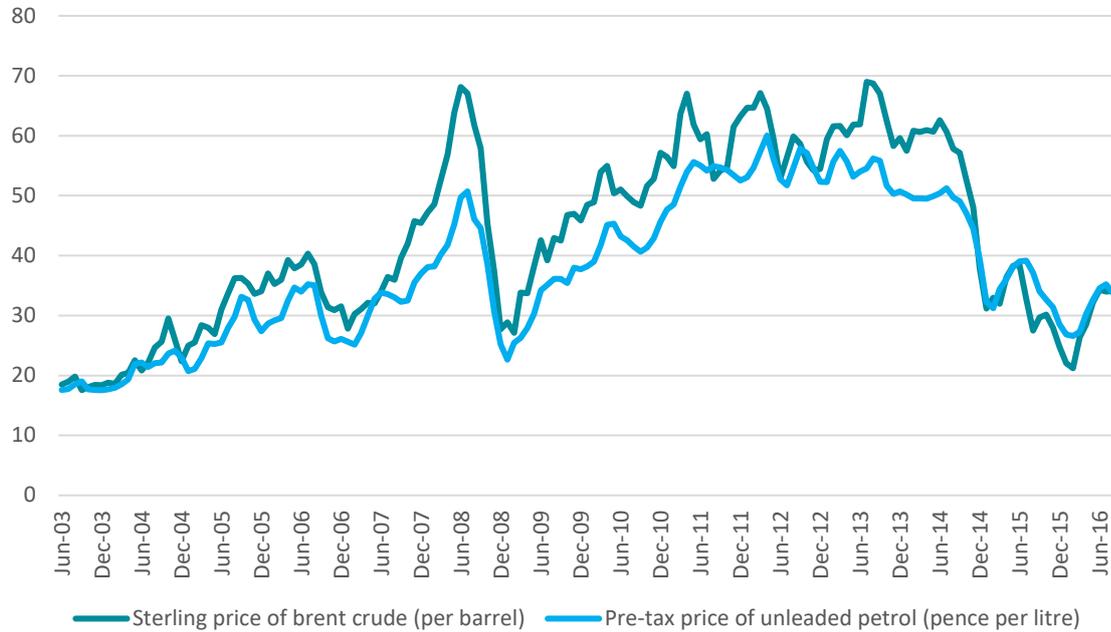
Figure 2: Composition of UK average pump price for premium unleaded, pence per litre



Source: Department for Business, Energy & Industrial Strategy, Cebr analysis

Petrol and diesel prices have started to rise again. Between the end of January and the end of October 2016, unleaded petrol prices rose by 14% while diesel prices rose by 16% for consumers. An increase in the dollar price of oil since the start of the year has combined with the sharp decline in the value of sterling seen since the Brexit referendum, leading to a sharp increase in pre-tax prices. This is shown in the Figure 3 which compares the pre-tax price of petrol and diesel with the sterling value of Brent crude oil.

Figure 3: Sterling price of Brent crude oil and pre-tax price of unleaded petrol



Source: Department for Business, Energy & Industrial Strategy, US Energy Information Administration, Cebr analysis

Pre-tax prices could potentially rise further over the coming months, if sterling remains weak or even depreciates further. An increase in fuel duty on top of this would contribute to even greater cost pressures for consumers and businesses in 2017.

2 Direct benefits from the fuel duty freeze

Household expenditure on petrol and diesel is significant. According to the ONS Family Spending Survey, the average UK household spent £1,196 per year on road fuel in 2014 (the latest year for which such data exist) – some 4.3% of total household of expenditure. As such movements in the price of petrol can have a significant impact on the amount of money that households have left to spend on more discretionary purchases, or indeed to save for the future.

In recognition of this, the government cut fuel duty by 1p in the March 2011 Budget, and duty has been frozen since then, generating significant benefits for both households and businesses.

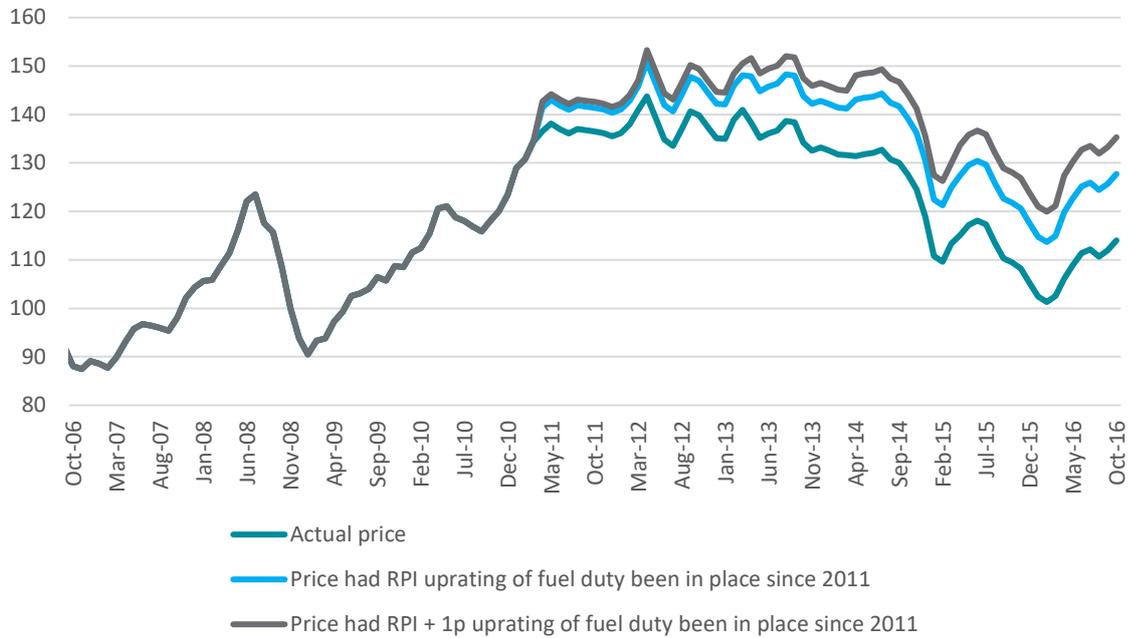
2.1 Household savings from the fuel duty freeze

The fuel duty cut and freeze that has been in place since 2011 has represented a significant boost to household spending power. We estimate that in October 2016 the average UK household was saving £126 per annum on road fuel bills compared to a situation in which fuel duty since 2011 had risen each year by RPI inflation, and £196 compared with a situation in which an escalator of RPI + 1p had been in place. Aggregated up across all households, these savings amount to £3.4bn and £5.3bn respectively.

The savings are significant even for those on lower incomes, who tend to drive fewer miles. For the poorest 50% of households, in terms of disposable income, the average annual savings in October 2016 from the fuel duty freeze stood at £73 compared with RPI uprating and £113 compared with RPI + 1p uprating. In aggregate across these households, this amounts to £1bn and £1.5bn respectively.

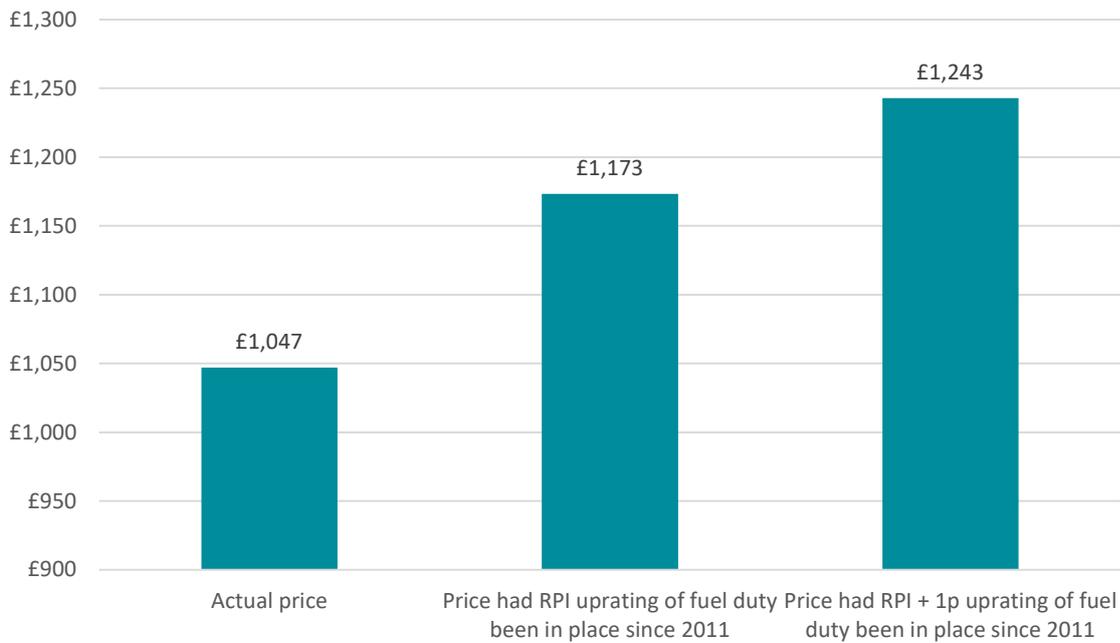
We estimate that consumer road fuel prices (including VAT) in October were 11% lower than would have been the case with RPI uprating of fuel duty since 2011, and 16% lower than would have been the case with uprating of RPI + 1p. This is shown in Figure 4 below

Figure 4: Estimated consumer price of road fuel (weighted average of diesel and petrol price), pence per litre



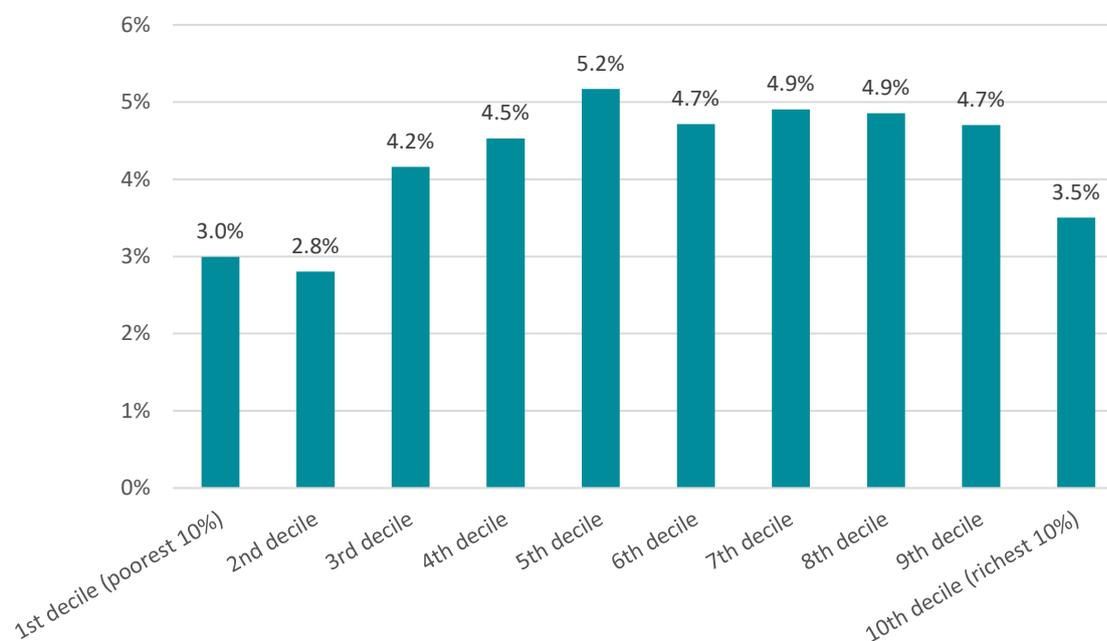
Source: Cebr analysis

Figure 5: Estimated annualised spending on road fuel, average UK household, October 2016



Source: Cebr analysis

Figure 6: Expenditure on road fuel as a % of total expenditure, by household disposable income decile



Source: Cebr analysis

2.2 Savings from maintaining the fuel duty freeze, or cutting duty further

The decline in the value of sterling this year is likely to lead to significantly higher inflation in 2017 as the price of imported goods and services start to rise, contributing to a squeeze on household budgets.

Given this environment in which the “cost of living crisis” could resurface as an issue, particularly for households on relatively low incomes, there is a case for policymakers to use fiscal tools to offset the negative impact of inflationary pressures in 2017. One such fiscal tool is keeping taxes on goods and services low, including tax on road fuel.

We have modelled the likely savings that consumers could realise over the remainder of the current parliament under two policies:

1. Maintaining the current fuel duty freeze for the remainder of the parliament.
2. Announcing a 3p cut in fuel duty in the Autumn Statement, with effect from December 2016.

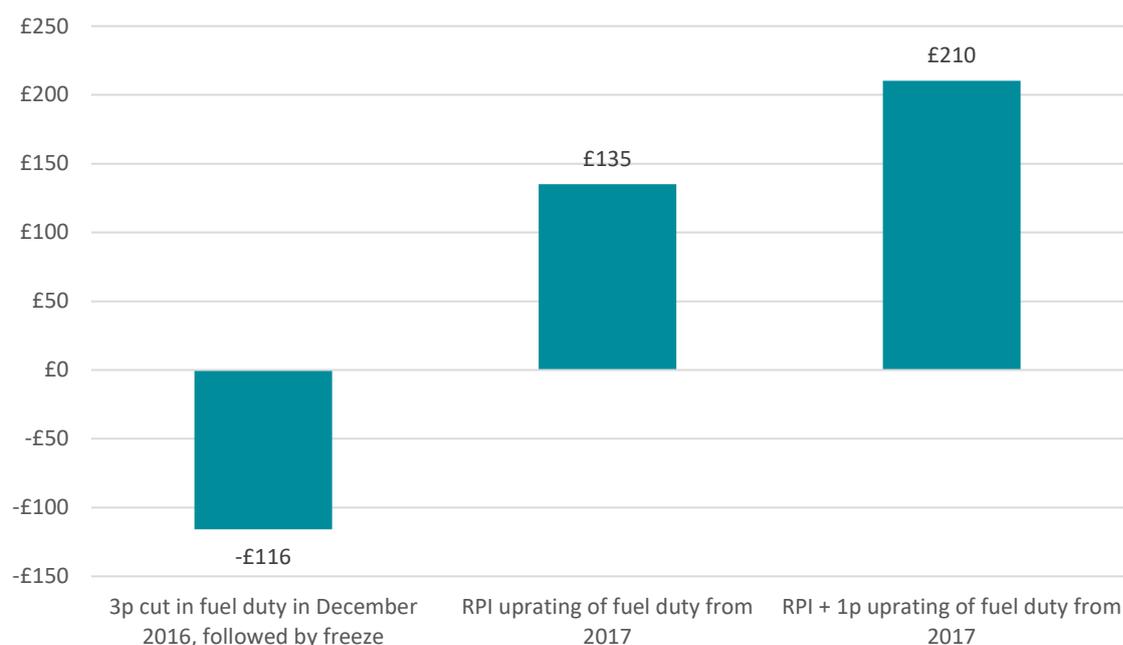
We have contrasted this with a situation where fuel duty rises by RPI inflation from April 2017, and also a situation where an escalator of RPI + 1p is in effect.

Up to and including May 2020, retaining the fuel duty freeze would save UK households £135 on average compared with inflation uprating from next year onwards, and £210 compared with RPI + 1p uprating. Aggregated up across all households, the savings amount to £3.8bn and £5.9bn respectively.

For the poorest 50% of households, in terms of disposable incomes, the average benefit of a continued fuel duty freeze for the rest of the parliament is £78 compared with RPI uprating and £121 compared with RPI + 1p uprating. In aggregate, this amounts to £2.2bn and £3.4bn respectively.

A 3p cut in fuel duty would save all UK households an additional £116 on average- an aggregate saving of £3.2bn. For the poorest 50% of households the average saving would be £67 - £1.9bn in aggregate.

Figure 7: Estimated total savings/costs to the average UK household up to and including May 2020, compared with a situation in which fuel duty remains frozen



Source: Cebr analysis

2.3 Benefits to businesses

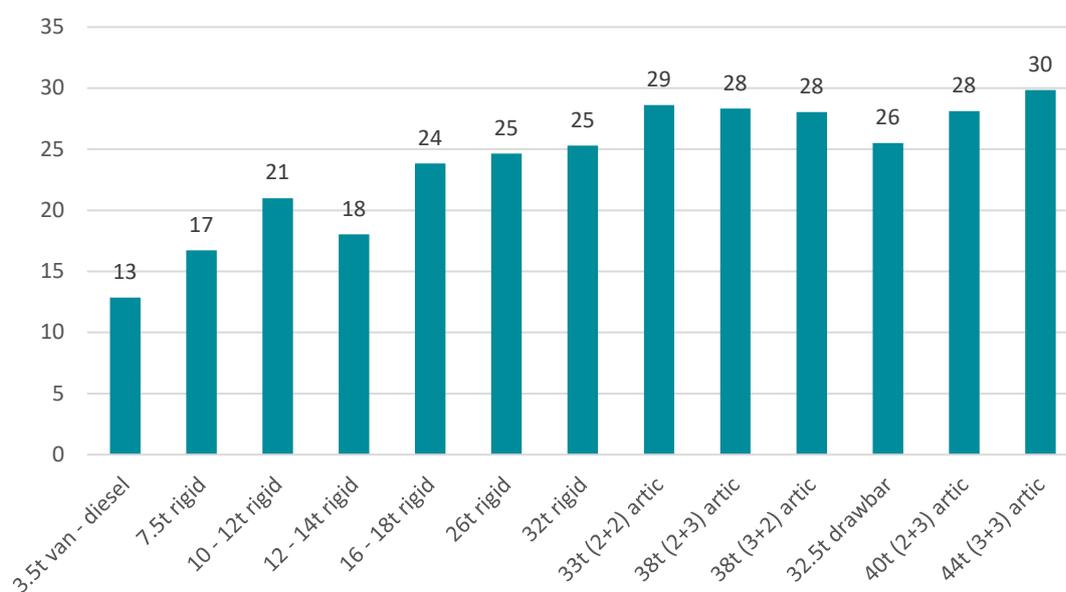
Road fuel is an important input into the production process for most industries and is particularly key to the transport and agricultural sectors. While some sectors are not heavily reliant on fuel directly, industries such as the retail trade are reliant on the transport sector, for which fuel is a key input.

Diesel forms a considerable chunk of the costs faced by the haulage industry. According to the Freight Transport Association, fuel accounted for 17% of the cost of operating a 7.5 tonne heavy goods vehicle, increasing to 30% of the cost of operating a 44 tonne truck¹.

The lower price of diesel as a result of the 2011 fuel duty cut and subsequent freeze is therefore likely to have a large impact on haulage firms across the country and in turn the businesses to which the industry forms a key part of the supply chain, such as the retail sector.

An increase in fuel duty has a significant impact on running costs for commercial vehicles. For example, we estimate that if fuel duty increases in line with the retail price index next April, annual running costs for a 44 tonne truck would increase by £847. If duty increases by RPI + 1p, then running costs would increase by £1,318.

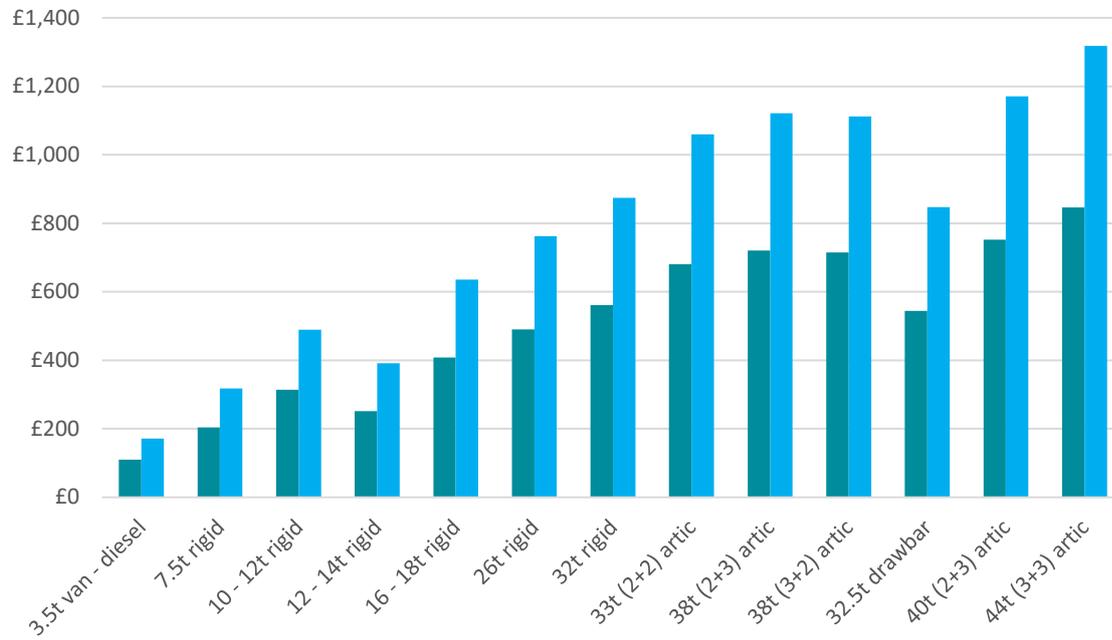
Figure 8: Fuel costs as a % of total average operating costs



Source: Freight Transport Association

¹http://www.fta.co.uk/policy_and_compliance/fuel_prices_and_economy/fuel_prices/fuel_fractions.html

Figure 9: Increase in annual running costs from increasing fuel duty in April 2017



Source: Freight Transport Association, Cebr analysis

3 Wider economic benefits

In its last report, Cebr estimated that the lower oil and fuel prices seen over the course of 2015 had the potential to:

- Provide an annual boost to Gross Domestic Product (GDP) of between 0.5%-0.6%;
- Support the generation of an additional £11.6 billion in the gross value added (GVA) contributions of industry to GDP;
- Support the creation of an additional 121,000 jobs.
- Provide a boost to net tax revenues in the range 0.2-0.3%.

These results were obtained by running our models under two scenarios, with the results being the differences between the outputs of the two models. These consisted of a baseline scenario of oil and fuel prices in 2013 (the base year of the model) and then shocking the model with the oil and fuel price reductions that had been witnessed by autumn 2015, by which time they had dropped significantly.

If the economy behaves as our model suggests, the predicted impacts would be permanent, so long as oil and fuel prices had maintained their low levels and so long as economic circumstances had otherwise remained fairly constant.

Since last running the models to produce the results above, oil prices have increased again, as have fuel prices at the pump. We therefore used new autumn 2016 prices to shock the model and understand the impact relative to the same baseline scenario of 2013 oil and fuel prices. This results in a small drop in the GDP impact of up-to-date prices. In other words, autumn 2016 prices produce a lower positive GDP impact than autumn 2015 prices relative to the original baseline of 2013 oil and fuel prices. Specifically, the impacts are:

- An annual boost to GDP of 0.57%.
- Support the generation of an additional £10.1 billion in the gross value added (GVA) contributions of industry to GDP.
- The creation of 112,000 jobs.
- A boost to net tax revenues of 0.20%.

If the fuel duty escalator had been in place, the impacts of the reductions in oil and fuel prices would have been eroded as follows:

- A reduction in the boost to GDP of 0.04%
- A reduction in the boost to GVA of £4.1 billion (so down to £6 billion from £10.1 billion)
- A reduction in the potential for new job creation of 17,000 jobs
- An increase of £6.4 billion in the net tax position, which includes a £7.9 billion boost in tax revenues from fuel duty and VAT on fuel but a loss of £1.5 billion in income taxes. But, while the escalator would have boosted the Exchequer, the size of the economy would be smaller due to the reduction in GVA and there would be less job creation.

Using the model that incorporates prices at autumn 2016, we have examined the impact of a **3p reduction in fuel duty**. The modelling results suggest that this could provide a **0.02% boost to GDP**. This is **worth about a quarter of a billion pounds**. However, this takes account of the loss of indirect taxes, which masks a larger positive impact on GVA from the boost to the supply side of the economy. A 3p fuel duty reduction would, on top of the boost provided by the fall in oil and fuel prices up to autumn 2016, provide:

- A boost to the GVA of industries of about £0.85 billion
- A boost in job creation of 8,000 jobs
- No change in the net tax position with the loss of indirect taxes as a result of the fuel duty reduction compensated by the boost to income tax revenues.

4 Diesel duty

Amid concerns about pollution from diesel vehicles (particularly older diesel vehicles), a fuel duty increase focused on diesel has been suggested². Air pollution is clearly a significant public health concern, with the Royal College of Physicians estimating that around 40,000 deaths in the UK are attributable to exposure to outdoor air pollution. Air pollution has been linked to cancer, asthma, stroke, heart disease, diabetes, obesity and dementia³.

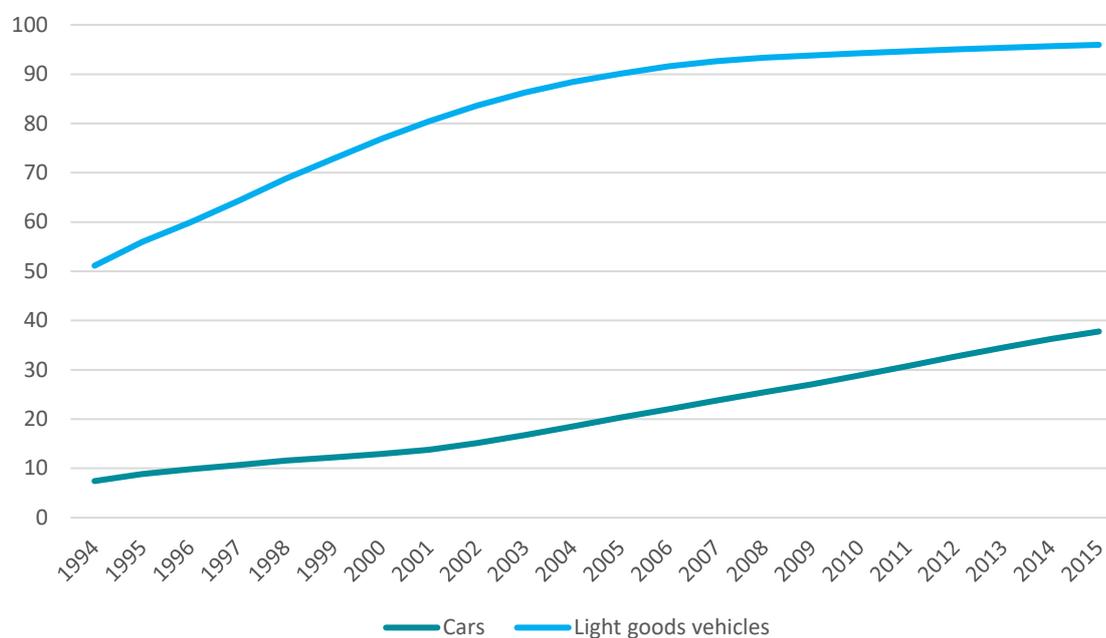
Emissions from older diesel vehicles are identified as a significant cause of air pollution in the UK; diesel exhaust gases include compounds such as benzene, 1,3-butadiene, formaldehyde and polycyclic aromatic hydrocarbons (PAHs). Diesel exhaust particles (DEPs) have a range of sizes and compositions. Small DEPs often contain elemental carbon (soot), with many toxic compounds on their surface.

Clearly, given the risks, addressing air pollution should be a public health priority. However, an increase in diesel duty risks financially penalising drivers who may not be able to afford to purchase a less-polluting vehicle. Furthermore, many households were compelled to purchase diesel vehicles at a time when the Government was promoting their usage: Gordon Brown introduced tax breaks for diesel cars as the UK Chancellor in 2001 because they emit less carbon dioxide than petrol-powered cars. In part due to these policies, there has been a substantial increase in diesel car ownership. The share of licensed cars running on diesel rose from 13% in 2000 to 38% in 2015, while the share of light goods vehicles that were diesel rose from 77% to 96%.

² <http://www.telegraph.co.uk/news/2016/06/07/transport-secretary-diesel-taxes-could-be-hiked-to-cut-air-pollu/>

³ <https://www.rcplondon.ac.uk/projects/outputs/every-breath-we-take-lifelong-impact-air-pollution>

Figure 10: % of licenced cars and light goods vehicles running on diesel



Source: Department for Transport

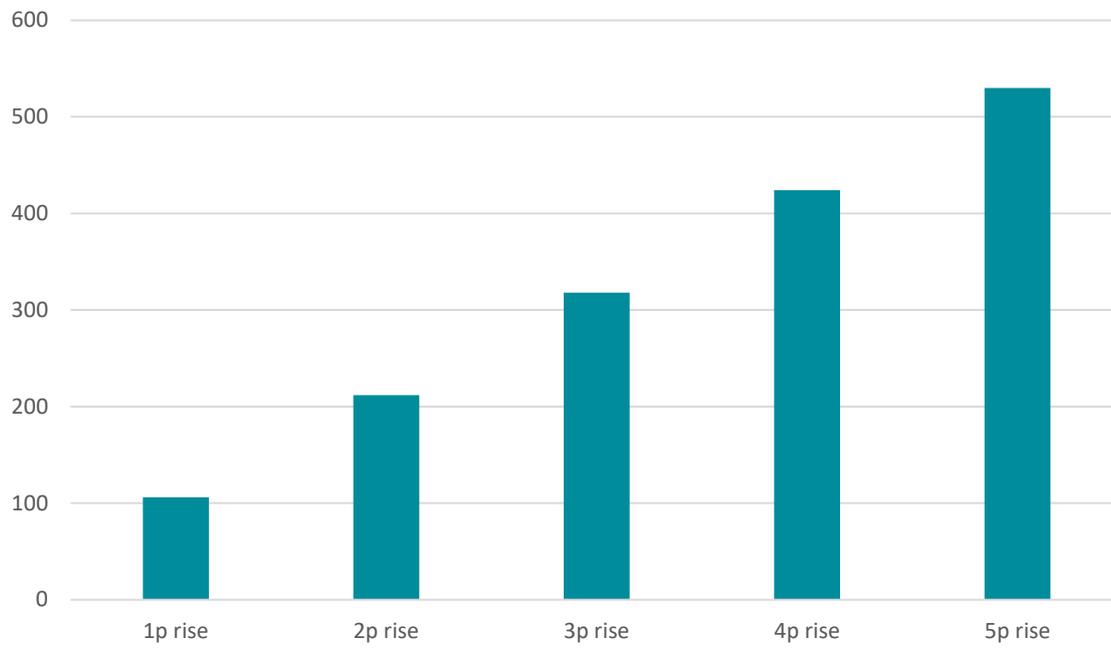
4.1 Direct impact of higher diesel duty

According to the ONS Family Spending Survey, diesel accounted for 35% of all household spending on motor fuels in 2014, and as such any increase in diesel duty could have a significant impact on household finances. Although a diesel duty increase should lead to behavioural changes – most notably a substitution away from diesel vehicles and towards petrol vehicles – many households are likely to find it difficult to bear the costs associated with purchasing a petrol vehicle, thus enabling substitution. For these households, they are left with the choice of either bearing higher road fuel expenditure, or reducing the extent to which they travel (which may be difficult in instances where a car is required to, for example, commute to work).

The chart below provides an estimate of the costs that UK households would bear in 2017 from different increases in diesel duty. The calculations assume that diesel car usage is broadly unchanged in the short-term given that it will take time for individuals to adjust their behaviour and in particular to switch from diesel cars to petrol cars.

A 1p rise in diesel duty is estimated to cost UK households £106 million in total in 2017, while a 5p rise would cost households £530 million.

Figure 11: Cost to UK households in 2017 from different increases in diesel duty, £ millions



Source: Cebr analysis

Meanwhile, hauliers could see a substantial increase in running costs. The average annual cost of operating a 44 tonne truck would increase by £471 with a 1p rise in diesel duty, and £2,356 with a 5p rise in duty. The latter represents a 2% increase in total annual running costs – a significant amount in a sector where profit margins are just 4%⁴

⁴ Freight Trade Association Logistics Report 2016

4.2 Alternative measures for curbing “dirty diesel”

Given the potential financial penalties for households and businesses that purchased diesel vehicles without knowledge of the environmental issues, there is a strong case for pursuing alternative policies to compel drivers to switch to more environmentally-friendly vehicles. We outline some of these policies below.

A diesel scrappage scheme

One means of reducing usage of relatively polluting vehicles is to introduce a scrappage scheme which financially rewards those who trade in older cars and purchase newer, more fuel-efficient vehicles. Such a policy could be similar to the scrappage scheme that was introduced during the 2008/09 financial crisis. The scheme saw the Government putting in £1,000 towards the cost of a new car, with the amount matched by car makers. The objective of the policy was to both reduce the number of relatively polluting vehicles on the road, and to stimulate the UK’s automotive industry during a time of significant economic weakness.

This 2009 scrappage scheme was not without its critics. Arguments against the scheme include the environment costs associated with the production of new vehicles and the fact that many new cars purchased were not made in Britain.

Having said that, some of the flaws in the 2009 scrappage scheme could be addressed in a new scheme that specifically targets scrappage of old diesel vehicles. For example, the Government could limit eligibility for the scrappage scheme to cars that are made or part-made in the UK, thus providing a more focused stimulus for the car manufacturing industry.

Another criticism of the 2009 scrappage scheme was that it did not apply to used cars, despite the fact that environmental gains could be achieved from purchasing a more environmentally friendly used car. This may have particularly deterred those with relatively low wealth from using the scrappage scheme, as they might have found the cost of a new car prohibitive even with government support. In a new diesel scrappage scheme, the government could effectively address this issue by providing financial support for purchases of used cars that are relatively environmentally friendly.

Some have argued that the cost of a scrappage scheme is prohibitive, though there is potential for the government to make a positive return from the scheme. As well as the positive environmental effects and reduced health costs associated with lower air pollution, the government would receive VAT

revenue from new car purchases, allowing it to make a “profit” on many purchases. The extent to which the government would make a positive return depends on the amount of subsidy given to support car purchases, as well as the average car purchase price (which determines VAT revenue).

A new diesel scrappage scheme could also consider the changing vehicle market, in which a higher proportion of vehicle users are effectively renting cars rather than owning them outright. As such, an offer of discounted rental payments could feature in a new scrappage scheme, to take account of the changing ownership model for vehicles.

A further variation of the diesel scrappage scheme described above is for the government to offer interest-free or discounted loans for those who scrap old cars and purchase new ones.

Localised measures – such as congestion charges for ‘dirty’ diesel vehicles

Another alternative to an increase in diesel duty is the introduction of congestion charges for vehicles entering major urban areas.

Such a policy is already being introduced in London, with planned charges for vehicles driving in Central London that fail to meet exhaust emission standards. Such a policy could potentially be rolled out across numerous cities in the UK, helping to tackle air pollution in areas where the problem is particularly great. Compared with an increase in diesel duty, such a policy would limit the financial costs for drivers living outside of urban areas, where air pollution may be much less of a problem.

5 Conclusion

The research in this report highlights the sizeable impact that lower fuel prices can have on both households and businesses in the UK. Fuel forms an important part of the budget of the average household and the network of haulers that support the operations of many of the UK's companies. Therefore, lower fuel prices lead to significant increases in the levels of disposable income in the economy.

We estimate that in October 2016 the average UK household is saving £126 per annum on road fuel bills compared to a situation in which fuel duty had risen since 2011 by RPI inflation, and £196 compared with a situation in which an escalator of RPI + 1p had been in place. Aggregated up across all households, these savings amount to £3.4bn and £5.3bn respectively. In addition, reduced commercial vehicle running costs support the viability of businesses in the UK, and free up cash for companies to invest and expand. In addition, lower transport costs for companies translate into lower consumer prices.

Given the benefits of the current fuel duty freeze, there is a compelling case for cutting duty further to stimulate the UK economy, especially given concerns about an inflationary squeeze on households and businesses following the recent depreciation in sterling.

Our modelling suggests that a 3p fuel duty reduction would provide:

- A boost to the gross value added (GVA) contribution of industries to GDP of about £0.85 billion
- A boost in job creation of 8,000 jobs
- No change in the net tax position of the government with the loss of indirect taxes because of the fuel duty reduction compensated by the boost to income tax revenues.