Executive summary

1. Global outlook: sea change

The phase of synchronised growth the world enjoyed in 2017 and early 2018 has come to an end. Following two years when the global economy finally expanded faster than its long-run average of 3.0%, growth looks set to slow to 2.8% in 2019. This is a significant disappointment compared with forecasts from this time last year, which predicted global growth of 3.2% in 2019.

The global downturn has also changed the policy narrative; after years of gradually normalising monetary policy following the response to the financial crisis, central banks are cutting interest rates again. And because government borrowing costs are so low at the moment and the effectiveness of yet more central bank intervention to combat an economic downturn is in doubt, fiscal policy trends could also move to a more expansionary setting.

In this part of Citi's contribution to the Green Budget, we analyse the causes of the global downturn and discuss the role of fiscal and monetary policy in addressing it. We argue that there are two big forces buffeting the global economy. Slower domestic growth in China as it transitions to a consumption-led economic model has had ramifications for much of the rest of the world. And the trade wars that US President Donald Trump has started against both China and the rest of the world have both imposed a direct penalty on global trade growth and raised uncertainty in the global economy.

Key findings

- **The global growth outlook has deteriorated.** Having grown by an above-average 3.2% in 2018, world output growth looks set to fall to below-average 2.8% in 2019 and stay there in 2020. The downturn is spread across advanced economies and emerging markets, but focused on the manufacturing hubs so far.

- **China's rebalancing hurts its supply chains.** Export- and investment-led growth allowed China to become the world's second economy, but reached financial and environmental limits. The inevitable shift towards domestic consumption and innovation slows growth in China and its supply chains, including Germany and Japan.

- **US trade wars compound China's troubles and sow uncertainty.** US President Donald Trump's administration is imposing tariffs, hurting exports in the targeted economies and raising prices at home. More importantly, business investment suffers globally as uncertainty about supply chains spreads.

- **In the medium term, we forecast that US growth will remain strong, China's growth rate will slow, and parts of Europe will flirt with recession.** While global trade and manufacturing are in recession, domestic demand remains resilient. The US still enjoys large fiscal stimulus, but as the boost from this winds down its growth rate will slow to potential soon. Chinese growth is falling gradually. In Europe, Germany and Italy are close to recession, but France and Spain are more resilient.

2. Recent trends to the UK economy

The overall outlook for economic growth, and its constituent parts, underpins any fiscal event, with implications for the public finances, public spending, taxation and living standards. Growth in the size of the UK economy – known as gross domestic product or GDP – has averaged 1.3% (on an annualised basis) over the last four quarters. That is somewhat below its potential rate of 1.4% (as estimated by the Bank of England) and the 1.5% growth rate for 2019 that we forecast in last year's Green Budget, and well below the average of 2.0% per year between 2010 and 2015.

While global trends play a role in this underperformance, the biggest force weighing on the UK economy seems to be uncertainty surrounding when and how – or whether – it will leave the European Union. In this chapter, we analyse how the different elements of the UK economy have performed since last autumn, highlighting the resilience of consumer spending and the poor performance of business investment. We show that the type of uncertainty that Brexit entails – prolonged and with repeated 'deadlines' for a resolution that has not yet materialised – has been especially damaging to business investment, and another year of uncertainty has imposed broader costs on the UK's economy.

The UK has been hampered by low productivity and investment since the crisis, and these trends have been exacerbated by the referendum. Meaningful improvement in potential UK growth will require a more robust policy outlook, a revival in private investment and stronger productivity growth.

Key findings

- **UK economic weakness has been both more longstanding and more extensive than in other major economies.** Growth in the UK has been weaker than in other G7 economies since 2016, volatile through this year, and averaged only 1.3% in the second quarter of 2019, compared with the same period last year.

- **Unemployment is currently below its natural rate equilibrium, even while realised growth remains below potential.** This reflects weakness in productivity and investment since the referendum, but resilience in employment and household spending. Growth has become more consumption-driven as a result.

- **Private sector investment is particularly weak.** Business investment has witnessed its most sustained period of weakness outside of a recession and is now the lowest in the G7.

- **The sharp divergence between growth in UK private sector investment and that in other developed economies coincides with the post-referendum period**, reflecting a sharp and sustained increase in economic uncertainty. This has increased the perceived risk associated with investments and reduced quarterly private investment by around 15–20% compared with if business investment had continued to grow in line with prereferendum trends. Ongoing worries about the risk of a 'no deal' Brexit are particularly damaging to investment.

- **High employment, a falling exchange rate and low levels of investment have already led to unit labour costs rising sharply.** Low investment now will lead to low growth in productivity and earnings in the future.

- **GDP is roughly 2.5–3.0% (£55–£66 billion) below where we think it would have been without Brexit.** Based on pre-crisis forecasts and global economic performance in 2017 and 2018, we suspect the UK has missed out almost entirely on a bout of global growth, which would normally have boosted exports and investment.

- **A recovery in growth from here is likely to require a profound reduction in policy uncertainty.** Without investment and improvements in labour productivity, growth is likely to slow further.

3. UK economic outlook in four Brexit scenarios

The global outlook and recent trends in the UK economy point to significant headwinds for growth going forwards. Arguably the most important determinant of the UK's economic trajectory will be the continuing process of leaving the European Union. Brexit no longer 'just' determines future relations with the UK's largest trading partner and the transition towards them. It has become intertwined with the political outlook and thus broader economic policies, including monetary policy.

At the time of writing, Prime Minister Boris Johnson's government has failed to break both the deadlock in negotiations with the EU over the arrangements at the Northern Irish border and the deadlock in parliament over the UK's wider Brexit strategy. This has left the UK with little clarity on when, how or even whether it will leave the European Union. And, with the increasing chances of a general election in the coming months, the Brexit stance and domestic agenda of the UK's opposition parties would become relevant to growth in some plausible scenarios.

In this chapter, we set out forecasts for the UK economy under four distinct Brexit scenarios: continued uncertainty (our base case); a no-deal scenario accompanied by significant fiscal loosening; a negotiated Brexit deal passed through the current parliament; or a second referendum on a Brexit deal negotiated by a Labour-led coalition, culminating in a vote to remain. In each case, the impacts on the economy will depend not just on relationships with Brussels, but also on policy decisions made in Westminster.

We find that a 'no-deal' Brexit makes for the hardest hit to the economy under these scenarios. By contrast, our scenario for 'no Brexit' – which involves a Labour-led coalition government that brings in significant tax and spending giveaways but does not implement all of the more radical structural reforms outlined in Labour's 2017 manifesto – would, at least for the next three years, provide the most optimistic outlook for growth.

Key findings

- **Whether – and if so how and when – the UK leaves the European Union will be perhaps the key determinant of growth over the next few years.** Obviously, Brexit will define the terms on which the UK trades with its largest trading partner. But different Brexit outcomes may also be tied to different political outcomes in Westminster, and these come with very different sets of domestic policies that would significantly affect the economy.

- **In our base scenario, the UK continues to delay Brexit.** In this scenario, we assume a further fiscal loosening of between 1 and 2% of GDP. There would be a chance of small rate cuts. Growth remains below 1% in 2020 and, while it then picks up, it remains very poor, below 1½% in 2021 and 2022.

- **Securing a Brexit deal would be better for the economy over the next two to three years than another delay.** If this were to come with tax cuts and further spending increases together worth 1 to 1½% of GDP (over and above the loosening at the September 2019 Spending Round), then growth should pick up to (a still poor) 1½% a year in the short term. Some pent-up investment should occur, and consumer confidence would improve, as the risk of a no-deal Brexit recedes.

- **A 'no-deal' Brexit would be economically considerably worse**, even under a relatively benign scenario. We assume this would happen under a Conservative-led government, which would implement further fiscal loosening totalling 2% of GDP. Interest rates are cut to zero alongside £50 billion of quantitative easing. Private consumption and investment growth falls while net trade is also a drag on growth. Overall, the economy does not grow over the next two years, and grows by just 1.1% in 2022, leaving it 2½% smaller in that year than under our base case.

- **Revoking Brexit would lead to the best economic outcome.** We assume this would require a Labour-led government which, as well as revoking Brexit, would also implement significant tax and spending increases, an overall fiscal loosening and some tightening of labour market regulations. Interest rates would also rise more quickly. This might result in growth of 2% a year. Crucially, this scenario involves a Labour-led coalition rather than a majority Labour government.

- **In the short term, implementation of the full 2017 Labour manifesto would offset at least some of the economic benefits of remaining in the EU.** Widespread nationalisations, handing 10% of share capital of large companies to employees while redirecting some dividends to the Treasury, or other policies that might reduce private sector investment significantly, would challenge the UK's traditional 'business model' and risk damaging growth by an amount it is not possible to quantify. Unlike Brexit, at least some of these policies will be reversible under future governments.

4. Public finances: where are we now?

Post-financial-crisis, public sector borrowing – the gap between government revenue and spending – has fallen and, at the March 2019 Spring Statement, it stood below its long-run historical average. However, a number of changes have occurred since March, or loom on the horizon. The new accounting treatment of student loans dispels a 'fiscal illusion' that was previously flattering headline measures of borrowing. The September 2019 Spending Round has, according to the government, 'turned the page on austerity'. The most recent Bank of England growth forecasts warned of the chances of an imminent recession. Finally, the Brexit process (perhaps) risks delivering a significant adverse shock to the public finances via a non-negotiated exit from the EU.

In this chapter, we produce an updated baseline forecast and look ahead to analyse a variety of scenarios for the medium term. We discuss the impact of a near-term downgrade in the growth outlook even with a smooth Brexit; a no-deal Brexit; and a potential further permanent fiscal loosening – for example, to implement cuts to income tax that were a part of the prime minister's platform during the Conservative leadership contest.

Key findings

- **A decade after the financial crisis, the deficit has been returned to normal levels, but debt is at a historical high.** The latest estimate for borrowing in 2018–19, at 1.9% of national income, is at its long-run historical average. However, higher borrowing during the crisis and since has left a mark on debt, which stood at 82% of national income, more than twice its pre-crisis level.

- **Given welcome changes to student loan accounting, the spending increases announced at the September Spending Round, and a likely growth downgrade (even assuming a smooth Brexit), borrowing in 2019–20 could be around £55 billion, and still at £52 billion next year.** Those figures are respectively £26 billion and £31 billion more than the OBR's March 2019 forecast. Both exceed 2% of national income.

- **A fiscal giveaway beyond the one announced in the September Spending Round could increase borrowing above its historical average over the next five years.** With a permanent fiscal giveaway of 1% of national income (£22 billion in today's terms), borrowing would reach a peak of 2.8% of GDP in 2022–23 under a smooth-Brexit scenario, and headline debt would no longer be falling.

- **Even under a relatively orderly no-deal scenario, and with a permanent fiscal loosening of 1% of national income, the deficit would likely rise to over 4% of national income in 2021–22 and debt would climb to almost 90% of national income** for the first time since the mid 1960s. Some fiscal tightening – that is, more austerity – would likely be required in subsequent years in order to keep debt on a sustainable path.

- **Over the longer term, keeping debt falling as a share of national income whilst funding an additional loosening would rely on a strong growth performance and an orderly Brexit.** Even if a Brexit deal is secured, there would be a strong case for the chancellor to resist any calls for a substantial package of permanent tax cuts or further increases in day-to-day spending unless these are to be covered by tax rises of a similar size.

5. Fiscal targets and policy: which way next?

The fiscal targets bequeathed by former chancellor Philip Hammond all expire during the current forecast period. Moreover, the government has stated that it wants to keep open the possibility of a 'no deal' Brexit and, should this occur, it would require an important decision on how fiscal policy should adjust both in the near and long term. These two issues interact since any new fiscal targets ought to be carefully designed so that they are robust to plausible scenarios for the UK economy, not least around Brexit.

This chapter begins by considering the case for having fiscal targets at all and then discusses the government's current fiscal targets and the rules proposed by the opposition Labour party. As well as critiquing these rules, we discuss how constraining they might prove to be under both current government policy and (in broad terms) under the policies that Labour set out in its 2017 general election manifesto.

Over the longer term, under a no-deal Brexit, the damage done to the economy would require some combination of tax rises and spending cuts. But in the near term, there could be a case for a temporary fiscal giveaway. The chapter outlines some of the key considerations when deciding upon the best fiscal policy response to an adverse economic shock and presents what a stylised fiscal stimulus in a no-deal scenario might do to growth, borrowing and debt.

Key findings

- **The current fiscal targets are no longer an anchor on fiscal policy.** All expire during the current forecast horizon. In any case, (cyclically adjusted) borrowing appears on course to exceed the 2% of national income ceiling supposedly imposed by the fiscal mandate. If a 'no deal' Brexit happens, it would be difficult to imagine the supplementary debt target not also being broken.

- **Labour's 2017 proposal for a rolling forward-looking target of current budget balance has much to commend it.** This would allow additional investment spending to be financed from borrowing when interest rates are low, and would also allow the chancellor some flexibility when responding to adverse shocks.

- **But Labour's 2017 proposal to have public sector net debt lower at the end of the parliament than at the start would be incompatible with its stated policies.** A large programme of nationalisation and substantial boost to investment spending would increase the size of the public sector balance sheet, increasing both its liabilities and its assets. Regardless of the merits of these policies, public sector net debt would rise, not fall.

- **Consideration could be given to targeting the projected path of public sector net debt over a longer horizon** and also to the feasibility of setting a target that takes account of a broader set of public sector assets.

- **If a 'no deal' Brexit occurred, fiscal policy would need to respond.** Over the longer term, the damage done to the economy would require some combination of tax rises and spending cuts. But in the near term, there could be a case for a temporary fiscal giveaway. This could target parts of the economy where the short-run dislocations were particularly painful, or particularly likely to have adverse long-term effects. But the overall giveaway should be temporary.

- **It is hard to imagine a set of short-term fiscal targets that would make sense both in the event of the UK leaving the EU with a deal and in the event of leaving without a deal.** Any rules that constrained behaviour at all in the first case would be broken in the second. Given heightened uncertainty, rather than setting a target for borrowing or debt, the chancellor could consider instead setting a fiscal anchor to limit the amount of permanent tax cuts or further increases in day-to-day spending that is announced. This would not limit the chancellor's options for borrowing to invest more or to deliver a temporary stimulus package. Well-designed fiscal rules could then be set out once at least some Brexit uncertainties have been resolved.

6. Spending Round 2019: keeping perspective

The 2019 Spending Round, published in September 2019, set departmental budgets for the 2020–21 financial year. Chancellor Sajid Javid topped up the spending plans pencilled in by his predecessor, announced spending increases across the board and declared austerity to be over. But these increases must be seen in context: austerity may have 'ended' but it is far from undone. And a decade of spending restraint means that even after recent announcements, spending on public services next year will be well below where we might have expected it to be, given historical rates of spending growth and growth in national income.

In this chapter, we describe the announcements in this year's spending pound and emphasise the importance of keeping perspective. We consider the announced spending increases in the context of the real-terms cuts since 2010, and the longer-run history of public spending, and also compare it with the plans implied by the Labour party's 2017 election manifesto.

Key findings

- **Boris Johnson's government used the 2019 Spending Round to announce a 4.4% increase in day-to-day spending on public services (over and above economy-wide inflation) between 2019–20 and 2020–21.** This was not the first increase in such spending since 2010 – total day-to-day spending on services increased between 2018–19 and 2019–20. But this spending round was notable for the size of the increase, and in that *every* government department saw at least a real-terms freeze in its budget.

- **This might end, but does not 'undo', austerity. Total day-to-day spending on public services is still set to be 3% lower in real terms in 2020–21 than it was in 2010–11, and spending outside the Department for Health and Social Care is still set to be 16% below 2010–11 levels.** Since the pre-crisis trend was for public service spending to increase in real terms over time, the gap between spending today and what it might have been if that trend had continued is even greater.

- **Total spending as a share of national income is just 0.6% lower than it was pre-crisis and at around the same level as it was in 2006–07**, but day-to-day spending on public services is now at 14.1% of national income compared with 16.2% in 2007–08. On public services excluding health, it is now at 8.1% of GDP against 11.1% in 2007–08.

- **This genuinely big spending round increase leaves the overall level of day-to-day public service spending for 2020–21 close to the levels implied by the Labour party's 2017 manifesto.** The Conservatives have implemented Labour's plans for school funding, gone some way on further education and social care, exceeded Labour's spending plans on the police and far exceeded them on the NHS. Labour had additional plans for big spending increases on early years and university education that the Conservative government has not chosen to match.

- **Labour's 2017 manifesto may, however, have understated what a Labour government would in reality have spent on the NHS had one been elected.** Had Labour increased NHS spending to the same extent as the Conservative government has done, in addition to its other manifesto commitments, then day-to-day spending on public services next year under Labour would have been around £9 billion higher than post-spending-round plans.

- **Given the stated policies of both main parties, it looks likely that austerity for public service spending is over for now.** That will, of course, mean some combination of higher taxes and/or higher borrowing. In either case, if the economy fails to grow as hoped – for example, due to a disruptive Brexit or other policies that undermine growth – the return to significant real spending increases could be short-lived. A return to austerity could well follow a mini spending boom.

7. Barriers to delivering new domestic policies

Since the 2016 vote to leave the European Union, Brexit has become the policy area that dominates debate in the UK. It defined Theresa May's government and will undoubtedly consume much of the government's time and energy over the next few years, regardless of how the Brexit agenda evolves or who is in power.

Even so, in his first few weeks in office, Prime Minister Boris Johnson has set out an ambitious domestic policy agenda – including 'fix[ing] the crisis in social care once and for all'; increasing funding for schools, the police, prisons and the NHS; and reinvigorating growth across the country. Likewise, the main opposition Labour party – which could take power if, as seems likely, an election is held later this year – used its last election manifesto and recent party conference to set out a wide range of domestic policy priorities. If either were to deliver on these promises, it would mark a notable change from the past three years when domestic policy has languished. But achieving such objectives will require the government to overcome several major barriers.

One of the issues will be finding the money needed to pay for some of these commitments. But progress on domestic policy under the last government was also hampered by the pressures of delivering Brexit, which consumed civil servants', ministers' and parliamentary time; the lack of a parliamentary majority and the breakdown of Cabinet discipline, which (even beyond Brexit) made it difficult to pass anything other than routine or relatively uncontroversial legislation; and unusually frequent turnover of ministers, which deprived several areas of domestic policy of the political focus, continuity and drive needed to push through changes.

In this chapter, we analyse these barriers to progress in Mrs May's government and the extent to which they will continue to affect policymaking in different areas in the years to come. We also make recommendations to help the government – whoever is in power – to overcome some of these challenges.

Key findings

- **The all-encompassing nature of Brexit, the lack of a parliamentary majority and tight public finances created difficulties for Theresa May in advancing domestic policies.** Brexit imposed significant demands on civil servants' and ministers' time, at the expense of progress on the government's domestic priorities such as tackling 'burning injustices', reforming social care and delivering major infrastructure projects.

- **Progress on domestic policies under Mrs May's government was also undermined by poor Cabinet and party discipline and rapid turnover of ministers, both of which were partly a result of disagreement over Brexit.** Mrs May's task was made harder by her loss of the Conservatives' parliamentary majority at the 2017 election, following which the government suffered defeats in parliament on both Brexit and non-Brexit legislation.

- **A general election could break the current parliamentary deadlock, which has left new prime minister Boris Johnson hamstrung. But any future prime minister could still face many of the same difficulties in making progress on domestic policy.** Brexit in whatever form will continue to place demands on civil servants' and ministers' time and could continue to test Cabinet discipline and party allegiances in parliament; keeping no deal on the table will make it harder still to make progress on domestic policy. Tight parliamentary arithmetic has made passing major legislation difficult. Without a general election – and perhaps with one – any government will struggle to build coalitions to pass new legislation.

- **Negotiating a future trade relationship with the EU once the UK has left the bloc – with or without a deal – would be more difficult than negotiating the Withdrawal Agreement over the past three years.** Negotiations with 'third countries' take place on a different legal basis with a more complicated process and require ratification by all 27 member states, while the difficult trade-offs revealed in the withdrawal negotiations' would be likely to persist.

- **Despite these challenges, the government could do more to make progress on domestic policy.** It must set clear and limited priorities, enforce Cabinet discipline, avoid frequent ministerial reshuffles and set clear fiscal objectives. To increase its likelihood of success, particularly in controversial policy areas, the next government should be clearer about how additional public spending can help achieve its objectives and where other approaches (beyond just money) are needed, build cross-party support in some areas and make space for long-term thinking.

8. Options for cutting direct personal taxes and supporting low earners

The new prime minister has expressed a desire to radically overhaul the direct personal tax system. During his leadership campaign, Boris Johnson announced plans to cut income taxes for high-income individuals by raising the higher-rate threshold (HRT) from £50,000 to £80,000, and to raise the point at which people start paying National Insurance contributions (NICs) to help low earners. The new chancellor has expressed similar intentions to lower taxes and also to simplify the tax system.

This chapter sets out the impacts of the prime minister's proposed policies. We argue that these are big – and costly – reforms, both of which will predominantly help those in higher-income households. We also examine other ways the government could cut taxes for high-income individuals whilst at the same time simplifying the system, and analyse a more targeted way to boost the incomes of low-earning families by raising work allowances in universal credit.

Key findings

- **Raising the higher-rate income tax threshold (and the National Insurance contributions thresholds that are aligned with it) from £50,000 to £80,000 in 2020–21 would cost £9 billion per year and cut taxes for the highest-income 8% of individuals.** The cost of the policy would be lower, both in the short and long run, if the threshold were raised more gradually. For example, an £80,000 threshold in 2024–25 would cost £8 billion per year relative to current plans.

- **This is a substantial and expensive tax cut from which only those on high incomes would gain.** It would offset some of the big tax increases that have affected the very highest earners since 2009.

- **Raising the higher-rate threshold to £80,000 in 2020–21 would take 2.5 million people out of paying the higher rate**, reversing the increase over recent decades and taking the number of higher- (or additional-) rate taxpayers to its lowest level since the UK's individual tax system began in 1990–91.

- **The government should remove the tapered withdrawal of the personal allowance from £100,000 per year**, which creates a £25,000-wide 60% marginal income tax band and affects ever more people each year. Raising the higher rate of income tax from 40% to 45% above the proposed new higher-rate threshold of £80,000 would cover most of the cost to the exchequer of removing this bizarre and opaque feature of our income tax system.

- **Raising the point at which employees and the self-employed start to pay National Insurance contributions (NICs), from its planned level of £8,788 per year in 2020–21, would cost about £3 billion for every £1,000 by which it is raised.** If the employer NICs threshold were raised alongside this, the total cost would be £5 billion. Raising NICs thresholds would benefit everyone who currently pays NICs – all workers above the bottom 12% of the weekly earnings distribution, or any employee aged 25+ working at least 20 hours per week at the national living wage.

- **Raising the NICs threshold is the best way to help low and middle earners through the tax system, but if the aim is to help the lowest earners, increasing work allowances under universal credit is much more effective.** Only 3% of the total gains from raising the NICs threshold (either by £1,000 or to the personal allowance threshold) would accrue to the poorest fifth of households. Spending £3 billion on increasing work allowances could raise the incomes of the poorest fifth of households by 1.5%, compared with less than 0.1% under an equally costly NICs cut. □

9. A road map for motoring taxation

Taxes on motoring raise around £40 billion a year for the exchequer (around 5% of government revenue), equivalent to about £750 per adult in the UK. Most of this comes from fuel duties, which in 2019–20 are expected to raise £28 billion in their own right plus an additional £5.7 billion from the VAT payable on the duties. Another £6.5 billion comes from vehicle excise duty (VED) and £0.2 billion from the London congestion charge.

These taxes also affect people's decisions about the vehicles they buy and how much, when and where they drive them. This is important because motoring gives rise to a number of social costs that would not otherwise be reflected in the prices people pay – such as congestion, greenhouse gas emissions, local air pollution, accidents and noise. Well-designed motoring taxes can be used to influence these behaviours and reduce the social costs associated with driving.

Fuel duty revenue has been eroded by a combination of cash-terms freezes and improving fuel efficiency. With the advent of electric cars, revenue from this tax is set to disappear altogether in the coming decades if the government meets its commitment to reach zero net emissions by 2050. Good news for emissions is bad news for the government coffers.

Alternative taxes will be needed to ensure the social costs of motoring are reflected in the prices people pay. The government should take the opportunity it has now to set out both its long-term strategy for taxing motoring and how it will get there. There is a window of opportunity to do this quickly, before revenue from fuel duties disappears entirely. In this chapter, we examine both how satisfactorily tax policy treats motoring as we find it today and how it might be made ready for the future.

Key findings

- **Driving imposes costs on wider society. According to government estimates, the biggest of these by far is congestion (80% of the total).** Government estimates for 2015 suggest that each additional kilometre driven caused an average of 17p of societal harm. Other costs include accidents, greenhouse gas emissions, local air pollution and noise. While the additional cost of greenhouse gas emissions, at 1p per kilometre driven, may sound small, this still equates to £4 billion per year across the UK.

- **Fuel duties and the VAT paid on them account for more than four-fifths of revenue from motoring taxation and they are very well targeted at emissions. But they do a poor job of capturing the costs of congestion**, which vary hugely by time and place. Fuel duty rates are set higher than can be justified by emissions alone, but are much too low – and too poorly targeted – to reflect the costs of congestion.

- **Fuel duties have a roughly equal impact (as a share of spending) across the income distribution, but among car owners make up a greater share for lower-income households.** For nearly one household in twenty, fuel duties (and the VAT on them) make up a tenth of their total non-housing budget and for many driving is a necessity, one reason why this is an unpopular tax.

- **A 2p/litre cut in fuel duty rates would cost about £1 billion a year. But revenue from existing motoring taxes (which raise £40 billion a year) will all but disappear anyway in the next few decades** if the government's goal of achieving zero net emissions by 2050 is met.

- **This means the government needs to rethink how it taxes motoring. It should start now**, before the revenue disappears and expectations of low-tax motoring become ingrained. It should lay out how it plans to tax low-emissions driving in the long term whilst incentivising the take-up of lower-emissions cars in the short term.

- **A system of road pricing where charges vary by time and location is the best way to incorporate the costs of congestion into the prices paid by drivers.** Such systems are technologically feasible and are used in a number of cities worldwide. Failing that – or, better, as a stepping stone towards it – the government could introduce a flat-rate tax per kilometre driven, which would at least continue to raise revenue and discourage driving once alternatively fuelled vehicles replace petrol and diesel ones.

- **In the meantime, with conventionally fuelled cars still common, the government should move to monthly indexation of fuel duties in line with the Consumer Prices Index.** There is no case for the recurrent ritual of the past eight years, when planned inflation uprating of fuel duties has been repeatedly cancelled for one more year while assumed to recommence thereafter. But to tackle the harm that driving does, now and in the future, the government should look beyond the existing set of taxes.