



Steve Baker MP
Member of Parliament for Wycombe
House of Commons, London SW1A 0AA

Rt Hon Rishi Sunak MP
Chancellor of the Exchequer
1 Horse Guards Rd
London SW1A 2HQ

21 July 2020

Dear Chancellor,

In the course of your recent evidence to the Treasury Committee, we discussed the upper limit of the taxable capacity of the UK economy. I agreed to write to you with a paper from the economist David B Smith: please find this attached.

The paper examines the historic record roughly to estimate where the upper limit of taxable capacity may be and consequently where the sustainable limit to public spending may be found. The note only deals with fiscal sustainability though it does identify three inflexion points: the economic growth maximising point (20-25% of GDP), the welfare maximising point (30-35% of GDP) and the upper bound before private activity collapses, tax receipts shrivel and big government becomes unsustainable. The UK is far beyond the first two points.

The paper briefly considers some measurement issues before turning to the long-term evidence. The tax burden is found to have been close already to the upper limit of historic sustainability before the pandemic. The evidence shows it is difficult to raise the non-oil tax burden above 39% of factor cost GDP for any time. Even during WWII, the tax burden averaged 37.5%. In the four quarters to 2020 Q1, the ratio was 37.7%.

The data implies any attempt by the Government to tax their way out of the present fiscal situation will backfire badly. The paper concludes with a call for what I would characterise as a conservative economic policy. Please consider the implications for UK fiscal policy of the evidence in this paper.

This letter and paper arise from a Treasury Committee evidence session, so I copy the Chair and I have asked that the Committee consider publishing this correspondence and your reply in due course.

Yours ever,

CC: Rt Hon Mel Stride MP, Chair, Treasury Select Committee

Enclosure: "What is the Upper Limit to Britain's Taxable Capacity", David B Smith, 20th July 2020

What is the Upper Limit to Britain's Taxable Capacity?

David B Smith

20th July 2020

Introduction

The idea that there is an upper limit to a nation's taxable capacity may go back to the dawn of settled civilisation – when predatory rulers caused unintended population collapses through mass starvation or emigration (e.g., the children of Israel leaving ancient Egypt). The concept has been long established in public finance, with the *ancien regime* Bourbon monarchs of Spain and France notorious as a result of the economic and geopolitical decline brought about by their 'Big Government' conservatism. However, simply claiming that there must be an upper limit to taxable capacity is about as useful as an engineer saying that if you apply enough weight to a girder it will break.

Important practical questions normally require quantification, even if that can only be approximate. This note examines the UK historic record to roughly estimate where the upper limit of taxable capacity might be. Knowing this point is important because, after allowing for a moderate budget deficit of, say 2% to 3% of GDP and non-tax receipts of another 3%, taxable capacity defines the upper limit of sustainable government spending. This question has always been important – particularly, in wartime – but is especially so now because of the hits to the economy and public finances associated with the Covid-19 lockdown. This note only deals with fiscal sustainability, not the appropriate size of government more generally. In previous work, I have often tried to distinguish between three main inflection points with respect to the share of government expenditure in national output (e.g., Smith (2006) or Booth (2016)).

- Firstly, there is the economic growth maximising point, which seems to lie between just under 20% and 25% of Gross Domestic Product (GDP). This sort of number can be observed in almost all of today's South East Asian economies and Japan, France, Italy and Spain during their period of rapid growth in the 1950s and 1960s. Countries that choose this path not only grow more rapidly but also ultimately achieve geopolitical supremacy over their more sluggish counterparts.
- Second, there is the welfare maximising point beyond which further increases in the government spending ratio yield no discernible increase in objective measures of wellbeing (see: Tanzi and Scuknecht (2000) and Tanzi (2011)). This welfare maximising point could be as low as 30% of GDP and no higher than 35%. This is comparable to today's Switzerland and Australia, the UK in the 1950s and early 1960s, and London, and South Eastern and Eastern England currently.
- Finally, there is the question of how far one can raise the tax and spending burdens before private activity collapses, tax receipts shrivel, and Big Government policies of either the political left or right becomes unsustainable. Because the UK is far beyond the first two inflexion points, this is the question that I will concentrate on.

Two Crucial Truisms

It is necessary to commence with two simple truisms that are almost entirely ignored in the political debate on 'tax and spend' issues. The first truism is that modern governments have effectively zero resources of their own. The corollary is that, under normal circumstances, all government spending commitments imply higher taxes, either immediately, or in the future, when the increased debt resulting from borrowing needs to be serviced.

There is a dangerous third option to higher taxes or bond-market funding, however, which is borrowing from the banking sector (defined to include the central bank). But this is only non-inflationary during the transitory period that lending to the private sector is being crowded off the asset side of bank balance sheets, a process known as financial repression. Once most bank assets are government debt, any extra loans to the public sector boost bank liabilities – i.e., their deposits – and hence broad money. This is the 'monetisation

point' at which inflation and, in extreme cases, hyperinflation commence their take off. With the annual growth in UK M4^{ex} broad money running at 11.3% in May and rising at an annualised 30.8% on a three-month comparison, this monetisation point may now have been passed.

The second truism, which follows on from the first, is that the tax base is not total GDP, as appears to be unquestionably believed by politicians and officials, but only the residual component of GDP after government financed spending has been subtracted. This is because it is impossible for any institution (or individual) to generate real economic resources by taxing itself. In logic, real resources invariably need to come from outside the boundaries of the bodies concerned. This is not to deny that Local Authorities, for example, pay VAT to central government. Rather, it is that these transactions can be netted out from an economic – as distinct from an accounting - perspective.

Measurement Problems

A specific problem with GDP as a measure of the tax and government spending burdens is that GDP itself appears to be the proverbial piece of string. Several different measures are available in the official statistics and the measure chosen can make a difference of five or more percentage points to the alleged tax and government spending burdens (Smith (2006)). Furthermore, these competing measures can themselves be massively revised over time, as a result of major definitional changes as well as the usual bog-standard revisions. This is an important reason why it is not sensible to pass primary legislation mandating the expenditure of a fixed proportion of GDP on any given programme.

Table 1: Ratios of UK General Government Expenditure and Non-Oil Taxes to Money GDP in 2019-20 Using Different GDP Measures

	General Government Spending	Non-Oil Taxes
GDP at Market Prices	38.9%	33.3%
Gross National Income at Market Prices	39.7%	34.0%
GDP at Basic Prices	43.5%	37.2%

GDP at Factor Cost	44.1%	37.7%
--------------------	-------	-------

Source: UK Office for National Statistics and author's calculations.

A specific problem with the officially preferred measure of GDP at market prices, as employed by the Office for Budget Responsibility (OBR), HM Treasury and the figures quoted previously, is that it is measured gross of indirect taxes and subsidies. This has several nonsensical consequences. One is that it overstates the real resources available. Another is that switching the tax burden from direct to indirect taxes (or simply raising VAT) increases reported national output, even if physical production has not changed by one iota. A conceptually superior alternative is to use the factor cost measure of GDP, which nets out indirect taxes and subsidies. This is particularly the case for longer-term historic comparisons Smith (2006)). There is also the rather similar basic-price measure used to measure regional GDP *inter alia*. Table 1 shows the effect of using different GDP measures on the calculations for government spending and the non-oil tax burden in the most recent financial year.

Any measure of GDP may overstate the resources available to fund government expenditure, however, for two reasons. Firstly, the fact that the UK is an overseas debtor means that Gross National Income at Market Prices was £44.3bn less than the equivalent GDP measure in fiscal 2019-20 because of the large payments of interest, profits and dividends overseas. Second, the term 'Gross' in the definition of GDP means that no allowance is made for the depreciation of the capital stock. This did not matter when the capital stock was mainly long-lived assets, such as railways or steel mills. However, the Office for National Statistics (ONS) now includes software development in 'capital formation', despite the notoriously short life of many such programmes (e.g., hedge fund trading software). Any categorisation of a nation as 'living beyond its means' should surely include a situation where public and private consumption are only sustained by increasing borrowing from overseas and running down its fixed assets? This suggests that net national income at factor cost should be the preferred measure of national income, if the ONS could compile the figures, and that the tax base is the private sector component thereof.

The Long Term Picture

The remainder of this note simply tries to analyse where we are now in terms of government spending and taxation using both long runs of annual data, and the most recent quarterly figures, which expire in 2020 Q1. The results suggest that, even before the Covid-19 crisis, the UK government spending to GDP ratio was high by historic standards, especially given the tight labour market and other signs that the economy was operating above capacity, such as the balance of payments deficit. In addition, the tax burden already appeared to be close to the upper limit of historic sustainability before the current pandemic. Chart 1 (below) shows the ratio of UK general government expenditure to the historically consistent factor cost measure of GDP from 1870 to 2019. The methodology and data sources were explained in Chapters 2 and 3 of Booth (ed. 2016) and Smith (2006) and will not be repeated here.

Chart 1: Ratio of UK General Government Expenditure to UK GDP at Factor Cost 1870 to 2019 (Annual Plots %)

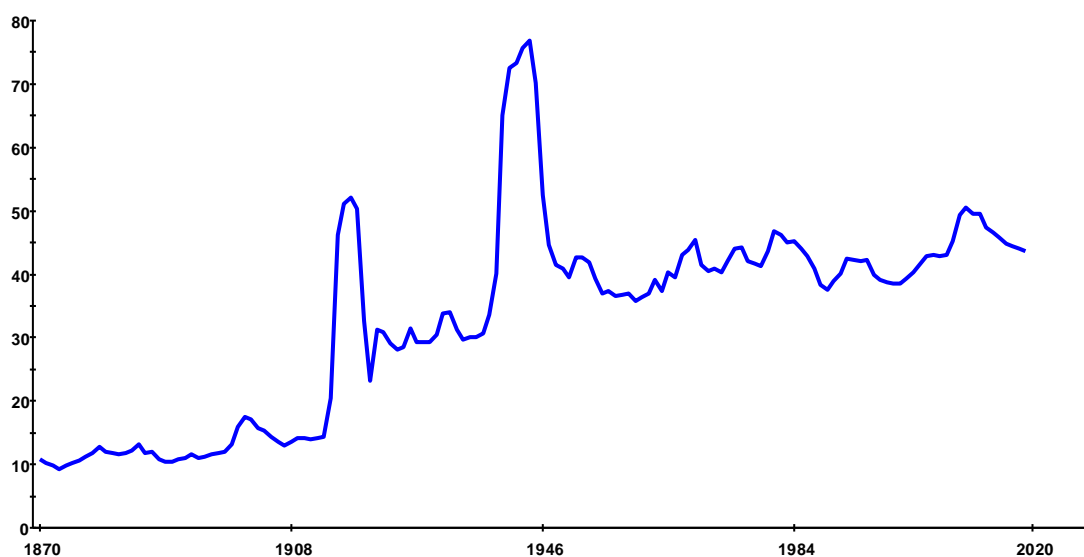
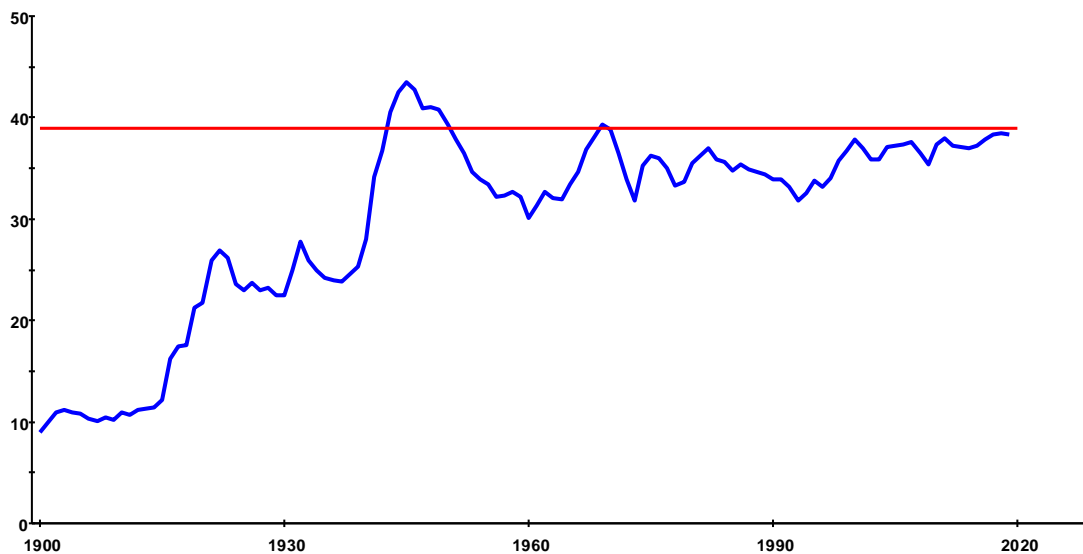


Chart 2 shows the equivalent calculation for the non-oil tax burden expressed as a share of non-oil GDP also measured at factor cost. Oil revenues are trivial nowadays but were significant in the 1980s, for example, and tend to distort the historic record. Table 1 has already shown the differences that arise when alternative GDP measures are employed to measure the tax burden and several such measures are maintained on the author's data

bank (charts of total taxes/total GDP and using other GDP measures are available on request).

Chart 2: Ratio of UK Non-Oil Taxes to UK Non-Oil GDP at Factor Cost 1900 to 2019 (Annual Plots %)



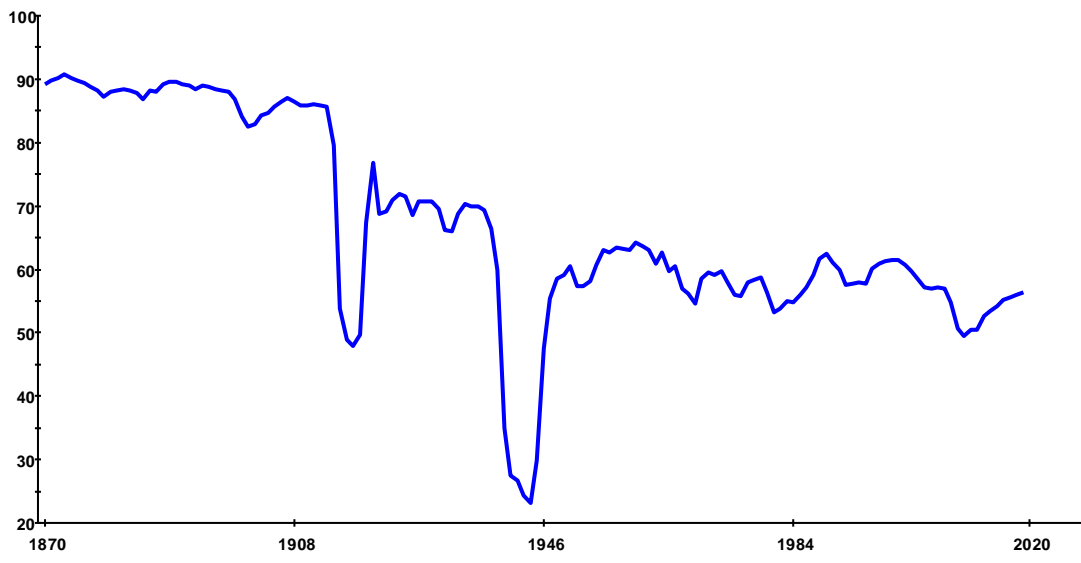
One thing that should be apparent from Chart 2 is that it is difficult to get the non-oil tax burden to stay above 39% of factor cost GDP for any length of time (horizontal line above). This is despite massive changes to the structure of taxation and the various key rates of tax over this period. Even during World War II, when the UK economy was largely Sovietised to maximise military production, the tax burden only averaged 37.5%, with a temporary peak of 43.5% in 1945. The only other breach of the 39% ceiling occurred in 1969, following the first International Monetary Fund (IMF) bail out of the UK economy.

Now, there are powerful Laffer curve and supply-side arguments to explain why some such barrier exists; particularly, in a small open economy, such as Britain's, whose ability to compete is likely to be undermined by a relatively high tax burden. Supply-side theory states that the supply of tradable goods and services shifts from high-tax to low-tax economies over time, hollowing out the productive base of the former.

However, one straightforward reason, in terms of the two truisms above, is that a GDP-defined tax burden of 39% actually represents a burden of almost 71% on the residual

private sector (charts 3 and 4) if the state is spending, say, 45% of GDP. Such a burden on effort and enterprise will lead to a withdrawal in the supply of both unless private sector agents are either pure altruists or complete mugs.

Chart 3: Ratio of UK Private Sector Activity to UK GDP at Factor Cost 1870 to 2019 (Annual Plots %)



It is also noteworthy that the severe tax squeeze imposed by Roy Jenkins in 1969 – which represented the post-dated bill for the first Wilson administration’s reckless spending from 1964 onwards – reduced the sustainable growth rate of the UK economy from the 3% to 3½% range previously considered normal to some 1½% in the 1970s. This supply withdrawal contributed significantly to the economic and political crises of the pre-Thatcher era. Some of Jenkins’ former colleagues also believed that his unpopular tax hikes cost Labour the 1970 election.

The concern now is that the recent UK growth trend of around 1½% each year will collapse to zero, or remain negative, even after the Covid-19 crisis has burned itself out. This would have horrendous implications for social and political stability, as well as the wider economy. It is also worth noting how massive the likely public sector deficit in 2020-21 is in terms of the yields from increasing the main rates of tax, as calculated by Her Majesty’s Revenue and Customs (HMRC – see: Table 2).

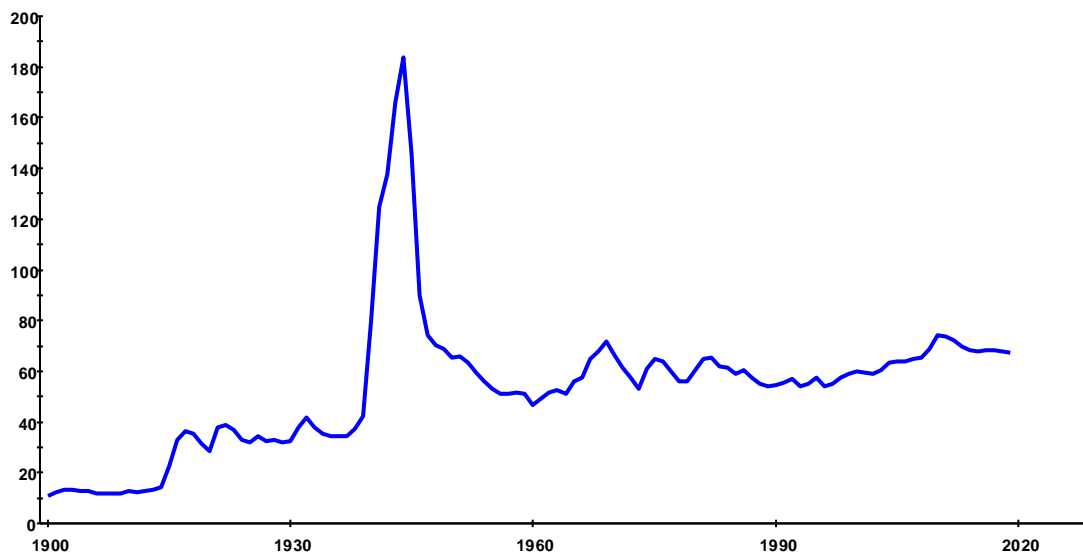
However, the HMRC calculations are purely static ones that do not allow for the adverse second round effects that rapidly come to outweigh the initial ones when simulated on properly specified macroeconomic forecasting models. At best, these suggest that only around one third to one half of any *ex ante* tax hike is achieved *ex post*. Allowing, for these quasi-Laffer feedbacks suggests that there would need to be totally unfeasible rises in individual rates of tax to clear even a significant fraction of the present fiscal deficit, and that private sector economic activity would probably collapse if such an attempt was made.

Table 2: Direct Effects of Some Illustrative Tax Changes (£'s million)

	2021-22	2022-23	2023-24
Change basic rate income tax by 1p	4,700	5,850	5,800
Change all main income tax allowances, starting and basic rate limits by 1%	1,050	1,400	1,350
Increase Corporation Tax by 1p	2,400	3,100	3,400
Change class 1 employee main rate by 1p	4,500	4,600	4,700
Change class 1 employer rate by 1p	6,600	6,800	7,000
Change standard rate VAT by 1p	6,850	7,050	7,300

Source: HM Revenue & Customs, Direct Effects of Illustrative Tax Changes, 1st May 2020.

Chart 4: Ratio of UK Non-Oil Taxes to Residual Private Sector GDP 1900 to 2019 (Annual Plots %)



In addition, the likelihood of complete adverse Laffer curve effects - i.e., higher rates inducing lower receipts, increased welfare bills, and heightened public borrowing – should theoretically rise exponentially as tax rates go up; this is why it is called a ‘curve’. Putting it simply, a tax increase that reduces public borrowing when public spending is, say, 30% of GDP could exacerbate the deficit if the starting point was 45%. Finally, it is possible to suspect that the HMRC calculations may themselves be over-optimistic about the potential size of the tax base in a post Covid-19 world.

Recent Quarterly Data

It is possible to redraw the earlier charts using quarterly data from 1955 Q1 onwards. This brings out the more recent experience and may be more relevant from a political perspective. However, it has the drawback that the public spending and tax figures are not seasonally adjusted, even though they contain marked seasonal swings. As a result, the charts use four quarter running totals divided by four. The larger scale of Chart 5 shows how far the UK had come off the peak spending ratio recorded in 2010 – which was, arguably, always unsustainable in the long run - but also confirms that the spending ratio had passed

its lower point of inflexion and was heading upwards from a historically high base, before the corona virus had struck.

Chart 5: Ratio of UK General Government Expenditure to UK GDP at Factor Cost 1956 Q1 to 2020 Q1 (Quarterly Plots %)

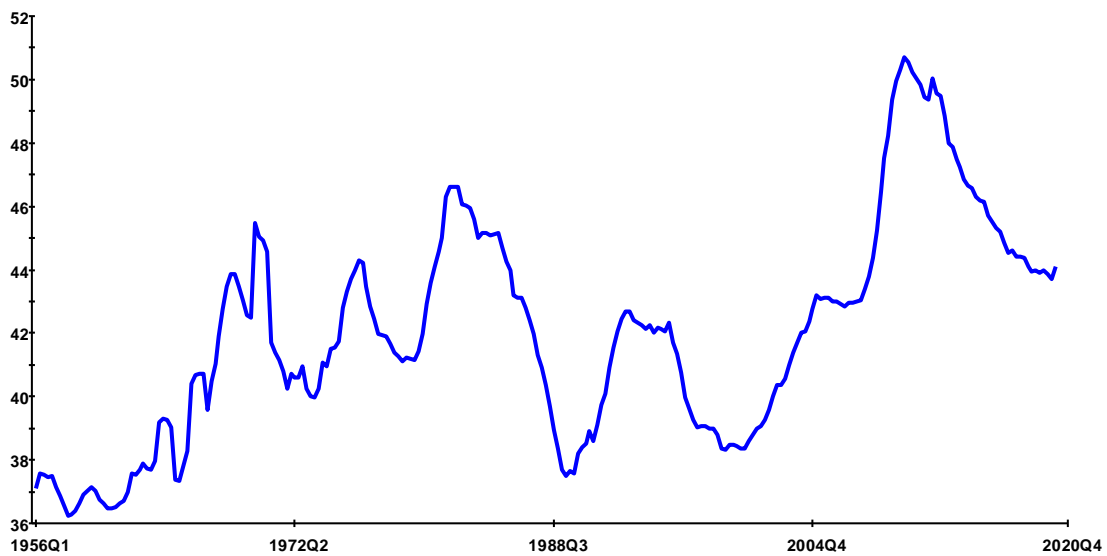
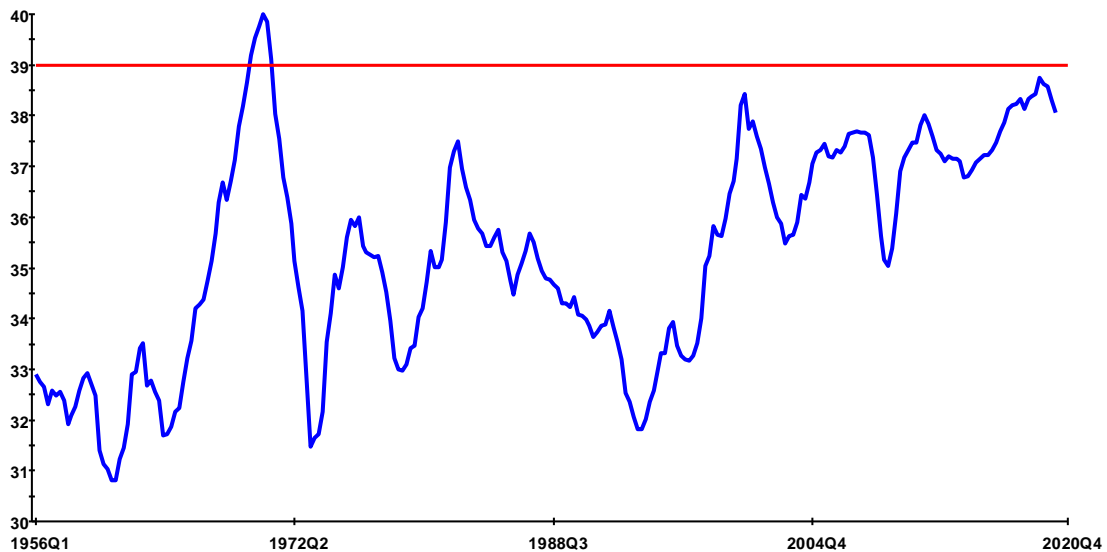


Chart 6 shows the equivalent quarterly plot to Chart 2. The chart again confirms that it is extremely hard to push the tax burden through the 39% of factor cost GDP barrier which is again shown as a horizontal line on the chart. It also confirms how close the UK economy now is to that historic limit, with a ratio of 37.7% being recorded in the four quarters to 2020 Q1.

Chart 6: Ratio of UK Non-Oil Taxes to UK Non-Oil GDP at Factor Cost 1956 Q1 to 2020 Q1 (Quarterly Plots %)



Conclusion

It is hard to avoid the conclusion that the UK was nudging up against the historic upper limits of taxable capacity and sustainable government spending – which one might place at around 34½% and 40½%, respectively, of the officially-preferred market price measure of GDP – even before the Covid-19 virus struck. Indeed, one might argue that Mr Johnson’s Bourbon-style, Big Government Conservatism had already been steering the ship of state into the iceberg menaced waters of a fiscal stabilisation crisis in the March 2020 Budget. If the Covid-19 iceberg had not hit the vessel, then it was probable that another of Harold MacMillan’s ‘events’ would have done so during the current Parliament.

Against this background, it is hard to be positive. Possibly, the best one can do is emphasise that any attempt by the government to tax its way out would probably massively backfire economically, worsen the public finances not improve them (see: Alesina et al. (2019)) and leave the Conservatives vulnerable to an anti-tax revolt sweeping through the electorate. De-regulation and tax simplification are both receipt friendly in the long term and have almost no upfront revenue costs. Unfortunately, the gains may be only second order ones

compared to the returns from supply-side friendly tax cuts and reforms of high marginal rates. However, enhanced fiscal parsimony will be required if the UK is not to become a permanently stagnant, and low- or negative-growth economy and the international financial markets are to carry on underwriting the UK's twin fiscal and payments deficits throughout the current Parliament. Otherwise, it may be back to the mid-1970s and the sterling and funding crises that triggered the December 1976 IMF loan.

References

Alesina A, Favero C and Giavazzi F (2019) *Austerity: When it Works and When it Doesn't*, Princeton University Press, Princeton and Oxford.

Booth PM (2016) *Taxation, Government Spending & Economic Growth*, Institute of Economic Affairs, London.

Smith DB (2006) *Living with Leviathan: Public Spending, Taxes and Economic Performance*, Hobart Paper 158, Institute of Economic Affairs, London.

Tanzi V and Schuknecht L (2000) *Public Spending in the 20th Century: A Global Perspective*, Cambridge University Press.

Tanzi V (2011) *Government versus Markets: The Changing Economic Role of the State*, Cambridge University Press.

David B Smith

David B. Smith studied economics at Trinity College, Cambridge, and the University of Essex before working as a macroeconomic modeller and economic forecaster, predominantly in banks and security houses from 1968 to 2006. He was a Visiting Professor at the University of Derby from 2006 to 2014, Chairman of the Institute of Economic Affairs' Shadow Monetary Policy Committee between 2003 and 2014, and the Chief Economist working on the Tax Payers' Alliance 2020 Tax Commission report published in 2012. David has published

numerous papers on topics such as fiscal policy, monetary policy and financial regulation since the mid-1970s, in addition to his work as a macroeconomic forecaster.