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# Fiscal responsibility in advanced economies through investment for economic recovery from the COVID-19 pandemic

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Policy insight

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# Contents

# Executive summary

When the COVID-19 pandemic battered the economy and health of nations across the world, the first tasks were to tackle the virus, to prevent economic collapse, and to protect jobs and livelihoods. That was 'rescue'. The task now is 'recovery'. If that is to be sustained, strong and non-inflationary, it must be driven by private investment. In G7 countries, the bulk of investment is from the private sector, but this has declined substantially as a proportion of GDP, undermining productivity growth over recent decades.

The central task for the recovery is to restore and sustain private investment. At the same time, we must recognise that one reason for the decline in both private investment and productivity has likely been the neglect of infrastructure investment. We now have huge opportunities from, indeed the imperative of, the drive to the zero-carbon and climate-resilient economy.

- The first test of the soundness of public policy must be whether it fosters strong and sustainable private sector investment and provides the enabling infrastructure required to boost productivity growth.
- The second test is fiscal responsibility. Sound management of the public debt of an economy is a prerequisite for both macroeconomic stability and national prosperity. Governments of both developing countries and advanced economies stand to benefit from having in place, and observing, medium-term strategies that anchor public debt and thereby secure investor confidence.

Governments around the world, and certainly the G7 economies, are now finding themselves obliged to increase their expenditure sharply. This is in order to support incomes and livelihoods in the context of following health restrictions and the overall sharp economic shock contraction – the 'rescue' phase; and, once the impact of the pandemic abates, to restore confidence, ward off the threat of deep recession and re-establish growth – the 'recovery' phase.

The G7 economies have suffered a historically severe shock as a result of the COVID-19 pandemic, most of them experiencing record annual contractions in 2020. For most G7 countries, this follows decades of slowing productivity growth and a cumulative shortfall of infrastructure spending. It also comes at a time of accelerating innovation in digital technologies, growing inequalities and the immense threat of climate change and other unexpected shocks made apparent by the current pandemic.

But there are concerns that further borrowing could lead to unsustainable government debt and an increase in inflation, exposing economic strategies to further risks, especially when interest rates start to rise.

**We argue that:**

- **The risks associated with higher public debt for advanced economies able to borrow in their own currency are currently substantially outweighed by the potential benefits from public action to drive investment for a sustained recovery.**
- **The markets are signalling that there is no immediate problem in financing increased public borrowing.** Despite nudging upwards, partly in response to President Biden's ambitious US stimulus plan, real interest rates remain generally close to historic lows, all along the yield curve, reflecting the fact that globally the desired level of private sector saving in aggregate is low relative to the desired level of aggregate investment.
- **These historically low interest rates reflect the market's hunt for returns and help greatly with the affordability of governments' rescue and recovery expenditures.** Private sector savers in the advanced economies did not see many opportunities for productive investment. Facing few attractive options for where else to put their money, they were willing to buy government debt at ever-diminishing rates of interest. Clearly the challenge is to put in place the incentives for private investment; a commitment to growth and sound and stable signals on the directions of policy, particularly around sustainable low-carbon and climate-resilient investment and innovation.

This investment, and the growth it brings, is desirable not only in its own right, but also because it helps to reduce the size of the public debt relative to growing GDP, the surest way to public debt sustainability over the long term. This will be easier for individual countries to pursue, and the resulting recovery will be stronger, if countries act together. Bond market 'vigilantes' are as likely to punish governments for lacking a sustainable growth strategy as they are likely to punish them for lacking fiscal restructuring plans.

## An historic opportunity to 'crowd in' private investment

Governments must step in with sufficient ambition to provide the enabling environment to foster private investment, by investing in infrastructure, skills and intangible knowledge-generating assets. These investments must support the transition to sustainable and inclusive growth, advancing the fight against global threats, including infectious diseases, biodiversity loss and climate change. And resilience is crucial too as we are seeing around the world, whether it be floods, storms or fires, the need to adapt to the climate change that is occurring and will occur.

Inadequate public investment has been a factor holding back private investment and preventing sustained and resilient productivity growth in key economies. The only route to growth without inflation is through investment in the economy's productive capacity.

A premature tightening of public budgets would almost certainly slow the pace of economic recovery. Economic stability comes through growth that is strong and sustained, and not at risk of faltering. It will be easier to pay back the debt while the economy is growing strongly.

Once entrepreneurs can see that strong, sustainable economic growth is in prospect, they can be expected not only to start investing again in new capital stock but also to invest in the innovation process to accelerate the formation of the competitive business networks and knowledge clusters that allow economies to thrive in the marketplace of the 21st century.

## High-level recommendations

- Coordination of policies across government such that all relevant policies – macroeconomic, structural, industrial, innovation, skills, labour market, energy, and other policy frameworks – work strategically together with supporting institutions, to drive economic recovery, investment and structural change.
- Countries commit to invest in R&D and deployment of new technologies and related networks, including mission-orientated support, to draw in private finance and induce productivity-enhancing clean innovation.
- A clear and coherent macroeconomic and structural policy landscape for investment in recovery now and for building robust, resilient and sustainable assets that can secure strong productivity growth over the coming decades.
- Secure debt sustainability through investment in productive capacity and growth, rather than short-term reliance on self-defeating fiscal tightening.
- Public investment and infrastructure banks, operating with clear sustainability mandates, play a crucial role in reducing, sharing, and managing policy risk and thereby encourage private investment. This must be complemented by clear strategic planning for investment in zero-carbon and resilient infrastructure networks, backed by regulation that can enable the private sector to scale up investment.
- All governments, and particularly those of the G7, should seek to make their fiscal policies for the recovery 'predictably flexible', with transparent and credible criteria for reducing deficits as sustainable growth returns.

# 1. Why debt sustainability is essential

**Managing the public finances is central to a sustainable economic strategy.** Rising public debt to GDP ratios entail mounting risks (Chudik et al., 2017) increasing a country's vulnerability to future debt crises (Barsch et al., 2019), especially if interest rates rise or growth disappoints (Cochrane, 2020). Consequently, sustained high public indebtedness increases the risk of debt default and insolvency or the incentives to accommodate higher inflation. In some circumstances, it defers painful decisions until later. It raises the prospect of future tax increases to tackle fiscal imbalances, which are likely to be distortionary, leading to inefficient investment and spending decisions (Baxter and King, 1993). It risks reducing the resources available for public investment to expand productive capacity, and eroding the living standards of future generations.

High public debt also reduces fiscal ammunition for future countercyclical policy. It makes control of economic policy vulnerable to market sentiment, which can force a government's hand. If lenders begin to fear that a government may be unable to repay public-sector debt in full, or allow inflation to increase, then the default risk premiums and inflation premiums on government bonds may rise suddenly and sharply, exacerbating the tightening of credit conditions (Cochrane, 2020) and increasing the cost of public investment. Even where debt is under control, public spending funded by borrowing at times when the economy is operating close to capacity competes for resources with the private sector and risks crowding out private investment.

# 2. Taking cues from the market

**The world is not experiencing an ordinary cyclical downturn: it is facing a historic contraction – a huge shock from COVID-19 – and a strong response is necessary to meet the challenge.** According to the latest estimates by the International Monetary Fund, global output decreased by 3.5 per cent between 2019 and 2020 (IMF, 2021a). The advanced economies were hit hardest, with a reduction of 4.9 per cent. Among the G7 countries, the scale of falls ranged from 9.9 per cent in the United Kingdom to 3.4 per cent in the United States. By comparison, the global economy shrunk by 0.7 per cent between 2008 and 2009 following the financial crash, and the advanced economies declined by 3.7 per cent. Moreover, the impact of the disease and the public response to it have yet to play out; at the time of writing (January to February 2021), several advanced economies were suffering a resurgence of cases.

The advanced economies have used a range of fiscal measures to support firms and households, with significant public borrowing, to boost growth, which is expected to rebound in 2021 and 2022.

Global governments have allocated some US$14 trillion in fiscal support to consumption, output and livelihoods to mitigate the economic effects of the pandemic since the start of 2020 (IMF, 2021b). Together with the sharp drop in net public revenues as economies contracted, this led to a rise in global public debt, which had reached 98 per cent of GDP by the end of 2020, from 84 per cent a year previously. Advanced economy deficits are expected to have averaged above 13 per cent of GDP in 2020.

## Shifting the policy focus from rescue to recovery

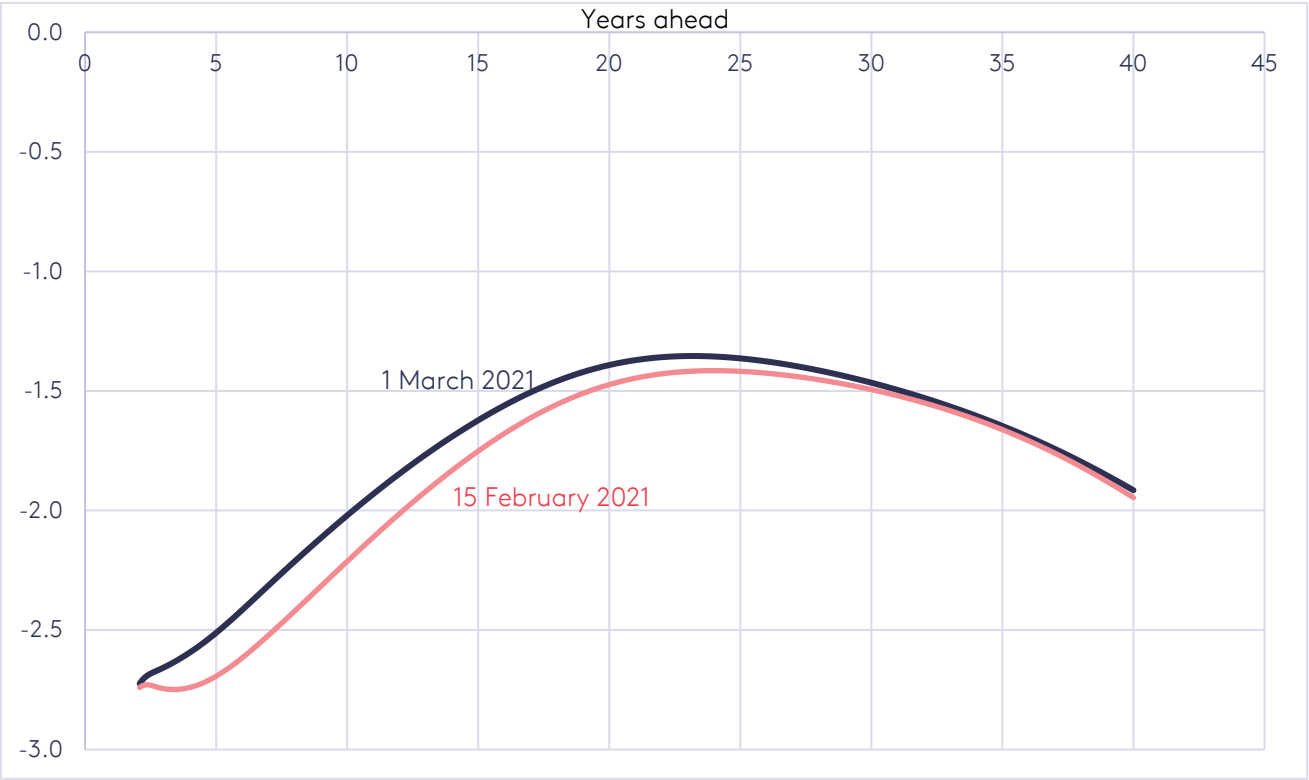
**With the welcome arrival of effective COVID-19 vaccines, the policy focus is shifting from economic rescue (the need to support people's livelihoods and keep businesses solvent during the global pandemic) to economic recovery (to restore economic development and growth).** Though both call on public resources, they are distinct (see the recent debate between Paul Krugman and Larry Summers [Coy, 2021]). Measures to provide 'life support' to an economy, such as furlough and loan schemes to prevent collapses in employment, are very different from stimulus policies. With COVID-19, the former have accompanied policies that aim to suppress social and economic interaction, while the latter are designed to drive demand and promote activity.

### Further public investment is needed

**Recovery packages will inevitably require further public spending to build a post-pandemic economy that is inclusive, resilient and sustainable.** This spending must boost productive capacity, secure sustainability and provide a short-term economic stimulus to offset retrenched spending by nervous consumers and investors. It can foster private investment, employment and affordable financing by raising expectations of growth, by offering greater clarity on sense of direction, and by investing in complementary assets that raise productivity (Robins et al., 2020).

**With public debt relative to output during the pandemic in many countries already close to historic highs, it is understandable that meeting the need for public investment to boost productive capacity has raised concerns about 'fiscal space'.** Yet, in advanced economies, market investors generally show no signs of concern. For instance, the UK sold negative-yielding government bonds for the first time in 2020 (Hirai and Goodman, 2020) and financial markets expect real rates of interest to remain below zero for the rest of the decade (Bank of England, 2021; Figure 1 below). The UK Treasury can borrow money for 30 years for less than 0.9 per cent nominal. The UK has an average maturity on its outstanding stock of debt almost twice as long as other G7 countries at nearly 16 years.

Figure 1. Forward implied real yield curve for UK gilts, %




*Source: Bank of England calculations*

## Low debt servicing costs

**With central banks actively purchasing assets to keep interest rates depressed, debt servicing costs are expected to stay low.** The market for government bonds expects real risk-free rates to be below zero for decades – marking a prolonged era of surplus desired saving (Bernanke, 2015) and 'secular stagnation' (Summers, 2017), where productivity growth and inflation remain subdued. What the market is unambiguously signalling is that a surplus of desired (i.e. ex-post, unobservable) private sector saving seeking returns is bidding up asset prices. These assets include government bonds whose returns fall as their prices rise. The market is thereby signalling its belief that higher public debt is likely to be sustainable for some time on account of low servicing costs, and that higher public debt could help deliver positive returns to private savers (Summers, 2020).

# 3. Low interest rates and debt sustainability?

Public debt sustainability depends on whether interest on the amount borrowed can easily be repaid. Public debt in the advanced economies remains very affordable by historic standards because interest rates are so low. The standard equation for the sustainability of public debt dynamics illustrates these favourable dynamics:

$$Change\ in\ d_t \equiv d_t - d_{t-1} = \frac{(r-g)}{(1+g)} d_{t-1} + b_t$$

where *d* is public debt/GDP, *b* is the primary budget deficit in period *t* (public borrowing excluding interest payments as a fraction of GDP at time t), *r* is the nominal rate of interest, and *g* the rate of nominal GDP growth.

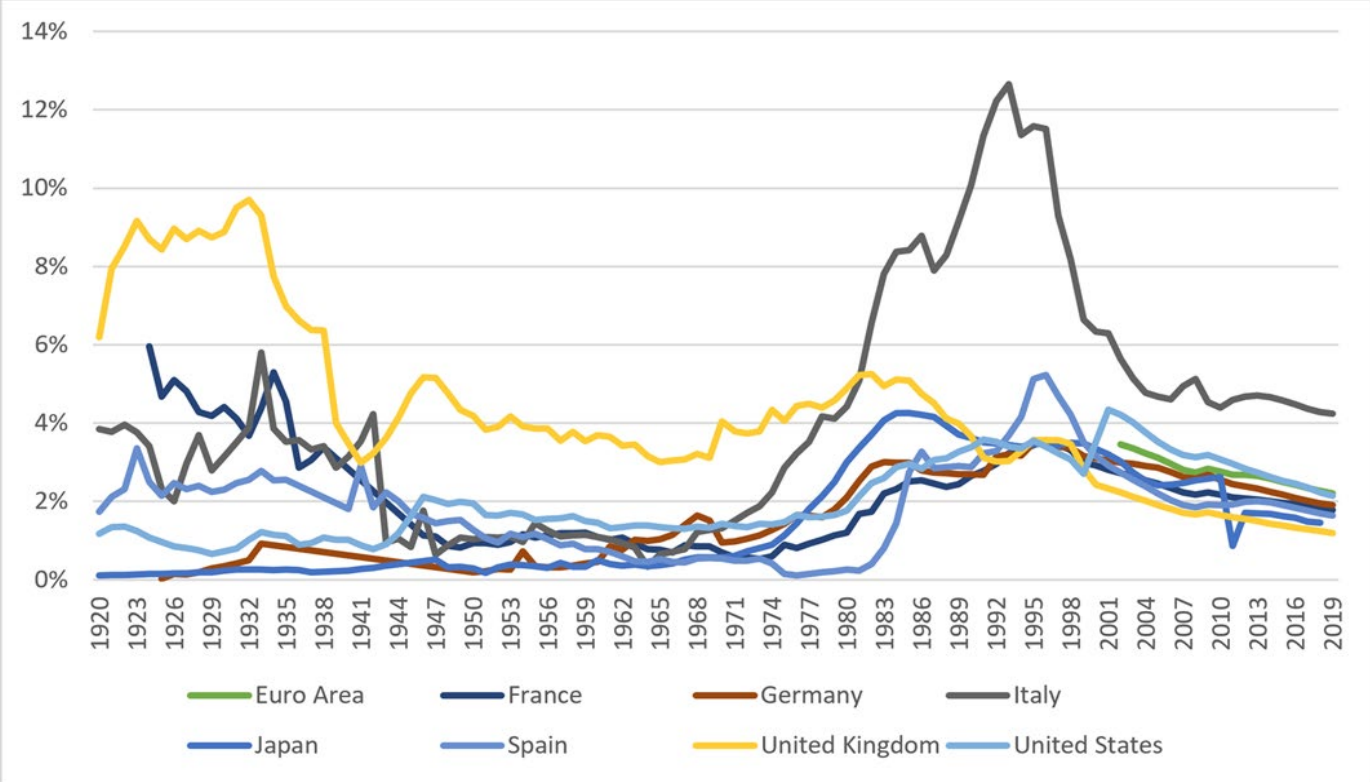
**This formula indicates that, all else being equal, if an economy grows faster than the rate of interest charged on its stock of debt, its debt to GDP ratio will fall, as long as the primary budget deficit is balanced or in surplus.**

This is because the numerator of the ratio, debt, grows more slowly than the denominator, GDP.[1]

Similarly, if *r* is greater than *g*, then the government will need to run a primary budget surplus to prevent debt to GDP from rising; if *r* is less than *g* it can run primary deficits (up to a limit – see the equation) without debt/GDP rising.

Debt service costs in most advanced economies are low relative to GDP, at around 2 per cent and falling, despite high levels of debt – see Figure 2.

**Figure 2. General government debt interest payment, % of GDP**




*Source: IMF, International Financial Statistics; World Bank (Japan)*

[1] The equation is derived from the following relationship, which describes how debt as a proportion of GDP evolves over time: $d_t = (1 + r)\ D_{t-1}/(1 + g)\ Y_{t-1} + b_t$ where $D_t$ is government debt at time t and $Y_t = (1 + g)Y_{t-1}$.
Thus, $d_t - d_{t-1} = \frac{(r-g)}{(1+g)} d_{t-1} + b_t$

# 4. Can low rates be relied upon to continue?

Even before the COVID-19 pandemic, the first two decades of the millennium were marked, in the advanced economies, by a period of weak growth in GDP and productivity. Inflation and nominal interest rates were historically depressed, and so too was the real rate of interest. Near-zero real interest rates indicated an underlying environment in which global desired investment was weak relative to desired savings (Lukasz and Smith, 2015). Global desired saving was boosted by demographic factors such as high earning 'baby boomers' in industrial countries, the opening up of the former Soviet Union and China, where productivity increased as inefficiency fell and underemployed rural workers migrated to more productive cities, the rise in global trade giving access to lower-cost goods, increased female participation in the workforce increasing GDP, and the build-up of foreign reserves in Asia (Bernanke, 2015).

## Surplus desired private saving

**Private sector savers in the advanced economies apparently saw few opportunities for productive investment.** Facing few attractive options for where else to put their money, they were willing to buy government debt even though it paid an ever diminishing rate of interest (Lukasz and Summers, 2019). The collective failure of public borrowing and investment across the major economies to absorb the surplus of global desired saving sent interest rates plummeting. The zero lower bound on interest rates forced monetary policymakers to seek ever more experimental approaches to boost private sector spending.

**All this surplus saving had to find a home, and it was not just public debt paper that was snapped up.** Corporate borrowing expanded rapidly on the back of cheap credit. The global stock of non-financial corporate debt was at record levels of $74 trillion in Q3 2019 (Tiftik et al., 2020). This surplus of credit in turn inflated the price of a portfolio of assets held by the wealthiest (Eggertsson and Mehrotra, 2017), thereby exacerbating inequality,[2] over a period in which earnings growth for the majority stagnated (Sprague, 2017). At the same time cumulative underinvestment in key public services limited productive capacity, through inadequate, unreliable and unsustainable infrastructure. The latter may have been one factor in spawning popular discontent and political polarisation.

## An historic opportunity for investment in assets to raise productivity

**Investors may see only limited returns to investment, but the need for increased public investment across a range of physical, natural and intangible assets now affords an historic opportunity that could be put to good use by governments.** This would not only increase demand and the expectation of growth, thereby boosting private sector investment, but also raise productivity directly.

Productivity and sustainability could be boosted by enabling a rapid transition towards a more digital and automated economy, consistent with the secular trends associated with the 'Fourth Industrial Revolution' (Schwab, 2016). These include facilitating AI, automation, machine learning, big data, the Internet of Things, nanotech and biotech, which have already created significant disruption and opportunity. At the same time, increasing activity and investment now can improve productivity by avoiding post-pandemic 'scarring' that could render countries permanently poorer (DeLong and Summers, 2012). The potential for targeted investment funded by public borrowing to boost productivity and 'crowd in' private investment is why the IMF Fiscal Monitor for October 2020 suggested that an additional $1 in public borrowing, to invest in "job-rich, highly productive, and greener activities", would generate an extra $2.7 of additional output (IMF, 2020).

## The current favourable borrowing environment cannot be guaranteed forever

Indeed, if global government borrowing is successful in restoring growth, debt servicing costs would be expected to rise as real bond yields return gradually towards more normal levels. This may make it

[2] In many countries, this included rises in house prices, benefitting homeowners more than others, and those with more expensive homes.

necessary to issue new public debt and roll over old debt at higher rates. At the same time, the returns to public investment and the positive growth multipliers associated with public borrowing will be lower in a healthy economy operating at capacity. At this point, public borrowing and investment may crowd out private activity (Zenghelis, Manley et al., 2020). This can be read as a symptom of success, and the correct macroeconomic fiscal stance would then be to tighten policy by raising taxes or cutting spending (which would not then have a negative impact on growth).

The time for discretionary fiscal tightening and consolidation is when the motor of the private economy is comfortably running, generating jobs, wages growth and public revenues. **Private investors, and indeed consumers, can plan ahead and invest with more confidence if the criteria for tightening and consolidation are set out in advance; this is what we mean by *predictable flexibility*.**

## Fears over returning inflation

**Fears have been expressed about the return of inflation as post-pandemic capacity constraints butt up against a decade of monetary expansion.** Temporary post-pandemic supply constraints can be expected to cause occasional price spikes as and when the economy reopens for business (Haldane, 2021). Of greater concern is the risk underlying inflationary pressure, caused by rapid broad money supply growth combined with the temptation, by policymakers, to accommodate higher inflation to help erode the real value of public and private debt overhangs. These are genuine risks commensurate with a period of high uncertainty. For example, concern has recently been expressed over the size of the proposed US rescue packages, prompting Larry Summers to comment, "There is a chance that macroeconomic stimulus on a scale closer to World War II levels than normal recession levels will set off inflationary pressures of a kind we have not seen in a generation" (quoted in Miller, 2021).

However, it is important to note that the $1.9 trillion stimulus package put forward by the Biden Administration (the 'American Rescue Plan'), as with furlough schemes in countries such as the UK, is in large measure about rescuing jobs and preventing poverty. This is not a traditional fiscal stimulus. Our emphasis here is on sustained investment (mostly private) over the next few years, indeed the decade, which will have to come from confidence about growth. Obviously, action for both rescue and recovery involves debt, but whereas rescue is intended to prevent collapse, particularly in the context of pandemic policy measures, recovery is intended to drive investment and growth. **Investment in the economy's productive capacity is a prerequisite to securing sustained recovery without inflationary consequences.**[3]

There is the additional risk of a reversal of the excess of desired saving over desired investment, which has helped keep interest rates and inflation low, as consumption and/or investment pick up. Goodhart and Pradhan (2020) argue that the drivers of higher desired saving and low inflation over recent decades are now about to go into reverse. As many of these forces come to an end and as 'baby boomers' move from being the prime saving age cohort to pensioners drawing down their savings, interest rates and taxes may have to rise and inflation pressure may mount. However, these demographic supply constraints can only be overcome by raising productivity rates in output per working person, highlighting the importance of investment.

### Credible policy to meet inflation targets

**Real though these risks are, they will take time to play out and are a long way from the present environment of deficient desired saving.** While rapid inflation is always associated with rapid money supply growth, the latter need not cause the former. Much of the recent surge in the money supply can be put down to the extraordinary fiscal measures to support incomes during the pandemic. This is likely to be temporary. Money is endogenous.[4] If it is matched, or caused, by growth in demand (consumers taking out bank loans or drawing down credit create broad money), it need not be inflationary so long as there remains a surplus of capacity in the economy.

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[3] Summers later followed up with "I would be an enthusiastic supporter of a package of the size the Biden administration has proposed — and even larger — if it focused on build-back-better-style investments." (*Washington Post*, 8 February 2021)

[4] Economist Nicholas Kaldor, on observing the temporary surge in the broad money supply every December, famously remarked: "At last I have discovered the cause of Christmas!" See McLeay et al. (2014).

This will depend on price and wage capacity pressures on resources such as labour, raw materials and other factors of production. The impact of COVID-19 on both demand and supply makes it hard to determine the degree of spare capacity in the economy and the corresponding size of the gap between actual and potential output. Nevertheless, once recovery is underway, underlying resource and labour market pressure on prices and wages are likely to remain weak for some time. Unemployment in advanced economies is likely to stay high for several years as economies restructure, so even if demand picks up rapidly there is likely to be significant economic slack. The recovery plan must be designed to contain inflation by boosting the supply side in both the short and the long run.

In the meantime, so long as central banks retain operational independence, they will still act – and, crucially, be expected to act – to fulfil their mandates of meeting credible inflation targets. **Specifically, monetary policymakers should always be able to rein in any nascent inflationary excess by modestly raising interest rates. Higher indebtedness has increased the sensitivity of the economy to small changes in nominal interest rates, rendering a sharp rise in debt interest costs unnecessary and unlikely.** Underlying inflation risks suggest the need for a tighter monetary policy offset by a looser fiscal package. Some argue that a stock market correction, perhaps triggered by expectations of higher rates, may become a self-regulating mechanism in containing underlying inflationary forces (e.g. Grantham, 2021).

Finally, it is worth noting that **hard-earned anti-inflationary credibility would likely take years of bad policy to dislodge.** This follows secular institutional changes such as the widespread operational independence of central banks, openness to global competition and the decline in the power of organised labour.

# 5. The evidence on fiscal contractions after economic downturns

In the aftermath of the great financial crash of 2008, many economists argued against prematurely aiming to balance public budgets (e.g. Bowen et al., 2009; Zenghelis, 2011). They argued that efforts to attain debt sustainability at the wrong time, through premature fiscal tightening, could undermine productivity growth, suppress economic activity and make public debt sustainability harder to attain in the long run.

## The risks posed by austerity

**The evidence suggests that fiscal austerity is a drag on growth when applied to depressed economies.** The case for 'expansionary contraction' (Alesina and Perotti, 1995), whereby rapid deficit reduction enhances market confidence by addressing growing debt, in order to generate a faster economic recovery, was found to apply only to special circumstances where the credibility of government fiscal frameworks had previously been called into question (Baldacci et al., 2009).

The last decade's experiences of 'austerity' in the UK and many European countries illustrates the risks associated with a drive towards deficit reduction before the productive economy has been shored up. Far from promoting a recovery in productivity, 'austerity' slowed growth in European economies, leaving budgets little improved well into the cyclical recovery. By comparison, the more relaxed fiscal approach adopted in the United States after 2008 helped the economy outperform European rivals over the period, securing a faster reduction in its public debt following the crisis.

In the wake of the 2008 financial crash, Auerbach and Gorodnichenko (2017), found that fiscal stimuli during periods of economic weakness can improve fiscal sustainability. Even in countries with high public debt, the penalty for activist discretionary fiscal policy was found to be small. Another study found that a 1 per cent of GDP fiscal consolidation is estimated to translate to a loss of 4 per cent of real GDP over five years when implemented in a slump (Jordà and Taylor, 2015). Moreover, a deep and prolonged downturn can slow the path of potential output for years to come.

Following the financial crash of 2008, the UK and US experienced parallel growth trajectories until 2010. Thereafter the UK experienced a second slowdown while the US continued to grow. The UK's austerity programme is estimated to account for 3.4 percentage points of the relative divergence in increase of GDP between the two countries up to 2013.

## Shorter-term growth

The difference in experience in the period after the 2009 financial crisis between the US and Europe illustrates that when demand is weak, the route to fiscal responsibility, vital for growth over the medium term, is to pursue growth in the shorter term. Expansionary fiscal policy is likely to be self-financing (DeLong and Summers, 2012) in the presence of spare capacity. At the same time, the disruption caused by a severe shock such as COVID-19 can be used as an opportunity to realign the economy and shift resources from slowly-growing sectors to new, more productive, sectors of the future. These are likely to be innovative, resource-efficient and low-carbon. That will require both the right kind of incentives in relation to new, clean technologies and social support to manage dislocation while avoiding the temptation to keep 'zombie' firms alive.

# 6. From whom should governments borrow?

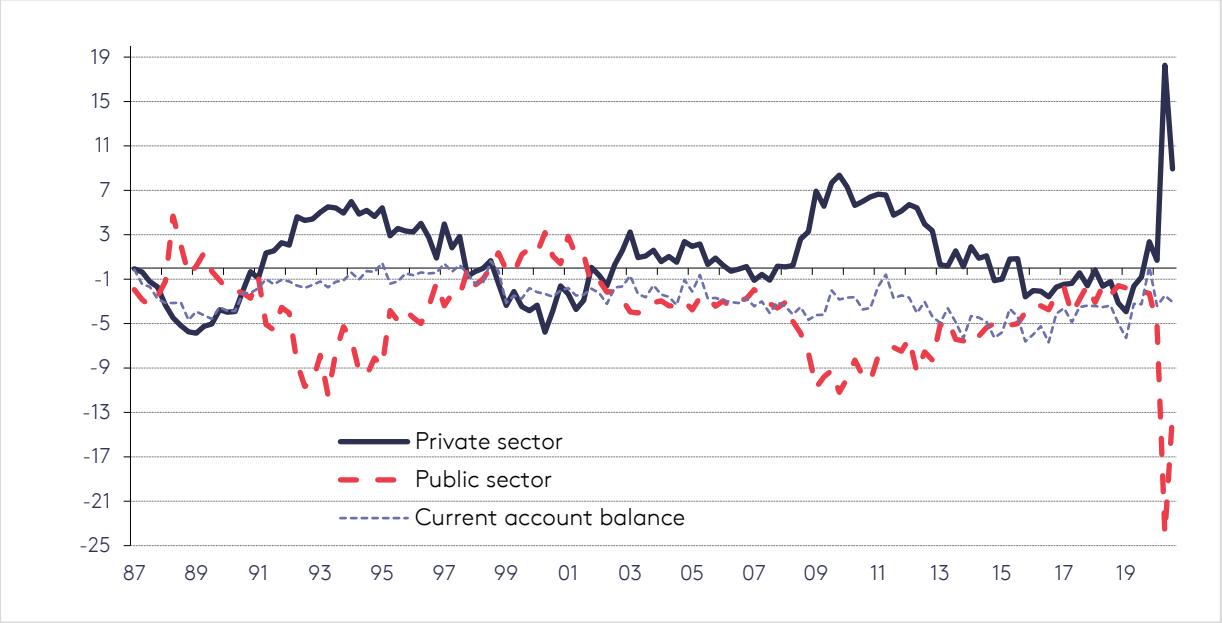
## Domestic financing of debt redistributes domestic wealth

**Long-term economic sustainability also depends on who holds the public sector debt.** Countries incur debt to a range of creditors, including central banks (increasingly), private bond holders, private banks, other countries and multilateral lenders such as the World Bank. Borrowing from abroad increases the tax burden on future citizens who will have to make interest payments abroad. When debt is financed domestically – as is predominantly the case with a global shock affecting every economy, like COVID-19 – it merely redistributes domestic wealth.

**Most importantly, governments are not 'borrowing from the future'.** The rise in public borrowing is matched by an equal and opposite rise in private financial surpluses (Unsworth et al., 2020), and it is those citizens who lend to government who will be repaid.

Figure 3 shows, as an example, UK private financial balances surging into surplus over the pandemic as the public sector deficit expands; a similar picture holds for all advanced economies.

**Figure 3. Sector financial balances (net lending), UK % GDP**




*Source: Office for National Statistics, data to third quarter of 2020*

That we are not borrowing from the future reflects the fact that government bonds are not net wealth. Every debtor/liability has a corresponding lender/asset. With many wealthier households being 'forced' to save during the COVID-19 pandemic (as spending options such as travel, restaurants, entertainment and holidays are closed to them), the household saving ratio shot up to 27.4 per cent in the UK, compared to its normal range of 5–10 per cent, a level seen after the Second World War.[5] The recent rise in public borrowing has been the reciprocal of this rise in saving as the public supports household and corporate incomes. A rise in the sums attributable to both creditors and debtors increases leverage and creates financial vulnerabilities when difficult conditions (such as recession, stock market collapse or high interest rates) jeopardise repayment prospects. Yet so far, the apparent absence of higher risk premiums on interest rates suggests markets are not unduly worried.

[5] Not all households have experienced a rise in saving, especially where incomes and livelihoods have been undermined by the pandemic and the public response to it. This reflects the unequal distributional consequences of COVID-19.

## Public debt owed to central banks in advanced economies

**In most advanced economies, between a quarter and a third of public debt is owed to the publicly-owned central bank** (in the UK, for example, this amounted to around £875 billion as of November 2020; Bank of England, 2020), and this can be rolled over indefinitely as the central bank creates new money (Zenghelis, Manley et al., 2020).[6] Alternatively, the central bank can ease the government's budget constraint by effectively cancelling some or all of the government debt it holds (thereby permanently expanding the monetary base by replacing Treasury paper with zero-coupon irredeemable securities). Jones and Llewellyn (2019) argue that such an option should not be ruled out as a form of fiscal and monetary coordination, provided it is undertaken with strong institutional controls.

[6] When rates are at the zero lower bound the advantages of monetisation diminish. Borrowing extensively via short-term Treasury Bills might actually be cheaper than monetary finance, as the rates on many short-dated T-bills have recently been lower than those paid on commercial bank reserves.

# 7. Economic growth is the key to debt sustainability

## Growing public sector net worth

**Perhaps the most important element determining the sustainability of public debt is the asset purchases it is used to finance.** Fiscal sustainability relies on investing in assets that generate sustainable private and public returns. If public borrowing is used to invest in the productivity of public assets (Buiter et al., 2020), or to enable private assets to become more productive, it can generate growth and tax revenues that allow debt interest to be repaid (Robins et al., 2020). The OECD has begun to measure general government financial wealth (OECD, 2019), but to better understand and measure the impact of policies governments need to go further and adopt a broader balance sheet based approach to measure a more comprehensive range of assets owned by the public sector in order to understand and assess public net worth (Zenghelis, Agarwala et al., 2020).

Fiscal crises can occur at different levels of public debt/GDP ratios, but a common feature is that they follow periods of sustained low growth or high interest rates, or both. There are costs associated with increased public indebtedness, but, as argued in the previous sections, these do not currently outweigh the benefits (Summers, 2019). As with making mortgage payments, low income growth makes debt harder to handle. It undermines the denominator in debt/GDP and chokes off the net fiscal revenues necessary to meet interest payments and pay down debt. History suggests sustained economic growth offers the most secure avenue for bringing the debt/GDP ratio down again (see Figure 5) (Nugée, 2020). By contrast, aiming to balance budgets prematurely, after a traumatic economic shock, is likely to prove self-defeating (ibid.).

**Figure 5. Options for reducing the public debt/GDP ratio**

| | REAL | NOMINAL |
|---|---|---|
| **Reduce numerator** | Austerity<br><br>**Cut spending/raise taxes**<br>• Can impose high cost to the economy and society<br>• Often not effective (because of the denominator effect)<br><br>*E.g. 1920s and UK/EU 2010* | Default<br><br>**Restructure or creditor 'haircut'**<br>• Cost to economic reputation<br>• Increased future borrowing costs<br><br>*E.g. Rare in advanced economies that borrow their own currency* |
| **Increase denominator** | Growing the economy<br><br>**Sustainably raise GDP**<br>• Effective<br>• Positive impact on denominator by raising net public revenues<br>• Positive for the economy and society<br><br>*E.g. UK Post-Napoleonic Wars 19th C; OECD 1950s/60s; mid-1980s–2008?* | Inflation<br><br>• Effective but at economic cost<br>• Hard to restore monetary credibility<br>• Uneven distributional impact on society<br>• Increased future borrowing costs<br><br>*E.g. OECD late-1960s – mid-1980s* |

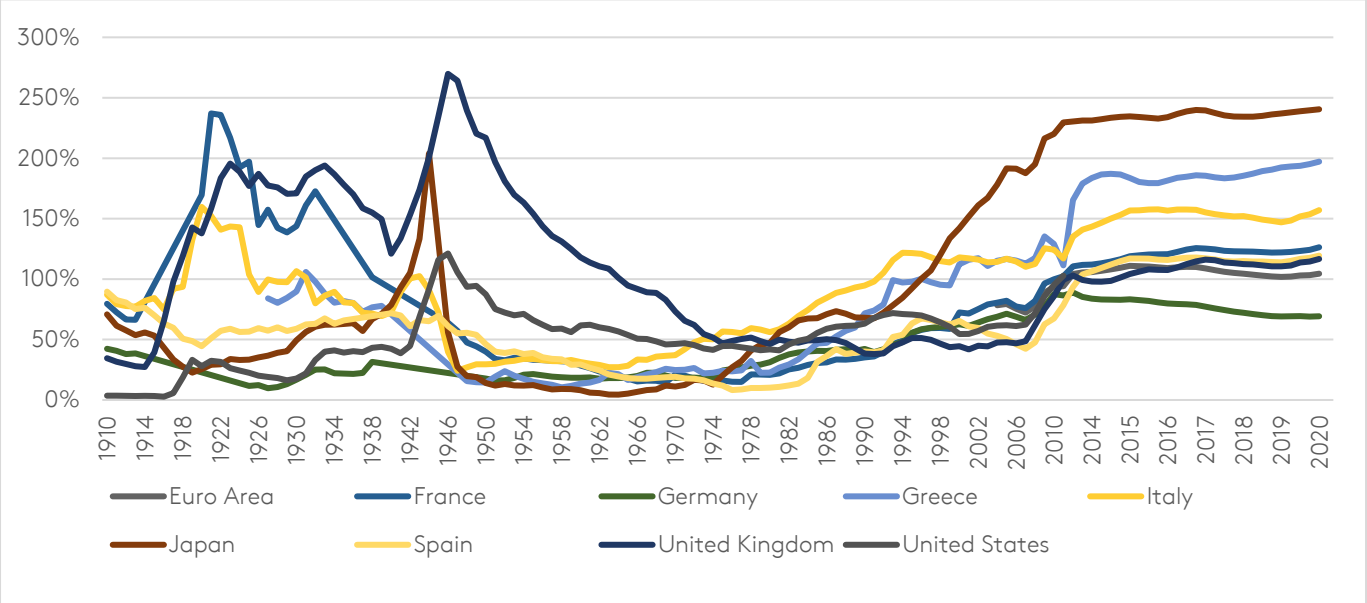
*Notes: There are two ways to improve the debt-to-GDP ratio: reducing the numerator or increasing the denominator. Reductions in the numerator can be costly, imposing harsh austerity that supresses GDP and undermines sustainability, or permanently damaging to credibility. Growing the denominator can take two forms: inflation or real economic growth. Only the latter offers a reliable strategy.*

## Can the debt be controlled?

**Pulling all this together suggests that although a higher public debt to GDP ratio increases vulnerability to economic crises, there is no magic ceiling to the ratio** (Chudik et al., 2018). What matters is whether that debt can be controlled. In 2019 general government debt as a percentage of GDP was 239 per cent in Japan and 115 per cent in the UK, yet debt servicing costs were 1.2 per cent of GDP for both countries. What matters is not the level of public debt to GDP ratio, but the willingness to

hold the debt (and thus servicing costs), which in turn depends on the credibility of government, institutions, and strategies and the quality of the debt in terms of the associated assets generating sustainable investment and growth (Zenghelis, Manley et al., 2020). It is, in particular, the last of these that secures prosperity and provides the foundations for public debt sustainability.

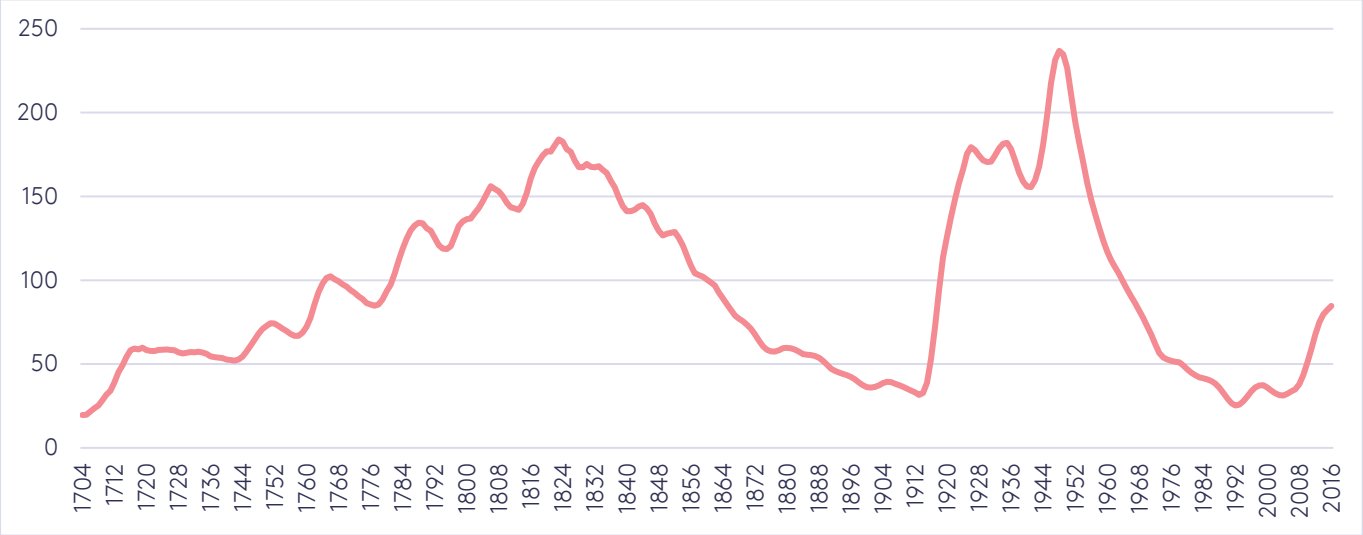
**Figure 6. General government debt, % GDP, 1910–2020**




*Source: IMF, International Financial Statistics*

Debt/GDP levels in the UK have at times since 1700 been much higher than they are currently (Nugée, 2020) (see Figure 7).

**Figure 7. UK Government debt, % GDP, 1700–2016**




*Source: Thomas and Dimsdale (2017)*

A quick return to the 2019 output peak will visually resemble a 'V-shaped' recovery, following the precipitous declines of recent quarters, but output will remain well short of its pre-pandemic trend with notable vulnerabilities as businesses struggle to remain solvent. In a recent paper, Guerrieri et al. (2020) explain how economic shocks associated with the COVID-19 epidemic – shutdowns, layoffs, and firm exits – affect some sectors and not others. This may trigger changes in aggregate demand larger than the initial shocks themselves. To counter this cascade effect, they recommend full insurance payments to workers affected by shutdowns associated with pandemic control restrictions. Even as people celebrate the opportunities associated with greater social interaction, the knock to confidence without targeted public support could be severe.

# 8. Public investment for economic recovery

## A combination of challenges requires a new approach

**Previous perceptions of deficit and debt limits are much less appropriate now than in the past.** This is because the latest crisis features a rare combination of:

- Historically low level of interest rates with embedded expectations that borrowing costs will remain low
- Depressed levels of real activity relative to potential
- Excess private sector savings both before and in the wake of the pandemic
- A cumulative shortfall of infrastructure spending over recent decades
- Decreasing returns to unorthodox monetary policy
- The immense threat of climate change and desire for enhanced resilience to guard against unexpected shocks such as the current pandemic
- Rising income and regional inequalities and popular discontent
- The need to manage rapid change associated with the diffusion of digital technologies
- Difficulties in enhancing productivity.

The challenge is to generate an economic recovery that is not only strong and sustainable, but also one that drives towards the zero-carbon, resource-efficient and climate resilient-economy, as implied by governments' commitments to the Paris Agreement. Of critical importance is the quality as much as the quantity of fiscal support (Hepburn et al., 2020), and the design of the supporting institutions and policy frameworks (Stern et al., 2020).

Building competitive advantage in an increasingly resource- and carbon-constrained world can deliver strong job creation and, ultimately, higher tax receipts to support public sector debt sustainability.

## Macro and micro measures for investors

Private investors require a clear, strong and credible sense of direction from fiscal policy that is 'predictably flexible' for:

1. **The macroeconomic framework,** the stability of which is a prerequisite to drive sustainable investment programmes. This should begin now and be sustained over the decade. Finance ministries should lead this process by setting out plans for fiscal sustainability alongside and driven by growth.
2. **Structural change,** which requires a coherent infrastructure and asset investment programme for the decade. Microeconomic structural policies must be engineered to provide the right micro and behavioural incentives. Examples include the phasing out of the sale of vehicles with internal combustion engines, carbon pricing, building efficiency standards and regulations, insulation retrofitting and public support for R&D. These policies are necessary to generate public and private investment in productive, sustainable and resilient physical, human, social, intangible and natural capital in regions that need it most in order to promote inclusivity and social cohesion (Zenghelis, 2020). This means securing the skills, jobs and ideas necessary for the 21st century economy, while recognising the need to enable those affected by change to participate in the new economy (Robins et al., 2019). To do this requires investment in people through education and training and, in places, including through investment in infrastructure and the activities and technologies of the future. (For example, see the UK Government 10-point plan of November 2020 [Her Majesty's Government, 2020] and the European recovery plan set out in the summer of 2020 [European Commission, 2020].) A strengthening of social safety nets may also be required in some places. Such initiatives can also help to sustain financial market confidence when policy overall is seeking to rebuild the structural capacity of the economy.

**Together these macro and micro measures will set the expectations crucial to guide private investors** (Bowen and Stern, 2010). A mix of direct investment, policies (including pricing, standards and regulations) and institutional reforms can also leverage large amounts of private investment (Stern et al., 2020) by creating confidence about future demand (Rydge and Zenghelis, 2020). Properly managed and implemented (Robins et al., 2020), a package encompassing these organising structures can simultaneously help reduce existing inequalities exacerbated by the COVID-19 pandemic (Aldersgate Group, 2021), and improve economic and social resilience to future shocks (Allan et al., 2020).

## A recovery led by investment, not consumption

In the near term, many sustainable investments do well on key growth-based criteria for stimulus investments (Hepburn et al., 2020): they can be implemented quickly, are labour-intensive and generate high growth multipliers.[7] However, the investment strategy must go beyond short-term recovery and must be targeted towards the next two decades. **A recovery that relies on consumption will boost productivity growth, but not as well as an investment-led one. Moreover, the rationale for public investment is stronger where market failures lead the private sector to under-invest, even once formerly nervous investors have rediscovered their 'animal spirits'.**

## Investment is incentivised by good micro and structural policies

As with good macro policies, micro and structural policies should be predictably flexible. Private capital will fund most of the investment needed to recover after the COVID-19 pandemic, but it will require clarity and credibility from government regarding policies and institutions, to align investor expectations and restore confidence (CBI, 2020). **Failure to mobilise the private sector in this way will increase costs to governments and to consumers.** The National Infrastructure Bank, to be launched in the UK in 2021, is one example of how public action can help manage, share and reduce risk and thus help foster private investment.

## Ambitious international collaboration is essential

**The returns to sustainable investment will be higher, and the policy set more effective, if all of this is implemented in a collaborative way internationally.** The G7 and G20, hosted in 2021 by the UK and Italy, respectively, will provide a golden opportunity for the advanced economies to lead from the front by adopting the global changes necessary to steer a sustainable and resilient global recovery.

There is already a recognition among the biggest economies of the need to act. Janet Yellen, Secretary of the Treasury in the new Biden Administration, recently said, "the smartest thing we can do is act big". The European Commission and individual EU member states, as well the architects of China's 14th Five-Year Plan (Hepburn et al., 2021), are also seeing the same opportunities simultaneously to drive growth and manage future risks, including around climate, biodiversity and pandemics. International organisations such as the IMF and OECD have also advocated a sustained increase in public spending, funded by borrowing. **This is a moment when ambition is less risky than caution, particularly when countries act together,** and now is the right time to do so.

## Securing transparency and market competition

Recovery from the pandemic and the need to steer the economy towards more productive, low-carbon sectors requires public intervention. The need for intervention heightens the importance of transparent regulatory institutions to ensure policy is non-discriminatory, limits rent-seeking in public procurement, and protects consumer interests by promoting competition. Policy must be sufficiently stringent to change behaviour, predictable in order to contain policy risk, yet flexible in evolving in response to changing circumstances while containing compliance costs (Helm, 2010). The incentive and opportunity for vested interests to seek favours from the political system are arguably greater than usual during large recessions, and it will be important to take into account competition-distorting effects of state aid (Vickers, 2008).

[7] Examples include retrofitting of buildings, building out broadband, restoring degraded land and afforestation. There are associated health, environmental and social benefits as well.

# 9. Medium-term fiscal frameworks

Special crises, like the COVID-19 pandemic or major wars, require appropriate, bespoke and scaled-up public responses which often yield step-changes in public debt. Yet beyond such events, governments would be wise to retain a medium-term strategy to contain public debt (Bartsch et al., 2019) and sustain investor confidence. Fiscal policy should aim to become more transparent, predictable and rules based. **'Predictable flexibility' in fiscal policy is necessary to secure the credibility and confidence required to generate private investment.**

### Flexible fiscal rules

One aim might be to prevent fiscal bias, where governments have an underlying incentive to borrow to spend, leaving the bill for future taxpayers. A possibility might be to adopt a rule to balance the current budget over the cycle. This allows policymakers to borrow for structural investment (especially important at times of low private saving and low real interest rates). The authorities would then need to run current surpluses when the economy is operating above trend and needs cooling down, and current deficits when there is a need to stimulate the economy. This would help address many of the macroeconomic imbalances and take pressure off monetary policy as the key source of stabilisation.

However, as noted, the current crisis is of a scale and nature that is extremely rare and cannot be considered part of a 'cycle'. Fiscal frameworks to balance the budget should only be imposed once growth is well bedded in. Even once stability is attained, there should be no rush towards rapid debt reduction at the expense of growth. Portes and Wren-Lewis (2015) argue: "Theory suggests that government should smooth taxes and spending, and adjustments in the level of debt should be gradual. Fiscal rules should therefore relate to deficits rather than debt."

### Balance sheets need measurement and management

As rising debt service burdens are normally the most obvious mechanism by which public sector debt crises develop, the authorities might seek to place a ceiling on debt service costs as a percentage of total government expenditures, or GDP. Account should be taken of the contribution to a country's 'net worth' through investment in public-sector assets like infrastructure, skills and education, which generate future net revenues. Such investment will require broader and more flexible forms of public-sector balance sheet accounting (Buiter et al., 2020; Zenghelis, Agarwala et al., 2020). There is also a growing recognition of the need to expand the revenue base in the medium term, to fund public spending through tax reform, encompassing 'green taxation' of carbon emissions and other environmental externalities.

The objective here is not to determine the appropriate rule for every country at every time; it is to ensure that any medium-term rules designed to impose fiscal discipline are consistent with the sort of investment programme necessary to secure growth in underlying productive capacity.

### Constrained discretion requires transparency

Of course, policymakers can and do find creative ways to circumvent the rules, for example by redefining assumptions about underlying trend growth (which cannot be observed), but policy transparency and independent institutions can help guard against the political economy potential for 'deficit bias'. There is also an important role for central banks in recognising the importance of investment and structural change for employment, stability and growth. Coordination or coherence in this way, between central banks and finance ministries, in the pursuit of sustainable growth is sound economic management; it need not, and should not, undermine the operational independence of the central bank.

Anticipating a cycle and defining trend growth is as much art as science, especially given that some supply shocks are both random and persistent. However, this does not alter the fact that there are clear cyclical elements to the public finances that need to be accounted for. One response might be for policymakers to seek to strengthen the automatic stabilisers (Caldera et al., 2020). As well as standard income and expenditure taxes, cyclical variations in income and unemployment benefit payments,

private investment tax deductions, property taxes, VAT, and transfers to local governments can help offset the impact of cyclical volatility (Jones and Llewellyn, 2019).[8] Being 'automatic', these fiscal responses can reduce the problems of long and variable leads and lags in fiscal activism, while naturally reining in borrowing as recovery gathers momentum.

Fiscal rules should be flexible in the face of constraints on monetary policy, such as when interest rates hit the zero lower bound, requiring additional fiscal and monetary policy coordination. Fiscal and monetary policy will also need to work together to coordinate the appropriate maturity and term structure of public debt that central banks purchase, and also to steer funds towards the growth of productive sectors. This has been made clear recently by both the Chairman of the Federal Reserve in the US, Jerome Powell (Powell, 2020), and the Governor of the Bank of England, Andrew Bailey (House of Lords, 2020). Early post-crisis stimulus programmes notwithstanding, leaving monetary policy to bear the bulk of the burden of supporting global growth was the mistake made after the great financial crash of 2008.

[8] For example, the UK's automatic stabilisers are estimated to have offset roughly 40 per cent of the effects of the 2008 financial crisis.

# 10. Priorities

Specific priorities include:

1. **G7 countries should increase post-pandemic public investment.** In so doing they must recognise the potential economic and social returns to increasing public debt for the purpose of investment, the need to crowd in private activity and the structural investment necessary to transition to a sustainable, inclusive and resilient economy that is competitive in the global markets of the 21st century. This means waiting to pay off the public debt until the economy is undergoing robust growth.

2. **Over the medium term, countries must ensure there are clear and predictable fiscal rules** that allow constrained discretion on policy, while securing long-term sustainability in the public finances. This might include reductions in debt and running public surpluses in good years. Such measures need to be announced alongside recovery plans, as they are essential to secure investor confidence in the sustainability of the public finances.

3. **Countries should commit to invest in R&D and deployment of new technological networks to induce productivity-enhancing innovation.** This should be reinforced through mission-orientated innovation support. Research shows that countries and firms that successfully invest early in clean technologies and capabilities have greater success in diversifying into future clean product markets (Mealy and Hepburn, 2017).

4. **Public investment and infrastructure banks, operating with clear sustainability mandates, will play a crucial role in reducing, sharing and managing risk (not least policy risk) and thereby encouraging private investment.** Countries should take forward strategic planning for investment in zero-carbon and resilient infrastructure networks. A longer-term integrated strategy is preferable to a rush to adopt a shopping list of the most 'shovel-ready' investments. For example, complementary infrastructure investment requires investing in smart electricity grids, 5G, broadband and transport facilities such as rail and ports.

There are many investments and innovations that can be pursued now to drive the economy out of the recession, build a strong recovery, and generate an innovative, productive and more attractive and equitable form of growth. This is the basis on which to best utilise and stabilise the public finances.

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