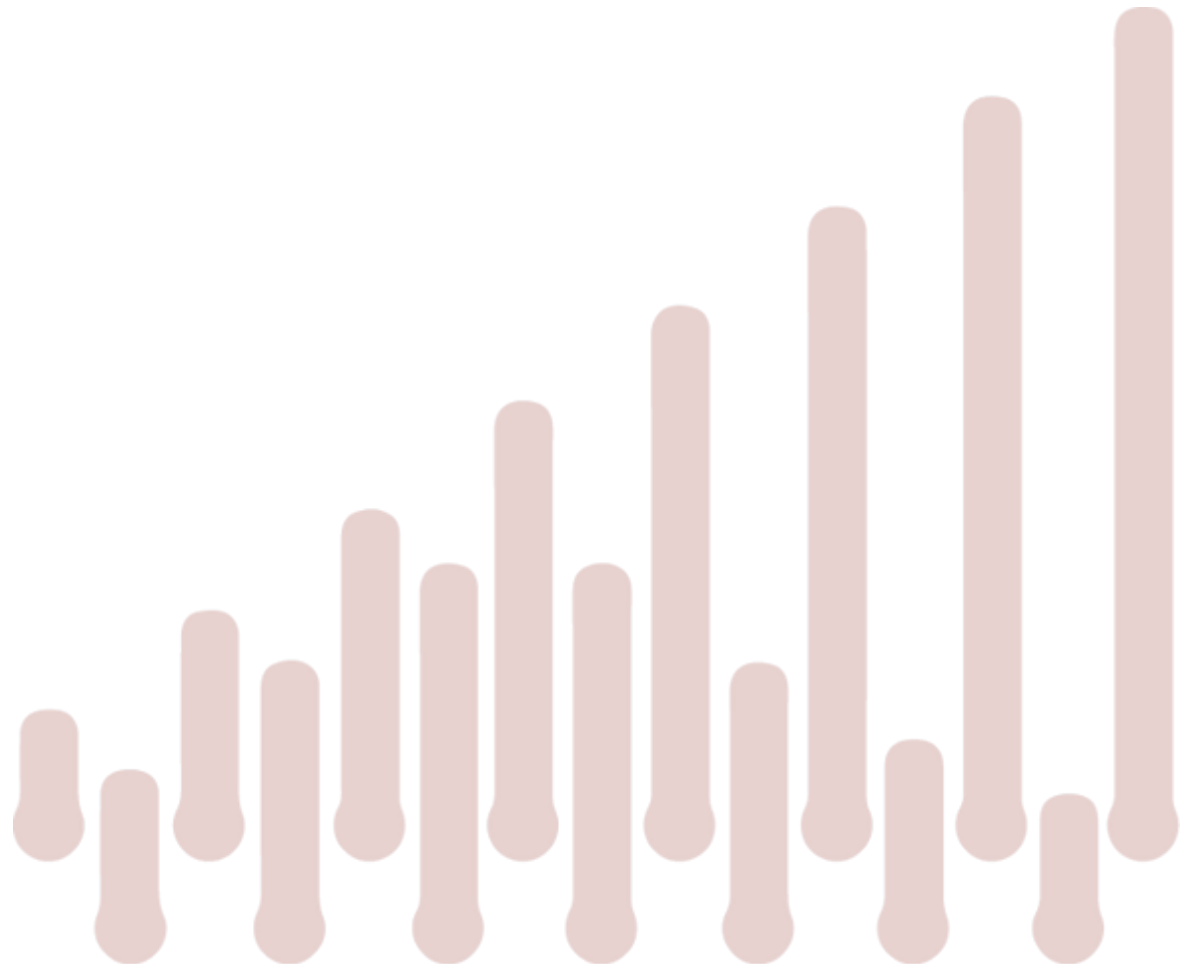


Public Finances and Tax Options

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NIESR General Election Briefing

May 2024



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OVERVIEW

This briefing will:

- examine the state of public finances, exploring risks to the government's fiscal position and what these risks entail for the wider economy; and
- assess various policies to improve the fiscal position, in particular the impact of different policy mixes on economic growth, productivity, and Real Personal Disposable Income (RPDI).

KEY POINTS

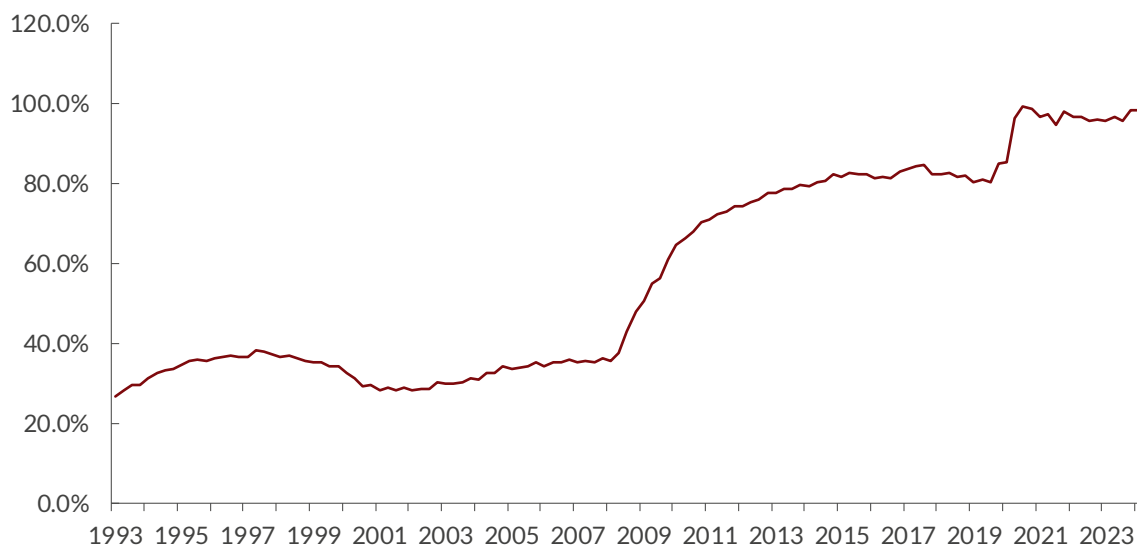
- Given current tax and spending plans, the debt-to-GDP ratio stands at about 98 per cent and will decrease slightly over the next five years while the deficit-to-GDP ratio will fall from currently 5 per cent to about 3 per cent, but the incoming government will either have to raise taxes or cut spending to meet the existing fiscal rules.
- Rather than pursuing arbitrary, medium-term fiscal targets, the next government should focus on long-term economic objectives when deciding their tax and spending plans.
- More public and business investment is needed to combat climate change, boost productivity, and return public services to an adequate level, which means a short-term rise in the deficit for long-term gain.
- High debt and deficit levels do not necessarily translate into worse economic outcomes; a credible plan that increases the deficit in the short run can improve the economy more than a non-credible plan that promises to decrease the deficit but reduces productivity and investor confidence.
- When consolidating public finances, the government should not increase corporation tax or decrease public investment as doing so would have long-term, negative consequences for the supply side of the economy.
- Instead, the focus should be on cutting government consumption spending and increasing income taxes if they want to improve the deficit.
- However, the government must be careful when deciding what is categorised as an investment – for example, human capital and other intangible assets should be included.
- Alternative policies, such as land value taxes and progressive consumption taxes, should be considered and introduced slowly; these policies can enhance welfare and productivity more than traditional ones do.

The State of Public Finances

Recent macroeconomic developments have substantially altered the government's fiscal position. High spending during the Covid-19 pandemic increased the debt-to-GDP ratio, which reached a peak of about 99 per cent in the third quarter of 2020 (figure 1).

This has kept steady since, dropping slightly to about 98 per cent in the first quarter of 2024. Although it is unclear what the incoming government will do in terms of expenditure and taxation, given current spending and tax plans, we forecast this ratio to fall slightly over the next five years.

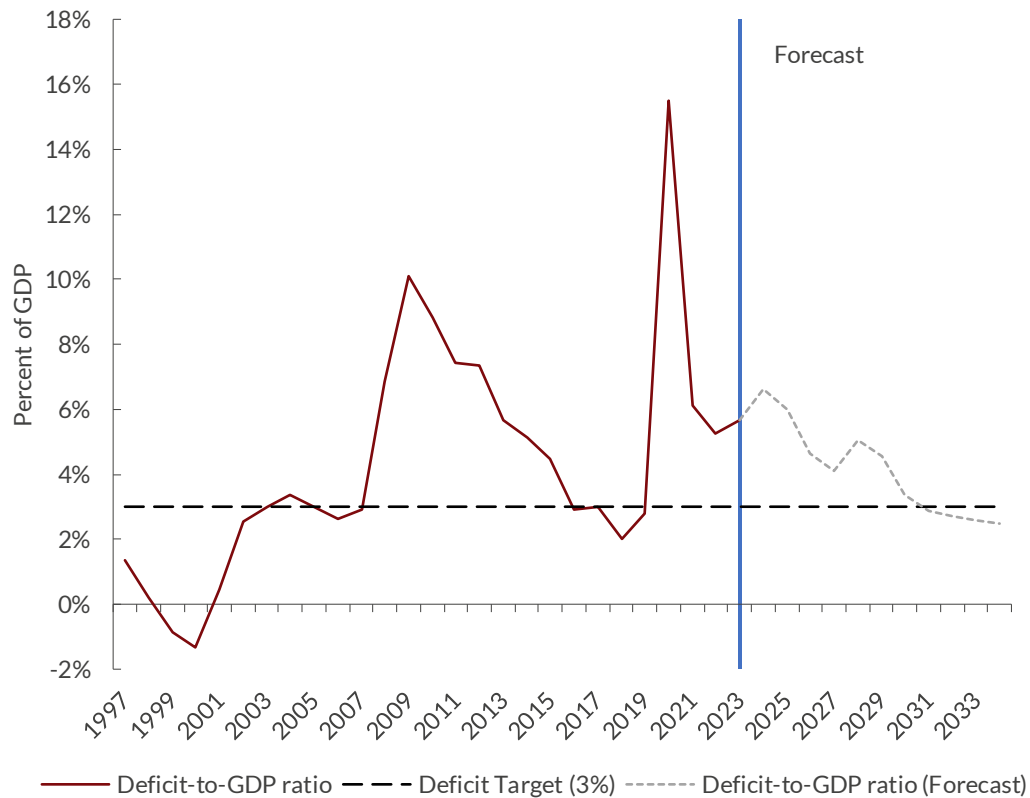
Figure 1: Public-sector net debt (excluding public-sector banks) to GDP ratio



Source: ONS

The deficit-to-GDP ratio currently sits at around five per cent, above the three per cent target (figure 2). Again, with the caveat that it is as yet unknown how any incoming government will decide to set their spending and tax plans, given current plans we forecast this ratio to fall below the three per cent threshold by 2031.

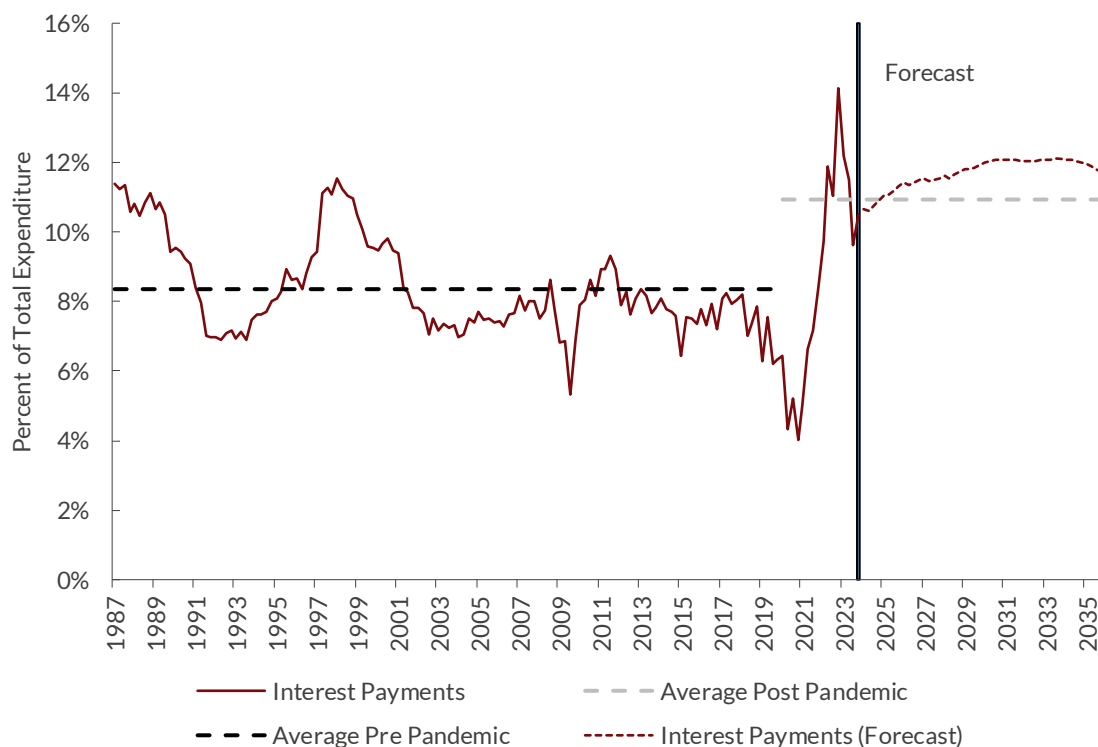
Figure 2: Public-sector net borrowing to GDP ratio



Source: NiGEM Database

The high inflation in 2022 led the Bank of England to raise interest rates from 0.5 per cent to 5.25 per cent. This means that, coupled with higher nominal debt, the amount government spends on interest payments now represents a larger proportion of total government expenditure, having gone from a pre-pandemic average of 8.3 per cent to a post-pandemic average of 9.4 per cent. In 2024, that amounts to about £13 billion more being spent on interest payments, which could have been spent elsewhere. As a result, total government spending may seem to rise without expenditure on, for example, investment or welfare increasing.

Figure 3: Government interest payments as a proportion of total government expenditure



Source: NiGEM Database and NIESR forecast

Risks to the Fiscal Position

Although we forecast a falling debt-to-GDP ratio, there are several key risks to the fiscal position that could jeopardise this. First, geopolitical tensions could escalate, and energy prices might rise again. Indeed, the UK government has already pledged to increase defence spending to 2.5 per cent of GDP. There may be a need to support asylum seekers from countries in conflict, which would also strain public sector deficits.

As an example, NIESR estimates that the war in Ukraine increased the UK government’s debt-to-GDP ratio by about 0.6 per cent over the 2-year period following the invasion (Liadze et al., 2022). Although it is impossible to tell what the probability of further conflict will be, and what the United Kingdom’s involvement will look like, given current geopolitical escalations this probability has increased.

Second, given the current state of public services, there is a key risk around maintaining public infrastructure, especially with regards to enhancing UK living standards and productivity. As noted in NIESR’s Winter 2024 Economic Outlook (Bejarano Carbo et al., 2024), years of underinvestment have meant that public services have been stretched to the limit. Not only does this mean that more investment is needed to return public services to an adequate level, but also that taxes may be higher than necessary in order to “patch up” the gap.

Essentially, to correct course, the state of public finances may need to worsen before they can improve. This risk also reinforces the need for fiscal rules that focus on outputs rather

than inputs – that is, the “level and quality of a service” provided rather than just how much is being spent on a service (Grice, 2021, pp. 97–98). This risk is more fully explored in our “Productivity” and “Living Standards” briefings.

Finally, there is a key risk in relation to tackling climate change. The investment and change required to decarbonise the economy will present many risks to the government’s fiscal position. The government will need to invest in green technology over the coming years to avoid a worse scenario caused by adverse climate impacts, which we are already starting to see. The sooner and faster this can be done, the more likely we will be to avoid catastrophic tipping points.

Again, this indicates that the government may need to adopt a nominally worse position in their public finances to ensure a better long-term position for the economy. The risks climate change present to the UK economy are explored more fully in our “Climate and Green Transition Policies” briefing.

Why do Debts and Deficits Matter?

To understand the state of public finances, it is important to analyse why changes to public debt and deficits matter. Broadly speaking, there are two main channels for increases in budget deficits, and the associated increases in public debt, to adversely affect the real economy.

The first is when inflationary pressure caused by higher deficits leads central banks to raise interest rates. This slows down growth, crowds out business investment, and leads to higher government interest payments on the existing debt stock.

The second follows from higher debt levels that can induce investors to charge a premium on long-term government bonds, again crowding out business investment.

The first channel occurs because increased expenditure that is not matched by increased revenue can lead to excessive demand in the economy. This boosts inflationary pressure, to which central banks respond by raising interest rates to meet their inflation target of 2 per cent.

Higher interest rates mean that it is harder for businesses to borrow money. It costs more for them to do so, and investments now need to make a greater return to break even. As a result, business investment is cut back.

On top of this, a higher debt leaves the government more vulnerable to interest rate risk. If interest rates increase in the future, government interest payments increase much more rapidly. Essentially, running a high deficit means that it becomes more expensive to run a high deficit.

As interest payments grow, the government has less space to spend on other areas. It could end up spending more in total while spending less on, for example, health, education or productive investments.

However, the importance of the interest rate does mean that the optimum deficit level can vary depending on the economic context. A deflationary period in the economy associated with lower interest rates may give the government scope to increase the public deficit while holding interest payments constant. In fact, reacting in this way would ensure that the government acted as an automatic stabiliser in changing economic circumstances.

The second channel occurs because higher government debt may be a signal for investors that governments are acting irresponsibly in the sense that public debt might be following an unsustainable path. Investors would then price this into bond prices, charging an additional premium for the risk of holding onto government bonds, especially over long horizons.

An example of this can be found in the September 2022 mini-budget. This fiscal event is estimated to have led to a 30 basis point rise in the term premium as a result of the announcement of unfunded tax cuts (Bejarano Carbo, 2023, p. 4).

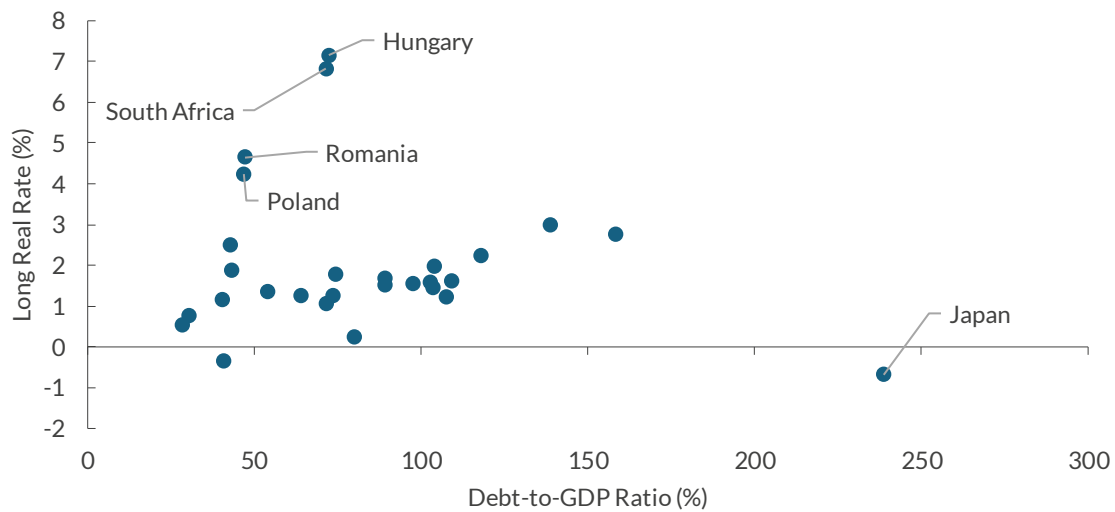
Once again, the economic context is key. A high debt may, or may not, be a cause for concern. Governments that hold debt in their own sovereign currency always have the option of printing money to pay off debt, so there is essentially no risk that a government will default on their payments (although, with an independent Bank of England, this is not an option currently available to the UK government without violating central bank independence).

In fact, there can be several justifiable reasons for increasing debt that, under a credible and well-functioning government, might not lead to increased credit risk. For example, a government that increases its debt to invest in new technology to spark economic growth is very different to a government that borrows to spend on an unnecessary or wasteful project, since higher economic growth in the future will then lower public-sector debt as a proportion of GDP.

This is reflected in the data, which shows there is no strong correlation between high government debts and long real rates. Japan, for example, had a debt-to-GDP ratio of 240 per cent in the last quarter of 2023 and yet had negative long real rates. Hungary, on the other hand, has a debt-to-GDP ratio of 70 per cent, relatively small compared to other advanced economies, and yet has a long real rate of 7 per cent.

Therefore, the relationship between the two is not entirely straightforward, as demonstrated in Figure 3 below. There is no universal “ideal” debt ratio. It depends entirely on an individual country’s idiosyncrasies.

Figure 3: Debt-to-GDP ratios and long real rates (as at 2023 Q4)



Source: NiGEM Database

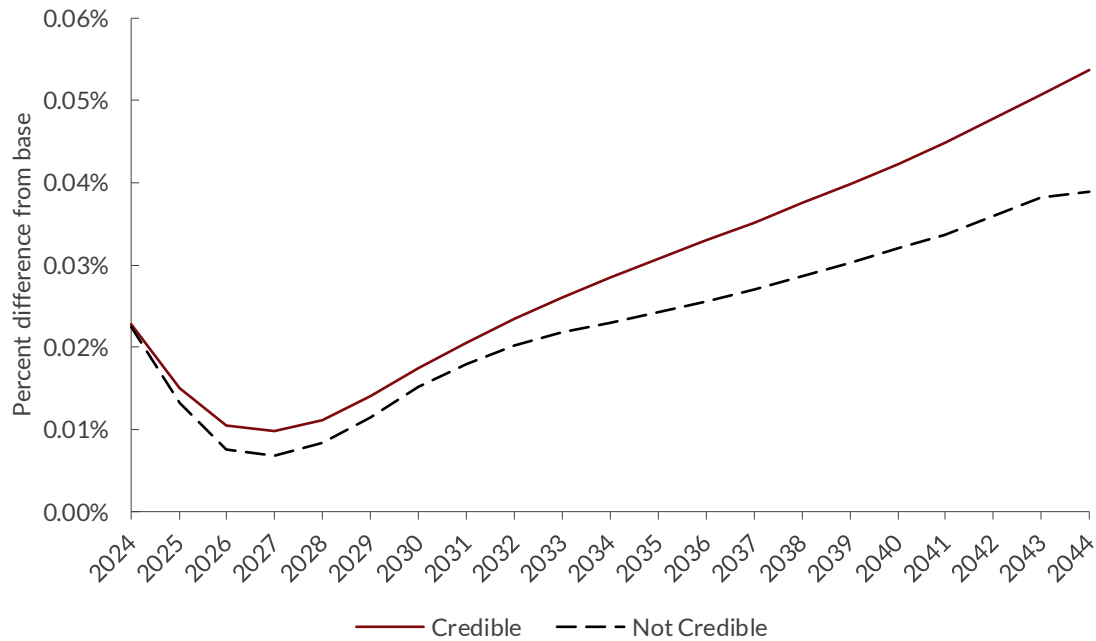
For this reason, focusing just on the short-term size of debt-to-GDP is an oversimplification. A better approach involves assessing the long-run sustainability of government debt. In addition, increases in government debt could be associated with increases in government assets, if the increased borrowing was, for example, used to finance investment in infrastructure. This suggests that it would be better to keep an eye on the government balance sheet as a whole rather than just the liabilities. (Grice, 2021, p. 93)

Furthermore, long-time horizons are needed to contextualise investments that might take a long time to pay off. Green investments will ultimately pay off decades in the future, but their returns compared to the costs of doing nothing to mitigate the effects of climate change are very high. Avoiding this investment because it will increase the debt-to-GDP ratio in the short term is a mistake.

A simple simulation can demonstrate how government credibility matters. Fig 4 shows how a one per cent increase in real government investment can lead to different outcomes in GDP growth. In the “Not Credible” scenario, an additional risk premium is added to the long-run interest rate, proportional to the change in the debt-to-GDP ratio whereas in the “Credible” scenario there is no additional risk premium added.

As can be seen, there is a persistent and growing gap between the response of GDP in the two scenarios, as greater risk in government finances lead to more uncertainty, higher long-run real rates, and less business investment.

Figure 4: Effect of an increase in government investment on real GDP under different assumptions for government credibility



Source: NiGEM simulations

Policies to Improve the Fiscal Position

This section will explore how the government can reduce the deficit. It will look first at whether it is better to do this through tax rises or spending cuts. Then it will look at what types of spending should be cut, and what types of taxes should be raised.

These scenarios will be explored with regards to the impact on GDP, Real Personal Disposable Income (RPDI), productivity, and employment, among other factors. This is because the entire picture must be explored to provide policymakers with the various trade-offs involved.

For example, high GDP growth will not necessarily translate into better outcomes for people if it means the average wage is lower. Policymakers must therefore choose what their priorities are when deciding on the correct fiscal mix.

Furthermore, the long-term impacts must be distinguished from the short-term effects. In the short term, any fiscal consolidation will have a negative effect on GDP and make people feel worse off. Different policies, however, will lead to much more divergent long-run properties.

For example, supply-oriented policies, such as increased investment and corporation tax cuts, will have a larger impact on long-run growth rates than other policies. These trade-offs between the short and long run will also be explored in this section.

Should the Government Increase Tax or Cut Spending?

If the government wants to consolidate their budget, is it better to do this through tax increases or spending cuts? This section answers this question by simulating the effect of moving from a long-run deficit-to-GDP ratio of three per cent to one of two per cent. In one

simulation, the government achieves this through a cut to spending with tax rates left unchanged; in the second simulation, this is achieved through an increase in the rate of income tax.

Several assumptions are made in these simulations. In the first simulation, it is assumed that the government cuts back on investment, consumption and social transfers in proportion to weightings by historical averages from previous fiscal consolidations (Byrne, 2021). In both simulations, the income tax rate is the same for all income; we do not examine a tax policy that treats the top earners and the bottom earners differently.

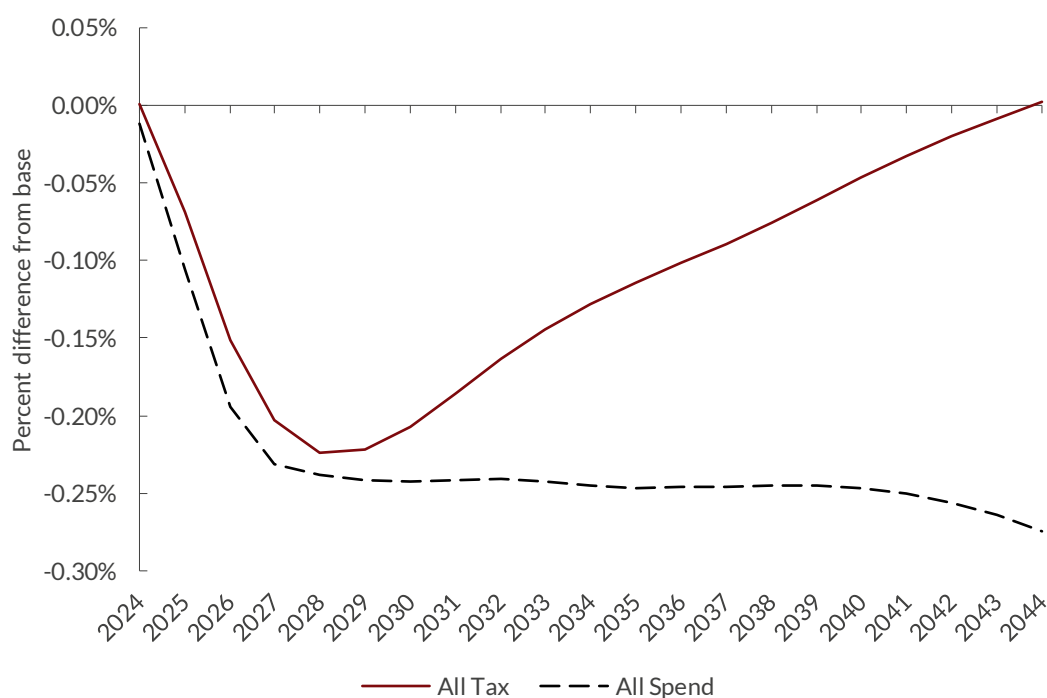
Finally, in the second simulation, we assume that only the rate of income tax rate changes while other tax rates (such as corporation tax and VAT) are held unchanged. This section thus provides a general overview, while the following sections will aim to show distinctions between spending and tax types as further considerations for policymakers.

Figure 5 shows that reducing the long-run budget deficit will have a negative impact on GDP growth in the short term, whether done through income tax rises or spending cuts. Raising income taxes lowers real disposable income and dampens consumption, while reducing expenditure directly affects demand in the economy.

However, the picture is different in the long term. Once the debt-to-GDP ratio has come down, government interest payments are reduced. At that point, the fiscal consolidation can ease up, which leads to the economy returning back to its baseline level of GDP. The improvement in the government debt lowers long real rates and thus encourages business investment which can improve productivity and, as a result, long-term growth.

But if the government cuts back on investment, this can cause long-term problems with falling productivity and potential output. From this perspective, using an income tax rise to reduce the deficit is better for the economy's long-term prospects than reducing expenditure, especially when the spending cut hits public investment.

Figure 5: Effect of a fiscal consolidation on real GDP



Source: NiGEM simulation

Increasing tax rates also has a large immediate impact on RPDI: as taxes increase, take home pay falls. This is quite significant, especially in the short term. In the long term, the rise in productivity means that real pre-tax wages rise; this somewhat offsets the increased tax burden.

In contrast, real wages stagnate when the government cuts public investment. This suggests the need for well-designed fiscal policy to ensure beneficial distributional outcomes. For example, taxing top earners will have negative consequences for them but will improve the take home pay for everyone else.

What Area of Expenditure has the Biggest Economic Impact?

Not all government expenditure is the same. In our model, NiGEM, NIESR distinguishes between government investment, government consumption and social transfers. Investment and consumption directly affect GDP, as they add to demand in the economy.

Investment, in contrast to consumption, increases the government's capital stock and so increases productivity over time. Social transfers – such as pension payments, unemployment benefits and support for the long term unemployed – indirectly affect GDP. They impact incomes, therefore consumption, therefore GDP.

This section simulates what would happen if the government were to increase their expenditure on these three areas by £1 billion per quarter in 2019 prices permanently. In this way, we can compare what would happen if the government were to spend £1 billion more in social transfers, as opposed to if they were to do the same in investment or consumption.

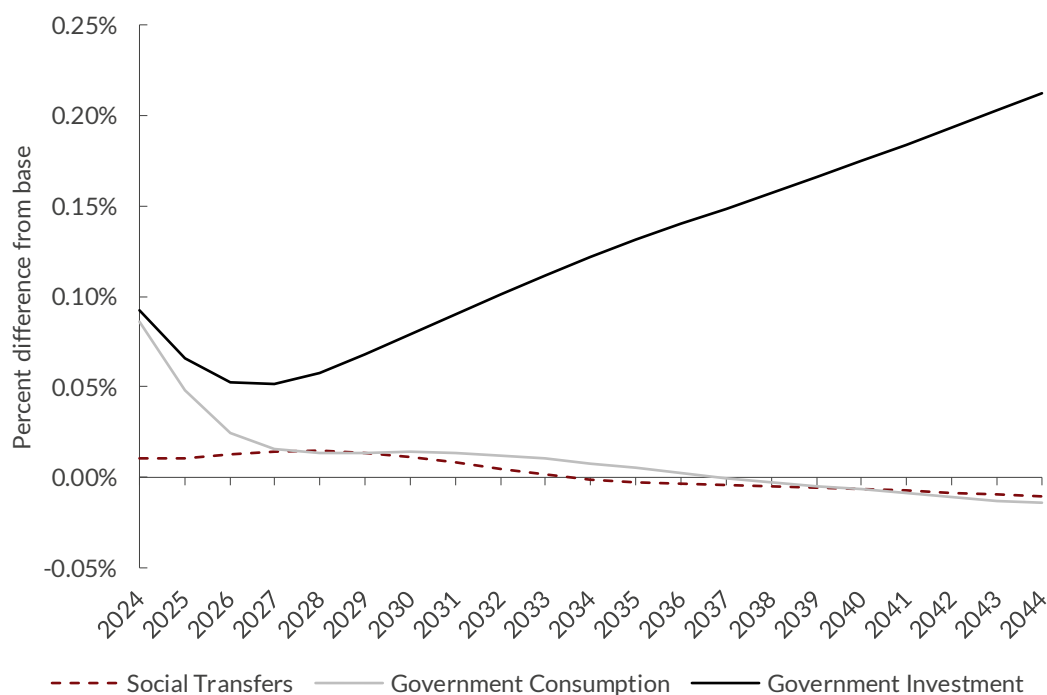
In these simulations, governments fund the increased expenditure through borrowing, rather than increasing revenues; that is, tax rates are left unchanged rather than raised to fund this

expenditure. This will assist in exploring the relative economic importance of each kind of expenditure.

As can be seen in Fig. 6, increasing government consumption and investment both initially raise real GDP by 0.1 per cent. However, GDP begins to fall as interest rates and prices rise. It is only in the investment scenario that real GDP is above its baseline in the long run, 20 years out.

As government investment increases, productivity increases. Potential supply increases, reducing price pressures which means the central bank policy rate doesn't need to be quite as high and business investment doesn't need to be reduced quite as much.

Figure 6: Effect of a rise in government spending on real GDP

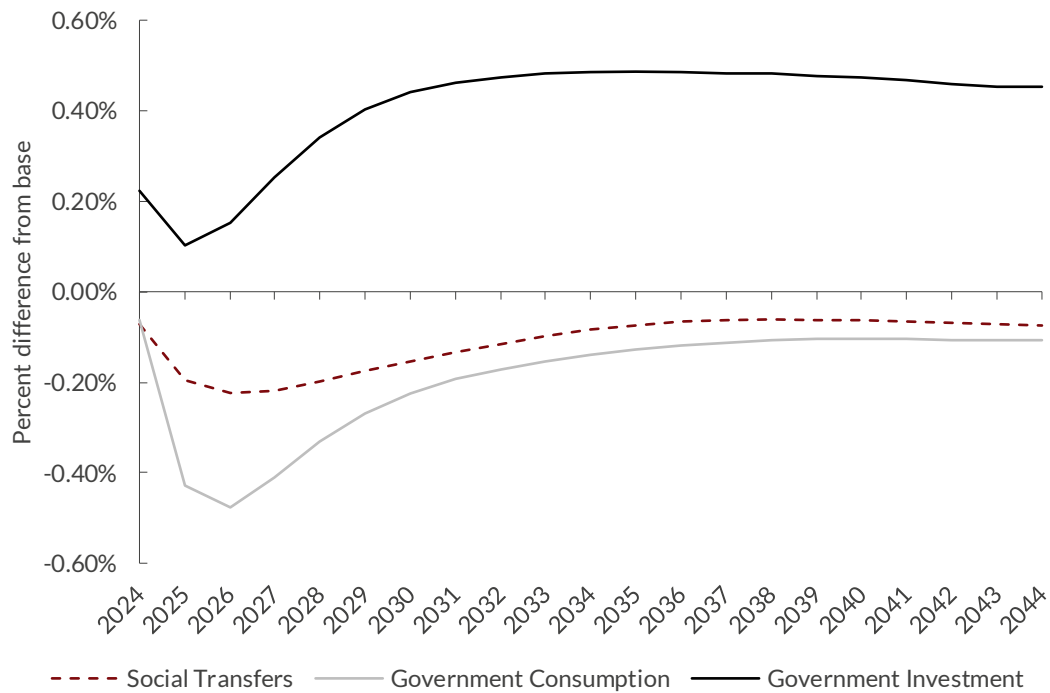


Source: NiGEM simulation

This is demonstrated by how real business investment reacts, as shown by Fig. 7. While business investment falls in response to increases in government consumption or transfers, as a result of interest rate/price rises “crowding out” investment, business investment actually increases under the government investment scenario.

This is because, although businesses face higher interest rates, the additional productivity that the government creates means that business investment becomes more productive too. This “crowding in” effect can then dominate the “crowding out” effect.

Figure 7: Effect of a rise in government spending on real business investment

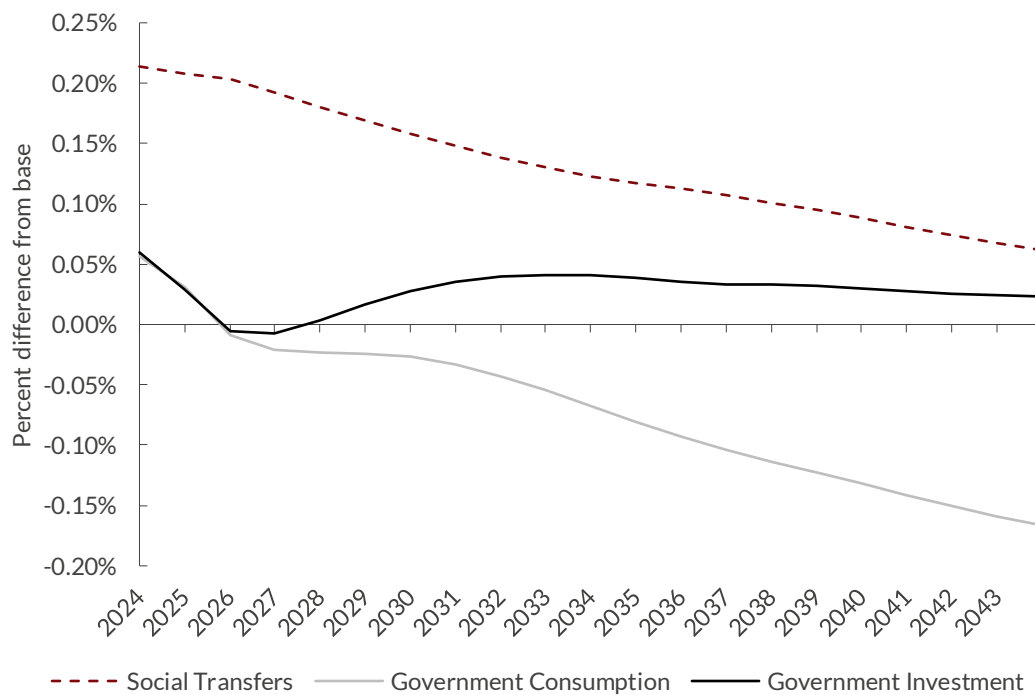


Source: NiGEM simulation

It is also important to note the effect on RPDI, as shown in figure 8. Higher GDP does not necessarily translate into better living conditions for people. Transfers have the highest and most immediate impact on RPDI, as households have money transferred to them directly. Interestingly, higher government investment also increases RPDI, especially in the long run.

This is driven by higher productivity, meaning workers are worth more to employers, driving up real wages. Increasing government consumption expenditure leads to the worst outcome, both in the short and long runs. Initial boosts to GDP which raise wages are inflated away, and real wages falter as business investment and productivity take a hit.

Figure 8: Effect of a rise in government spending on RPDI



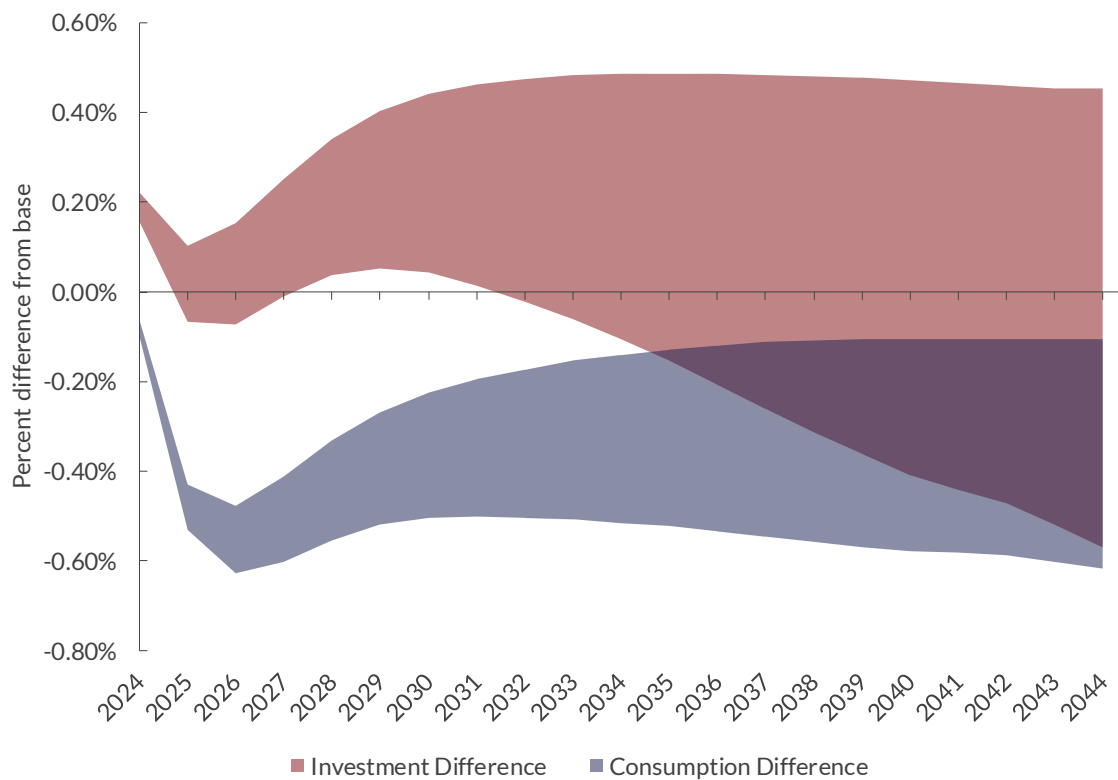
Source: NiGEM simulations

It is also important to note the interaction with government credibility. That is, if investors feel that higher government expenditure signals more risky behaviour from the government, they may be discouraged from investing as much.

Figure 9 shows how this extra risk can impact the outcomes of fiscal policy. When the government is credible, and businesses do not add a risk premium to their calculations, the top of the shaded areas shows the best outcome.

However, if governments were not perceived this way, businesses will hold back on investment; the worst outcome is shown by the bottom of the shaded areas. The overlap in the shaded lines suggests that a non-credible increase in government investment could, theoretically, produce the same bad outcome for business investment as a credible increase in government consumption.

Figure 9: Effect of credibility on crowding in or out of real business investment



Source: NiGEM simulations

What do we Mean by Government Investment?

The key question is what we mean by investment, consumption, and transfers. How do we delineate between spending types? For example, investment is not as simple as plants and machinery with a fixed depreciation rate. Human capital, risk management, or expenditure to avoid impairment could all contribute to the government’s future productive capacity.

Healthcare and education, traditionally seen as consumption expenditure, are vitally important for workforce productivity. If the government pays a higher upfront cost for a lower whole-life cost, this should be regarded as investment expenditure.

Long-term planning and aggregation of expenditure in contracts can lead to higher upfront costs but lower lifecycle costs. Proper maintenance and administration of an asset can lead to a lower impairment rate. Funding for a capital project may require expenditure on consultancy contracts to provide specialist knowledge, but the government could also hire permanent project managers with said specialist knowledge, a lower ongoing cost as opposed to a higher ad hoc cost.

There is a trade-off here between flexibility and cost-effectiveness, but the point is that moving capacity in-house can also be seen as investment even if, from an accounting perspective, the budget moves from capital investment to consumption. Public sector wages would not traditionally be seen as an investment, but again supported, equipped and educated personnel can avoid impairment of assets better than overworked and underpaid

personnel; more and less-overworked teachers and doctors lead to a healthier, more educated, more productive workforce.

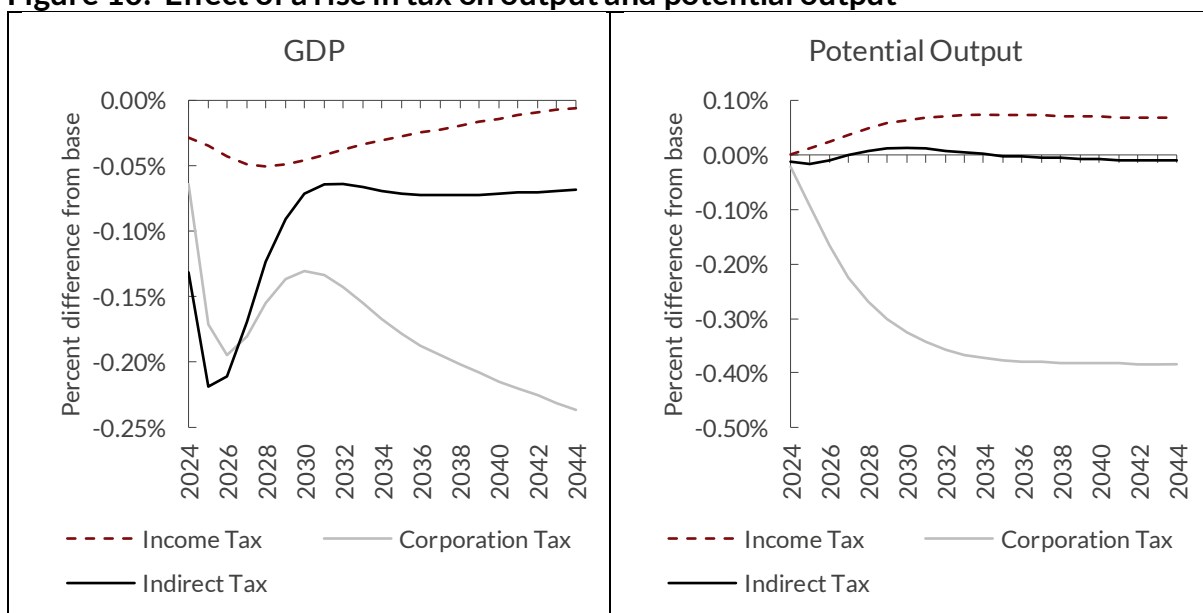
What Tax has the Biggest Economic Impact?

In this section, we consider the effects of a fiscal contraction through tax policy by raising the rates of income tax, corporation tax and indirect tax (i.e., VAT and excise duties). Simulations are calibrated as a rate rise that provides an average revenue of £3 billion per quarter for the government in the first 10 years; rates are held fixed thereafter.

Figure 10 shows that corporation tax rises have the worst effects, lowering GDP in both the short and long run, and permanently lowering productivity. This is shown through a decline in potential output- essentially the potential productive capacity of the nation, which depends on its capital stock, employment and labour enhancing productivity.

Rises in indirect taxes are just as bad for GDP in the short run, although there is some degree of recovery in the long run, with a minimal impact on productivity. In contrast, income tax rises have a much shallower impact on GDP and raise potential output, as the improvement in the government’s fiscal position helps to “crowd in” business investment through lower long real rates.

Figure 10: Effect of a rise in tax on output and potential output

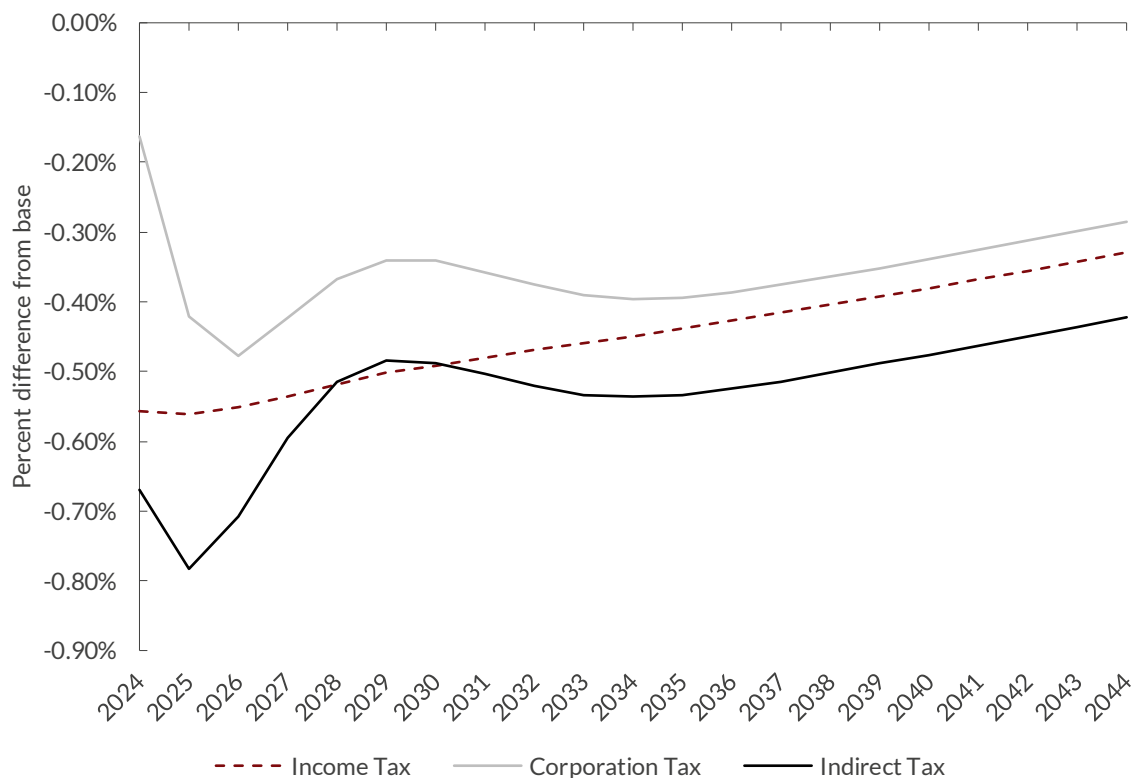


Source: NiGEM simulations

However, corporation taxes have the opposite effect; the effect on the effective user cost of capital is strong enough to overcome the positive effect of lower long real rates and lead to an immediate and sustained fall in business investment.

RPDI follows a similar path in all three scenarios, although for slightly different reasons (figure 11). Increases in indirect tax rates raise prices, lowering RPDI. Higher tax rates directly lower take home pay. Corporation tax rates lower wages due to the lower productivity of workers. Income taxes are worse for RPDI, especially in the short run. However, this difference becomes small in the long run.

Figure 11: Effect of a rise in tax on real personal disposable income



Source: NiGEM simulations

These simulations show that different taxes have a variety of impacts on the economy, hitting demand and supply, both in the long run and the short run, in different ways. VAT is the most disruptive in the short run, hitting GDP, incomes and unemployment the hardest, primarily through the price channel.

However, in the long run the economy stabilises after the initial hit. Income tax has an immediate negative impact on incomes. Corporation tax is disruptive in the short run through the demand side.

Moreover, 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, adjusting income tax is the best option available.

Alternative Instruments

We close by considering a couple of alternative tax instruments that could potentially raise tax revenue in a way that improves economic efficiency, aligns incentives and reduces inequality.

The first is a Land Value Tax (LVT). This is a tax levied directly on the unimproved value of land, not including anything built upon it. Essentially, the value taxed is based entirely on location. This is a more efficient tax option that does not distort markets or restrict supply. This is

because land is in fixed supply, so cannot be reduced in a response to increased taxes, which would otherwise lead to a dead weight loss.

Furthermore, it encourages development of land. Holding onto land without using it, purely for speculative purposes, is costly, whereas developing land as much as possible increases returns without increasing taxation. In this way, it is also fair in the sense that landowners are taxed for public investment, outside of landowners' control, which enhances the value of the land (such as transport links) but not their investment upon it (such as building improvements).

Kumhof et al. (2021) demonstrates this, finding that shifting taxes from capital and labour to land can increase welfare by 5.2 per cent and output by 26 per cent. The tax burden is shifted entirely onto producers (that is, the owners of land) and cannot be shifted onto consumers (that is, renters).

Essentially, as landowners hold a natural monopoly on land they own, the rent they charge is entirely demand driven and already at the maximum value. This is backed empirically by Høj et al. (2018) who find that LVTs are shifted entirely onto land capitalisation.

In practice, the design of this policy should take into account several factors. These include how the initial value of land is calculated and updated, whether there should be specific exemptions (e.g. for places of cultural significance such as art galleries and cathedrals, which may own high-value land but have a low income stream to support it), and whether the introduction of this policy will increase financial risk, given that a lot of land is mortgaged and so forms part of a bank's balance sheet. Markets will adjust, but may need to be given time to do so (Murphy, 2023).

A second form of taxation that should be explored further is a Progressive Consumption Tax (PCT). This differs from VAT in that it "is a tax on an individual's total consumption across a year, rather than taxation at the point of expenditure every time a purchase is made" (Marioni et al., 2022, p. 4).

A PCT encourages saving for all income groups and does not have the labour disincentive effect that income taxes have. If designed correctly, with options like tax-free thresholds and measures in place to support child-rearing, this can help reduce inequalities as well.

With all these policies, careful design and implementation is paramount. They should be introduced slowly so as not to shock the system. Over time they can pick up the tax burden, but they should not be relied on immediately.

Conclusion

This briefing paper has two broad recommendations.

First, governments need to focus on long-run fiscal sustainability, rather than medium-run deficit and debt targets. This will ensure governments respond to real economic impacts, with targets changing as the economy changes, in a stabilising way.

Deficit and debt targets are arbitrary and should not be followed at the expense of the needs to the economy. Focusing on long-run sustainability, and ensuring a healthy balance between liabilities and assets, means long-term investments that may not pay off immediately are still valued appropriately.

Second, when it comes to the mechanics of improving the fiscal balance, the government should focus on raising income tax and cutting government consumption spending to improve the fiscal balance. It should not increase corporation taxes or cut investment expenditure, as this hampers the supply side of the economy and so reduces productivity, especially in the long run.

When a government cuts spending, it should very carefully consider what it is cutting, as things that may seem like consumption spending may really be investment in a different form.

Furthermore, from a distributional perspective, cutting spending may increase inequality while raising taxes can reduce inequality (depending on the specifics of what is done).

For these reasons, income tax rises are preferable. However, as income taxes have a direct and negative effect on RPDI, policymakers will need to decide on the appropriate trade-off between these options.

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