The return of big government spending: Will this time be really different?

Since the start of the pandemic the US has launched fiscal packages worth USD 5.3 trillion (25.5% of GDP). With new fiscal plans in the pipeline the total stimulus could even exceed USD 9 trillion (or 40% of 2020 GDP). Although the success of this bold US experiment is far from certain, it has started a new trend in fiscal policies. As low interest rates have depressed governments’ interest bills many observers advocate to make greater use of deficit spending for funding a public investment campaign. As low interest rates have seemingly shifted the lines of debt sustainability, they see fiscal expansion – not consolidation – as key to ensure public debt sustainability.

Given weak growth prospects, restoring debt sustainability seems a Herculean task for high debt countries. But even some “fiscally prudent” countries like Germany face severe fiscal challenges due to rapid population ageing. To be able to deal with these challenges, governments do need to channel more fiscal resources into high productivity spending areas as well as pursue essential structural reforms to keep social spending dynamics under control and strengthen people’s incentives to work more and longer. If spent wisely, investment-driven deficits could be indeed conducive to debt sustainability for moderately indebted countries – allowing them to grow out of debt by boosting productivity/economic growth.

By now, record high debt has only remained manageable because of the structural decline in interest rates and de facto debt monetisation by central banks. As a result, major central banks have become dominant players in sovereign bond markets as they hold between 20% of up to 45% of outstanding public debt on their balance sheets. This “low interest rate/high public debt” equilibrium is fragile, as it crucially hinges on a continuation of low inflation. Should inflation rise more strongly and central banks not react, it could ultimately spiral out of control. If they slam the brakes, rising interest rates and bond spreads could lead to major budget crises, triggering painful downturns over the fiscal adjustment process.

Inspired by the new US fiscal regime to go big, the German election campaign is witnessing an overdribbling competition with regard to public investment. Still, the current zeitgeist of seeing large-scale deficit financed investment as deus ex machina for all of societies’ problems is shortsighted. This is not to argue against higher investment in areas of need (e.g. digitalisation) as they offer productivity opportunities. Still, we reckon that these demand-side policies will only work out if they go along with improved supply conditions. They need to be gradual and balanced. Otherwise, with the demographic challenges being just around the corner, we are risking to repeat the mistakes of the 1970’s, which led to stagflation.
A. Introduction

The COVID-19 pandemic was not only a major health crisis but also caused the deepest global recession in post-war history. As governments around the world have opened the fiscal floodgates in order to shield their economies and limit the fall in output, fiscal deficits and government debt ratios soared to new peace time highs in many major economies. While debt sustainability immediately became a problem in many low income developing countries (with already high debt levels and low additional fiscal space), most major emerging markets economies were able to embark on an expansionary fiscal path. Advanced economies, where most government are believed to have still plenty of fiscal space to react to the crisis, have had no major difficulties in funding an unprecedented fiscal expansion at exceptionally favourable interest rates (including large-scale financial aid to affected companies and employees) (see Figure 1). The continuation of ultra expansionary policies – characterised by surging central bank balance sheets – have played a crucial role in stabilising sentiment and ensuring stable funding conditions (see Figures 2 and 3).

Though bold fiscal reaction was arguably inevitable, the trend towards ever higher fiscal deficits and public debt levels has now become an even larger concern. Indeed, fiscal deficits and government debt ratios have become ever larger crisis after crisis and the fiscal situation seems to be clearly unsustainable in many high debt economies. Moreover, given the fact that fiscal buffers have been largely depleted during the current crisis – and acknowledging that the distance from one to the next crisis has become ever smaller – sovereigns seem to have no other option than to consolidate public finances and restore fiscal sustainability after the pandemic has been overcome. In light of weak medium/long-term growth prospects, restoring public debt sustainability seems a Herculean task for high debt countries.

The evident fiscal problems and challenges in many economies (like the US, Japan or many euro area countries) have led to an active debate about the appropriate fiscal policy stance to ensure economic stability and fiscal sustainability in a world of low interest rates and ageing societies. While the first has kept the interest burden bearable for now for most countries, the latter is projected to drive public spending considerably higher over the next decade as labour input and growth are set slow and ageing-related spending will rise. Therefore, we ask ourselves whether (a) the rise in public debt – if not reduced in the aftermath of the pandemic – will at one point become too much of a burden for sovereigns and their economies, resulting in fiscal crisis, or (b) if the rise in public debt is just a transition towards a “new normal” of high, though still manageable debt (thanks to low interest rates and debt absorbing expansionary monetary policies).

The structure of the paper is as follows. In the next chapter, we take stock of the recent rise in global public debt before we discuss, in the third section, the costs and benefits of debt (or the “use” and “misuse” of deficit spending). To undergird the discussion (that is often based on camp thinking), we put a brief summary of prevailing public debt theories in the appendix. In the fourth chapter, we recap the theoretical concept of public debt sustainability and review the empirical evidence from academic research. In the fifth chapter, we assess the implications from low interest rates and ageing societies on public debt sustainability. Finally, we conclude and give recommendations for a path towards more sustainable public finances, which would be in our opinion pivotal to making the global economy more stable and growth friendly.
B. A historical perspective on the current debt rise

The COVID-19 pandemic has not only led to a major health crisis but also caused the deepest global recession in post war history. In 2020, world GDP (in real terms) collapsed by 3.3% much more than during the global financial recession in 2009 (see Figure 4). Given the depth and the breadth of the crisis (global, pan-sectoral, demand/supply side), public debt levels have been surging around the globe as both cyclically driven revenue shortfalls/extra spending (automatic stabilisers) as well as large scale fiscal rescue/stimulus packages (discretionary response) led to soaring government budget deficits.

Sovereigns have opened the fiscal floodgates in response to the pandemic

The IMF estimates in its latest Fiscal Monitor (as of April 2021) that total fiscal support around the globe has risen to nearly USD 16 trillion (values since January 2020), which accounts for a stunning 19% of world GDP in 2020. This fiscal support comprises around USD 9.9 trillion (11.7% of GDP) in additional spending and/or foregone revenue as well as USD 6.1 trillion (7.2% of GDP) in liquidity support (e.g. for public equity injections, loans, asset purchases, debt assumptions, and/or state guarantees) (see Figure 7).

The by far largest impetus from additional spending/foregone revenue is coming from the group of G20 advanced economies (G20 AE) (USD 8.5 trillion or 14.6% of GDP), clearly led by the US (USD 5.3 trillion or 25 ½% of GDP) and followed by the UK (16.2% of GDP), Australia (16.1% of GDP) and Japan (15.9% of GDP) (see Figure 7). Given the new US administration’s proposals to push forward with a sizeable infrastructure investment programme (roughly USD 2 tr) and an American families plan (c. USD 1.8 tr), the cumulative fiscal stimulus could rise further in the US, possibly exceeding USD 9 tr or more than 40% of 2020 GDP. In the emerging markets sphere (as gauged by the group of G20 emerging market economies; G20 EM), the respective budget response (i.e. excluding liquidity support) was still pronounced, though considerably smaller than in advanced countries (USD 1.1 trillion or 4.4% of GDP). Within this group, Brazil (8.8% of GDP), South Africa (5.9% of GDP) and China (4.8% of GDP) took the boldest fiscal steps.

Figure 7: Fiscal measures in response to the COVID-19 pandemic*

* since January 2020
Source : IMF Fiscal Monitor (April 2021), IMF WEO, Deutsche Bank Research
Amid the above mentioned fiscal response, the total government budget deficit for the world soared to 10.8% of world GDP by the end of 2020, sharply up from around 3 ½% of GDP in 2019 and considerably higher than the levels that had been observed during the global financial crisis in 2009 (see Figure 6). At the same time, global public debt spiked to nearly 100% of world GDP, sharply up from a pre-pandemic level of around 85% and roughly 33 percentage points above the 2000-07 average debt ratio. Moreover, the IMF projects global public debt to remain broadly unchanged until 2026 (see Figure 5). On average, both fiscal deficits and government debt levels have become ever larger from crisis to crisis – despite the rapid decline of interest rates and falling government debt payments over the past decade (see e.g. Figures 5 and 6). These fiscal/debt snowballing dynamics were particularly pronounced in the advanced world, where the average (GDP-weighted) fiscal deficit soared to nearly 12% of GDP in 2020.

Sovereign debt soaring to peace-time highs in many countries
As a result, the public debt ratio of advanced economies spiked to 122.7% of GDP by the end of 2020, marking an increase of more than 50 percentage points of GDP from its 2000-07 average of around 70% of GDP.

Source: IMF Historical Public Debt Database, IMF WEO

Grey shadows highlight war periods or episodes of economic crises.

Figure 8: G20: Public debt in advanced and emerging economies (1800-2026)

Figure 9: US: Government debt ratio is set to reach new all-time highs in 2021

Grey shadows highlight war periods or episodes of economic crises.

Source: IMF Public Finance in Modern History Database, IMF WEO

Figure 10: DE: Debt ratio still below 2012 level, interest payments near all-time low

Grey shadows highlight war periods or episodes of economic crises.

Source: IMF Public Finance in Modern History Database, IMF WEO
A look at the IMF’s Historical Public Debt and Public Finances in Modern History databases (compiled by the World Economic Outlook database) shows that public-debt-to-GDP ratios have on average reached peace-time record highs in mature economies as e.g. gauged by the average debt figure for the group of G20 advanced economies (AE) (see Figure 8). Actually, the G20 AE debt ratio has even surpassed the level that was observed after the end of the World War II (1945: 116% of GDP) (see Figure 8).

Within the group of G7 economies, which are still accounting for roughly 45% of world GDP and almost two thirds for outstanding global government debt, Japan’s (third largest economy in the world) gross debt ratio has climbed to a historic high of more than 250% of GDP (see Figure 11). At the same time, public debt ratios are already very close to or just about to rise above their all-time highs in the US (largest economy) (see Figure 9) and Italy (third largest economy in the euro area) (see Figure 11). Even in Germany – the stereotype of an economic orthodox and fiscally prudent country – government debt has come closer again to its all-time high of around 82% of GDP (2010), which had been achieved in the aftermath of the global financial crisis (see Figure 10).

Manifold reasons for the drastic debt rise since the 1970s
The steady rise in public debt ratios that has occurred over the past 50 years or so has manifold reasons, which vary greatly from country to country. Generally, it has been the result of (a) an asymmetric use of countercyclical fiscal policies (“overall economic management” inspired by Keynesian economics) (see Figure 17), (b) slowing global growth e.g. due to falling total factor productivity (TFP) growth (“innovation stagnation”) and/or structural demand weakness (“secular stagnation”) (see Figures 13 and 14), (c) rising social spending in ageing societies (e.g. for pensions, health and long-term care) (see Figures 15 and 16) as well as (d) fiscal costs triggered by repetitive global and/or country-specific extraordinary events and crises (e.g. German reunification in 1990, bursting of technology bubble in the early 2000s, global financial crisis in 2008-09, current COVID-19 pandemic).

In OECD economies, both gross and net public debt (average, measured relative to GDP) have steadily edged higher since the 1970s. While gross debt only averaged around 40% of GDP in the 1970s, it increased to an average of more than 50% and
nearly 70% of GDP in the 1980s and 1990s, respectively. Between the late 2000s and the early 2010s public debt levels spiked by more than 30 pp of GDP due to the fiscal fallout from the global financial crisis before soaring by another 17 pp as a result of the COVID-19 pandemic (see Figure 18).

As a matter of fact, OECD governments were (on average) not able or unwilling to achieve balanced budgets or fiscal surpluses during economic boom periods (reflected by a positive output gap). As a result of this asymmetric use of fiscal policies (widening structural deficits during recessions, narrowing but still persisting structural deficits during economic boom periods) the gross-public-debt-to-GDP ratio has more than tripled over the past 40 years or so (see Figure 18).

Luckily, at least from the perspective of indebted governments, interest payments have fallen drastically over past decades, thus keeping the annual debt interest burden still bearable for most governments (see Figures 11, 12, 19, and 20).

C. The costs and benefits of public debt

The “use” and “misuse” of government deficit spending

Generally, fiscal deficits and public debt are a priori neither good nor bad. Instead, they can be a useful policy tool to (a) stabilise the economy during downturns via the operating of automatic stabilisers (cyclically driven fiscal deficits) and/or through the implementation of discretionary fiscal measures (structural deficits), (b) to smooth taxation in order to minimise distortions from taxation (“tax smoothing”) and (c) to distribute income among generations, e.g. when funding a large infrastructure project from which future generations will also benefit (“intergenerational distribution”) or dividing the fiscal costs of exceptional events (e.g. German reunification) for more see for example Staatsverschuldung wirksam begrenzen by the German Economic Council of Experts).

The debate among economists and even more so in the world of politics is very often based on camp thinking. Broadly speaking, the debate is about the role of the public sector to generate growth/income during normal economic times and hence the sovereigns’ (central bank, government) general influence in the economy. Of course, most economists support current extraordinary policies by central banks.

Figure 18: Public debt over the economic cycle in OECD countries

Figure 19: Government interest payments

Figure 20: … have decreased noticeably

Figure 21: Credit borrowing ratios over time
and governments to stabilise aggregate demand and help limit the fall in potential GDP (avoid negative “hysteresis effects”). But the new fiscal debate is whether governments should embark on policies aiming to curtail the deficit and debt levels once the crisis is over or whether they should maintain / expand their active role to foster higher trend growth and other policy targets.

The orthodox view: Use public debt cautiously as it leads to crowding out of private investment

Orthodox economists – inspired by neoclassic theory and ordoliberalism (see explanations on the economic theories on public debt in the appendix) – argue that expansionary demand-side policies need to be revoked as soon as possible as they are otherwise leading to long-term costs and risks to economic stability (such as global liquidity glut and asset price bubbles and/or higher consumer price inflation). This neoclassical economic view is based on the belief that a good economic framework suffices to achieve the new (Pareto-optimal) equilibrium. The focus should thus be on well-designed supply-side economic conditions (deregulation, reduction of bureaucracy, tax and spending cuts, fiscal prudence) which are the ultimate prerequisites for innovation, higher potential GDP growth and a stable macro economy.

In the orthodox view, fiscal deficits and higher public debt are not to be excluded per se but should be used only prudently, for instance to let automatic fiscal stabilisers work smoothly during downturns (temporary increase in indebtedness which is to be redeemed again in subsequent upturns). Permanent (or “structural”) debt should be strictly limited, if at all to e.g. to the financing of public net fixed capital formation (gross fixed capital formation minus depreciation/consumption of fixed assets). In this case, it could be reasonable to let future generations contribute to the funding as they will also benefit from the economic gains of additional net investments (such as a modernised and extended infrastructure, including faster internet or better roads, schools or hospitals or a cleaner environment).

Furthermore, in neoclassic theory, rising public debt ultimately leads either to crowding out of (domestic) private investment (due to a rise in interest rate), lower future GDP and income (due to a shrinking private capital stock), and/or higher external interest payments and hence falling future national income (if deficits are financed through external debt). Therefore, consumptive spending such as for social benefits (e.g. for pensions, health care, etc.) should be generally funded out of current government revenues (social contributions, tax revenues) but not by tapping credit markets. As such, orthodox economist fear that the structural government debt built up over the past decade, which was largely the result of consumptive spending – and not potential growth boosting investment spending – (compare Figures 15 and 16 with Figures 24, 25, and 26), will be an economic and fiscal burden for future generations.

The debt apologists’ view: More debt boosts economic growth and is thus largely self-financing

Keynesians or more progressive “debt advocates” argue for much more expansionary fiscal policies even after the crisis as they will be needed to achieve a higher GDP level and full employment. Overall, these proponents have very strong beliefs in the strengths and capability of the government to manage economic outcomes. In their view, a return to lower fiscal deficits – attacked as “fiscal austerity” – is just leading to unnecessary costs as it is damaging economic prospects. Moreover, fiscal consolidation would either involve high social costs
and/or in the worst case lead to the exact opposite outcome, where restrictive fiscal policies do not result into lower deficits and declining debt because of a weakening economy ("paradox of thrift"). Consequently, additional fiscal deficit spending would be largely if not all self-financing due to higher GDP, income and tax revenue and/or lower public expenditures for unemployment benefits. Still, there a couple of country cases such as Japan or Italy, where loose fiscal policies and elevated public debt did not lead to higher but rather slower growth (as suggested in neoclassic theory) – although we do, of course, miss the counterfactual evidence (see Figures 27 and 28). This is not to argue that debt cannot be positive for potential growth but to stress that a lot depends on what the money is spent for. In this context, it is worth noting that the government’s net investment spending has been falling in most major economies over the past 40 to 50 years and can hardly explain the drastic rise in debt levels (see Figure 26).

**Fiscal policy during the COVID-19 pandemic: Bold reaction inevitable …**

Undeniably, during the current COVID-19 crisis, governments had no other choice than running debt financed fiscal policies to curb the economic shock as the absence of bold fiscal policy action would have very likely led to a vicious circle of economic depression and an even larger fiscal shock. However, economic reform fatigue in the pre-pandemic era coupled with generally loose fiscal policies – as e.g. reflected in a gradual deterioration of the structural primary balance (see Figure 33) – is taking vengeance now in many major economies. It appears that the structural increase in public debt was not so much caused by public investments or spending on education (which are commonly viewed as boosting potential growth) but rather rising social spending (e.g. pensions, health care) (see Figures 15 and 16). Moreover, GDP per capita growth was overall not structurally higher in major high debt countries compared to low debt countries, arguing against the debt apologists’ view (see Figures 27 and 28).

That being said, it was instead much lower in the cases of Japan or Italy. Certainly, the growth weakness in these two countries is not solely driven by a high public debt burden but the case of Japan (with aggressive fiscal policies; “Abenomics”) shows that more public spending cannot permanently/structurally boost growth even in a low-interest-rate environment where crowding out (of private investment) should be generally much less of a problem compared to a high-interest-rate world. Given the deep-rooted COVID-19 crisis and weak medium/long-term growth prospects, restoring public debt sustainability seems a Herculean task in fiscally weak countries (chronic pre-pandemic budget deficits and high debt stock).

**… but the legacies of the past are taking vengeance now**

But even those economies whose governments are widely viewed as being “fiscally prudent” and that are believed to have plenty of “fiscal space” (characterised by modest pre-pandemic budget deficits or even surpluses and manageable debt levels) will face severe challenges to ensure medium-/long-term fiscal sustainability because of rapid population ageing. Credibility could become an issue as most governments were not able to achieve balanced budgets in the “golden” pre-pandemic years (see Figure 34) characterised by robust growth, booming labour markets and an ever falling sovereign interest bill. Indeed, advanced economies have never achieved a balanced budget on average for the past 30 years (see Figure 6).

**Debt monetisation by CBs may help today but implies substantial risks**

Today, record high public debt has only remained manageable because of the structural decline in interest rates (see Figure 29) as well as an inauspicious alliance
between monetary and fiscal policies, where central banks have de facto (not de jure) monetised rising chunks of public debt (see Figures 30 and 31). As major central banks like the Fed, the ECB, BoJ and BoE are effectively operating at the limits of monetary policy by pursuing ultra expansionary monetary policies for many years now (thus unavoidably creating considerable risks to medium/long-term price stability), most governments find themselves still able to finance their large budget deficits and maturing debt at historically low (or even negative) yields (see Figures 1 and 29). Although these monetary policies are stabilising public finances and the economies in the short term, they reduce the incentives for sovereigns to shift towards fiscal consolidation in the medium term and therefore imply significant medium to long-term risks.

Figure 33: Fiscal accounts have weakened considerably in structural terms

Figure 34: Pre-pandemic fiscal balance (2012-19)

This is because the debt interest burden has still remained bearable for high debt countries (e.g. Japan or Italy) or even declined considerably for highly rated sovereigns (e.g. Germany) (see Figure 12). Overall, public balance sheets of sovereigns have massively benefited from the fall in interest rates since 2007. We try to quantify the benefits from falling interest rates by calculating the interest payments that would have materialised if implied interest rates on government debt had stayed constant during the period 2008-20 at their 2007 levels (hypothetical interest payments). The difference between these (higher) hypothetical and (lower) actual interest costs determine the interest rate relief due to falling interest rates.

Based on fiscal and debt data from Eurostat/AMECO, we reckon that the cumulative interest relief for the period 2008-20 amounts to around 35% of GDP for the US, roughly 25% of GDP for France, the UK and Italy and somewhat below 20% of GDP for the Netherlands and Germany (see Figure 35). That being said, interest payments on government debt and hence headline fiscal deficits would be much higher today if interest rates stayed steady at their higher 2007 levels. For example, in the case of Germany interest payments would have been around 2.6 percentage points higher in 2020 (i.e. at roughly 3.2% of GDP instead of just 0.7% of GDP) if rates had not declined (see Figure 36). As a result, Germany’s fiscal deficit would have reached 6.8% of GDP in 2020 instead of the actual 4.2% of GDP (see Figure 38). While this is clearly just a mechanical exercise, it still highlights that public debt ratios would be even much higher in most countries than they are already now if interest rates did not decline (see Figure 37).
Sovereign asset purchases by central banks are stabilising today …

Overall, it appears that most governments did not take the opportunity of low interest rates to consolidate their public finances – hinting that falling interest rates and interest payments (despite higher debt) could have weakened the incentives to make public finances more sustainable. Moreover, large-scale QE and public asset purchase programs by central banks involve moral hazard risks at the government level as they rely on the central banks’ willingness to keep financing conditions cheap and guarantee the stability of public finances as lenders of last resort. By the end of 2020, the BoJ already purchased government debt securities totalling nearly 100% of the Japanese GDP, while the BoE’s, the ECB’s and the Fed’s government debt holdings amounted to around 34%, 27% and 21% of GDP, respectively (see Figure 30). As a result, central banks have become dominant players in sovereign bond markets as they keep between 20% of up to nearly 45% of outstanding government debt on their balance sheets (see Figure 31).

… but bear significant medium/long term risks such as fiscal dominance

The longer this “monetary-fiscal alliance” persists the more likely will public finance matters ultimately dominate monetary policy (“fiscal dominance”). Should inflation rates – which major central banks view as being too low from a structural perspective – start to rise permanently, central banks would have to manage a delicate balancing act of curtailting inflation (expectations) on the one hand and still providing enough support to highly indebted governments to avoid recession, rising default risk premiums/bond spreads and a major budget crisis.

Another negative side effect from the continuous rise in public debt and the use of financial repression to finance it (e.g. by giving incentive to banks to hold government debt) is that it is hindering a dissolution of the potentially damaging sovereign banking nexus. In other words: Should sovereigns face greater fiscal problems in the future (e.g. driven by an unexpected loss of investor sentiment that pushes risk premia suddenly higher), the ultimate holders of government bonds – i.e. to a large degree banks – would face financial difficulties, too. This could in the worst case lead to a twin bank/sovereign debt crisis. In an DB Research analysis we find that total sovereign exposure of banks in the euro area currently amounts to EUR 2.9 tr (9% of total assets) and conclude that there is need for reform - given the current surge in debt (see What to do with home sovereign exposure?).

Figure 35: Governments have benefitted considerably …

Figure 36: … from the low interest rate environment

Figure 31: Major central banks have become dominant players in sovereign bond markets

Figure 32: Core consumer price inflation in major economies

Figure 37: Debt dampening effect thanks to low interest rate environment

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**Figure 35:** Cumulative interest relief* (% 2020 GDP)

**Figure 36:** Interest relief for budget year 2020 (% GDP)

**Figure 31:** Government debt purchased by central banks, % outstanding government debt

**Figure 32:** CPI excluding energy and food, % yoy

**Figure 37:** Debt dampening effect

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* Cumulative difference between the actual and hypothetical interest payments of the general government over the period 2008-20. Source: Eurostat, AMECO, Deutsche Bank Research

** Difference between actual interest payments on public debt and hypothetical interest payments. Source: Eurostat, AMECO, Deutsche Bank Research


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*G4: GDP-weighted number for the US, JP, the EA4 and the UK

Source: Haver Analytics, Deutsche Bank Research

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* Thanks to lower interest rate environment. Corresponds to the cumulative interest relief shown in Figure 35.

Source: Eurostat, AMECO, Deutsche Bank Research
D. The concept of sovereign debt sustainability

Theoretical aspects of public debt sustainability
The intertemporal budget constraint

Generally, based on traditional economic thinking, the sovereign comprising the treasury and the central bank has to fulfill the so-called intertemporal budget constraint. This constraint essentially states that the sovereign cannot spend more than it taxes. While the government can obviously cover large fiscal deficits during periods/episodes of economic stress (temporary indebtedness) by issuing new debt, it has to ultimately return to a balanced budget path where all current and future primary surpluses are sufficiently large enough (measured in present value terms) to cover for the prevailing current debt stock (i.e. outstanding financial obligations).

This intertemporal budget constraint becomes relevant in a world where the interest rate is higher than the economic growth rate (positive interest rate differential - abbreviated by i-g differential). If a government were to ignore this constraint, the public-debt-to-GDP ratio – which is one of the key metrics to assess debt sustainability – would eventually spiral out of control. In other words, public debt would become unsustainable as an increasing debt stock and widening deficits (due to the so-called “snowball effect of public debt”) would need to be endlessly financed by the government’s creditors.

Rational investors would incorporate sovereign insolvency risks into their decisions. Hence, at a certain tipping point they would either become less willing to roll-over maturing debt and fund new deficits and/or claim higher sovereign spreads to compensate for the increase in the government’s default risk. In the worst case, unsustainable fiscal policies would result either into (a) sovereign debt default/restructuring (empirically, this is a common outcome if unsustainable fiscal policies are financed by foreign-currency borrowing), (b) financial repression to keep financing/funding conditions (interest costs) manageable/stable and/or (c) accept/enforce higher inflation to decrease the real value of public debt (options b and c are rather the result if debt is mainly contracted in domestic currency and the central bank can act as a lender of last resort for the government, i.e. can monetise public debt).

Solvency and liquidity: Two sides of the same coin
As long as a government is viewed to be solvent by creditors (i.e. able to generate sufficiently large primary surpluses in the future to pay down its debt), it can safely service its debt as investors are willing to roll over maturing debt as well as to fund any new fiscal deficits (i.e. cover the government’s gross financing need, which is the sum of both). Given large existing gross financing needs, many advanced economies depend on a high investor trust into their sovereign creditworthiness (see Figure 43).

Although liquidity and solvency are two different concepts, they are closely related. If a sovereign is perceived to be solvent, it is usually also liquid as it can fund any budget hole by tapping credit markets. Vice versa, if creditors start questioning a sovereign’s solvency, they may require a higher interest rate (risk premium) to compensate for a higher default risk. If the risk premium and hence the interest rate paid on new public debt spikes to prohibitively high levels (as for instance during the Greek sovereign debt crisis in 2010), the government will suddenly become both...
illiquid and insolvent as creditors will stop lending (liquidity crunch) and the debt burden will become unbearable (insolvency). Of course, a high debt burden with a low average maturity (i.e. a significant share of outstanding debt that has to be rolled over each year) involves greater liquidity risks than a small debt stock that is financed at long maturities (see Figures 39, 43, and 44).

A primer on debt dynamics: Growing out of debt, debt deflation and fiscal consolidation

The debt-to-GDP path depends on the initial debt ratio and the current/future primary surpluses/deficits (government revenue minus non-interest expenditures), on the one hand, and on the nominal (average or implied) interest rate paid on outstanding government debt, the real GDP growth and the inflation rate (i.e. the GDP deflator), on the other hand. While higher GDP growth or inflation tends to lower the debt ratio, everything else equal (“growing out of debt”, “debt deflation” or “debt de-monetisation”), higher interest rates drive the debt ratio upwards through rising interest payments (interest snowball effect) – which also needs to be financed by new debt issues if the government has a primary deficit.

In the case of a positive interest rate/GDP growth rate i-g differential, a sovereign would need to achieve a primary surplus (financial surplus before gross interest payments) to prevent a given debt ratio to rise. In the case of a zero i-g differential, the debt path is solely determined by the primary balance (upwards for primary deficits, downwards for primary surpluses). Finally, in the case of a negative i-g differential (which e.g. the IMF projects for most advanced economies over the period 2021-26; see Figure 42), the debt-to-GDP ratio can still remain stable or fall even if the government runs primary deficits – provided they are not overly large (see Figures 39, 40, and 42) (note: the more negative the i-g differential and the higher the initial debt ratio, the larger is the debt stabilising primary deficit). As mentioned above, debt dynamics depend on a set of macro indicators as well as governments’ fiscal stance, which the government can both influence either indirectly (e.g. growth, interest rate) or directly (structural fiscal balance) (see Figure 41) via its economic/fiscal policy choices.

That being said, all indicators in the above mentioned equation are interdependent. For instance, active fiscal consolidation by a highly indebted government, which helps to lower interest rates (by increasing investor confidence and thus decreasing risk premiums for perceived default risk) could lead to crowding in of private investment and hence boost the country’s economic growth potential. Higher growth (growing out), lower interest rates (beneficial snowball effect) and active consolidation (improvement in the structural primary balance) would altogether help to lower the debt ratio.

Hence, the initial effect (consolidation) could create positive indirect effects. In addition to active fiscal policies, growth-friendly economic policies (sound competitive market conditions, absence of market distortions) are at least equally important in ensuring debt sustainability as stronger growth leads to rising tax revenue (e.g. due to higher wages, corporate profits), falling government spending (e.g. for unemployment benefits) and thus a lower fiscal deficit. The other way round, a country that chronically spends too much for non-growth-enhancing spending items and runs persistent fiscal deficits will likely see its risk premium rise at one point in time. Higher interest rates (due to rising bond spreads) ultimately lead to crowding out of private investment (i.e. a falling capital stock) and hence lower the country’s GDP growth potential, which in turn adversely affects revenue and spending. At a certain point – when debt becomes unsustainable – active fiscal

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**Figure 41: Projected structural fiscal balance (2026 vs. 2021)**

*Source: IMF Fiscal Monitor (April 2021)*

**Figure 42: Projected interest rate/growth rate differential* (2021-26)**

*Source: IMF Fiscal Monitor (April 2021)*

**Figure 43: Projected gross financing needs (2021)**

*Source: IMF WEO, IMF Fiscal Monitor (April 2021), Deutsche Bank Research*
consolidation would hardly help to restore sovereign debt sustainability as the necessary degree of consolidation would be so large that it depresses domestic demand and growth ("paradox of thrift"), which in turn cancels out or outweighs any active fiscal consolidation efforts ("debt overhang").

The unknowns: Fiscal space and the debt tipping point
In a very simplified way, a country’s public debt path can be viewed as unsustainable if the fiscal policy stance leads to a permanent rise of the public-debt-to-GDP ratio under plausible macro assumptions (for GDP growth, interest and inflation rates). Vice versa, debt dynamics are sustainable if the debt ratio ultimately stabilises over the medium-/long term (or even trends lower). Still, a country’s debt path – though strongly upwards – can be still viewed as sustainable if e.g. initial debt ratio is low and/or they have an outstanding debt service track record and hence investors trust that the sovereign will ultimately make the required fiscal adjustments at the right time before the debt stock is becoming too large and macro conditions turn sour.

In economic theory, there is no hard threshold or tipping point below which the government debt ratio can be still regarded as safe (sustainable) and above which it becomes dangerous (unsustainable) without fail. As long as a sovereign can roll over its debt and finance any new fiscal deficits, it can service its debt – no matter if the debt is high and keeps rising. In other words, public debt sustainability is ensured as long as investors’ confidence in the creditworthiness of the sovereign is strong enough to keep on lending (at affordable, i.e. not prohibitively high interest rates).

Debt sustainability: More than just fiscal deficits and government debt
Obviously, debt sustainability does not only depend on a country’s fiscal/debt metrics – such as the fiscal balance, interest payments and the debt stock – which are obviously the most intuitive measures for assessing a sovereign’s fiscal position/capacity (i.e. its ability to service its debt). It also depends on the size, the potential and the stability of the economy (as GDP is the ultimate basis for taxation) as well as on the quality of institutions (such as rule of law or government effectiveness). Furthermore, a government’s “fiscal scope” (room for additional borrowing at affordable interest rates) is inherently determined by the status of its home currency in world markets and subsequently by the structure of outstanding public debt (e.g. currency denomination, investor base, maturity profile).

Generally speaking, countries with a large and stable economy and a home currency that is regarded as a world reserve currency (such as the US dollar, the euro or the Japanese yen) enjoy a considerably higher fiscal space compared to governments that are operating in small/volatile economies and need to borrow mainly from abroad (from non-residents) and/or in foreign currencies (involving depreciation risk) and/or at short maturities (increasing interest rate and refinancing risks). Therefore, for instance Japan – which almost exclusively borrows at home (see Figure 45) (and in its own currency) – can still manage a debt burden of higher than 250% of GDP, while some emerging or developing countries are already running into deep financial problems or are even forced to default at much lower debt levels.

The budget constraint revisited: A country’s currency status and central banks as guarantors of fiscal stability
Most economists agree that emerging markets suffering from “original sin” (inability to issue local currency debt in international markets) or “debt intolerance”
(linked to a country’s default/inflation history) have to meet the budget constraint as they can be pushed into sovereign default because of a substantial amount of foreign-currency debt and the economy’s restricted potential to generate hard currency through exports. Still, there is a controversial debate on whether or not this budget constraint is similarly binding for major advanced economies that are mainly (or exclusively) relying on domestic currency debt.

Clearly, the currency status of a country does matter considerably for a government’s fiscal space and hence the size of fiscal deficits and government debt it can still handle without difficulty. The best example is the US which can currently still easily finance record-high deficits despite already high government debt. The high trust of investors into US government debt is first of all related to the US dollar’s overarching importance in world capital markets as well as the perception of the US as a safe haven economy. As can be seen in Figure 51, the US sovereign debt market is by far the most important bond market. Hence, despite the current fiscal deterioration, domestic and international investors have remained willing to buy more US government debt at very affordable interest rates (see Figures 29 and 46).

Another, although different example is Japan, where the government can almost exclusively rely on the very large and deep domestic capital market to finance its high deficits as well as maturing debt stock at still very low interest rates (see Figures 29 and 43), though the BoJ’s expansionary monetary policy stance (including large-scale QE) (see Figures 30 and 31) has guaranteed favourable sovereign financing/funding conditions.

In recent years, many Keynes-inspired or progressive economists have started to question the validity of the intertemporal budget constraint amid the permanent decline in global interest rates and sovereign bond yields to historical lows or even negative values. This is because the intertemporal budget constraint only applies if interest rate are higher than growth (i.e. if the rise in debt interest costs would exceed the increase in tax revenues) and therefore the government would ultimately have to redeem its debt. Still, progressive economists would argue that a government has never to pay down its financial obligations as investors will roll over maturing debt and/or the central bank can still purchase government bonds.

Given the fact that sovereign bond yields are today at or close to historical lows, governments can keep debt ratios under control despite large deficits. Moreover, in some highly rated countries (like Germany) sovereign bond yields are even negative over large parts of the term structure (see Figures 52 and 53), implying that the German government has essentially no fiscal costs when issuing new debt. In the case of negative bond yields, it is even to the contrary: At the moment, raising Germany’s federal debt level actually leads to fiscal gains with regard to federal government securities with maturities of up to 15 years (see Figure 53). These fiscal gains result from the fact that the federal government is issuing debt above par, which will be redeemed at the (lower) nominal face value at the expiration date.

For now, the decline in interest rates has seemingly shifted the lines of debt sustainability for highly rated sovereigns as their interest bill has continuously declined despite rising debt. In other words, the low interest rate environment seems to have increased the debt tolerance of sovereigns (i.e. their fiscal space), opening a window of opportunity to fund profitable public investment projects by issuing long-term debt at practically low (or even negative) fiscal costs. So why should you be fiscally prudent if you can earn money by running larger deficits? Let us turn to empirics.
Empirical aspects: The dark side of high and rising debt

As already said, there is no theoretical argument that identifies one particular number above which public debt becomes dangerously high to push sovereigns into debt default or restructuring. Indeed, history has shown that, on the one hand, sovereigns can manage very high debt ratios for quite a long time without default (either because strong growth, high inflation and/or financial repression which keep the debt burden bearable), and, on the other hand, that they can end up in sovereign default/restructuring already at relatively low debt ratios.

A prominent example for the first case is the UK, which did not default even in years with a very high government debt ratio of more than 250% of GDP, e.g. between 1819 and 1822 in the aftermath of the Napoleonic Wars as well as in 1947/48 subsequent to World War II (see Figure 54). Indeed, the UK has neither defaulted nor rescheduled its government debt since 1800 (see This time is different: A panoramic view of eight centuries of financial crisis by Carmen M. Reinhart and Kenneth S. Rogoff). In both situations, the UK successfully reduced its debt ratio considerably, down to levels of around or even below 50% of GDP – certainly aided by an uninterrupted period of comparatively strong economic growth and high inflation during the post-war periods (see Figure 56).

Contrary to the UK, many emerging markets have defaulted several times over the past centuries. Very often, sovereign defaults or restructurings took place at relatively low debt ratios. This has mostly to do with a lower “debt tolerance” of these countries and the overreliance on a comparatively risky debt structure (high share of external and foreign currency debt, short average maturity of debt) which leaves these sovereigns vulnerable to sudden changes in investor sentiment and financial market turmoil. The Argentinian government (which repeatedly defaulted in recent history) had a debt-to-GDP ratio of below 50 prior to its default in late 2001 (see Figure 57). In the case of Argentina, one key problem was the overreliance on foreign-currency denominated debt, which became ultimately unbearable (definitely so after devaluation, which pushed the foreign-currency and hence the overall government debt ratio sharply upwards) (see Figure 58).
Figure 55: Empirical evidence on the correlation between economic growth and public debt

Annual growth and inflation rates (%) at given public debt ratios* (as a percentage of GDP)

<table>
<thead>
<tr>
<th>Advanced economies</th>
<th>Peroid</th>
<th>Growth at a public debt ratio of:</th>
<th>Emerging market economies</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;30%</td>
<td>30-60%</td>
<td>60-90%</td>
<td>&gt;90%</td>
</tr>
<tr>
<td>Australia</td>
<td>1902-2009</td>
<td>3.1</td>
<td>4.1</td>
<td>2.3</td>
</tr>
<tr>
<td>Austria</td>
<td>1880-2009</td>
<td>4.3</td>
<td>3.0</td>
<td>2.3</td>
</tr>
<tr>
<td>Belgium</td>
<td>1835-2009</td>
<td>3.0</td>
<td>2.6</td>
<td>2.1</td>
</tr>
<tr>
<td>Canada</td>
<td>1925-2009</td>
<td>2.0</td>
<td>4.5</td>
<td>3.0</td>
</tr>
<tr>
<td>Denmark</td>
<td>1880-2009</td>
<td>3.1</td>
<td>1.7</td>
<td>2.4</td>
</tr>
<tr>
<td>Finland</td>
<td>1913-2009</td>
<td>3.2</td>
<td>3.0</td>
<td>4.3</td>
</tr>
<tr>
<td>France</td>
<td>1880-2009</td>
<td>4.9</td>
<td>2.7</td>
<td>2.8</td>
</tr>
<tr>
<td>Germany</td>
<td>1880-2009</td>
<td>3.6</td>
<td>0.9</td>
<td></td>
</tr>
<tr>
<td>Greece</td>
<td>1884-2009</td>
<td>4.0</td>
<td>0.3</td>
<td>4.8</td>
</tr>
<tr>
<td>Ireland</td>
<td>1949-2009</td>
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<td>4.5</td>
<td>4.0</td>
</tr>
<tr>
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<td>1880-2009</td>
<td>5.4</td>
<td>4.9</td>
<td>1.9</td>
</tr>
<tr>
<td>Japan</td>
<td>1885-2009</td>
<td>4.9</td>
<td>3.7</td>
<td>3.9</td>
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<tr>
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<td>1880-2009</td>
<td>4.0</td>
<td>2.8</td>
<td>2.4</td>
</tr>
<tr>
<td>New Zealand</td>
<td>1932-2009</td>
<td>2.5</td>
<td>2.9</td>
<td>3.9</td>
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<tr>
<td>Norway</td>
<td>1880-2009</td>
<td>2.9</td>
<td>4.4</td>
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<tr>
<td>Portugal</td>
<td>1851-2009</td>
<td>4.8</td>
<td>2.5</td>
<td>1.4</td>
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<tr>
<td>Spain</td>
<td>1850-2009</td>
<td>1.6</td>
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<td>Sweden</td>
<td>1880-2009</td>
<td>2.9</td>
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<td>2.7</td>
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<tr>
<td>United Kingdom</td>
<td>1830-2009</td>
<td>2.5</td>
<td>2.2</td>
<td>2.1</td>
</tr>
<tr>
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<td>1790-2009</td>
<td>4.0</td>
<td>3.4</td>
<td>3.3</td>
</tr>
<tr>
<td></td>
<td>Average growth</td>
<td>1790-2009</td>
<td>3.7</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>Median growth</td>
<td>1790-2009</td>
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<td>3.1</td>
</tr>
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<td>Average growth</td>
<td>1946-2009</td>
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<td></td>
<td>Median growth</td>
<td>1946-2009</td>
<td>4.2</td>
<td>3.0</td>
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<tr>
<td></td>
<td>Average inflation</td>
<td>1946-2009</td>
<td>6.4</td>
<td>6.3</td>
</tr>
<tr>
<td></td>
<td>Median inflation</td>
<td>1946-2009</td>
<td>5.2</td>
<td>3.7</td>
</tr>
</tbody>
</table>

*Central (federal) government debt

In many major advanced economies, sovereign default is much less of a concern (compared to emerging and developing economies), as they can generally borrow in their own home currency. While for instance the US or the UK governments can ultimately rely on their central banks operating as a lender of last resort (in case of need), the picture is somewhat different for euro area governments. First of all, this has to do with the fact that euro area sovereigns do not issue in their domestic currencies (they only issue in a common currency where the exchange rate to their home currency is fixed). Secondly, their national central banks cannot "print" money independently (only the ECB and the central banks as part of the euro system can do so). Both facts point to the need of well established fiscal rules within a currency union where the budget right and responsibility are kept at the national government level.

When high debt starts to weigh on growth: The RR controversy

Another (potential) side effect from large public debt is high consumer price inflation and/or weak (real) economic growth. The theoretical foundations are built on neoclassical economic thinking where large public debt can boost inflation (e.g. if monetised by the central bank) and/or lead to crowding out of private investment, lower private capital stock and thus lower potential growth (if sovereign borrowing drives interest rates higher). Given high and rising public debt levels around the globe – and repeated sovereign debt crises not only in emerging markets but also in advanced economies (as e.g. the euro sovereign debt crisis in 2009-14) – an

Figure 56: UK: Debt ratio vs. interest burden

* 5-year moving forward average
Source: IMF Public Finance in Modern History Database, IMF WEO
important but highly controversial research field has been the question about the (empirical) link between a country’s public debt ratio and its economic growth rate. Various academic research studies found that high public debt is indeed correlated with slower economic growth.

For example, Carmen M. Reinhart and Kenneth S. Rogoff (RR) confirmed such a negative government debt/GDP growth correlation for both advanced and emerging market economies (see e.g. *Growth in a Time of Debt* or *Public Debt Overhangs: Advanced-Economy Episodes since 1800*). Specifically, they found that high public debt levels (of above 90% of GDP) were often associated with significantly lower growth rates (see their results for a wide set of countries in Figure 55). Still, correlation is not causality and the link could be also the other way round: Not high debt might drive down GDP growth (due to crowding out) but slow economic growth could cause higher debt (due to lower tax revenue, higher unemployment benefits). Hence, the RR argument became heavily challenged in the academic community (see e.g. *Does High Public Debt Persistently Stifle Economic Growth? A Critique of Reinhart and Rogoff* by Thomas Herndon, Michael Ash, and Robert Pollin). Still, other authors came to similar findings: For example, Cristina Checherita and Philipp Rother found for a sample of 12 euro area economies (over a period of about 40 years starting in 1970) there is “a non-linear impact of debt on growth with a turning point—beyond which the government debt-to-GDP ratio has a deleterious impact on long-term growth—at about 90-100% of GDP” (see their ECB working paper).

Incontrovertibly, it remains very difficult to empirically prove such a negative debt-growth causality and, moreover, it is practically impossible to calculate a universal debt threshold as economics is no natural science. Still, the above empirical findings (as well as the experience from past sovereign debt crises) in combination with economic theory indicate that overly high public debt can lead to deep economic problems. A comprehensive overview of the academic studies on the debt-growth topic is given in *Debt and Growth: A Decade of Studies* by Veronique de Rugy and Jack Salmon.

When more debt boosts growth: All eyes on spending and the multiplier

Certainly, deficit spending and hence rising public debt can also be positive for economic growth over the short term when for example used for countercyclical policies during severe economic crises (Keynesian fiscal policy). This can not only help limit the duration and depth of a recession but also mitigate potential adverse long-term effects on a country’s economic potential ("hysteresis effects"). Moreover, if spent for growth-enhancing budget purposes, fiscal deficits and rising public debt could at best boost a country’s (long/medium-term) growth potential.

In the case of Germany, the economists Heike Belitz et al. at the German Institute for Economic Research (DIW Berlin) found in a recent study (Öffentliche Investitionen als Triebkraft privatwirtschaftlicher Investitionstätigkeit) that rising public investment could be indeed highly positive for economic growth – in particular during economic downturns and in times of low interest rates. Therefore, thanks to a significant spending multiplier, public investment programmes could be largely self-financing (i.e. deficit-spending would not necessarily lead to a much higher public debt-to-GDP ratio). That being said, government spending on future investments (public investment, spending on education, research and development, etc.) is assessed to be particularly positive for growth. Specifically, these investments are believed to have a large multiplier of around 1.6 implying that...
every additional euro of public investment can raise overall GDP by 1.6 euros (see also a short summary of the study’s key findings in the Federal Ministry of Finance’s Monthly Bulletin for April 2021).

Theory and empirics: Plenty of signs that overly high debt is a danger
Still, there are many theoretical arguments and empirical findings why high public debt can become dangerous for the economy and detrimental to growth. A review of the effects of high public debt on the economy as well as the existing literature is e.g. given in an IMF working paper on Public Debt and Growth by Manmohan S. Kumar and Jaejoon Woo.

To sum up, adverse economic effects from high public debt can be stemming from (a) higher long-term interest rates (crowding out of private capital), (b) distortions caused by a higher tax burden, (c) rising inflation (empirically, this is clearly the case for many high debt emerging markets; see Figure 55), (d) banking and financial crises (caused by sovereign debt crises), which can reinforce the above adverse effects, (e) a reduced fiscal scope to pursue countercyclical fiscal policies during economic crises leading to higher macroeconomic volatility.

At the end of the day, whether a further rise in public debt is beneficial for the economy or not, ultimately depends on the initial debt level and the corresponding tax burden to finance it (the higher a further debt rise, the more dangerous it becomes) as well as on the fact for which spending items the additional borrowing is used for (debt-financed investment spending is generally less problematic than deficit-financed public consumption spending).

E. Fiscal policy in times of low interest rates and ageing
In the land of plenty: When interest rates are lower than GDP growth
Amid the low interest rate environment and very affordable financing conditions for many major advanced economies, the debate on the appropriate role of economic and fiscal policies in overcoming the current low-growth/interest rate environment has regained attention. Especially as the new US administration’s decisive policy move to stimulate the economy by another USD 1.9 bn fiscal package seems to provide a role model for a paradigm shift in many other industrial countries.

The temptation: When high debt does not hurt due to low interest rates
The argument of the Keynesian and more progressive economists is simple: as long as government bond yields remain close to their current lows (or even keep falling further), debt interest payments remain manageable (or continue to trend lower) despite high and further rising public debt. Indeed, the European Commission projects the average (implied) interest rate on public debt to continue falling in 2021/22 (see Figure 63), implying that gross interest payments are set to decline further both in absolute EUR terms as well as in relation to GDP or government revenues/expenditures (see Figure 62). Therefore, large primary/fiscal deficits and the pronounced rise in public debt (see Figures 60 and 59) are projected to have no adverse effect on EA governments’ interest bill.

That being said, the i-g differential – a key metric that determines a country’s debt-to-GDP ratio dynamics – is expected to stay significantly negative until 2031, according to the underlying projections int the EC’s Debt Sustainability Monitor 2020 (as of February 2021) (see Figure 65). Note: in 2020 the i-g differential was only positive due to recession and the temporary drop in nominal GDP.
Similarly, the IMF projects in its latest Fiscal Monitor (as of April 2021) that the i-g differential will stay largely negative for most major economies until at least 2026 (see Figure 42). Therefore, public-debt-to-GDP ratios of most countries should stabilise (or start falling) again once their primary deficits (fiscal deficits before interest payments) are readjusted to pre-pandemic levels.

Figure 66: DE: Interest payments by government level

Gross interest payments (% GDP)

91 95 99 03 07 11 15 19

Source: Federal Statistical Office, Deutsche Bank Research

In theory, if the i-g differential remained persistently negative, expansionary fiscal policies and rising public debt would lead to no or only insignificant fiscal costs (see for example an influential paper Public Debt: Fiscal and Welfare Costs in a Time of Low Interest Rates by Olivier Blanchard). Also, welfare costs – e.g. due to a crowding out of private investment because of a deficit-spending-driven rise in interest rates – would be rather low because of investors’ excess demand for sovereign bonds and a low sensitivity of interest rates to higher public sector borrowing.

Ponzi games in the context of a negative interest rate/growth differential

In this case, a government could successfully play a so-called “Ponzi game” of borrowing endlessly in capital markets to cover everlasting deficits and maturing government debt (normally, it can’t!). In such an environment, public debt dynamics were sustainable simply because national income (GDP) and government revenues (tax income) would grow sufficiently faster than the outstanding public debt stock and associated interest payments.

Moreover, current generations would clearly benefit from such a Ponzi game as deficit spending would enable the government to e.g. extend social benefit payments (pensions, unemployment, etc.), conduct more public investment (infrastructure, green/digital technology) and/or reduce the tax burden (leading to higher net incomes). But future generations were also better off as they would never (or barely) have to pay for these extra debts but at the same time enjoy a better and modernised public infrastructure.

In an opinion piece in the FAZ, Moritz Schularick and Jens Südekum argue that (higher) government debt will not necessarily be a burden on future generations. While the authors judge deficit-financed consumption to be a bad idea, they warn that the existing debt brake rules might prevent necessary public investments and hence lead to a missing of future economic opportunities – which would be a burden on future generations, albeit not due to higher public debt.
Amid the prospects that interest rates could stay very low for a prolonged time, many economists and politicians postulate to make greater use of debt-financed fiscal policies – in particular when it comes to the financing of growth-enhancing public investment projects into digitalisation, decarbonisation and infrastructure.

For example, Robert Habeck, co-chairman of the German Green Party, and Reiner Hoffmann, president of the DGB - German Trade Union Confederation, propose in an opinion piece in the FAZ to lengthen the redemption period under the federal debt brake for the pandemic-related excessive borrowings as well as to reform the European Stability and Growth Pact as well as the German federal debt brake. Specifically, the authors postulate to complement the existing German federal debt brake with another rule that allows for more public investment.

Moreover, debt proponents often argue that debt sustainability risks (e.g. due to a subsequent rise in interest rates, slowing growth due to adverse demographics or more cautious investors) could be mitigated by simply extending the average maturity of public debt (e.g. by issuing longer term bonds of up to 30 years or more). This point is obviously true, though there are also limits to such a borrowing strategy as the government has to provide bond supply along the whole spectrum of the maturity curve (and not just at the very long end) and demand for long-running bonds (usually by insurers) is limited.

Some other economists go even one step farther. On the basis of capital market theory, they postulate that higher public debt is arguably needed to raise the (scarcely available) supply of low-risk sovereign debt. This would lead to a rise in interest rates and solve the lower-zero-bound (LZB) problem in monetary policy. At the same time growing public debt (more “safe” assets) would help satisfy the excess saving demand for safe assets in an ageing society (see for instance Der Vorsorge-Albtraum and Public Debt Requirements in a Regime of Price Stability by Carl Christian Weizsäcker). Still, we reckon that the value of these “pension assets” is only as good as the creditworthiness of the underlying sovereign.

Fiscal space and sustainability: Are low interest rates a game changer? Jason Furman and Lawrence Summers argue in a current note that fiscal space might be less constrained in today’s low interest rate environment as deficit spending could actually improve fiscal sustainability by increasing GDP more than it increases government debt and interest payments (see their paper A Reconsideration of Fiscal Policy in the Era of Low Interest rates). Moreover, they conclude that “while the future is unknowable and the precise reasons for the decline in real interest rates are not entirely clear, declining real rates reflect structural changes in the economy that require changes in thinking about fiscal policy and macroeconomic policy more generally”.

Practically, they question the current validity of the orthodox view about the dangers of high public debt and fiscal deficits. In their view, crowding out (of private investment) is nowadays much less of a concern than it was in the past given the global phenomenon of unused capacities as well as very low interest rates and capital costs. Given a) the limits of monetary policies to stimulate economic growth and full employment in the current zero-lower-bound (ZLB) world and b) the dangers that the very low interest rates could lead to excessive leverage and hence financial instability, they demand that fiscal policy should start foster economic growth and financial stability.
In their view, additional fiscal expansion helps to raise growth and interest rates and hence mitigates financial stability risks. This conclusion could be obviously challenged by a) pointing to the (empirical) negative correlation between the debt-to-GDP ratio and GDP growth and b) noting the fact that higher government debt could aggravate financial stability risks as the banking system usually funds a great portion of it. That being said, the sovereign banking nexus is already perceived to be a big problem in many (European) economies. Larger fiscal deficits and rising public debt would likely lead to even higher sovereign debt holdings by the banking system – thus intensifying the sovereign banking nexus. Already by now, many European banking systems hold large chunks of government debt (see Figure 47).

Is the debt-to-GDP ratio still a useful fiscal sustainability metric?

Finally, Furman and Summers go as far as saying that the government-debt-to-GDP ratio – a key debt sustainability metric – is a misleading indicator for assessing a country’s fiscal position as it does not capture the increase in the present value of GDP as well as the fall in debt service costs due to declining real interest rates. That being said, the debt-to-GDP ratio is misleading because it puts a stock variable (the debt level at a given point in time – usually year-end) into perspective of a flow variable (a country’s GDP achieved over a certain period of time – usually one year) (see for instance the interview with Jason Furman “I don’t love Schuldenquote” at the German institute for macro finance DezernatZukunft). Furman and Summers note that the debt-to-GDP ratio has three shortcomings that make it an inappropriate indicator for fiscal analysis. Firstly, it ignores the fact that no sovereign will realistically (have to) pay off all of its outstanding debt in one single year but instead can redeem it over time. Secondly, it ignores interest rates (and hence the cost of debt). And thirdly, it is a backward-looking indicator.

Therefore, the authors find that it would be more meaningful to assess debt sustainability either on the grounds of a flow-flow metric – such as the interest-payment-to-GDP ratio – or a stock-stock metric – such as the ratio of debt to the present value of GDP (where the present value of GDP is the sum of today’s annual as well as prospective years’ GDP to be achieved over the infinite horizon). For the first metric, Furman and Summers suggest to consider the ratio of real debt service to GDP (interest payments minus the portion of debt which is inflated away; relative to GDP).

Based on historical experience in developed markets, they propose a new guidepost for the limits of fiscal policies: Public finances could be deemed as sustainable as long as real interest payments to GDP will comfortably stay below the 2%-threshold over the next decade. Still, Furman acknowledges that this metric is basically backward looking (as is the case of the debt-to-GDP ratio) and might be volatile over time (unlike the debt-to-GDP ratio) due to fluctuations in interest rates. Moreover, like the debt-to-GDP ratio the (real) interest-payments-to-GDP ratio does not tell anything about a country’s future fiscal path (and hence the sovereign’s ability or inability to sustain underlying fiscal policies) as it is a point-in-time indicator.

The second stock-stock metric (the ratio of the prevailing explicit debt to the present value of GDP) is an inadequate fiscal metric in our view as it might be incomplete in many countries. Although it is true that lower interest rates – current and prospective – raise the present value of today’s GDP (as future value added is discounted at a lower interest rate) and hence decrease the debt burden in a stock-stock perspective, it also true that they tend to increase the present value of the sovereign’s implicit debt. For instance, these prospective liabilities could be...
stemming from uncovered promises in the public pay-as-you-go pension system (for more see also our later discussion on public debt sustainability in the context of population ageing).

While low interest rates clearly offer a window for opportunity for funding public investment at affordable rates, they are not necessarily a game changer to public debt sustainability – particularly not in rapidly ageing societies where a projected widening of age-related primary deficits implies large implicit liabilities. In practical terms, the effects from low interest rate on fiscal sustainability will crucially depend on the fact for which spending purposes any fiscal deficits and rising debt are incurred for. From a growing out of debt narrative, public investment spending would be less problematic than social spending. But even in the case of more public investments, a lot will effectively depend a) on the actual rate of return of these investments (many might have a large multiplier, though not necessarily all of them) and b) on the government’s ability to effectively channel more fiscal resources into high productivity/growth-enhancing investment projects (see also our later discussion on nonfinancial hurdles for pent-up investment).

The debt-to-GDP ratio is only one …

Overall – and hence in line with conventional debt sustainability analysis – it is of course not just today’s debt-to-GDP or interest-payments-to-GDP ratio that matters for debt sustainability. That being said, the concept of debt sustainability is not static and one-dimensional but rather dynamic and multi-dimensional. Essentially, it is about a sovereign’s ability or inability to fulfill the intertemporal budget constraint (see previous chapter). In a very simplified way a government’s fiscal policy could be interpreted as being as sustainable when a) the debt-to-GDP and interest-payments-to-GDP ratios will not spiral out of control and b) thus, investors keep on trusting in the sovereign’s ability and willingness to safely service its debts. With this in mind, the future debt/interest trajectory depends on a) a wide set of macroeconomic indicators on the one hand (like the potential GDP growth rate or the trajectory of interest and inflation rates), b) the underlying fiscal stance (as e.g. captured by the structural primary balance) and c) the prevailing public debt structure (characterised by the average maturity, the share of foreign-currency denominated debt or the reliance on foreign investors), and d) last and not least, the initial public debt stock. All of the above (interrelated) indicators effectively determine the future evolution of the debt-to-GDP as well as the interest-payments-to-GDP ratio (up, down, stable). Despite low interest rates the debt-to-GDP ratio has still its validity in any debt sustainability analysis for the following reasons.

... but still a quite important piece in the overall debt sustainability puzzle

Firstly, the interest-bearing debt stock ultimately matters for interest payments (it is the face value on which the price of debt applies to – i.e. on which the interest rate is due on). Although low and falling interest rates can reduce the amount of interest payments, abrupt changes to the interest rate environment (e.g. fuelled by higher actual and/or expected inflation) could lead to a sharply rising interest burden if the debt stock is sufficiently high.

Secondly, a high and further rising debt stock – everything else equal – increases liquidity risks for the sovereign. Although a favourable maturity profile (e.g. a significant share of government debt financed at low rates for a long maturity) can mitigate near-term roll-over risks for high debt countries, they cannot eliminate them. In fact, they only push them out into the future: Even long-term debt must be repaid (or at least refinanced again) at one point in the future. Moreover, if the
prevailing debt stock is already very high, the amount of maturing debt (and hence overall rollover needs) will be still very large despite a relatively long average maturity (see for instance the case of Japan in Figures 43 and 44). Therefore, the larger the existing debt stock (ceteris paribus) the higher the associated debt rollover risks – no matter if interest rates are high or low.

Moreover, high debt and hence underlying refinancing needs (in particular in the context of a risky debt structure) tend to open the door for multiple equilibria, where an interest rate shock could push interest costs higher and hence make debt dynamics unsustainable. In an adverse risk scenario for major eurozone countries, in which (implied) interest rates on government debt increase towards their long-term averages (and everything else equal), government debt interest payments would revert back on a clearly rising path (see Figures 76, 77, and 78). That being said, the unfavourable interplay between higher interest rates and interest payments/fiscal deficits would result into a noticeable deterioration of public debt dynamics – compared to the more favourable EC’s baseline scenario, which assumes a continuation of low interest rate over the debt projection period until 2031 (see the EC’s 2020 Debt Sustainability Monitor and Figures 59, 62, and 63).

Finally, the prevailing debt-to-GDP ratio contains some useful information about a country’s fiscal attitude as it largely reflects (i.e. memorises) the accumulation of past (structural) fiscal deficits. In a certain way, the past evolution of a country’s debt-to-GDP ratio measures the degree of the government’s (and/or voters) ability and/or willingness to fund current public spending out of current (tax) revenues. Therefore, a high and further rising debt-to-GDP ratio could be interpreted as a symptom of unbalanced past and current fiscal policies, which are either due to overdimensioned spending and/or inadequate (tax) revenue collection.

Fiscal expansion at the ZLB: An alternative view on crowding-out effects

In the event of fiscal expansion, crowding out of private investment can still take place – despite the likely small upward effects on interest rates. This is because real input factors – in particular the supply of skilled labour – is still constrained, at least in the short run (and in many cases also in the long turn due to population ageing). That being said, in rapidly ageing societies (such as Germany) there is already an acute problem of skilled labour shortages, which is set to become ever more pressing as the society ages and the working-age population shrinks.

While a massive boost to public infrastructure investment could not so much lead to a “neoclassical” crowding out effect of private investment (via rising interest rates and hence higher funding costs for private firms), it might still occur through a crowding out of scarce real (labour) resources if the current problem of skilled labour supply shortages is not mitigated. Already today, the construction sector is running near full capacity. Therefore, any construction worker who is working for the state cannot work anymore on private construction projects (at least assuming he is not massively extending his weekly working time). Moreover, an unbalanced and abrupt boost to public investment could partly blow out in real terms as it would lead to pronounced price pressures. Therefore, a demand-side boost via rising public investment does in our opinion only work out if the supply side is also allowed to expand. This could e.g. include an alignment of people’s working lifetime to the rising life expectancy.

In this context, higher taxation on labour income (such as higher income taxes for skilled middle/high income earners or higher social contribution rates for current employees) – e.g. to fund at least parts of the promised spending boom – would be
clearly counterproductive to potential growth. Already today, the labour tax wedge (measured by the sum of labour taxes and social contributions by employees and employers on compensation) is very high in many European countries – in particular in Germany or Belgium (see Figure 123). This is a problem for economic growth as high labour taxation tends to lower people’s incentives to work more and longer – something that is essentially required in the context of rapid population ageing and a tightening of skilled labour supply shortages.

On a separate note, there are manyfold nonfinancial hurdles that hinder the effective implementation of public investments. In the case of Germany, where public investment have already expanded briskly over recent years (though from low starting levels), it was clearly no lack of fiscal resources that had prevented a stronger rise in investment (see Figures 80 to 83). It was rather the existence of other obstacles, such as enormous bureaucracy and standards, citizens’ resistance against certain public investment projects or – the above mentioned – skilled labour shortages (e.g. at private construction firms) and/or inadequate staffing in the public administration (e.g. at the sub-sovereign levels which conduct the bulk of public investment) (see DB Research Outlook 2020: Fragile – handle with care).

As regards the federal special funds “digital pact for schools” (“Digitalpakt Schule”), for example – which foresees total federal investment subsidies of 6.5 bn over five years (of which EUR 3.5 bn are to be made during the current legislative period) –, only EUR 488 m of these funds were actually spent by the end of 2020 (see Federal Ministry of Education and Research). Against the backdrop of widely perceived digital infrastructure gaps, this significant underutilisation of federal funds is hinting that municipalities could have noticeable capacity issues (e.g. at the staffing level) to quickly request and dispense these funds. But also at the federal level, the government does not meet its own investment budget target levels. For example, according to the preliminary 2020 federal budget statement, EUR 3.2 bn (i.e. more than 20%) of the target level for federal fixed investments (of EUR 14.8 bn) remained unspent. In light of the presently limited production capacities (e.g. in the construction sector) and the unsolved problem of pent-up investment, the proposals by the major political parties for a German public investment campaign over the next decade appear to be quite ambitious in size and therefore bear the risk of (further) price rises and/or in the worst case bad investments. Another way to look at the above issue is to compare the proposed investment volumes to the current level. For instance, the Green Party promises to raise public investment by an additional EUR 50 bn per year over the next ten years (see their draft 2021 federal election programme). The SPD is less ambitious in its programme but still promises to sustain the federal investment spending (fixed investment plus financial assistance) at least at the 2020 level of EUR 50 bn (see their 2021 federal election programme). The FDP also pledges to boost investment, though in a different way. In an alternative draft to other parties’ public investment plans, the liberal party aims to activate an additional EUR 120 bn of private-sector investment per year by lowering the annual corporate tax burden in the amount of EUR 60 bn. By this, a total tax relief worth EUR 300 bn should help boosting private investment by EUR 600 bn over a period of five years (see FAZ article from 9th of May 2021).
In light of the above mentioned promises of raising public investment spending one has to recall that, on the one hand, gross fixed investment spending reached “only” EUR 90 bn (2.7% of GDP) in 2020 at the general government level (federal government, states, municipalities, and social security funds) (see Figure 81). Therefore, raising the annual public investment level by EUR 50 bn (as proposed by the Greens) would imply a stunning increase of more than 50%! Moreover, this increase would need to be permanent over the aforesaid ten years. On the other hand, private investment spending amounted to EUR 645 bn (or 19.4% of GDP) in 2020 (see Figure 80). Thus, an increase of private investments by EUR 120 bn per year (as intended by the FDP) would imply a permanent increase of almost 20%!

Given a) the wide gap between today’s actual investments and the above mentioned structural targets for future investments as well as b) the existing structural issues with pent-up investment (which will not be solved overnight), there are well-founded doubts that all of the above mentioned extra money could be effectively channelled into real investments and hence would be spent in a timely fashion. Moreover, the above mentioned asymmetry between politically declared and economically possible increases in investments bears the risk of price rises and bad investments. Therefore, there is a non-insignificant risk that overly expansionary fiscal policies will not fulfill what they promise in the first place but instead lead to adverse side effects on the economy.

The dangers: Ebbing fiscal tailwinds and painful inflation surprises

In our opinion, the current status quo of high/rising public debt, which has been mitigated for now by a negative i-g differential, could well continue for a while – provided consumer price inflation remains (structurally) low and inflation expectations well anchored. While low (and in some countries even negative) (real) interest rates are clearly helping stabilise public finances, they are obviously leading to a widespread belief that the intertemporal budget constraint does not hold true anymore. This thinking where the current status quo is extrapolated into the future is dangerous as it can lead to overly risky and unsustainable macro policies (including fiscal policy).

We caution to overestimate the fiscal tailwinds from low interest rates. This is because (nominal) long-term government bond yields are already quite low (and in some cases even negative), implying that a further decline in interest rates becomes less likely (still, debt apologists would argue more debt leads to higher interest receipts in case of negative yields). Secondly, the largest part of the budgetary relief from falling debt interest payments has already taken place as implied interest rates may only fall a little further before stabilising at the current lows. Thirdly, potential GDP is projected to decline soon due to rapid population ageing in many major economies. And finally, there is a tail risk that interest rates (both risk-free rates and default risk premiums) could rise sharply.

Such a rise could be triggered by an unexpected rise in inflation (e.g. due to overly expansionary monetary and fiscal policies, ageing-related labour market supply shortages and/or a petering out of disinflationary forces) and/or a reassessment of sovereign default risks by investors. That being said, very recently, actual inflation has picked up sharply in some major countries like the US or Germany, though many observers still believe that the current rise in inflation is only temporary. Still, some economists fear that the current pick up in inflation (see Figures 32 and 121) might last longer and could in the worst case result into structurally higher inflation. However, higher inflation might suddenly endanger the current inauspicious monetary/fiscal policy alliance where major central banks keep financing...
Admittedly, consumer price inflation has remained at historically low levels over the past decade despite ultra expansionary monetary policies (see Figures 2 and 3) and ballooning money supply (see Figure 85). However, the true reasons why surging central bank balance sheets have not (yet) resulted in higher inflation are still largely unexplained. Generally, both the existence of powerful disinflationary forces (including e.g. increased saving for retirement) as well as the hoarding of central bank money within the financial system (and hence outside the real economy, e.g. used for purchasing financial assets) are viewed as the major reasons for still low inflation despite highly expansionary monetary policies. One metric that supports this hoarding thesis is the ratio between narrow (M0) and broad (M2, M3) money, which has persistently trended lower since the global crisis (see Figure 86). Still, there is no guarantee that hoarding will continue forever and hence there is at least a tail risk that the surge in narrow money could boost broader money and inflation rates at a later point. Some economists do fear that more inflation – due to expansionary policies – is already in the making.

The misbelief: Budget constraints and default risk are things of the past
Apart from the risk of rising inflation (and hence interest rates), debt apologists often ignore the fact that sovereign bond yields are still linked to a country’s debt ratio. Of course, the low interest rate environment keeps the debt burden of high debt countries still manageable – probably for some more years. Clearly, monetary policy support has reached levels that may be still justifiable during exceptional economic times but should not be misunderstood as normality. In the eurozone, the ECB has basically fully financed EA sovereign deficits in 2020, driving its sovereign debt holdings further up (see Figures 89, 95, and 96). Hence, it is not difficult to imagine that many sovereigns will eventually wake up and smell the coffee with strong fiscal pain once this monetary dose is going to be reduced again.

It is a misbelief that default risk does not exist anymore. In other words, even in the current interest rate environment, higher public debt tends to result into wider risk premiums. Of course, one could argue that sovereign bond spreads of highly indebted eurozone countries are pretty narrow right now (see Figures 87 and 88). Still, the narrowing in spreads has taken place amid massive monetary policy support by the ECB. We also know from past crises (e.g. from the eurozone sovereign debt crisis) that the default risk assessments of investors can take place abruptly (see Figure 87).

In this context, Marcos Chamon and Jonathan D. Ostry noted in a recent IMF blog on A Future with High Public Debt: Low-for-Long Is Not Low Forever that “history gives numerous episodes of abrupt upticks in borrowing costs once market expectations shift” and that “theory and history suggest that, when investors begin to worry that fiscal space may run out, they penalise countries quickly”. Therefore, a continued and careless buildup of debt can potentially lead to self-reinforcing loops of high debt and high risk premium, which do turn explosive at one point. That being said, Daniel Gros and Cinzia Alcidi show “that under realistic parameter constellations, a debt ratio of 130% of GDP constitutes a critical threshold, where the line between sustainability and unsustainability is very thin”. The authors conclude that “low risk-free rates should not be taken as a justification to increase public debt above a certain threshold” (see their note on Public debt and the risk premium: A dangerous doom loop).
This has important policy implications as some EA economies are already well above (e.g. Italy or Greece) or around (e.g. Portugal) this critical threshold. Consequently, Clemens Fuest and Daniel Gros argue that the highly indebted euro area economies should use the current window of opportunity (i.e. of low interest rates) to progress with fiscal consolidation (not with more deficit spending!), while (moderately indebted) countries with a low level of public investment over recent years should make use of the favourable i-g differential to raise one-time investments. At the same time, Fuest and Gros warn to “question the institutional restrictions on public debt in Europe” as “more room for debt would not necessarily be used for more public investment, and risk premia on government debt would rise” resulting into a higher i-g differential – especially in high debt economies (see their paper on Government Debt in Times of Low Interest Rates: The Case of Europe).

Reversal risks: When negative i-g differentials suddenly turn positive

Although the interest rate/GDP growth differential is projected to remain negative for most major economies (see Figures 42 and 65), governments should prepare for worsening fiscal conditions. Indeed, looking back in time one cannot generally conclude that i-g differentials were more often negative than positive.

**Figure 88: Sovereign bond spreads have remained contained**

Basis points, based on 10-year government bond yields (end-of-month values)

Source: Haver Analytics, Deutsche Bank Research
While this might be true for the US when considering current market interest rates (as suggested by Olivier Blanchard), it was not the case for most European countries (including e.g. Germany or Italy) (see Figures 92 and 93). Moreover, largely negative differentials were mainly limited to the 1970s where surging inflation (above long-term interest rates) helped to pull real interest rates down to very deep negative numbers (see Figure 68, 69 and 70).

Finally, extrapolating current interest rate growth patterns into the future can be very risky as for example the unexpected events of the global financial crisis or the eurozone sovereign debt crisis have shown. In this context, an analysis by the German Council of Economic Experts finds for the German economy that past episodes characterised by a negative i-g differential were often accompanied by considerable reversal risks (see Die Schuldenbrems: Nachhaltig, Stabilisierend, Flexible). That being said, based on historical data for the period between 1946 and 2016, the council estimates the conditional probability for the materialisation of such a reversal risk for two different scenarios – where the first scenario is subject to stronger and the second to more moderate specifications. In the first scenario, the average i-g reversal risk for Germany, France, Italy and Spain is estimated at 14.8% (in five years) and 40.8% (in ten years), respectively. In the second scenario, the average i-g reversal risk for the above four countries is estimated at a higher 45.1% (in five years) and 59.5% (in six to ten years), respectively. For more information see table 17 in box 13 on page 261 in the above paper.

The problems: Debt illusion, loss of fiscal transparency and moral hazard
“Debt illusion” is another risk factor to debt sustainability. Given heavily stretched public finances in many EA countries and political, legal, and economic limits to the ECB’s sovereign asset purchase programmes, it seems tempting to relocate the fiscal burdens outside the responsibility of national fiscal policy.

![Figure 91: Annual sovereign debt purchases by the ECB relative to government revenue and spending](image)

![Figure 94: EA: Large ECB holdings of EA sovereign debt may stabilise today, though imply significant risks in the medium/long run](image)

![Figure 97: EU: Spain and Italy are expected to receive the largest amounts](image)

![Figure 98: Relative to GDP, subsidies are set be particularly high in Croatia, Bulgaria and Greece](image)
In this context, Deutsche Bundesbank warns that the shift of sovereign debt financing at the European level could lead to such a “debt illusion”. Specifically, the funding of the EU recovery fund (NGEU) in the volume of EUR 750 bn (c. 6% of 2020 EU-27 GDP) is set to take place at the EU level. That being said, the EC will issue collective debt (on behalf of the EU), which will not show up in the member states’ national Maastricht deficit and debt ratios. Instead, this EU borrowing will initially improve member states’ public finance statistics (via higher revenues, lower deficits/debt stocks) as the EU will transfer slightly half of these funds (roughly EUR 390 bn; 3% of GDP) to the individual countries as so-called “non-repayable subsidies” (see Figures 97 and 98). Still, these subsidies will have to be paid back once the EU debt matures.

From a taxpayer’s perspective it does not matter (abstaining from financing conditions and a division of fiscal costs) whether the EU or national governments borrow as these extra debts will have to be redeemed one day – either through newly introduced EU taxes or additional contributions by national member states (and hence higher national taxes). From a debt sustainability perspective, the loss of fiscal transparency and accountability at the member state level opens the door for moral hazard and careless national fiscal policies (see also a recent special analysis by the German Federal Board of Auditors).

Deutsche Bundesbank has calculated these and similar “hidden” EU-related debts for Germany: Considering the associated EU debt that falls upon German taxpayers implies that Germany’s gross debt stock is already much higher than officially published. Specifically, these extra debt imply an additional debt burden of EUR 280 bn or 8% of domestic GDP (see their analysis Zur Aussagekraft nationaler Fiskalkennzahlen bei Verschuldung auf der europäischen Ebene).

In the land of the old: When ageing weighs on public finances

Some economists fear that the combination of highly expansionary economic policies and a likely vanishing of the existing disinflationary effects (from e.g. an expanding global workforce) could relatively soon lead to stronger inflationary pressures (see The Great Demographic Reversal by Charles Goodhart and Manoj Pradhan). In turn, higher inflation could prompt a rise in interest rates and hence sovereign bond yields. Clearly, the recent rise in government bond yields in response to higher inflation could be still labeled as “premature” as the pickup in inflation is still largely due to special factors which central banks believe will fade out. Still, there are a couple of arguments that structurally higher inflation could indeed become a problem (see our Focus Germany article Inflation acceleration: Flash in the pan or permanent shift due to higher wage settlements?).

Unfavourable demographic outlook for many major economies

As regards demographics, the United Nations projects (according to its medium variant scenario) that the share of the workforce will become considerably smaller in many major economies (see Figure 104), while the share of the old population is going to rise noticeably at the same time (see Figure 99). In rapidly ageing

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1 The key piece of the NGEU is the so-called Recovery and Resilience Facility (RRF) with a volume of EUR 672.5 bn, while the ReactEU is the second largest programme with a volume of EUR 47.5 bn.
economies like Japan, Germany or Italy, an absolutely shrinking workforce (see Figure 105) will have detrimental effects on the supply of labour, potential GDP growth, tax revenues, social contributions as well as age-related public spending.

The imminent fiscal challenge stemming from demographics can be gauged by the so-called “age dependency” ratio, which puts the number of old (retired) people (at the age of 65 year and above) in relation to the working-age population (persons aged 15-64 years). In the case of Japan and Italy, this ratio is expected to rise to roughly 75% and 70% by 2060 (from around 40% and 50% today), respectively (see Figure 102). In the case of Japan this means that while today still more than two persons (2.1) at working-age (15-64 years) help finance the government’s age-related expenses (pension, health care) per one elderly person (aged 65 years or above), only 1.3 persons will (statistically) have to bear the brunt by the year 2060. In Italy, the number of working-age person per one old person is projected to go down from 2.7 to just 1.3.

Figure 99: Share of old population will rise considerably in the advanced world

Figure 100: The number of old people will grow substantially

Figure 104: Share of working-age population is projected to shrink considerably in major economies

Figure 105: A shrinking working-age population will weigh on many economies
Hence, should the favourable (negative) i-g differential dissipate or even turn widely positive again, strongly rising public debt ratios would be further pushed up by the interplay of lower growth, higher interest rates and rising age-related spending. Therefore, orthodox economists fear that overly generous (and unsustainable) social benefit systems could at one point become a pressing problem. If policymakers continue to abstain from structural economic reforms (such as linking the actual pension age to life expectancy or aligning pension spending to demographic developments), taxes for the working people will have to rise considerably more – endangering intergenerational justice and hampering people’s incentives to work (thus further weighing on growth).

The hidden or implicit debts of sovereigns
A significant part of future public spending is already reserved for today’s spending promises that are often not covered for by corresponding increases in public revenues. A good example are (uncovered) pension liabilities for public servants, which have to be financed out of the current pool of tax revenues. Therefore, the government’s implicit debt is an indicator that measures the discrepancy between a country’s prospective public revenues and spending. It is essentially determined by the underlying fiscal stance in a given demographic and macroeconomic environment. In technical terms, a government has a (positive) implicit debt burden if the sum of all future primary public spending (spending excluding interest payments) is larger than the sum of all future public revenues. That being said, a government’s implicit debt is equal to the present value of all future primary deficits/surpluses (i.e. fiscal deficits/surpluses before interest payments). Therefore, the implicit debt stock essentially quantifies the amount of debt that will still materialize in future periods (i.e. will later become explicit debt) if the underlying fiscal policy stance remains unchanged.

The overall debt level – given by the sum of a government’s explicit and implicit debt – illustrates how large today’s fiscal reserves would need to be in order to sustain the current public benefit/spending level in the future without incurring any new debts. Obviously, implicit debt has to be interpreted in a different way than explicit debt. This is because the government can still make adjustments to the (current or future) fiscal stance and hence can effectively lower its implicit debt, i.e. prevent implicit liabilities to become explicit. By contrast, explicit debt (such as financial obligations) cannot be unilaterally reduced (de jure) by the government. Although implicit liabilities are not set in stone, they show the underlying mismatch between prospective spending and revenues. The larger they get, the more difficult it may become for the government (economically and/or politically) to reduce them in the future.

This is already a pressing issue in many ageing societies such as Germany. In this context, the Scientific Advisory Council of the Federal Ministry of the Economy (Wissenschaftlichen Beirats beim Bundesministerium für Wirtschaft und Energie (BMWi)) send a public warning in early June 2021 by projecting rapidly rising financing problems in the German public pension system from 2025 onwards. Against this backdrop, the council concludes that it is inevitable to link the pension age to life expectancy developments (see the council’s press release and reform proposals for the public pension system).

Large implicit liabilities due to rising pension and health care costs
The IMF projects that the G20 advanced economies’ net present value from future pension and health care spending (over the period 2019-50) amounts to a stunning 125% of GDP.
The bulk of the projected rise in age-related spending is stemming from health care spending (nearly 100% of GDP) and a still sizeable, though much smaller part from pension spending (roughly 25% of GDP). The US but also moderately indebted countries like South Korea or Switzerland appear to be particularly affected from a rise in age-related spending (see Figure 103). While these debts are only implicit obligations, which governments can adjust downwards by implementing the above mentioned reforms, they illustrate the need for fiscal consolidation steps in response to ageing. These underlying fiscal problems will – if not soon addressed (which is basically the case in many countries) – lead to even sharper adjustments in the future when much slower growth and tax revenues will make such consolidation even harder. An analysis by the Bundesbank for the eurozone economy shows that slowing potential growth might be not only triggered by falling employment due to a shrinking labour force but also caused by declining productivity growth in the context of ageing societies.

A government’s total debt burden (often labelled “sustainability gap”) is given by the sum of explicit and implicit (i.e. hidden) debts. In the case of ageing societies, the officially published explicit debt stock is just the tip of the iceberg as the implicit debt stock is by far larger. For Germany, a country with still moderate explicit debt, the implicit debt ratio is currently estimated to amount to almost 300% of GDP. Thus, the overall public debt ratio is by far higher than the officially published value of 69.8% of GDP for end-2020 (see Figure 106 and the report Was kann sich der ehrbare Staat noch leisten? Corona, Schulden – und noch eine Pflegeref orm? by Stiftung Marktwirtschaft).

Just at the federal level, Germany’s liabilities due to future pension and government aid payments stood at EUR 809 bn or around 23.5% of GDP in 2019 (see Figure 68). How pressing the problem is becomes much clearer when looking at the capital reserves that have been built up to cover these future expenses. By the end of 2019, these reserves amounted to a meagre EUR 21.6 bn or 0.6% of GDP pointing to a considerable amount of uncovered future liabilities (see the Federal Capital Account Report for 2019). Interestingly, these uncovered federal liabilities rose strongly over the past years, highlighting that the federal government was not sufficiently addressing this problem even during the “golden” high growth years with ever rising fiscal surpluses (see Figure 107). Also the fifth (pre-pandemic) 2020 public debt sustainability report by the Federal Ministry of Finance shows that the sustainability gap indicator S2 – the most common measure to gauge long-term sustainability issues – has increased compared to the fourth sustainability report back in the year 2016. These findings – which are not even consider the additional fiscal burden from the COVID-19 pandemic – point to the urgent need of structural reforms (in particular in the deficit prone public pension system) in Germany.

The overall government debt in a low interest rate environment

If not only a government’s explicit (today’s) debt but also its implicit (future) liabilities are taken into analytical consideration, it becomes clear that low interest rates are not necessarily a game changer for fiscal sustainability. Certainly, it is true that the prevailing (explicit) debt stock grows more slowly if interest rates are low – which is principally good for debt sustainability.

However, in the case of low interest rates, the government’s future (implicit) liabilities are also discounted at a lower (discount) interest rate, which consequently leads to a higher present value of the government’s future (implicit) debt liabilities. The economists Martin Werding, Klaus Gründer et al. show that Germany’s fiscal sustainability gap ranges from around 1.5% of GDP in a more favourable...
(demographic) scenario to around 4.1% of GDP in a more pessimistic scenario. The fiscal sustainability gap is defined as the upfront (and permanent) adjustment to the primary balance that is required to remain solvent (in an intertemporal perspective) despite the projected rise in age-related government spending. The authors also find that Germany’s fiscal sustainability gap is not overly sensitive to changes in the underlying interest rate assumption(s). Rather, it is much more sensitive to changes in demographics and employment (which are quite unfavourable in Germany). Finally, the authors show that under certain macroeconomic and demographic constellations a lowering of the interest rate assumption(s) can actually lead to a counterintuitive widening of the sustainability gap (and hence adversely affect fiscal sustainability) (for more see their paper ifo Institute: “Tragfähigkeit der öffentlichen Finanzen: Spielt sie noch eine Rolle?”).

Ageing is set to considerably challenge public finances in the EU

But not just in Germany but in other large economies population ageing and continuation of unsustainable fiscal policies are expected to lead to stretch public finances. In Europe public debt sustainability is considerably challenged because of the rise in ageing-related costs (such as health and long-term care spending) (see the EC’s 2020 Debt Sustainability Monitor). The EC’s long-term fiscal sustainability indicator S2 – which measures the necessary budgetary adjustment to ensure sovereign debt sustainability over the long-term – points to sizeable fiscal gaps in most countries. Specifically, this indicator measures the upfront (and permanent) adjustment to a country’s structural primary balance in order to cover for all additional future age-related spending and to stabilise the government-debt-to-GDP ratio over infinity. At the EU (EA) average, the required adjustment is in the magnitude of 1 ½% (1.2%) percentage points of GDP, implying that the structural balance (at the moment, in large deficit for most countries) (see Figure 71) has to be permanently improved by this magnitude to ensure long-term debt sustainability. In some larger EA countries (like Belgium, the Netherlands or Germany), this fiscal long-term gap is much greater (see Figure 108).

US fiscal outlook: Health care spending will drive deficits higher

Already before the Biden administration’s USD 1.9 bn fiscal stimulus package (c. 9% of 2020 US GDP) the US Congressional Budget Office (CBO) showed that federal finances had become increasingly unsustainable, as hinted by the prospects for large and further widening fiscal deficits, on the one hand, and high and rapidly risen government debt (as measured by federal debt held by the public), on the other hand. In its latest report (see The 2021 Long-Term Budget Outlook), the CBO gave long-term projections for the US federal budget and debt. The analysis projects how federal finances and debt could develop over the next 30 years (i.e. until 2051) in a baseline scenario, which considers plausible macroeconomic assumption for US economy over this period (GDP growth, inflation, interest rates, employment and unemployment) as well as the underlying working assumption of unchanged fiscal policies (i.e. unchanged current laws governing taxes and federal spending).

The CBO assumes for the US macro economy – among other things – that population ageing will lead to slightly slower potential GDP growth (falling to 1 ½% from 1.7% today) (see Figure 111). Moreover, it projects that the average interest rate on public debt will start rising again by the mid-2020s from a trough of 1.2% to 4 ½% by 2051 (see Figure 112). Given this, the federal public debt ratio is set to start rising rapidly from the 2030s onwards (see Figure 110). Specifically, the CBO projects the federal deficit to soar to 13.3% of GDP by 2051 (sharply up from a projected post-pandemic level of roughly 4 ½% of GDP) (see Figure 109).
Soaring fiscal deficits – largely driven by higher interest payments – will in turn boost the federal-debt-to-GDP ratio to above 250% of GDP – an all-time high that would be the double of today’s debt ratio (see Figure 116). Spending, which accounted for more than 31% of GDP in 2020 and should normalise to around 21% by 2022/23, will eventually spiral out of control over time. The spike in federal spending is largely driven by rising expenditures for major health care programs, social security and last and not least net debt interest payments (where the first two are largely ageing-related). Specifically, these three spending items are projected to roughly double over the forecast period: from a current 12% to roughly 24% of GDP (see Figure 114). As a result, their share in total federal spending is set to rise to more than 75%, implying that other budgetary items will be gradually crowded out (such as investment spending) (see Figure 115).

Clearly, such long-term budgetary projections are subject to a high degree of uncertainty as economic developments and conditions could change and/or the government may augment the fiscal policy stance over time. Still, the CBO analysis offers important insights for the current debate about public debt sustainability in the context of low interest rates and population ageing. First of all, population ageing will become a growing fiscal problem as (potential) GDP growth would not suffice to finance the foreseeable rise in health care costs and social security spending. Secondly, (net) interest payments will not stay low forever. Even under the assumption of a moderate increase in (real) interest rates (towards levels that are below long-term averages), the snowball effect from higher interest payments on the fiscal deficit and public debt will become sufficiently large enough to let debt dynamics eventually spiral out of control. Thirdly, debt dynamics are set to become highly unsustainable despite a projected negative interest rate/GDP growth differential over a long time span during the whole of the projection period (see Figure 113). And finally, even under considerably more favourable assumptions – of (a) higher productivity and hence GDP growth (+0.5% higher TFP growth compared to the baseline) or (b) a less pronounced increase in the implied interest rate on government debt (to just 2.7% by 2051 instead of 4.6% in the baseline) – public debt dynamics would remain on a clearly explosive path. In the case of higher growth and lower interest rate, federal debt would still spike to 156% and 160% of GDP, respectively. Overall, the CBO’s analysis shows: Everlasting unsustainable fiscal policies are no recommendable option even in a fiscally friendly environment of interest rates below growth.
F. Summary

A fiscal policy regime shift made possible by conducive monetary policy

As often in the past, the structural shift in US fiscal and monetary policy seems to pave the way for a new regime of big spender governments and an even more active role of the state in general. Although the low interest rate environment has kept the governments’ interest bill bearable for now (despite the surge in public debt), fiscal policies are clearly unsustainable. This is because they remain only feasible as long as ultra expansionary monetary policies persist, which are also clearly unsustainable on their own.

Over the past decade, overstretched public finances have only worked in many countries because of a high and ever rising degree of unconventional monetary policies. Thus, major central banks are already operating at the limit of monetary policy as they have been purchasing ever larger chunks of government debt. Indeed, they have been explicitly and implicitly functioning as the ultimate guarantor for the stability of sovereign bond markets. By now, major central banks are the dominant holders of sovereign debt, keeping between one-fifth (US) and up to nearly 45% (Japan) of outstanding government debt on their balance sheets. As a result, many sovereigns – which have largely exploited their fiscal buffers over the past decades – remain highly dependent on a continuation of favourable financing conditions and perpetual market access in order to be able to satisfy their sizeable financing needs. The risk that unsustainable fiscal policies will ultimately dominate monetary policy decisions cannot be dismissed anymore.

Unsustainable policies may produce either inflation and/or ‘boom-bust’ cycles

Although central banks still view consumer price inflation as being too low from a structural perspective, a continuation of unsustainable fiscal and monetary policies imply significant macroeconomic risks. In the event of a sudden rise in actual inflation and/or inflation expectations – for instance driven by a release of pent-up demand, a stimulus-related surge in demand (overshooting supply) and/or vanishing disinflationary forces – major central banks would have to manage a delicate balancing act of curtailing inflation (expectations), on the one hand, and still provide enough support to highly indebted governments to avoid recession, rising sovereign bond spreads and major budget crises, on the other hand.

The current abrupt rise in the US and German inflation rates (to 5% and 2.5% in May 2021) (see Figure 121) has lead to a growing debate among economists whether the pickup is only the result of temporary and/or one-off effects or already the beginning of a structural rise in inflation. In a recent DB Research paper we analyse the potential for higher inflation and a return of boom/bust cycles over the next few years (see What’s in the tails? - Inflation: The defining macro story of this decade).

In this context, the banking system’s large sovereign debt holdings (sovereign-banking nexus) bear further risks, which could lead to holding losses on the banks’ balance sheets in the case of a repricing of public debt and hence amplify macroeconomic problems. Should inflation rise more strongly and central banks feel unable or unwilling to tighten policies (because of adverse implications for governments or the macro economy), the interaction of higher actual and expected inflation could inevitably lead to higher inflation outcomes. If central banks, by contrast, react decisively to curb inflation and stabilise inflation expectations, a rise in interest rates and bond spreads could lead to major budget crises, triggering painful economic downturns over the fiscal adjustment process. Countries with
high public debt, sizeable annual financing needs and/or a significant debt share in the hands of non-residents or in foreign currencies are the most exposed to such an adverse scenario.

Overall, there are considerable stability risks to the current “low-interest (inflation) rate/high public debt” equilibrium, which ever rise the longer these unsustainable fiscal (and hence monetary) policies persist. If prudent and foresighted fiscal policymakers were to internalise these stability risks, they would have to credibly revert to more sustainable fiscal policies as soon as the corona crisis is over. However, particularly in the euro area the greater political willingness towards common fiscal policies (and risk sharing) – as reflected by implementation of the debt financed EU recovery fund (NGEU) – erodes the subsidiarity principle, creates further moral hazard risks and dis-incentivises the implementation of prudent fiscal policies.

The budget constraint still holds and unsustainable policies have a cost

Although the low interest rate environment certainly helps to keep governments’ interest burdens bearable for now, low interest rates are not a given. History has shown that interest rates could climb abruptly and that sovereigns were often enjoying quite favourable funding conditions in the run-up to fiscal problems. The EA sovereign debt crisis serves as a good warning example (see Figure 87).

Therefore, governments extrapolating low interest rates into the distant future for fiscal planning are pursuing a high risk approach. Such shortsighted fiscal policies bear substantial risks to the macro economy as well as to financial markets. Therefore, highly indebted sovereigns should interpret the currently negative i-g differential a thankful window of opportunity for an orderly and gradual period of fiscal consolidation in the aftermath of the crisis. That being said, fiscal consolidation does not per se exclude higher public investment in areas of need as governments could also boost investment by setting clearer budget priorities.

There is plenty of empirical evidence that overly high public debt ratios can produce bad economic outcomes, in the worst case resulting either into sovereign debt, banking sector, or widespread financial crisis, on the one hand, and/or at least depressing lower economic growth due to crowding out of private investment, on the other hand. But even in the case of a continuation of the current “fiscally friendly” negative/low interest rate environment, unsustainable fiscal and monetary fiscal policies produce economic costs that are felt elsewhere. In many countries unsustainable fiscal policies have already resulted into a very large tax wedge, which is set to rise substantially further and hence may threaten employment in the absence of fiscal consolidation. Moreover, highly expansionary fiscal policies have already resulted into pronounced asset price inflation, which may lead to a further rise in wealth and income inequality.

Finite fiscal resources: Governments have to set clearer budget priorities

As fiscal resources are not endless and there are clear limits for the tax burden on current and future taxpayers (without risking lower labour input, income and wealth), governments need to make their annual budgets more growth friendly. In many major countries, the largest chunk on budget spending is already on social spending (with a rising tendency), in particular on pensions and health care expenses. This is particularly true for many European economies. Under the current status quo, these age-related spending items are set to rise substantially further due to rapid population ageing and thus may lead to a crowding out of other spending items (“social dominance”).
Therefore, in many countries there is no way around of making fiscal policies more sustainable by implementing the required structural reforms in the social security systems (pension, health and long-term care). One obvious (though politically unpopular) option would be linking people’s working life time to their (rising) life expectancy and focus more strongly on the neediness principle for social spending. While governments that have a relatively low tax burden (and low public spending ratio) could also consider higher tax revenues to restore debt sustainability, governments with an already large tax burden should primarily focus on spending restraint by setting clearer budget priorities.

**Investment programs need to be balanced and require improved supply conditions**

Fiscal stimulus programs are justified in the current crisis but need to be still balanced in size. The latest US fiscal stimulus program has led to fears that the size of the package might be too large and therefore could lead to higher consumer price inflation. Amid surging US consumer price inflation, Lawrence H. Summers warned that “overheating – not excess slack – is the dominant economic risk facing the US over the next year or two” (see CNN article *Larry Summers sends inflation warning to White House: Dominant risk to economy is ‘overheating’*).

An overly large fiscal impulse (in excess of the current negative output gap and hence the economy’s production potential) will inevitably lead to crowding out as the level of supply remains restricted in the short run. If crowding out does not take place in terms of rising interest rates and lower private investment (because of the low interest rate environment), it will at least occur with respect to real resources (such as physical capital or human labour).

Especially in rapidly ageing economies, where skilled labour shortage is already a problem, an overly large and ambitious public investment program will certainly not work out in the absence of supply-side reforms (which e.g. aim to boost people’s incentives to work more and longer). Generally, states are not better entrepreneurs. Therefore, public intervention and action should be limited to the areas where it is essentially needed (e.g. in case of natural monopolies and/or to avoid market failure in certain areas). That said, a free working of market forces – based on market prices as the elementary signals for supply shortages/surpluses – remains absolutely crucial in keeping and advancing countries’ economic wealth. Therefore, in many cases it is not more but rather less state intervention that is needed. In any case, more state intervention in the economy needs to be well justified and has to consider any adverse side effects on the private sector.

**There are limits to the effectiveness of fiscal policy in boosting growth**

There are clear limits to the effectiveness of fiscal (and monetary policies) in boosting economic growth. An excessive and blind trust in the effectiveness of active investment policies might lead to a considerable misallocation of tax payers’ money. Thus, the current zeitgeist of seeing large-scale public investment programs as a simple solution to all economic, political, social or environmental problems can become problematic. Undeniably, there are large challenges to be successfully met by governments in all of the above mentioned areas. And clearly, more public investment (in education, research and development, digitalisation, etc.) is needed to boost the economic growth potential and activate the digital and green transformation of the economy.

Still, it is a misbelief that this transformation will not entail fiscal/economic/social costs – at least during the transition period. Therefore, a delicate balancing
approach by governments is required which have to set a framework that allows societies to achieve the economic transformation at the lowest possible economic costs. As a general rule, governments should strictly base their public investment decisions on a profound cost-benefit and needs analysis. In this context, the high-visibility competition among politicians in the upcoming German federal election campaign to promise the “largest stimulus and investment package” is dangerous.

At the end of the day, it is not the politically declared programme size (“showcase sums”) but the economy’s actual need that ultimately matters for investment decisions. However, if public investment spending is only conducted in order to meet political target setting (i.e. politically set economic plans), misallocation, abuse and misuse of fiscal resources and hence loss of economic output are preprogrammed. In order to avoid boom-bust cycles it is extremely important that public investments are not conducted in a static but in a dynamic way. It must be based on a regular monitoring and steering process: Fiscal resources that have not been deployed (i.e. were not needed) for certain purposes must be either redirected into areas where it is economically worth to spend more or should simply be saved (or used to finance cuts in the tax burden).

Major sovereigns need to be good examples for other countries
The overly large US fiscal stimulus programs have increasingly influenced the fiscal policy debate outside the US. This is due to the US’ outstanding role and importance in the global economy as well as for world capital markets. In a certain way, every additional stimulus package announced by the US is kind of building up peer pressure on other governments to follow suit as these countries feel threatened to fall back behind the US in terms of international competitiveness. Similarly, if the federal German government continues to pursue unsustainable fiscal policies beyond the pandemic – by suspending the budgetary limits under the federal debt brake rule – other (fiscally weaker) European governments are likely to follow the German example. This could therefore not only damage fiscal credibility and reliability in Germany but also in other European countries.

We know too well from past experience, where such policies could lead in the worst case. Certainly, Germany’s and France’s decisions to ignore the rules of the European Stability and Growth Pact (SGP) in 2003 were not conducive to fiscal discipline and prudence in the rest of the euro area. At the end of the day, Germany and France had to work on the implementation of large pan-European support mechanisms/packages to avoid a chain reaction of sovereign default in the eurozone. Hence, if governments – be it the US, in Germany, in Europe or other parts of the world – continue to persistently ignore the budget constraint, either structurally higher inflation or economically painful boom-bust cycles or simply gradually falling growth will be the likely outcomes. If fiscal policymakers are not willing to refill their fiscal buffers and restore public debt sustainability (the next crisis will certainly come, it is just not known when exactly), major confidence and sovereign debt crises could come back much sooner than most people presently think – and despite currently low interest rates.

Finally, governments need to push forward with a public investment campaign that is reasonable, profitable, gradual and balanced in size and hence pays out for current and future generations. If infrastructure investment is done right, it is a good thing for the economy. Clearly, the enormous challenges to achieve the much required digital and green transformation of the economies can only be tackled by adequate investment. And low interest rates offer a window of opportunity for funding the needed public (infrastructure) investment projects at affordable
financing conditions. Still, economic policies that only look at demand-side and ignore supply-side issues will not work out as they lead to crowding out of real resources (like skilled labour) and hence leave these investment promises (at least partly) unfulfilled.

In this context, while offering large opportunities for productivity and hence potential growth, the implementation of the EU recovery plan is no fast selling good. The experience with low EU absorption rates – in particular in the countries (Italy and Spain) that are expected to receive the largest subsidies in absolute terms (see Figure 97) – show that policymakers also need to work on better supply as well as administrative conditions that foster a quicker absorption of these fiscal funds. In this context, Zsolt Darvas from Bruegel warns in a Blog Post that “absorption of EU funds is typically slow and some countries might struggle to spend what they can get”. Therefore, he reckons that “the focus should be on worthwhile spending, not just on absorbing EU funds”. In our view, major countries like the US or Germany should also lead the way as good examples when it comes to an effective/efficient planning and implementation of worthwhile infrastructure investments that are needed to boost economic growth.

G. Conclusion

The COVID-19 pandemic has led to a massive shock to global public finances as reflected by soaring fiscal deficits and public debt. As governments opened the fiscal floodgates, debt ratios continued to climb considerably, reaching new peace-time highs in many economies. Though bold fiscal reaction was arguably inevitable, the trend towards ever higher fiscal deficits and public debt levels has now become an even larger concern. That being said, economic reform fatigue and generally loose fiscal policies in the pre-pandemic era are taking vengeance now in many major economies. Indeed, fiscal deficits and government debt ratios have become ever larger crisis after crisis and the fiscal situation seems to be clearly unsustainable in many high debt economies. Moreover, given the fact that fiscal buffers have been largely depleted during the current crisis – and acknowledging that the distance from one to the next crisis has become ever smaller – sovereigns seem to have no other option than to consolidate public finances and restore fiscal sustainability after the pandemic has been overcome.

Given weak growth prospects, restoring debt sustainability seems a Herculean task for high debt countries. But even some “fiscally prudent” countries like Germany face severe fiscal challenges due to rapid population ageing. To be able to deal with these challenges, governments do need to channel more fiscal resources into high productivity spending areas as well as pursue essential structural reforms to keep social spending dynamics under control and strengthen people’s incentives to work more and longer. If spent wisely, investment-driven deficits could be indeed conducive to debt sustainability for moderately indebted countries – allowing them to grow out of debt by boosting productivity/economic growth.

By now, record high debt has only remained manageable because of the structural decline in interest rates and de facto debt monetisation by central banks. This “low interest rate/high public debt” equilibrium is fragile, as it crucially hinges on a continuation of low inflation. Should inflation rise more strongly and central banks not react, it could ultimately spiral out of control. If they slam the brakes, rising interest rates and bond spreads could lead to major budget crises, triggering painful downturns over the fiscal adjustment process.
Inspired by the new US fiscal regime to go big, the German election campaign is witnessing an overbidding competition with regard to public investment. Still, the current zeitgeist of seeing large-scale deficit financed investment as deus ex machina for all of societies’ problems seems shortsighted to us. This is not to argue against higher investment in Germany or elsewhere in areas of need (e.g. digitalisation, eduction or R&D) as they offer large productivity opportunities. Still, we reckon that these demand-side policies will only work out if they go along with improved supply conditions. They need to be gradual and balanced in size. Otherwise, with the demographic challenges being just around the corner, we are risking to repeat the mistakes of the 1970’s, which led to a period of stagflation.
Appendix: Economic theories of public debt

Looking back into history, the prevailing view on national economic policy in general – and the role of fiscal policies and public debt in particular – has continuously changed over time as has the predominant thinking in economic theory itself. The view on fiscal policies varies greatly with the underlying economic thinking on the costs and benefits of public debt.

In neoclassic economic theory a debt financed fiscal policy will lead either to (a) lower future GDP (higher interest rates lead to crowding out of private investment and hence a decrease in the private capital stock) and/or to (b) lower national income (via a deteriorating external balance due to higher interest payments on external sovereign debt, i.e. outflows to nonresidents). That said, the adverse effects on future output/income require the absence of the \textit{“Ricardian equivalence theorem”}, which postulates \textit{“debt neutrality”}.

Under Ricardian equivalence higher fiscal deficits (and hence a rise in new credit market borrowing) are fully counter-financed by a proportional increase in private savings (via lower consumption) because of the existence of inherent altruistic motives of current generations. (Later, classic economist David Ricardo, who developed this theorem, actually discarded it as implausible.) Overall, a permanent rise in public debt is viewed to be damaging to future GDP/income and hence to be leading to an intergenerational redistribution of income for the benefit of current and at the expense of future generations (“exploitation of future generations”).

In Keynesian economic theory fiscal policy and public debt have a pivotal role in allowing governments to help a demand-side constrained economy to return to the new equilibrium (with initially suppressed aggregate demand catching up to aggregate supply). While neoclassical theory believes that free markets (characterised by rational behaviour, full competition, profit and utility maximization of produce and consumers, no wage and price rigidities) will automatically lead to an equilibrium (in which involuntary unemployment is not possible), Keynesian economists acknowledge that demand shocks (like the Great Depression) can depress economies for quite a long time below their production potentials. Moreover, if the government and/or the central bank would not counteract through countercyclical expansionary monetary and fiscal policies involuntary unemployment can last for quite a long time (“in the long run we are all dead”). Although expansionary fiscal policy can also lead to (partial) crowding out of private investments in Keynesian economic theory, the benefits from additional income generated by the so-called fiscal multiplier effect will mostly overcompensate for it.

In a simplified way, today’s mainstream economics – labelled as New Keynesian – take a much more differentiated view on the economy, incorporating both Keynesian (mainly short-term) as well as neoclassic (mainly long-term) elements into their theoretical thinking. Moreover, in today’s mainstream economics it is first of all the task of monetary policies – rather than fiscal policies as primarily suggested by Keynes – to manage the economic cycle. Their counterparts, the proponents of Post-Keynesianism or the so-called Modern Monetary Theory...
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(MMT) put a much stronger emphasis on the role of fiscal policies.

In this context, MMT regards fiscal and monetary policy basically as one and the same thing and postulates that the government should use fiscal policy as the major tool to achieve full employment and to keep inflation under control (“functional finance”) (see a critical discussion of the MMT by Michael Krause and Thomas A. Lubik from the institute for economic policy at the University of Cologne; iwp). Elementary to MMT is the proposition that a government cannot become insolvent as long as fiscal deficits and public debt are owed in domestic currency which the sovereign can create on its own. That being said, the only limit to the effective use of fiscal policies to stimulate growth is inflation.

One key weakness of MMT is thinking in mechanical balance sheet terms and neglecting the effects from such an economic policy strategy on people’s incentives and avoiding patterns. Although it is true that a sovereign cannot become insolvent when borrowing in its own domestic currency (as it can print new money at any time), MMT ignores that households and corporates would only want to make use of the national currency if they trust in its value. There are many country examples that such MMT inspired and overstretched fiscal policies often end in high inflation, currency depreciation, the creation of parallel currency markets and economic turmoil.
Appendix 1

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