



# Tax policies for post-Brexit growth in the U.K.

**An analysis of tax policies now available to the U.K. government to maximise investment and generate growth in the economy**

Commissioned report by Capital Economics for Alvarez & Marsal Taxand U.K. and Taxand



February 2020



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# Foreword

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2020 marks a year of transition for the U.K., as we leave the European Union with a newly-formed Conservative government at the helm. Technology is also transforming the world in which we live, the businesses of the future and the talent those businesses will need.

While there will no doubt be challenges ahead, these structural changes also bring opportunities for businesses and policy-makers alike to re-evaluate our position in the global economy and the policies that shape it.

The U.K.'s ability to compete on the world stage has never been more important, as we seek trade deals, skilled workers and international investment. Meanwhile at home, we will need renewed focus on goals such as bringing prosperity to the regions and reducing carbon emissions.

With its newfound parliamentary majority and clarity on Brexit, where it can assess the most effective combination of policies both nationally and locally, the government has numerous levers it can pull to position the U.K. as an attractive place to invest and to support U.K. businesses through this time of change.

This aim has attracted considerable debate and will continue to into the future, but re-assessing the current tax system, to ensure it is fit for purpose in a post-Brexit U.K., should be an immediate priority for the government.

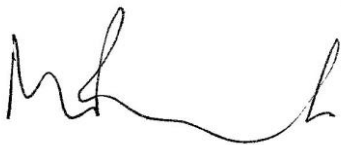
We have the opportunity to redefine the parameters of U.K. tax, independent of the EU.

We have chosen to partner with Capital Economics to explore potential tax proposals that could help support sustainable, long-term economic growth, create employment and investment in the U.K., building on current manifesto pledges and government commitments.

In this independent report, we consider what is 'the art of the possible', putting real numbers and impact behind a range of tax policies – from increased provision of research and development incentives, to the creation of free ports and changes in regional corporation tax.

As our research shows, the combination of these policies should deliver growth across all regions of the U.K..

We hope that the findings and conclusions from this report will be valuable input to ongoing discussions about the future of U.K. tax policy as a post-Brexit U.K. becomes a reality.



**Marvin Rust**

**Managing Director and Head of A&M Taxand Europe**

# Executive summary

# Executive summary

## We examine a range of tax policies that the U.K. could implement post-Brexit

Capital Economics has been commissioned by Alvarez & Marsal Taxand U.K. and Taxand to analyse and assess the tax system options available to the U.K. that have the potential to be beneficial post-Brexit.

Brexit presents an opportunity to review what the U.K. wants from its tax system. We have identified a range of the most promising tax options that the U.K. has now that it has left the European Union. This list has been determined from a much wider list covering the full range of tax options, yet it covers a range of policies that have the potential to be economically and socially beneficial.

The policies on this list cover a range of topics, but a few key themes regarding their overriding goals emerge:

1. Supporting economic growth and investment after Brexit, both nationally and regionally
2. Increasing the U.K.'s relative international competitiveness
3. Simplification of the tax system
4. Promoting more sustainable economic growth, in line with climate change targets and policies

We discuss each proposal in turn, setting out the context, potential changes and overall impacts of each policy. We also address where each proposal is constrained by European Union related issues (e.g. state aid) as well as various non-European Union related constraints (e.g. Organisation for Economic Co-operation and Development BEPS initiative).

## Selection of potential tax options for the U.K. after Brexit

- 1 Increase in the provision of R&D and IP incentives
- 2 Creation of free ports
- 3 Introduction of a regional corporate tax system
- 4 Changes in the energy tax
- 5 Lower income tax
- 6 Lower corporation tax rate
- 7 Changes to / possible overhaul of VAT
- 8 Simplification of the current tax system
- 9 Establishment of a 'unilateral free trade' model

# Executive summary (cont'd)

Based on the economic evidence and the current context for the U.K., we are able to recommend four of our policies for implementation...

Tax changes	Recommendation	Details
<b>1 Increase in the provision of R&amp;D and IP incentives</b>	Recommended	<ul style="list-style-type: none"><li>❖ Good evidence of likely positive economic effects and post-EU context should provide ample opportunities to change policy.</li><li>❖ The nature of reforms could include provision of new tax credits or simply boosting existing reliefs.</li></ul>
<b>2 Creation of free ports</b>	Recommended	<ul style="list-style-type: none"><li>❖ Strong research-based evidence in favour of the policy, though some countervailing evidence of more limited effects.</li></ul>
<b>3 Introduction of a regional corporate tax system</b>	Recommended	<ul style="list-style-type: none"><li>❖ Given regional disparities within the U.K. and the known positive impacts from lower corporate taxes, this option appears attractive.</li><li>❖ Implementation needs to avoid charges of unfair competition – we advise that regional rates are set according to a pre-agreed formula.</li></ul>
<b>4 Changes in the energy tax</b>	Recommended	<ul style="list-style-type: none"><li>❖ At a macroeconomic level, this measure is likely to have little impact.</li><li>❖ The advantage of change will be to help with the government's carbon reduction and climate change targets. The optimal form appears to be to remove VAT on electricity and raise it on fossil fuels for domestic use.</li></ul>

Note: 'Partially recommended' means we only recommend a relatively small part of the overall proposal. 'Not recommended for now' means that while the proposal may be advocated at some point in future, we do not recommend it over the next few years given the current policy environment.

# Executive summary (cont'd)

...and a three four for partial implementation, while the final two could be considered for enactment in a few years' time

Tax changes	Recommendation	Details
5 Lower income tax	Partially recommended	<ul style="list-style-type: none"> <li>❖ Economic effects from income tax cuts seem to be positive but modest.</li> <li>❖ Most beneficial cuts tend to be for lower earners, boosting spending, though current withdrawal of higher earner income / pensions reliefs may be lowering labour supply (e.g. doctors) and should be reviewed.</li> </ul>
6 Lower corporation tax rate	Partially recommended	<ul style="list-style-type: none"> <li>❖ The macroeconomic evidence of positive effects from this is strong.</li> <li>❖ However, with the rates already lower than competitors, incremental impacts may be more modest. We advise a small further cut to make the difference even clearer, then hold constant for further review.</li> </ul>
7 Changes to / possible overhaul of VAT	Partially recommended	<ul style="list-style-type: none"> <li>❖ With the exception of thresholds and perhaps rates for some products, the case for a general change in VAT rates doesn't seem clear.</li> <li>❖ However, we believe the case for a cut in thresholds is strong.</li> </ul>
8 Simplification of the current tax system	Not recommended for now	<ul style="list-style-type: none"> <li>❖ Policy has significant merits and may be economically beneficial.</li> <li>❖ The main drawback in the near term is that it may constrain more advantageous changes in existing taxes (VAT, corporation tax).</li> </ul>
9 Establishment of a 'unilateral free trade' model	Not recommended for now	<ul style="list-style-type: none"> <li>❖ It would likely be beneficial for consumers and possibly for the overall economy, though some domestic suppliers could be adversely affected.</li> <li>❖ It would limit leverage in negotiating new trade deals. They should probably be tried first, then this could be considered as an alternative.</li> </ul>

Note: 'Partially recommended' means we only recommend a relatively small part of the overall proposal. 'Not recommended for now' means that while the proposal may be advocated at some point in future, we do not recommend it over the next few years given the current policy environment.

# Executive summary (cont'd)

Implementation issues are, unsurprisingly, greater for tax measures not currently in existence than for changes to current taxes

Tax changes	Implementation issues
<b>1 Increase in the provision of R&amp;D and IP incentives</b>	<ul style="list-style-type: none"><li>❖ Selection of the mode in which to offer new incentives, which could be via (i) raising the incentives offered by the current regime, (ii) changing the forms of tax incentives (iii) changing the existing regime to make it more targeted (by industry, geography etc.) to increase impacts, or (iv) some combination of the foregoing options.</li><li>❖ Government should conduct analysis to determine the optimal level of incentives to be offered.</li></ul>
<b>2 Creation of free ports</b>	<ul style="list-style-type: none"><li>❖ Further analysis should identify which ports should be designated as free ports and any specific local factors to be considered or difficulties to overcome. There may also need to be consideration of the degree of tariff and regulatory exemptions that will be offered at the ports and the relationship with other regional economic policies such as city deals.</li></ul>
<b>3 Introduction of a regional corporate tax system</b>	<ul style="list-style-type: none"><li>❖ An array of details of this policy would need to be agreed, including the areas to be covered by it, the identity of the decision-making authority (local, devolved, national government), the degrees of cuts permitted and any limitations on the policy for review or termination. Agreement and consensus likely to be difficult.</li><li>❖ Passage of legislation through Parliament likely to be controversial, so government case needs to be strong.</li></ul>
<b>4 Changes in the energy tax</b>	<ul style="list-style-type: none"><li>❖ As proposed, this is the simplest of our fully recommended policies to enact and should be able to be implemented quickly through the existing tax system.</li><li>❖ Government may wish to consider variable rates of VAT on other products where the case is robust.</li></ul>



# Key policy impact figures

<b>1. Increase in R&amp;D and IP incentives</b>	Each <b>£1 of tax saved</b> with tax credits stimulates <b>£1.62 of higher R&amp;D spending</b> and each <b>10 per cent rise in R&amp;D spending</b> drives an average <b>1.3 per cent increase in output</b> .	<b>1.3%</b> GDP	<b>£1.62</b> R&D
<b>2. Creation of free ports</b>	Free ports in the U.K. would create an average of <b>13,500 jobs</b> and <b>£800 million of gross value added</b> per port over a 20 to 25 year period.	<b>£800m</b> GDP	<b>13,500</b> jobs
<b>*3. Introduction of a regional corporate tax system</b>	A ten percentage point reduction in the rate of corporation tax leads to an <b>increase in economic activity of 1.2 per cent</b> , and raises <b>foreign direct investment (FDI) by 1.6 per cent</b> .	<b>1.2%</b> GDP	<b>1.6%</b> FDI
<b>4. Changes in the energy tax</b>	A decrease in VAT on electricity of five percentage points and an increase in VAT on domestic energy derived from fossil fuels of five percentage points would <b>lower domestic energy consumption in the U.K. by 1.2 per cent</b> and <b>lower domestic fossil fuel use by 1.5 per cent</b> .	<b>-1.2%</b> energy use	<b>-1.5%</b> fossil fuel use

Summary impact figures shown here are based on averages of available academic studies or Capital Economics estimates – refer to sections on specific policies for full details.

\*Includes impact figure data relating to 'Lower Corporation Tax Rate' policy

# Key policy impact figures (cont'd)

## 5. Lower income tax

A one percentage point decrease in the rate of income tax **raises national gross domestic product**, on average, **by 1.4 per cent over two years**.

1.4%  
GDP

## 7. Changes to / possible overhaul of VAT

Reducing the VAT threshold from £85,000 to £43,000 would affect about half a million businesses and **increase Treasury receipts by up to £1.5 billion a year**.

£1.5bn  
receipts

## 8. Simplification of the current tax system

A single consolidated tax could save **small businesses £7,700 per year**, on average, in administrative and compliance costs **and free up twelve days per year** for more productive work.

£7,700  
savings

12  
days

## 9. Establishment of a 'unilateral free trade' model

A partial unilateral free trade approach, reducing tariffs to their 'most favoured nation' levels, would **reduce annual household bills by £113 a year**, with a **fall in prices of 0.5 per cent**.

-0.5%  
prices

£113  
bills

Summary impact figures shown here are based on averages of available academic studies or Capital Economics estimates – refer to sections on specific policies for full details.

Policy assessment based on economic impact

# Overview of economic assessment methodology

We considered a number of sources – namely, public reports, academic articles, proposed changes in the political arena and empirical evidence in other countries – to identify a list of a wide range of potential tax changes for the U.K. after Brexit. These tax proposals were assigned to more broad policy themes and were presented to Alvarez & Marsal Taxand U.K. and Taxand.

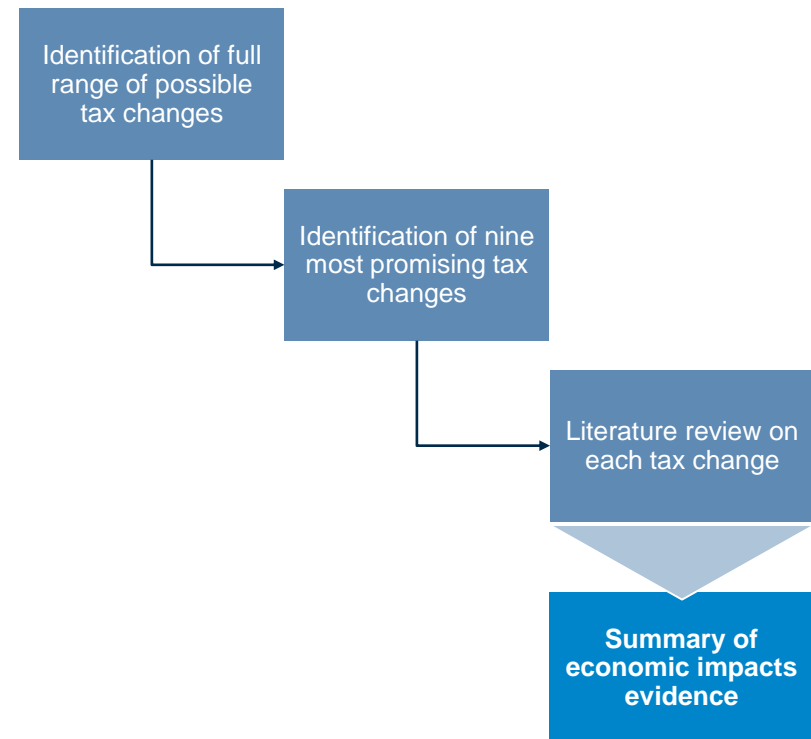
After liaising with Alvarez & Marsal Taxand U.K. and Taxand, nine proposals were identified as the most promising recommended tax changes.

For each of the nine selected tax proposals, we have set out the current situation with respect to the taxes concerned (including whether the U.K. policy is in any way constrained by European Union rules) and the prospective changes that have been proposed by various authors.

Finally, we have assessed the economic implications based on our in-house experience and expertise and other empirical and academic impact assessments. The overall impacts have been evaluated using a qualitative approach and an impact quantification has been provided where possible and derived from available studies.

The impact evaluation includes prospective effects on economic variables in the U.K. – including economic growth, employment, productivity and government revenues – as well as sectoral and regional effects and any implications for societal equality in the country.

## Summary of Capital Economics' methodology



Source: Capital Economics.

## Policy 1

Increase in the provision of R&D and IP incentives



# 1. R&D and IP incentives: impact

## Greater R&D incentives can boost R&D spending and productivity, benefitting the economy

### Studies say greater incentives increase R&D spending

A review by the What Works Centre for Local Economic Growth covered 21 impact evaluations of programmes offering research and development tax credits in OECD countries. (See table.) Of these, ten provided evidence of a positive impact on R&D expenditures.<sup>1</sup> This reflects what was found in U.K. focused studies – the government estimates that £1 spent on R&D tax credits stimulates between £1.53 and £2.35 in research and development expenditure.<sup>2</sup> Another paper by Irem Guceri found that larger firms eligible for the scheme after the reform of 2002 increased their R&D spending by £1.30 for each £1 of tax saved.<sup>3</sup> These estimates yield an average spend impact of £1.62 for every £1 in tax credit.

The impact evaluations found a positive impact of tax reliefs on innovation in the U.K.. A study from the London School of Economics and the Centre for Economic Performance found that, for each £1 million of R&D credit spent between 2009 and 2011, an additional 5.8 patents were generated. Reliefs were also cost effective – the extension of the R&D tax relief programme to large companies generated an extra £150,000 in spending, at a cost of only £13,000 per firm per year. Cardiff Business School identified that a one per cent increase in R&D tax reliefs between 2002 and 2004 increased surveyed innovation levels by 0.3 per cent.

### More R&D spending would boost productivity and growth

Positive impacts on innovation and R&D expenditure stemming from tax incentives suggest that the net economic outcomes should also be positive. Literature finds that investment in R&D increases productivity and economic growth – for every ten per cent increase in research and development expenditure, gross domestic product rises by 1.3 per cent on average. (See table.)<sup>4,5</sup> In addition, a government study found that firms that invest in R&D are thirteen per cent more productive than firms that do not.<sup>6</sup>

### Number of studies by impact of R&D tax credits on R&D expenditure, innovation and firms, What Works CLEG, 2015

	Works	Mixed results	Doesn't work	Harmful
R&D expenditure	10	5	2	0
Innovation outcomes	3	0	0	0
Firm performance	1	2	0	0









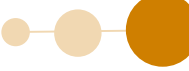



### Literature on the impact of increasing R&D expenditure on gross domestic product

Paper	Details
Piet Donselaar and Carl Koopmans (2016)*	Increasing private R&D expenditure by one per cent would boost the level of GDP by 0.13 per cent in the long run
International Monetary Fund (2016)**	Expanding R&D by nearly 40 per cent could raise GDP by approximately five per cent in a representative advanced economy in the long run

Sources: Capital Economics, Centre for Local Economic Growth, Department for Business Innovation and Skills and various papers.

\*This meta study draws on fifteen papers. \*\*Their conclusion is based on the analysis by *Donselaar and Koopmans*.

# 1. R&D and IP incentives: impact summary

Impact	Impact	Scale of impact	Probability of occurrence
Government revenues	 Mixed	 Small	 High
Spending by consumers	 Positive	 Large	 High
Employment	 Mixed	 Uncertain	 High
Economic growth	 Positive	 Large	 High

Note: 'Scale of impact' refers to the magnitude of the either positive or negative overall effect on the U.K. economy (through changes in economic variables such as gross value added and/or employment) expected from the tax proposal. 'Probability of occurrence' refers to the likelihood of the realisation of the impact on the U.K. economy, with the direction and magnitude specified, expected from the implementation of the tax proposal.

## Policy 2

Creation of free ports





## 2. Free ports: impact

### Free ports are expected to provide additional jobs and economic output to the economy

According to a report from the Centre for Policy Studies, free ports could create 86,000 jobs for the U.K.'s economy, narrow regional economic disparities and boost the manufacturing sector as a share of gross domestic product.<sup>1</sup> (See graphic.)

A Tees Valley Combined Authority analysis suggests that:

- ❖ A free zone in Teesport, could create £2 billion of additional gross value added and 32,000 jobs at Teesport after 25 years. Five additional ports across the country could deliver 70,000 jobs and £4.2 billion for the economy.<sup>2</sup> (See graphic.)

Another report from Mace shows that free ports could:

- ❖ Generate more than 88,000 jobs and add more than £5.3 billion a year to the U.K.'s economy.<sup>3</sup> (See graphic.)

On the flipside, a report from the U.K. Trade Policy Observatory suggest that free ports economic benefits might be limited:

- ❖ Up to 41 per cent of the 58,000 jobs created in the enterprise zones of the 1980s were relocated from elsewhere in the country (Larkin and Wilcox, 2011).<sup>4</sup>
- ❖ These zones had major effects in influencing location of enterprises and very minor effects in stimulating new economic activities (Gunther and Leathers, 1987).<sup>5</sup>













That said, both Mace and Tees Valley studies cited above take into account displacement in the computation of their impacts. Based on these two studies, the establishment of a free port in the U.K. would have a net positive impact, creating an average of 13,500 jobs and £800 million of gross value added per freeport per year over a 20 to 25 year period.

### Quantification of the positive impact from free ports on the national and regional U.K. economy

<b>Centre for Policy Studies</b> (National)	<ul style="list-style-type: none"><li>❖ Jobs: 86,000.</li><li>❖ Economy: Higher manufacturing sector share relative to gross domestic product, higher productivity, wages and R&amp;D spending.</li></ul>
<b>Policy North</b> (Regional)	<ul style="list-style-type: none"><li>❖ Jobs: 612,000.</li><li>❖ Investment: £12 billion.</li><li>❖ Boosts for regional economic growth.</li></ul>
<b>Tees Valley Combined Authority</b> (Regional and National)	<ul style="list-style-type: none"><li>❖ Jobs: 70,000 (14,000 per free port).</li><li>❖ Gross domestic product: £4.2 billion (around £850 million a year per free port).</li><li>❖ Boosts for regional economic growth.</li></ul>
<b>Mace</b> (National)	<ul style="list-style-type: none"><li>❖ Jobs: 88,000 (12,600 per free port).</li><li>❖ Gross domestic product: £5.3 billion (£750 million a year per free port).</li><li>❖ Reduced regional economic disparities.</li></ul>

Source: Capital Economics, Centre for Policy Studies, Tees Valley Combined Authority, Mace and Policy North.

## 2. Free ports: impact summary

Impact	Impact	Scale of impact	Probability of occurrence
Government revenues	 Mixed	 Small	 Medium
Spending by consumers	 Positive	 Small	 Medium
Employment	 Positive	 Medium	 High
Economic growth	 Positive	 Medium	 High

Note: 'Scale of impact' refers to the magnitude of the either positive or negative overall effect on the U.K. economy (through changes in economic variables such as gross value added and/or employment) expected from the tax proposal. 'Probability of occurrence' refers to the likelihood of the realisation of the impact on the U.K. economy, with the direction and magnitude specified, expected from the implementation of the tax proposal.

## Policy 3

Introduction of a regional corporate tax system



# 3. Regional corporation tax: impact

## Lower regional corporate tax rates could boost FDI and growth across the country

The general consensus among economists and researchers is that lower corporate income tax can increase capital formation, productivity growth, employment, wages, and growth. (See table.)


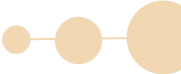










- ❖ The existing literature also provides evidence that a one per cent decrease in corporate income tax results in an increase in foreign direct investment by between 0.25 and 0.31 per cent in Organisation for Economic Co-operation and Development countries.<sup>4</sup>
- ❖ A study from the International Monetary Fund analysing tax incentives in over 40 Latin American, Caribbean and African countries over the period 1985–2004, found evidence that a one per cent drop in corporate income tax rates led to a rise of 0.03 per cent in foreign direct investment.<sup>5</sup>
  - Taking these two studies together, we can infer that a ten percentage point reduction in the rate of corporation tax raises foreign direct investment by 1.6 per cent, on average.
- ❖ According to the Scottish government, setting an attractive corporation tax rate (lowering it by three percentage points) could increase the level of output by 1.4 per cent and boost overall employment in Scotland by 1.1 per cent.<sup>3</sup>
- ❖ According to a U.K. government analysis, a one per cent increase in foreign direct investment stock leads to a rise in gross value added and employment of 0.04 per cent and a rise in average annual wages and labour productivity of 0.03 per cent.<sup>6</sup>
- ❖ Other papers from Lund and Brussels Universities suggest that a one per cent increase in the foreign direct investment ratio and levels per capita respectively generate higher economic growth of 0.17 per cent per annum and higher output of 0.29 per cent respectively in developed countries.<sup>7</sup>

### Quantitative research on the impact of corporate tax on investments and impact of investments on economic growth

Study	Quantitative impact assessment
<b>Ege University</b> (OECD: impact of corporate tax rates on foreign direct investment levels, 2016)	❖ A one per cent decrease in the corporate income tax result in an increase in foreign direct investment by between 0.25 and 0.31 per cent in the OECD countries.
<b>International Monetary Fund</b> (LatAm, Caribbean and African countries: impact of tax incentives on foreign direct investment levels, 2009)	❖ A one per cent decrease in corporate income tax rates led to a rise of 0.03 per cent in foreign direct investment.
<b>U.K. Government</b> (U.K.: economic impact of higher foreign direct investments, 2018)	❖ A one per cent increase in foreign direct investment stock in Greater U.K. has on average resulted in an increase in gross value added and employment of 0.04 per cent and an increase in average annual wages and labour productivity of 0.03 per cent.
<b>Lund University</b> (The impacts of FDI on productivity and economic growth: a comparative perspective, 2010)	❖ A one per cent increase in the foreign direct investment stock / gross domestic product ratio increases gross domestic product growth by 0.25 per cent for developing and 0.17 per cent for developed countries.
<b>University of Brussels</b> (Does foreign direct investment spur economic growth and development?, 2012)	❖ A one per cent increase in foreign direct investment per capita increases gross domestic product per capita by 0.39 per cent for developing and 0.29 per cent for developed countries.

Source: Capital Economics.

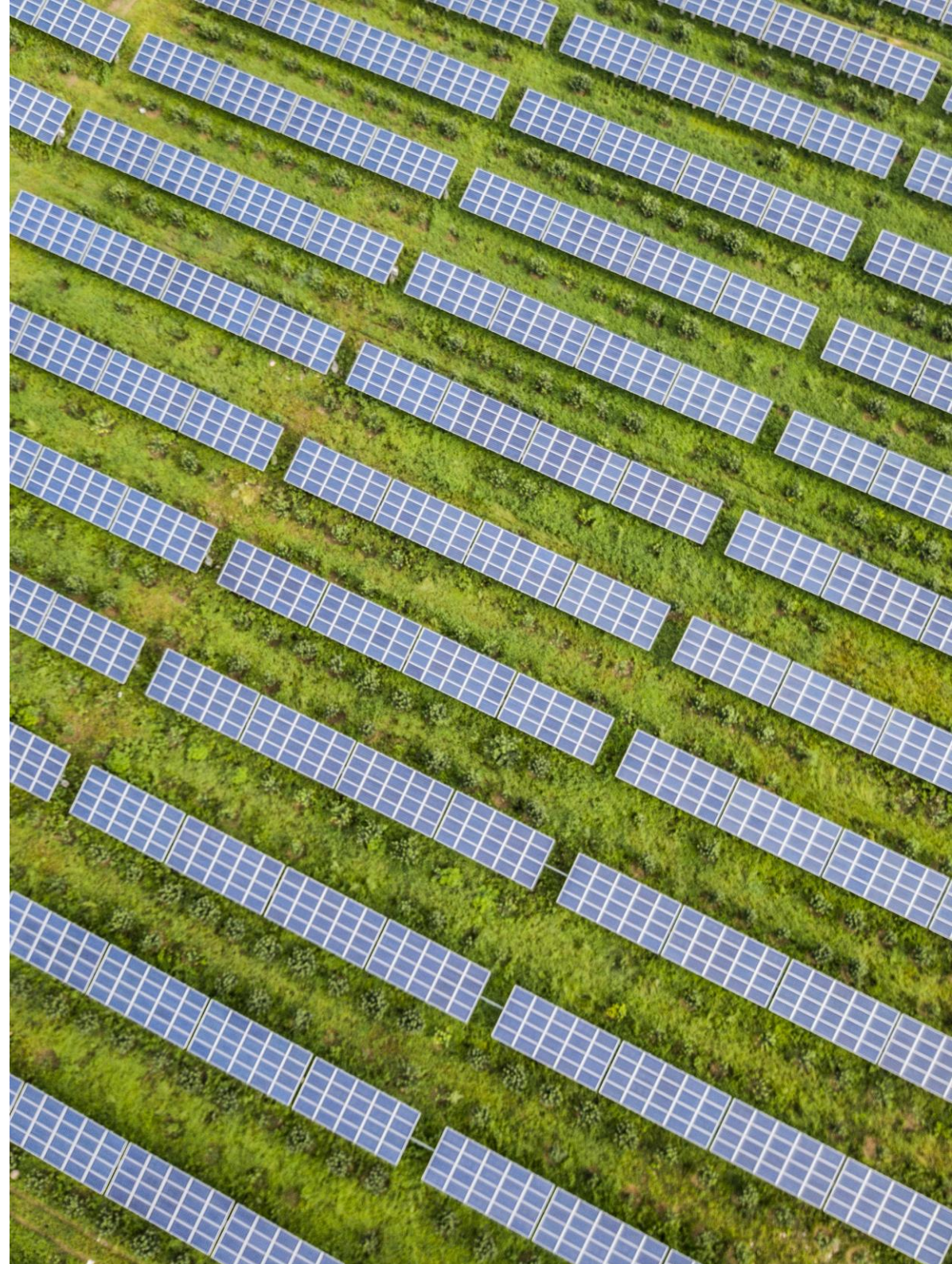
# 3. Regional corporation tax: impact summary

Impact	Impact	Scale of impact	Probability of occurrence
Government revenues	 Mixed	 Uncertain	 High
Spending by consumers	 Positive	 Medium	 High
Employment	 Positive	 Large	 High
Economic growth	 Positive	 Large	 High

Note: 'Scale of impact' refers to the magnitude of the either positive or negative overall effect on the U.K. economy (through changes in economic variables such as gross value added and/or employment) expected from the tax proposal. 'Probability of occurrence' refers to the likelihood of the realisation of the impact on the U.K. economy, with the direction and magnitude specified, expected from the implementation of the tax proposal.

## Policy 4

Changes in the energy tax



# 4. Energy taxes: impact

There is a trade-off between generating revenues and meeting climate change targets

## Lowering VAT rates on clean energy would result in less tax receipts...

The overall savings to households from the removal of the five per cent VAT on energy would be limited, at around £50 per household per year. The tax cut would cost HM Revenue and Customs around £1.6 billion a year. If the VAT cut only applied to electricity, this would cost the exchequer around £800 million a year.<sup>1</sup>

## ...yet would result in more climate-friendly outcomes

Lowering VAT rates on climate-friendly energy materials, such as electricity and solar panels, would also incentivise their use in their homes. Literature points to a consumption elasticity of electricity of 0.16, meaning that reducing energy prices by 5 percentage points would result in an increase in domestic electricity use by around one per cent.<sup>2</sup> On the other hand, increasing VAT on fossil fuels by 5 percentage points would lower their consumption by around two per cent.

Overall, based on the energy consumption mix in the U.K. and associated elasticities for various types of fuels, we estimate that a decrease in VAT on domestic electricity of 5 percentage points and an increase in VAT on domestic energy derived from fossil fuels of 5 percentage points would lower domestic energy consumption by 1.2 per cent and lower domestic fossil fuel use by 1.5 per cent.



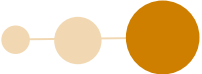

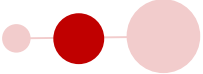
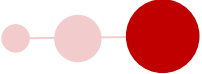






The European Commission launched infraction proceedings against the U.K. in 2011, arguing that its scope of the reduced rate of five per cent for energy-saving materials was too wide. As such, the VAT rate for certain energy-saving materials was raised. After Brexit, the U.K. could lower VAT on these goods, thus continuing in its commitment to greening the economy. Similarly, raising the carbon tax would disincentivise the use of high polluting materials. (See table for summary of impacts.)

## Potential impacts of changes in energy taxes in the U.K.

Policy	Impact on energy consumption	Impact on environment	Impact on government revenues	Impact on economy
Remove 5% VAT on all energy	● Increase energy use	● Negative	● Decrease revenues	● Insignificant
Remove 5% VAT on electricity only	● Increase electricity use	● Higher use of cleaner energy	● Decrease revenues	● Insignificant
Remove 5% VAT on electricity and raise VAT on gas and other fuels	● Increase electricity use and decrease fossil fuel use	● Higher use of cleaner energy, lower use of polluting energy	● Neutral	● Insignificant
Increase the carbon tax	● Decrease use of energy that emits greenhouse gas	● Reduction in carbon emissions	● Increase revenues	● Regressive tax and could disincentivise investment
Remove a fixed sum off household's energy bills	● Insignificant	● Insignificant	● Decrease revenues	● Insignificant

Source: Capital Economics.

# 4. Energy taxes: impact summary

Impact	Impact	Scale of impact	Probability of occurrence
Government revenues	 Mixed	 Medium	 High
Spending by consumers	 Negative	 Medium	 High
Employment	 Mixed	 Uncertain	 Low
Economic growth	 Mixed	 Small	 Medium

Note: 'Scale of impact' refers to the magnitude of the either positive or negative overall effect on the U.K. economy (through changes in economic variables such as gross value added and/or employment) expected from the tax proposal. 'Probability of occurrence' refers to the likelihood of the realisation of the impact on the U.K. economy, with the direction and magnitude specified, expected from the implementation of the tax proposal.



## Policy 5

Lower income tax



## 5. Income tax: impact

A further cut in income taxes would likely stimulate economic growth in the short run

### Measuring the impacts of a tax change is an inherently challenging task

The relationship between tax policy and economic activity is a widely researched – and debated – one. In quantitative terms, a wide range of estimates on the impacts arise, from insignificant to dramatically large. Much of the size of the impact on economic growth depends on the structure of the tax policy and the different parameters surrounding it.

Research points to a positive effect of lower taxes on growth, yet the overall impact is minimal in the long run













- ❖ Research by the IMF on a sample of 70 countries, including the U.K., finds that a one per cent tax increase reduces gross domestic product by 1.3 per cent after two years.<sup>3</sup> Another paper investigating the effects of change in taxes on economic growth covering 26 OECD countries also finds a negative relationship between higher income taxes and economic growth.<sup>4</sup>
- ❖ On the other hand, research by the Institute of Fiscal Studies finds little impact of taxes on economic growth.<sup>5</sup>
- ❖ There are an array of academic studies assessing income tax changes on economic growth in the United States. Research by the NBER finds that tax changes have large effects. An exogenous tax increase of one per cent of gross domestic product lowers real output by roughly three per cent.<sup>6</sup> Similarly, a paper by Mertens and Ravn finds that personal income tax cuts immediately boost gross domestic product, but lose revenue.<sup>7</sup>
  - We can surmise from these five studies that a one percentage point decrease in the rate of income tax raises national gross domestic product, on average, by 1.4 per cent over two years.

### Literature review of impacts of a cut to income tax

Author (year)	Summary of findings	Overall impact on growth
<b>IMF</b> (2010)	A 1% tax increase reduces gross domestic product by 1.3% after two years.	Positive (short term)
<b>OECD</b> (2009)	An increase in the total tax rate by 1% of GDP has a long-run effect on real GDP per capita of -0.5% to -1.0%.	Positive (long term)
<b>IFS</b> (2000)	Empirical evidence points very strongly to the conclusion that the tax effect is very weak.	Insignificant
<b>NBER</b> (2007)	An exogenous tax increase of 1% of GDP lowers real GDP by roughly 2% to 4% after two years.	Positive (short term)
<b>Mertens and Ravn</b> (2012)	A 1 percentage point cut in the average personal income tax rate raises real output per capita by 1.4% in the 1 <sup>st</sup> quarter and by up to 1.8% after 3 quarters.	Positive (short term)
<b>Brookings Institute</b> (2014)	Explored empirical evidence on taxes and growth from studies of major income tax changes in the United States. Found little evidence that tax cuts or tax reform since 1980 have impacted the long-term growth rate significantly.	Insignificant
<b>US Congressional Research Service</b> (2012)	Economic growth is not correlated with changes in the top marginal tax and capital gains rate. However, the top tax rate reductions appear to be associated with the increasing concentration of income at the top of the income distribution.	Insignificant

Sources: Capital Economics.

# 5. Income tax: impact summary

Impact	Impact	Scale of impact	Probability of occurrence
Government revenues	 Negative	 Medium	 High
Spending by consumers	 Positive	 Large	 High
Employment	 Positive	 Low	 Medium
Economic growth	 Positive	 Large	 Medium

Note: 'Scale of impact' refers to the magnitude of the either positive or negative overall effect on the U.K. economy (through changes in economic variables such as gross value added and/or employment) expected from the tax proposal. 'Probability of occurrence' refers to the likelihood of the realisation of the impact on the U.K. economy, with the direction and magnitude specified, expected from the implementation of the tax proposal.

## Policy 6

Lower corporation tax rate



# 6. Corporation tax: impact

## Lower corporate tax rates help to support economic growth in the long run

### Lower rates do not necessarily mean less revenue

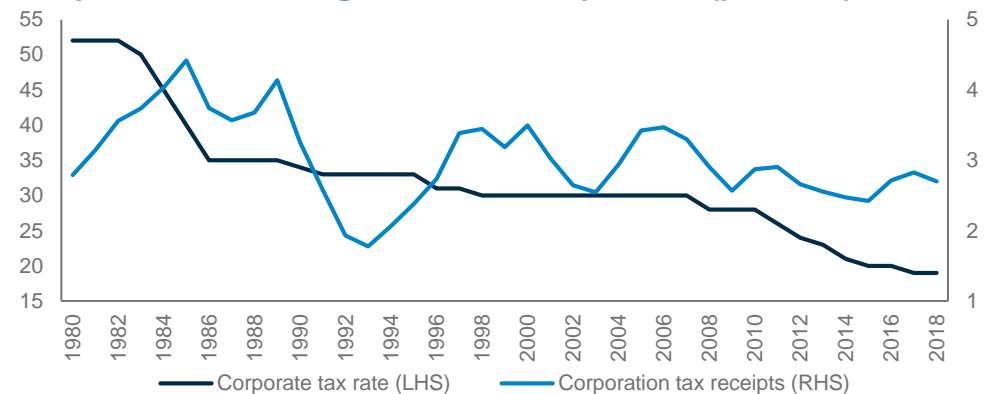
The main rate of corporation tax in the U.K. has been gradually falling, from 52 per cent in 1982 to just 19 per cent now, yet tax receipts as a share of gross domestic product have not followed this same trend. (See upper-right figure.) While lowering the corporate tax rate directly amounts to reduced tax revenues, changes in corporate tax receipts overall have more to do with exogenous policies and the economic backdrop rather than the rate of tax itself. In nominal terms, corporation tax revenues have been increasing steadily over recent years, despite the cuts to the headline rate. A number of factors have offset these rate cuts to boost revenues, including growth in corporate profits since the global financial crisis, new measures to reduce tax avoidance and changes to how banks are taxed.

### Corporation tax is one of the most damaging types of tax

There is evidence that a decrease in the corporation tax rate supports economic growth, wages and employment. Indeed, the OECD states that corporate income taxes are the most harmful for growth, as they reduce the after-tax return on investment.<sup>1</sup>

Modelling by HM Treasury found that tax reductions increased output in the U.K. by up to 0.8 per cent.<sup>2</sup> Other studies reveal that lower corporation tax rates increase investment rates and the demand for labour, which in turn raises wages and increases consumption.<sup>2,3,4,5</sup> Based on the HMRC and Lee and Gordon studies, which directly address the impact of corporation tax on national output, we estimate that a ten percentage point reduction in the rate of corporation tax leads to an increase in economic activity of 1.2 per cent. This is a cautious estimate as rates are currently towards the lower end of the spectrum, so we expect the effects to be less pronounced than the average impact of corporate tax changes.

U.K. main corporation tax rate (per cent) and corporation tax receipts as a share of gross domestic product (per cent)















### Literature review summary of main impacts of reducing the rate of corporation tax

Author (year)	Summary of findings
HMRC and HM Treasury (2013)	Corporate tax reductions of eight percentage points increased investment by 2.5-4.5 per cent and GDP by 0.6-0.8 per cent in the long term. This equates to between £405 and £515 of increases in wages per household.
Arulampalam <i>et al</i> (2010)	A rise of £100 in corporation tax would reduce wages by £49, through a combination of lower wages and fewer jobs.
Djankov <i>et al</i> (2011)	A 10 percentage point reduction in corporation tax increased investment rates by over 2 percentage points, doubled the number of entrepreneurs, and raised company registrations by 20 per cent.
Lee and Gordon (2005)	Lowering corporate tax rates by 10 percentage points was estimated to have led to economic growth increasing by between 1 and 2 percentage points per annum.

Sources: Capital Economics and Office for Budget Responsibility.

# 6. Corporation tax: impact summary

Impact	Impact	Scale of impact	Probability of occurrence
Government revenues	 Mixed	 Uncertain	 High
Spending by consumers	 Positive	 Medium	 Medium
Employment	 Positive	 Large	 High
Economic growth	 Positive	 Large	 Medium

Note: 'Scale of impact' refers to the magnitude of the either positive or negative overall effect on the U.K. economy (through changes in economic variables such as gross value added and/or employment) expected from the tax proposal. 'Probability of occurrence' refers to the likelihood of the realisation of the impact on the U.K. economy, with the direction and magnitude specified, expected from the implementation of the tax proposal.

## Policy 7

Changes to / possible  
overhaul of VAT



# 7. VAT: impact

## Lowering the VAT rate has clearer benefits to the economy than changing the VAT threshold

### A cut in VAT increases buyer spending power

VAT changes have the potential to have significant economic effects. For example, numerous studies have looked into the impacts of a temporary cut in the VAT rate in 2009. These studies find that a temporary cut strengthens consumer spending, and ultimately stimulates the economy. This occurs through two primary channels: an income effect, as people benefit from a lower cost of living; and a substitution effect, as people bring their consumption forward.<sup>1,2</sup>

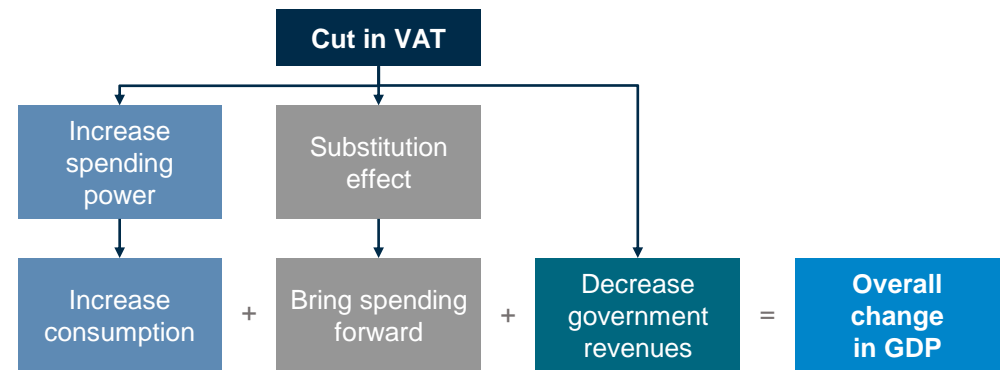
Their findings suggest that a 2.5 per cent fall in VAT translates into a 1.25 per cent increase in spending. The overall impact on gross domestic product is less, with national output likely to be raised by less than half a per cent relative to what would have happened without the VAT decrease. While these studies evaluated the impact of a temporary VAT cut, a more permanent cut would likely see a lower impact due to the lack of a substitution effect. What is more, a change in VAT would only cause a one-off change in output.

### There are large trade-offs in changing the VAT threshold

The impacts of changing the VAT threshold are not as clear cut. Research by the Office for Tax Simplification found that lowering the VAT threshold would reduce the unregistered business population, clear up some of the distortionary impact of 'bunching' and (if lowered to £43,000) raise up to £1.5 billion a year, but also increase compliance costs for a large number of businesses.<sup>3</sup>

On the other hand, increasing the VAT threshold has its own trade-offs. It would simplify the tax obligations for thousands of businesses that deregister, yet would also cut the funds available for public services by between £3 billion and £6 billion a year. Lowering the VAT threshold is the preferred option, and was recommended to Parliament in 2018, yet the government postponed a decision due to political backlash from some business groups.

### Channels through which a temporary VAT cut effects spending, government revenues and economic growth




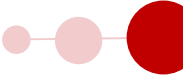
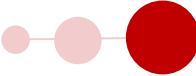




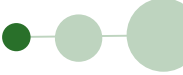


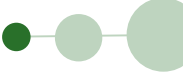

### Trade-offs in making changes to the VAT threshold

Change to VAT threshold	Government revenues	Address 'bunching'	Administrative burden
Decrease VAT threshold	● Increase revenues	● Limited impact – shift point where bunching occurs	● Increase tax compliance costs
Increase VAT threshold	● Decrease revenues	● Limited impact – shift point where bunching occurs	● Produce administrative savings

Source: Capital Economics.



# 7. VAT: impact summary

Impact	Impact	Scale of impact	Probability of occurrence
Government revenues	 Negative	 Large	 High
Spending by consumers	 Positive	 Large	 High
Employment	 Positive	 Small	 Medium
Economic growth	 Positive	 Small	 Medium

Note: 'Scale of impact' refers to the magnitude of the either positive or negative overall effect on the U.K. economy (through changes in economic variables such as gross value added and/or employment) expected from the tax proposal. 'Probability of occurrence' refers to the likelihood of the realisation of the impact on the U.K. economy, with the direction and magnitude specified, expected from the implementation of the tax proposal.

# Policy 8

## Simplification of the current tax system



## 8. Tax simplification: impact

Combing numerous business taxes into one would help companies, and the economy, grow

### Simplification would remove reporting burdens and free small businesses to hire, invest and grow

The administrative burden for small companies when filing taxes is high. Various research estimates suggests that the average spend on 'external support' is estimated to be between £5,000 and £10,000 per annum, while tax administration and compliance costs range from £1,000 to £10,000 per annum for a typical SME. In terms of time spent filing tax, it is estimated that the average small business loses between six days to three working weeks a year to tax compliance. From these studies, we estimate that a single consolidated tax would, on average, save small businesses £7,700 per year and free up twelve days per year for more productive work.

Based on research by the Centre for Policy Studies, if 250,000 companies opted-in to the single consolidated tax, the total administrative saving could amount to £450 million. Additional research found that if business owners devoted 10 per cent more time to activities that helped their companies grow, this would add roughly £4.7 billion a year to the U.K. economy.<sup>2</sup>

### Cross-country evidence shows benefits of consolidated tax













The introduction of a single consolidated tax for small businesses would mark a dramatic change in the taxation landscape in the U.K.. Broadly speaking this policy would result in less reporting errors for HM Revenue and Customs to follow up on, more time and money for firms to invest and grow, ultimately delivering more jobs and stronger economic growth. There is precedent for such a policy in other countries, including South Africa, Hungary, New Zealand, Brazil, Estonia and Latvia. These countries have all adopted more limited versions of the same scheme. Evidence from Latvia reveals that the scheme has seen business participation growth increase, tax revenues rise, and reduce undeclared wage payments.<sup>3</sup>

### Summary of selected estimate of tax administration costs for small businesses

Author / Institution (year)	Summary of findings and estimated administrative costs (annual)
<b>Federation of Small Businesses</b> (2018)	£5,000 total cost (half on external) and 3 working weeks in total.
<b>OMB Research</b> (2018)	£8,400 spent on administrative costs related to filing taxes per year (£48,970 for large businesses). In terms of time spent per month, small firms spent 8.7 days, medium firms spent 15.2 days and large firms spent 29.6 days.
<b>Office of Tax Simplification</b> (2016)	80% of SMEs prefer assigning the corporate tax to agents; 60% feel confident dealing with VAT, PAYE, NICs, business rates and income taxes.
<b>Grant Thornton</b> (2016)	43 per cent of respondents spent £1,000-£5,000 for accountancy services while 15% spent £5,000-£10,000 for accountancy services. 46 per cent of business owners spend 1 to 5 days on tax administration and compliance while 15% spend 6 to 10 days.
<b>Ipsos MORI</b> (2015)	Small business spend roughly £10,000 on administrative costs to file taxes.
<b>Hansford and Hasseldine</b> (2012)	£20,000 total compliance. Three-quarters of in-house costs to recording, calculating and returning information on tax returns.

Source: Capital Economics.

# 8. Tax simplification: impact summary

Impact	Impact	Scale of impact	Probability of occurrence
Government revenues	 Positive	 Small	 High
Spending by consumers	 Positive	 Small	 Low
Employment	 Positive	 Large	 High
Economic growth	 Positive	 Medium	 Medium

Note: 'Scale of impact' refers to the magnitude of the either positive or negative overall effect on the U.K. economy (through changes in economic variables such as gross value added and/or employment) expected from the tax proposal. 'Probability of occurrence' refers to the likelihood of the realisation of the impact on the U.K. economy, with the direction and magnitude specified, expected from the implementation of the tax proposal.

## Policy 9

Establishment of a  
'unilateral free trade'  
model



# 9. Unilateral free trade: impact

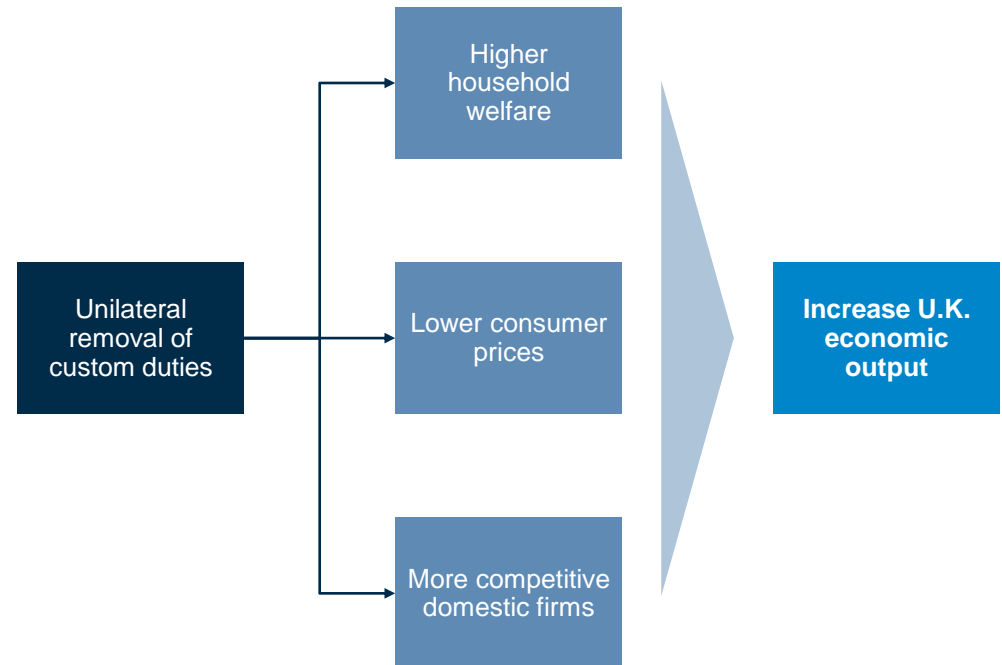
A Unilateral free trade model could be beneficial for individuals, firms and the economy

## The adoption of a 'unilateral free trade' policy could:

- ❖ Lower consumer prices: Consumers in the U.K. would buy goods or services from the cheapest producers, maximising welfare. The U.K. Trade Policy Observatory estimate that unilateral tariff elimination could reduce annual household bills by £130 a year, with a fall in prices of 0.5 per cent.<sup>1</sup> Capital Economics expects a partial unilateral free trade approach (cutting all tariffs to just the 'most favoured nation' rate of 4.4 per cent) to reduce annual household bills by £113 a year, with prices dropping by 0.5 per cent.<sup>2</sup>
- ❖ Increase economic growth: The OECD estimates that a 50 per cent reduction in global tariffs would increase U.K. gross domestic product by 2.6 per cent.<sup>3</sup> Economists for Free Trade estimate that unilateral free trade measures would add about £135 billion per year to the U.K. economy with a rise in gross domestic product higher than five per cent.<sup>4</sup> A paper from Patrick Minford expects this policy to increase the size of the economy by four per cent.<sup>5</sup> According to other papers, this trade model would reduce the cost for the economy from Brexit by 0.3-0.5 per cent of output.<sup>6,7</sup>
- ❖ Boost competitiveness: Although producers could suffer from a removal of the protection of existing tariffs, the Institute for Economic Affairs expects the overall economy to benefit from it, as 85-90 per cent of the economy is currently non-protected.<sup>8</sup> The cost of lower consumer prices could also fall on European exporters, forced to cut prices or lose market share in U.K.. Finally, cheaper imported components could boost competitiveness by reducing costs for domestic producers.


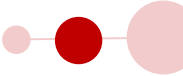
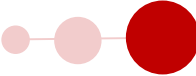

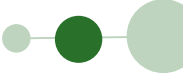


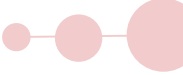


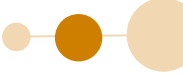

Overall, this model could be net beneficial for the economy, with gains for consumers and productivity offsetting losses for producers and tax revenues (customs duties are currently £3.35 billion).

## Possible positive impacts of a 'unilateral free trade' model



Source: Capital Economics.

# 9. Unilateral free trade: impact summary

Impact	Impact	Scale of impact	Probability of occurrence
Government revenues	 Negative	 Medium	 High
Spending by consumers	 Positive	 Medium	 High
Employment	 Negative	 Uncertain	 High
Economic growth	 Mixed	 Medium	 High

Note: 'Scale of impact' refers to the magnitude of the either positive or negative overall effect on the U.K. economy (through changes in economic variables such as gross value added and/or employment) expected from the tax proposal. 'Probability of occurrence' refers to the likelihood of the realisation of the impact on the U.K. economy, with the direction and magnitude specified, expected from the implementation of the tax proposal.

# Summary of policy assessment based on economic impact



# Summary of policies and economic impacts

The R&D and free ports measures emerge quite strongly in terms of evidence of potential positive economic impacts...

Tax changes	Description	Qualitative impact on U.K. economy	Quantitative impact on U.K. economy (examples)	Scale of impact	Likelihood of impact
1 R&D and IP incentives	Increase research incentives to companies in the form of tax credits	Positive	<ul style="list-style-type: none"> <li>£1.53 to £2.35 of extra research and development expenditure for £1 of tax forgone.</li> <li>A ten per cent increase in research and development expenditure increases gross domestic product by 1.3 per cent.</li> </ul>	Large	High
2 Free ports	Create as many as ten new free ports in the U.K.	Positive	<ul style="list-style-type: none"> <li>70,000 to 612,000 additional jobs.</li> <li>£4.2 to £5.3 billion of extra economic output.</li> <li>£12 billion of extra investment.</li> </ul>	Medium	High
3 Regional corporation tax	Adoption of a regional corporate tax system (with lower tax rates in some regions)	Positive	<ul style="list-style-type: none"> <li>A ten percentage point reduction in the rate of corporation tax raises foreign direct investment by 1.6 per cent.</li> <li>A one per cent increase in foreign direct investment per capita increases gross domestic product per capita by up to 0.29 per cent.</li> </ul>	Large	High
4 Energy tax	Remove or lower tax on a range of energy sectors while addressing climate change	Uncertain	<ul style="list-style-type: none"> <li>There is a trade-off between generating government revenues from lowering VAT on certain energy products and meeting climate change targets.</li> </ul>	Small	Medium
5 Income tax	Lower rate of income tax or raise thresholds subject to higher rates	Positive	<ul style="list-style-type: none"> <li>Study estimates that the revenue maximising top rate of income tax is around 36 per cent.</li> <li>A one percentage point tax reduction increases economic output by 1.4 per cent over two years.</li> <li>Longer term impacts of income tax cut insignificant.</li> </ul>	Large	Medium

# Summary of policies and economic impacts (cont'd)

...as do the corporation tax measures. For others, evidence tends to be weaker

Tax changes	Description	Qualitative impact on U.K. economy	Quantitative impact on U.K. economy (examples)	Scale of impact	Likelihood of impact
6 National corporation tax	Lower corporation tax, to 15% or even lower	Positive	<ul style="list-style-type: none"> <li>❖ Past corporate tax reductions increased GDP by between 0.6% and 0.8% in the long term.</li> <li>❖ Cutting corporate tax rates by 10 percentage points increases GDP by between 1 and 2 percentage points.</li> </ul>	Large	Medium
7 VAT	Lower the standard VAT rate or reduce the VAT registration threshold	Uncertain	<ul style="list-style-type: none"> <li>❖ Lowering the standard VAT rate would increase business' and households' spending power, increasing consumption and economic output.</li> <li>❖ Reducing VAT threshold would raise up to £1.5 billion for the exchequer, yet increase compliance costs.</li> </ul>	Medium	High
8 Tax simplification	Combine a set of taxes currently paid by businesses into one tax	Positive	<ul style="list-style-type: none"> <li>❖ The complexity of the U.K. tax code results in costs for the government and businesses.</li> <li>❖ A single consolidated tax could save small businesses roughly £450 million and add £4.7 billion a year to the U.K. economy.</li> </ul>	Medium	Medium
9 Unilateral free trade	Adoption of a unilateral free trade model with the removal of all tariffs on imports	Uncertain	<ul style="list-style-type: none"> <li>❖ £3.35 billion drop in tax revenues.</li> <li>❖ £130 extra per year to households.</li> <li>❖ £135 billion extra per year to the economy.</li> <li>❖ 0.5% decrease in consumer prices.</li> </ul>	Small	High

Contextual considerations and analysis of policies

# Contextual considerations and analysis

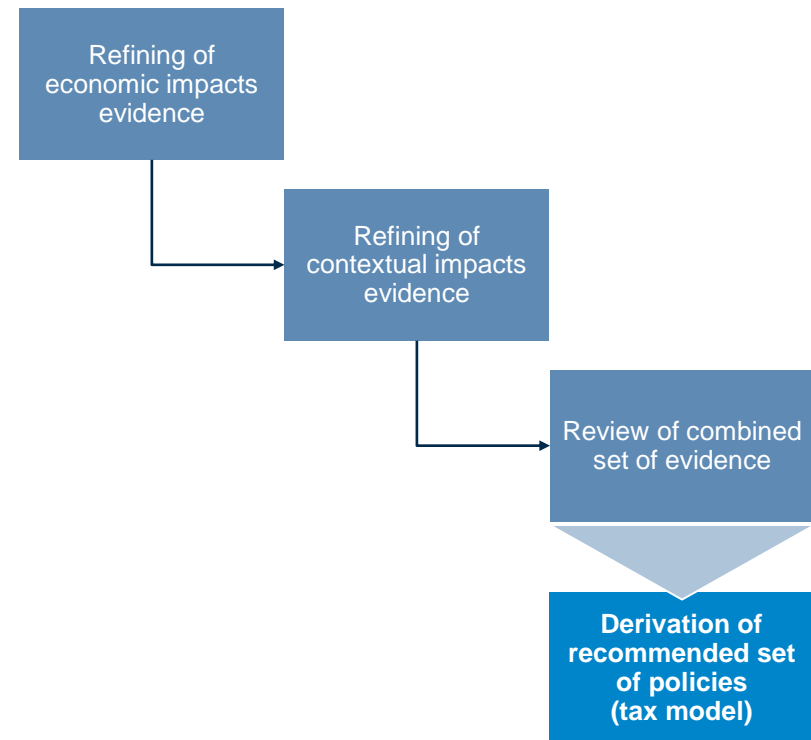
## Overview of wider contextual analysis methodology

Beyond the economic assessments, it became clear to us that the policy options cannot but be truly assessed except by considering the specific context in which they could be introduced in the U.K. in the early 2020s. Elements of that context include:

- ❖ **Compatibility.** It is important to consider whether some of the options may conflict or be incompatible with others. Even if not directly so, there could be implications of one policy change for another, such that one may need to be delayed or modified to work alongside the other. Or it could be that both could be enacted, but may significantly negate the impacts of each other.
- ❖ **National situation.** A policy may be found to be beneficial across a range of countries in the research literature. However, the specific situation of the U.K. today may suggest that impacts are less likely to be significant, or could be reversed.
- ❖ **Non-output / non-consumption goals.** These are cases where a policy is intended to achieve a socially desirable outcome that would not be captured in national income and consumption statistics. In today's context, this primarily means environmental goals, but could also refer to equity / 'tax fairness' objectives.
- ❖ **Political constraints.** Some policies may be politically sensitive and require careful implementation to be successful. By this, we do not mean whether the policies may pass the current Parliament (they may or may not), but rather whether care may need to be taken to ensure that they are not controversial when in effect.

Over the following slides, we combine our economic assessment with a consideration of these wider contextual factors. We then distil the best combination of proposals from the nine, based on the impacts identified. This combination constitutes our proposed tax model. We also consider how the policies should be best implemented.

## Summary of Capital Economics' methodology



Source: Capital Economics.

# 1. Increase in the provision of R&D and IP incentives

Contextual considerations and analysis

# 1. R&D and IP incentives: context

## European state aid rules influence the provision of incentives to SMEs

### Since their introduction, R&D tax incentives have increased in popularity

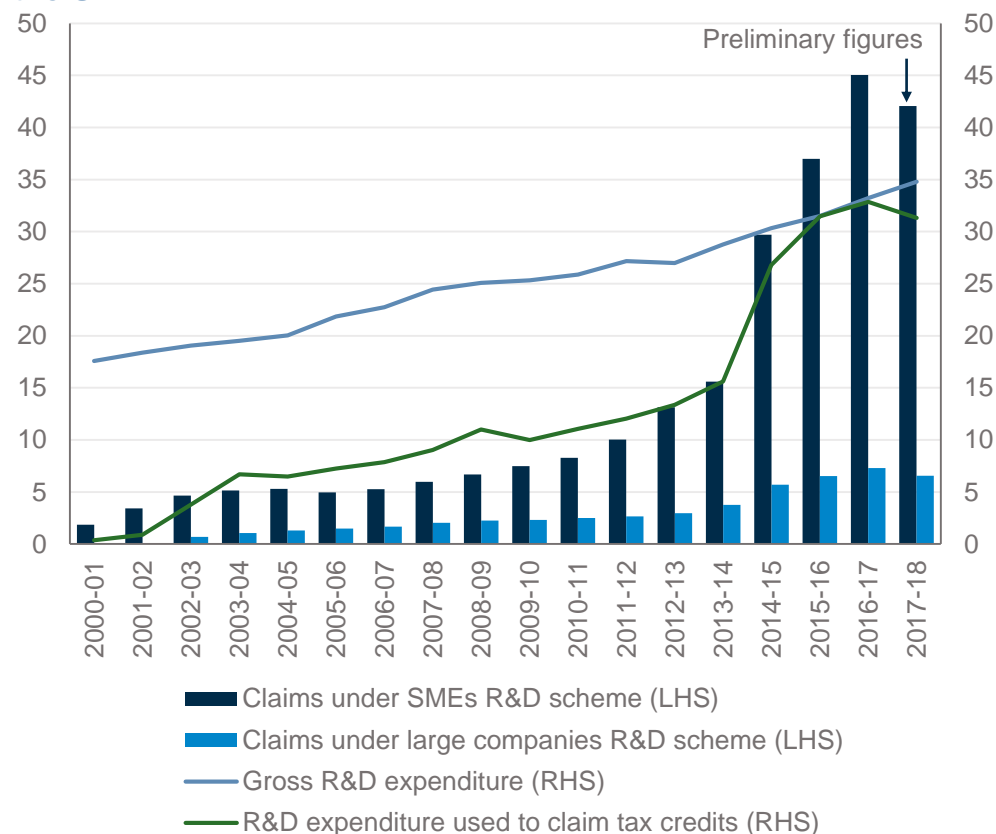
U.K. tax incentives for companies investing in research and development were introduced for SMEs in 2000-01 and extended to larger companies in 2002-03. Small and medium enterprises can claim relief for all their qualifying expenditure in a given accounting period in the form of an enhanced deduction when calculating their taxable profits. From 2013, the large company provisions were replaced with the research and development expenditure credit scheme, enabling companies with no corporation tax liability to benefit via a cash payment or a reduction in tax or other duties due. A Patent Box regime was also introduced in 2013, providing for a lower (ten per cent) corporation tax rate on income deriving from the exploitation of patents.

Since their implementation, the number of relief claims from small and medium enterprises has been on an upward trend, growing from 1,860 in the 2000-01 fiscal year to over 45,000 in the 2016-17 fiscal year. (See chart.) Claims for relief by large companies have grown less rapidly. However, the introduction of the expenditure credit scheme in 2013 has provided a recent boost and helped narrow the gap between expenditure used to claim tax credits and total R&D expenditure in the U.K.. Between 2002/03 and 2016/17, real and nominal research and development expenditure rose by over 30 and 70 per cent, respectively.

### EU state aid rules influence the U.K.'s support for R&D

In the European Union, many member state targeted government incentive schemes are classified as state aid under European law. The small and medium-sized enterprises R&D tax incentives scheme in the U.K. is classed as a notified state aid. As such, changes to it were subject to the approval of the European Union.

### Number of claims for the research and development tax credit ('000s) and research and development expenditure (£ billion) in the U.K.



Sources: Capital Economics, U.K. Government and Office for National Statistics.

# 1. R&D and IP incentives: change

After Brexit, the U.K. could increase support to innovation through greater incentives

## The U.K. will have more freedom for incentives

No longer bound by the need to secure the approval of the European Union for targeted incentives, the U.K. is now able to decide on the extent and targeting of research incentives.

In this context, the government could decide to target some specific geographies, technologies or sectors to enhance the impacts of the measures. It could also give tax credits along with different forms of incentives to the same project to encourage growth and innovation. A tax credit offers some money off a company's tax bill or a specific cash amount, which could be invested in R&D activities.

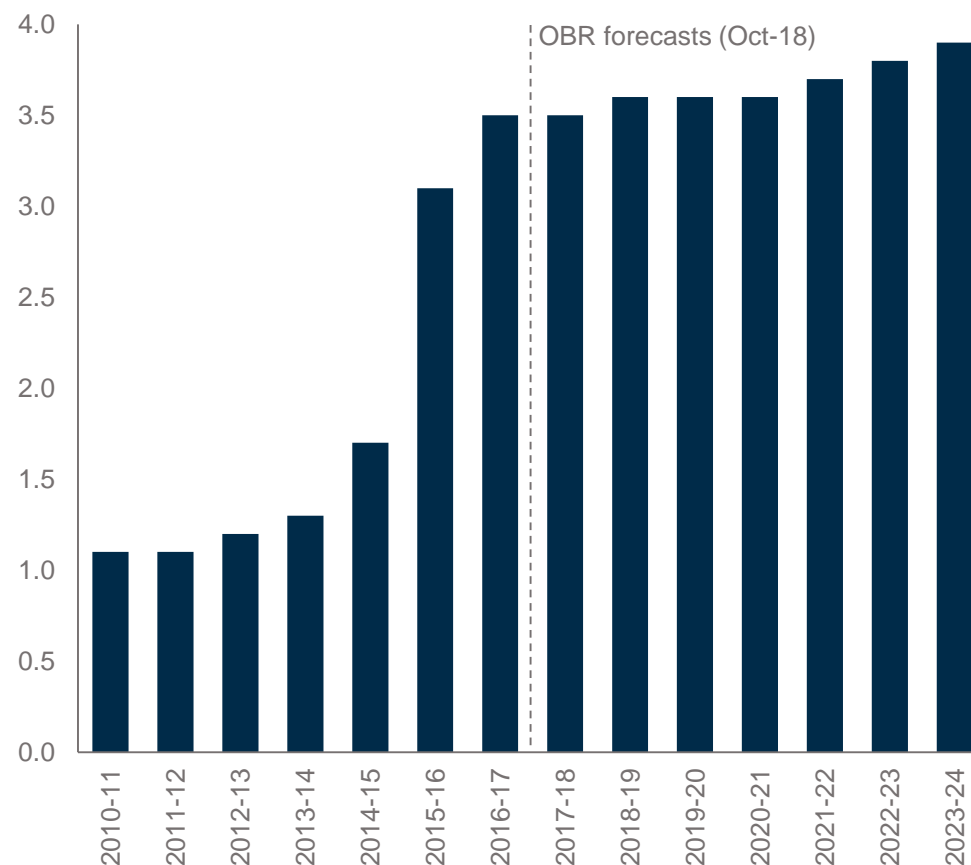
Further incentives could be provided through a reduction in the Patent Box regime corporate tax rate. Overall, greater incentives in the form of tax credits or lower corporate tax rates on income derived from the exploitation of patents are likely to be beneficial for firms, and could be targeted at small and medium-sized enterprises in particular, signalling more support for innovation.

## The government intends to boost support for innovation

Although the U.K. spends close to the EU average on R&D as a share of gross domestic product (1.7 per cent), France (2.2 per cent) and Germany (3.0 per cent) currently spend more. The government's long-term industrial strategy aims to boost innovation by raising research and development investment to 2.4 per cent of gross domestic product by 2027 and increased incentives and funding must form part of that strategy.

The Office for Budget Responsibility forecasts a rise in R&D tax credits of £300 million between 2017-18 and 2023-24 (see chart) and the Conservative manifesto pledged to increase them further..

## Office for Budget Responsibility forecasts for research and development tax credits (£ billion – 2018)



Sources: Capital Economics and Office for Budget Responsibility.

## 2. Creation of free ports

Contextual considerations and analysis



## 2. Free ports: context

### European Union rules limited member states' use of free ports

#### Free ports existed in the U.K. before 2012

Free ports (or free zones, if not applied to a port) are maritime ports or airports where normal tax and customs rules do not apply. At a free port, imports can enter without paying tariffs and with simplified customs documentation and regulation.

U.K. free zones were first introduced in 1984, when areas of Birmingham, Belfast, Cardiff, Liverpool, Prestwick and Southampton were designated to become the country's first free zones. (See map.) In July 2012, the country stopped renewing licenses for free zones and reintroduced enterprise zones – designated areas that provide tax breaks and government support, aimed at increasing new business start-ups and creating new jobs. Currently, there are 61 enterprise zones across the country. A free port remains in operation on the Isle of Man, which is outside the European Union.

#### European Union rules limited operation of free ports

For European Union members the operation of free zones and enterprise zones must be compliant with European Union state aid rules, which generally prohibit member states' governments from providing support to certain companies over their competitors. As a result, this constrains the abilities of member states to set up free zone and enterprise zone operations – which would provide support to businesses in these areas compared to those outside.

These rules also mean it is more difficult for businesses to engage in 'tariff inversion', where the duty rate for the finished good is lower than the one for the component parts. As tariffs on component parts are often higher than tariffs on finished goods, it can be advantageous for a business to transport components to a free port, turn them into finished goods and then import those finished goods into the rest of that country with a lower tariff.

#### Free zones in the U.K. before 2012



Source: Capital Economics.

## 2. Free ports: change

After Brexit, the current U.K. government intends to create new free ports across the country

### New free ports have already been proposed

Free ports provide advantages to companies operating within them as the firms can benefit from deferring the payment of taxes until their products are moved elsewhere, or can avoid them completely if they store or manufacture on site before exporting again.

Prime Minister Boris Johnson's government has already stated its intention to create as many as ten new free ports in the U.K. as a way to boost the post-Brexit economy. The government has launched a free ports advisory Panel where the model of reference is the 'Singapore-style' free port, with no import taxes for goods entering the free ports and simplified regulation for firms to stimulate investments and jobs.

The focus is expected to be on the geographic areas that would benefit the most from enterprise relocation and the creation of businesses and high skilled jobs expected from it. Places such as Teesport and the Port of Tyne in northeast England, Milford Haven in Wales and London Gateway have already expressed an interest in becoming free ports.

### Free ports would build on existing domestic port strengths

Other countries already provide examples to follow. In the United States, the implementation of free zones in 1984 was justified by the opportunity to use inverted tariffs to lower duty rates on imported parts, particularly cars, petroleum and consumer electronics.

For the U.K. economy, ports are already a vital strategic asset, accounting for 96 per cent of all trade volumes and 75 per cent of trade value. Therefore, free ports would build on the strength of existing port infrastructure, made up of dozens of successful, large-sized ports. As in the United States, for some sectors tariff inversion savings could be realised, albeit limited. (See table.)

### The five European Union sectors with the highest tariff wedge on intermediate goods versus final goods

Sector	EU MFN tariff on intermediate goods (A)	EU MFN tariff on final goods (B)	Tariff Wedge A-B	U.K. imports of intermediate goods in this sector (US\$m) (share of total U.K. imports)
Manufacture Starches and starch products	34.5%	7.4%	27.2%	564.3 (0.2%)
Manufacture of dairy products	47.4%	39.9%	7.5%	270.1 (0.1%)
Manufacture of prepared animal feeds	36.9%	30.0%	6.9%	513.3 (0.2%)
Manufacture of consumer electronics	6.6%	3.8%	2.8%	425.3 (0.1%)
Manufacture of furniture	2.6%	0.4%	2.2%	1,656.7 (0.6%)

Source: Capital Economics.

# 3. Introduction of a regional corporate tax system

Contextual considerations and analysis

# 3. Regional corporation tax: context

A regional corporate tax system was not allowed under EU regulations

## In the EU corporate tax rates are set at the national levels

In every European Union member state, a corporation tax is paid by various types of companies, clubs, co-operatives and unincorporated associations on profits from doing business. The rules on corporate tax are set by national authorities and can be different for each member state, with effective corporate tax rates ranging from nine per cent in Hungary to 33 per cent in France.

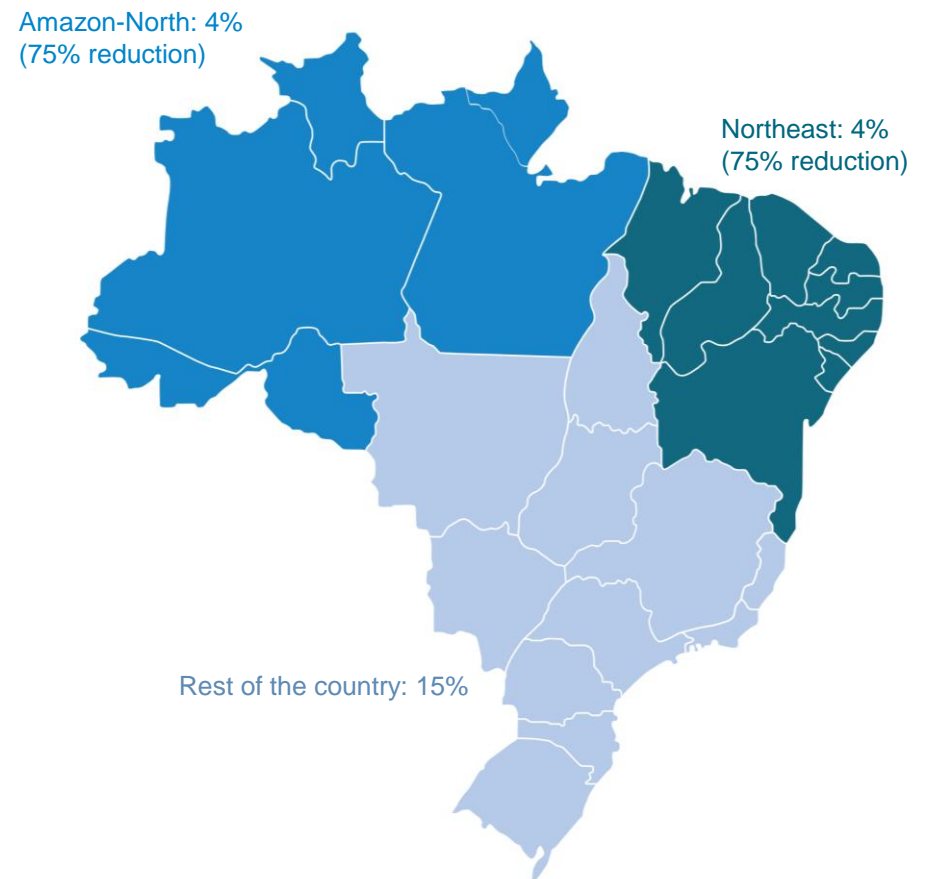
The European Union currently limits the possibility for member states, such as the U.K., to introduce a regional corporate tax system, which would allow countries to incentivize the growth of firms, jobs and economic activity in less developed regions. Limitations from the European Union law result from its principles of fundamental freedoms, harmonisation of the corporate tax rate, avoidance of harmful corporate tax measures and limitations on state aid. The European regime on state aid prevents member states' central governments from compensating the loss of revenue from lower regional corporate taxes, reducing the attractiveness of this type of measures.

## Regional systems have been adopted in other countries

When the option of a different corporate tax was first considered for Northern Ireland, one of the key issues was the interaction with European rules which required the region to bear the economic consequences of the reduction in local corporate tax receipts.

In Brazil, tax incentives such as corporate income tax reductions have been given to firms located in remote regions. (See map.) This helped to facilitate the creation of socioeconomic bases there, with new businesses and jobs. The Manaus free trade zone in Amazonia is an example of this development model. Around 100,000 jobs in western Amazonia are directly related to the development of the Manaus free trade zone.

## Corporate income tax regional incentives in Brazil, 2019



Sources: Capital Economics and Organisation for Economic Co-operation and Development.

# 3. Regional corporation tax: change

The regional corporate tax rates could be lowered in less developed U.K. regions

## Regional economic disparities threaten the U.K. economy

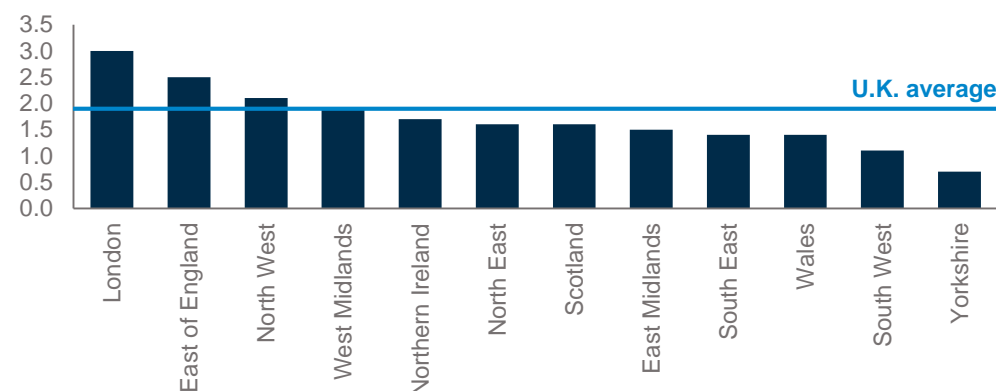
According to an independent inquiry by the U.K.2070 Commission, a huge divergence still exists between the U.K.'s best and worst performing regions.<sup>1</sup> These regional inequalities are believed to threaten economic performance and opportunities in parts of the country, unless action is taken. The Commission explains that much of the disparity is due to the fact that the U.K. is one of the most centralised western democracies, concentrating most government activity and much of its public expenditure in the capital. (See top chart.)

As outlined by a 2017 report from the Centre for Economic Performance, although rates of creation and liquidation of companies seem to be evenly spread across the regions, significant differences in terms of productivity and innovation remain.<sup>2</sup> (See bottom chart.) The U.K.2070 commission estimates that the richest region – London – has a 50 per cent higher level of productivity than any other region and that this regional productivity gap costs the national economy £40 billion.

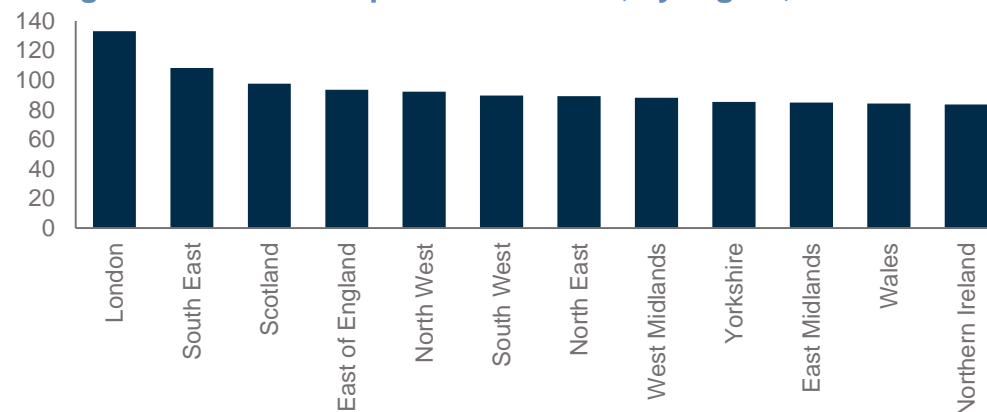
## After Brexit, tax rates could be lowered in specific regions

The introduction of a regional corporate tax system could help to mitigate regional economic imbalances. By lowering the corporate tax rates in less prosperous regions, for example Northern Ireland, Wales and the North East, the government could encourage firms to relocate in these parts of the country. New investments would increase the size of the capital stock, and productivity, output, wages and employment would grow. As a result, this could help to narrow regional economic and productivity disparities.

Annual growth of real gross value added by region (per cent), 2017



Labour productivity relative to the U.K. average, measured by the gross value added per hour worked, by region, 2019



Sources Capital Economics and Office for National Statistics.

## 4. Changes in the energy tax

Contextual considerations and analysis

# 4. Energy taxes: context

## The U.K. is currently limited in its ability to alter taxes on energy

### The U.K. is bound by EU directives when setting rates for energy taxes

Energy taxes in the U.K. are levied within the framework of the European Union's Energy Tax Directive, which sets the minimum rates for the taxation of energy products across member states. This applies to energy products for fuel, transport and electricity. Aircraft fuel is exempt from excise duty.

The main taxes on energy use in the U.K. are: the Climate Change Levy (CCL); Fuel Duty; and the Carbon Price Floor (CPF). The CPF is a U.K. government policy implemented to support the U.K.'s participation in the European Union Emissions Trading System (ETS). (See upper-right figure.)

Businesses that pay the standard rate of VAT (twenty per cent) are also charged the CCL, while those that are charged the reduced rate of VAT at five per cent do not pay the CCL. As a member of the European Union, the U.K. must have VAT on energy at either five per cent or the standard rate, and it cannot be zero-rated or exempted.

### The country is dedicated to addressing climate change

The U.K. was one of the first countries to take action on the threat of climate change and has been among the most successful at growing its economy while reducing emissions. Since 1990, emissions have been cut by over 40 per cent whilst the economy has grown by 75 per cent. (See lower-right figure.)

Under the Climate Change Act of 2008, policymakers in the U.K. had set a target to reduce emissions by 80 per cent by 2050. This target was amended to be net-zero in May 2019.

### Summary of main taxes on energy use in the U.K.

#### Climate Change Levy (CCL)

This applies to solid fossil fuels, natural gas, liquefied petroleum gas and electricity when supplied to businesses and public sector uses.

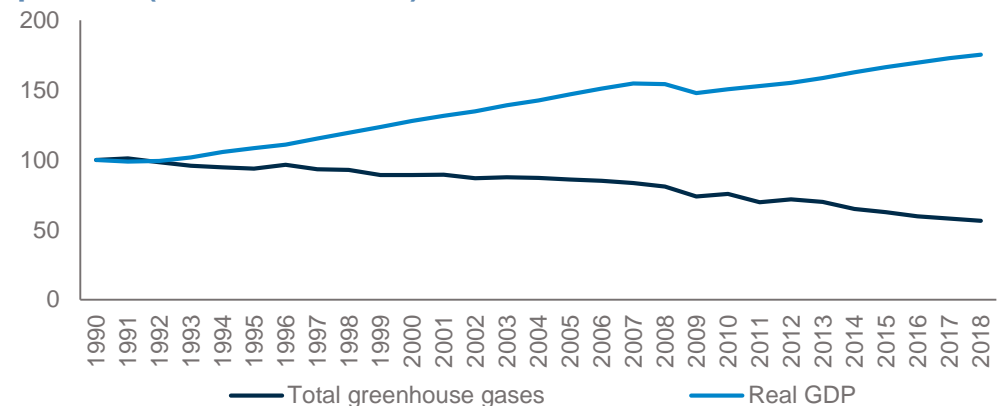
#### Fuel Duty

This applies to liquid fuels, liquefied petroleum gas and natural gas when used as motor and heating fuels.

#### Carbon Price Floor (CPF)

This taxes fossil fuels used to generate electricity via Carbon Price Support rates set under the CCL.

### U.K. greenhouse gas emissions and U.K. real gross domestic product (index 1990 = 100)



Sources: Capital Economics and the Department for Business, Energy & Industrial Strategy

## 4. Energy taxes: change

Most of the change to energy tax relate in some capacity to improving environmental outcomes

### There are a range of options to change energy taxes

After Brexit, the U.K. could remove or lower tax on a range of energy sectors, in a way that simultaneously supports the country's commitment to addressing climate change.

- ❖ One option would be to remove the five per cent VAT rate on domestic electricity, gas and other fuels.
- ❖ Alternatively, policymakers could cut VAT only on electricity, but not gas and other fuels in an effort to help the coming transition to low-carbon forms of heating, as well as to incentivise the use of electric vehicles.
- ❖ Other options include cutting VAT on electricity produced from zero-carbon sources, while at the same time increasing taxes on fossil fuels, including coal and gas through some form of carbon price. The Committee on Climate Change recommends the U.K. maintain a carbon trading system linked to the EU Emissions Trading System, with a rising price as we approach 2050 to reflect the net-zero goal and interim targets.
- ❖ Under a no-deal Brexit, the U.K. planned to introduce a domestic tax of £16 per tonne of CO<sub>2</sub> emitted from power stations and industrial sites to help meet emissions targets. This would replace the levies under the EU Emissions Trading System, which the U.K. would have automatically left under a no-deal scenario and could still leave in future.
- ❖ Another option would be for the government to take a fixed sum off households' energy bills. In 2014 and 2015, the government used a 'Government Electricity Rebate' to reduce peoples' energy bills by £12, at the Treasury's expense.

### Potential changes to the U.K.'s energy taxes

**Remove**  
the 5% VAT on  
domestic electricity,  
gas and other fuels

**Cut or remove**  
VAT on electricity,  
but not gas and other  
fuels

**Cut or remove**  
VAT on electricity  
and increase tax on  
fossil fuels

**Increase**  
the carbon tax  
to help the U.K. meets  
its legally binding  
carbon reduction  
targets

**Remove**  
a fixed sum  
from households'  
energy bills

Source: Capital Economics.



## 5. Lower income tax

Contextual considerations and analysis

## 5. Income tax: context

Income tax rates have been steadily declining over the past forty years

### Income tax is the largest contributor to the Exchequer

Income tax is the largest single contributor to the Exchequer, accounting for roughly one quarter of all government tax receipts. It raised £191.0 billion in 2018-19, the highest level ever and an increase of 6.1 per cent from the previous tax year.

From 2019-20, income tax is charged at three rates: the basic rate of 20 per cent, applicable to taxable income up to a threshold of £37,500; the higher rate of 40 per cent applicable to income in excess of the basic rate threshold up to £150,000; and the additional rate of 45 per cent for all earned income above that. In addition, most individuals are entitled to a personal allowance, an amount of income one can receive free of tax each year. For 2019-20, the standard allowance is £12,500.

The U.K.'s income tax regime has evolved considerably over the past forty years, with income tax rates steadily decreasing over time. While the personal allowance has increased in real terms, the point at which individuals start to pay the higher rate of tax has actually fallen. Overall, the total effective higher rate threshold has remained relatively stable. (See tables to the right.)

### The optimal rate of tax has been heavily debated

The optimal rate of tax – that which generates the most revenue for government while at the same time being equitable across the earnings spectrum – has been heavily debated. While raising income taxes may raise revenue in the short term, high taxes often incentivise higher earners to take steps to minimise their exposure. The Cebr has estimated that the revenue maximising top rate of income tax is around 36 per cent.<sup>1</sup>

The ability for the U.K. to modify its income tax regime is not restrained by its membership to the European Union.

### History of income tax rates on earned income for selected periods in the U.K.

	Starting rate	Basic rate	Higher rates
1978-79	25%	33%	40%-83%
1980-81 to 1985-86	--	30%	40%-60%
1987-88	--	27%	40%-60%
1988-89 to 1991-92	--	25%	40%
1992-93 to 1995-96	20%	25%	40%
2000-01 to 2007-08	10%	22%	40%
2008-09 to 2009-10	--	20%	40%
2010-11 to 2012-13	--	20%	40%-50%
2013-14 to 2019-20	--	20%	40%-45%

### Personal allowance, basic-rate limit and effective higher rate threshold including personal allowance in real terms (£ per annum, 2019 prices)

	Personal allowance	Basic rate limit	Combined threshold
1998-99	£6,329	£40,884	£47,213
2003-04	£6,472	£42,774	£49,246
2008-09	£7,531	£43,426	£50,957
2013-14	£10,340	£35,063	£45,404
2018-19	£12,025	£35,010	£47,035
2019-20 (current policy)	£12,500	£37,500	£50,000
2019-20 (proposed policy – Boris Johnson)	£12,500	£67,500	£80,000

Sources: Capital Economics, HM Revenue & Customs and the House of Commons.

# 5. Income tax: change

There are a range of policies which could be enacted to lower income tax further

## Lowering income tax can occur through various channels

The U.K. could decide to make further cuts to income tax post-Brexit. Lowering income tax can occur through a number of channels, from raising the personal allowance (the amount of income that is tax-free) and raising the higher rate threshold (so that a greater share of individual's income is taxed at a lower rate) or simply lowering the rates of tax themselves. (See upper-right figure.)

## Recent proposals focus on raising the high rate threshold

In his bid to become leader of the Conservative Party and therefore for Prime Minister, Boris Johnson announced intentions to raise the threshold subject to the higher rate of income tax to £80,000. This means that any taxable income between £50,000 and £80,000 is subject to the basic rate of 20 per cent, rather than the higher rate of 40 per cent.

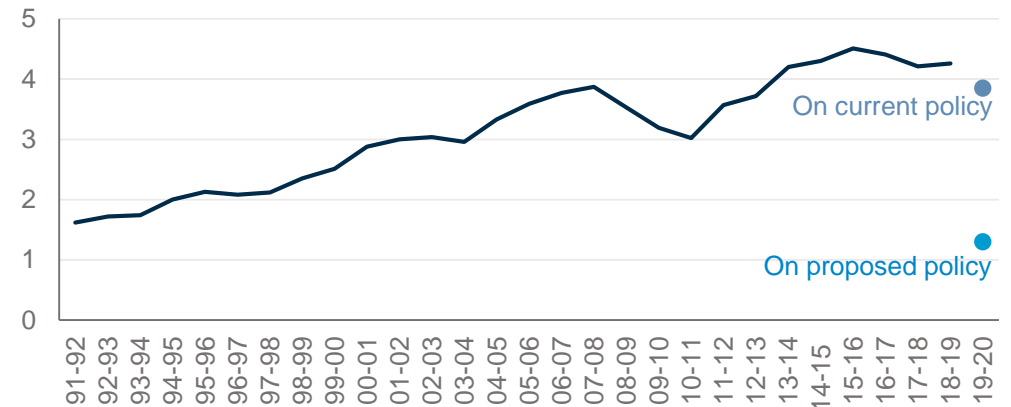
This proposed change would represent one of the largest changes to our income tax system in recent history. While meaningful changes have been made over the past few decades, this policy change is consequential as it will have a large impact on the number of higher rate taxpayers.<sup>1</sup>

The number of people paying higher rates of tax has increased dramatically over the last thirty years, from 1.6 million individuals in 1991-92 to 4.3 million in 2018-19. In 2019-20, the high rate threshold was increased to £50,000, which will lower the number of taxpayers paying a higher rate at just under four million. Estimates by the Institute for Fiscal Studies reveal that if this threshold were increased to £80,000, and taxpayers did not change their behaviour, the number of higher rate taxpayers would fall by about two-thirds, to 1.3 million. This would be the lowest figure since the individual tax system was introduced in 1990.<sup>2</sup> (See lower-right figure.)

## Primary channels for lowering income tax in the U.K.

- 1 Raising the personal allowance
- 2 Raising the higher rate threshold
- 3 Lowering the basic income tax rate
- 4 Lowering the higher income tax rate
- 5 Lowering the additional income tax rate
- 6 Remove income tax for lower earners altogether

## Number of higher rate taxpayers in the U.K. under current and Boris Johnson's proposed policy (million people)



Sources: Capital Economics and HM Revenue & Customs.

## 6. Lower corporation tax rate

Contextual considerations and analysis

# 6. Corporation tax: context

## The U.K. has a competitive corporate tax rate but a less competitive base

### Corporation tax rates have been driven to historic lows

The global tax model has moved away from the old landscape of simple revenue generation to a new one characterised by large industrial countries adopting competitive tax regimes in order to attract investment.

Corporation tax is one of the main tools a government has to promote economic growth, investment and jobs over the long run. It is also an important source of competitive advantage in a globalised world, where increasingly footloose individuals and multinational corporations have more choice in deciding how to manage their assets. As the corporate tax base has become more mobile, countries have been offering increasingly lower tax regimes to attract these activities and investments to their jurisdictions.

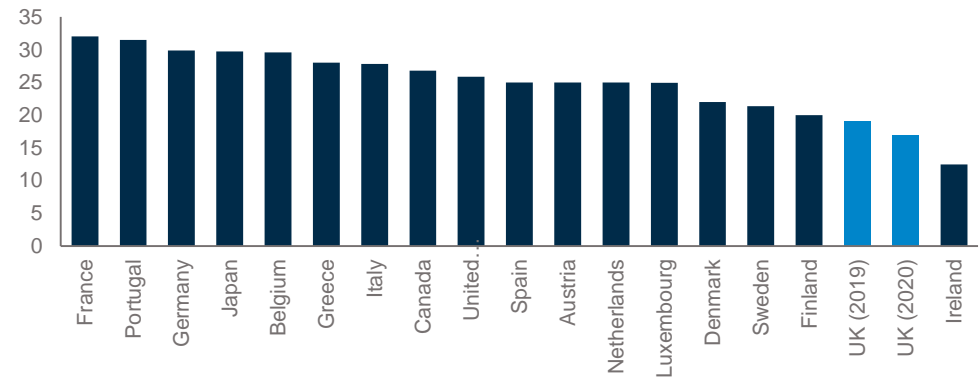
### The U.K. has a competitive corporate tax rate

The main rate of corporation tax in the U.K. is 19 per cent. The U.K. has the lowest headline corporation tax rate in the G7, and the second lowest rate in the European Union-15. (See upper-right figure.)

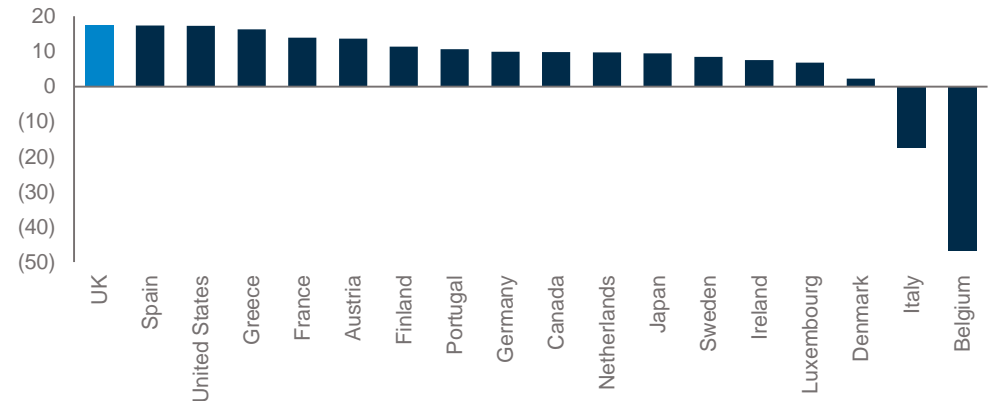
Compared with other countries, the U.K. has a less competitive tax base, as seen in its relatively high effective marginal tax rate. (See lower-right figure.) This measure reflects the tax rate that would be paid on new investment, and is largely due to the U.K.'s rules on capital allowances.

While the ability for the U.K. to modify its corporate tax rate is not directly restrained by its membership to the European Union, current tax laws must not be seen as discriminatory under the European Commission treaties.

Main corporation tax rate across G7 and European Union-15 countries (per cent, 2019)



Effective marginal tax rate across G7 and European Union-15 countries (per cent, 2017)



Sources: Capital Economics and Organisation for Economic Co-operation and Development.

# 6. Corporation tax: change

## Rates of corporation tax could be cut even lower, to compete with neighbouring Ireland

### The U.K. could cut corporation tax rates...

Post-Brexit, the U.K. will have more freedom in setting its corporate tax rate. The most obvious reform would be to reduce the headline corporation tax rate even further. While the rate was scheduled to decrease to 17 per cent in 2020, the current government has shelved this cut for the time being, yet policymakers could make a more dramatic cut in the future.

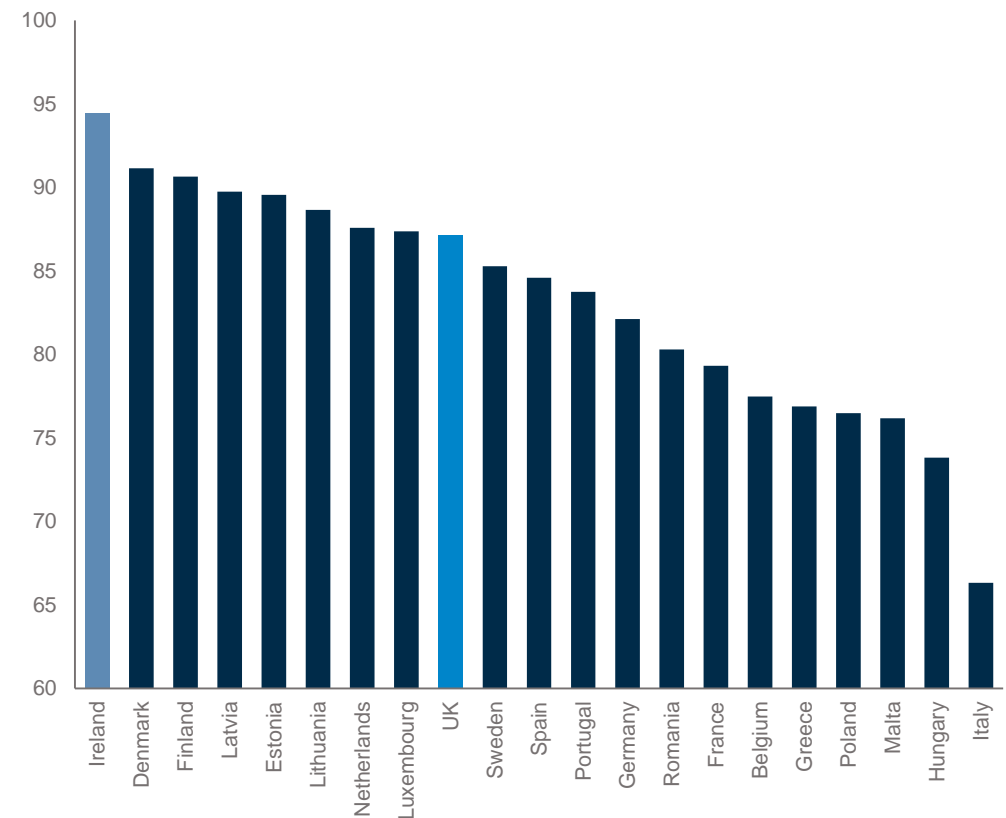
### ...ensuring the country's competitiveness post-Brexit

Tax competition is more prevalent between countries with similar attributes. For example, the tax systems of the U.K., Ireland and the Netherlands differ substantively from those in Germany and France. The former, more open economies, rely more heavily on inward investment and capital flows while the latter, more closed and typically larger countries, rely on industrial policy, state intervention and more protectionist measures.

In 2016, George Osborne announced plans to cut corporation tax to less than 15 per cent in a bid to encourage businesses to invest in the U.K. following Brexit. Yet this could go even further, to compete with neighbouring Ireland, where the main rate of corporation tax is 12.5 per cent.

The introduction of the 12.5 per cent rate in Ireland in the early 2000s opened up the country's doors to other sectors outside of financial services and manufacturing and helped pave the way for it to become a major hub for innovative technology firms. Ireland consistently ranks first globally for high-value foreign direct investment flows and has one of the most efficient systems for paying business taxes in the European Union – and fourth most efficient worldwide.<sup>1,2</sup> (See figure to the right.) The U.K. could take a lead from Ireland's experience.

World Bank's 'Paying Taxes' score for European Union countries (index, 2019)



Sources: Capital Economics and the World Bank. Note: 'Paying taxes' score is an index created by the World Bank and PwC that assesses countries tax rates, time needed to comply with major taxes and the number of tax payments.

# 7. Changes to / possible overhaul of VAT

Contextual considerations and analysis

# 7. VAT: context

## Under EU law, the U.K. is constrained in its ability to set domestic VAT rates

### VAT is the only fully harmonised European Union tax

Value Added Tax (VAT) is a tax on consumer expenditure which is collected on imports and business transactions. It is levied on goods and services at each stage in the supply chain with a business typically receiving a credit for the VAT charged to it.

The U.K. was obliged to introduce VAT when it joined the European Economic Community in 1973, in an effort to facilitate the free movement of goods and services within the single market. As such, the U.K.'s VAT system currently operates within the parameters set by the European Union VAT Directive.

### Members must set VAT rates within specified boundaries

While the Directive applies to all European Union member states, local VAT rules across member states are not always consistent. Each country sets a standard rate applying to most supplies, and there are allowances to apply a reduced rate for a maximum of two specified goods. Normally, rates cannot go below five per cent, yet a further reduction of the VAT rate (zero-rate) is allowed for certain goods under special circumstances. The standard rate of VAT in the U.K. is currently twenty per cent. A reduced rate of five per cent and a zero-rate also apply to particular items.

When the U.K. leaves the European Union, it will no longer be bound by the bloc's Directive and can amend the VAT rules as it sees fit. How VAT applies to goods and services traded with the remaining 27 member states could be subject to change. When the U.K. leaves the European Union VAT area after a transition period, it will become a third country and supplies of goods crossing international borders will become imports and exports, thus attracting import VAT and customs and excise duties.

### U.K. VAT rates for goods and services

Rate	% of VAT	Applies to
<b>Standard rate</b>	20%	<ul style="list-style-type: none"> <li>Most goods and services.</li> </ul>
<b>Reduced rate</b>	5%	<ul style="list-style-type: none"> <li>Power (electricity, gas etc.), heating, energy and energy saving materials and equipment.</li> <li>Mobility aids for the elderly.</li> <li>Smoking cessation products – nicotine patches and gum.</li> <li>Maternity pads and sanitary protection products.</li> </ul>
<b>Zero Rate (or exempt)*</b>	0%	<ul style="list-style-type: none"> <li>Food and drink for human consumption.</li> <li>Animals, animal feed, plants and seeds.</li> <li>Sport, leisure, culture and antiques.</li> <li>Health, education, welfare and charities.</li> <li>Water utilities.</li> <li>Building and construction, land and property.</li> <li>Transport, freight, travel and large vehicles (excluding cars).</li> <li>Printing, postage, publications – books, magazines and newspapers.</li> <li>Clothing and footwear, protective and safety equipment.</li> <li>Financial services and investments, insurance.</li> </ul>

Sources: Capital Economics and HM Revenue and Customs. \*Note: items in zero rate or exempt column are subject to exceptions.



# 7. VAT: change

## The U.K. may wish to lower VAT rates or change the VAT threshold post-Brexit

### VAT is an important, efficient and effective revenue raiser

Current technical guidance by the government indicates they expect the U.K. to continue to have a VAT system after Brexit, as it is generally viewed as an efficient and effective way of raising revenues. VAT is the third largest source of tax revenue collected, with £132 billion earned in 2018-19, equivalent to roughly one fifth of all tax receipts. These revenues are vital for funding public services.

While abolishing VAT altogether is an unlikely option, officials are more likely to make changes to the VAT regime itself. They will have more freedom and flexibility to assign particular rates and exemptions to certain goods.

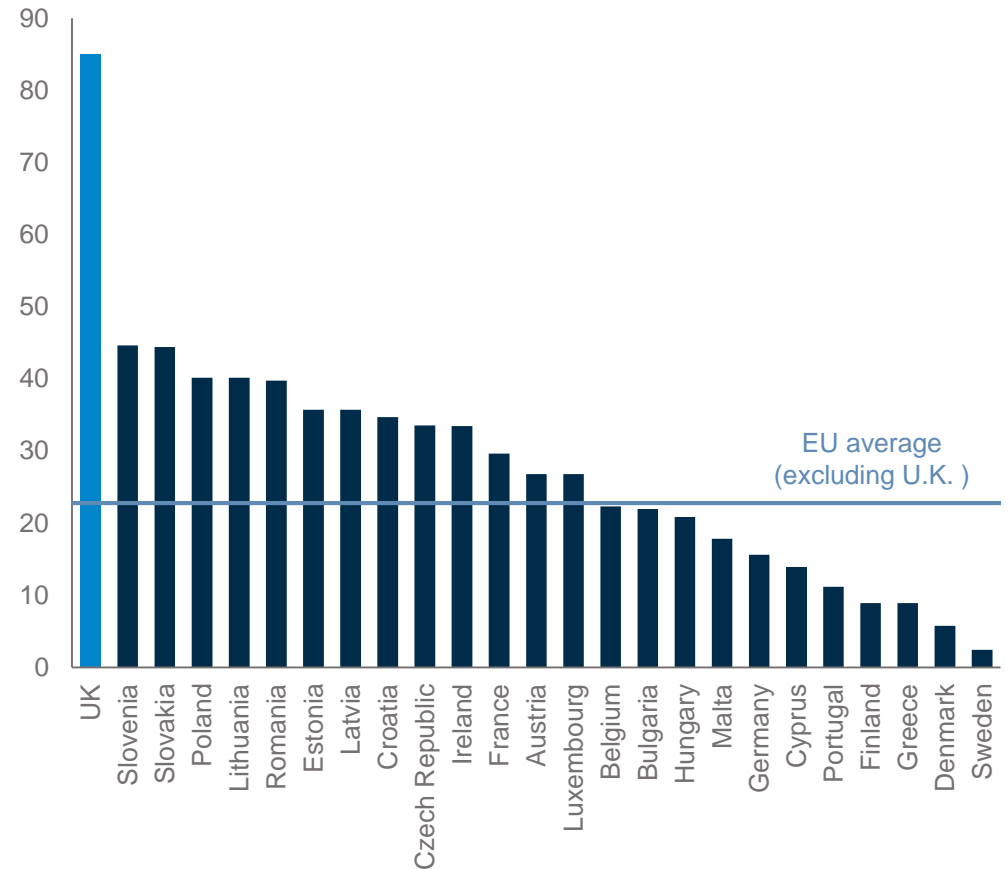
### After Brexit, policymakers can set VAT rates as they wish

There are some VAT rates that are currently unpopular – including a five per cent rate on some energy materials and women’s health care products – that the U.K. is currently unable to lower as a result of European Union laws. Once out of the bloc, local policymakers may wish to scrap VAT on these items altogether.

The U.K. could undergo a more fundamental reform, by lowering the standard rate of VAT, to below the European Union’s minimum standard rate of fifteen per cent.

In addition, policymakers could change the level of turnover above which a business or individual is required to pay VAT. At £85,000, the U.K. currently has the highest VAT registration threshold in the bloc. It has been observed that this high threshold distorts behaviour by creating a cliff-edge, which results in a 'bunching' effect of a large number of businesses with turnover just below the £85,000 level, rather than a smoother pattern.

### VAT registration annual limits across European Union member states, sterling equivalent in 2019 prices (£ thousand)



Sources: Capital Economics and the European Commission.

# 8. Simplification of the current tax system

Contextual considerations and analysis

# 8. Tax simplification: context

## Tax complexity in the U.K. is a burden for taxpayers and the economy alike

### Complex tax system results in lost revenues to HMRC

It is a widely accepted view that the U.K. tax code is too complex. The statutes and official guidance on tax rules in the country have trebled in size since 1997, to reach roughly ten million words and over 20,000 pages. Tolley's Tax Guide stated in 2009 that the U.K. had the longest tax code in the world.

This complexity creates an onus for companies across the U.K., as it increases the reporting and administrative burden placed upon them. It also translates into lost revenues for the government. Official analysis finds that £3.4 billion of tax went unpaid last year due to taxpayers making simple errors, despite their best efforts. (See upper-right figure.)

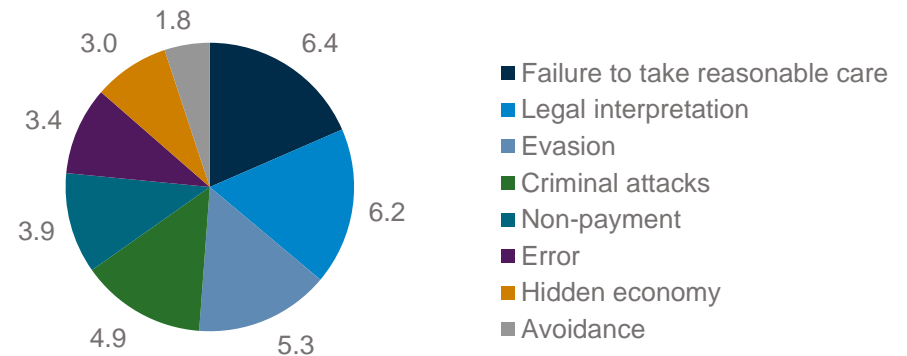
### Tax complexity places a disproportionate burden on SMEs

This burden falls particularly hard on small companies, which account for a significant and growing part of the economy. There are roughly 5.8 million small and medium sized enterprises (SMEs) in the U.K., accounting for 60 per cent of all private sector employment and over half of the country's private sector turnover. (See lower-right figure.)

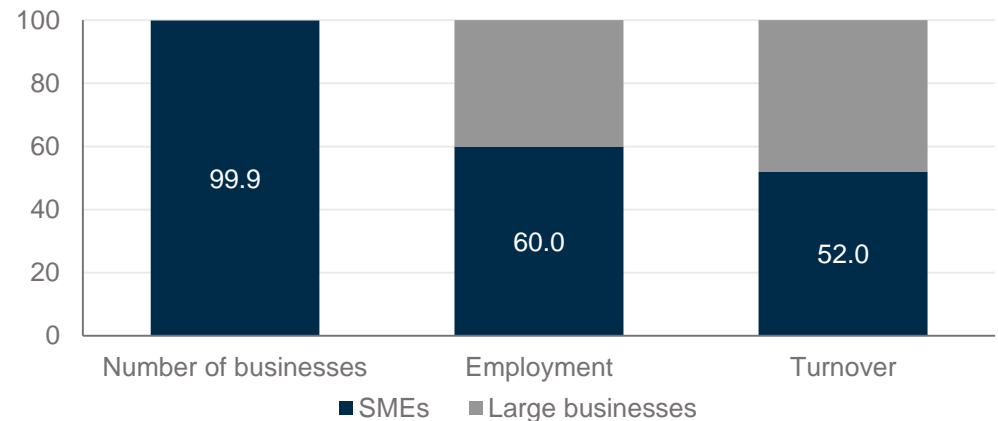
Simplifying the current tax system covers a wide range of policy changes and themes, from improving the operation of the PAYE system and combining various taxes into one, to providing simple step-by-step guidance for business in its early days. While many areas for reform have been identified and some smaller reforms implemented, more radical progress has yet to be seen.

While the ability for the U.K. to simplify its tax system is not currently restrained by European Union membership, the possible future implementation of the 'Common Consolidated Corporate Tax Base' may limit the extent of any simplification.

Value of the U.K. tax gap by behaviour, 2017-18 (£ billion)



Share of SMEs contribution to the U.K. economy (per cent)



Sources: Capital Economics, Office for National Statistics and HM Revenue and Customs.

# 8. Tax simplification: change

A single consolidated tax for businesses would greatly simplify the tax landscape

## A single consolidated tax would replace four taxes

There are a range of options for the U.K. to simplify its current tax system. We focus on one area which represents a more pervasive change to the U.K.'s tax system – the combination of numerous business taxes into one consolidated tax.

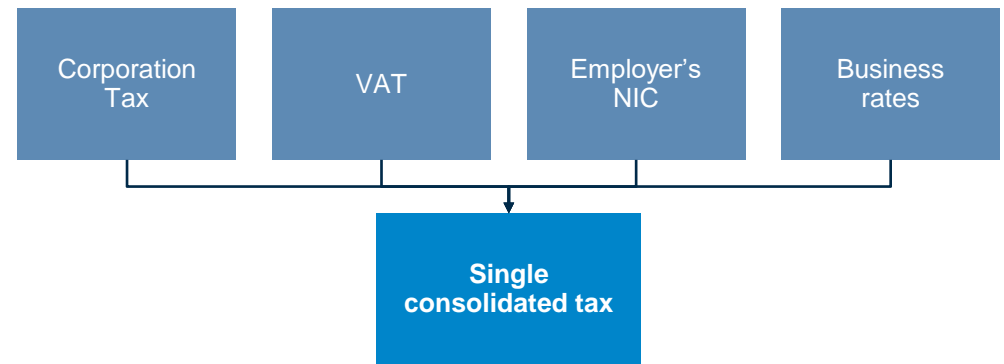
While there are many alternatives to combining taxes, one proposal brought forth by the Centre for Policy Studies is for a single tax to be paid in place of the four main taxes which small businesses face: corporation tax; VAT; employer's National Insurance contributions; and business rates. This tax would be charged as a percentage of turnover for ease of calculation.<sup>1</sup> (See upper-right figure.)

Estimating what this single rate would be is a challenging task, as there are many questions that would need to be addressed when formulating a single rate that would benefit businesses overall and also ensure revenue neutrality for the Treasury. Questions to be considered when estimating a single consolidated tax include:

- ❖ What threshold level of business turnover would the single consolidated tax apply to?
- ❖ Should there be different rates or structures for incorporated and non-incorporated goods or services businesses?
- ❖ Should there be different rates based on the industry of the business, or the size of the businesses?

The answers to these questions will have meaningful implications for the optimal rate of the consolidated tax. Analysis done by the Centre for Policy Studies, in conjunction with Capital Economics, has found that the rate at which a single consolidated tax would have to be set to provide 'revenue neutrality' would be between 11.5 per cent and 13.5 per cent, for companies with turnover of less than £1 million. (See lower-right figure.)

## Tax simplification proposal by the Centre for Policy Studies



## Exemplar application of the Centre for Policy Studies' single consolidated tax

Current tax	Turnover (excluding VAT)	Consolidated tax
Current tax liability £27,972	£174,500	Consolidated tax liability £26,175
Administrative costs £5,000	<b>SCT rate between 11.5% and 13.5%</b>	Administrative costs negligible
<b>Total tax burden £32,972</b>		<b>Total tax burden £26,175</b>
		<b>Savings under consolidated tax £6,797</b>

Sources: Capital Economics and the Centre for Policy Studies.

## 9. Establishment of a 'unilateral free trade' model

Contextual considerations and analysis

## 9. Unilateral free trade: context

As a member of the EU, the U.K. couldn't adopt Unilateral free trade agreements

### EU current trade agreements aren't unilateral

As a member of the European Union, the U.K. was covered by all trade agreements between the bloc and third countries. There are 38 such agreements in place, 48 partly in place, 25 pending and 21 being negotiated. Depending on the partner country, these are the main types of agreement which apply to the partner states: (See table.)

1. Custom unions: eliminate custom duties in bilateral trade and establish a joint customs tariff for foreign importers.
2. Association Agreements, Stabilisation Agreements, Free Trade Agreements (Deep and Comprehensive Free Trade Agreements in some cases) and Economic Partnership Agreements: remove or reduce customs tariffs in bilateral trade.
3. Partnership and Cooperation Agreements: provide a general framework for bilateral economic relations and leave customs tariffs as they are.

### As an EU member, U.K. trade options were limited

The European Commission negotiates for and on behalf of the Union as a whole in international trade deals, rather than each member state negotiating individually. It also represents members in the World Trade Organization and any trade disputes mediated through it.

Currently, no European Union trade arrangements are in the form of unilateral free trade – involving the unilateral removal of tariffs on goods imported from third countries by a nation without regard to other country's position. As a result, unilateral free trade isn't possible for any member state.

### Trade agreements in place between the European Union member states and non-EU countries

Type of agreement	Features	Number
Customs unions	<ul style="list-style-type: none"><li>❖ Eliminate custom duties in bilateral trade.</li><li>❖ Establish a joint custom tariff for foreign importers.</li></ul>	3
Association Agreements, Stabilisation Agreements, Free Trade Agreements and Economic Partnership Agreements	<ul style="list-style-type: none"><li>❖ Remove or reduce customs tariffs in bilateral trade.</li></ul>	25
Partnership and Cooperation Agreements	<ul style="list-style-type: none"><li>❖ Provide a general framework for bilateral economic relations.</li><li>❖ Leave customs tariffs as they are.</li></ul>	10

Sources: Capital Economics and European Commission.

# 9. Unilateral free trade: change

## Leaving the EU will give the opportunity to the U.K. to rethink the country's trade policy

### Outside the EU, the U.K. can reconfigure its trade policy

Following the decision to leave the European Union, the U.K. will have the freedom to change its trade policy and build a stronger, fairer and more prosperous country that is more open and outward looking than ever before.

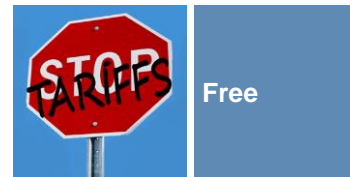
In this context, various leading think tanks such as the Institute of Economic Affairs and Policy Exchange have suggested that the U.K. should adopt a unilateral free trade policy, removing all tariff and other trade barriers without seeking reciprocal action on the part of foreign governments. (See graphic.) This would allow domestic customers to import goods from the world without the higher prices caused by tariffs. According to the Institute of Economic Affairs, this policy would put the U.K. in a more powerful position, especially vis-à-vis the European Union, as exporters from the bloc selling into the U.K.'s market would be in competition with other exporters from around the world.

### The concept of 'unilateral free trade' isn't new

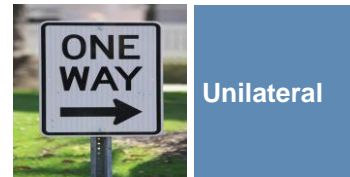
The concept of unilateral free trade has already been adopted by some economically flourishing Asian regions such as Hong Kong and Singapore, through the introduction of free ports with no duties on imported goods. China is planning to drop all duties and ease procedures at its Shanghai Free Trade Zone. Premier Li Keqiang has endorsed Shanghai's ambition to become a tariff-free zone.

Australia has adopted some unilateral measures toward lower tariffs and, according to the WTO, Australia now has among the lowest average tariffs of any major economy. In the U.K. itself, public acceptance of the benefits of free trade is high, with a long tradition of support tracing its roots back to the Corn Laws debates of the 1840s.

### Features of a 'unilateral free trade' model



- ❖ By adopting a 'unilateral free trade' policy, the U.K. would remove all tariffs and other trade barriers on imports from third countries.



- ❖ This new trade policy would not require any reciprocal action on the part of foreign governments.



- ❖ Hong Kong and Singapore are examples of regions having implemented unilateral free trade policies with positive economic outcomes.

Sources: Capital Economics.

# Summary of contextual analysis of policies with recommendations


















# Contextual analysis and recommendations

Contextual factors are specific to the policies concerned. Some policies have no obvious factors to consider...

Tax changes	Description	Economic impact summary	Contextual factors	Contextual impact	Combined economic and contextual impact
1 R&D and IP incentives	Increase research and development tax incentives for companies	● Positive and likely	<ul style="list-style-type: none"> <li>❖ Schemes could conceivably be viewed as providing unfair domestic support by other parties (the EU or other countries) in trade negotiations – but hard to say until negotiations would be well underway.</li> <li>❖ Possible interactions with other changes in business taxes, but hard to determine until details known.</li> </ul>	● Neutral	⊕ ⊕ & ⊖
2 Free ports	Create as many as ten new free ports in the U.K.	● Positive and likely	<ul style="list-style-type: none"> <li>❖ Lower or minimal likely impacts if used in context of unilateral free trade model (which confers no tariffs on imports for the whole economy).</li> </ul>	● Neutral	⊕ ⊕ & ⊖
3 Regional corporation tax	Adoption of a regional corporate tax system (with lower tax rates in some regions)	● Positive and likely	<ul style="list-style-type: none"> <li>❖ Potentially politically controversial in terms of regions of the country claiming that they are being unfairly treated by other regions that have the lower tax rates, though could be addressed through agreed implementation mechanisms.</li> </ul>	● Neutral	⊕ ⊕ & ⊖
4 Energy tax	Remove or lower tax on a range of energy sectors while addressing climate change	● Uncertain	<ul style="list-style-type: none"> <li>❖ Addresses environmental concerns and potentially speeds shift of energy consumption patterns away from fossil fuels to lower carbon forms of generation.</li> </ul>	● Positive	⊕ & ⊖
5 Income tax	Lower rate of income tax or raise thresholds subject to higher rates	● Positive	<ul style="list-style-type: none"> <li>❖ None.</li> </ul>	None	⊕ & ⊖

# Contextual analysis and recommendations (cont'd)

...for others, the context can be as important as the economic impact evidence

Tax changes	Description	Economic impact summary	Contextual factors	Contextual impact	Combined economic and contextual impact
6 National corporation tax	Lower corporation tax, to 15% or even lower tax	 Positive	⌘ Since the U.K.'s corporation tax rate is already low compared to other OECD countries, the impact of further cuts may not be so great.	 Neutral	 & 
7 VAT	Lower the standard VAT rate or reduce the VAT registration threshold	 Uncertain	⌘ None.	None	 & 
8 Tax simplification	Combine a set of taxes currently paid by businesses into one tax	 Positive	⌘ Components of the simplified tax – corporation tax and value added tax – are subjects of other tax policies. ⌘ It may be difficult to change the rates of those taxes and integrate them into one at the same time.	 Negative	 & 
9 Unilateral free trade	Adoption of a unilateral free trade model with the removal of all tariffs on imports	 Uncertain	⌘ Potential to reduce the U.K.'s leverage to negotiate tariff-free access to other markets via free trade agreements (little to offer to the other party).	 Negative	 & 

Basis of engagement

# Alvarez & Marsal Taxand U.K. and Taxand Capital Economics - Basis of engagement

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# About Alvarez & Marsal Taxand U.K. and Taxand

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# References

# References

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## Proposal 1: R&D and IP incentives

1. What Works Centre for Local Economic Growth, *Evidence Review 9 Innovation: R&D tax credits* (What Works Centre for Local Economic Growth, London), October 2015.
2. Rigmor Kringelholt Fowkes et al., *Evaluation of Research and Development Tax Credit* (Her Majesty Revenue and Customs, London), March 2015.
3. Irem Guçeri, *Impact of R&D Tax Incentives in the U.K.* (Department of Economics, St.Peter's College and Centre for Business Taxation, University of Oxford, Oxford), 31 October 2013.
4. Piet Donselaar and Carl Koopmans, *The fruits of R&D: Meta-analyses of the effects of Research and Development on productivity* (Vrije Universiteit Amsterdam, Amsterdam), January 2016.
5. International Monetary Fund, *Fiscal Monitor: Acting Now, Acting Together* (International Monetary Fund, Washington D.C.), April 2016.
6. Department for Business Innovation and Skills, *Innovation report: Innovation, Research And Growth* (Department for Business Innovation and Skills of the United Kingdom government, London), March 2014.

## Proposal 2: Free ports

1. Rishi Sunak, *The Free Ports Opportunity: How Brexit could boost trade, manufacturing and the North* (Centre for Policy Studies, London), November 2016.
2. Dan Aylward-Mills et al, *A proposal for a national free zone policy* (Tees Valley Major and Vivid Economics, Tees valley), 2018.
3. Jason Millet, *The ultimate boost for Britain's economy* (Mace, London), 17 June 2018.
4. Ilona Serwicka and Peter Holmes, *What is the extra mileage in the reintroduction of 'free zones' in the U.K.?* (U.K. Trade policy observatory, London), February 2019.
5. Policy North, *Estimates of the impact of nine free ports in Northern regions* (Policy North) <https://www.citymetric.com/politics/westminster-s-obsession-freeports-highlights-sickness-our-body-politic-4415>, 2019.



# References (cont'd)

---

## Proposal 3: Regional corporation tax

1. U.K.2070 Commission, *Rebalancing the U.K. economy* (U.K.2070 Commission, Sheffield), 29 June 2019.
2. Sandra Bernick et al. *Industry in Britain – An Atlas* (Centre for Economic Performance, London), September 2017.
3. The Scottish government, *Corporation tax: Discussion paper options for reform* (The Scottish government, Scotland), August 2011.
4. Nida Absdioglu et al., *The Effect of Corporate Tax Rate on Foreign Direct Investment: A Panel Study for OECD Countries* (Ege University, Bonova, Turkey), 2016.
5. Alexander Klemm and Stefan Van Parys, *Empirical Evidence on the Effects of Tax Incentives* (International Monetary Fund, Washington D.C.), July 2009.
6. Cem Tintin and Klas Fregert, *The Impacts of FDI on Productivity and Economic Growth: A Comparative Perspective* (Lund University, School of Economics and Management Department of Economics, Lund), Spring 2010.
7. Cem Tintin, *Does Foreign Direct Investment Spur Economic Growth and Development? A comparative Study* (Free University of Brussels, Brussels), August 2012.

## Proposal 4: Energy tax

1. HM Revenue & Customs, *Estimated Costs of Tax Reliefs* (HMRC, London), 10 October 2019.
2. Department of Energy and Climate Change, Annex D: *Gas price elasticities: the impact of gas prices on domestic consumption – a discussion of available evidence* (Department of Energy and Climate Change, London), June 2016.

# References (cont'd)

---

## Proposal 5: Income tax

1. Centre for Economics and Business Research, *The 50p tax - good intentions, bad outcomes The impact of high rate marginal tax on Government revenues in a world with no borders* (Cebr, London), December 2011.
2. Paul Johnson and Tom Waters, *Boris Johnson's tax policies: what would they cost and who would benefit* (Institute for Fiscal Studies, London), 25 June 2019.
3. IMF World Economic Outlook, *Will it hurt? Macroeconomic effects of fiscal consolidation* (International Monetary Fund, Washington D.C.), 2010.
4. David Furceri and Georgios Karras, *Tax changes and economic growth: Empirical evidence for a panel of Organisation for Economic Co-operation and Development countries* (Organisation for Economic Co-operation and Development, Paris), 2009.
5. Gareth Myles, *Taxation and Economic Growth* (Institute for Fiscal Studies, London), 2000.
6. Christina Romer and David Romer, *The Macroeconomic Effects of Tax Changes: Estimates Based on a New Measure of Fiscal Shocks* (National Bureau of Economic Research, Washington D.C), Working paper no. 13264, July 2007.
7. Karel Mertens and Morten Ravn, *The dynamic effects of personal and corporate income tax changes in the United States* (American Economic Review, Pittsburgh), 9 March 2012.
8. William Gale et al, *Effects of Income Tax Changes on Economic Growth* (The Brookings Institution and Tax Policy Center, Washington D.C.), September 2014.
9. Thomas L. Hungerford, *Taxes and the Economy: An Economic Analysis of the Top Tax Rates Since 1945* (Congressional Research Service, Washington D.C.), September 2012.

## Proposal 6: National corporation tax

1. Organisation for Economic Co-operation and Development, *Growth-oriented tax policy reform recommendations* (OECD, Paris), 2010.
2. HMRC and HM Treasury, *Analysis of the dynamic effects of corporation tax reductions* (HM Treasury, London), 5 December 2013.
3. Wiji Arulampalam et al, *The Direct Incidence of Corporate Income Tax on Wages* (Oxford University Centre for Business Taxation, Oxford), October 2010.
4. Djankov et al, *The Effect of Corporate Taxes on Investment and Entrepreneurship* (National Bureau of Economic Research, Washington D.C), Working paper no. 13756, December 2011.
5. Young Lee and Roger Gordon, *Tax Structure and economic growth* (Journal of Public Economics) 2005.

# References (cont'd)

---

## Proposal 7: VAT

1. Thomas Crossley et al, *The economics of a temporary VAT cut* (Institute for Fiscal Studies, London), 20 January 2009.
2. Ray Barrell and Martin Weale, *The Economics of a reduction in VAT* (National Institute of Economic and Social Research, London), National Institute Discussion Paper No 325, March 2009.
3. Office of Tax Simplification, *Value added tax: routes to simplification* (Office of Tax Simplification, London), November 2017.

## Proposal 8: Tax simplification

1. Nick King, *Think Small: A blueprint for supporting U.K. small businesses* (Centre for Policy Studies, London), May 2019.
2. Cebr, *Finding your way out of the auto enrolment maze* (Creative Auto Enrolment, London), September 2013.
3. Nick King, *Think Small: A blueprint for supporting U.K. small businesses* (Centre for Policy Studies, London), May 2019.

## Proposal 9: Unilateral free trade

1. Stephen Clarke et al, *Changing Lanes The impact of different post-Brexit trading policies on the cost of living* (U.K. Trade Policy Observatory, London), October 2017.
2. Justin Chaloner et al., *How is the United Kingdom economy shaping up post-Brexit?* (Capital Economics, London), 26 October 2017.
3. Philippa Dee et al., *The Impact of Trade Liberalisation on Jobs and Growth: Technical Note* (OECD, Paris), 31 January 2011.
4. Leave Means Leave, *Labour Leave and Economists for Free Trade, New Model Economy For A Post-Brexit Britain* (Economists for Free Trade, London), September 2017.
5. Patrick Minford and Edgar Miller, *What shall we do if the EU will not play ball? U.K. WTO Trade Strategy in A Non-Cooperative Continent*, 2017.
6. Swati Dhingra et al., *The Costs and Benefits of Leaving the EU: Trade Effects* (Centre for Economic Performance, London), April 2017.
7. Alasdair Smith, *Will unilateral free trade be the making of Brexit?* (U.K. Trade Policy Observatory, London), February 2018.
8. Ryan Bourne, *Post-Brexit Britain should adopt unilateral free trade* (Institute of Economic Affairs, London), 20 July 2016.
9. Warwick Lightfoot et al, *Global Champion The Case for Unilateral Free Trade* (Policy Exchange, London), February 2018.

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