

Getting fiscal policy in shape to swing with monetary policy

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Introduction

When the Covid-19 shock hit, central banks and governments successfully managed to stabilize the macro-economy and this despite going into the crisis with relatively limited policy space. Looking ahead, however, the question rises whether they will be able to do so again in case of a negative shock, given structurally low interest rates and higher government debt.

With the low interest rate environment likely to persist, monetary policy's potential to provide extra support to the economy through its policy rate instrument and even through its unconventional tools (like asset purchases) appears limited going forward. This implies that fiscal policy may be more frequently called upon to actively contribute to business cycle stabilisation, and especially so during downturns. However, in many countries, including in the euro area, government debt ratios have increased significantly in 2020 reaching decades-long highs and in several countries debt paths are set to climb further. That reduces the fiscal policy space that might be needed to address the next downturn and increases the risk of disruptive (self-fulfilling) debt crises.

Where government debt levels are high and rising and when circumstances allow it, attention should thus shift back to rebuilding fiscal buffers. How can this be achieved? A logical avenue to pursue entails fiscal consolidation. Some¹ plead for patience and dispute the need for a return to "austerity", arguing that favourable interest rate and economic growth developments make high debt levels more sustainable and will go a long way in stabilizing the debt ratios. Other voices are more extreme², advocating that central banks should cancel the government debt – acquired through asset purchase programmes – on their balance sheets. This article takes a closer look at the different options to bring government debt dynamics under control.

Throughout the article, we assume that the structurally low interest rate environment persists, so that monetary space is expected to remain constrained. This does not imply that monetary policy is out of the picture. Rather on the contrary, monetary policy is key in enhancing the effectiveness of fiscal policy in macro-economic stabilisation (in case of large shocks) and it has a significant impact on government debt dynamics.

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1 See for instance an interview of the OECD's Chief Economist, Laurence Boone, with the Financial Times on 4 January 2021 'OECD warns governments to rethink constraints on public spending' and Lorenzo Codogno and Giancarlo Corsetti VoxEU column "Post-pandemic debt sustainability in the EU / euro area: This time may (and should) be different" published on 18 September 2020.

2 See the open letter "Cancel the public debt held by the ECB and 'take back control' of our destiny" published on 5 February 2021 in several newspapers.

To set the scene, the article starts with a concise overview of economic thinking about monetary and fiscal policies' role in macro-economic stabilisation, highlighting the nuances that the great financial crisis and subsequent persistent low interest rate environment have brought to the framework. The next chapter applies theory to practice. Looking back, it illustrates that the prescription of complementary monetary and fiscal measures proved effective in tackling the COVID-19 crisis but, going forward, it also stresses the need to restore policy space when circumstances allow this. As the article focuses on how to build back fiscal buffers, the third and central chapter evaluates the potential of different options to bring high and rising government debt levels under control. Conventional avenues considered include low interest rates, higher economic growth rates, somewhat higher inflation and fiscal consolidation. Note that for all debt dynamic simulations Belgian data are used. The unconventional proposal of cancelling the government debt on the central bank balance sheet, is also critically assessed; the analysis here remains purely conceptual however. The main findings are that despite favourable interest-rate-growth differentials, fiscal efforts and/or structural reforms will be needed to bring high government debt ratios on a downward path and that debt cancellation won't do the trick.

1. Thinking about fiscal and monetary interactions has evolved in recent years

The great financial crisis and subsequent persistent, low growth, low inflation and low interest rate environment have led to a rethink about monetary and fiscal policies' role in macroeconomic stabilisation. The traditional framework still applies in normal times, but when interest rates are at or close to their lower bound, a refined framework enters into force¹.

1.1 The traditional view: a clear-cut assignment

Prior to the great financial crisis, the macroeconomic consensus was that monetary and fiscal policies ought to operate largely independently from each other. They each had their own objectives and specific instruments to meet these objectives. Through its policy-rate-setting, monetary policy was responsible for price stability and, in doing so, actively contributed to macroeconomic stabilisation. In exceptional circumstances, the monetary authority would also step in as lender of last resort to ensure the smooth functioning of financial markets. Fiscal policy was not assigned an active role in business cycle stabilisation; it mainly ought to let automatic stabilisers play freely. Fiscal policy had instead a bigger role to play in the optimal allocation of available resources and a fair distribution of income and wealth, through which it ought to contribute to structural issues like higher productivity growth and durable and equitable economic growth. It should be noted, though, that the complementarity between structural policy and macroeconomic stabilisation was not well acknowledged. Over the longer term, fiscal policy's main guiding principle was to keep government debt sustainable. The EU Treaties, for instance, enshrined government debt and deficit rules in law.

The framework's strict division of tasks between monetary and fiscal policies primarily intended to avoid entering a regime in which excessive government deficits would bring about excessively high inflation.

1.2 Refinement: at the lower bound, it takes two to make a thing go right

Over the past decade, the economic landscape has changed, however, bringing with it new policy challenges for which the traditional framework was not particularly equipped. More specifically, the low natural rate of

¹ See for example Bartsch *et al.* (2020) for a detailed analysis and recommendations on the policy mix and Butzen *et al.* (2017) for the policy mix applied to the euro area.

interest hampers monetary policy in stabilising the macroeconomy: once policy rates are at or near their lower bound, the central bank can no longer use its traditional instrument to stimulate inflation and the economy at large¹. Consequently, at the lower bound, complementary monetary and fiscal policies are needed for effective macroeconomic stabilisation to still take place, especially when the economy is in a recession.

This implies, on the one hand, that fiscal policy has a bigger role to play in stabilising the business cycle. For one, a discretionary fiscal expansion reduces the need to push interest rates far below the natural rate thereby helping monetary policy in lifting economic activity and, consequently, inflation. Second, even when private spending does not react immediately, a deficit-financed fiscal stimulus – when perceived as not being backed by future primary budget surpluses – could induce economic agents to revise their inflation expectations upward, thereby helping the central bank to escape a low-inflation trap. Beyond macroeconomic stabilisation, government policies could also aid in raising the natural rate through fostering productivity growth, lowering incentives to save and encouraging investment. This would create durable policy space for the monetary authority.

On the other hand, monetary policy has proved to not be powerless at the lower bound. Through the use of unconventional instruments, like central bank asset purchases and forward guidance, it has been able to lower longer-term interest rates, thereby supporting economic activity and inflation. With a very low and flat yield curve though, the scope of these unconventional instruments to provide additional support for private spending diminishes, but they can still facilitate fiscal stimulus. Central bank asset purchases, for instance, can keep governments' borrowing costs favourable even when public debt is already high, while monetary policy's patience in withdrawing stimulus when at the lower bound, makes a given fiscal stimulus more effective than in normal times (i.e. fiscal multipliers are higher as there is no crowding-out).

This refinement to the traditional framework illustrates that effective macroeconomic stabilisation can work even in a lower bound environment, but it is not a given: it remains more precarious compared to normal times, as implementing complementary fiscal and monetary measures that create policy space for one another is not evident.

1.3 Complications

One hindrance that could arise, is the lack of fiscal space. Especially when government debt levels are already very high and increasing, the fiscal authority's room for stimulus spending may be limited.² In recent years, however, favourable interest-rate-growth differentials have attenuated this concern. In many countries, the interest rate on government debt has been below the economy's growth rate ($r-g < 0$), contributing to favourable debt dynamics (and this even more so for heavily indebted governments) as even in the presence of budget deficits the debt ratio is converging to a stable level³. This notwithstanding, the favourable $r-g$ relationship is fragile: it can quickly turn due to changes in future interest and growth rates, e.g. because a high (and growing) government debt stock can raise concerns among financial market participants (driving up the risk premium). A positive $r-g$ differential would push high debt-to-GDP ratios onto an explosive path, requiring the fiscal authority to run high primary surpluses to bring debt dynamics back under control. In such a scenario, the fiscal authority has little or no room to aid monetary policy in stabilising the economy.

Another obstacle, pertaining particularly to the institutional set-up of the euro area, is that one authority is responsible for monetary policy at the union level (that is, the Governing Council of the ECB, with representatives from the ECB Executive Board and the national central banks) while fiscal policy is set at the national level by nineteen governments. This complicates aligning monetary and fiscal policies in such a way that an appropriate aggregate fiscal stance and effective national stabilisation are simultaneously ensured, without jeopardising fiscal sustainability at the national level.

1 See for instance De Backer and Wauters (2017) for a deeper analysis of the low interest rate environment.

2 In this issue of the Economic Review, Buysse *et al.* (2021) discuss the rise in public (and corporate) debt since the global financial crisis and the risks associated with it.

3 See for example Cornille *et al.* (2019).

2. Fiscal and monetary policies were successful in tackling the pandemic but effective macroeconomic stabilisation in the future looks challenging

On the eve of the pandemic, policy space appeared rather limited. In the euro area, the monetary stance was already very accommodative with policy rates standing at record low levels and unconventional instruments, like asset purchases, already being activated. In addition, government debt levels in many Member States were at a high level, despite a gradual reduction in recent years. Nevertheless, fiscal and monetary policies in the euro area and elsewhere managed to react forcefully in response to the COVID-19 crisis. In line with the insight gained from the refined framework, the complementarity of the measures ensured their effectiveness. Looking ahead, however, policy space for macroeconomic stabilisation in case of a new negative shock appears even more limited than in early 2020 as structural impediments are likely to remain present.

2.1 Complementarity in action¹

Given the nature of the shock the pandemic has brought, governments have been, and still are, at the forefront of the fight against COVID-19 and its economic fallout. Within its primary objective of maintaining price stability, monetary policy has played second fiddle in supporting economic activity and has focused on maintaining favourable financing conditions for all economic agents, including governments, thereby facilitating fiscal spending.

An important measure in this respect were central bank asset purchases. In the euro area, the Eurosystem stepped up its asset purchases and launched a new Pandemic Emergency Purchase Programme. The latter's flexibility enabled the Eurosystem to mitigate both common stress and fragmentation pressures in euro area sovereign bond markets and thus ensured that low borrowing costs remained in place and were shared evenly across all Member States. This ensured that all nineteen fiscal authorities could let their automatic stabilisers work freely and take supplementary discretionary stimulus measures without the surge in debt issuance pushing up government bond yields. Fiscal stimulus was therefore able to make up for the limited monetary policy space.

With respect to liquidity provision to households and firms, monetary and fiscal measures also complemented each other. Through a new series of longer-term refinancing operations, the Eurosystem has provided the banking sector with ample liquidity. In turn, governments' credit guarantees have reinforced banks' incentives to lend to the private sector.

In sum, it is the complementary nature of monetary and fiscal policies that made a sizeable stimulus possible and effective.

2.2 Future policy space is limited

In the short term, continued fiscal and monetary support in the euro area is appropriate as the pandemic continues to suppress economic activity and inflationary pressures are expected to remain muted. Looking further ahead, once the pandemic is under control and the economic recovery is on a sustainable track, the policy focus should shift to restoring policy space in order for monetary and fiscal policies to be able to effectively absorb and counter negative shocks, including tail events, in the future. Building up policy space again will not be easy though as constraints on monetary and fiscal stimulus are expected to be rather persistent (see chart 1).

¹ For a detailed overview of the Eurosystem's response to the pandemic, see Boeckx *et al.* (2020).

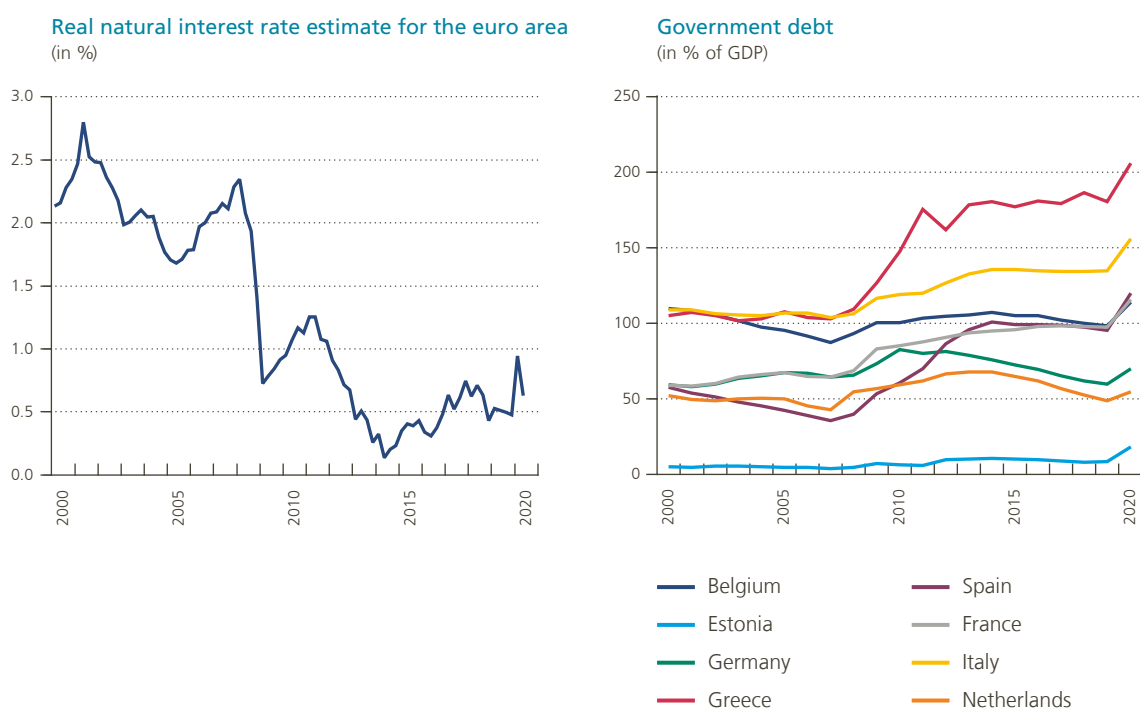
On the one hand, the natural rate of interest is expected to remain low in a post-pandemic world as the factors that have been holding it down (like population ageing and rising inequality) are not likely to quickly disappear. Certain developments – like investment in the green transition, a reversal of demographic trends and a retreat from globalisation (Goodhart and Pradhan, 2020) – could provide upward pressures though. Also note, that based on historical data, Jordà *et al.* (2020) have found that the real natural rate tends to decline by 1.5 percentage points over the 20 years following a pandemic. Overall, this would imply that monetary policy’s stabilisation role will remain limited going forward, naturally lending a bigger role to governments to deal with adverse macroeconomic shocks.

In countries with low and moderate government debt levels, fiscal policy has room to complement monetary policy in macroeconomic stabilisation when necessary. However, countries with weaker fiscal positions may encounter difficulties in swiftly providing a sizeable stimulus injection in response to an exceptional shock. The COVID-19 crisis has again illustrated how suddenly fiscal positions might deteriorate: government debt in the euro area increased by 14 percentage points in 2020, with Cyprus, Greece, Italy and Spain registering surges of between 21 and 25 percentage points. In seven Member States (including Belgium) government debt exceeded 100 % of GDP by the end of 2020. For these countries, the potential to use countercyclical fiscal measures will to a large extent depend on their commitment to put government debt again on a downward trajectory going forward.

The credibility of current and future fiscal and monetary policies is actually key for effective macroeconomic stabilisation. A fiscal authority committed to debt sustainability and a central bank committed to price stability should be able to create policy space for each other, even when room for manoeuvre appears limited at first sight. Moreover, credible policies not only better prepare for bad times, but also for good times. Consider a government that has, post pandemic, been serious about bringing its high debt on a sustainable path.

Chart 1

The low natural interest rate and high debt levels in many Member States limit future monetary and fiscal policy space



Sources: Eurostat, Holston, Laubach and Williams (2017).

If inflation developments would then call for a normalisation of monetary policy, the central bank will be able to act according to its price stability mandate instead of risking to be under political pressure to forego the necessary increase in interest rates.

Given the importance for high-debt countries to bring their debt dynamics under control, the following section explores the potential of different options that might be considered in this respect.

3. Exploring different options to bring high government debt levels under control

Even though government debt can make economic and societal sense, certain boundaries should not be overstepped. A public debt level (in proportion to GDP) is considered safe if it is plausible to expect the government to stabilise or reduce it under most circumstances – including persistently adverse ones – using fiscal policy, i.e. excluding default, restructuring or inflation. This notion rests on the requirement for the government to remain solvent with a high degree of confidence, the requirement that returning to safety implies a feasible policy path, and the importance of not losing control of debt dynamics even under adverse conditions (Debrun *et al.*, 2020).

The likelihood of losing control of debt dynamics rises with debt itself. As a result, the upper bound of the safe debt zone must be sufficiently low to accommodate adverse shocks without jeopardising the government's capacity to keep debt dynamics in check. The coronavirus crisis has significantly increased debt-to-GDP ratios in all euro area countries, including in those where debt levels were already high. Moreover, in some high debt countries, such as Belgium, upward debt dynamics are expected to persist also after the crisis.

Exploring different options for restoring fiscal space requires a thorough understanding of debt dynamics (see section 3.1). With the determinants of debt dynamics at hand, it is interesting to explore the impact of policy decisions by the fiscal and the monetary authority on the debt ratio. Using a set of narrative scenarios for Belgium, we first analyse what the fiscal authority, for which ensuring a safe debt level is a key responsibility, can rely on or not to bring debt (dynamics) under control (see section 3.2). Further, we assess whether the monetary authority could help a hand in bringing public debt under control by cancelling (part of) the public debt it holds on its balance sheet (see section 3.3).

3.1 What determines public debt dynamics?

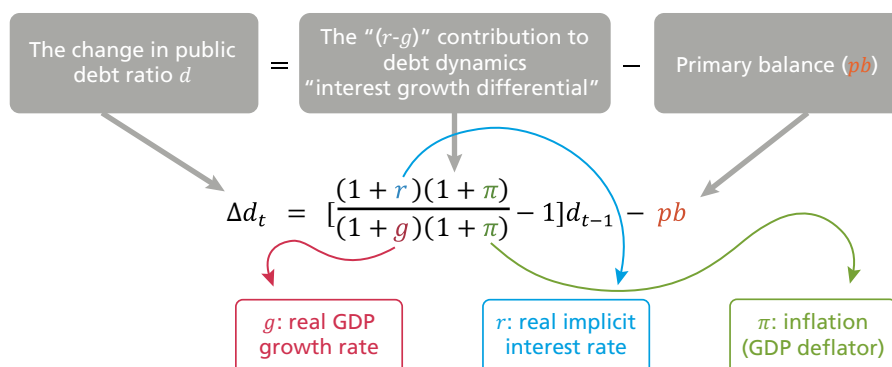
The debt dynamics equation shows the relevant parameters that impact the change in the ratio of debt to GDP in a given year. One can distinguish two broad factors: (i) the primary balance, and (ii) the impact of the interest-rate-growth differential. The primary balance is the difference between government revenues and primary expenditures (i.e. excluding interest payments), both expressed as a share of GDP. The negative sign in the debt dynamics equation indicates that a primary surplus has a downward impact on the debt to GDP ratio.

The impact of the interest-rate-growth differential on debt dynamics, also called the snowball effect and referred to as (r-g), depends on the difference between the implicit interest rate on debt and the nominal growth rate of GDP. Basically, the snowball effect pushes debt up if the nominal implicit interest rate – that is the average interest rate on all government debt – is higher than the nominal GDP growth rate. Intuitively, the ratio of public debt to GDP increases if the numerator (public debt) rises faster than the denominator (nominal GDP). The impact of the interest-rate-growth differential becomes favourable to debt dynamics if the implicit interest rate is lower than the nominal growth rate, as is currently the case. In that case the debt ratio automatically falls, unless it is pushed up by sufficiently high primary deficits.

Chart 2

The debt dynamics equation

(in % of GDP)



Source: NBB.

Note: for the sake of simplicity, this simplified illustration omits stock-flow adjustments.

A full understanding of the determinants of debt dynamics requires a further disentanglement of the nominal implicit interest rate and nominal growth. The nominal implicit interest rate is the average rate on all government debt and is the result of the weighted sum of the market interest rates that applied at the time the debt was issued. When the market interest rate goes up, this only affects interest payments on newly issued or refinanced debt. The resulting new implicit interest rate is only affected gradually, depending on the share of newly issued or financed debt in total government debt. The longer the average maturity of government debt, the longer it takes for a higher market interest rate to translate into a higher implicit interest rate, and hence a higher debt-to-GDP ratio.

Further, the nominal interest and growth rate can be disentangled into a real component and a deflator component. In case of nominal growth, an increase in the GDP deflator immediately gives rise to an increase in the nominal growth rate, which pushes down the debt dynamics. At the same time, an increase in inflation may also give rise to an increase in the nominal market interest rate, if the real interest rate does not fall. Yet, that increase only feeds into the implicit interest rate after a time lag as not all debt is issued or renewed in the same year. Consequently, in the short run, one may expect a downward impact of higher inflation on the debt-to-GDP ratio, as the ratio's denominator rises faster than its numerator.

3.2 Narrative scenarios for public debt dynamics in Belgium

Since the COVID-19 pandemic, Belgium's debt ratio has shot up to 114% of GDP and – according to the NBB's June 2021 macroeconomic projections – it is expected to be on an upward path from 2023 onwards. Even though it is hard to establish a debt limit beyond which unsustainability lies with near certainty, and an upper bound of a safe zone that offers Belgium a sufficient buffer to accommodate adverse shocks, it is clear that Belgium's debt ratio has come closer to these limits and that at least a stabilisation of the debt ratio in the coming years is desirable.

In order to explore the options for debt stabilisation and reduction, we develop a series of narrative scenarios for Belgian debt over the 2021-2030 horizon. The baseline scenario, which is used as a

benchmark, is based on the Bank's June 2021 macroeconomic outlook, with a projection horizon until 2023. For the 2024-2030 period, the baseline simulation assumes the primary balance achieved in 2023 as a starting point, and factors in population ageing costs and GDP developments¹ as estimated in the Study Committee on Ageing's July 2020 report; the nominal market interest rate on 10-year OLOs is assumed to rise to 0.9 % and inflation and the GDP deflator are set equally at 2 %. The implicit interest rate is falling steadily as the market interest rate remains below the implicit interest rate, which comes to 1.3 % in 2023. Furthermore, from 2024 onwards, the maturity structure of public debt is assumed to remain stable at ten years on average, the interest rates structure is held stable and anchored to the 10-year rate (based on the average differences by maturity in the first four months of 2021), and stock-flow adjustments are put at zero.

In the baseline scenario, the debt ratio rises steadily over the simulation horizon, to 123 % of GDP in 2030. There is an upward impact on debt dynamics from the primary balance, which is expected to record a deficit of 3.1 % of GDP in 2023, and rise further under the influence of ageing costs. This upward impact is tempered by the exceptionally favourable interest-rate-growth differential, which pushes down the debt ratio by three percentage points of GDP on average. All in all, despite the favourable snowball effect, large deficits are expected to push debt steadily upwards.

The narrative scenarios change the values of the variables determining the debt dynamics equation. It should be noted that the scenarios themselves are based on mechanical simulations where one variable of the debt dynamics equation (primary balance, real GDP growth rate, real implicit interest rate or inflation) is changed at a time, without affecting the other variables. Only if the real growth rate is changed, will there also be repercussions for the primary balance via the standard semi-elasticity of 0.62, used by the European Commission to calculate the cyclical component of the budget balance. Even though such a mechanical approach ignores any possible endogenous impacts of one variable on the others, which would result from a more comprehensive model that structurally links these variables², it has the advantage of simplicity and transparency in interpreting the results. Moreover, in each of the scenarios, we will argue to what extent the mechanical approach is plausible and how possible endogeneities could alter the results.

How much fiscal consolidation is needed to stabilise the debt ratio ?

A first scenario investigates how much the primary balance needs to improve, compared to the baseline, in order to stabilise the debt ratio from 2023 onwards. To achieve this, the primary deficit is set equal to the impact of the interest-rate-growth differential on debt dynamics; the interest-rate-growth differential is unchanged compared to the baseline.

The simulation shows that a consolidation effort of at least 1.5 % of GDP is required just to stop the Belgian debt ratio from rising. It also demonstrates that despite the historically favourable interest-rate-growth differential, at unchanged policy (cf. the baseline scenario), the Belgian government does not succeed in bringing down or even stabilising the debt ratio. The scenario of debt stabilisation can be considered as a minimum condition for keeping debt sustainability under control. To rebuild fiscal space, a significant reduction in the debt ratio is desirable. The advantageous reverse snowball effect should be used to this end.

The mechanical exercise assumes no impact from the fiscal consolidation on the other relevant variables, such as the growth rate. This means that the simulation implicitly assumes a fiscal multiplier of zero. Even though one can argue in favour of a positive fiscal multiplier, which would result in a negative impact of fiscal consolidation on economic activity, a small multiplier can be justified in the case of Belgium, given the open nature of the

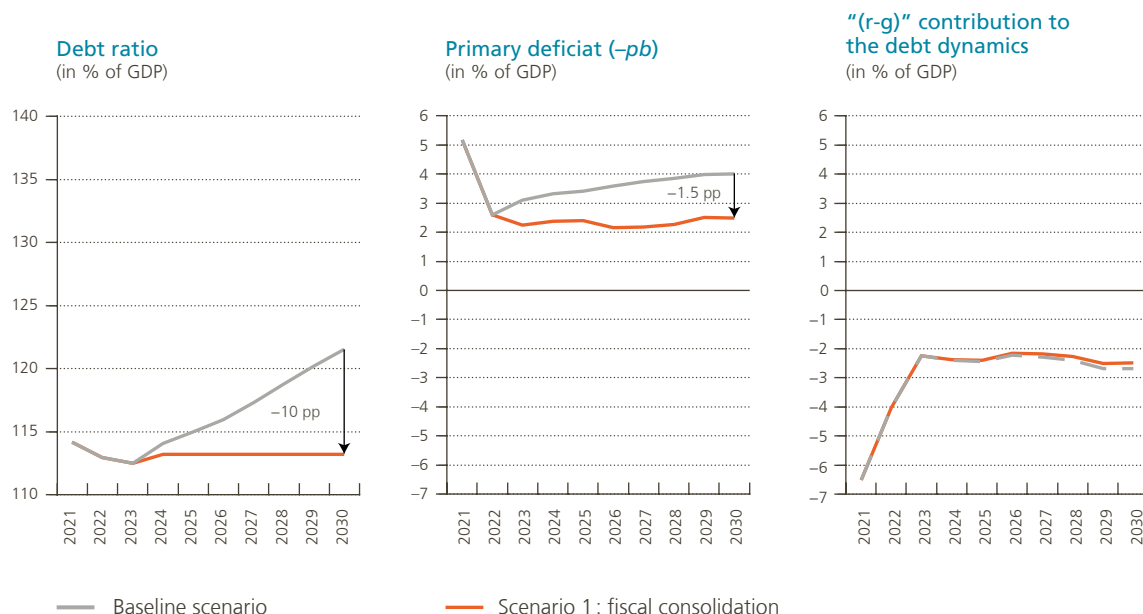
1 The average real growth rate over 2024 and 2030 is set at 1.3 %.

2 There is a rich economic literature reporting similar scenarios based more complex methods, such as in Hilscher *et al.* (2021) and Krause and Moyen (2016) for the US, or Equiza-Goñi (2016) for the euro area.

small Belgian economy, possible confidence gains from a reorganisation of public finances, and provided the composition of fiscal consolidation is not very detrimental to growth. In any case, the required consolidation effort in order to stabilise debt that results from our simulation can be considered as a lower bound compared to a simulation that would assume a positive fiscal multiplier.

Chart 3

How much fiscal consolidation is needed to stabilise the debt ratio ?



Source: NBB.

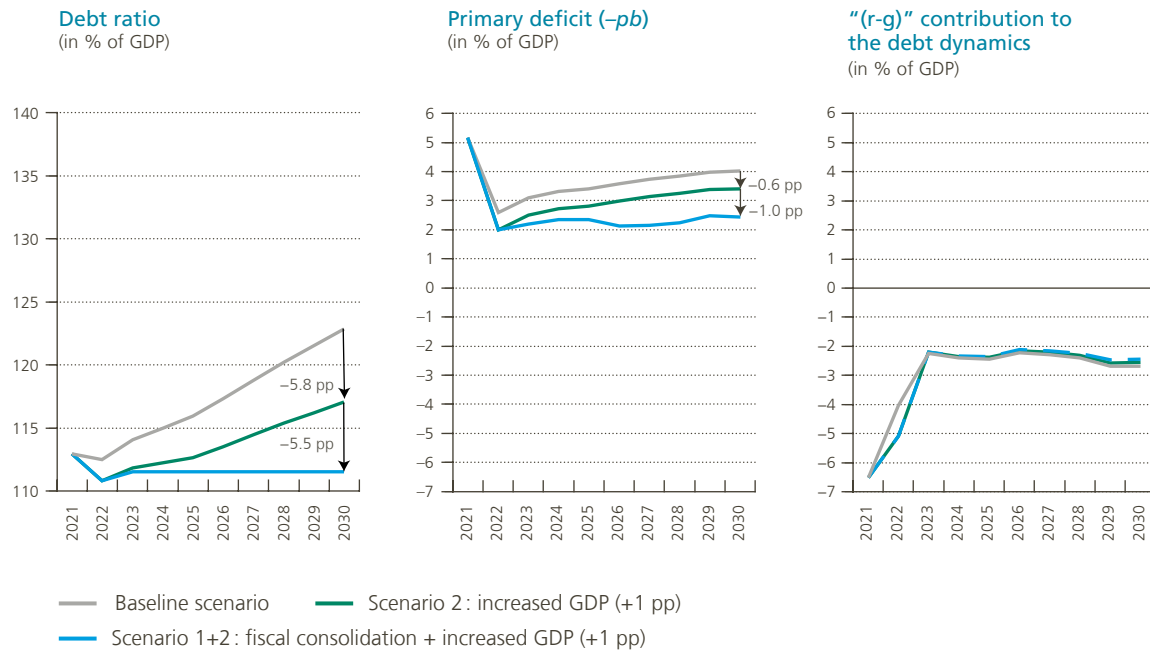
The baseline scenario reflects the NBB's June 2021 macroeconomic projections until 2023. For the 2024-2030 period, the simulation assumes the primary balance achieved in 2023 as a starting point, and factors in ageing costs and assumptions on GDP developments in the July 2020 SCA report. Nominal interest rates are assumed to remain at 0.9 % from 2024 onwards, and inflation (as reflected by the GDP deflator) is set at 2 % from 2024 onwards. Other assumptions include that the maturity structure of the debt will remain stable at ten years on average, that the interest rates structure by maturity (yield curve) is stable compared to the 10-years rate (based on the average differences by maturity in the first four months of 2021) and that no exogenous factors impact the debt ratio.

In a second scenario, we examine to what extent an exogenous increase in Belgian economic activity could help alleviate the budgetary effort necessary to stabilise debt. Therefore, we suppose an increase in GDP with one percentage point in 2022 compared to the baseline scenario. This scenario can be interpreted as one where economic activity broadly returns to a level that was expected without the coronavirus crisis. It is also worth noting that in our mechanical model a permanent increase in economic output level by one percentage point translates into a permanent improvement of the primary balance of 0.62 % of GDP.

The higher GDP level has a downward impact on the debt ratio via a temporary improvement in the interest-rate-growth differential, and via the permanent downward shift of the primary deficit. Under these macroeconomic conditions, the consolidation effort required to stabilise debt – at a lower level – is much smaller than in the previous scenario. As a result, structural policies that boost economic activity, either by raising labour market participation or propping up productivity, also play an important role for debt sustainability. It should be noted that as long as the enhanced economic activity is limited to Belgium, it is justifiable that nominal interest rates do not go up, since Belgium is too small to affect the euro area monetary policy stance.

Chart 4

To what extent does higher economic activity help to alleviate the budgetary effort?



Source: NBB.

What if financial markets question sovereign debt sustainability?

The third scenario tests the implications for public debt if financial markets lose confidence in Belgian public finances. To analyse this question we assume an exogenous increase in the risk premium of three percentage points from 2022 onwards compared to the baseline¹, taking the nominal market interest rate towards 3.9%. All other variables are kept constant in this stress test scenario.

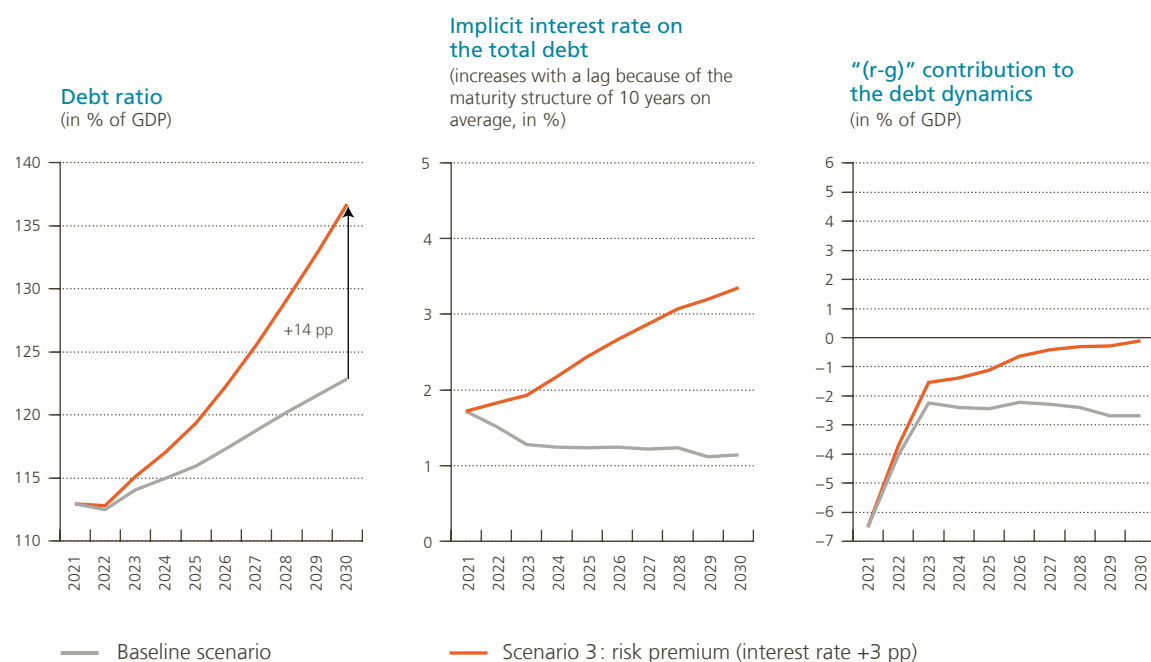
In these circumstances, the implicit interest rate steadily increases towards more than 3% in 2030. As a result, the favourable interest-rate-growth differential fades, and the reverse snowball effect gradually grinds to a halt. Note that the increase in the implicit interest rate is very gradual, compared to the sudden rise in the market interest rate. This is because of the relatively long average maturity of public debt in Belgium, which currently stands at around ten years. This implies that, on average, only one-tenth of public debt is re-financed every year at the new market conditions. This scenario results in an increase in the debt ratio to 137% of GDP by 2030 with no change in fiscal policy.

This scenario demonstrates the importance of keeping the trust of financial markets, and illustrates the possible adverse consequences of not shoring up public finances with structural measures. It also shows that thanks to the lengthening of the debt maturity in Belgium, from six years on average in 2009 to ten years now, the financing implications of a sudden increase in risk premia would be buffered, giving the government additional time to take necessary action. At the same time, this scenario also indicates what would happen if the historically favourable financing conditions disappear.

¹ Three percentage points corresponds to the spread of Belgian ten-year linear bonds vis-à-vis the German Bund end November 2011, in the midst of the sovereign debt crisis.

Chart 5

What if the risk premium on sovereign debt goes up by three percentage points?



Source: NBB.

Here, too, it should be recognised that the mechanical exercise has its limitations. One could expect that such a sharp rise in the risk premium would have negative implications for the real economy because of the loss of confidence among economic agents and tightening credit conditions. This would further aggravate the situation. In that respect the upward impact on debt from an increase in the risk premium in our mechanical simulation can be seen as a lower bound.

Can higher inflation bring public debt back onto a sustainable path?

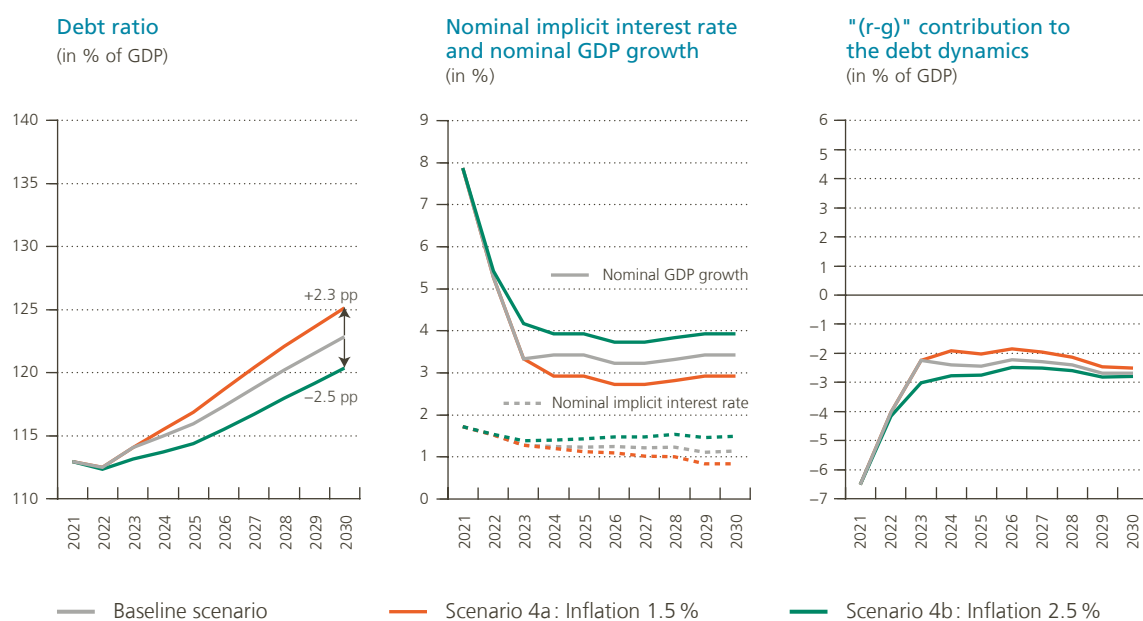
A fourth set of scenarios analyses the impact of inflation on debt sustainability. As higher inflation reduces the real value of government debt, it is often seen as one of the factors that can contribute to the alleviation of debt sustainability concerns. In order to investigate inflation’s role, we compare a low and a high inflation scenario. For the sake of simplicity, we assume that inflation equals the GDP deflator from 2024 onwards, which implies that the inflation shock in Belgium does not originate from a change in the terms of trade. The low inflation scenario is one where inflation muddles on at 1.5% from 2024 onwards, which corresponds to the average of the GDP deflator of the past decade, and remains below the ECB’s target of 2%. The high-inflation scenario assumes a rise in inflation to 2.5% from 2024 onwards, which would allow to steadily make up for the low inflation in the last years.

A crucial issue in these scenarios is what happens to the nominal – and consequently real – interest rate. We assume in both scenarios that the real market interest rate is kept constant compared to the baseline scenario, meaning that the change in inflation is fully passed into a change in the nominal market interest rate. Concretely, in the low-inflation scenario the market interest rate falls to 0.4%, while it jumps to 1.4% in the high inflation scenario. Further, we assume that the inflation shock is exogenous, i.e. not originating from a change in GDP growth or the output gap vis-à-vis the baseline scenario, and euro-area-wide, which warrants a monetary policy reaction by the ECB (so that interest rates change).

The simulation results show that the high inflation scenario would result in a fall of 4.8 percentage points of GDP in the debt ratio compared to the low inflation scenario. The favourable debt dynamics in the high-inflation scenario originate from the faster upward impact of higher inflation on the nominal growth rate than on the nominal implicit interest rate, yielding a temporary improvement in the interest-rate-growth differential. The higher GDP deflator/inflation immediately impacts the nominal growth rate and the nominal market interest rate. The implicit nominal interest rate, in his turn, is only gradually affected, as public debt is refinanced little by little over the simulation horizon.

Chart 6

What is the impact of inflation on the debt ratio?



Source: NBB.

The simulation shows that the impact of higher inflation on the debt ratio crucially depends on the impact on the implicit interest rate (on all government debt), which is driven by two factors. First, the debt reducing impact from higher inflation is greater, the less the nominal market interest rate rises with inflation. In our simulation, market interest rates react one-to-one to inflation. Were monetary policy to be more accommodative, market interest rates would rise by less than the increase in inflation, and the debt-reducing impact would be higher. The opposite would hold if monetary policy were more restrictive. Second, the debt-reducing impact of higher inflation is greater, the longer the average maturity of public debt. With an average maturity of ten years in Belgium, it takes on average ten years for the higher market interest rate to fully translate into the implicit interest rate.

The simulations above abstract from the fact that the Eurosystem owns more than 15 % of Belgian government debt¹. As explained in the next section, the fact that the Eurosystem's purchases imply a de facto swap from longer- to short-term interest rates, dampens the impact from maturity lengthening by the treasury, and makes the effect of surprise inflation less beneficial for public finances. Government debt residing on the balance sheet of the central bank also provokes another question: does debt cancellation by the central bank provide an easy way for creating fiscal space? This issue will be discussed in the next section.

¹ The NBB owned 16 % of Belgian government debt end 2020. Also the ECB holds a small share of Belgian government debt as it manages approximately 10 % of the Eurosystem's purchases of national government debt.

3.3 Can debt cancellation by the central bank create fiscal space faster?

The simulations above illustrated that current monetary policy – in pursuing its price stability mandate – contributes positively to government debt dynamics. More specifically, the current low interest rate policy creates favourable conditions for stabilising debt dynamics while an inflation rate closer to the price stability objective would further benefit fiscal positions. However, both will not quickly nor drastically reduce high government debt levels. Another proposal that has recently gained momentum does see a way for monetary policy to achieve this. It entails cancelling the government bonds that ended upon the central bank balance sheets via asset purchase programmes. In February 2020, for instance, more than 100 voices (mostly from economists)¹ called upon the Eurosystem to write down the government bonds it has purchased. The freed-up fiscal space could then be used by governments to finance green investment and social programmes.

The following paragraphs assess the merit of this proposal². In contrast to the practical simulations above (that used recent data and projections for Belgium), the analysis here is conceptual. It uses simplified balance sheets to bring stylised insights, making abstraction of the complex institutional setting in the euro area as well as of specific accounting rules (the focus here is on the economic reasoning). In addition, the central bank explicitly enters the picture, forming, together with the government, the official sector.

After asset purchase programmes, official funding is more short term ...

In order to assess the proposal of debt cancellation by the central bank, it is useful to take a step back, to when the central bank acquired the debt. The simplified balance sheets in chart 7 illustrate four different scenarios.

Under its asset purchase programmes (panel B), the central bank buys government bonds from the private sector (in the stylized example it concerns one third of the bonds outstanding) and finances these purchases by issuing central bank reserves (see box 1 for a brief explanation). The private sector now holds longer-term government bonds and short-term central bank reserves and earns interest on both³. The central bank also receives interest on the government bonds it holds but it transfers its profits (the difference between interest earned on assets and interest paid on liabilities in our simple example) back to the government.⁴

... which has lowered the official sector's debt servicing costs

Overall, from a financial flow perspective, central bank asset purchases yield two gains for the official sector (compare A with B). First, by replacing higher-yielding government bonds with lower-yielding central bank reserves, the official sector pays lower interest costs to the private sector. Note that the steeper the yield curve, the more significant the interest cost savings will be. Second, as central bank asset purchases lower longer-term government bond yields, the government has to pay a lower interest rate on newly issued bonds.

It should be noted, though, that asset purchase programmes are a temporary policy. At some point in the future, depending upon the economic recovery and, in particular, the inflation outlook, large-scale central bank asset purchases will end, followed by a phasing out of the reinvestment of matured bonds. Panel C depicts the end result of what in practice will be a very slow process: the unwinding of asset purchases. In the example, the

1 See the open letter “Cancel the public debt held by the ECB and ‘take back control’ of our destiny” published on 5 February 2021 in several newspapers.

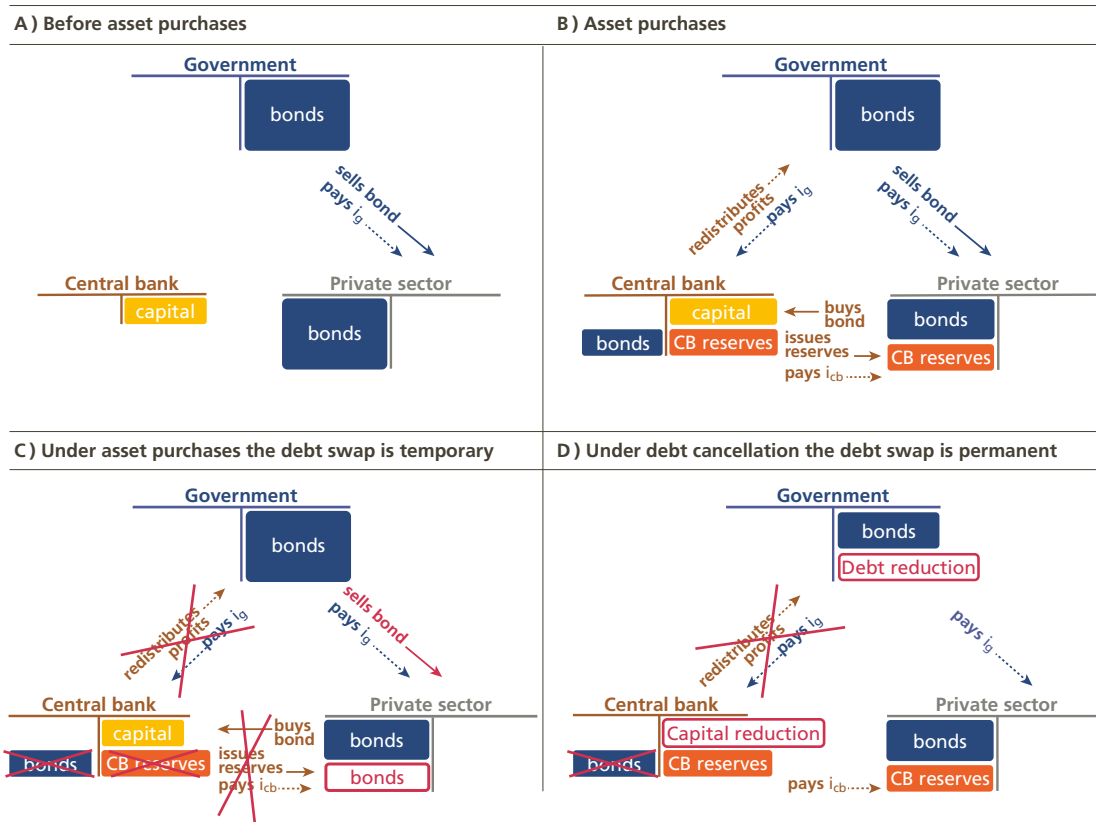
2 It builds on the reasoning in Boeckx and Debrun (2021). For ECB Executive Board members’ view on the matter see for instance an interview of Philip Lane with *Süddeutsche Zeitung* on 31 January 2021, Christine Lagarde with *Le Journal de Dimanche* on 7 February 2021 and of Luis de Guindos with *Público* on 2 March 2021 available on Interviews (europa.eu).

3 In practice, the Eurosystem buys government bonds from the banking sector – which sells the bonds it has on its balance sheet or acts as an intermediary selling the bonds of its clients – and issues central bank reserves in return, which can only be held by the banking sector.

4 Two refinements should be added here, though. First, the central bank might reserve part of its profits before distributing them to the government. That is because the central bank risks incurring losses on these bonds, which could threaten its financial independence. The recycling of interest payments is thus not perfect from the point of view of the government, but it is when considering the official sector as a whole. Note that the lower central bank dividends are offset by a larger central bank capital base which benefits the shareholders, most often the government. However, and secondly, some central banks, including the NBB, also have private shareholders, which entails that the recycling of interest payments will not be perfect.

Chart 7

Central bank asset purchases versus debt cancellation: an illustration using simplified balance sheets



Source: NBB.

government repays the maturing bonds on the central bank balance sheet through refinancing, with the new bonds being bought by the private sector¹. Consequently, the government bonds on the central bank's assets side disappear as do the central bank reserves on the liabilities side, because the government extracts resources from the private sector to finance its debt rollover. As a result, each agent's balance sheet has returned to the situation prior to the central bank buying assets (panel A = panel C). The private sector again only holds government bonds and no central bank reserves.

After debt cancellation, official sector debt would not fall ...

Under debt cancellation (panel D), the repayment to the central bank never happens and the swap of long-term government debt for short-term central bank debt will be permanent. When the central bank cancels the government bonds on its balance sheet, government debt does actually fall, but the central bank reserves that were issued to finance the purchase of government bonds do not. As a result, from a stock perspective, debt cancellation does not reduce interest-bearing official sector debt. More precisely, the official sector's debt stock in private hands remains the same in all four scenarios even if its maturity structure and issuer status does not.

¹ The example assumes an unchanged stock of government bonds, requiring a debt rollover.

In addition, it should be noted that debt cancellation implies the central bank registering a loss on the assets side of its balance sheet which eats into the capital on its liabilities side. In theory, a central bank can operate with low or negative capital as its money-creation power enables it to generate revenue in the future with which it can gradually cover any losses incurred¹. In practice however, this will likely mean that, in order to restore its capital position, the central bank lowers or simply stops the profit flows it distributes to the government. So, the government no longer pays interest on the cancelled government bonds, but it also no longer receives dividends from the central bank. Moreover, in an extreme situation, it could be that the revenue a central bank can raise in the future under a price-stability-oriented monetary policy is insufficient to cover the capital loss. Either, the government then steps in and recapitalises the central bank. Note that while this would allow monetary policy to remain committed to controlling inflation, the fiscal authority would see its increased fiscal space from debt cancellation evaporate. Or, in the absence of fiscal backing, the central bank may have to exploit its revenue-generating capacity which will inevitably result in higher inflation and thereby in the central bank forsaking its price stability mandate. Of course, the mere perception of a weak central bank balance sheet could erode the public's trust in the central bank and in the money it issues and thus result in higher inflation.

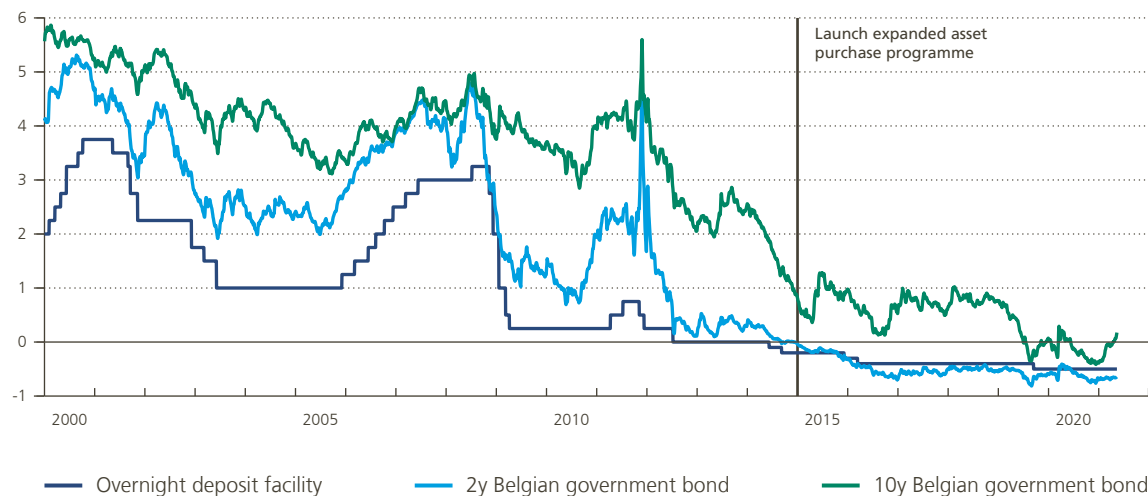
... nor would debt servicing costs drop further

Thus, also, from a financial flow perspective, debt cancellation does not seem to bring any additional benefits compared to central bank asset purchases. Halting the circular interest payments within the official sector (under debt cancellation) or not (under asset purchases) makes little difference: in both cases, the central bank keeps paying the interest on central bank reserves to the private sector. And, as noted above, under debt cancellation, the government is likely to receive lower profits from a central bank that is restoring its capital position. In addition, permanently financing a part of the official debt at the interest rate on central bank reserves instead of at the interest rate on government bonds, yields little benefit when the yield curve is flat (as is currently the case) with $i_{cb} \approx i_g$ (see chart 8). The larger share of short-term funding in the official funding mix also makes official debt more sensitive to central bank interest rate rises.

¹ For a deeper analysis on central bank insolvency, see Reis (2015).

Chart 8

Short-term instead of long-term funding yields little benefits when the yield curve is rather flat



Source: Refinitiv.

If the central bank were to raise its policy rates in the future, interest rates on both central bank reserves and governments bonds would go up. Given their overnight maturity, the former will rise immediately whereas the latter will go up more slowly as the longer maturity of the bonds insulates the government from paying higher interest rates for some time. In this respect, the lengthening of the average maturity of euro area government debt since the launch of the Eurosystem's asset purchase programme in 2015 – through locking in low interest rates – will prove beneficial. It should be noted that both asset purchases and debt cancellation imply a faster pass-through of a monetary policy tightening into official borrowing costs, but the shortened maturity structure of official debt is only permanent under the latter scenario.

Overall, debt cancellation following central bank asset purchases makes no economic sense. Asset purchases lower the official sector's debt servicing costs (especially when the yield curve is steep). Debt cancellation does not bring additional financial gains, as it leaves unchanged the stock and maturity structure of interest-bearing official debt in private hands, and hence interest payments to the private sector. Moreover, there are other counter-arguments.

BOX 1

Explainer: What are central bank reserves?

The central bank has the monopoly over the issue of money with legal tender. This money can take two forms: 1) physical money, being banknotes in circulation, that can be used by all economic agents to settle transactions and which yields no interest or 2) electronic money, being central bank reserves, that can only be used by the banking sector to settle transactions among commercial banks or with the central bank and on which the central bank pays interest. Both forms of money represent the most liquid, risk-free assets in the economy; they are claims that society has on the central bank.

Central bank reserves can further be divided into two categories, namely required reserves and excess reserves. In the Eurosystem, commercial banks have to hold 1% of their short-term liabilities, mostly retail customers' deposits, at their national central bank. These required reserves are remunerated at the rate on the main refinancing operations (MROs) which currently stands at 0%. Reserves that banks hold in excess of the required reserves are remunerated at a lower rate, namely the deposit facility rate which currently stands at -0.5%. As of the end of 2019, a part of these excess reserves is also remunerated at the MRO rate in order to avoid strains in the transmission of monetary policy to firms' and households' borrowing conditions¹.

How are central bank reserves created? In normal times, the central bank plays a rather passive role in the creation of reserves as it issues reserves in tune with banks' liquidity demand. The Eurosystem used to estimate the liquidity needs of the banking sector and provided that amount in the form of loans to banks. On the assets side of the Eurosystem's balance sheet, this would result in an increase in its monetary policy operations (like the main refinancing operations), while on the liabilities side, the central bank reserves would go up. After the great financial crisis, however, the Eurosystem has taken a more active role in the creation of central bank reserves. For instance, its asset purchase programmes – employed to support inflation when policy rates are near their lower bound – are financed by the issuance of central bank reserves. Consequently, whereas prior to the financial crisis the amount of central bank reserves was relatively small and predominantly consisted of required reserves, since then, the amount has increased significantly (by a factor of fourteen in the Eurosystem) and is mainly made up of excess reserves.

¹ For more details on the two-tier system, see for example box 2 in the NBB Annual Report (2019).

Other counter-arguments

First, there is a legal obstacle, as Article 123 of the Treaty on the Functioning of the European Union prohibits monetary financing. Second, the current environment does not force high-debt countries to undertake any swift and significant debt reduction (which is often economically harmful). Financial markets are currently not questioning the fiscal sustainability of government debt paths and the favourable interest-rate-growth differentials support the sustainability of high debt levels (see also previous sections). Hence, there is no need to look for an alternative, supposedly less painful way to deal with high debt. Third, debt cancellation risks damaging the credibility of the official sector. On the one hand, it may result in the “risk-free” status of government bonds being called into question, leading to higher risk premiums and thus higher interest rates. On the other hand, debt cancellation by the central bank may result in the latter’s commitment to price stability being doubted or in a loss of trust in the currency, leading to higher inflation and higher interest rates.

Taking into account the lack of economic benefits and the many risks, the debt cancellation proposal does not appear to be a promising option to pursue.

Conclusion

At the lower bound, when macro-economic policy space is limited, a close interaction between monetary and fiscal support measures is necessary to successfully address negative shocks. Once the crisis mode is behind us, it is important to restore stretched policy space implying that the fiscal authority focuses on debt sustainability, allowing monetary policy to continue focusing on its mandate of price stability. By credibly committing to their respective objectives, monetary and fiscal policies will be best equipped to tackle future challenges that may emerge in bad times (consider, for instance, extreme shocks hitting the economy in a lower bound environment) as well as in good times (consider, for instance, normalizing policy rates in a high debt environment).

The article has focused on restoring fiscal space in countries with high and rising government debt levels. For now, governments’ solvency is generally not being called into question but as the debt sustainability assessment and perception could quickly turn, it is important to commit to credible debt strategies. In Belgium’s case, the analysis has shown that the current favourable impact of interest rates remaining well below trend economic growth are not enough to stabilise government debt over the next decade, let alone bring it back onto a downward path. And interest rates’ future course is uncertain. Inflation’s potential for devaluing debt is also limited, especially when considering inflation ranges that are consistent with the price stability mandate. Considerable consolidation efforts will thus be needed to achieve a turnaround in the Belgian debt trajectory. On top of that, lifting and sustaining higher economic growth – through growth-friendly fiscal policies and structural reforms – appears paramount.

A clear commitment by governments to debt sustainability avoids the central bank being pressured to take debt concerns into account when setting monetary policy. Through steering interest rates and inflation, the central bank does have an impact on debt dynamics. Unconventional policies, like central bank government bond purchases, have further enhanced the links between monetary and fiscal policy. But as already set out in the pre-crisis framework, monetary policy is not responsible for guaranteeing debt sustainability. History has shown that such an assignment risks leading to adverse economic outcomes. The article also shows that the seemingly simple solution of cancelling the government bonds on the central bank balance sheets will not deliver the result hoped for: it is not a free lunch, but potentially risky and generally unnecessary.

Overall, the low interest rate and high debt environment will remain challenging for monetary and fiscal policies to navigate but it should be manageable. When governments credibly stand by the core objectives of fiscal policy – i.e. contributing to durable and equitable economic growth via an optimal allocation of available resources, while keeping debt dynamics in check –, macro-economic policy space may gradually be restored without having to resort to drastic measures.

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