



THE
GROWTH
COMMISSION

The Growth Budget 2023



The Growth Budget 2023

The Growth Commission

The Growth Commission is a non-partisan group of international economists analysing public policy and regulatory proposals and how they will affect GDP per capita growth in the medium to long-term.

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The Growth Budget

14 November 2023

Introduction

The latest revised data shows UK GDP per capita in Q2 2023 to be only 0.1% higher than in Q4 2019. In other words our living standards are stagnating. If we carry on the same way we are likely to continue to stagnate with rising taxes or borrowing or both to pay for ever growing public spending.

This won't work. Eventually something will give – whether it is employees faced with falling standards of living; or the financial markets having to buy a growing amount of debt, or something else. Stagnation is rarely stable.

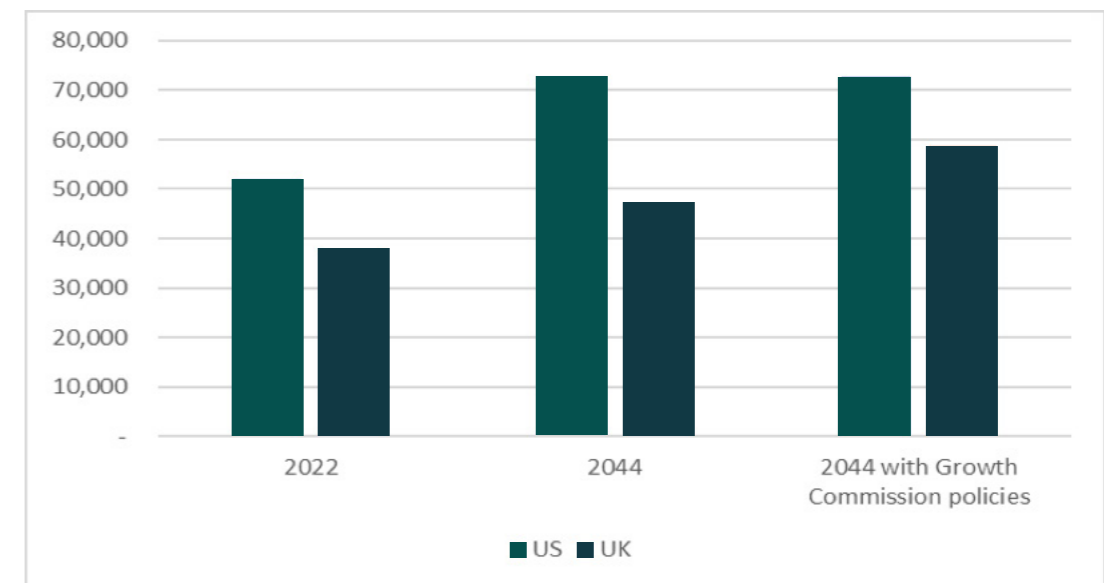
This is why we have put together a Growth Budget with carefully costed proposals that we believe will put the country back on the track to growth.

At the launch of the Growth Commission, one of our Commissioners, Tyler Cowen, pointed out that had the US grown its GDP per capita only 1% per annum slower than it in fact did from 1890 to 1980, its economy would have been smaller than Mexico's by 1980.

Although we estimate that our proposals will only add 23.4% to GDP per capita growth over the next twenty years, this is 1.1% of GDP per annum – above Tyler Cowan's 1%. And even this would be enough roughly to half the gap in GDP per capita with the US over that period and to get close to halving the gap in GDP per household as is shown in Figure 1. And obviously the benefits are likely to grow beyond then.

UK GDP per capita 2044 under our plans would rise from a forecast £47,328 to £58,630. The additional £11,302 per capita (UK GDP per household in 2044 under our plans would rise from a forecast £112,129 to £138,367. Resulting in an additional £26,238 per household) is surely worth aiming for.

Figure 1 Impact of the Growth Budget proposals on GDP per capita 2022 £



Summary

This is the first Growth Commission Budget¹ where we put forward carefully costed proposals as an alternative approach for the Autumn Statement to be held on 22 November 2023. The report is built on modelling approaches which take into account behavioural changes likely to result from the policy changes and look explicitly at the likely impact on GDP per capita over the longer term up to 20 years.

The report covers:

- The economic and fiscal outlook on current policies (prepared with the help of the economics consultancy Cebr).
- The fiscal outlook on current policies.
- Fiscal and monetary policy.
- Microeconomic and regulatory reforms.
- Public spending reforms.
- Tax reforms.
- The impact of these reforms on both the economic and fiscal outlook in comparison with that on unchanged policies.
- Appendices give a brief description of the models used and the detailed costing.

It is important that policymakers recognise that these proposals hand together in an integrated whole and cannot be disaggregated or picked off like a menu.

World growth is forecast to be sluggish on unchanged policies with continued high borrowing worldwide. We expect a world GDP growth trend of 2.5% in the medium term compared with its 3.5% trend gap, with a particular slowing down from the previously rapid rates of growth achieved in the past in some emerging markets.

We expect that US, Canada and Australia to continue to grow faster than the main European economies, including the U.K.

For the U.K:

- On the unchanged policies we predict relatively slow growth in GDP per capita for the U.K. at 1% per annum
- Fiscal drag and unanticipated inflation mean that the tax burden is likely to rise to an all time (excluding war-time) high by 2027-28.
- Both the deficit and borrowing are forecast to fall but the long-term borrowing profile may not be sustainable, given the high tax burden and squeeze on living standards that is projected.

This dismal outlook is not pre-determined, however.

- We have calculated that a combination of public spending restraint, supply side and regulatory reforms and carefully targeted tax cuts can move the U.K. economy on to a higher growth trajectory.
- It is not unexpected that the policies are likely to take time to have their effect. We estimate that GDP per capita in 2024-25 on changed policies will only be 1% higher than the forecast on unchanged policies, barely enough to stare off recession. There is a further impact predicted for 2025-26 but the bigger gains start to emerge in 2026-27 and 2027-28.
- The really significant gains take time to come through - we estimate that by 2043-44 in 20 years' time if our recommendations are adopted GDP per capita should be 23.4% higher than on unchanged policies.

¹ This report has been prepared by Douglas McWilliams and Shanker Singham and approved by the Growth Commission

- The total forecast GDP per capita growth after implementation of the Growth Budget is an additional 1.1% per annum, leading to GDP per capita growth in total over the period to the mid-2040s at an annual rate of 2.0%.
- We have calculated that the additional growth plus the impacts of the policies recommended will move the government from borrowing into surplus and bring down debt as a share of GDP to 65% by 2043-44.

The policy changes

Supply Side and Better Regulation

- A planning package covering all kinds of planning and housing.
- An energy package and smart net zero package to enable the U.K. to return to cheaper energy.
- A labour market package to increase the U.K.'s labour market flexibility.
- A smart green package to enable the U.K. to adopt green net zero policies as the technology emerges rather than ahead of the technology.
- An infrastructure package to improve transport.

Spending

- A public spending package returns public sector productivity to its real level pre-Covid over four years and promotes the use of digital and other technology to raise productivity by 1% per annum thereafter,
- The rise in sickness related welfare payments needs to be better understood; in principle it ought to be possible to reverse at least some of this rise, though this is likely to require health interventions.
- The supply side package implies increased investment in infrastructure, particularly energy, transport and housing. While much of this will be generated by the private sector, the funding envelope permits an increase of 1.5% of GDP in publicly funded investment.
- We have also allocated 1.5% of GDP for other measures as appropriate to improve public services.

Tax

- Corporation Tax cut to 19% and 15% by 2023-44 with the continuation of the full expensing regime introduced in 2023/24.
- Income Tax and NICs down to their pre-Covid real burden including reversing the impact of the frozen indexation and abolishing the tax rates of over 60% affecting those whose allowances are withdrawn for earnings above £100,000.
- Scrapping 'Tourism Tax', which loses revenue and GDP.
- Investigating whether Inheritance Tax and stamp duty raise more revenue than it loses the economy. If this turns out to be the case, these taxes should be abolished (arguably they should be abolished anyway because of the economic damage that they do, but that is a debate for another year).

The pay off

If we can achieve this, the economy will return to the path of growth. We will eliminate nearly half the gap in annual GDP per household compared with the U.S. raising U.K. per household in 2044 from a forecast of \$164,591 to \$203,105 and cutting the gap with the US from a forecast of 69% on unchanged policies to 37% if the Growth Budget is implemented.

Both taxes and spending as a share of GDP will start to move back to more normal levels. Corporate taxes will be competitive with the best in the world. Some of the most damaging aspects of Income Tax on growth will be eliminated.

Some of the most serious long-term problems such as lack of infrastructure and the impact of demographic changes on public services will be dealt with.

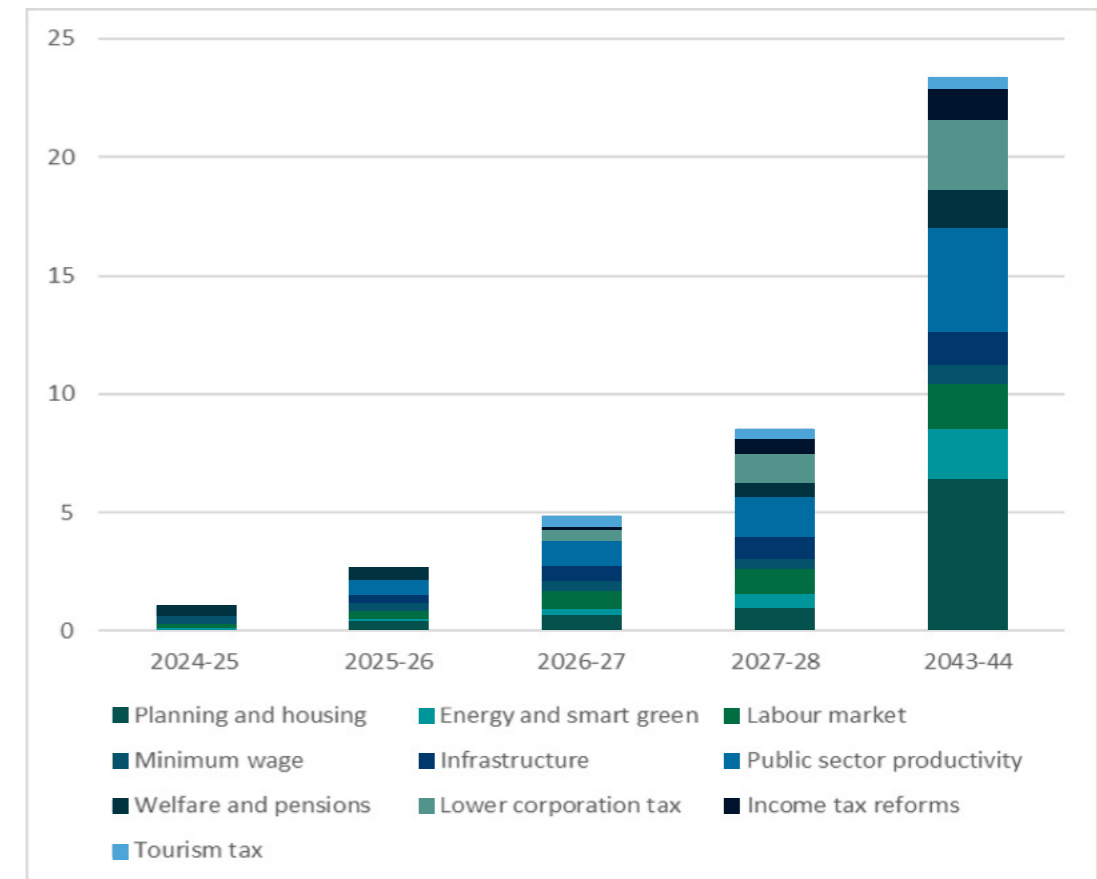
The country's finances will be sustainable with the government running a surplus to pay off the debts accumulated over recent years.

The U.K. will escape the trap that threatens it today of slow growth leading to rising taxes and spending that will themselves slow growth further.

How the impact of the proposals builds up

Figure 2 shows how the different elements of the proposals fit together to generate this rise in GDP. These are shown in more detail later in the document.

Figure 2 How the impact of the proposals on GDP build up



World economic outlook

This section has been written in conjunction with the economic consultants Cebr and uses their October 2023 Prospects Service forecasts as well as information from other sources, especially the October 2023 IMF World Economic Outlook. Technically these forecasts are 'most likely' forecasts and so incorporate the assumptions that policies will change. It is quite likely that 'unchanged policies' forecasts would show a less favourable outcome.

Our global forecasts look out in detail to 2027 and assume trend growth over the rest of the period to 2043. The central forecasts assumed are set out in Table 1. The forecasts are set out as central predictions but we are obviously aware that there is a substantial margin of uncertainty surrounding them.

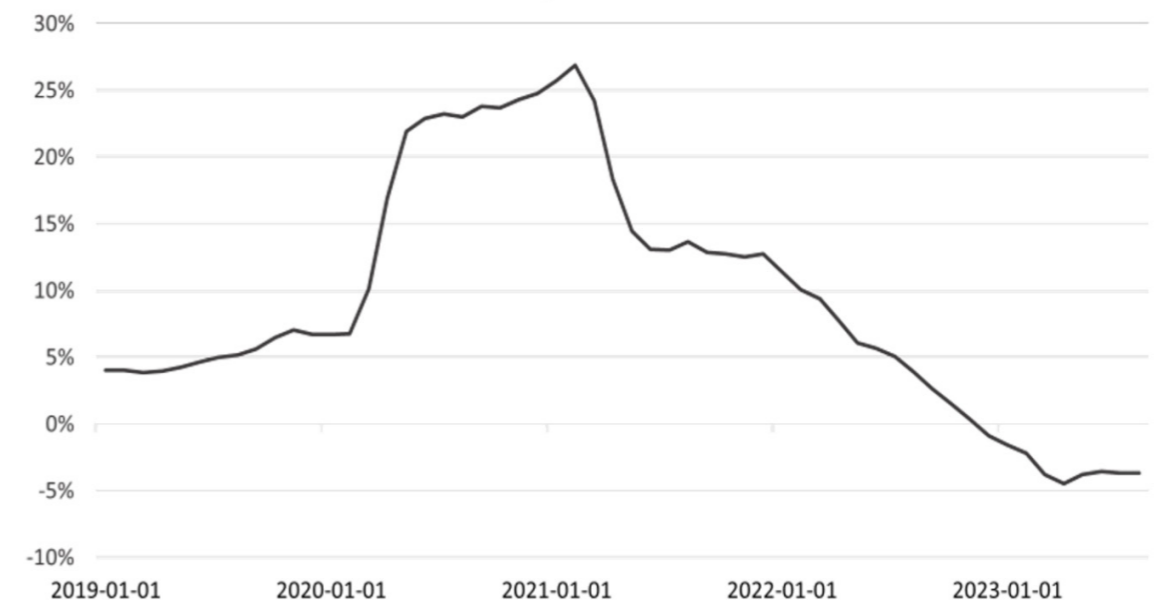
The world economy is still suffering from the aftermath of Covid. Although the world economy bounced back from the impact of the pandemic remarkably quickly with the help of substantial fiscal and monetary stimulation, the aftermath of these policies, combined with the problems caused by the War in Ukraine, has spilled over into inflation. The counter inflationary policies now in operation are likely to take time to be fully successful and are likely to constrain growth while they are in operation.

Figure 3 shows the pace of monetary growth in the U.S. during the pandemic and after. The money supply on this measure grew by nearly 20% between January and July 2020 which appears to be an unprecedented experience for any period since the U.S. Civil War.² The period of extreme monetary expansion was followed by rising interest rates and a very rapid deceleration in monetary growth. Since May 2023 (latest data Sept 4) the 12-month rate of M2 monetary growth has been between -3.3% and -3.9%.

² The US Federal money supply roughly doubled during the Civil War averaging annual growth in the mid-20 per cents. (source: <https://www.jec.senate.gov/public/index.cfm/republicans/2012/2/united-states-monetary-history-in-brief-part-2>) The classic work 'A Monetary History of the United States, 1867-1960' by Milton Friedman and Anna Jacobsen Schwartz, NBER 1963, Princeton University Press records no other period of money supply growth as high as 20% even for a whole year let alone a 6 month period.

Figure 3 The monetary blowout during Covid has gone into reverse

U.S. M2 Annual Money Growth Source St Louis Fed



Not surprisingly, the volatility of both real world events (especially Covid and Ukraine) but also of policy have been associated with volatility elsewhere, especially in the commodities markets which rose sharply post-Covid. But we now expect falling prices for both oil and non-oil commodities as is shown in Figures 4 and 5 and that these falls will contribute to falling inflation globally.

Figure 4 As the aftermath of the monetary expansion in 2020 wears off commodity prices are likely to fall back

IMF non fuel commodity price index, 2005 = 100

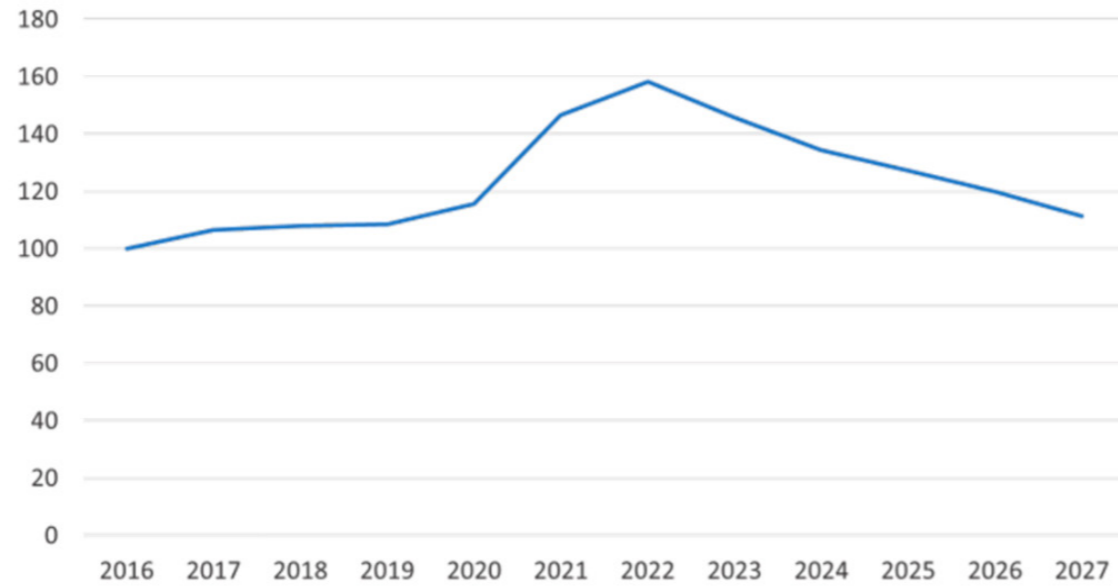
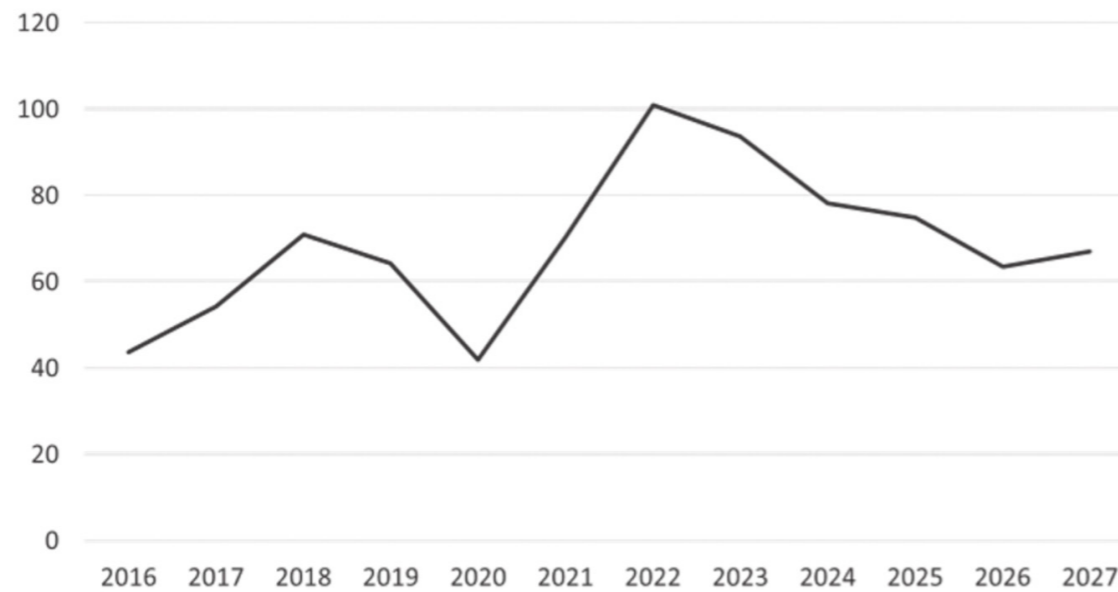


Figure 5 Because of OPEC etc, the price of oil is less driven directly by economics but we still expect a fall

Average price of Brent Crude, WTI and Dubai Fateh



Despite this, Figure 6 shows that inflation is currently elevated compared with targets or all but the very recent history and it is likely that continued monetary pressure will remain for some time to come (see Figures 1 and 13 for interest rate forecasts). There is also a degree of caution about the impact of ultra-low interest rates and so we expect that in the medium term, despite a sluggish growth forecast it is unlikely that rates will return to levels as low as during Covid or in the period between the Global Financial Crisis and Covid. We expect that this will mean less fiscal consolidation worldwide than was the case after the Global Financial Crisis.

Figure 6 Inflation remains well above 2% target in most developed economies as effects of higher interest rates and monetary policy work through

CPI inflation in selected countries

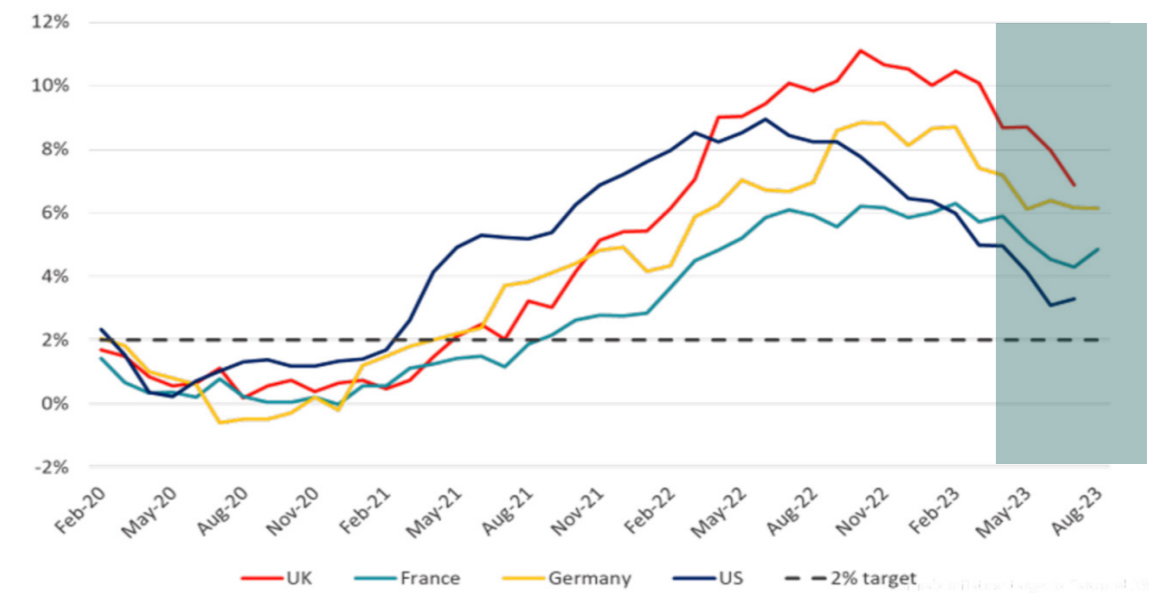
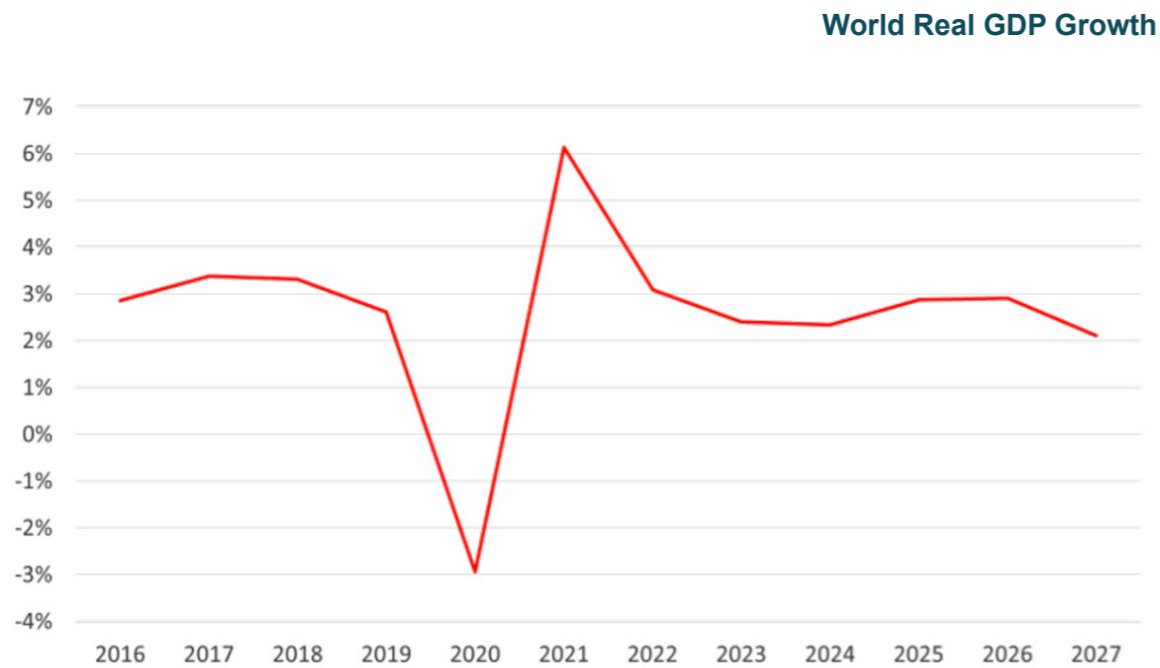


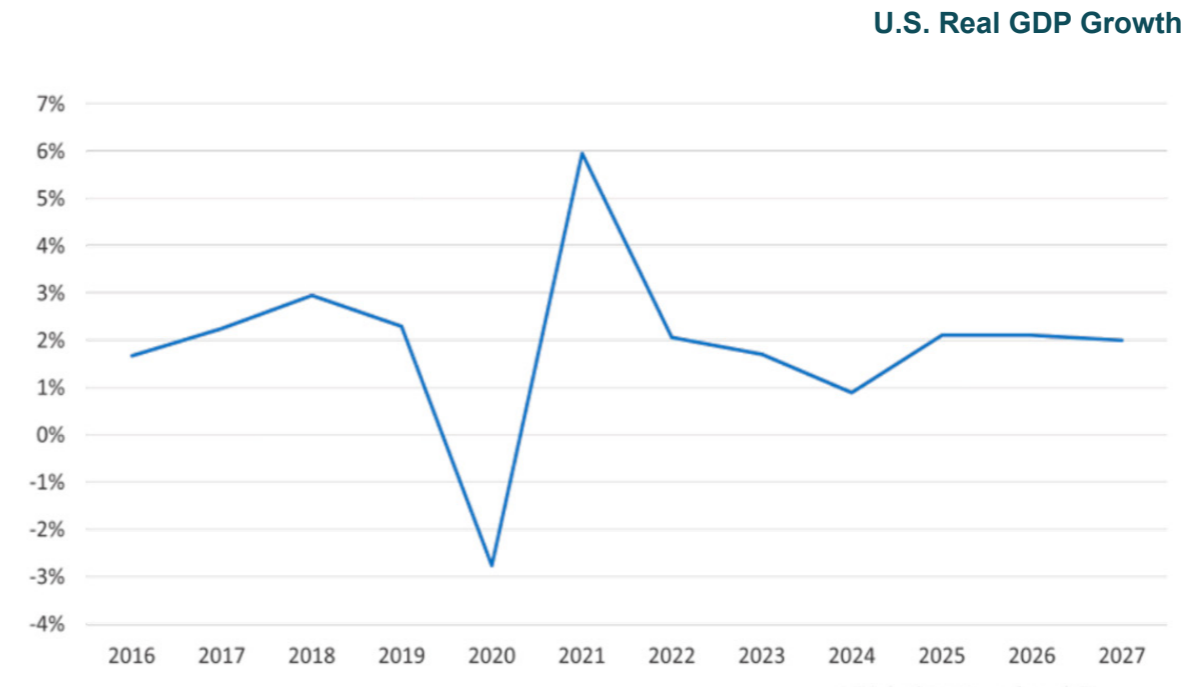
Figure 7 shows the outlook for world GDP on unchanged policies, showing a relatively weak period for the rest of this year and next as a result of the recent monetary contraction, a period of more rapid growth as the monetary contraction is reversed and then another period of relatively weak growth as the longer term depressing influences on world growth like widespread indebtedness, the costs of implementing climate change policy and the likely rising costs of certain scarce natural resources come to bear. Longer-term (see Table 1) we have assumed world GDP growth of 2.5% well below the historic average.³ With the rate of world population growth slowing to an average forecast of 0.76% per annum⁴ over this period, the forecast implies world GDP per capita growth of 1.7%.

Figure 7 World growth bounced back post-Covid but is now flat lining



We expect the U.S. economy to have a particularly sharp dip in the 2023/24 period as the impact of the very pronounced monetary deceleration bites.

Figure 8 We expect the US recovery to have a dip in 2024 because of the scale of monetary tightening

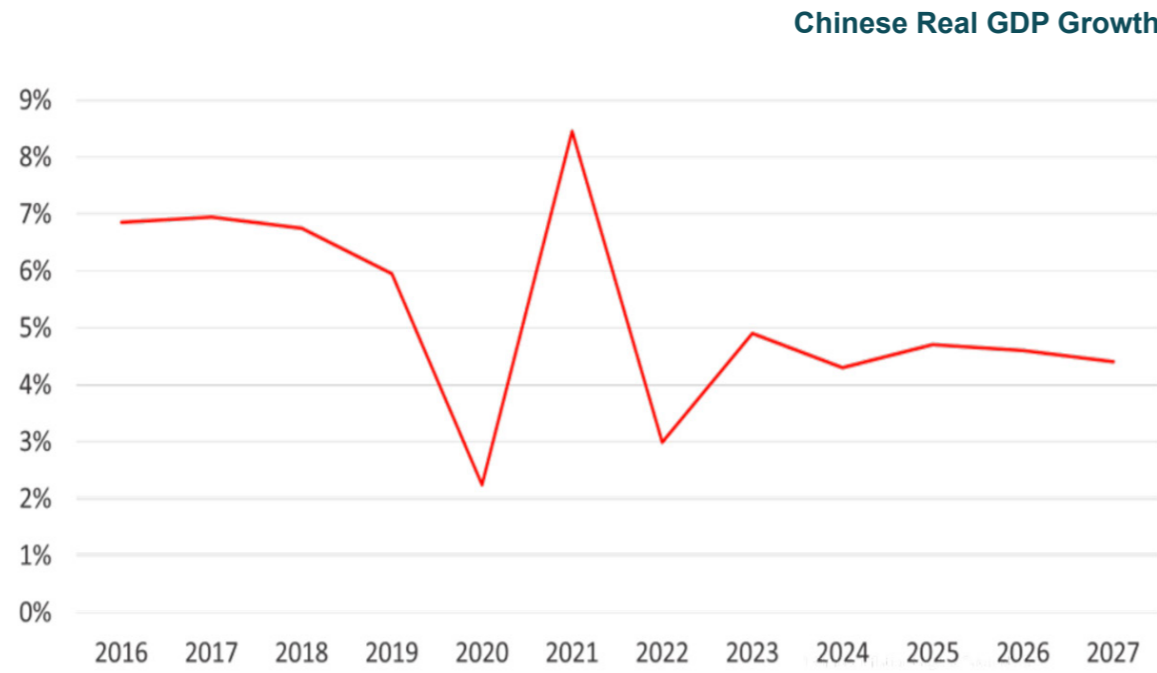


We also expect that the trend growth for China will slow as a result of a range of causes, including the country's property difficulties. But our analysis is that growth will continue, if more slowly. But it is worth noting that the Chinese economy still has strengths in many technology-based areas.

³ <https://tradingeconomics.com/world/full-year-gdp-growth#:~:text=Full%20Year%20GDP%20Growth%20in,of%20%2D3.10%20percent%20in%202020.>

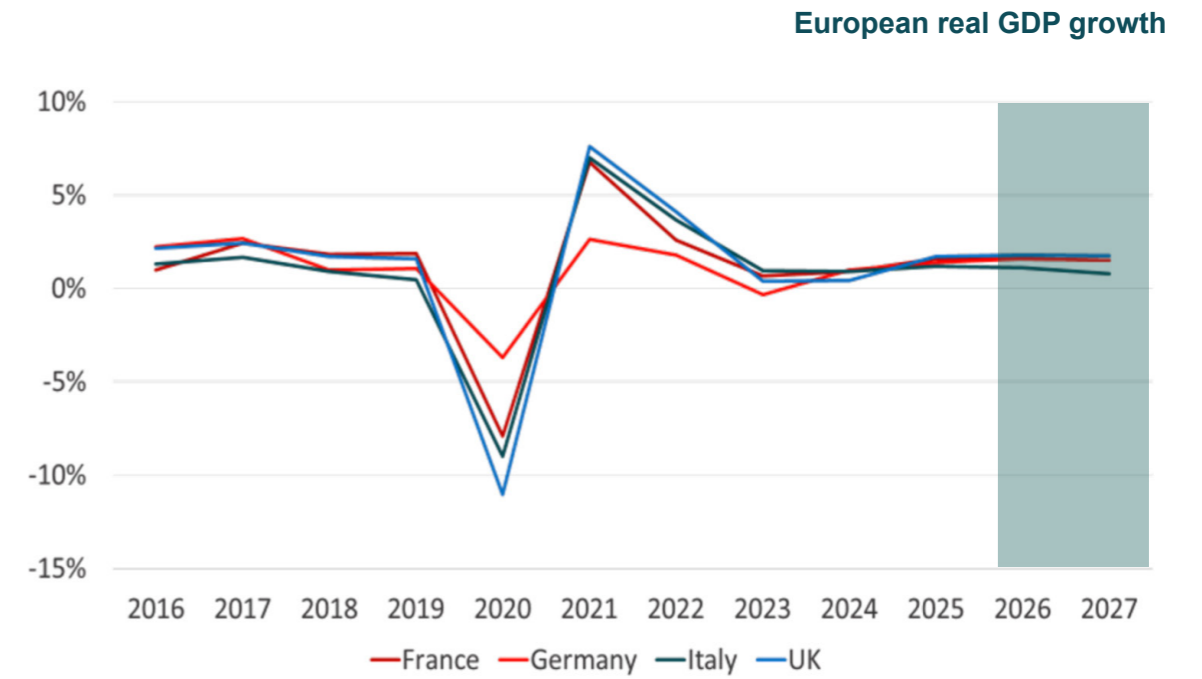
⁴ United Nations, Department of Economic and Social Affairs, Population Division. World Population Prospects: The 2022 Revision. (Medium-fertility variant).

Figure 9 China is suffering a range of problems especially in the property sector but is still growing c 4%



Our forecasts show growth in the main European economies is likely to be even more sluggish than elsewhere. This reflects a range of growing negative factors ranging from debt to the labour force's unwillingness to be available for work to the difficult long-term prospects for the German car industry.

Figure 10 Europe performing generally less well than U.S., let alone China



We expect that as inflation falls, both dollar and euro interest rates will fall back but we forecast that the policy rates will settle around 3% in the U.S. and nearer to 2% in the eurozone.

Figure 11 Even after rates fall back, we do not expect the Fed to return to ultra low rates of interest

U.S. rates and CPI

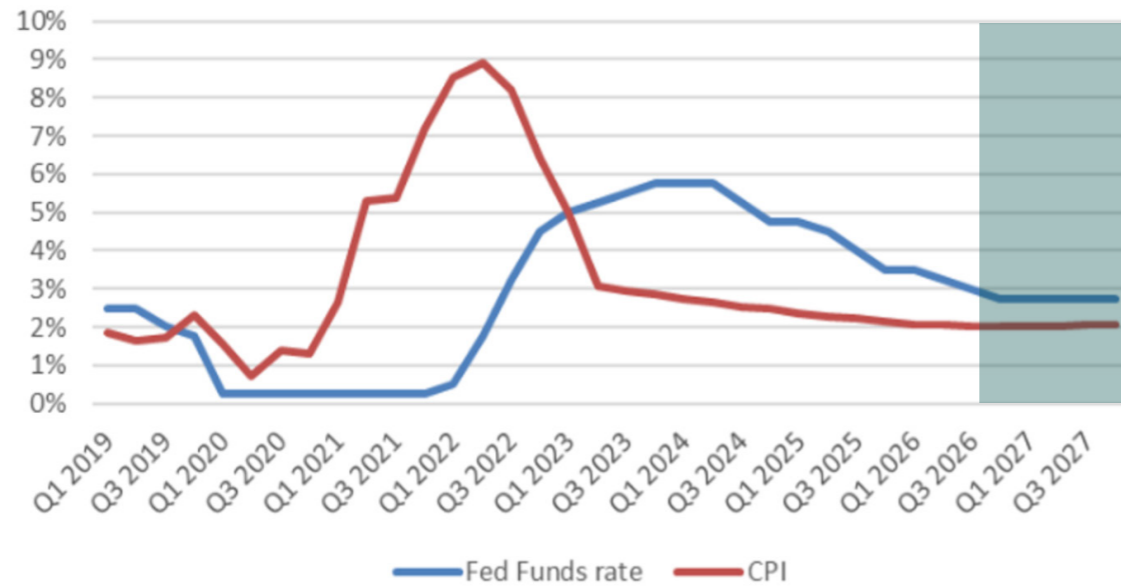
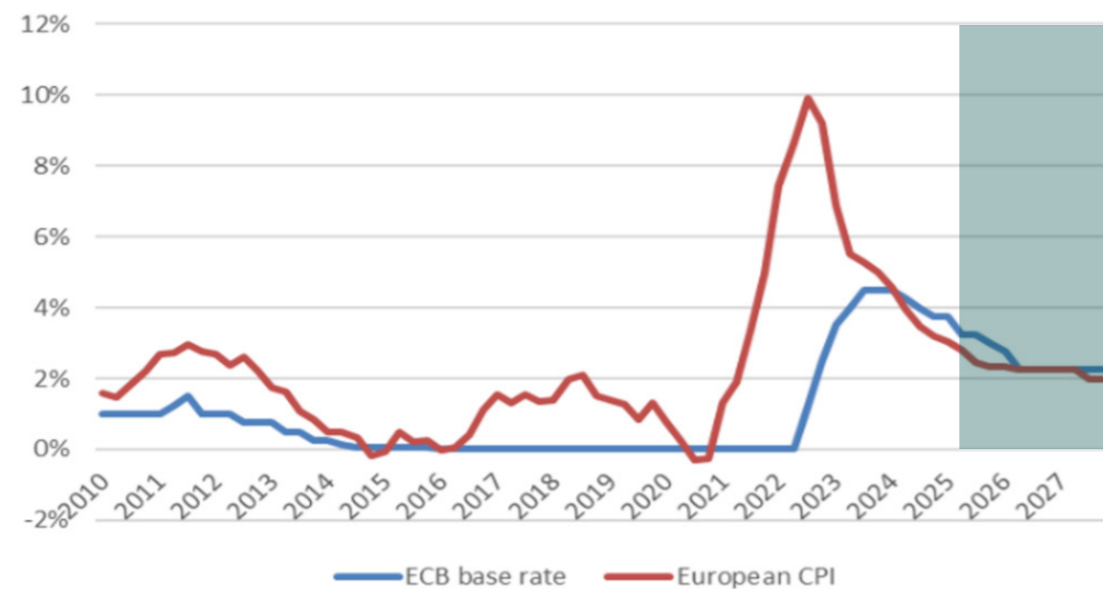


Figure 12 Europe with even more sluggish growth may get away with even lower base rates than the U.S.



Our long-term forecasts are shown in the last column of Table 1. We expect growth to slow in most of the faster-growing economies as they get closer to maturity. We expect world GDP growth to settle at around a 2.5% trend. We expect that the shift in world GDP from the West to the East will continue, though a lot more slowly. And we expect European growth to slow even relative to other Western economies.

Table 1 World Forecasts (real annual GDP growth except for commodity prices and oil prices)

	2020	2021	2022	2023	2024	2025	2026	2027	2028-43 annual
Australia	-1.8%	5.2%	3.7%	1.6%	1.3%	2.1%	2.0%	2.0%	1.9%
Brazil	-3.3%	5.0%	2.9%	2.7%	1.5%	1.9%	2.0%	2.1%	2.1%
Canada	-5.1%	5.0%	3.4%	1.2%	0.8%	2.1%	2.0%	1.9%	1.8%
China	2.2%	8.4%	3.0%	4.9%	4.4%	4.7%	4.6%	4.4%	3.8%
France	-7.9%	6.8%	2.6%	0.7%	0.8%	1.6%	1.6%	1.5%	1.5%
Germany	-3.7%	2.6%	1.8%	-0.6%	0.8%	1.6%	1.6%	1.5%	1.5%
India	-5.8%	9.1%	7.2%	6.3%	6.4%	6.5%	6.7%	6.7%	6.0%
Indonesia	-2.1%	3.7%	5.3%	5.0%	5.1%	5.0%	5.0%	5.0%	5.0%
Italy	-9.0%	7.0%	3.7%	0.8%	0.7%	1.2%	1.1%	0.8%	0.8%
Japan	-4.3%	2.1%	1.1%	1.9%	1.1%	1.0%	1.0%	0.9%	0.9%
Mexico	-8.0%	4.7%	3.1%	2.8%	1.9%	1.7%	1.9%	2.0%	2.0%
Russia	-2.7%	5.6%	-2.1%	0.7%	1.0%	1.2%	1.2%	1.1%	1.1%
South Korea	-0.7%	4.1%	2.6%	1.5%	2.4%	2.3%	2.3%	2.2%	2.2%
Spain	-11.3%	5.5%	5.5%	2.2%	1.7%	2.0%	1.8%	1.5%	1.5%
Turkey	1.9%	11.4%	5.6%	3.2%	2.8%	2.6%	2.9%	2.9%	2.9%
United Kingdom	-10.4%	8.7%	4.3%	0.5%	0.4%	1.7%	1.8%	1.7%	1.7%
United States	-2.8%	5.9%	2.1%	1.9%	1.0%	1.9%	2.1%	2.0%	2.0%
World	-2.9%	6.2%	3.1%	2.5%	2.3%	2.8%	2.9%	2.1%	2.5%
Commodity prices	115.7	146.6	158.1	145.8	134.4	127.1	119.8	111.4	2% pa
Oil prices	41.8	70.4	100.9	93.8	78.1	74.8	63.5	67.1	3% pa

Table 2 IMF forecasts for general government net lending/borrowing (- is borrowing) to GDP ratio (per cent of GDP)⁵

	2022	2023	2024	2025	2026	2027	2028
U.S.	-3.7	-8.2	-7.4	-7.4	-7.0	-6.7	-7.0
U.K.	-5.5	-4.5	-3.9	-3.7	-3.7	-3.5	-3.5
Japan	-6.9	-5.6	-3.7	-2.6	-2.7	-2.9	-3.3
Germany	-2.5	-2.9	-1.7	-0.9	-0.6	-0.5	-0.5
France	-4.8	-4.9	-4.5	-4.0	-3.6	-3.5	-3.6
Italy	-8.0	-4.0	-4.0	-3.3	-2.7	-2.7	-2.5

⁵ Source: IMF World Economic Outlook Database October 2023 .

⁶ Source: IMF World Economic Outlook Database October 2023

We also show in Tables 3 and 4 the IMF forecasts for major economies' borrowing and debt to GDP. These are important, since they indicate that governments of most international economies are expecting to borrow significant shares of GDP and that other than Germany are expecting ratios of debt to GDP of over 100%. It is against this background that we expect short term (and even more so long-term) interest rates to remain high over the forecast period.

More important is the IMF prediction that the debt ratio for the U.S. will grow persistently over the period to 2028. The rules are different for the U.S. since it provides the reserve currency and within reason has much greater scope than other countries for borrowing because of this. But such scope has its limits and we cannot rule out a market reaction to the forecast persistence of borrowing and the forecast rising indebtedness.

Table 3 IMF forecasts for general government net debt to GDP ratio (per cent of GDP)⁶

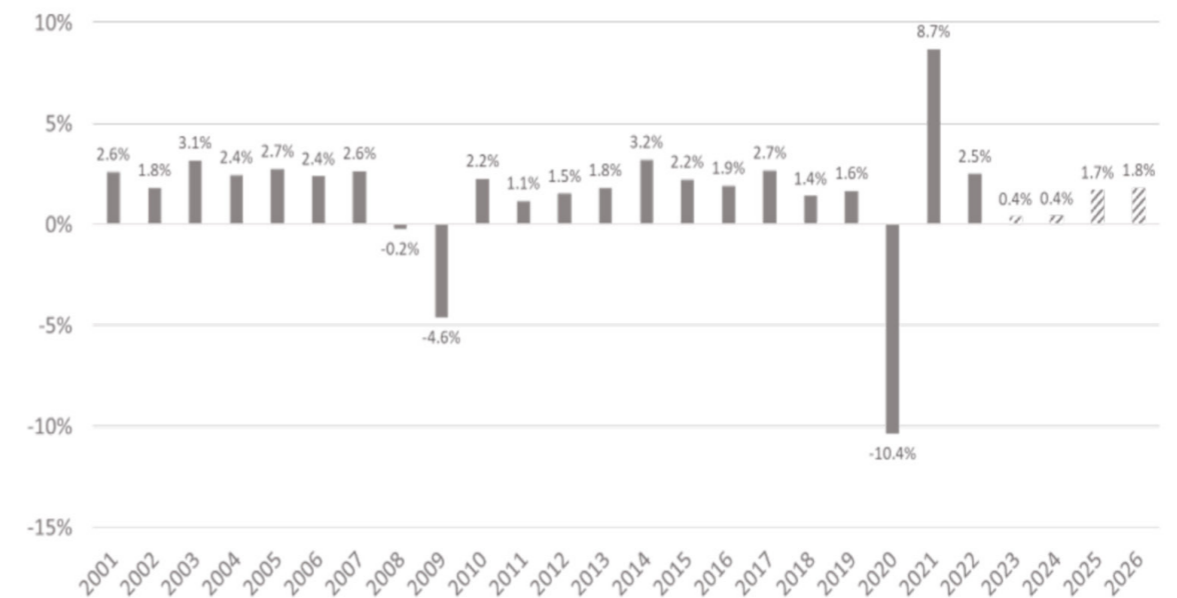
	2022	2023	2024	2025	2026	2027	2028
U.S.	95.1	96.7	100.7	104.0	106.6	109.0	111.6
U.K.	98.9	99.0	99.6	97.2	96.7	96.5	96.5
Japan	161.5	158.5	155.8	154.0	153.5	153.2	153.2
Germany	45.8	46.5	45.7	44.4	43.2	42.4	41.7
France	101.4	99.6	99.6	100.0	100.0	100.1	100.4
Italy	132.7	132.6	132.5	131.9	131.9	131.3	130.6

U.K. Economic Outlook

This section has been written in conjunction with the economic consultants Cebr and uses their October 2023 Prospects Service forecasts as well as information from other sources. Technically these forecasts are 'most likely' forecasts and so incorporate the assumptions that policies will change. It is quite likely that 'unchanged policies' forecasts would show a less favourable outcome.

Figure 13 Despite upward revision of historic GDP data, U.K. economy remains at risk of falling into recession at the end of 2023

GDP - annual % change, actual and forecast



Historic data for the U.K. since the pre-Covid period has been revised up sharply. U.K. GDP in Q2 2023 is now estimated to have been 1.8% higher compared to the pre-pandemic level of Q4 2019. This compares with eurozone GDP being 2.7% higher, with GDP in France up by 1.7% and in Germany up by 0.2%. Meanwhile, U.S. GDP was 6.1% higher. Previous estimates had indicated GDP for the same quarter was 0.2% lower than in Q4 2019.⁷

But we should not over hype these results. We estimate that the population grew by 1.7%⁸ over this period meaning that GDP per capita growth over the period has been almost non-existent.

Moreover, many of the lagged impacts of the delayed rise in base rates are yet to feed through to disposable incomes because of fixed rate mortgages. Moreover, there has been an international inventory cycle during mid-late 2023 which has affected especially the manufacturing sector.

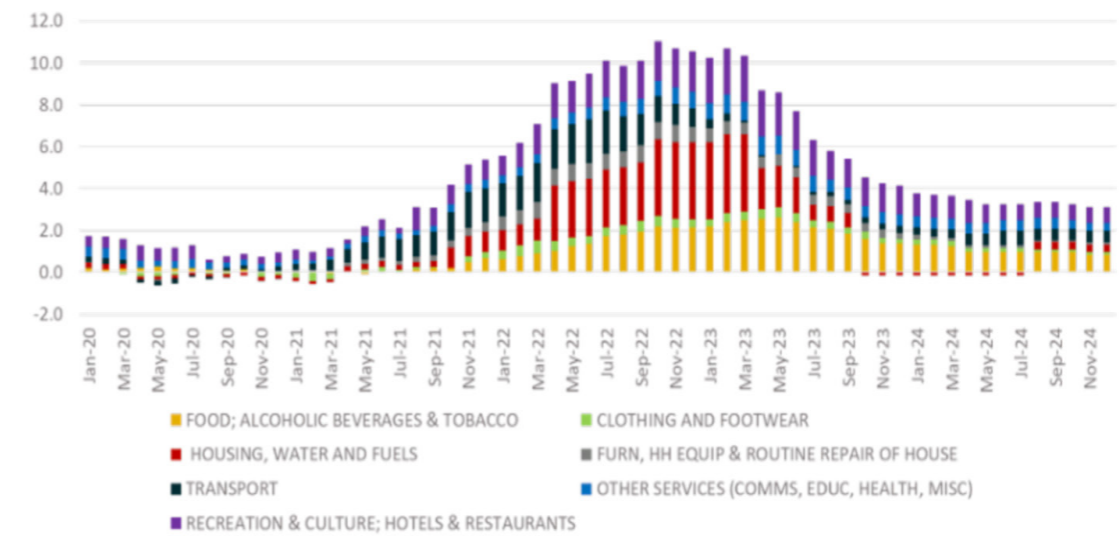
So growth in the short-term is likely to be subdued as is shown in Figure 13.

⁷ Source: House of Commons library research briefing 10 October 2023 <https://commonslibrary.parliament.uk/research-briefings/sn02784/#:~:text=GDP%20growth%20in%20recent%20years,US%20GDP%20was%206.1%25%20higher.>

⁸ The estimates use the IMF World Economic Outlook for October 2023 estimated population growth for 2019-2023 and scale down for the 3½ period rather than 4 years.

Figure 14 Energy prices expected to turn deflationary from October onwards, though stubbornly high core inflation will keep price rises above 2% target in 2024

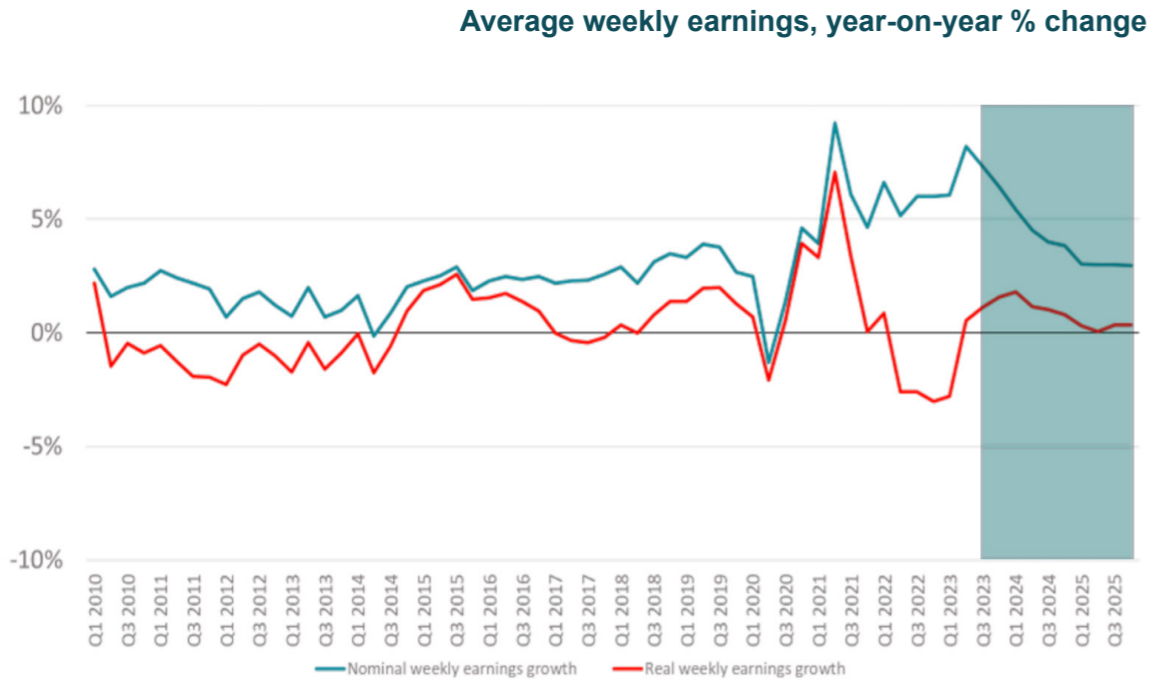
Contribution to U.K. inflation, in percentage points, actual and forecast



Source: ONS, Cebr analysis

But the international monetary squeeze and the rise in U.K. interest rates are both likely to help reduce the transitory components of inflation and ultimately feed through to core inflation as can be seen in Figure 14. In turn, growth in real wages is likely to resume in 2024. This is shown in Figure 15.

Figure 15 Real wages return to annual growth as a result of slowing inflation and policy changes



Base rates are expected to start to respond to falling inflation during 2024 and to fall gradually to around 2% in 2027 as is shown in Figure 16.

Figure 16 Bank of England base rates are likely to fall a little lower than in the U.S.

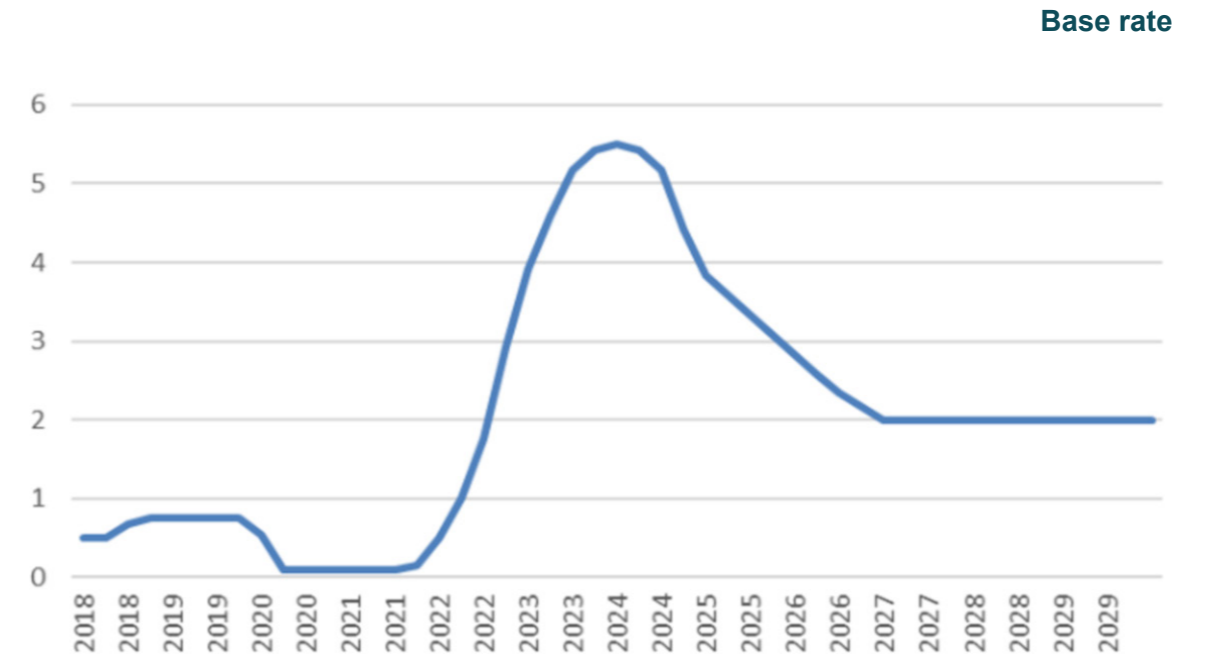


Figure 17 With interest rates following the Fed, the currency will probably move sideways (though we expect the \$ to fall back v the €)



The currency is expected to move mainly in response to relative interest rates - the U.K. interest rate cycle will probably lag those in the U.S. and the eurozone because of the different timings of their inflation cycles. Moreover, a weakening U.S. economic scenario, with reduced trade openness and heavy regulation combined with indebtedness, may well cause the currency to weaken. Figure 17 shows our best calculation of how this range of impacts will affect the £ v the \$.

Our detailed forecasts for a series of economic variable are set out in Table 4.

Table 4 U.K. economic outlook - annual forecasts

	Annual Growth			Base Rate %	£ / €	£ / \$
	Real GDP	Normal GDP	CPI			
2020	-10.4	-5.8	0.9	0.2	1.125	1.284
2021	8.7	8.5	2.6	0.1	1.163	1.376
2022	4.3	9.7	9.1	1.5	1.173	1.237
2023	0.5	7.3	7.5	4.7	1.146	1.241
2024	0.4	4.0	3.6	4.7	1.125	1.195
2025	1.7	4.4	2.7	3.2	1.145	1.215
2026	1.8	4.0	2.2	2.3	1.150	1.228
2027	1.7	3.9	2.1	2.0	1.188	1.250
2028	1.7	3.8	2.0	2.0	1.200	1.250
2029	1.6	3.7	2.0	2.0	1.200	1.288
2030	1.6	3.6	2.0	2.0	1.200	1.300
2031	1.6	3.7	2.0	2.0	1.200	1.300
2032	1.6	3.7	2.1	2.0	1.200	1.300
2033	1.6	3.7	2.1	2.0	1.200	1.300
2034	1.6	3.7	2.1	2.0	1.200	1.300
2035	1.6	3.7	2.1	2.0	1.200	1.300
2036	1.7	3.8	2.1	2.0	1.200	1.300
2037	1.7	3.8	2.1	2.0	1.200	1.300
2038	1.7	3.8	2.1	2.0	1.200	1.300
2039	1.7	3.8	2.1	2.0	1.200	1.300
2040	1.7	3.8	2.1	2.0	1.200	1.300
2041	1.7	3.8	2.1	2.0	1.200	1.300
2042	1.7	3.8	2.1	2.0	1.200	1.300
2043	1.7	3.8	2.1	2.0	1.200	1.300

Population growth

The U.K. population growth rate is forecast to fall sharply as the influx of Ukrainian and Hong Kong migrants is absorbed and policies to counter illegal migration become more effective.

The latest official ONS forecast is for population growth of 0.3% per annum from 2023 to 2043⁹. This means the forecasts imply a rate of growth of GDP per capita of 1.3% per annum from 2025 onwards. This is considerably faster than the rate of growth observed since 2010 or forecast for the short term.

There has to be a question about whether such rapid growth would be sustainable on unchanged policies if population growth, as expected, does indeed slow down.

Fiscal outlook on unchanged policies

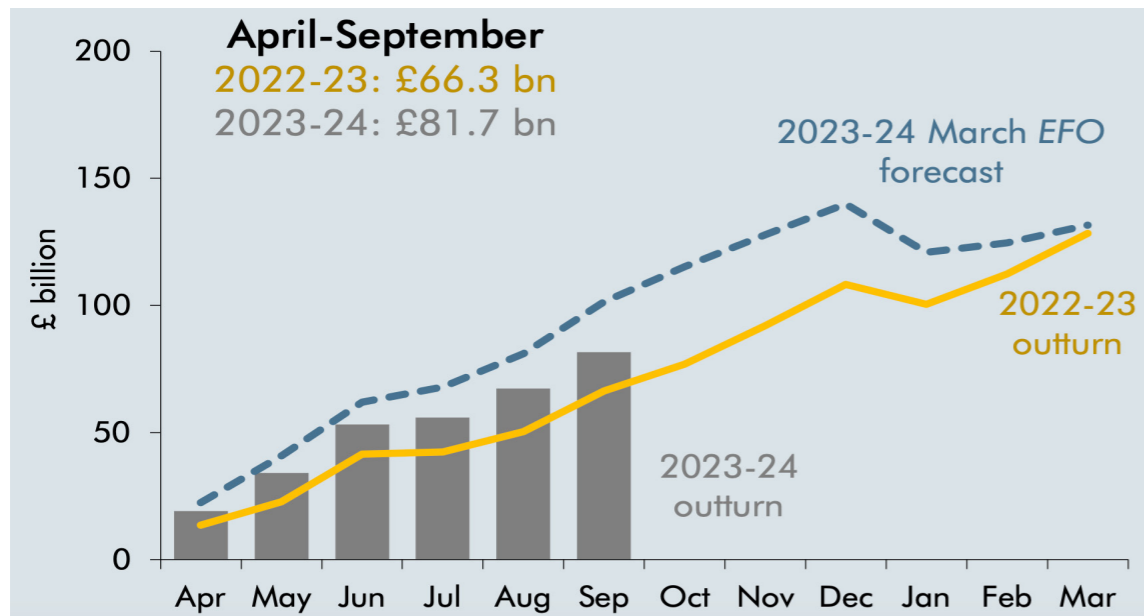
We have run the forecasts for the fiscal outlook out over the coming years assuming unchanged policies. We have taken this to mean spending in real terms as set out in the OBR's Economic and Fiscal Outlook March 2023¹⁰, although we have adjusted to take account of our higher inflation assumptions. Tax rates are as set out in the same document, with the exception that we have assumed a return to indexed bands and allowances after 2027-28.

We have, however, applied the growth, inflation and interest rate assumptions set out in the U.K. Economic Outlook section above.

⁹ <https://www.ons.gov.uk/peoplepopulation-andcommunity/populationandmigration/populationprojections/bulletins/nationalpopulationprojections/2020basedinterim>
¹⁰ https://obr.uk/docs/dlm_uploads/OBR-EFO-March-2023_Web_Accessible.pdf

For the current fiscal year our calculations suggest that borrowing will, at 4.4% of GDP against the official target of 5.1% of GDP, undershoot. This is backed up by Figure 18 which shows the most up-to-date report on borrowing from the OBR¹¹ which also shows an undershoot of £19.8 billion compared with the monthly profile assumed in the OBR's March forecasts.

Figure 18 Latest OBR data on borrowing v target



Looking further ahead, however, our forecasts suggest that this favourable picture could continue until 2027-28 because of the likely additional tax revenues from the combination of higher than expected inflation and frozen tax allowances.

The freeze in tax allowances and bands was announced in the March 2021 Budget to continue to 2025-26 and extended in the Autumn Statement 2022 to continue to 2027-28.

¹¹ OBR Public Finance Commentary 20 October 2023 <https://obr.uk/year-to-date-borrowing-moves-further-below-our-forecast/>

The effect of the freeze is to erode the real value of the allowances and bands in relation to average earnings by 34.7% from 2021-22 to 2027-28 on Cebr forecasts for average earnings we are using for our predictions.

The OBR in March 2023 calculated that, assuming 19% growth in average earnings between 2021-22 and 2027-28, this would generate a rise in income tax receipts of 42.8%, raising the ratio of Income Tax to GDP from 9.6% in 2021-22 to 10.9% in 2027-28.

If the Cebr forecasts of 34.7% growth in average earnings instead of the OBR's 19% is used, the rise in Income Tax receipts would be from 9.6% to 13.4% of GDP (before taking into account the impact on reduced GDP from higher taxes). This would be equivalent to a 9p increase in all rates of Income Tax.

The Growth Commission has calculated how much additional revenue this will generate if it were not to be changed. The additional revenue (before taking negative GDP impacts into account) would be £75 billion, raising the total tax raised from £250 billion in 2022-23 to £396 billion in 2027-28. However, the increase in Income Tax paid would leave less money to be spent, reducing consumer spending and revenue from other taxes.

But in practice the high rate of tax would start to damage GDP growth, one reason for expecting very sluggish GDP growth on unchanged policies. There would also be revenue leakage from increasing use of tax loopholes and the so-called black economy as well as from reduced spending as a result of reduced disposable income.

Our projections in Table 5 show how our forecasts for the fiscal outlook on unchanged policies compare with those in the March 2023 OBR Fiscal Report.

The numbers take into account the GDP revision as well as our forecasts of higher inflation and of slower growth.

Receipts are slightly stronger, mainly as a result of fiscal drag. Net this brings borrowing down to 0.6% of GDP in the final year of the forecast.

Table 5 Fiscal projections compared with those in March 2023 OBR Fiscal Report

	Per cent GDP						
	Outturn	Forecast					
	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
OBR March 2023							
Receipts	39.3	40.7	41.1	41.4	41.2	41.5	41.7
Spending	44.5	46.8	46.2	44.6	44	43.8	43.4
Public Borrow	5.2	6.1	5.1	3.2	2.8	2.2	1.7
Public Debt	96.9	100.6	103.1	102.4	99.1	97.6	96.9
OBR Numbers adjusted for GDP revisions, higher inflation and weaker GDP growth							
Receipts	38.9	40.3	39.9	41.4	41.5	42	42.3
Spending	44	46.3	45.8	44.1	43.5	43.3	42.9
Public Borrow	5.2	6	5.9	2.7	2	1.3	0.6
Public Debt	95.9	99.6	101.8	100.7	96.8	94.4	92.7

We also look at the fiscal sustainability in the medium term to 2043-44.

In the medium term there are more pressures on budgets from an ageing population. These are likely to add to both health spending and pensions.

Estimates of this impact vary. The OBR report on health¹² indicated a rise in health spending of 1.8% between 2020-21 and 2065-66. This would imply a rise of 0.8% from 2023-24 to 2043-44.

¹² https://obr.uk/docs/dlm_uploads/Health-FSAP.pdf

¹³ European Commission, The 2021 Ageing Report. Economic & Budgetary Projections for the EU Member States (2019-2070), European Economy – Institutional Paper 148, May 2021.
¹⁴ <https://www.oecd.org/economy/growth/47984536.pdf>

The EU's report on demographics and sustainability indicated a likely fiscal cost of ageing of In the baseline scenario underpinning the 2021 Ageing Report, the total cost of ageing which stood at 24% of GDP in 2019, is projected to rise by 1.9 percentage points of GDP by 2070.¹³ Were this to apply to U.K. costs, it would imply an increase of 0.7% of GDP from 2023-24 to 2043-44.

On the other hand, the OECD's analysis suggests that demographic pressures on budgets are far stronger and it estimates that the U.K.'s spending on old age health care, social care and pensions was likely to rise by 2.1% between 2010 and 2025.¹⁴

To be on the cautious side, our quantification allows for demographic impacts on our base forecast on unchanged policies which add 1½% to GDP in net additional spending from 2023-24 to 2043-44.

Table 6 shows the medium term projection for the fiscal aggregates. It shows that even allowing for demographics, the deficit, though it expands, does not do so uncontrollably while the debt ratio continues to fall. But this assumes that taxes remain very high by historic standards.

Table 6 Medium Term Fiscal Projections on unchanged policies

OBR numbers adjusted for GDP revisions, higher inflation and weaker GDP growth

	2027-28	2043-44
Receipts	42.3	42.3
Spending	42.9	44.4
Public Borrowing	0.6	2.1
Public Debt	92.7	78.3

Fiscal and monetary policy

This section sets out the Commission's views about fiscal targets and monetary policy.

Monetary policy

It is important not to look at fiscal rules in isolation. Our policy proposals are likely to have potential fiscal costs in the short term but benefits in the longer term.

The first requirement of any fiscal rule is that monetary policy is sufficiently rigorous to ensure that policy is not inflationary. The current monetary policy rules have failed to achieve this.

We are conscious that any monetary policy rule can be difficult to operate in complicated international circumstances such as the period of extreme monetary policy volatility from the U.S. during the past three years.

But even allowing for both the uncertainty generated by unexpected circumstances and external shocks like Covid and the Ukraine war, we believe that the U.K. Monetary Policy Committee (MPC) has made major mistakes which appear to have been reflected in the emergence of high and persistent inflation.

Because this inflation was predicted in advance by a range of experienced outside observers to whom the MPC have appeared to pay little or no attention, it is hard to escape the view that the problems of the MPC reflect structural causes about how the Committee is constituted.

To correct these we recommend two policy changes:

1. There should be an obligation on the Chancellor to ensure that appointments to the MPC reflect a wide range of economic views about monetary policy and that this obligation should be monitored by the Treasury Committee of the House of Commons;
2. Growth in the U.K. money supply (M4) should be kept within a range of consistent with the inflation target. Currently this would probably imply a range of between 1.5 and 4.5% per annum growth.¹⁵

A stable monetary background is likely to make the achievement of fiscal continence easier.

Fiscal policy

Fiscal policy must have twin objectives – to manage government borrowing and debt such that it is not destabilising, especially in the financial markets, and to prevent an excessive accumulation of debt to be passed on to future generations. Equally, policy must aim to enable the economy to grow without creating inflation.

Our analysis of the world economy suggests that other countries are likely to be running substantial budget deficits. Using the somewhat simplistic analogy that the U-boats of the bond markets tend to pick off the slowest ship in the convoy, the fact that other countries are planning to borrow heavily and keep high debt to GDP ratios (see Tables 4 and 5) might give some grounds

for comfort that the U.K. could 'get away' with higher borrowing. It would be wise not to rely on this, however – at best it could only help in the short term and we believe that sustainable fiscal policy ultimately is a benefit in its own right.

¹⁵ Tim Congdon, one of the UK's leading monetarists, has recommended that this implies the Governor of the Bank should write an Open Letter if monetary growth becomes negative or exceeds 7 per cent, explaining why the MPC judges that such rates of growth if they occur would not be either inflationary or disinflationary. <https://committees.parliament.uk/written-evidence/120080/pdf/>

The main fiscal target currently in force is set out in the Charter for Budget Responsibility¹⁶. Its key elements are for the debt to GDP ratio to be falling between the fourth and fifth year of a rolling forecast, as assessed by the Office for Budgetary Responsibility (OBR) and a supplementary target that requires public sector net borrowing not to exceed 3% of GDP in the fifth year of the rolling forecast period.

In principle, such rules are good for credibility (though markets actually pay little attention to them as such) and tackle the problem of ‘deficit bias’ (without rules, debt is likely to ratchet up over time as politicians are normally considered to respond asymmetrically to shocks).

The Labour Party¹⁷ has signalled that it would keep the debt to GDP target, but revert to the target of balancing the current budget so that the government borrows only to invest. In some circumstances this might be a sensible improvement. For example, borrowing up to 4% of GDP for investment would still be consistent with debt falling as a share of national income if the current budget is balanced and nominal GDP is growing by 4% or more.

But the justification of making exceptions for borrowing for investment is that in theory such investment will permit higher GDP at a future date which will hence generate revenues that will justify the additional borrowing.

In the past most public investment was allocated based on economic grounds and this argument was likely to hold. But in the modern era, it is almost equally likely that public investment is justified on social or environmental grounds. These grounds are perfectly valid but in themselves do not mean that GDP will be higher in the future to justify additional borrowing for such investments to be paid for from the fruits of the higher growth.

In practice it is probably too complicated to make exceptions for borrowing for investments without an unambiguous method of distinguishing whether these investments boost GDP or not.

¹⁶ The latest update for this was released in October 2022. <https://www.gov.uk/government/publications/charter-for-budget-responsibility-autumn-2022-update>

¹⁷ See Section 3.1 of <https://researchbriefings.files.parliament.uk/documents/CBP-9329/CBP-9329.pdf>

One might make an equal case for allowing higher borrowing for tax cuts that might initially increase borrowing but ultimately reduce it by boosting GDP and hence tax revenues. Logically this should be seen as akin to investment. But again, there is a degree of uncertainty about such impacts and it probably makes sense not to anticipate success.

The current fiscal rules are a considerable relaxation on previous rules and indeed could in theory permit quite high levels of borrowing.

We consider that the tax rates implied in Table 6 to allow government debt to start to fall significantly are unlikely to be sustainable, in that they will take too high a share of income in tax at a time when growth is sluggish. So it may well be that a falling debt ratio is improbable without additional measures of the kind suggested in this Growth Budget.

We therefore propose supplementing the current fiscal rules with the two additional rules:

1. that the ratio of the deficit to GDP should fall to below 2% by 2029/30 and
2. that by 2043-44 policy should aim at gradually reducing the debt to GDP ratio to 60%

These should still permit sensible tax cuts over the period, provided that public spending remains under control and that supply side policies are also followed.

Supply side better regulation

Introduction

To achieve economic growth at a pace that will generate significant gains in living standards we need to unblock the economic arteries that have been gradually clogged up over recent years by anti competitive regulations.

We have therefore put together a carefully costed pack of regulatory and other supply side reforms which together are likely to achieve higher growth. This in turn, together with holding down public spending to more sustainable levels, will generate the scope for tax cuts without risking higher interest rates or higher inflation.

The package is composed of four elements:

1. A reform of planning rules to permit not only much higher rates of housebuilding and hence cheaper housing but also much more competition especially in hospitality and in retail. At the same time the substantial planning delays for infrastructure and energy projects need to be drastically reduced.
2. An energy and smart net zero package to achieve the net zero targets in a way that does minimal damage to the economy.
3. A labour market package to improve the operation of the labour market
4. An infrastructure package to improve the operation of roads and rail and their interoperability.

In addition we also propose reform of the regulatory process so that regulatory impact assessments are properly carried out, taking into account specific impacts on trade, competition and property rights protection; are considered in Parliament in advance of regulatory decisions and are annually reviewed in Parliament post implementation.

We also suggest that regulatory impact assessments include core principles such as ensuring regulation does as little damage to the three pillars that support our ACMD¹⁸ analysis as possible – these are trade openness, competitive markets, and property rights protection. The principle should be that regulation should be promulgated that does the least damage to these core pillars consistent with a publicly stated and legitimate regulatory goal. Our ACMD model shows that if this principle is respected we are most likely to see GDP per capita increases.

This section considers the importance of regulation before describing the key elements of the supply side better regulation package.

The importance of regulation

Domestic regulations can have an effect on how markets work, and can introduce market distortions that impact competition negatively. We have developed an econometric model to evaluate the impact of these Anti-Competitive Market Distortions (ACMDs) which correlates regulations that have negative impacts across three dimensions of international competition (trade openness), domestic competition (market competition behind the border) and property rights protection with GDP per capita, a measure of productivity. By evaluating the specific areas where the U.K. is a weak performer or where its scores have declined more recently, we can make some assessments of the areas where regulatory reform is needed and what the GDP per capita effect of that reform actually is.

¹⁸ The ACMD (anti competitive market distortions) model is the micro model described in Appendix 1

We have focused on those areas where there is a convergence between areas in which the U.K. is a poor performer and those arterial sectors where the effects of improvements are at their greatest (see Growth Commission papers 2 and 3). The model is described in Appendix 1.

The model also significantly finds that movements in countries scores (over a 118 country, nine year set of panel data) do correlate with changes in log (GDP per capita). By itself, this is an important finding. Each pillar/index has a series of sub-variables that track with policy choices in specific areas. These sub-variables are weighted based on a STATA analysis, except for the domestic competition pillar where all factors are equally weighted. This paper identifies those areas where the U.K. is a significantly poor performer compared to its peers which is where gains can be made.

It is important to say at the outset that there does need to be a holistic and general approach to regulation in the round.

Our models have revealed that optimising the U.K.'s score in the Domestic Competition Index could potentially boost GDP per capita by 5.9%-6.4%.¹⁹ Similarly, maximising scores in the Property Rights Index and International Competition Index could result in GDP per capita increases of 4.0%-6.8% and up to 2.2%, respectively.

Optimisation means that the U.K. merely raises its performance to that of the highest performing country. It is of course possible for the U.K. to achieve an optimal score in these three pillars which would mean a much higher GDP per capita realisation, but we have elected the lower optimisation method for the reason that since another country has achieved it, there is nothing in principle that would prevent the U.K. from doing so as well. These results are generally aligned to what others have projected for different countries.

¹⁹ This represents the GDP per capita increase from an improvement in the index to the same level as the best performing country. The lower end of the range is the result from a model which controls for both country and time fixed effects whereas the higher end of the range is given by the model with country fixed effects.

This shows firstly that competition in regulation is not just an optional extra but rather a fundamental requirement to a growing economy. We have noted in Growth Commission Papers 2 and 3 that distortions in the arterial sectors of the economy can have much more pernicious impacts than other sectors because these effects can be amplified across the whole economy. We have therefore focused on some key arterial sectors, and can show how improvements in these sectors simply to the level of the best global performer can lead to significantly higher GDP per capita than is generally thought possible.

Planning and housing

U.K. planning regulation has dramatically increased in complexity in the last a couple of decades. The result has been very little progress on housebuilding. Applying the distortions model to planning, we find that planning improvements will lead to improvements on the competition pillar which translates to the following GDP per capita gains.

There are a number of policies that would contribute to this GDP per capita gain figure.

Planning and housing policies to reduce the cost and time to register property could result in an improvement in the Property Rights Index. This could in turn lead to an increase in GDP per capita of 0.2% to 0.4%.²⁰ Similarly, the Domestic Competition Index could increase through an improvement in the "Regulatory Quality" sub-component, which is based on the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. Improvement in these sub-scores could lead to increases in GDP per capita of up to 0.3-0.4%.²¹

These are small beer however, compared with the potential gains that might accrue from improving planning.

²⁰ This represents the GDP per capita increase from an improvement in the sub-score to the same level as the best performing country.

²¹ Same as above. It should be noted however that many factors other than housing and planning policies also impact Regulatory Quality.

Housing

The CBI/RICS task force on planning 'Shaping the Nation'²² estimated that the capital cost of the excess price of houses caused by planning restrictions was £78 billion at 1987 values, causing an annual loss to the economy of 1.9% of GDP.

Studies quoted in The Economist²³ show significant crowding out impacts from high house prices, damaging the growth of the rest of the economy. In the U.S. a very detailed micro study looking at bank branches found that found that a one-standard-deviation increase in house prices in areas where a bank has branches reduced lending growth to firms that borrow from the same bank by 42%. The total investment undertaken by the affected firms fell by 21%.²⁴ Similarly a study from China showed that based on data from manufacturers in 172 Chinese cities a 50% increase in property prices would raise borrowing costs, reduce investment and productivity, and result in a 35.5% decline in the firms' value-added output.²⁵

Liam Halligan in his book 'Home Truths'²⁶ and in his evidence to the House of Commons Housing, Communities and Local Government Committee has recommended additional measures to support housing including the charging of penal rates of Council Tax on land with planning permissions which have not been built on and a 50-50 rule for sharing the value of property uplift from planning permissions between the local authority and the developer.²⁷

²² 'Shaping the Nation – Report of the Planning Task Force' CBI November 1992

²³ <https://www.economist.com/finance-and-economics/2022/07/28/how-high-property-prices-can-damage-the-economy>

²⁴ 'Housing Price Booms and Crowding-Out Effects in Bank Lending' Indraneel Chakraborty University of Miami; Itay Goldstein University of Pennsylvania; Andrew MacKinlay Virginia Tech, Journal of Financial Economics 2018 <https://finance.wharton.upenn.edu/~itayg/Files/realestatebubbles-published.pdf>

²⁵ Hau, Harald and Ouyang, Difei, How Real Estate Booms Hurt Small Firms: Evidence on Investment Substitution (May 2, 2018). Swiss Finance Institute Research Paper No. 18-38, Available at SSRN: <https://ssrn.com/abstract=3174761> or <http://dx.doi.org/10.2139/ssrn.3174761>

²⁶ Home Truths: The UK's chronic housing shortage - how it happened, why it matters and the way to solve it Liam Halligan Biteback Publishing November 2019

²⁷ <https://committees.parliament.uk/writtenevidence/2743/pdf/>

Retail and hospitality

The McKinsey study commissioned by Gordon Brown attributed the bulk of the 40-50% of the productivity differential in the hospitality and retail sectors in the U.K. compared with the U.S. to the inefficiencies and lack of competition caused by the planning system.²⁸ This implies a loss of productivity in these sectors alone equal to about 3% of GDP.

Other sectors

In general we recommend the adoption of an Australian style zoning system for planning with the presumption that planning applications should be successful provided that they are in line with zoning.

We recommend speedier resolution of planning issues.

For large projects of national importance in particular we recommend streamlined planning that will reduce planning delays by at least 75%.

Smart net zero and energy

Energy costs are higher in the U.K. than they need to be and impose a substantial excessive cost on the economy, damaging its competitiveness.

Net zero is an important issue but is impeded by offshoring production to other countries with fewer environmental protections.

²⁸ McKinsey Global Institute Driving productivity and growth in the UK economy October 1, 1998 Report

We first look at energy costs in the U.K. compared with other countries. Figure 19 shows that the U.K.'s household energy costs are higher than in any other major economy except Italy. They are more than twice as high as in the U.S. or France.

Figure 19 Comparative energy costs by country

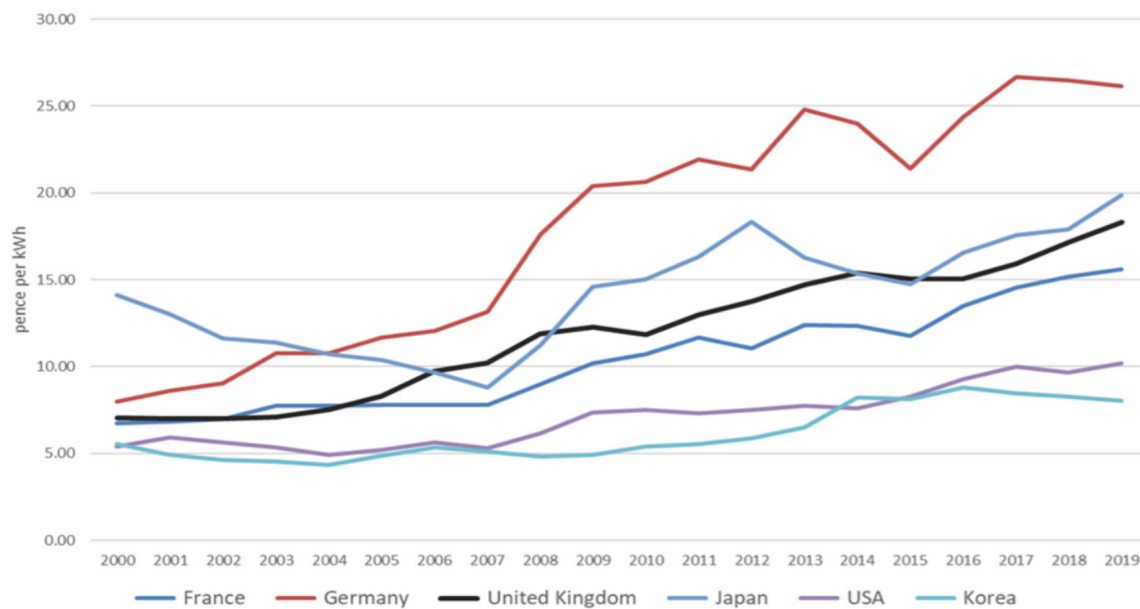
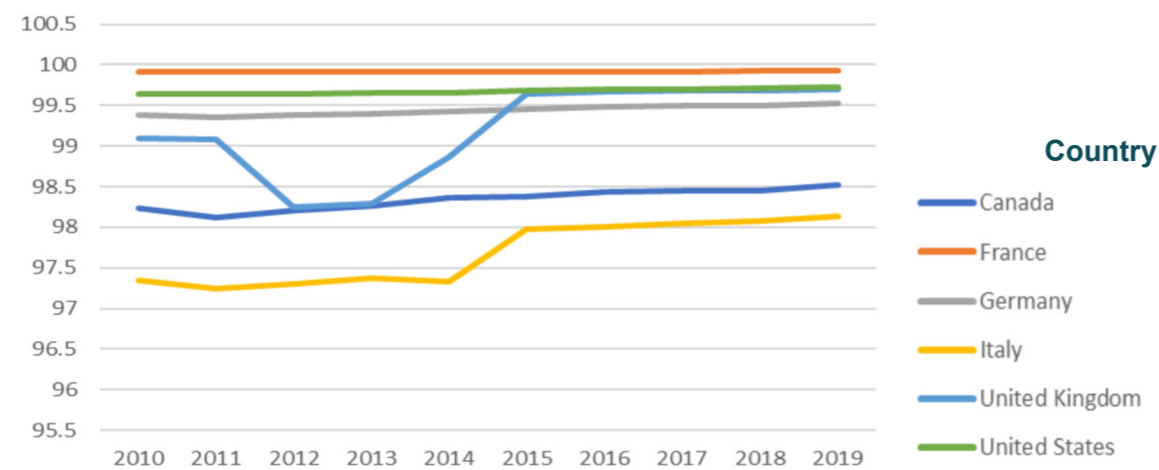


Figure 20 Scoring for relative cost of setting up electricity for SMEs in different countries

Relative score (0-100) of set up cost of electricity for small to medium size businesses



High energy costs result from a number of different policies. These include environmental taxes, levies and other costs associated with the Climate Change Act, 2008. But high energy costs are also attributable to anti-competitive interconnection policy, as well as anti-competitive legacy effects of the manner in which the U.K. electricity industry was privatised in the first place.

There was a lack of competition at the generation level to start with and the monopoly transmission and distribution company, the National Grid Company, remains a monopoly even now²⁹

The CMA did look at the energy sector with specific emphasis on competition³⁰. The CMA noted that in addition to social and environmental costs, network costs were a significant contributor to wholesale energy cost (the primary driver for ultimate consumer cost). The CMA found evidence of anti-competitive effects in the manner in which Contracts for Difference have been allocated. At a high level, CfDs are designed to skew investment in favour of low-carbon projects, and the ability under the Energy Act of 2013 to avoid the competitive process when awarding CfDs has indeed been found to be anti-competitive.

There is evidence of inefficient financial allocation of resources in support of certain low-carbon technologies which has had a detrimental effect on price to consumers. Uniform charging for transmission losses (losses which occur when electricity is transported around the country) does lead to a system of cross-subsidisation which distorts competition between generators, creating negative impacts on competition and higher prices.

At the retail level, the ban on regional discrimination has had a negative effect on competition, leading to a widening gap between retail prices and marginal cost. The CMA also notes that the Retail Market Review (“RMR”) reforms of 2010 had a significant, negative impact on competition. Specifically, by limiting tariff offers in order to “simplify” the overall offering to customers, the RMR has actually dampened competition, led to a decline in innovation and resulted in higher costs for consumers.

²⁹ For more detail see 'Market Distortions in Privatisation Processes', Singham (Routledge 2022).

³⁰ 'Energy market investigation Final report' Competition and Markets Authority 2016 <https://assets.publishing.service.gov.uk/media/5773de34e5274a0da3000113/final-report-energy-market-investigation.pdf>

Some of the remedies the CMA sought to introduce were questionable (a price cap for prepayment customers recognising that prices had gone up due to anti-competitive effects). The CMA noted (considering the regulatory system for energy):

“The rules and regulations governing energy markets are set out in legislation, licence conditions and codes. These regulations have a profound effect on the nature and form of competition in both wholesale and retail markets, and we are therefore concerned that some key aspects of the structure and governance of the regulatory framework – including the roles and responsibilities of institutions and the design of decision-making processes – increase the risk of policies being developed in the future that are not in customers’ interests and inhibit the development of policies that are in their interests. We also consider that elements of this framework have contributed to the lack of trust in the sector that many parties have highlighted in the course of our investigation.”

The CMA report also set forth deep concerns with Ofgem’s regulatory approach. In relation to its duties, Ofgem stated that the competition duty had been progressively downrated relative to other duties over the last ten years. It expressed concern that, if they suggested it should change its policies towards improving competition, our conclusions and remedies might be difficult to reconcile with the current structure of its duties.

One could regard it as a significant cause for concern that Ofgem considers that these duties impose a constraint in practice on its ability to pursue competition-based policies (for example, through placing a priority on approaches that do not promote competition) particularly since we consider that Ofgem has taken some decisions that have not had the effect of promoting effective competition, including: the decision not to approve the introduction of locational charging for transmission losses; the decision to prohibit regional price discrimination; and the decision to introduce the simpler choices component of the RMR reforms.

However, the CMA accepted that the fault did not solely lie with OFGEM as the then department DECC had indicated it would take matters into its own hands if OFGEM did not apply anti-competitive regulation in effect forcing its hand. The political system therefore responded to political pressures by imposing anti-competitive regulation on consumers.

The CMA also concluded:

“Climate and energy policies have to balance the competing objectives of: reducing emissions; ensuring security of energy supply; and ensuring energy prices are affordable. We have considered whether a lack of independent scrutiny of such policies – and the policy trade-offs within them – might be one of the factors that increases the risks of inefficient policy design in the future.”

The CMA was also concerned that the six large operators did not have good financial accounting systems that provided the transparent information needed for competitive markets to actually work:

“Overall, we have found that a combination of features of the wholesale and retail energy markets in Great Britain give rise to an AEC through an overarching feature of a lack of robustness and transparency in regulatory decision-making which, in turn, increases the risk of policy decisions that have an adverse impact on competition. More particularly, we have found that: (a) Ofgem’s statutory objectives and duties may constrain its ability to promote effective competition; (b) there is a lack of a formal mechanism through which disagreements between DECC and Ofgem over policy decision-making and implementation can be addressed transparently; (c) the impact of government and regulatory policies over energy prices and bills has not been effectively communicated; and (d) there is a lack of a regulatory requirement for clear and relevant financial reporting concerning generation and retail profitability.”

And with regard to voluntary codes (i.e. agreements between the main operators):

“We have found a combination of features of the wholesale and retail gas and electricity markets in Great Britain that are related to industry code governance and which give rise to an AEC through limiting innovation and causing the energy markets to fail to keep pace with regulatory developments and other policy objectives. These features are as follows: (a) parties’ conflicting interests and/or limited incentives to promote and deliver policy changes; and (b) Of-gem’s insufficient ability to influence the development and implementation phases of a code modification process.”

This is further evidence of incumbents organising the market in ways that damage consumers.

The CMA concluded that:

“319. The problems we have identified relate to the processes, structures and institutions involved in regulatory decision-making in the energy sector. They are systemic in nature, having an impact across all of the energy markets that we have identified. While the detriment arising from these AECs is, by its nature, difficult to quantify, we consider that it is likely to be very substantial.

320. First, the costs of energy policies – the transfers and subsidies put in place to achieve government policy objectives such as reducing greenhouse gas 75 emissions – will comprise an increasing proportion of customers’ energy bills. On the basis of current announced plans, DECC estimates that climate and energy policies will add 37% to the retail price of electricity paid by households in 2020.¹⁸ Further, some policies – such as the roll-out of smart meters – are expected to improve energy efficiency and hence reduce energy bills. Given the central role that government policies are expected to play in determining energy bills in the future, we believe it is vital that policy

decisions are robust, and informed by a transparent analysis of their impacts on customers.

321. Second, energy markets are highly regulated, and the nature of competition in these markets is shaped by the design of the regulatory regime to a much greater extent than in most other markets. This is particularly the case for wholesale markets, which currently comprise around 50% of the costs faced by electricity and gas customers, and where the nature and size of technological and regulatory changes expected over the next few years are substantial. We also note that many of the competition problems that we have identified in the retail energy markets – the settlement systems for gas and electricity, which fail to give suppliers the right incentives, the introduction of the RMR simpler choices reforms, which have stifled innovation – are regulatory in nature, reflecting specific provisions in legislation, licence conditions and industry codes.”

Competition in energy markets is picked up by the ACMD model in the following sub-variables:

- Cost of electricity
- Time to get electricity

Improving those to the highest scoring country is associated with a GDP per capita increase of 0.3%-0.4%.³¹

In addition we have used the macro model to understand the impact of reducing energy costs on the economy.

³¹ This represents the GDP per capita increase from an improvement in the sub-score to the same level as the best performing country. The lower end of the range is the result from a model which controls for both country and time fixed effects whereas the higher end of the range is given by the model with country fixed effects.

Labour market

One area where the U.K. is a poor performer in the ACMD model is in the area of labour market flexibility. The UK's 2019 score is 5.4 whereas the highest performer, Singapore, is 1.5 points above the U.K. (which is a significant change).

Labour market flexibility is a particularly important element of the domestic competition pillar because it relates to the voluntary exchange of the provision of labour between a willing seller of that labour and a willing buyer. Lack of flexibility in these arrangements ties the hands of both buyer and seller in these cases. Of course, labour protections to prevent abuse and exploitation are necessary, but the data suggests that the U.K.'s comparatively poor scores in this area are holding back its economy, and the balance between labour protections and voluntary exchange in the provision of labour services is more restrictive in the U.K. than is optimal. Returning the U.K. to a better balance could unlock significant amounts of GDP per capita.

The policies holding back the U.K.'s score in this part of the model are:

- **Minimum wage**
- **Associational right**
- **Paid annual leave**
- **Notice period for redundancy dismissal**
- **Severance pay for redundancy dismissal**
- **Labour force participation rate**
- **Restrictions on overtime work**
- **Redundancy dismissal permitted by law**

If the U.K. were to optimise³² its score in labour market flexibility, it could expect an associated increase of 4.6% - 5.1% in GDP per capita. We assume that it will not be practical to implement all the policies that might bring the U.K. into line with Far Eastern economies but even catching up with Australia would raise GDP per capita by 1.9% (see Appendix 2).

The following policies would contribute to that gain in GDP per capita that correlate to the factors listed above.

1. Lower notice period and severance pay for redundancy dismissals.
2. Efforts to improve labour force participation rate.
3. Eliminate restrictions on overtime work by deleting the EU Working Time Directive from the U.K. statute book.
4. Allowing firms to dismiss employees more easily if business conditions require it.
5. Adjust the minimum wage level.

The U.K. government is considering efforts to bring the cohort of workers in their fifties back into the work force. Reform of the U.K.'s redundancy laws would also contribute significantly to GDP per capita. It should be pointed out that onerous redundancy laws prevent firms from hiring workers (because of the cost of having to make them redundant), and this particularly affects smaller firms.

³² This represents the GDP per capita increase from an improvement in the sub-score to the same level as the best performing country. The lower end of the range is the result from a model which controls for both country and time fixed effects whereas the higher end of the range is given by the model with country fixed effects.

Transport infrastructure

The quality of transport infrastructure is an important arterial sector which has a significant impact on GDP per capita. There has been much debate in the U.K. on the quality of its rail sector, but we should note that most journeys in the U.K. are made by car. Quality of roads is a sub-variable which is part of the ACMD index.

If the U.K. optimised this sub-variable, we would see an associated 0.68% – 0.75% GDP per capita increase. The U.K. scores particularly poorly in this sub variable with a score of 4.9 in 2019, compared to Singapore’s peak performance 1.8 points higher.

Although quality of rail is not a sub variable in the ACMD index, we can make some observations with regard to rail and some recommendations as to how to improve the competitive environment here.

As in other sectors, the CMA has made recommendations regarding improving competition in the market for passenger rail services.³³ The rail sector in the U.K. was privatised in the 1990s, but competition problems remained,³⁴ because the government remained in control of the network itself, and regional monopolies were created that did not compete. The lack of on-rail competition has been highlighted by the CMA’s report on increasing competition in the rail sector in 2016. Because Network Rail is owned by the government and charges access fees for use of the track to rail franchisees, there is a possibility of ACMDs applying to the access charges (rather like interconnection charges in electricity).

In-market competition is quite limited (where you have multiple franchisees for a single route). But this is precisely the competition that will have an effect on price and cost. The decision in 2001 to reduce the number of franchisees has severely limited this competition. CMA acknowledges that on-rail competition would have significant competition benefits for both price and service.

³³ Competition in passenger rail services in Great Britain, A policy document Competition and Markets Authority 2016 https://assets.publishing.service.gov.uk/media/56ddc41aed915d03760000d/Competition_in_passenger_rail_services_in_Great_Britain.pdf

³⁴ Again this was noted in Market Distortions and Privatisation Process, Singham (Routledge 2022)

Cost reductions for on market competition are suggested to be around 29%. More on-rail competition could also put pressure on Network Rail to ensure appropriate capacity on the network itself and thus reduce access costs.

On-rail competition is important as incumbent franchisees will tend to resist it as they will benefit from lack of competition and will wish to preserve the status quo.

None of the CMA 2016 recommendations have been adopted, and on the contrary far from being a candidate for on rail competition, East Coast Main Line has been taken back into public ownership in 2023.

Much of the CMA’s findings have been superseded by the Williams-Shapps Review in 2021.³⁵ The proposal is for Great British Railways to run the system, own the network (as the government does now) and, critically, receive the fare revenue. This is the first competition problem. On rail competition is completely thwarted if the measure of success (revenue) is not actually received by the relevant operating company. It also appears that the lessons from the energy sector are not being drawn. It is supposed that consumers prize simplicity above price and cost reductions, and the learning from the energy market is that simplicity brings less choice and higher prices. A false choice between simplification and nationalisation is presented as if this is the only choice available, completely at odds with the recommendations of the competition regulator.

We therefore recommend that rather than renationalisation and the recommendations of the Williams-Shapps review, we would recommend more utilisation of “on-rail” competition, and franchising which we believe would lead to better services and lower prices for consumers.

³⁵ Great British Railways: Williams-Shapps plan for rail The government’s plan to transform the railways in Great Britain. Department for Transport, May 2021 <https://www.gov.uk/government/publications/great-british-railways-williams-shapps-plan-for-rail>

Public spending

Introduction

With regard to roads, improving road infrastructure can unleash significant GDP per capita benefits. East-West connections are as important as North-South connections and improving among towns and cities in the U.K. that do not involve London-centric networks will be important.

Ultimately it is unlikely that modern modes of propulsion can be implemented without moving to a more modern system of financing roads through user pricing.

The Cebr report on road pricing³⁶ identified two major constraints to its introduction:

1. After many years where government have appeared to be anti-motorist, road users do not trust governments to impose additional charges on road users - hence the ongoing reaction against any increase in fuel duty;
2. There might be a temptation for the government to create an artificial shortage of road space to help maximise the user price that could be charged and most road users are suspicious that the government would thus abuse any power it had to charge based on scarcity.

Cebr suggested solutions to these problems through:

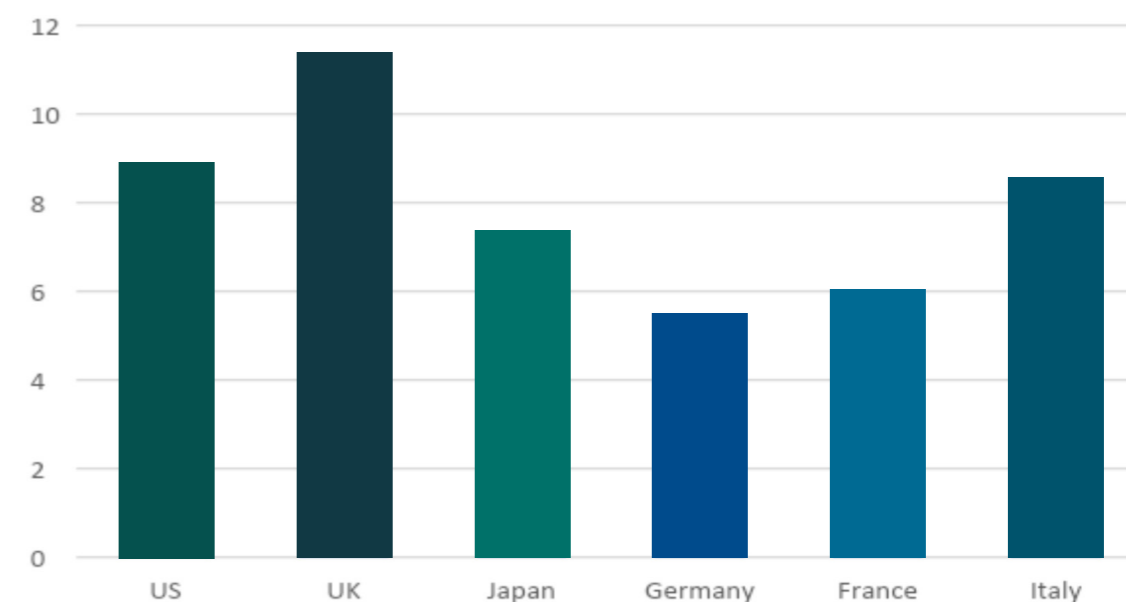
1. A user authority representing those who pay for and use the roads only, to oversee the road pricing mechanism and ensure the money other than that paid to the government (in 2 below) is spent on roads.
2. A 'Barnett' formula working out the share of the road pricing revenue that should be taken by the government
3. The rest of the revenue should be reinvested in improving the road network.

Cebr calculated that these reforms could raise capacity by at least a third and reduce accidents by 90%. It also calculated a potential gain to GDP of 3%.

³⁶ Abolishing Traffic Jams Cebr 2017 <https://cebr.com/reports/the-future-of-road-transport-abolishing-traffic-jams/>

Public spending in most advanced economies rose as a share of GDP during Covid.

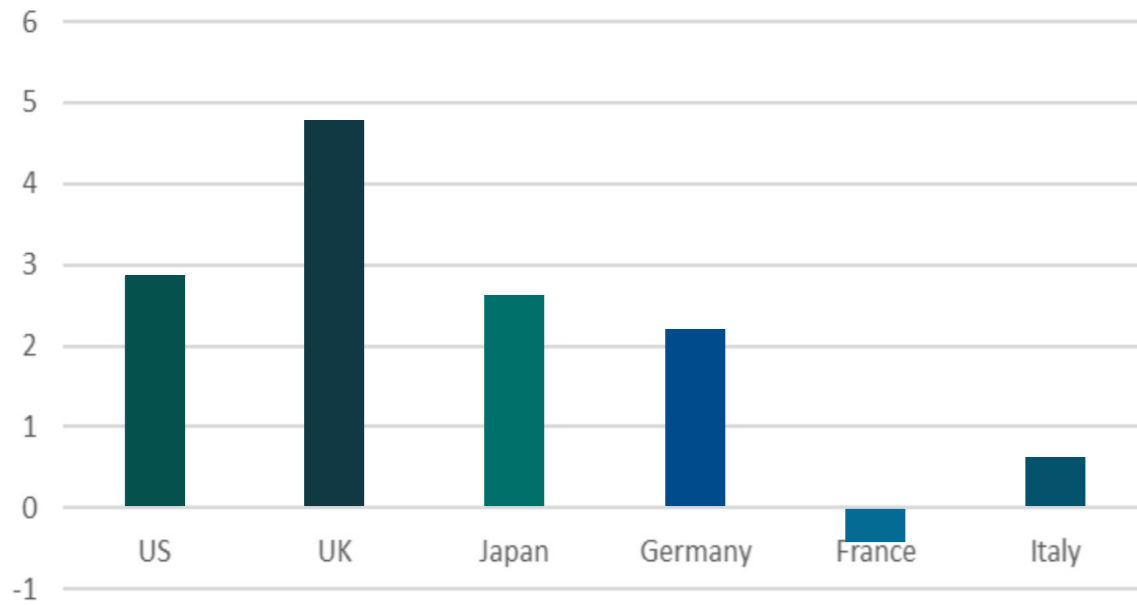
Figure 21 Rise in government spending as % of GDP in selected countries between 2019 and 2020



But as Figure 21 shows, the rise in the U.K. shows a much larger rise in the U.K. in the share of government spending between 2019 and 2020 than in the other economies. Figure 20 shows that on unchanged policies, the forecast rise in the government spending share of GDP from 2019 even by 2028 is expected to be larger in the U.K. than in equivalent economies.

Figure 22 Rise in general government spending as % of GDP 2019-28 forecast by IMF

**Rise in general government spending as % GDP
2019-28 forecast by IMF**

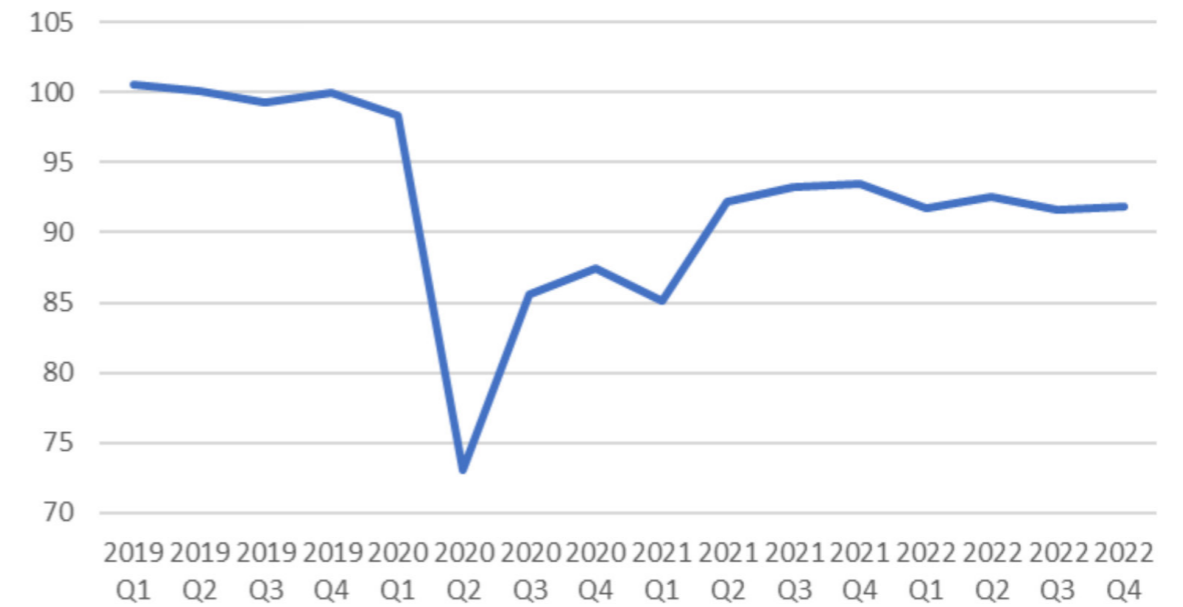


ONS data shows a rise in the real value of U.K. public sector inputs of 13.7% from Q4 2019 to Q2 2023 compared with a real rise in GDP of 1.8% over the same period.

The same ONS data points to a decline in public sector productivity over the same period. Obviously there are measurement difficulties but a measured decline in productivity on such a scale needs to be investigated and where possible reversed.

Figure 23 ONS data for public sector productivity³⁷

ONS data public sector productivity



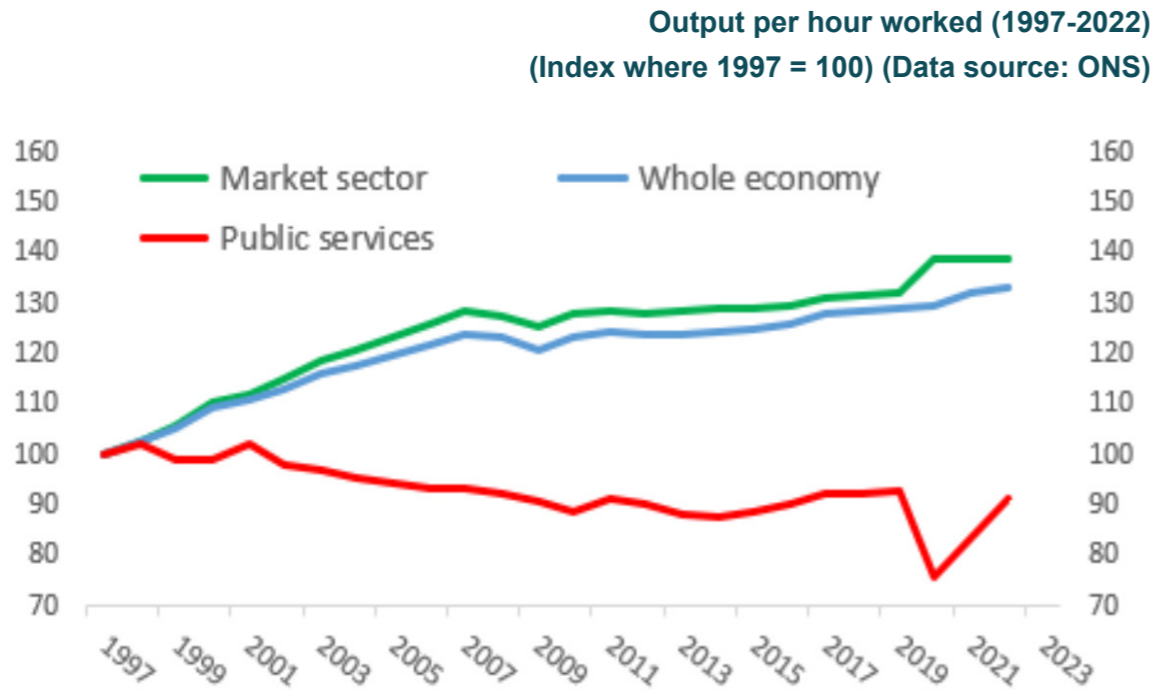
We have a range of proposals for public spending:

1. Understand the reasons for the apparent fall in public sector productivity since pre-Covid and reverse them where possible
2. Take advantage of technology to modernise public services
3. Make criteria for welfare and all benefits more stringent to reverse the growth in numbers on sickness benefits - this could clearly involve additional support to help get people on benefits back to work
4. Raise infrastructural investment on energy, transport and housing; and
5. We have left some additional scope for increasing spending more generally to improve public services.

³⁷ <https://www.ons.gov.uk/economy/economicoutputandproductivity/publicservicesproductivity/bulletins/publicserviceproductivityquarterlyuk/apriltjune2023>

Public sector productivity

Figure 22 Rise in general government spending as % of GDP 2019-28 forecast by IMF



New data taking into account the GDP revisions shows that according to the ONS, productivity in the public sector has remained well below the pre Covid level in recent quarters. The index, based at 100 for 1997 remained at 91.2 in 2022 and indeed had fallen back over the previous year.

The statisticians make it clear that this data is experimental and the challenges of measuring productivity in the public sector are well known from the Atkinson Review.³⁸

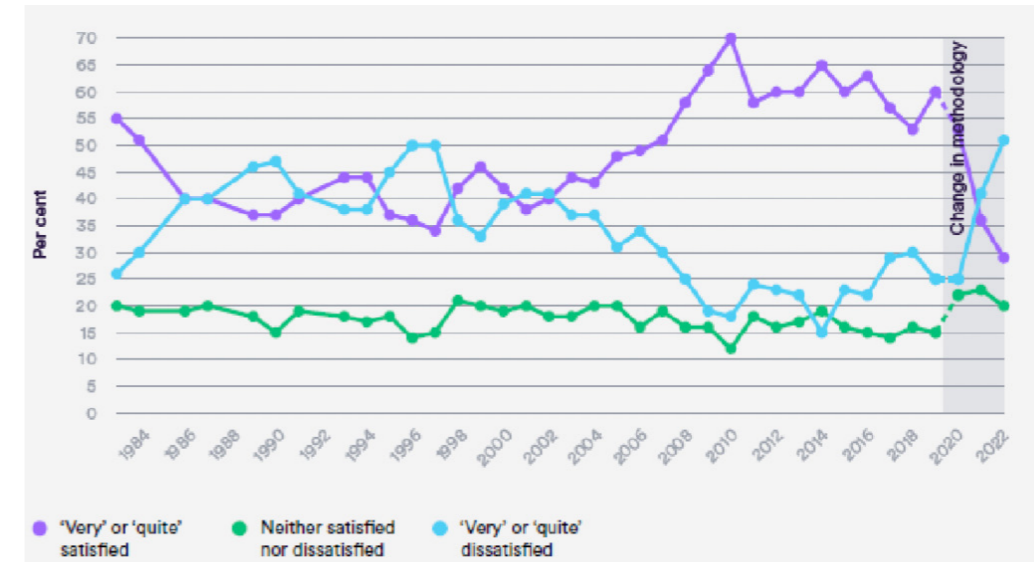
However the data makes it clear³⁹ that the real public sector inputs, which are much easier to measure, have risen 13.7% since pre Covid in 2019. This compares with a rise in GDP over the same period of under 2%.

³⁸ <https://eprints.lse.ac.uk/33553/>
³⁹ <https://www.ons.gov.uk/economy/economicoutputandproductivity/publicservicesproductivity/bulletins/publicserviceproductivityquarterlyuk/apriltojune2023>

Figure 25 Public satisfaction with NHS⁴⁰

Public satisfaction with the NHS, 1983 to 2022

Question asked: 'All in all, how satisfied or dissatisfied would you say you are with the way in which the National Health Service runs nowadays?'



The Kings Fund have measured public satisfaction with the NHS on a consistent basis since 1983 and the results are shown in Figure 25. The sharp fall in satisfaction suggests that this area at least seems not to have reflected increased inputs with increased outputs and backs up the impression from the experimental ONS statistics.

At the same time the Institute of Government Public Service Performance Tracker⁴¹ revealed that 8 out of the 9 services followed were increasingly failing to meet their targets despite the massive increase in real resources.

The government is reviewing both the causes of the apparent shortfall in public sector productivity⁴² and the approach towards measurement. For the time being, however, it is prudent to assume that the measurements⁴³ are as good a reflection of reality as is currently available and act on them. If it turns out that in fact what has been revealed is a very large and unintended expansion of the public sector in relation to GDP, the policy implications would be essentially similar.

⁴⁰ <https://www.kingsfund.org.uk/publications/public-satisfaction-nhs-and-social-care-2022>
⁴¹ Performance Tracker 2023: Cross-service analysis | Institute for Government
⁴² <https://www.ons.gov.uk/aboutus/whatwedo/programmesandprojects/publicserviceproductivityreview#:~:text=Timeline,on%20performance%20will%20be%20provided.>
⁴³ <https://www.civilserviceworld.com/professions/article/hunt-public-sector-productivity-review-most-ambitious-ever#:~:text=The%20review%20will%20assess%20ways,for%20Policy%20Studies%20event%20yesterday.ps://www.ons.gov.uk/aboutus/whatwedo/programmesandprojects/publicserviceproductivityreview>

As Figure 24, shows the weakness in public sector productivity compared with the market sector is a long term trend. Various studies⁴⁴ have indicated substantial scope for improving public service productivity by digitisation.

Our sums assume that fall in public service productivity over the period since 2019 can be reversed over 4 years while for subsequent years growth in productivity of 1% per annum can be achieved through the use of digital and other technologies.

Welfare and pensions

The IfS has pointed out that between mid 2021 and 2022 the monthly number of new claimants of disability benefits rose from 15,000 a month to 30,000 a month.⁴⁵ Meanwhile the share of working-age adults in receipt of disability benefits increased from 2% (591,000) in 1992–93 to 5% (1.8 million) in 2012–13 and 6% (2.3 million) in 2021–22.⁴⁶

Self assessment of health has indicated a deterioration in health,⁴⁷ if not on the same scale as the increase in disability. But the huge rise in disability will be destabilising for the public finances if it continues and in an ideal world should be understood and if possible reversed.

It is a plausible assumption that post Covid the criteria for eligibility for sickness related benefits have been relaxed – if so these should be tightened.

But we have not incorporated any assumed financial savings here until the position is better understood.

⁴⁴ For example Cebr's report for Virgin Media <https://www.virginmediabusiness.co.uk/revolutionise-the-everyday/CEBR-report/>

⁴⁵ <https://ifs.org.uk/news/number-new-disability-benefit-claimants-has-doubled-year>

⁴⁶ https://ifs.org.uk/sites/default/files/output_url_files/WP202224-Living-standards-of-working-age-disability-benefits-recipients-in-the-UK-2.pdf

⁴⁷ <https://ifs.org.uk/news/number-new-disability-benefit-claimants-has-doubled-year>

Infrastructure

In our supply side analysis we have argued for increased resources to be devoted to housing, transport and energy. While much of this is likely to be generated in the private sector, it would be prudent in our funding calculations to make provision for some public sector funding. We have allocated 1.5% of GDP by 2030 to additional public funding for infrastructure.

Improvement in public services

We have allocated an additional 1.5% of GDP for spending where appropriate on improved public services.

Tax cuts

Introduction

This section describes the Growth Commission's tax package. It covers corporate taxation; personal taxation; Inheritance Tax and tax free shopping.

Tax competitiveness

Every year the Tax Foundation compares the tax competitiveness of various countries. As recently as 2017, the U.K. ranked 14th and above all its larger competitors.⁴⁸ But since then our relative position has declined. In the latest comparison the U.K. now ranks 30th out of the 38 countries studied and behind all major competitors except France.⁴⁹

Looking at the sub components of the index, the only area where the U.K. scores well is in its cross border tax rules. On corporate taxes, individual taxes, consumption taxes and property taxes the U.K. ranks 26th or lower.

Our proposals are aimed at improving the U.K.'s tax competitiveness.

⁴⁸ <https://taxfoundation.org/research/all/global/2017-international-tax-competitiveness-index/>

⁴⁹ [https://taxfoundation.org/research/all/global/2023-international-tax-competitiveness-index/#:~:text=The%20International%20Tax%20Competitiveness%20Index%20\(ITCI\)%20seeks%20to%20measure%20the,world%2C%20capital%20is%20highly%20mobile.](https://taxfoundation.org/research/all/global/2023-international-tax-competitiveness-index/#:~:text=The%20International%20Tax%20Competitiveness%20Index%20(ITCI)%20seeks%20to%20measure%20the,world%2C%20capital%20is%20highly%20mobile.)

Corporate taxes

We welcome the full expensing regime introduced in the Spring 2023 budget⁵⁰ and recommend its retention beyond April 2026.

As the Irish experience shows, the headline rate of corporation tax remains hugely important for driving footloose investment. The stock of foreign direct investment in Ireland is 285% of GDP, four times the EU average.⁵¹

We propose that the rise in the main rate of corporation tax to 25% from 19% should be reversed next year and that long term the rate is reduced to 15%. We believe that the HMRC assessment of the costs of such a change are exaggerated (see our tax costing) since the scale of the behavioural impact on companies that they model understates the scale of the impact we expect.

Income tax

We have two priorities for income tax. The first is to redress the costs of the frozen tax allowances and to unfreeze these allowances. The second is to remove the economically damaging 60-70% rate of tax on those earning more than £100,000 as their tax allowances are phased out.

We propose that the freezing of the tax allowances ends in 2024/25.

We propose that the high marginal rate of tax as the allowances are phased out is phased out before 2030. There is little data available on the cost of this but we have made a rough estimate of an annual cost of 0.2% of GDP (currently around £5 billion). When the phasing out was introduced in 2008 and 2009 it was estimated to cost £1.5 billion although that was at a time when bankers' bonuses were especially high.⁵²

⁵⁰ <https://www.gov.uk/government/publications/full-expensing/spring-budget-2023-full-expensing#:~:text=4.-,How%20does%20full%20expensing%20work%3F,-year%20that%20expenditure%20is%20incurred.>

⁵¹ <https://www.cso.ie/en/releasesandpublications/ep-p-fdi/foreigndirectinvestmentinireland2021/keyfindings/>

⁵² <https://assets.publishing.service.gov.uk/media/5a758bfe40f0b6397f35f419/0407.pdf> (Footnote to Table 1.2)

Indirect tax

Our only current proposal on indirect tax is one that, although it will apparently reduce tax, will in fact raise revenues for the U.K., if possibly at the expense of revenues in other countries.

This is the abolition of the so-called tourist tax, the requirement for tourists to pay VAT on their purchases. The tax was imposed in 2021, allegedly in response to Brexit. In a court case related to it, it became clear from the evidence provided by HMRC that the government's case for imposing the tax was based on a series of misunderstandings and miscalculations.⁵³

A detailed study of the subject concludes that U.K. GDP is reduced by £10.7 billion and U.K. tax receipts by £2.3 billion by the imposition of this tax⁵⁴ in 2023.

Inheritance Tax

The government is reported as considering whether to abolish Inheritance Tax.⁵⁵ At first sight this might seem inappropriate, since inheritance is skewed towards the better off. But it is in fact worth considering whether the tax does more damage than good.

There is almost certainly a loss of revenue from older people retiring abroad to avoid the tax – popular retirement destinations such as Australia, New Zealand, and Canada as well as many emerging economies have no such tax.

⁵³ <https://www.judiciary.uk/wp-content/uploads/2022/07/Heathrow-Airport-Limited-v-Her-Majestys-Treasury-summary.pdf>

⁵⁴ <https://cebr.com/reports/removal-of-tax-free-shopping-costing-10-7bn-in-lost-gdp-and-detering-two-million-tourists-a-year-report-concludes/>

⁵⁵ <https://moneyweek.com/personal-finance/inheritance-tax/government-considering-cuts-to-inheritance-tax-reports-say>

A study by accountants UHY Hacker Young⁵⁶ showed that like for like, the U.K. and Ireland had the highest such taxes in the world with a sample estate of \$3 million being subject to 26% IHT in Ireland, 25.8% in the U.K. compared with an EU average of 14% and a global average of 7.7%.

We have not managed to model this and will not be in a position to make the case as to whether the tax should indeed be abolished until this has been done.

But the case for abolition is that the tax:

1. reduced revenues from older people leaving for more favourable jurisdictions;
2. is expensive to collect and staff could be deployed to other tasks, notably chasing evasion, which would bring in more tax revenue;
3. leads to distorted investment with negative implications for growth.
4. mainly hits the moderately wealthy but not the very rich so does little to reduce inequality.

We recommend that the implications of the tax are carefully studied and if indeed it appears to lead to a diminution of revenues and distortion of investment, consideration be given to its abolition.

⁵⁶ <https://www.uhy.com/uk-imposes-highest-taxes-on-inheritance-of-all-major-economies/#:~:text=For%20example%2C%20China%2C%20India%20and,whether%20through%20investment%20or%20entrepreneurship.>

Stamp duties

It is generally presumed that as taxes on transactions, stamp duties damage the economy through encouraging misallocated resources and through inhibiting economic flexibility.

We have not fully analysed the impact for this year and therefore have not included a recommendation that they be changed or abolished. But this could become a priority for a future budget.

Outlook after the Growth Commission budget

We have simulated the results of the policies set out above. The analysis shows an impact in the initial years that builds up significantly in the out years as the policies come to fruition.

It is not unexpected that the policies take time to have their effect. We estimate that GDP per capita in 2024-25 will only be 1.0% higher than the forecast on unchanged policies, barely enough to stave off recession. There is a further impact predicted for 2025-26 but the bigger gains start to emerge in 2026-27 and 2027-28 by which years GDP per capita is forecast to be 4.8% and 8.6% respectively higher than on unchanged policies.

But the significant gains take time to come through – we estimate that by 2043-44 in 20 years time GDP should be 23.4% higher than on unchanged policies – the contribution of each policy to the gain in GDP is set out in Table 7.

Table 7 Impact of Growth Budget on GDP by year

Growth Commission policies impact on GDP (per cent)

	2024-25	2025-26	2026-27	2027-28	2043-44
Planning and housing	0.1	0.4	0.7	1.0	6.4
Energy and smart green	0.0	0.1	0.2	0.6	2.2
Labour market	0.2	0.4	0.8	1.0	1.9
Minimum wage	0.3	0.3	0.4	0.5	0.8
Infrastructure	0.0	0.4	0.7	0.9	1.4
Public sector productivity	0.0	0.6	1.0	1.7	4.4
Welfare and pensions	0.0	0.0	0.0	0.6	1.6
Lower corporation tax	0.0	0.1	0.4	1.3	3.0
Income tax reforms	0.0	0.0	0.2	0.6	1.3
Tourism tax	0.4	0.4	0.4	0.4	0.4
Total	1.0	2.6	4.8	8.6	23.4

The total forecast GDP per capita growth after implementation of the Growth Budget is an additional 1.1% per annum, leading to GDP per capita growth in total over the period to the mid 2040s at an annual rate of 2.5%.

Impact on GDP per capita and per household

We start by using the OECD's most recent updated data that incorporates the U.K.'s upgraded GDP data⁵⁷. This has been measured at purchasing power parities.

This gives a GDP per capita in the U.S. 40.5% higher than in the U.K. in 2022. The U.K. figure was \$55,266; the U.S. \$76,360 a gap per capita of \$22,094.

⁵⁷ https://stats.oecd.org/index.aspx?DataSetCode=PDB_LV Downloaded 6 November 2023

But U.S. households are bigger on average than in the U.K. so the gap in GDP per household is larger at 55.0%.

The number of persons per household for the U.K.⁵⁸ in 2022 was 2.36. The number of persons per household in the U.S. was 2.6⁵⁹. U.K. GDP per household was \$128,067 while that in the U.S. was \$198,536, a gap in GDP per household of \$70,469.

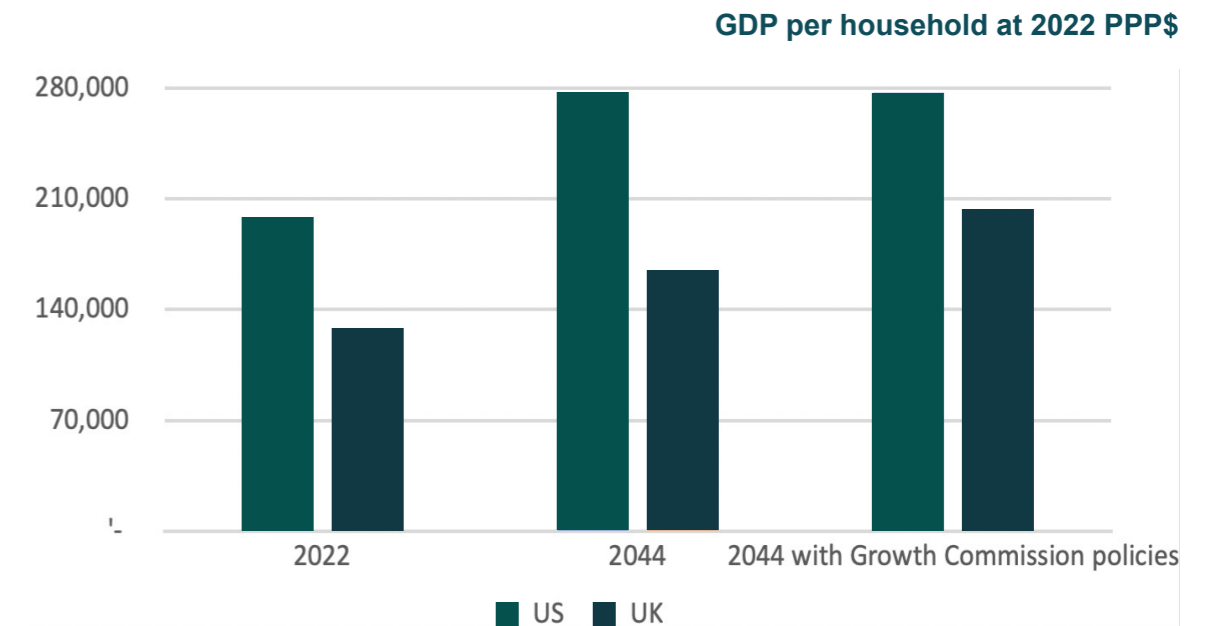
We've forecast forward the GDP per capita and per household for both countries to 2044 assuming that household sizes stay constant in both countries. This gives for 2044 at 2022 price levels GDP per capita in the U.K. of \$69,472 and in the U.S. of \$106,681. In percentage terms the gap will have risen from 40.5% to 53.0%. The gap per capita is forecast to be \$36,939.

The GDP per household in 2044 is predicted to rise to \$164,591 in the U.K. and in the U.S. to \$277,371. In percentage terms the gap will be 68.5% and in \$ terms it will be \$112,780.

The measures in this report are predicted to raise GDP per capita and per household in the U.K. by 23.4%. This would raise forecast U.K. GDP per capita in 2044 to \$86,061 and forecast GDP per household to \$203,105 in 2044. In percentage terms the gap would be 23.9% for GDP per capita and to 36.6% for GDP per household. They add up to an extra \$16,589 a year in GDP per capita and an extra \$38,514 GDP per household.

In cash terms the gap in GDP per capita is forecast to be reduced from \$36,939 to \$20,360; the gap in GDP per household from \$112,780 to \$74,266. This is shown in Figure 26.

Figure 26 GDP per household in 2022, 2044 and in 2044 with Growth Commission policies in U.S. and U.K.



⁵⁸ <https://www.ons.gov.uk/peoplepopulation-andcommunity/birthsdeathsandmarriages/families/bulletins/familiesandhouseholds/2022#:~:text=Households-,There%20were%20an%20estimated%2028.2%20million%20households%20in%20the%20UK,both%202012%20and%20in%202022.>

⁵⁹ <https://www.census.gov/quickfacts/fact/table/US/HSD410221#HSD410221>

Impact in 2022 £

Most people (even economists) do not easily relate to 2022 U.S. purchasing power parity dollars so we have translated the figures in the above paragraphs in to £ sterling at 2022 values. This is set out below.

We start by using the OECD's most recent updated data that incorporates the U.K.'s upgraded GDP data.⁶⁰ This has been measured at purchasing power parities. This is then translated into sterling using the OECD purchasing power parity calculations.⁶¹

This gives a GDP per capita in the U.S. 40.5% higher than in the U.K. The U.K. figure was £37,651; the U.S. £52,021 a gap per capita of £15,052m both figures for 2022.⁶²

But U.S. households are bigger on average than in the U.K. so the gap in GDP per household is larger at 55.0%.

The number of persons per household for the U.K.⁶³ in 2022 was 2.36. The number of persons per household in the U.S. was 2.6⁶⁴. U.K. GDP per household was £ 87,247 while that in the U.S. was £135,255, a gap in GDP per household of £48,008.

We've forecast forward the GDP per capita and per household for both countries to 2044 assuming that household sizes stay constant. This gives for 2044 at 2022 price levels GDP per capita in the U.K. of £47,328 and in the U.S. of £72,677. In percentage terms the gap will have risen from 40.5% to 53.0%. The gap per capita is forecast to be £25,165.

The GDP per household in 2044 is predicted to rise to £112,129 in the U.K. and in the US to £188,962. In percentage terms the gap will be 68.5% and in £ terms it will be £76,833.

The measures in this report are predicted to raise GDP per capita and per household in the U.K. by 23.4%. This would raise forecast U.K. GDP per capita in 2044 to £58,630 and forecast GDP per household to \$138,367 in 2044. In percentage terms the gap would be 23.9% for GDP per capita and to 36.6% for GDP per household. In cash terms these are £11,301 a year in GDP per capita and £26,238 GDP per household.

In cash terms the gap in GDP per capita is forecast to be reduced from £25,165 to £13,870; the gap in GDP per household from £76,883 to £50,594. This is shown in Figure 27.

⁶⁰ https://stats.oecd.org/index.aspx?DataSetCode=PDB_LV Downloaded 6 November 2023

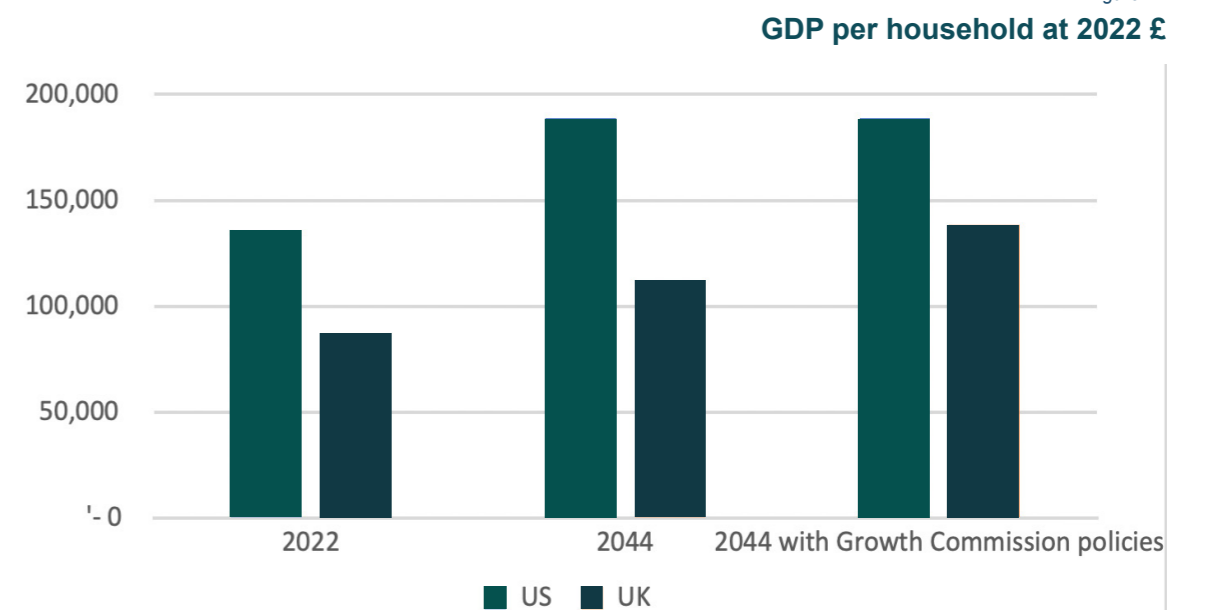
⁶¹ <https://data.oecd.org/conversion/purchasing-power-parities-ppp.htm>

⁶² The ONS produce data for Real Net National Product per capita and the figure for 2022 and £28,359. We have used the OECD data which is comparable for the U.K. and the U.S.

⁶³ <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/families/bulletins/familiesandhouseholds/2022#:~:text=Households-,There%20were%20an%20estimated%2028.2%20million%20households%20in%20the%20UK,both%20in%202012%20and%20in%202022.>

⁶⁴ <https://www.census.gov/quickfacts/fact/table/US/HSD410221#HSD410221>

Figure 27



Fiscal on changed policies

Table 8 Cost impact of policies at constant GDP

Cost impact of proposals (per cent of GDP positive means extra net spending)

	2024-2025	2025-26	2026-27	2027-28	2043-44
Planning and housing	0.0	0.3	0.5	1.0	1.0
Energy and smart green	-0.1	-0.1	-0.1	-0.1	-0.1
Labour market	0.0	0.0	0.0	0.0	0.0
Infrastructure	0.0	0.5	1.0	1.5	1.5
Public sector productivity	0.0	-0.6	-1.0	-1.7	-4.4
Welfare and pensions	-0.5	-0.5	-0.6	0.0	0.5
Lower corporation tax	1.0	1.0	1.0	1.0	1.9
Income tax reforms	0.3	0.9	1.5	2.2	2.2
Tourism tax	-0.1	-0.1	-0.1	-0.1	-0.1
Total	0.6	1.4	2.2	3.8	2.5

We have run the policies through our models to assess their fiscal impact and their GDP impact. This is set out in Table 9 in comparison with the OBR's numbers updated for the latest GDP data and forecasts for inflation and growth.

Table 9 Comparison of OBR fiscal impact with fiscal impact of Growth Commission policies
OBR numbers adjusted for GDP revisions, higher inflation and weaker GDP growth

OBR number adjusted for GDP revisions, higher inflation and weaker GDP growth		
	2027-28	2043-44
Receipts	42.3	42.3
Spending	42.9	44.4
Public borrowing	0.6	2.1
Public debt	92.7	78.3
Growth Commission policies		
	2027-28	2043-44
Receipts	39.1	38.3
Spending	40.3	36.8
Public borrowing	1.2	-1.5
Public debt	94.6	59.8

What is clear is that the Growth Commission policies make substantial progress in reducing both tax and spending as a share of GDP and also turn public borrowing negative. The reductions in public spending result from lower spending but also from higher GDP.

The move towards running a budget surplus brings public debt as a share of GDP down below 60% of GDP which is often considered as the level consistent with sustainability.⁶⁵

⁶⁵ Eg in the EU's Growth and Stability Pact

Appendix 1

The models used

The costings for this report have used two growth commission proprietary models plus a considerable amount of off model work. The basis for the calculations for each policy is set out below; this section describes these two proprietary models, the micro model and the macro model.

Micro or ACMD model

The model which we have developed is based on the notion that the three pillars of economic development are property rights protection, domestic competition, and international competition⁶⁶. Broadly, anti-competitive government policy affects the way the market functions through one of these three pillars. We call it the micro model but some also call it the Anti Competitive Market Distortions model (ACMD model).

⁶⁶ As proposed and argued in Singham, Shanker A General Theory of Trade and Competition: Trade Liberalisation and Competitive Markets (Cameron 2007), and Shanker A. Singham and Alden F. Abbott Trade, Competition and Domestic Regulatory Policy (Routledge, 2023); International competition is way of describing the openness of a country's trade regime.

Property rights

The foundation of a productive economy is property rights protection. If property rights are left unprotected, the incentive to invest, compete, and innovate is lost. If the returns from effort cannot be captured, can be taken away, or cannot be regained if wrongly taken away, what incentive is there to exert effort? Furubotn and Pejovich⁶⁷ describe the nature of property rights in this way: "... property rights do not refer to relations between men and things but, rather, to the sanctioned behavioral relations among men that arise from the existence of things and pertain to their use ... The prevailing system of property rights in the community, then, can be described as the set of economic and social relations defining the position of each individual with respect to the utilization of scarce resources" (p. 1139, italics are the authors'). The authors add in a footnote that, "Roman Law, Common Law, Marx and Engels, and current legal and economic studies basically agree on this definition of property rights." In other words, the very nature of an economic transaction is defined by the right to property and this definition is not disputed.

Property rights allow four things to occur: (1) investment to create the property (as in the case of intellectual property or IP and machinery); (2) investment to make the property more productive (as in the case of land, machinery, and IP); (3) exploitation to get the maximum productivity out of it (as in the case of land, machinery, IP, etc.); (4) transfer of property to another who might be able to do a better job of the first three instead of the current owner of the property (as in the case of land, machinery, and IP). All these lead to increased productivity, higher incomes, and thus wealth and prosperity. So, a lack of property rights protection effectively undermines the ability of economic agents to operate effectively. It also undermines the process of competition, because property rights are what firms compete with. In developing countries in particular, establishing and enforcing property rights play a significant role in creating the preconditions for growth.⁶⁸

⁶⁷ Eirik G. Furubotn, and Pejovich, Svetozar 'Property Rights and Economic Theory: A Survey of the Recent Literature' (1972) 10(4) Journal of Economic Literature 1137,1137-1162.

⁶⁸ Besley, Timothy. Property Rights and Investment Incentives: Theory and Evidence from Ghana. (1995) The Journal of Political Economy 103(5) 903,903-937 and A lack of property rights protection creates what De Soto calls "dead capital" – the poor cannot leverage the assets they do accumulate, which prevents entrepreneurialism. See: Hernando De Soto The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else. (New York: Basic, 2000).

Therefore, all other factors influencing economic outcomes depend on the level and quality of property rights protection. We account for the fact that the effect of domestic competition and international competition on other factors depends on the level of property rights in our model and will discuss how we capture this in the next section.

Property rights protection indicator

Sub component	Source
1. Efficiency of the judicial system	
Efficiency of the legal framework in challenging regulations	Global Competitiveness Index
Efficiency of the legal framework in settling disputes	Global Competitiveness Index
2. Intellectual property protection	Global Competitiveness Index
3. Integrity of the legal system	
Strength of minority investor protection	WB Doing Business
Legal rights index (financial)	WB Doing Business
Judicial independence	Global Competitiveness Index
4. Enforcing contracts	
Enforcing contracts (cost)	WB Doing Business
Registering property (cost)	WB Doing Business
Enforcing contracts (time)	WB Doing Business
Registering property (time)	WB Doing Business
5. Resolving insolvency	
Outcome (0 as piecemeal sale and 1 as going concern)	WB Doing Business
Time (years)	WB Doing Business
Cost (% of estate)	WB Doing Business
Recovery rate (cents on dollar)	WB Doing Business

Intellectual property rights are themselves a type of property rights and are a crucial aspect of economic development.⁶⁹ Including this measure as a part of a property rights protection indicator was obvious and necessary. The other subcategories are each different ways in which policy can ensure that the effort of agents cannot be wrongfully expropriated, that when a person's rights are violated the process for righting that wrong is not prohibitively expensive⁷⁰, and that the legal system itself has integrity.

Domestic competition

Domestic competition plays a significant role in the efficiency of both domestic and foreign firms. Competition among firms encourages innovation and upgrading of production processes, as well as positive externalities in local markets.⁷¹ Each of these features of competition has a positive impact on welfare, which justifies its inclusion as part of this index.

⁶⁹ For a detailed treatment of the importance of intellectual property rights, see chapter 9 of: Singham, Shanker. *A General Theory of Trade and Competition: Trade Liberalisation and Competitive Markets*. (Kent: Cameron 2007).

⁷⁰ Either financially or through time commitments

⁷¹ Michal E. Porter *The Competitive Advantage of Nations* (New York: Free Press, 1990). As cited in Sakakibara, Mariko and Porter, Michael E. 'Competing at Home to Win Abroad: Evidence from Japanese Industry' (2001) 83(2) *The Review of Economics and Statistics* 310,310-322. Positive externalities include, "...supplier availability, easier access to technology and market information, and specialized human resource development" (Sakakibara, et al. p. 310).

Domestic competition components

Sub Index	Source
Labour freedom score Minimum wage Associational right paid annual leave Notice period for redundancy dismissal Severance pay for redundancy dismissal Labour productivity Labour force participation rate Restrictions on overtime work Redundancy dismissal permitted by law	Index of Economic Freedom
Business freedom score Access to electricity Business environment risk Regulatory quality Women's economic inclusion	Index of Economic Freedom
Financial freedom score The extent of government regulation of financial services The degree of state intervention in banks and other financial firms through direct and indirect ownership Government influence on the allocation of credit The extend of financial and capital market development Openness to foreign competition	Index of Economic Freedom
Electricity cost	WB Doing Business
Electricity time	WB Doing Business
Quality of roads	Global Competitiveness Index
Quality of ports	Logistics Performance Index
Mobile telephone subscription	Global Competitiveness Index
Individual using internet %	Global Competitiveness Index
Government Integrity Score Perceptions of corruption Bribery risk Control of corruption	Index of Economic Freedom

⁷² Timothy J. Muris, Principles for a Successful Competition Agency' (2005) 72(1) University of Chicago Law Review, 165, 165-187, ;

⁷³ Similarly, the Washington Consensus includes privatization as one of the 10 key areas of development because of the belief that that "private industry is managed more efficiently than state enterprises, because of the more direct incentives faced by a manager who either has a direct personal stake in the profits of an enterprise or else is accountable to those who do. At the very least, the threat of bankruptcy places a floor under the inefficiency of private enterprises, whereas many state enterprises seem to have unlimited access to subsidies." This theory is the backbone of our Domestic Competition indicator. However, regulation of private markets is not discussed in the Washington Consensus. We correct this oversight by emphasizing the importance of policies which allow firms to make their own decisions. Originally conceived in: Williamson, John. "What Washington Means by Policy Reform." In John Williamson (ed) Latin American Adjustment: How Much Has Happened? (Institute for International Economics, 1990. Also available: <http://iie.com/publications/papers/paper.cfm?ResearchID=486> See also: <http://www.who.int/trade/glossary/story094/en/>; Tejvan Pettinger 'Washington consensus – definition and criticism' (Economics Help April 25, 2017) <<http://www.economicshelp.org/blog/7387/economics/washington-consensus-definition-and-criticism/>> Stanley Fischer 'The Washington Consensus' in C F Bergsten (ed) Global Economics in Extraordinary Times: Essays in Honor of John Williamson (Peterson Institute for International Economics, 2012): 11-24.http://www.piie.com/publications/chapters_preview/6628/02iie6628.pdf

⁷⁴ When changing market characteristics, such as new technologies, eliminate natural monopoly conditions, however, maintaining government regulation may become counter-productive and welfare-inimical, and such regulation should be lifted.

⁷⁵ Before the government acts, care should be taken to ensure that the private sector cannot adequately rectify the market failure at issue, and that the costs associated with government intervention are not likely to outweigh the benefits that flow from eliminating (or reducing) the market failure.

Typically, the term “competition policy” refers to regulations – and the enforcement of regulations – concerning restraint on competition created by private parties. Our Domestic Competition indicator is, instead, meant to capture the extent to which government policy itself restricts competitive behaviour. Timothy Muris⁷² highlights the importance of understanding and correcting restrictive government actions – not just private restrictions. He compares these two sources of competitive restrictions to the forks in a stream and states that, “Protecting competition by focusing solely on private restraints is like trying to stop the water flow ... by blocking only one channel.” Muris goes on to say that creating a system which prevents anti-competitive behaviour by firms but allows a government to dictate the same anti-competitive outcome that would have resulted from private action has not eliminated the problem, “It has simply dictated the form that the problem will take.” Domestic competition here refers to the domestic policies affecting the way in which firms make decisions and interact with one another. Any policy which limits profit-maximising firms’ ability to make their own decisions will reduce the score for Domestic Competition for a country.⁷³ If a policy reduces the ability of some subset of firms to make their own decisions while not restricting others in the same way, then the Domestic Policy score will be reduced. However, this does not mean that a country with no regulations controlling the decisions of firms will receive the highest score. The goal of this index and the scores it generates is to allow comparisons between countries regarding the degree to which policy is welfare-maximising. If welfare is to be maximized, then some government regulation may be appropriate in many contexts. For example, if a market can be characterised as a natural monopoly, appropriately tailored government regulation may be crucial for welfare maximisation.⁷⁴ If there are true market failures that are not being handled adequately through purely private action (severe adverse health effects from pollution, a shortage of funds for post-secondary education, harmfully discriminatory practices, etc.), then government regulation may be necessary.⁷⁵

These antitrust, or industrial organization types of regulations are part of the Domestic Competition score. No judgment is made as far as the exact specification of the regulation. Instead, the effectiveness of antitrust policy and the cost of adhering to different policies are the measures used.

The Domestic Competition score is higher when firms are able to make their own decisions because we are trying to evaluate how well domestic policies promote competitive behaviour. It is constructed as follows. Competitive behaviour refers to the behaviour firms exhibit in a particular market which will maximise welfare within the market. Therefore, the Domestic Competition score is higher when policies respond to market failures and antitrust violations efficiently but otherwise do not interfere with or dictate firm behaviour. This is because the behaviour of profit-maximising firms – faced with demand from the market, the decisions of competitors, no market failures, and no antitrust violations – will produce and charge a price which generates the welfare maximising equilibrium. That is, once any market failures are corrected for, firms will behave in a way which maximises welfare. Of course, in practice it is often very difficult or impossible to fully correct a market failure. However, some countries will do a better job than others in choosing and implementing policies that effectively respond to market failures. The closer a country is to actually eliminating a market failure, the closer it will be to moving a market toward its welfare-maximising equilibrium.⁷⁶

The Domestic Competition indicator is defined by infrastructure⁷⁷ and the policies concerning how firms make decisions. Infrastructure and the efficiency with which it is built have serious implications for the competitiveness of a country. Reliable, well-maintained infrastructure is a crucial component of efficient markets. Here, infrastructure reflects each type of infrastructure in an economy. Labor regulations are defined by how free firms are to hire and fire employees, as well as how firms are then allowed to utilise those workers. Restrictions on the hiring and firing process or deployment of labour decisions will reduce the score for Domestic Competition.

⁷⁶ The welfare-maximizing number and size of firms will depend on the market (type of good, substitutes, demand, etc.)

⁷⁷ The ideal infrastructure measures would be those that reflect the policy for awarding contracts for infrastructure projects (specifically, for building, managing, or maintaining infrastructure). However, the primary data available is concerned with outcomes, with only a couple of exceptions in financial infrastructure.

The less flexible policy makes the labour force, the higher the cost of production will be because firms will have to work around or suffer the restriction of each policy. Regulatory promulgation process refers to how laws are created. If the government is allowed to make decisions based on favouritism and the process is not transparent, ACMDs can be created at will. There will be no need to disguise them as market failures, or if they are disguised, they will be very difficult to recognise. Industrial organisation policies refer to the regulations which firms must adhere to in order to participate in a market and how antitrust deals with anticompetitive behaviour when it arises. All of these areas impact a firm's ability to make their own profit-maximising decisions.

International competition

⁷⁸ For a description of the theory see: Clautre Bajona, Mark J. Gibson, Timothy J. Kehoe, and Kim J. Ruhl 'Trade Liberalization, Growth, and Productivity' (2008) Prepared for the conference "New Directions in International Trade Theory" at the University of Nottingham also available <<http://www.econ.umn.edu/~tkehoe/papers/BajonaGibsonKehoeRuhl.pdf>> Note: These authors also highlight the fact that trade openness does not always lead to increased GDP and that the theory does not predict an increase in GDP from openness. The theory does predict greater welfare from openness, though. We will use GDP per capita as our proxy for welfare because we do not have a direct measure of welfare. There are many sources which do find a positive relationship between openness and GDP. A few examples include (as cited in Bajona et al. (2010)): Jeffrey A. Frankel, and David H. Romer (1999), 'Does Trade Cause Growth?' (1999) 89(3) American Economic Review 379,379-399; Robert E. Hall, and Charles I. Jones 'Why do some countries produce so much more output per worker than others?' (1999) 114(1) Quarterly Journal of Economics 83 83-116. Francisco Alcalá and Antonio Ciccone 'Trade and Productivity' (2004) 119 Quarterly Journal of Economics, 613-46.

International Competition refers to the degree to which a country allows foreign firms to access its domestic market and the degree to which it allows domestic firms to access foreign markets. Any restriction on the free flow of trade which is not the correction to a market failure will reduce the score for International Competition. Greater access to a wider variety of goods benefits consumers and greater access to less expensive or higher quality inputs benefits firms. Also, exposing firms to potentially more efficient foreign firms promotes innovation. All of these forces combine to generate gains in welfare.⁷⁸

International Competition refers to how open a country is to interacting with foreign markets (a measure of the openness of its trade policy). The policies which reduce the score here are those that make it more costly or burdensome to transact internationally. The indicator is constructed as follows.

International Competition components

Sub component	Source
LPI timeliness indicator	Logistics Performance Index
LPI international shipment indicator	Logistics Performance Index
LPI customs indicator	Logistics Performance Index
Trade Freedom score	Index of Economic Freedom
Freedom of foreigners to visit	Human Freedom Index
Freedom to own foreign currency	Human Freedom Index
Capital controls	Human Freedom Index

- The LPI Timeliness indicator measures the frequency with which shipments reach consignees within schedules or expected delivery times from hardly ever to nearly always.
- The International Shipment indicator measures the ease of arranging competitively priced shipments from very low to very high.
- The LPI Customs indicator measures the efficiency of customs and border management clearance from very low to very high.
- The Trade freedom score is a composite measure of the extent of tariff and non-tariff barriers that affect imports and exports of goods and services. The trade freedom score is based on two inputs, the trade-weighted average tariff rate and a qualitative evaluation of non-tariff barriers (NTBs).

Tariffs and procedural burden directly affect the flow of goods. Financial restrictions affect the flow of capital. The freedom of foreigners to visit is a measure reflecting the general openness of the economy to outsiders visiting. A policy which restricts visitation by foreigners would make it more difficult for foreign firms to have a presence in an economy. If any of these categories is restrictive, it will be more difficult for trade to occur. The Washington Consensus⁷⁹ also noted the importance of eliminating distortionary trade policies applied differently in different areas.⁸⁰ Import liberalisation is seen as particularly important because it eliminates the export disadvantage created by restricted access to less expensive imported intermediate goods. This type of ACMD is exactly what we are trying to capture with our International Competition index.

Combined effects

An important point to be made is that if one of these three areas is improved while the other two are left in a poor condition the impact on productivity will be reduced or reversed. For example, if Domestic Competition is improved by making it faster and less costly for domestic firms to start a business but property rights are left unprotected and international competition is prevented, the impact on productivity will likely be zero because firms will still be uncertain about entering the market (because their property can be expropriated, for example) and will not need to compete as fiercely as they would in the face of foreign competition.

⁷⁹ Williamson, John "What Washington Means by Policy Reform." in Jeffrey A. Frieden (ed) Latin American Adjustment: How Much Has Happened? (Routledge New York, 1990) also available <<https://www.piie.com/commentary/speeches-papers/what-washington-means-policy-reform?ResearchID=486>>

⁸⁰ Though, again, no emphasis was given to the competitive environment within a country except for the stress on privatization.

Each of the three categories has an impact on how an improvement in the other categories will be realised in terms of productivity. As stated previously, without property rights protection agents cannot act in their own economic interests. This means that without property rights protection improvements in the other two categories will have no effect on the determinants of productivity. Domestic competition determines the structure of a domestic market which determines the equilibrium of each domestic market. If firms are not allowed to decide how they will behave then imported foreign goods will enter an inefficient market and face inefficient constraints on their position in that market. It is possible that distorted domestic competition may help or hurt foreign firms. Similarly, international competition policies can prevent foreign firms from entering the domestic market, or may prevent domestic firms from reaching foreign markets. In either case, the total effect in the long-run will be a reduction of welfare⁸¹. Also, improving each of these three areas simultaneously will have a combined effect. If a country can correct the ACMDs in every area it can move toward its optimal welfare level. Leaving ACMDs uncorrected in any area will negatively affect the benefits from correcting other ACMDs.

The ACMD model considers effects across each of these pillars or indices separately, but it will certainly part of the ongoing work of the model to consider how feedback loops and combined effects can be properly measured.

⁸¹ See SRB (2014)

Initial projections

Initial projections from the Singham Rangan Bradley model suggest that a reduction in ACMDs does lead to a significant increase in GDP per capita in line with the projections from the agency based model and from other sources, such as OECD and other figures on the impact of anti-competitive regulation on growth.

Our latest build on the SRB Model will look at the impact on GDP per capita of distortions in each of the three pillars distinctly. This enables us to measure the impact of particular policies on scores within each of the pillars and thus on GDP per capita.

$$\ln(\text{GDP per capita})_{it} = \beta_0 + \beta_1 \text{Domestic Competition}_{it} + \mathbf{X}_{it}' \boldsymbol{\gamma} + \nu_t + \lambda_i + \epsilon_{it} \quad (1)$$

$$\ln(\text{GDP per capita})_{it} = \beta_0 + \beta_1 \text{Property Rights}_{it} + \mathbf{X}_{it}' \boldsymbol{\gamma} + \nu_t + \lambda_i + \epsilon_{it} \quad (2)$$

$$\ln(\text{GDP per capita})_{it} = \beta_0 + \beta_1 \text{International Competition}_{it} + \mathbf{X}_{it}' \boldsymbol{\gamma} + \nu_t + \lambda_i + \epsilon_{it} \quad (3)$$

⁸² The lower estimate is the result from a model which controls for both country and time fixed effects whereas the higher estimate is given by the model with country fixed effects.

⁸³ Same as above

⁸⁴ Given by the model with country-fixed effects

We construct a panel data model of GDP as a function of each competition index, several observed control variables and an unobserved time invariant country specific effect and a country invariant time period specific effect.

There are likely factors that impact a country's income that we have not included in our model. If they are systematically related to our index of interest this will bias our estimates. We minimise this risk by introducing time and country dummy variables.

These capture the time invariant country effects, λ_i , and country invariant time effects, ν_t , specified in equations (1-3). An example of a time invariant country effects might be omitted institutional factors, geographical factors or cultural factors that impact the level of income. An example of a country invariant time effect is a global trend such as oil prices. It is plausible that our indices are correlated with these factors. If this is the case, then our coefficient of interest will be biased by their omission. A country dummy variable eliminates this source of bias as we only attribute variance in income to varying factors inside a country that cannot be explained by global trends.

Findings

- A unit increase in domestic competition index is on average associated with increase in GDP per capita of 12.1% or 13.3%⁸²
- A unit increase in property rights index is on average associated with increase in GDP per capita of around 6.5% or 11.1%⁸³
- A unit increase in international competition index is on average associated with increase in GDP per capita of around 7.6%⁸⁴

Macro model

The macro model has been prepared by the consultants Cebr.

Cebr's macroeconomic models reflect its understanding of how economies work in practice. They are heavily influenced by the models developed by the London Business School in the 1980s, building up aggregate demand from its individual components and with supply-side effects working through real variables, such as the exchange rate and wages.⁸⁵

There is a role for monetary policy, which influences the model through the exchange rate and impacts on asset prices. Labour market variables, such as wages and employment decisions, are endogenously determined within the model. The modelling approach has of course been refined to capture more contemporary developments within the U.K. economy, including the lull in productivity growth since the global financial crisis, the impact of recent shocks such as the Covid-19 pandemic, and changes in the relative importance of sectors, notably the growth of information and technology.

The modelling is also informed by Cebr's understanding of the structure of the U.K. economy relative to other countries. The U.K. is a fairly advanced and heavily service-based economy. It has a large public sector with relatively high taxes, though some neighbouring economies have much higher taxes. It is relatively heavily regulated, though its labour market is less so, especially compared with other European economies. These characteristics all impact the U.K. economy's performance relative to others, which in turn affects a range of variables from migration to business performance.

The U.K. is an open economy. As a result, external circumstances affect its performance. Modelling the external sector and international capital flows is therefore important to understanding how the effects of policies develop.

⁸⁵ Budd et al (1984) - The London Business School econometric model of the UK

Cebr also account for structural features that are widely accepted to be present in all economies, not least that of the U.K. For instance, it capture the fact that output has both trend and cyclical components, with the trend being driven by factor endowments, capital supply, the quantity and quality of labour supply, and entrepreneurship. The efficiency with which these factors can be translated into output is very much affected by regulatory conditions, in addition to other policy interventions such as educational standards. Meanwhile, the cyclical component of output generally reflects inflation and policy, both monetary and fiscal. Recently, external developments and shocks, such as the Covid-19 pandemic and the energy crisis, have dominated over the cyclical and trend components of output.

An understanding of the labour market lies at the heart of a good economic model, especially in a modern service economy such as the U.K. This is particularly the case when modelling the impact of tax and regulation changes, given the myriad ways in which these policies affect the decisions of agents. On the individual side, high taxes discourage paid work or drive it into the underground economy, while businesses may be stifled by high degrees of taxation, reducing innovation and long-run productivity growth.

The model described here is aimed at being able to demonstrate and quantify how these tax and regulatory changes work through the economy, showing timing and knock-on effects. It will be capable of incorporating input from the Commission's other models but will also be capable of being a self-standing model of the impact of tax changes.

Constructing the Growth Commission macro model

Cebr hypothesises a series of equations to model the structure of the U.K. economy, to be known as the Growth Commission Macro Model. These equations capture the interdependencies between broad economic variables, as well as the impacts of exogenous shocks, such as tax policy changes. Broad economic variables will here refer to consumption and investment. This exercise is based on Cebr's understanding of established macroeconomic theory, though the model construction also involved a review of recent microeconomic studies to provide agent-level foundations for the model, including stated and revealed preference studies, assessing how individuals respond and expect to respond to changes in the economic environment.

Assessing the impact of tax policy choices on GDP per capita

At its heart, the model enables users to input values of different taxes to assess the impact of policy changes on the wider economy. To understand the mechanics of this, it is first important to describe qualitatively how the model has been constructed. As outlined in the theoretical approach section, this follows the London Business School methodology⁸⁶, building up aggregate demand from its individual components. The examples of consumption and investment are described on the following page.

⁸⁶ https://www.nuffield.ox.ac.uk/economics/Papers/2020/2020W01_MacroHist18.pdf

Consumption

The model includes a function to estimate the value of consumption at the aggregate level. Consumption is theoretically impacted by a range of variables, with one key factor being real personal disposable income. Real personal disposable income is in turn impacted by the policy environment, including personal tax burdens, which will be added to the model exogenously. In considering taxes, we analyse the overall personal tax burden, as well as specific taxes such as income tax and National Insurance contributions. It is also impacted by several other variables that will be determined endogenously, such as inflation and earnings. The exogenous policy environment and the endogenous variables will henceforth be referred to as the fundamental variables of the model.

Real personal disposable income is of course not the only economic variable impacting consumption. Another theoretical channel is that of wealth effects, with theory suggesting a positive relationship between the value of households' assets and present consumption. Asset values are in turn impacted by monetary variables, such as the money supply and the real interest rate, via the asset price channel. As such, the finalised consumption equation will account for these factors, allowing us to explore the impact of monetary variables on the real economy.

Equations have been constructed to consider the impact of these fundamental variables on real disposable income and perceived wealth and hence their impact on consumption. We will account for more general economic development by adding a time trend. Periods of particular economic volatility, notably the Covid-19 pandemic, will be accounted for by appropriate dummy variables. Other control variables beyond those listed in this simplified example will also be considered.

The equation system could be summarised as:

$$(1) \text{ Consumption} = f(\text{RPDI}, \text{Perceived wealth}) = \beta_0 + \beta_1 \text{RPDI} + \beta_2 \text{Perceived wealth} + \beta_3 \text{Pandemic dummy} + \gamma t + \varepsilon$$

$$(2) \text{ Real personal disposable income (RPDI)} = f(\text{Earnings}, \text{Inflation}, \text{Personal tax burden}) = \beta_0 + \beta_1 \text{Earnings} + \beta_2 \text{Inflation} + \beta_3 \text{Personal tax burden} + \gamma t + \varepsilon$$

$$(3) \text{ Perceived wealth} = f(\text{Money supply}, \text{Real interest rate}, \text{Nominal asset value}) = \beta_0 + \beta_1 \text{Money supply} + \beta_2 \text{Real interest rate} + \beta_3 \text{Nominal asset value} + \gamma t + \varepsilon$$

While the above equations have been described linearly, in fact other functional forms have been considered during the construction process to determine the most appropriate way to model the relationships between these variables.

Investment

In the case of gross capital formation, a series of equations has been hypothesised to determine the relationship between the fundamental variables and investment. Theoretically, investment is driven by the real interest rate and the business tax burden. These drivers will be included as explanatory variables within the model. Other factors driving investment include general economic stability, which will be captured by including indicators such as lagged gross domestic product (GDP) or the regulatory environment into the investment equation. In the business case, we consider the sensitivity of investment to the overall business tax burden, as well as specific taxes such as corporation tax. Investment itself is a key factor in determining the level of capital stock within the economy. Given that capital is an important element of production, this offers a further channel to influence growth.

Since consumption and investment are major components of GDP, and hence GDP per capita, we can use the hypothesised structural equations to build a picture in which the tax policy environment has an impact on output and growth.

The labour market

The above examples of consumption and investment are not exhaustive of our proposed theoretical model. We also consider other economic variables that are theoretically impacted by the policy environment. Further channels to consider will include the response of labour supply and migration to tax policy changes. We have segmented these labour market responses by strata, capturing divergence between those at the higher end of the income spectrum and those at the lower end. This labour supply and migration analysis will be informed by our longstanding experience of demographic forecasting, conducted for the Rail Delivery Group's Passenger Demand Forecasting Council. This involves forecasting employment by occupation and industry at the aggregate and regional level, as well as the size of the population.

The shadow economy

The model also assesses the impact of tax policy changes on the size of the shadow economy. This has drawn upon Cebr's experience of assessing movements between the real and shadow economies as a result of fiscal changes, which was considered at length in our previous workstream for the TayPayers' Alliance. To close the model, we will also build a picture of how the broad economic indicators themselves have impacts on other variables, notably inflation and employment.

Empirically testing the Growth Commission Model

Having established a series of theoretical equations explaining the link between the policy environment and broad economic indicators, and hence the impact of policy on growth, tested the model empirically using official economic data, from sources such as the Office for National Statistics and the Bank of England.

The tests were made using R, a statistical package. This enabled us to determine which of the hypothesised channels have had a statistically significant impact on output, and hence growth, in the past. Through this exercise we also determined the parameter values, as denoted by the coefficients in Equations 1, 2, and 3 of the previous section. These parameter values represent elasticities, that is, the sensitivity of economic variables to changes in other variables.

In the empirical section, we conduct a range of diagnostic tests on the overall model and its constituent equations to make sure of its statistical robustness. Tests included sensitivity analysis to assess the stability of the model's predictions and back testing to identify systemic biases. Appropriate steps to adjust the model parameters have been taken following the results of these tests.

Where official data are lacking, we conducted a review of academic literature to determine the sensitivity of variables to changes in the policy environment. A key example is in assessing the impact of tax policy changes on the shadow economy, the size of which is not (obviously) captured well by official sources. Cebr adopted a similar methodology in its construction of a supply-side model of the U.K. economy for The TaxPayers' Alliance, producing an elasticity value for shifts between the shadow economy and the real economy.

Appendix 2 Costing the policy recommendations

Introduction

This section describes how we have costed our policy recommendations both using the two models described in Appendix 1 and using off-model analysis.

We have measured the impact of each policy recommendation put forward and assessed its impact on GDP (behavioural change) and the fiscal cost/gain associated with the policy over the period to 2043/44 had there been no GDP effect. The latter is our estimate of the equivalent to the Red Book estimate (eg for the March 2023 Budget it was presented as a separate costing booklet https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1142824/Costing_Document_-_Spring_Budget_2023.pdf). The actual cost of any measure is the sum of its 'No effect fiscal cost' minus the fiscal gain from its GDP effects.

Table 13 on the following page summarises the costs and the GDP impacts.

Table 10 Summary of costs and economic impacts of policies

Growth Commission policies impact on GDP (per cent)					
	2024-25	2025-26	2026-27	2027-28	2043-44
Planning and housing	0.1	0.4	0.7	1.0	6.4
Energy and smart green	0.0	0.1	0.2	0.6	2.2
Labour market	0.2	0.4	0.8	1.0	1.9
Minimum wage	0.3	0.3	0.4	0.5	0.8
Infrastructure	0.0	0.4	0.7	0.9	1.4
Public sector productivity	0.0	0.6	1.0	1.7	4.4
Welfare and pension	0.0	0.0	0.0	0.6	1.6
Lower corporation tax	0.0	0.1	0.4	1.3	3.0
Income tax reforms	0.0	0.0	0.2	0.6	1.3
Tourism tax	0.4	0.4	0.4	0.4	0.4
Total	1.0	2.6	4.8	8.6	23.4
Cost of impact of proposals (per cent of GDP positive means extra net spending)					
	2024-25	2025-26	2026-27	2027-28	2043-44
Planning and housing	0.0	0.3	0.5	1.0	1.0
Energy and smart green	-0.1	-0.1	-0.1	-0.1	-0.1
Labour market	0.0	0.0	0.0	0.0	0.0
Infrastructure	0.0	0.5	1.0	1.5	1.5
Public sector productivity	0.0	-0.6	-1.0	-1.7	-4.4
Welfare and pension	-0.5	-0.5	-0.6	0.0	0.5
Lower corporation tax	1.0	1.0	1.0	1.0	1.9
Income tax reform	0.3	0.9	1.5	2.2	2.2
Tourism tax	-0.1	-0.1	-0.1	-0.1	-0.1
Total	0.6	1.4	2.2	3.8	2.5

Impact of planning on housing

We have costed them separately using the various models plus off model analysis. We have generally put more emphasis on the off model analysis. However the ACMD model shows the scale of gains possible if the U.K. optimises its regulatory performance based on the three pillars and thus represents the delta between where we are now and where we could be. The optimisation is based on the best performer and should therefore be achievable if the U.K.s follows the right policies.

We have divided this into the impact on housing, on retail and hospitality and on the rest of the economy.

There are a number of policies that would contribute to this GDP per capita gain figure.

Planning and housing policies to reduce the cost and time to register property could result in an improvement in the Property Rights Index. This could in turn lead to an increase in GDP per capita of 0.2% to 0.4%⁸⁷. Similarly, the Domestic Competition Index could increase through an improvement in the “Regulatory Quality” sub-component, which is based on the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. Improvement in these sub-scores could lead to increases in GDP per capita of up to 0.3-0.4%⁸⁸.

These are small beer however, compared with the potential gains that might accrue from improving planning.

⁸⁷ This represents the GDP per capita increase from an improvement in the sub-score to the same level as the best performing country.

⁸⁸ Same as above. It should be noted however that many factors other than housing and planning policies also impact Regulatory Quality.

Housing

The CBI/RICS task force on planning 'Shaping the Nation'⁸⁹ estimated that the capital cost of the excess price of houses caused by planning restrictions was £78 billion at 1987 values, causing an annual loss to the economy of 1.9% of GDP.

Studies quoted in the Economist⁹⁰ show significant crowding out impacts from high house prices, damaging the growth of the rest of the economy.

In the U.S. a very detailed micro study looking at bank branches found that a one-standard-deviation increase in house prices in areas where a bank has branches reduced lending growth to firms that borrow from the same bank by 42%. The total investment undertaken by the affected firms fell by 21%.⁹¹ Similarly a study from China showed that based on data from manufacturers in 172 Chinese cities that a 50% increase in property prices would raise borrowing costs, reduce investment and productivity, and result in a 35.5% decline in the firms' value-added output⁹².

Overall we have translated these effects into upgrading the CBI/RICS figure from 1.9% to 2.9%.

⁸⁹ 'Shaping the Nation – Report of the Planning Task Force' CBI November 1992

⁹⁰ <https://www.economist.com/finance-and-economics/2022/07/28/how-high-property-prices-can-damage-the-economy>

⁹¹ 'Housing Price Booms and Crowding-Out Effects in Bank Lending' Indraneel Chakraborty University of Miami; Itay Goldstein University of Pennsylvania; Andrew MacKinlay Virginia Tech, Journal of Financial Economics 2018 <https://finance.wharton.upenn.edu/~itayg/Files/realestatebubbles-published.pdf>

⁹² Hau, Harald and Ouyang, Difei, How Real Estate Booms Hurt Small Firms: Evidence on Investment Substitution (May 2, 2018). Swiss Finance Institute Research Paper No. 18-38, Available at SSRN: <https://ssrn.com/abstract=3174761> or <http://dx.doi.org/10.2139/ssrn.3174761>

Retail and hospitality

The McKinsey study commissioned by Gordon Brown attributed the bulk of the 40-50% of the productivity differential in the hospitality and retail sectors in the U.K. compared with the U.S. to the inefficiencies and lack of competition caused by the planning system.⁹³ This implies a loss of productivity in these sectors alone equal to about 3% of GDP. This is backed up by a very recent study carried out by the University of Toronto on the Texas lodging industry which suggests that differential competition caused by zoning has a huge impact on the industry⁹⁴.

Although the McKinsey study was carried out a long time ago we would be very surprised if the number were lower, so we have used that figure as a cautious estimate of the impact.

Rest of the economy

We have used the estimates from the improvement in the Property Rights part of the micro model to measure the impact on the rest of the economy. These give an impact on GDP of 0.7% of the rest of the economy (which accounts for 74.6% of GDP). So this impact is 0.5% of GDP⁹⁵.

⁹³ McKinsey Global Institute Driving productivity and growth in the UK economy October 1, 1998 | Report

⁹⁴ Land Use Regulation as a Barrier to Entry: Evidence from the Texas Lodging Industry Junichi Suzuki University of Toronto January 23, 2013

⁹⁵ Data from <https://commonslibrary.parliament.uk/research-briefings/cbp-8353/>

Total impact of planning

Adding up these effects, they amount in total to 6.4% of GDP from planning and housing.

Energy and smart net zero

Competition in energy markets is picked up by the micro model in the following sub-variables:

- Cost of electricity
- Time to get electricity

Improving those to the highest scoring country is associated with a GDP per capita increase of 0.3%-0.4%⁹⁶.

In addition we have used the macro model to understand the impact of reducing energy costs on the economy based on the published impact that Cebr calculated of the impact of the Ukraine war (but obviously taking out the trade effects)⁹⁷. This models the impact of the higher energy prices resulting from the Ukraine war – a long term impact of a rise of on average 50% was assumed, though the initial impact was higher.

For this exercise we assumed that the policies on energy competition and on smart net zero would reduce the prices of all energy by 20%. So we excluded the sanctions and exports impact in the Ukraine war simulation and then scaled down the impact by 2/5ths. This gives a total GDP impact of 1.8% of GDP. To which we have added the central estimate for the results of the micro model. The total is 2.15%.

We also estimated a small reduction (0.1% of GDP) in public spending. This is low because the bulk of the savings are passed on to the consumer.

⁹⁶ This represents the GDP per capita increase from an improvement in the sub-score to the same level as the best performing country. The lower end of the range is the result from a model which controls for both country and time fixed effects whereas the higher end of the range is given by the model with country fixed effects.

⁹⁷ <https://cebr.com/wp-content/uploads/2022/03/Cost-of-Russian-invasion-of-Ukraine-for-the-UK-economy.pdf>

Labour market

We used the micro model to estimate the GDP effect for this. The UK's 2019 Labour Freedom Score is 5.4 (1-7 index). Australia in 2019 is 6.0 - optimising to this level means the domestic competition index increases by an amount associated with 1.82-2.00%⁹⁸ gain in GDP per capita on average.

If also of interest, the highest Labour Freedom Score in 2019 was achieved by Singapore (6.5). Optimising to this level means domestic competition index increases by an amount associated with 3.33-3.66% gain in GDP per capita on average. We assumed optimisation on the Australian level since the country appears to be a closer comparator to the U.K. than Singapore. Our estimated impact on GDP is the centre of the range at 1.9%.

Minimum wage

We simulated a one year freeze to the minimum wage on the macro model. The model estimated a GDP gain of 0.8% and an employment gain of 1.0%.

⁹⁸ The range is informed by the two different coefficients resulting different specification of the regression. The lower end is informed by the POLS with both Country and Time effects model, the upper end is the POLS with just Country effects model. This range is consistent with the previous figures shares.

Infrastructure spend

We have a range of proposals for infrastructure changes. Those for housing and energy are covered elsewhere so this section looks at transport changes.

The proposal is for spending an additional 1½ % of GDP on transport infrastructure. And more ambitiously for a range of changes to charging for roads. As the latter is likely not to be implemented soon we have not included the estimated 2% gain to GDP from their implementation. We have estimated that spending this additional amount on infrastructure would add 1.4% to GDP based on a range of studies.⁹⁹

Public sector productivity

Our proposal is to reverse the slide in public sector productivity and when this has been done to achieve a 1% per annum increase for 18.5 years. This gives a total increase compared with the base of 27.8%. We have multiplied this by the share of the economy in the public sector. This is the sum of the proportions of the economy¹⁰⁰ in public administration and defence (4.9%), the proportion of the public sector in education and the proportion in health. After excluding the private sector in health¹⁰¹ and education¹⁰² this gives a total of 15.9%.

We have deliberately made no allowance for the likely additional productivity as the resources are transferred to the private sector so our estimates are on the cautious side.

The 27.8% gain in productivity of 15.9% of GDP gives a boost to GDP of 4.4% over 20 years.

¹⁰⁰ <https://commonslibrary.parliament.uk/research-briefings/cbp-8353/>

¹⁰¹ <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthcaresystem/bulletins/ukhealthaccounts/2021>

¹⁰² <https://www.isc.co.uk/research/#:~:text=The%20UK%20independent%20sector%20as,of%20school%20children%20in%20England.>

Welfare and pensions

We have used the macro model to model the impact of increased incentives to join the labour market from welfare reform. This build up to 1.5% eventually. We have also costed measures and have allowed for additional spending of 1/2 % of GDP for proactive labour market measures.

Corporation tax

We have simulated the impact of the early cut to 19% and the eventual cut to 15% for corporation tax on the macro model plus the incorporation of the full expensing regime as a permanent feature. This gives an ultimate impact of 3.0% of GDP but a cost of 1.9% in net tax losses at constant GDP. Our assessment is backed by an early assessment by the Tax Foundation¹⁰³ looking at the impact of full expensing.

Income tax reforms

Our estimates of the economic impact of the income tax reforms are from a simulation on the macro model. These give an estimate of a gain of 1.3% of GDP from the supply side and an increase in fiscal cost at unchanged GDP of 2.2%. It should be noted that the fiscal 'cost' is a transfer from the fiscal authorities to households so should not be compared with the gain to GDP which is extra 'new' output. The GDP effect probably builds up further as well.

¹⁰³ UK Business Investment Increases After Pro-Growth Tax Reforms (taxfoundation.org)

Tourist tax

We have used the estimates in the Cebr report¹⁰⁴ on this. Recent Cebr research showed that the reintroduction of a VAT Retail Export Scheme could have added £10.7 billion to the UK economy in 2023, if fully utilised by visitors. This could have provided a net boost to tax revenues of £2.3 billion.

Cebr estimates that this could reach £11.6 billion by 2025, assuming a return to pre-pandemic visitor numbers. This would add £2.5 billion on net to public finances in 2025.

We have cautiously assumed that the long term response is the same as the short term response.

Timing

We have treated these effects as long term effects and assumed that they will have fully taken place in 20 years time unless otherwise stated.

Again unless otherwise stated, we have assumed that they build up gradually based on the timing calculated for the OECD study by Egert and Gal¹⁰⁵.

Where we have used the macro model, it provides its own timeline for the impacts.

¹⁰⁴ <https://cebr.com/reports/removal-of-tax-free-shopping-costing-10-7bn-in-lost-gdp-and-deterring-two-million-tourists-a-year-report-concludes/>

¹⁰⁵ The Quantification of Structural Reforms in OECD Countries – a New Framework OECD Economics Department working papers No. 1354 By Balázs Égert and Peter Gal



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