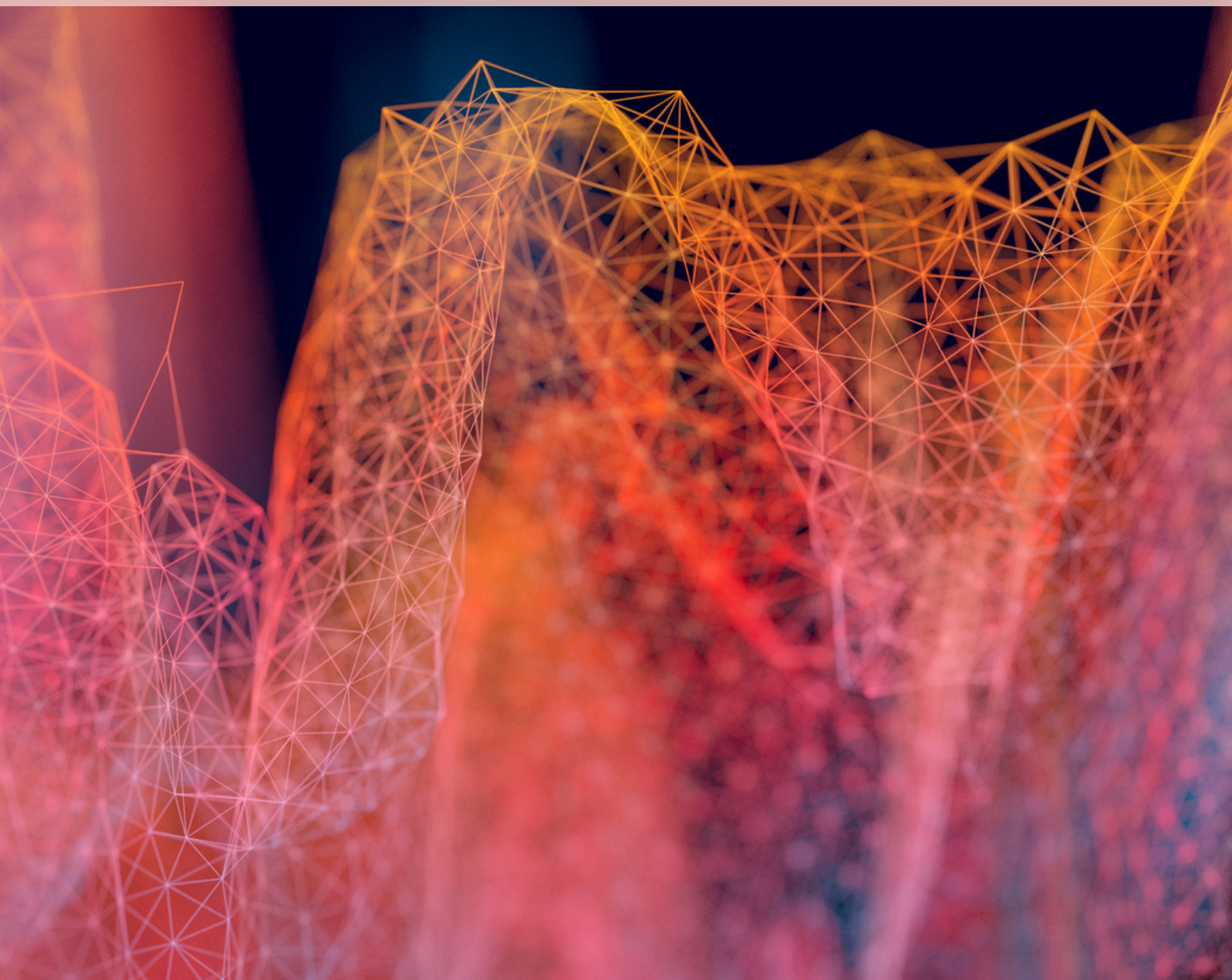# Challenging Times:
The Economy Ahead
of the Spring Budget

9 March 2023

NIESR Pre-Budget 2023 Analysis

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Main Points

- A combination of higher revenue and lower spending, together with the more favourable outlook for GDP and interest rates, means that the Chancellor has a large amount of fiscal space ahead of his budget on 15 March. We estimate this to be £166.0 billion (5.1 per cent of GDP) for his deficit target and £97.5 billion (2.9 per cent of GDP) for his debt target.

- Persistent inflation adds to that space: once we adjust for the inflation tax, which is an adjustment for nominal government liabilities for inflation, we expect the government to be running a surplus in real terms throughout the 2023-24 fiscal year and the debt-to-GDP ratio to fall over 2023-24.

- At the macroeconomic level, we would argue that some of this fiscal space be used to reduce the planned rise in corporation tax, which would otherwise lower investment and GDP in both the short run and long run, and to increase the amount of public investment. Lower effective corporation tax and increased public investment are both growth-enhancing.

- We argue that the Chancellor should allow public-sector wages to rise to catch up with the private sector, given the public-private wage gap has deviated from equilibrium. We can expect some spillovers from public-sector wage growth to the private sector, but any adverse macroeconomic effects need to be assessed against potential output losses if the public sector lost skilled workers.

- Finally, we propose a more targeted approach to providing support for households to deal with the high food and energy prices: specifically, a combination of an opt-in Social Tariff system and a Variable Price Cap. This is preferable in fiscal terms (as a universal EPG might cost as much as £29 billion for 2023/24), provides incentives to users of energy to limit demand but also provides more support to those who need it most.

Macroeconomic Background and Fiscal Space

- In their November 2022 [Economic and Fiscal Outlook](#), the Office for Budget Responsibility assessed the Chancellor to be able to meet his new deficit-to-GDP target with £18.6 billion (0.6 per cent of GDP) to spare and his new debt-to-GDP target with £9.2 billion (0.3 per cent of GDP) to spare.

- Since November, the deficit on a like-for-like basis has come in £30.6 billion and the debt 1 per cent of GDP lower than expected in November, adding directly to the fiscal space available for the Chancellor in his March Budget.

- We believe that inflation will be much more persistent than in the OBR forecast, with the result that nominal GDP in 2027-28 will be 11.4 per cent higher than forecast by the OBR. In addition, interest rates over the coming year are now lower than were expected in November.

- Without any change in spending or tax rates, we now expect the Chancellor to meet his deficit and debt targets with a total of £166.0 billion (5.1 per cent of GDP) and £97.5 billion (2.9 per cent of GDP) to spare, respectively.

The Chancellor will deliver next week's budget against a background of weak GDP growth, high inflation and rising interest rates. That said, the GDP outlook appears slightly brighter than was expected back in November and the peak in interest rates now looks to be lower than expected back in November and this means a better outlook for the public finances, other things equal. We should recall that, in the Autumn Statement in November, Jeremy Hunt announced new fiscal targets:

- To get borrowing below 3 per cent of GDP in five years' time
- For underlying debt to be falling in five years' time

NIESR has long argued – particularly in [this Occasional Paper](#) – that there is a need for a new fiscal framework that recognises the need for fiscal policy to improve the welfare of UK households by dealing with market imperfections, redistributing from richer to poorer households, and encouraging productivity growth across the whole of the United Kingdom via well-targeted investment in public infrastructure, without setting borrowing off on an unsustainable path. Debt and deficit targets are useful ways of helping convince the markets that it is safe to lend to the government, but fiscal policy should not be set purely on the basis of satisfying such targets which are, essentially, arbitrary. All that said, it is still worth examining whether – given the slightly positive economic news since November – there is any fiscal space against the Chancellor's current targets that would allow him to increase spending and/or cut taxes in the forthcoming budget.

Borrowing in the year to January 2023 was £22 billion less than forecast by the Office for Budget Responsibility (OBR) in their November 2022 Economic and Fiscal Outlook. This was driven by receipts being £9.7 billion more than expected, spending being £2.9 billion less than expected, and borrowing by public corporations and local authorities being £9.5 billion less than expected. In addition, given that the OBR forecast accounted for a £8.6 billion in public investment due to changes in student loans that has not appeared in the ONS data as yet, on a like-for-like basis borrowing is £30.6 billion below the November OBR forecast. Public-sector net debt now stands at 98.9% of GDP, 1 percentage point lower than expected in November.

In their November forecast, the OBR calculated that the Chancellor could meet his new target of reducing borrowing to under 3 per cent of GDP by 2027-28 with £18.6 billion to spare and his new debt target with £9.2 billion to spare. Given the outturns in the public finances discussed above, it is likely that the Chancellor now has more fiscal space than thought at that time. But, importantly, with the share of revenue taken up paying interest rising from 5 per cent in 2019-20 to 8½ per cent in 2027-28, changes in market sentiment could swiftly wipe out this fiscal space.

Of course, the OBR estimates of fiscal space will be built on particular assumptions about GDP growth, inflation and interest rates moving forward. The OBR forecasts nominal GDP in 2027-28 to be £2,927 billion. This results from real GDP growth of 9.8 per cent over the forecast and an increase in the GDP deflator of 13.6 per cent. By the time of our Winter UK Economic Outlook, the prospects for UK GDP growth in the near term were looking a bit better. But, beyond 2024 our view of real GDP growth is more pessimistic than the OBR's. As a result, we forecast real GDP to grow by only 8.6 per cent by 2027-28. On the other hand, we are much more pessimistic than the OBR about the chances of inflation coming down soon. (Indeed, in their forecast CPI inflation fell to 0 per cent in 2024-25 and -1.0 per cent in 2025-26.) As a result, we forecast the GDP deflator to grow by 30.8 per cent over the years to 2027-28. Putting this together gives a forecast for nominal GDP of £3,261 billion in 2027-28. The OBR forecast public-sector net borrowing in 2027-28 to be £69.2 billion. Given our forecast, that suggests an extra £10.0 billion of fiscal space against the deficit target. Of course, we might expect tax revenue to be higher than assumed by the OBR given our forecast for higher nominal GDP growth. If we assume that the share of taxes in GDP is the same in our forecast as in the OBR's forecast, then the amount of fiscal space against the deficit target increases by a further £139.2 billion.

In order to examine the amount of fiscal space that the Chancellor may have against his debt-to-GDP target, Table A lays out the OBR's calculations and Table B lays out ours. We have assumed that government spending and the implicit rate of taxation is the same in both calculations but we have applied NIESR's forecasts for nominal GDP and the long-term interest rate.

Table A: OBR forecast (November 2022)

	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
Government Spending (£ billion)	1047	1182	1199	1180	1199	1240	1271
Taxes (£ billion)	914	1005	1059	1096	1122	1159	1202
Interest (£ billion)	49	109	88	64	64	85	89
Deficit (£ billion)	133	177	140	84	77	81	69
Debt (£ billion)	2054	2270	2473	2595	2695	2802	2903
Implied interest rate (per cent)	5.30	3.87	2.58	2.47	3.16	3.17	
Bond rate (per cent)	0.96	3.03	3.66	3.7	3.72	3.73	3.74
Implied tax rate (per cent)	39.01	40.25	41.66	41.70	41.36	41.14	41.07
GDP (£ billion)	2343	2497	2542	2628	2713	2817	2927
GDP (centred end March £ billion)	2435	2524	2579	2671	2762	2872	2985
Deficit to GDP ratio (per cent)	5.68	7.09	5.51	3.20	2.84	2.88	2.36
Debt to GDP Ratio (per cent)	84.35	89.94	95.89	97.15	97.57	97.56	97.25

Source: OBR Economic and Fiscal Outlook, November 2022

Table B: NIESR forecast (February 2023)

	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
Government Spending (£ billion)	1047	1182	1199	1180	1199	1240	1271
Taxes (£ billion)	912	1030	1148	1204	1239	1284	1339
Interest (£ billion)	49	109	67	83	83	83	84
Deficit (£ billion)	135	152	51	-24	-40	-44	-68
Debt (£ billion)	2054	2315	2434	2493	2535	2575	2591
Implied interest rate (per cent)	4.58						
Bond rate (per cent)	0.96	2.91	3.43	3.32	3.29	3.28	3.27
Implied tax rate (per cent)							
GDP (£ billion)	2339	2558	2756	2888	2996	3121	3261
GDP (centred end March £ billion)	2426	2653	2810	2928	3040	3172	3312
Deficit to GDP ratio (per cent)	5.75	5.96	1.84	-0.85	-1.34	-1.41	-2.09
Debt to GDP Ratio (per cent)	84.67	87.28	86.61	85.13	83.40	81.17	78.22

The first thing to notice from a comparison of Tables A and B is the lower bond rates that we are forecasting. This partly reflects the fact that the OBR were making their forecast in the wake of the large increase in bond rates brought about by the mini budget in September. This implies lower interest payments for the government going forward, adding to the amount of space the Chancellor has against his debt-to-GDP target. Adding this to our much stronger forecast for nominal GDP – resulting from a higher forecast for inflation – results in a large increase in the amount of fiscal space available to the Chancellor. Indeed, as can be seen from Table B, if our forecasts for nominal GDP and the interest rate on government debt come to pass, then the government will achieve both its debt and deficit targets as early as the next fiscal year (ie, 2023-24).

As we said up front, we have long argued that governments should not set fiscal policy on the basis of arbitrary targets but rather to improve the welfare of UK households by dealing with market imperfections, redistributing from richer to poorer households, and encouraging productivity growth across the whole of the United Kingdom via well-targeted investment in public infrastructure, without setting borrowing off on an unsustainable path. Our forecasts for nominal GDP and bond rates suggest that the Chancellor has room to increase spending and reduce taxes, even given his own fiscal rules. The rest of this document puts forward our suggestions as to how he might make use of this additional fiscal space. Before we do this, however, we first update the analysis in our Autumn 2022 UK Economic Outlook of how the current high inflation is resulting in a 'real' (ie, inflation-adjusted) improvement in the public finances.

Inflation and the Public Finances

- The current high inflation acts as a 'tax' on households, making the true fiscal position better than it looks on paper.
- Once we adjust for the inflation tax, we expect the government to be running a surplus in real terms throughout the 2023-24 fiscal year.
- This explains our forecast for a declining debt-to-GDP ratio in 2023-24.

Economists focus on 'real' magnitudes, magnitudes that are measured in a way that takes out the effects of inflation. Standard national accounting procedures are designed to capture both real volume measures and 'current price' measures by deflating nominal values by an appropriate price index. However, in the realm of public finances, there has been something of a blind spot when it comes to inflation adjustment and standard statistics do not take into account the effect of inflation. However, the impact of inflation can be considerable since the bulk of government liabilities are denominated in nominal terms. There is thus an 'inflation tax' reflected in the reduction in government liabilities in real terms (and corresponding reduction in the real value of the assets of the bond holders).

In our earlier analysis we constructed the inflation tax using monthly data, and you can find a detailed description of the method there. Here, instead, we use quarterly data, which enables us to link the quarterly data on government debt and inflation to calculate the inflation tax and feed it into Public Sector Net Borrowing (PSNB) to obtain an 'inflation adjusted' PSNB, which we show in Figure 1 and Table C. Our figures are taken from the ONS quarterly statement UK government debt and deficit published in January 2023. We also use the Winter 2023 UK economic outlook to forecast the data up to the first quarter of 2024.

Figure 1: Quarterly Inflation Tax and PSNB

Inflation Adjusted PSNB 2020-2022

Legend: Inflation Tax (£bn) ■ Government Deficit (£ bn) ■ Inflation Tax Adjusted Deficit (£bn) —
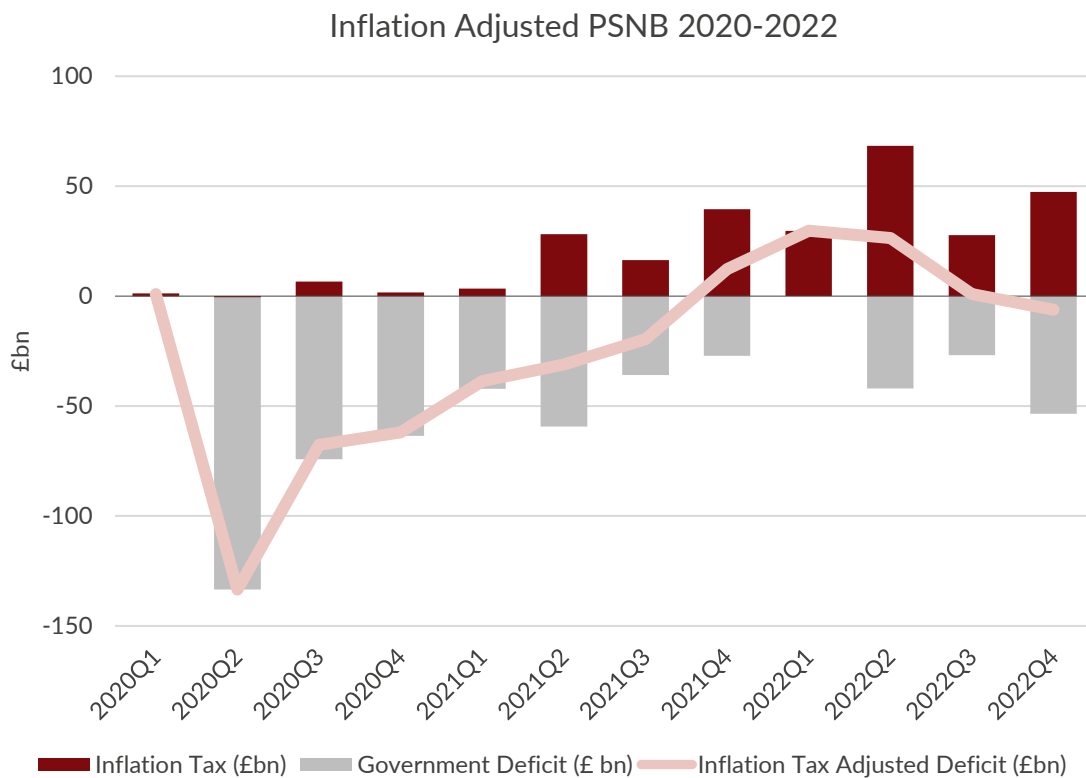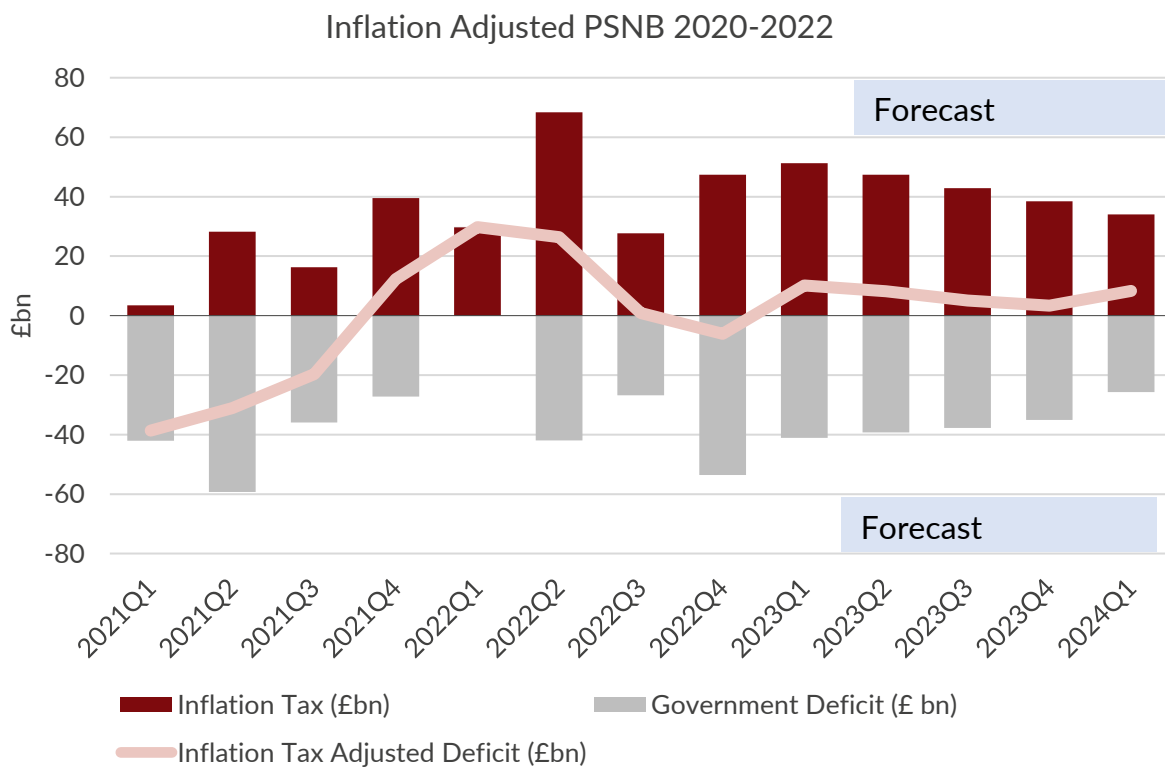
Source: NIESR calculations

Table C: The Impact of the Inflation Tax on the Budget Deficit

	Inflation Tax (£bn)	Government Deficit (£ bn)	Inflation Tax Adjusted Deficit (£bn)
2020Q1	1.3	-0.4	0.9
2020Q2	-0.7	-132.8	-133.4
2020Q3	6.6	-74.2	-67.7
2020Q4	1.6	-63.6	-61.9
2021Q1	3.4	-42.1	-38.7
2021Q2	28.2	-59.3	-31.1
2021Q3	16.3	-36.0	-19.7
2021Q4	39.5	-27.2	12.3
2022Q1	29.7	0.1	29.8
2022Q2	68.4	-42.0	26.4
2022Q3	27.7	-26.8	0.9
2022Q4	47.4	-53.6	-6.1
2023Q1	51.2	-41.1	10.2
2023Q2	47.4	-39.2	8.2
2023Q3	42.8	-37.7	5.1
2023Q4	38.4	-35.0	3.4
2024Q1	34.0	-25.7	8.3

Source: ONS and NIESR

This analysis suggests that high inflation can be positive for the government's fiscal position. The government's fiscal budget deficit for the third quarter of 2022 was £26.8 billion; however the £27.7 billion inflation tax more than offsets the deficit, creating a surplus of £0.9 billion. Note that the inflation tax varies greatly from quarter to quarter: that is because inflation varies from quarter to quarter – the large inflation tax in the second and fourth quarters of 2022 reflects the big monthly increases in April and October captured in the respective quarters. Using the NIESR forecast, we can see that the inflation tax exceeds the deficit throughout 2023 and into the first quarter of 2024. This is depicted in Figure 2. Whilst inflation is set to fall in 2023, there will still be a considerable inflation tax effect in the first two quarters. This implies that there will be more fiscal room for the government than might be suggested by the size of the PSNB.

Figure 2: The Inflation Tax and PSNB Forecast from the Winter UK Economic Outlook

Inflation Adjusted PSNB 2020-2022

Inflation Tax (£bn)   Government Deficit (£ bn)
Inflation Tax Adjusted Deficit (£bn)

Source: ONS and NIESR

This inflation effect is the flip side of the decline in the behaviour of the debt-to-GDP ratio as shown in Table B. Given that there is little economic growth projected for 2023, the falling debt-to-GDP ratio is almost entirely driven by rising prices lifting nominal GDP growth. Given this, might it not be better to measure the 'inflation tax' in terms of the GDP deflator? The GDP deflator is a derived price index: it is implied by the behaviour of real GDP (the Chain volume measure) and nominal GDP. It is therefore a variable that can only be determined with accuracy once real GDP has been finalised (whilst nominal GDP can be estimated relatively rapidly, real GDP is a more prolonged process that is only finalised when accounts are balanced in the Blue

Book). It also reflects the behaviour of the 30 per cent or more of GDP that is non-market: from the NHS and government delivered education to the imputed rent of owner-occupied housing.

However, we can use this as a potential measure of inflation that links more directly to the sustainability of government finances in terms of the evolution of the debt to GDP ratio. One of the main differences occurs in the second quarter of 2020: whilst CPI inflation fell, the GDP deflator increased. This was because of the big fall in the real output of the Health and Education sectors during the first lockdown. There is a debate about how appropriate the measures of real output are, particularly in Health. The comparative figures for the inflation-adjusted PSNB using CPI and GDP deflator inflation are given in Figure 3. The figures do differ quarter to quarter, but the overall picture is largely the same, with a much smaller deficit in 2022 than the unadjusted PSNB.

Figure 3: GDP Deflator and CPI inflation Adjusted PSNB Compared.

Inflation Adjusted PSNB 2020-2022: GDP Deflator and CPI Compared.
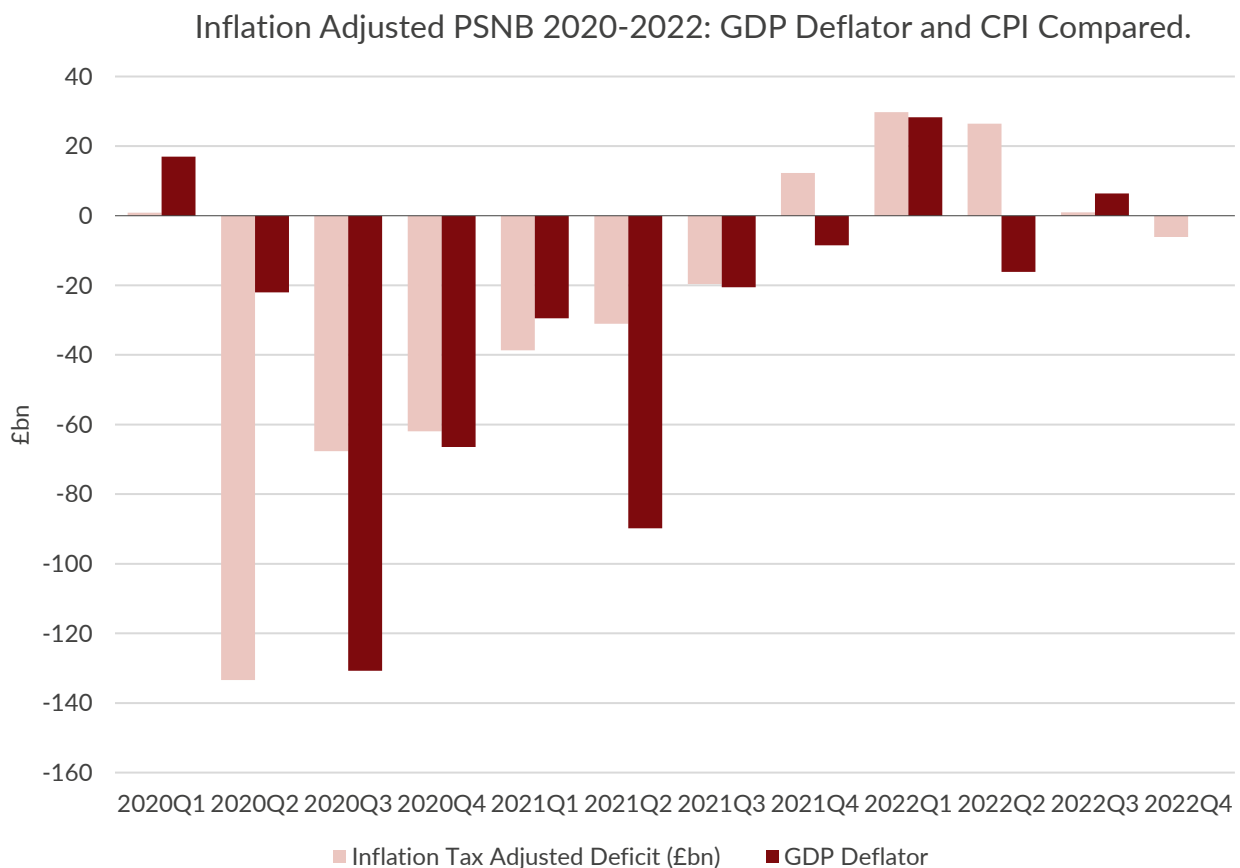
From the perspective of the household, the 'inflation tax' is captured better by CPI inflation, since this measures the decline in purchasing power implied by the falling value of money and bonds. Also, the data for CPI inflation is a timelier measure which is subject to no revision, unlike the GDP deflator. In the long run, the GDP deflator and CPI inflation are the same (both have risen by 61% over the period 2000 Q1 to 2022

Q2), so there is no systematic divergence between the two measures of inflation and hence the inflation tax. Therefore, we believe that the CPI inflation level is the more useful measure.

Tax Policy

- A persistent rise in labour income taxes leads to a persistent fall in household income and, so, consumption and GDP.

- A persistent rise in the rate of VAT leads to an initial surge in inflation and persistent falls in household income, consumption and GDP.

- A persistent rise in corporate taxes leads to a fall in investment and GDP in both the short run and – given the negative effect of lower investment on the capital stock and potential output – will fall in the long run.

- The overall effect of any tax change on GDP will depend on how the government uses the extra revenue. In particular, if the rise in corporate taxes is matched with an increase in public investment, trend and actual GDP will rise over time.

In his statement on 17 October, 2022, the Chancellor confirmed that Corporation Tax would be increased from 19 per cent to 25 per cent in April of this year. Leaving aside the increased fiscal space that could enable him to reverse this change, there is a question as to whether a rise in corporation tax is the most efficient (ie, least harmful to the economy as a whole) way of raising tax revenue. The government has three main forms of taxation at its disposal: corporation tax, indirect tax (VAT), or labour income tax. Each tax targets different sections of society and has different distortionary effects on the economy. To explore this issue, NIESR's global econometric model, NiGEM, was run to simulate the effects of a rise in each of these taxes on the economy. These simulations were calibrated for comparability to provide additional government revenue of £2 billion per quarter over the first two years. To achieve this target, either VAT had to be increased by 1.2 percentage points, corporation tax had to be increased by 1.25 percentage points, or income tax by 0.4 percentage points. The rate increase was set to last for 10 years with monetary policy endogenized to react to economic developments.

Figure 4 shows the impulse response functions, which enable us to compare the effects of these taxes.

As income taxes rise, Real Personal Disposable Income (RPDI) falls, leading to a fall in consumption. This leads to an immediate and sustained fall in GDP, and higher unemployment that remains in the long run as consumers have permanently lower income.   Rises in indirect taxes pass through directly into the price of goods and services, thus leading to a sudden and dramatic increase in inflation. This pushes RPDI

down to a lower level immediately, subsequently affecting GDP through decreased consumption. Higher inflation expectations lead to lower expectations of future wealth, pushing consumption down further. However, as the inflationary surge in prices passes through, inflation expectations return to normal, and GDP begins to somewhat recover. Finally, corporation taxes affect demand in the short run and supply in the long run. Higher corporate taxes lead to a higher effective user cost of capital; this leads to lower business investment, affecting demand in the short run as businesses hold back on investments that are no longer profitable. Furthermore, household dividend income for households and the value of their equity holdings both fall, affecting present consumption. These factors lead to an immediate decline in GDP.

## Figure 4: Effects of a 10-Year Tax Increase
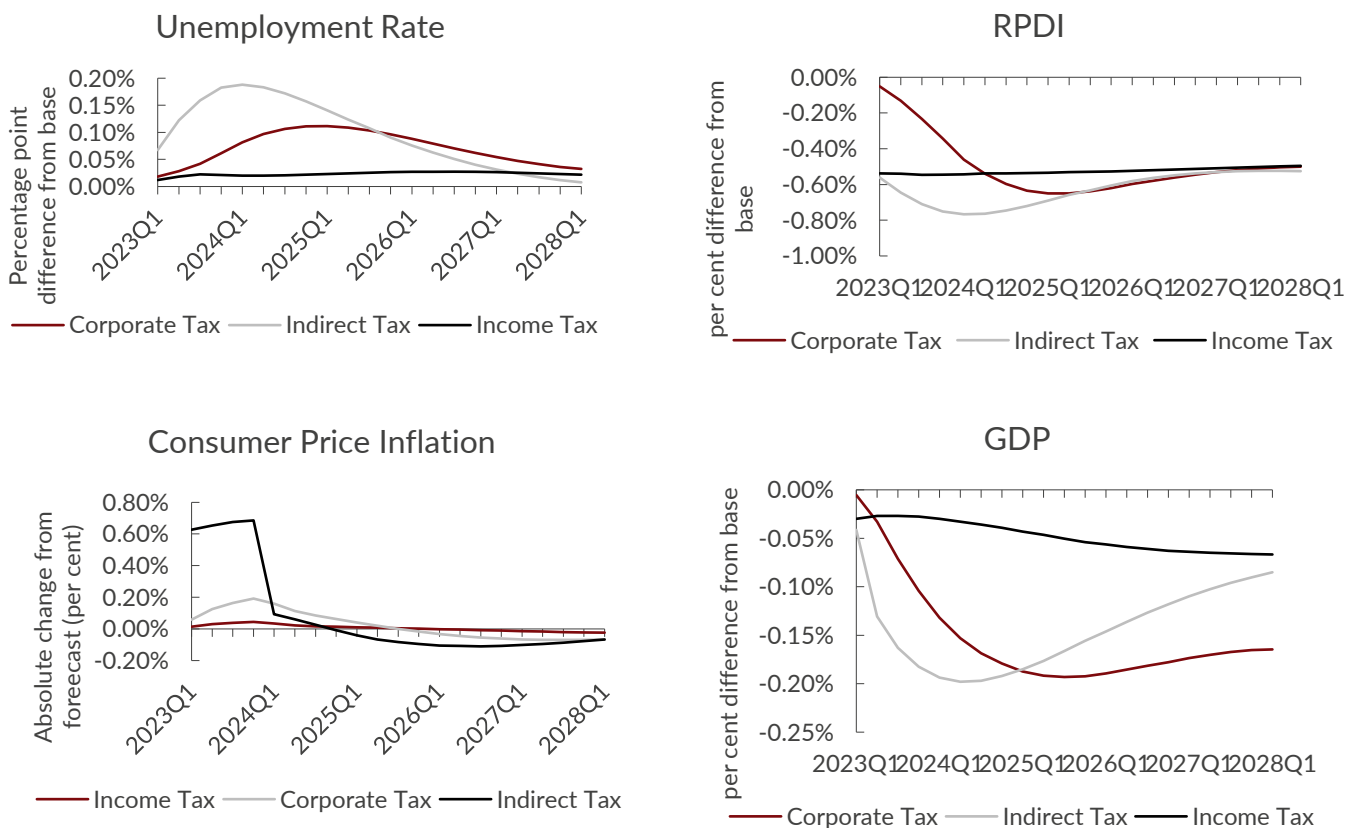
Source: NIESR calculations

Furthermore, the lower investment leads the capital stock to decrease over time, hitting long run supply capacity. This means that the initial GDP hit becomes permanent. This supply-side decline is not present in either of the other two shocks, as can be seen in figure 5. In fact, supply slightly increases; this is largely due to the fact that the user cost of capital falls in these scenarios, given the endogenous response of the central bank, which cuts interest rates in response to the demand shock, and the investment premium falls as a result of changes in bank balance sheets as a result of the shock.

Both of these effects encourage investment; without them, potential output in these scenarios would be lower due to a decrease in employment as a result of a fall in the nominal wage.

### Figure 5: Effects of a 10-Year Tax Increase
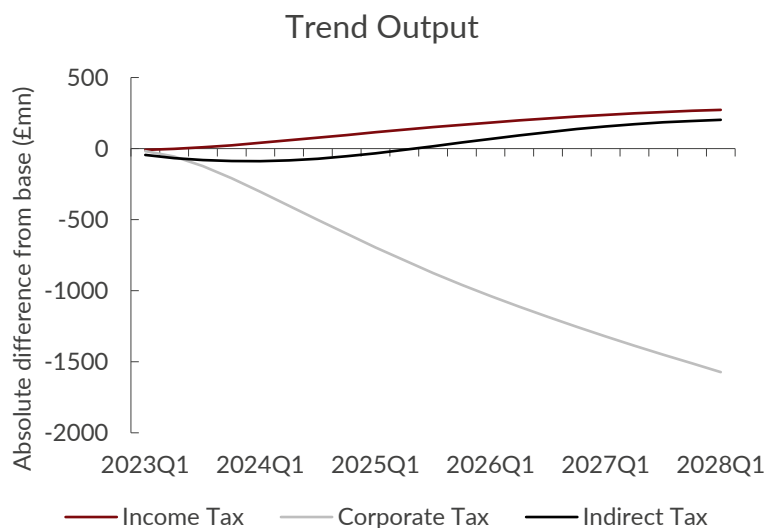
Source: NIESR calculations

As can be seen from these simulations, these three taxes have a variety of impacts on the economy, hitting demand and supply, the long run and the short run, in subtly different ways. VAT is the most disruptive in the short run, hitting GDP, incomes, and unemployment the hardest; however, in the longer run to the economy stabilises after the initial hit. Income tax has an immediate negative impact on incomes; in the long run, permanently lower income leads to permanently lower consumption and GDP. Corporation tax is disruptive in the short run through the demand side. However, as the economy evolves, supply-side depletion through reduced business investment leads to a permanent decrease in the capital stock and therefore a permanently lower level of output capacity and GDP. This would suggest that for minimum volatility and economic disturbance, income tax is the best option available.

However, this is just one side of the story. It is also important to consider what the government does with the money raised by higher taxes. For example, what happens if the government taxes corporations but simultaneously incentivises investment? To explore this counterfactual, the corporation tax scenario was run again with the new assumption that while the government raised corporation tax to increase revenue by £2 billion per quarter, it would also increase public investment by a matching £2 billion per quarter. In this scenario, the negative effects of the tax increase disappear and are even reversed in some cases. Government investment increases the capital stock by more than it is depleted because of the tax, and supply capacity increases quite significantly.

This is captured in Figure 6. This illustrates that taxation can be beneficial to the economy if it is redeployed strategically.

Figure 6: Effects of a Corporate Tax Increase with and without a Corresponding Increase in Public Investment
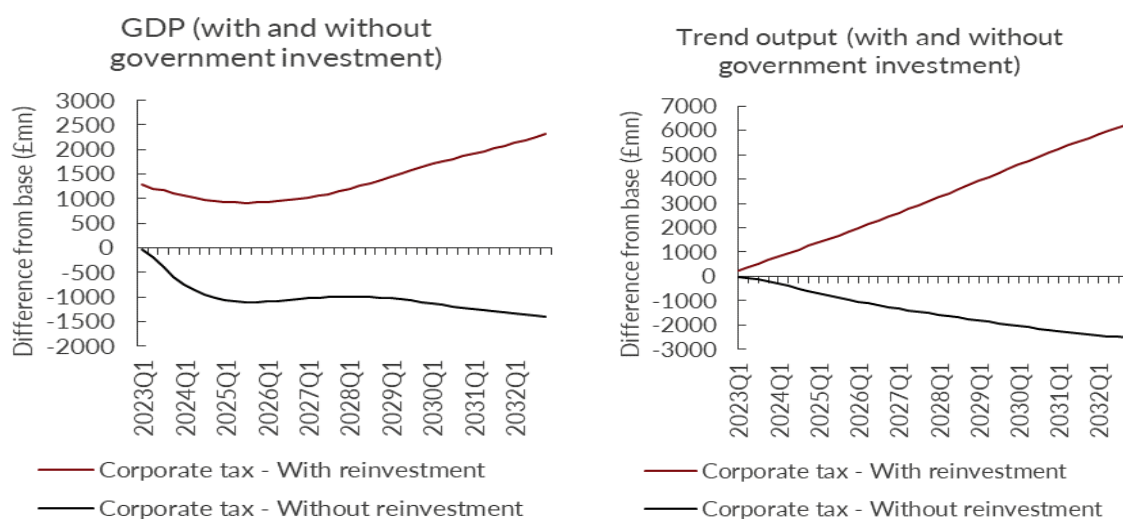
Source: NIESR calculations

Public-Private Wage Spillovers and the Case for Higher Public-Sector Wages

- Public sector wage increases may have some adverse macroeconomic consequences in the short run, such as those resulting from increasing the government wage bill and contributing to the persistence of domestic inflationary pressures.

- But public-sector wages need to rise to catch up with the private sector as the public-private wage gap has deviated from equilibrium.

- In the short run, we are likely to see some spillovers from public-sector wage growth to the private sector, particularly in domestically-facing private sub-sectors but the possible adverse macroeconomic effects such as higher inflation and rises in interest rates need to be considered against the potential output losses across both sectors that would be incurred if industrial action were to be prolonged or if there were to be a significant outflow of skilled public sector workers.

- On the other hand, in the long run UK private-sector wages are determined independently from public sector wages by factors like economy-wide

  productivity or demographic characteristics – so concerns about a sustained private-public wage spiral are unlikely to materialise.

Public-sector wage growth (or lack thereof, in real terms) has been the subject of much scrutiny over the course of the last year, culminating in the largest wave of industrial action experienced in the United Kingdom in over a decade. With extra fiscal space available, the Chancellor needs to consider whether there may be scope for public-sector pay increases and what the consequences of such increases might be. Before we assess the implications of sectoral wage interactions and wage spillovers, it is important to acknowledge that workers in the United Kingdom are experiencing one of the largest falls to their real incomes since comparable records began. Moreover, this is a continuation of a worrying trend; as illustrated in figures 7 and 8 below, real average weekly earnings, including bonuses, across the public and private sectors have been stagnant since the years preceding the Great Financial Crisis – representing nearly two decades of economy-wide lost income growth.

Figure 7: Nominal and Real Average Weekly Earnings by Sector
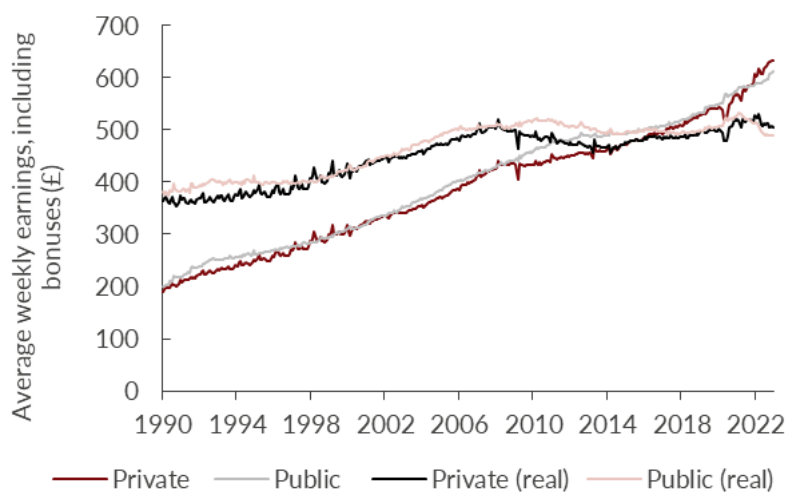
Source: ONS and NIESR calculations. ONS experimental data is used for the period 1990-2000.

Figure 8: Real Wage Growth by Sector
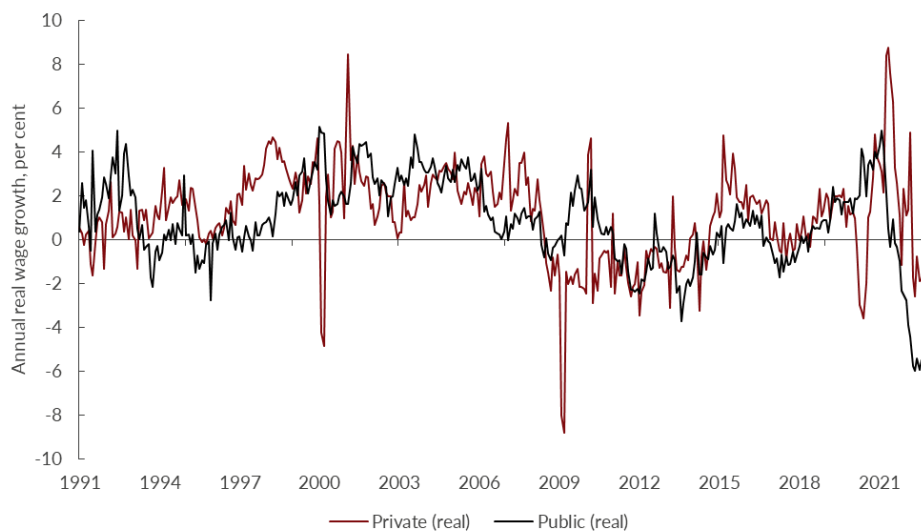
Source: ONS and NIESR calculations. ONS experimental data is used for the period 1990-2000.

NIESR research suggests that in the long-run, UK public-sector wages are determined by private-sector wages. To elaborate, wages can interact across sectors through a 'wage leader' and 'wage follower' relationship, ie, whereby one sector's wages prescribe wage developments for the whole labour market. This is country dependent: studies have found that the white-collar private-sector determines the wage-setting process in Sweden while in Germany, Belgium and Greece, the public sector sets the economy-wide wage level. The NIESR researchers estimated a vector error correction model of sectoral wages in the UK to find that private-sector wages move independently over time whereas public-sector wages gradually adjust to the wage equilibrium determined by the private sector, explaining the cyclical relationship observed between the two sectors in Figure 8.

Short-run spillovers can be thought of as wage movements in one sector that are followed by statistically significant wage movements in a separate sector within a few months. Labour market characteristics determine the nature of, and extent to which, cross-sector wage spillovers might be observed. For example, if collective bargaining is powerful and operates across sectors then these spillovers would happen automatically. Equally, if there is a high degree of labour mobility then wage increases in one sector will be met quickly in other sectors to prevent an outflow of skilled and productive work. The NIESR research suggests that in the United Kingdom, private-sector employers adjust regular and total (ie, including bonuses) pay following a positive public-sector wage shock. Despite the public sector making up only 20 per cent of the total labour force, a 1 per cent increase in public-sector pay can lead to an increase of between 0.1 and 0.4 per cent in average nominal pay in the private sector as a whole.

Household Finance and Living Standards

- In 2023-24, around 75 per cent of UK households will have higher disposable incomes than in 2022-23.

- But the bottom 50 per cent of households will still have lower living standards than in 2021-22.

- Instead of a general subsidy to all households, policy needs to be targeted at half the population who need it most.

In their November 2022 [Economic and Fiscal Outlook](#), the OBR said that 'rising prices erode real wages and reduce living standards by 7 per cent in total over the two financial years to 2023-24 (wiping out the previous eight years' growth), despite over £100 billion of additional government support'. Given the extra fiscal space available to the Chancellor, it is worth considering whether more can be done to support the finances of poorer households and reduce the drop in their living standards.

Table D shows NIESR's projections for household disposable income and can shine a light on the distributional impact of the squeeze in living standards: how hard households in different income deciles have been hit in 2022-23 and what their prospects are for 2023-24. Household disposable incomes have fallen sharply since Covid. Specifically, household disposable incomes are 30% lower for the bottom tenth of UK households, while for the top decile household income will return almost to pre-pandemic levels only in 2023-24. In other words, all households are poorer but low-income households have taken a greater hit. There are two reasons for this. First, their wages are going up more slowly than the wages of higher-income households (supplemented by income from assets). Second, low-income households consume a greater share of their disposable income on energy and food (which have the highest inflation).

Table D: Household Disposable Income in 2023-24 by Decile

	Bottom decile	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Top decile
Household disp. income, 2023-24	£13,131	£19,159	£21,756	£25,529	£32,251	£42,301	£53,118	£71,554	£120,005	£297,669
Change compared with 2022-23 in % and in £	-£1,169	-£441	+£656	+£1,629	+£2,851	+£4,601	+£6,218	+£8,754	+£14,905	+£37,069
	-8.2%	-2.2%	+3.1%	+6.8%	+9.7%	+12.2%	+13.3%	+13.9%	+14.2%	+14.2%
- compared to 2021-22	-£1,741	-£2,055	-£1,546	-£873	-£204	+£724	+£1,578	+£2,770	+£5,173	+£12,969
	-11.7%	-9.7%	-6.6%	-3.3%	-0.6%	+1.7%	+3.1%	+4.0%	+4.5%	+4.6%

Source: LINDA

We find that successive policy packages in 2022 have helped to cushion the impact of inflation for the poorest households (bottom income decile) but have left those on low to middle incomes exposed (deciles 2-5). Successive support measures for households on Universal Credit, on disability benefits and for pensioners are cushioning the impact of double-digit inflation but fiscal policy has not compensated the poorest for the large fall in disposable incomes in real terms. For deciles 2-5 the loss from double-digit inflation ranges from 8 per cent to 13 per cent of disposable income. For example, households in decile 5 with a disposable income of £30,000 have faced higher prices of up to £4,000 for the financial year 2022-23

For 2023-24, NIESR are projecting higher disposable incomes than in 2022-23 for around 75 per cent of UK households. But the poorest two deciles will see their disposable incomes continue to fall, and the bottom 50 per cent of households will not return to 2021-22 levels. This is despite lower inflation in 2023-24 (which we forecast to be around 6 per cent) and stronger wage growth (which we forecast to average 5 per cent in real terms).

In the Autumn Statement, Jeremy Hunt announced a rise of the Energy Price Guarantee (EPG) from currently £2,500 for a typical household to £3,000. If this rise goes ahead, it will hit hardest the bottom half of the income distribution, especially households in deciles 2-5. Specifically, despite the fact that setting the EPG at £3,000 will cut their energy costs by between £417 and £490, they will still face higher bills (mainly energy, food, housing and transport) amounting to 8% of their disposable incomes.

Table E: Effects of the Rise in the EPG by Decile

	Bottom decile	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Top decile	Cost/HH
EPG up £3k, 5p cut reversed, duty uprated	£388	£417	£473	£480	£490	£500	£509	£531	£561	£704	**£505.3**
[Total hit to HHs, % of disposable income]	-1.1%	-3.7%	-6.1%	-7.3%	-8.0%	-1.9%	-1.7%	-1.7%	-1.5%	-1.0%	

Source: LINDA

Figure 9: Effects of the Rise in the EPG by Decile

EPG Raised to £3000, 5p Cut Reversed, Fuel Duty Uprated by Inflation (plus welfare support)
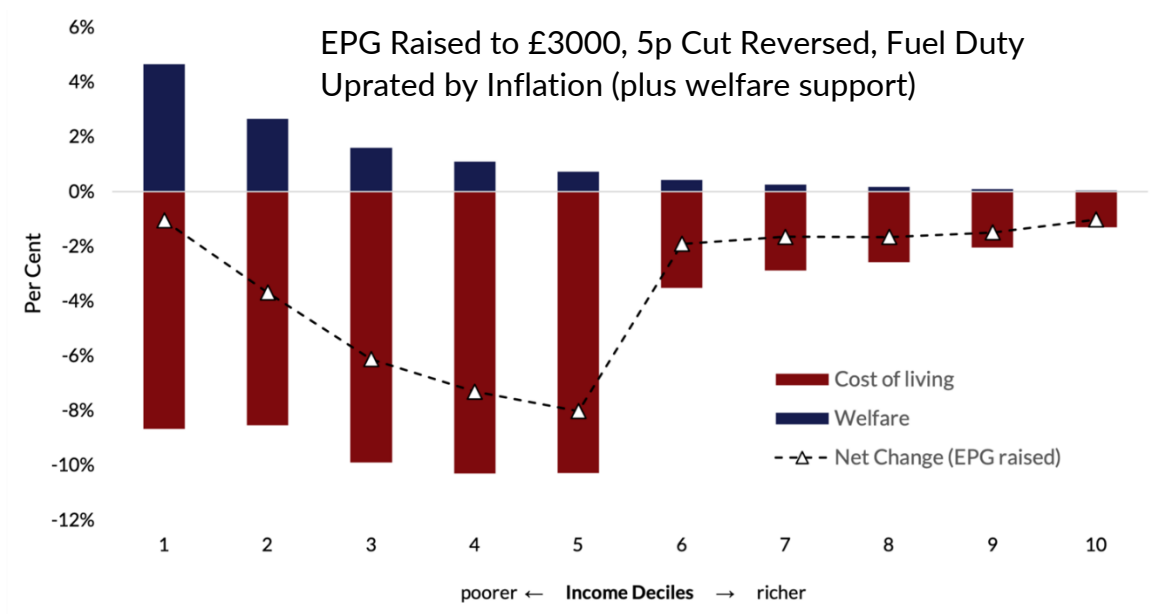
Source: LINDA

If, as now seems likely to be the case, the Chancellor decides to maintain the EPG at £2,500, not to reverse the 5p fuel duty cut, and not to uprate fuel duty by the rate of inflation, then this would help the bottom half of the income distribution. The energy bills of households in deciles 1-5 would be reduced by between £824 and £1,077, and the hit they would take would be lower (between 1.2% and 6.2%).
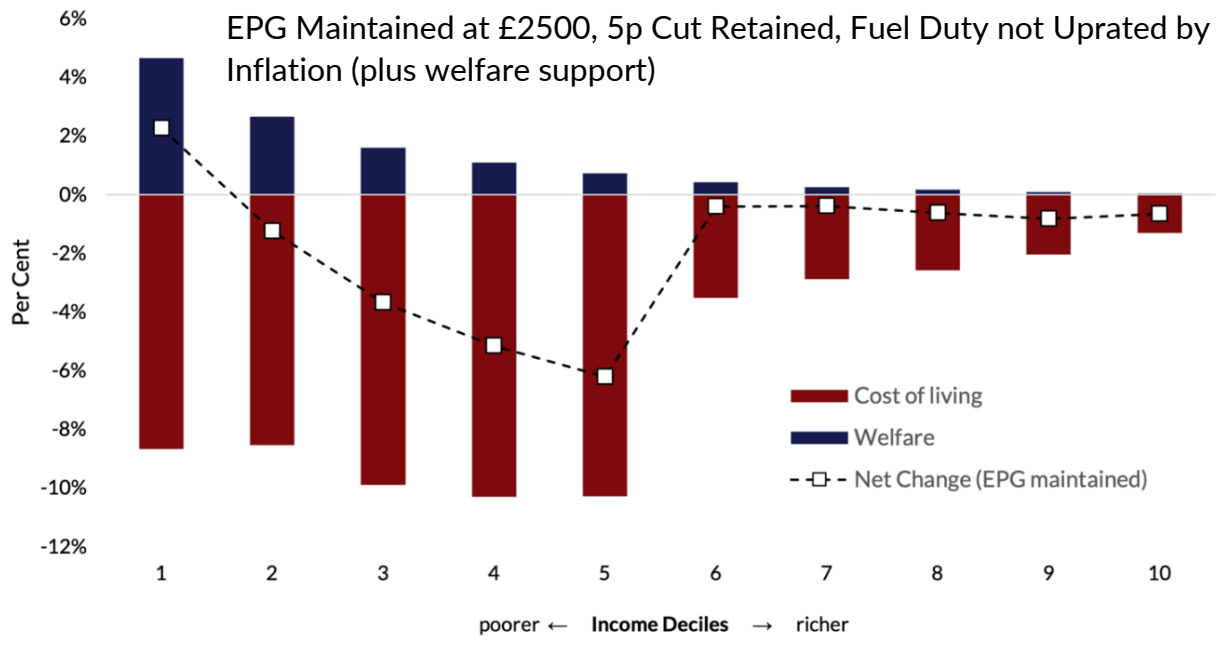
NIESR argues for a change in policy approach. Instead of a general subsidy, the Chancellor should target help at those households who need it most: the poorest and the bottom 50%. For example, fiscal policy could be concentrated in such a way as to reduce energy bills by between £1,088 and £1,960, limiting the hit to households to about 3.5%.

Table F: Effects of No Rise in the EPG by Decile

	Bottom decile	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Top decile	Cost/HH
EPG £2.5k, 5p cut, duty not uprated [Total hit to HHs, % of disposable income]	£824	£887	£1,005	£1,032	£1,077	£1,137	£1,186	£1,271	£1,358	£1,817	**£1,159.5**
	2.3%	-1.2%	-3.7%	-5.1%	-6.2%	-0.4%	-0.4%	-0.6%	-0.8%	-0.7%	

Source: LINDA

Figure 10: Effects of No Rise in the EPG by Decile

EPG Maintained at £2500, 5p Cut Retained, Fuel Duty not Uprated by Inflation (plus welfare support)
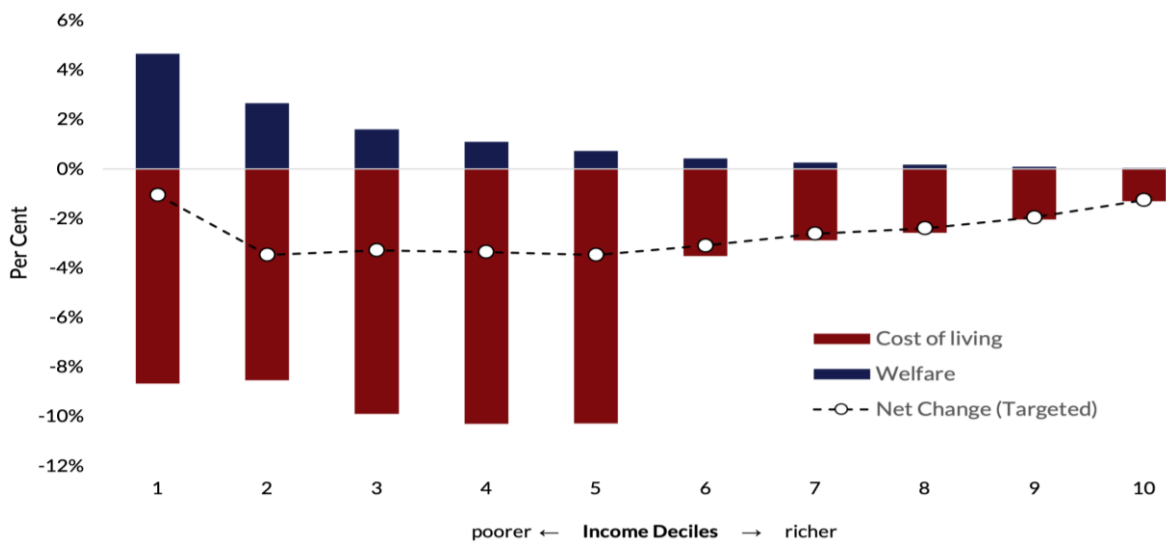
Source: LINDA

Table G: Effects of Targeted Support by Decile

	Bottom decile	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Top decile	Cost/HH
Support targeted at 2-5 deciles, plus welfare [Total hit to HHs, % of disposable income]	£388	£459	£1,088	£1,487	£1,960	£0	£0	£0	£0	£0	**£538.2**
	-1.1%	-3.5%	-3.3%	-3.4%	-3.5%	-3.1%	-2.6%	-2.4%	-2.0%	-1.3%	

Source: LINDA

## Figure 11: Effects of Targeted Support by Decile

Source: LINDA

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NIESR's Plan for Household Energy Bills

- The current approach to limiting energy costs – notably the EPG – is ineffective in providing sufficient help for the bills for the poorest and unnecessarily expensive.

- NIESR proposes an alternative combination of an opt-in Social Tariff system and a Variable Price Cap to meet these challenges.

- A Social Tariff would discount energy for poor and vulnerable households based on the information they provide to their energy supplier, and a Variable Price Cap would raise the cost of energy with usage for all other households.

- Such a system would provide a more cost-effective way to reduce the energy bills for those who need it most while still incentivising lower energy demand.

- Allowing the social tariff system to be opt-in rather than automatic would make this a more administratively feasible policy that could be implemented in 2023 rather than the government's proposed introduction in 2024.

- A Social Tariff that aims to limit the bills for the poorest at 10 per cent of their incomes would cost £7bn per year, less than a quarter of the cost of the current EPG for 2023.

- A Variable Price Cap could be cost neutral; raising the cost of energy with usage could mean that the bills for lower-income households (who use the least energy) are paid for by raising the bills in equal measure for the higher-income households (who use the most).

- These proposals together would allow for policy makers to determine who gets support; instead of using Universal Credit to target support (which it was not designed to do), our proposal would allow to government to set eligibility clearly, with an aim to cap energy expenditure at 10 per cent of household income by making it available to those households with disposable incomes below £24,000.

In our latest quarterly UK Economic Outlook, we showed that the effect of inflation has been mostly offset for the poorest households, as they are more likely to qualify for support via Universal Credit (UC) and the £900 Cost of Living payments announced in the Autumn Statement on 17 November 2022. However, more middle-income households who do not qualify have been left exposed. NIESR has found that the combined negative effects of high inflation and changes to taxes and benefits account for a 0.5 per cent fall in disposable income for the poorest households in 2022-23, whereas middle income households have seen falls of up to 13 per cent or £4,000.

Figure 12 illustrates this, showing the relative changes in disposable income across the income distribution.

Figure 12: The Impact of Inflation and Policy Interventions Across the Income Distribution
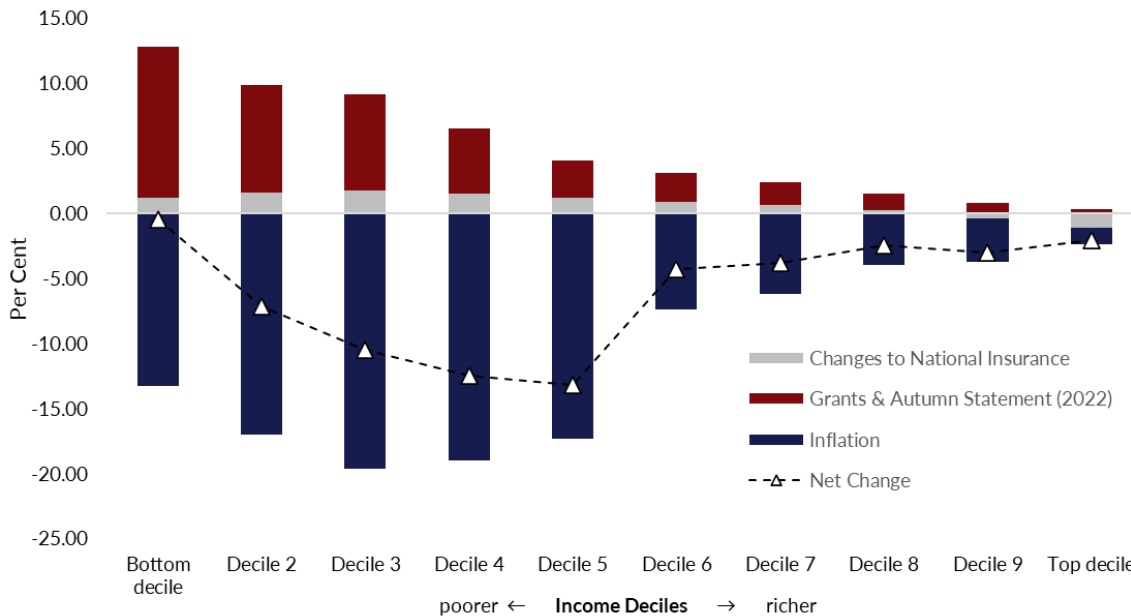

Source: LINDA

Overall, all UK households became poorer in 2022 as a consequence of rising inflation. Due to the bulk of government support being targeted through Universal Credit, the poorest households have now seen less of a fall in their disposable incomes (0.5 per cent net loss) when compared with those on middle incomes (a significant net loss of around 13 per cent). In concrete terms, middle income households (earning just under £30,000) will see a £4,000 loss for the financial year 2022-23.

We propose a combination of two policies that can meaningfully lower energy bills for the most vulnerable households, while being both administratively possible in the short term and fiscally sustainable.

We have previously written about a Variable Price Cap (VPC), which would raise the cost of energy with its usage; this can be easily implemented as energy companies will know the energy demands of different households. Since income is positively associated with energy usage, this policy would lower the bills of the poorest households and be paid for by raising the bills of the richest households. In addition, such a policy would incentivise lower energy consumption. Figure 13 illustrates the difference between this proposal and the current approach for household energy bills across the income distribution.

Figure 13: Annual Energy Bills Under the EPG vs. Under a Variable Price Cap
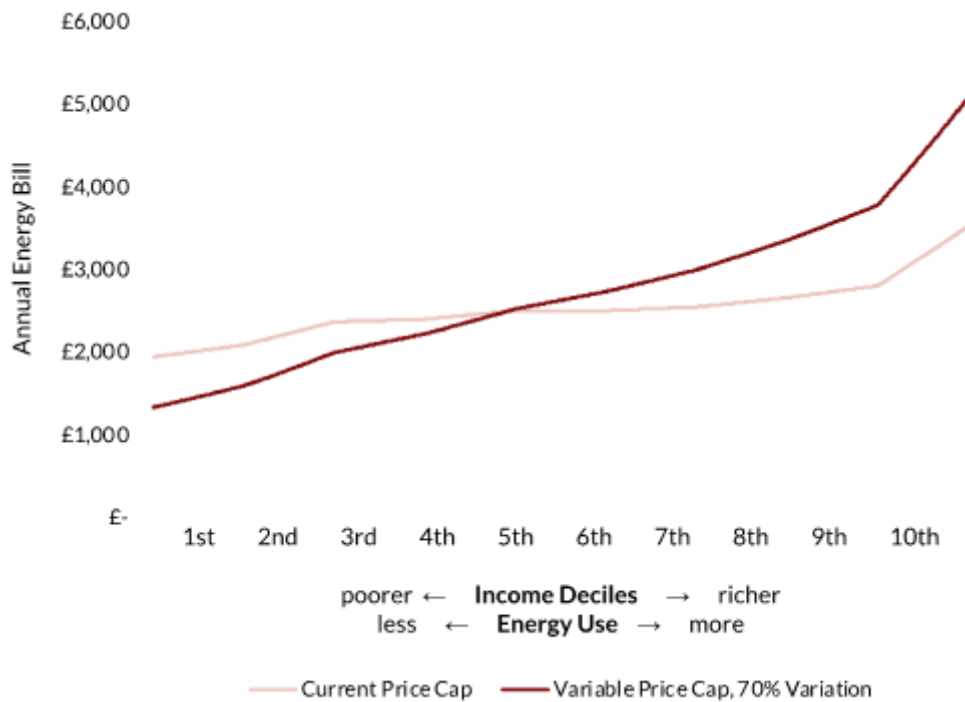

Source: NIESR calculations

Although this policy works in theory, it does not sufficiently protect low-income high-energy usage households such as disabled persons, those in colder parts of the country, those in poorly insulated accommodation, large families on low incomes with larger energy use, etc. Their energy bills would be raised under such a system, which would misidentify them as 'high income' because they have higher than normal energy usage. So, we propose supplementing this policy with a 'Social Tariff'. The idea, in principle, is to create a system whereby energy companies are aware of which of their customers are poor and vulnerable (such as disabled households) and apply a discount to their bills, where the level is determined by the government and funded by public money. Such a system would lower the bills of those poorer households who are heavier users of energy, leaving a VPC to incentivise lower energy demand across higher income/non-vulnerable households.

The question is how the energy companies would predict the income levels and needs requirements of their customers. In a recent Treasury Select Committee hearing, the Chancellor committed to an automatic social tariff, where the energy company would know which households were low-income/vulnerable based on public data. The ambition here is commendable, but the level of data sharing between DWP, HMRC and the energy companies would be arguably one of the largest public policy challenges in recent years, rivalling that of the furlough scheme. We at NIESR do not believe that this task is possible before April 2024, which the Chancellor himself has suggested.

Therefore, we would suggest that this system be 'opt-in'. Specifically, energy providers would ask their customers to self-report their needs (income-level, disability status etc.) and the energy providers would then determine if the customers qualified for support, applying a discount to their bills if they do. The criteria for who is eligible would be decided by the government. This system would mean that households are responsible for submitting evidence of their needs requirements, which would mean there would be no need for the same level of data integration. The advantage of this, besides a substantially lower administrative cost to the taxpayer, would be that we no longer need to wait for this data-sharing exercise to be concluded in 2024. We could instead implement this 'opt-in' system in 2023. The Social Tariff would allow the government to draw a far more precise line between who receives support and who does not instead of relying on Universal Credit to capture all households struggling with their energy bills, which it was not designed to do.

We recommend that the government aims to keep energy bills below 10 per cent of household income, applying a discount to the bottom 40 per cent of consumers. This is somewhat similar to the previous 'low-income high-consumption' measure of fuel-poverty. Figure 14 shows energy bills as a proportion of income compared with this target.

Figure 14: Energy Spending as a Proportion of Income
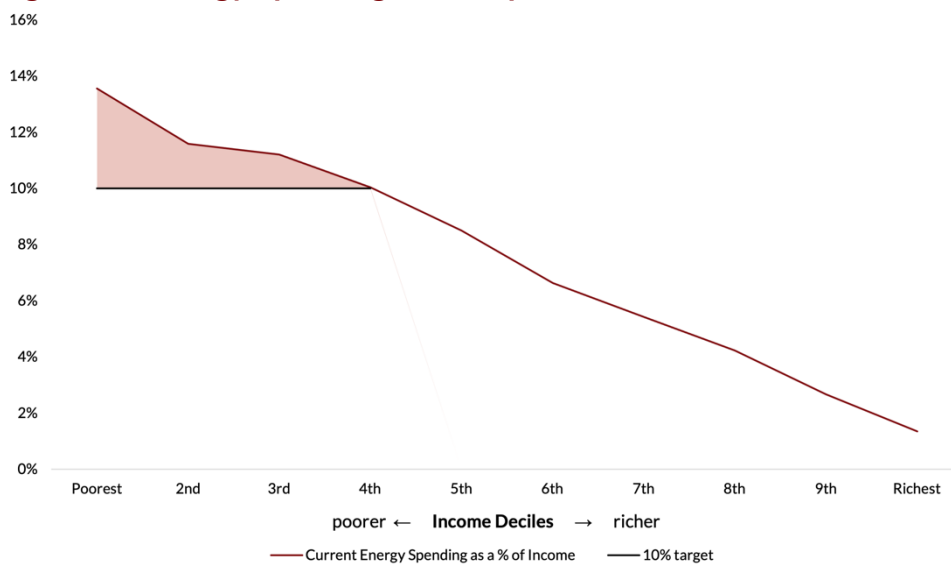
Notes: Assumes an Energy Price Guarantee of £2,500.
Source: LINDA

In our view, these policies would enable the government to provide more targeted support for households struggling with their energy bills while incentivising lower energy demand. Rather than the current approach of a universal subsidy, a targeted system means that the government can provide more support to those who need it most as it would not then be devoting resources to households that have both sufficient

income and savings to absorb the energy price shock. It also means that the government would be able to draw the line between who gets support and who does not far more precisely, rather than having to rely on social security programmes to provide automatic support to those struggling with their energy bills, as they were not designed to perform this function.

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