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The impact of high inflation on Belgian public finances : a simulation exercise

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National Bank OF BELGIUM
Eurosystem

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Introduction

Following the strong post-pandemic economic recovery, inflation in Belgium exceeded 10 % in 2022, reaching levels unseen since the 1970s. It was spurred by rising energy prices which in turn were exacerbated by Russia's invasion of Ukraine. Such an inflation surge has significant economic consequences: it erodes household purchasing power, puts corporate margins under pressure and forces the central bank to tighten monetary policy.

In these unusual circumstances, the question arises as to the impact of high inflation on Belgium's public finances. This question is all the more relevant given the challenge of making Belgian public finances healthier in the coming years and reversing the structurally upward debt dynamics.

It is often claimed that inflation is good for public finances. Revenue, including from consumption taxes, is indeed boosted by rising consumer prices. Policymakers tend to maintain that this additional revenue can be used to finance measures to offset the inflation-induced loss of household purchasing power. In addition, inflation leads to an immediate fall in the debt-to-GDP ratio, as rising prices push up the denominator.

However, other factors ushered in by inflation have a less favourable effect on public finances. For instance, public spending also increases, especially if an expenditure item is indexed automatically, as is the case in Belgium for the wages of civil servants and social benefits. In addition, inflation also raises nominal interest rates, especially when the central bank tightens monetary policy, thereby increasing the interest due on public debt.

Another interesting question is whether higher inflation is associated with higher or lower economic activity.

The origin and nature of inflation play an important role when it comes to determining the impact on public finances. For instance, imported inflation, such as that resulting from higher energy prices, has a more unfavourable impact on economic activity and the relative prices of domestically produced goods than inflation resulting from rising demand at home.

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We answer the question regarding the impact of inflation on Belgian public finances using simulations by which we compare the budgetary impact of the macroeconomic framework used for the NBB's December 2021 projections with that of the framework on which the June 2023 projections were based. In doing so, we assume that differences in deflators, interest rates and economic activity between these two sets of projections can largely be attributed to – or at least are associated with – the unexpected surge in inflation.

The first section of this article provides a conceptual framework for examination of the various channels through which inflation can affect public finances. This framework forms the basis for the simulation exercise set out in Section 2. Section 3 presents the results of the simulation exercise regarding the impact of inflation on the budget balance. Section 4 describes the impact of inflation on public debt with reference to the simulation results. The fifth and final section contains the conclusion.

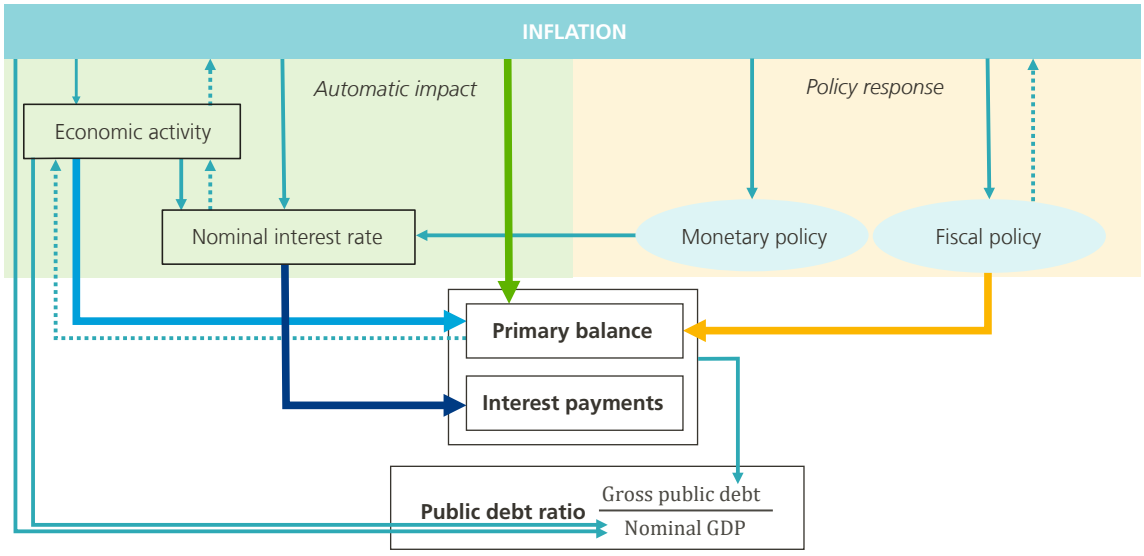
1. Conceptual framework

When analysing the impact of high inflation on public finances, it is important to take into account all relevant transmission channels. In that sense, it is also important to distinguish between the automatic impact of inflation on public finances and the effect of discretionary policies in response to inflationary pressures. Figure 1 provides a schematic overview of the various channels and serves as a conceptual framework for our simulation exercise. The remainder of this section focuses on the transmission channels through which inflation impacts (i) the primary balance, (ii) interest payments and (iii) the debt-to-GDP ratio. It should be noted that we do not consider interaction or feedback effects between the various channels in our conceptual framework, even though these can be important. [1]

1 For example, certain discretionary fiscal policy measures in support of purchasing power directly reduce inflation.

Figure 1

Conceptual framework for analysis of the impact of inflation on public finances



Source: NBB.

Impact of inflation on the primary balance

One transmission channel runs via the real economy. Whether real economic activity is positively or negatively correlated with inflation depends on the type of inflation shock, as shown in Figure 2. A negative supply shock – caused by an upward shift in marginal costs – will lead to lower economic activity (growth), while a positive demand shock – causing the demand curve to shift to the right – stimulates economic growth. Broadly speaking, due to the automatic stabilisers, [1] an increase in real economic activity positively impacts the primary balance-to-GDP ratio while lower real growth results in a deterioration. When these two types of shocks are combined, as in the current episode characterised by high imported inflation and rising demand, the relationship between inflation and economic activity and ultimately the primary balance is highly uncertain.

Inflation also directly impacts the primary balance, through the various fiscal deflators. In general, high inflation directly boosts nominal tax revenue due to expansion of the price component of the tax base. For example, a rise in consumer prices is reflected in higher nominal household final consumption expenditure, leading to higher VAT revenue. Inflation also causes average nominal wages to rise, as they are automatically indexed in Belgium. Government spending will rise as well. In Belgium, several budget items are automatically indexed to inflation. More specifically, these include the compensation of public-sector employees and most social benefits. In addition, other public expenditure categories are also expected to rise along with inflation, to preserve the real value of government outlays.

Whether the direct impact of inflation on the primary balance is ultimately positive or negative depends on the relative magnitude of the various deflators applied to tax bases and expenditure categories. The impact of inflation on these deflators in turn largely depends on its origin. Consequently, the type of inflation shock also matters when assessing the direct impact of inflation on public finances. Inflation originating from a positive demand shock is expected to have a broadly neutral direct impact on the primary balance, while a negative supply or cost-push shock will likely cause the balance to deteriorate. This difference in impact is particularly apparent in the corporate tax-to-GDP ratio. A positive demand shock leads to higher consumer prices and – including via the automatic indexation of wages – higher production costs. Since the origin of inflation is internal, producers can keep their profit margins stable by aligning their price increases to increases in production costs. This results in broadly equal changes in consumer prices and domestic production prices, captured by the GDP deflator, and a generally unaffected corporate tax-to-GDP ratio. Conversely, a negative supply shock, such as one induced by higher imported energy prices, should force producers to lower their profit margins in order to remain competitive. An incomplete pass-through of higher production costs (including automatically indexed wages) to the prices of domestically produced goods and services can thus be expected. In this case, GDP deflator growth will be less than the rise in consumer prices as the latter are directly impacted by rising energy prices. As a result, the corporate tax-to-GDP ratio is expected to fall.

In addition to the direct impact of inflation on the primary balance, it is also important to bear in mind the possibility of a fiscal response. To maintain household and firm purchasing power, the government can provide fiscal support, such as indirect tax cuts and transfers, to alleviate the impact of higher inflation on the cost of living. This kind of expansionary discretionary fiscal policy will worsen the primary balance

Impact of inflation on interest payments

Inflation will also affect interest payments and thus alter the cost of servicing government debt, both new and roll-overs. [2] Higher inflation will cause nominal interest rates to rise automatically. This effect will eventually be reinforced by an increase in real interest rates, due to a tightening of monetary policy in response to the high

1 In general, tax revenue positively follows real growth whereas primary expenditure does not, and unemployment benefits are even negatively impacted. As such, an increase in real economic activity has a positive impact on the primary balance.

2 High inflation automatically translates into higher interest payments on inflation-linked debt instruments. In Belgium, inflation-linked government bonds are negligeable.

inflationary environment. Given the relatively lengthy average maturity of Belgian public debt, rising interest rates will only gradually impact interest payments.

Impact of inflation on the debt-to-GDP ratio

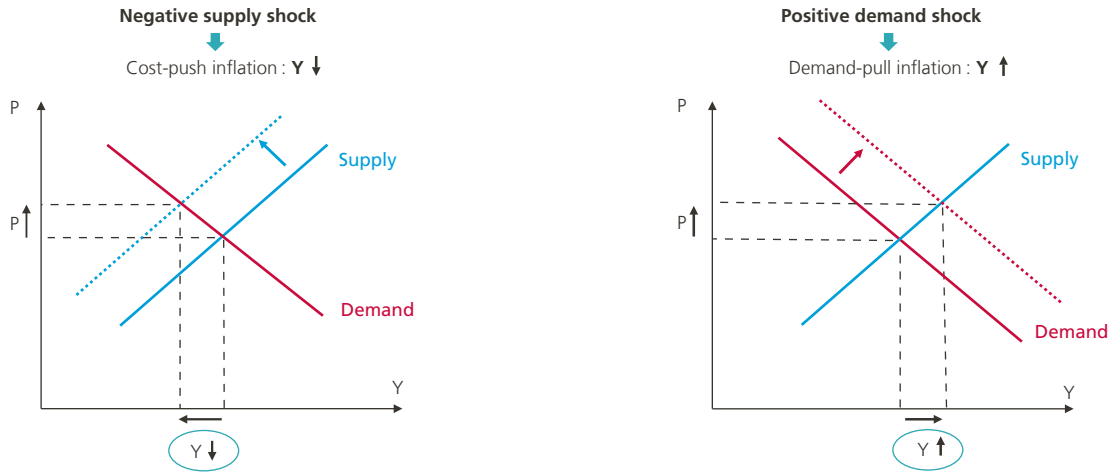
Turning to the impact of inflation on the debt-to-GDP ratio, different channels come into play. First, inflation has an impact on this ratio via the numerator or the budget balance, i.e. the primary balance and interest payments. This effect is discussed above. In addition, inflation also affects the debt-to-GDP ratio via the denominator, nominal GDP. Both the real and price components of nominal GDP are impacted by inflation. As stated above, for both components the type of inflation matters. The origin of inflation is important for determining the impact on real economic growth and whether the GDP deflator evolves in tandem with consumer prices.

When it comes to the overall impact of inflation on public debt, the denominator effect usually predominates in the short run as interest payments increase only very gradually. Moreover, in the short run, the change in nominal GDP will be mainly driven by the price component, as it is also reasonable to expect that the impact on real economic growth will not be immediately clear. Thus, in the very short run, inflation often leads to a decline in the debt ratio. [1]

Over time, however, the numerator effect will become more important as interest payments rise. Moreover, depending on the type of inflation shock and the fiscal response, a significant deterioration in nominal budget balances could outperform the increase in the denominator stemming from the price component. Consequently, this could lead to a rising debt-to-GDP ratio.

Figure 2

The origin of an inflation shock determines its relationship with real economic activity



Source : NBB.

1 See, for example, the historical empirical analysis by the IMF (2023) and Eichengreen and Esteves (2022). However, it should be noted that these studies also point out that inflation cannot durably lower the debt ratio.

2. Description of the simulation exercise

To assess the impact on Belgian public finances of the current episode of high inflation, we conducted a simulation exercise using the NBB's fiscal projection platform.[1] We followed the ECB's (2023a and 2023b) approach and attempted to capture the current inflation shock by comparing macroeconomic projections from two different projection vintages.

Primary budget balance: 2022-2025

For the period 2022-2025, we used price forecast revisions since late 2021 as a proxy for the inflation surprise, initially stemming primarily from a sudden increase in energy prices. Concretely, we compared the NBB's December 2021 macroeconomic projections for Belgium with the latest macroeconomic projections from June 2023. We did so for a projection horizon of 2022-2025, using 2021 as the starting year.[2]

The December 2021 macroeconomic projections fed the *December 2021 scenario*, or the reference before the unexpected rise in inflation, while the June 2023 projections constituted the input for the *June 2023 scenario*. The latter included the impact of higher inflation. As such, differences in price variables between the two scenarios can be interpreted as an unexpected inflation shock.[3]

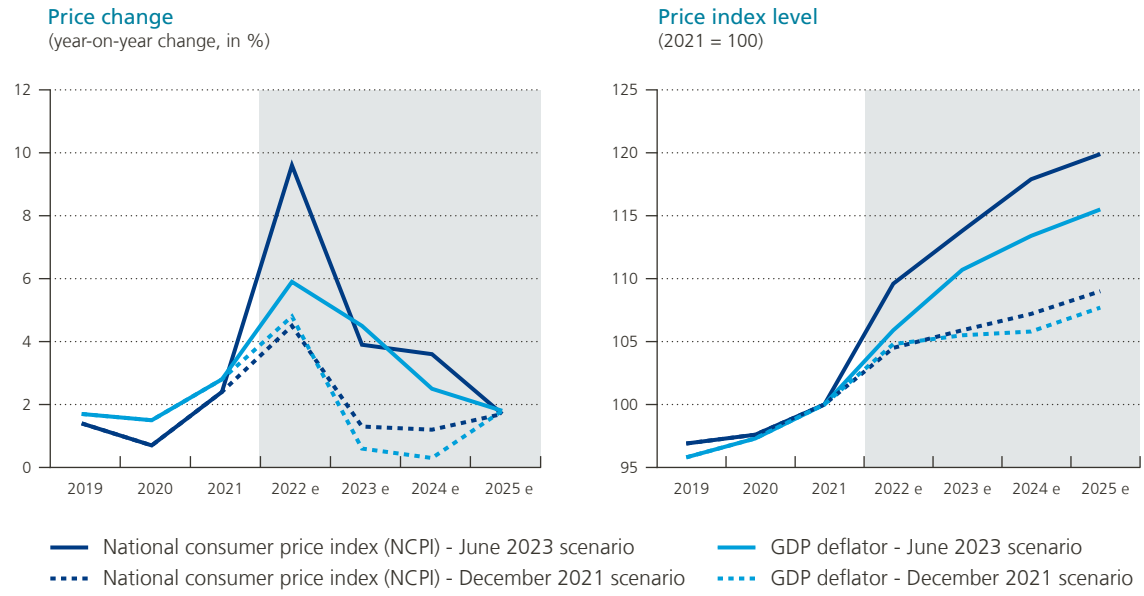
1 The NBB fiscal projection platform is that used to compile the macroeconomic projections for Belgium as part of the joint Eurosystem projections for the euro area.

2 For 2021, final national accounts data, published in April 2023, were used.

3 Methodologically, in the December 2021 scenario, the level of price variables from the NBB's December 2021 projections was used. In combination with the final national accounts data for 2021, this leads to limited growth rate revisions for 2022 (vis-à-vis the December 2021 projections). In addition, it should be noted that the December 2021 macroeconomic projection horizon was limited to 2024. To include 2025 in the December 2021 scenario, the growth rates for the different variables for 2025 were copied from the June 2023 macroeconomic projections. In this way, we implicitly neutralise the impact of an inflation shock possibly still present in 2025 and render it possible to analyse the longer-term impact in 2025 of the price changes observed over the period 2022-2024.

Chart 1

Imported inflation leads to a decoupling of the NCPI and the GDP deflator



Sources: NAI and NBB.

The resulting fiscal projections for both the December 2021 and June 2023 scenarios can be presented in multiple ways. For each scenario, the change in the fiscal variables compared to the reference year (2021) reveals the impact of the respective inflation scenario on fiscal outcomes, whereas the difference in fiscal projections between the two scenarios gauges the direct impact of the unexpected inflation surge on the primary balance.

As can be seen in Chart 1, inflation increased significantly between the two sets of projections. This was the case for both the national consumer price index (NCPI) and the GDP deflator. However, in 2022, the NCPI rose significantly more than the GDP deflator. This decoupling, which was not foreseen in the December 2021 projections, can be explained by the origin of the inflation shock, which was import-driven and caused by rising energy prices. Moreover, it should be noted that in 2025, the NCPI is still expected to be 4.4 points higher than the GDP deflator. As we will see (and as discussed in Section 1), this will have substantial consequences for the impact of inflation on the primary balance.

Government debt and interest payments: 2022-2031

For the debt and interest payment simulations, we extended the simulation horizon to 2031 and used the following debt accumulation equation:

$$\frac{debt_t}{nominal\ GDP_t} = \frac{debt_{t-1}}{nominal\ GDP_{t-1}} - \frac{primary\ balance_t}{nominal\ GDP_t} + \frac{interest\ charges_t}{nominal\ GDP_t} + \frac{stock\ flow\ adjusments_t}{nominal\ GDP_t}$$

In the June 2023 scenario, for the period 2022-2025, the debt ratio and all other inputs are again taken from the June 2023 BMPE. Beyond 2025, the June 2023 scenario builds on the following assumptions. First, the primary balance of 2025 is augmented by the expected annual rise in ageing costs (as a percentage of GDP) according to the Study Committee on Ageing's July 2022 report. Second, interest payments on new debt and roll-overs are calculated using the market-based forward Belgian OLO rates prevailing in May 2023. Third, stock-flow adjustments are considered zero. Fourth, real GDP is derived from the June 2023 estimates of potential GDP, whereby the slightly positive output gap is assumed to close three years beyond the forecast horizon, namely by 2028, after which actual and potential GDP growth coincide. Finally, growth of the GDP deflator equals HICP inflation as of 2026. Projections for the latter are derived from market expectations of euro area inflation (as measured by inflation-linked swap rates) prevailing in May 2023.

The December 2021 scenario uses the June 2023 scenario as a baseline and subtracts from it the difference between the budgetary impact of the macroeconomic frameworks used for the June 2023 and December 2021 projections. First, for the period 2022-2031, the primary balance equals that in the June 2023 scenario less the direct budgetary effect, the discretionary fiscal measures and the real economy effect related to the inflation surprise. Second, interest payments on new debt and roll-overs for the period 2022-2031 are calculated using the market-based forward Belgian OLO rates prevailing in November 2021. Third, real GDP projections for the period 2022-2025 are taken from the November 2021 BMPE and further out real GDP is derived from 2021 estimates of potential GDP. Finally, growth of the GDP deflator for the period 2022-2025 is taken from the November 2021 BMPE and further out equals HICP inflation, as measured by inflation-linked swap rates prevailing in November 2021.

3. The impact of inflation on the budget balance

Below we first examine the direct impact of inflation on the primary balance (Section 3.1). Concretely, our simulation produces projections of nominal fiscal variables driven solely by the expected change in their corresponding deflators, based on the two sets of projections. In other words, we carry out a *ceteris paribus* analysis which excludes the impact of all factors other than those resulting from the indexation of budget items.

Section 3.2 discusses the fiscal response to the spike in energy prices. As will be seen, significant discretionary fiscal policies were implemented to shore up household purchasing power and support firms. In Section 3.3, we analyse the impact of the inflation shock on the cost of servicing government debt, before turning in Section 3.4 to the impact of revised economic activity on the primary balance. Finally, in Section 3.5, the building blocks are put together and the overall impact of the inflation shock on the nominal budget balance is presented.

3.1 Direct impact of inflation on the primary balance

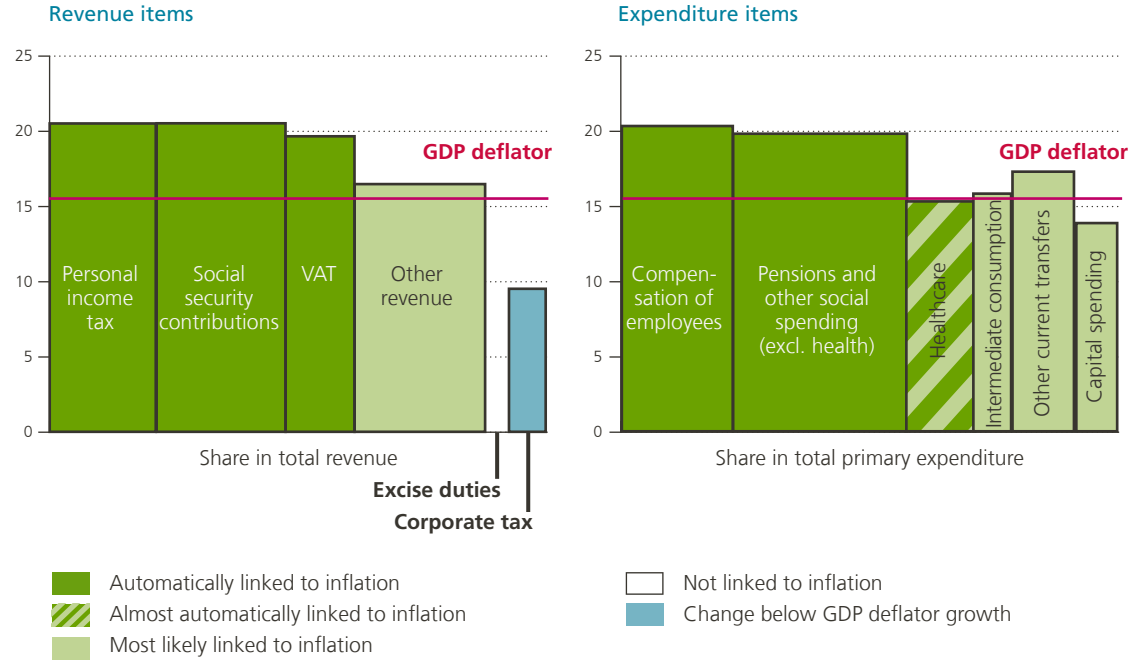
In this section, we present the results of the simulations of the direct impact of inflation on the primary balance. We start with a description of the specific deflators for the various revenue and expenditure items used in our models. Next, we set out the annual impact on the primary balance for the various scenarios. Subsequently, we apply two alternative scenarios to show the sensitivity of the results to different hypotheses on the indexation of primary spending.[1] Finally, we break down the impact of the inflation surge between the federal level and the level of the Regions, Communities and local authorities.

1 To analyse the impact of inflation on interest expenses and economic growth, it should be noted that the approach set out in Section 2.1 was used, i.e. level differences between the December 2021 and June 2023 projections.

Chart 2

A majority of revenue and primary expenditure items are indexed at a higher rate than the GDP deflator

Main revenue and expenditure items: deflator change between 2021 and 2025 (June 2023 scenario)
(in %)



Sources: NAI and NBB.

Revenue – June 2023 scenario

According to the June 2023 scenario simulation, the various government revenue deflators increase on average by 18 %. This is more than the GDP deflator, which stands at 15 % for the period 2021-2025.

The deflators affecting levies mainly on earned income (personal income tax and social security contributions) rise by 21 % over this period. These reflect changes in wages, which follow the smoothed health index with a certain delay due to the various indexation mechanisms applied in different sectors of the economy. For social security contributions, which are levied at relatively uniform rates, there is a direct link. Personal income tax also hinges on wage trends. However, as this is a progressive tax, other factors must be taken into account, such as the lagged indexation of tax brackets (see below). As these factors mainly influence the revenue profile from one year to the next, they are relatively neutral over the period taken as a whole. Consequently, price-driven growth of these revenue categories will exceed that of the GDP deflator, thereby increasing the revenue ratio.

VAT receipts closely mirror trends in consumer prices since this indirect tax is applied to the prices in effect for end consumers. In the simulation model, they are mainly based on the private consumption deflator and progress by 18 % in the scenario, thus at a faster pace than the GDP deflator.

Excise duties are fixed amounts levied per unit sold and are by definition not adjusted for inflation. Thus, in the absence of indexation, excise duties will fall as a percentage of GDP, especially as the GDP deflator rises.

As for corporate tax revenue, it will grow at a slower pace than the GDP deflator. This is because while firms' costs are rising at a rate close to the consumer price index (which includes the prices of imported energy sources), domestic output prices move in tandem with the GDP deflator. As a result, the increase in corporate profit margins, which in our simulation is approximated by the change in the price component of gross operating surplus, is more limited than the increase in the GDP deflator.

On average, the deflators for other revenue items grow at a slightly higher rate than the GDP deflator. For example, property tax is based on imputed rental income from property, which is explicitly adjusted based on the consumer price index for the previous year. This leads to high indexation over the period, particularly in 2023. Revenue from registration duties when purchasing a property depends on real estate prices, which in our simulations have a slower dynamic than the GDP deflator. Withholding tax revenue, for its part, is linked, with a delay, to corporate earnings, and as such is also adversely affected by inflation.

Appendix Table 1 gives more details of the tax bases and corresponding deflators used in the June 2023 scenario.

Primary expenditure – June 2023 scenario

Most expenditure items are affected by the inflationary surge, although to varying degrees depending on the applicable indexation mechanism. Between 2021 and 2025, inflation is projected to boost primary expenditure by 19 % according to the June 2023 scenario. The GDP deflator, by contrast, is expected to grow by only 15 % between 2021 and 2025. This growth rate – below that of nominal primary expenditure – will have the effect of increasing expenditure as a percentage of GDP. At 53.7 % in 2021, this ratio will rise to 55.3 % by 2025 due to inflation alone.

Overall, automatic indexation plays a major role in these trends, insofar as the categories concerned account for a substantial share of primary expenditure. Both social benefits and the wages of civil servants are automatically indexed and, consequently, are increased by 2 % one and two months, respectively, after the smoothed health index crosses the trigger index threshold. However, there is a notable exception when it comes to social benefits : the annual increase in family allowances in Flanders is capped at 1 %. [1]

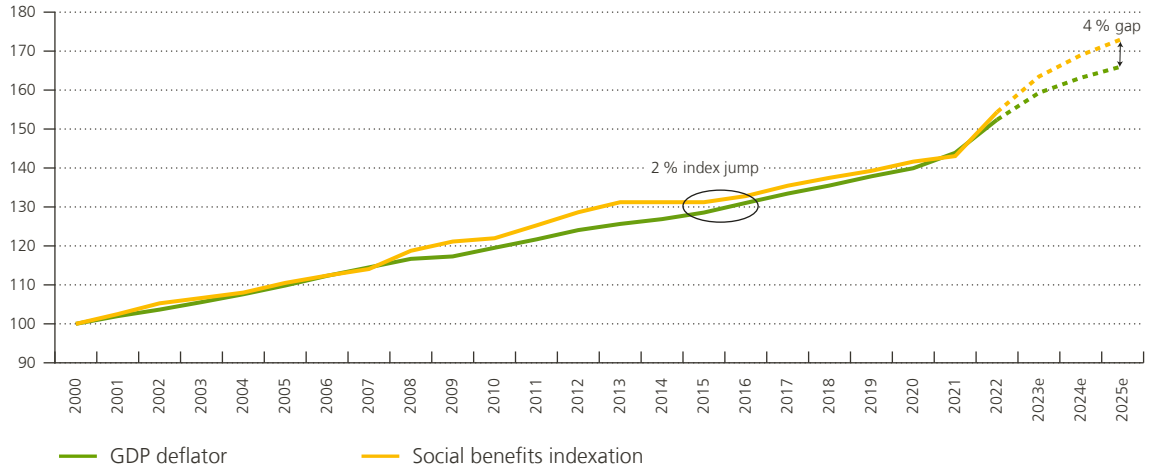
1 This percentage was raised to 2 % in response to inflation, an increase considered here as a discretionary measure and therefore covered under Section 3.2.

In 2022 alone, the smoothed health index crossed the trigger index threshold five times. Given that this indexation is spread over time, the average increase was 7 % to 8 %, thus less than the rise in the health index that year. Catch-up is expected in 2023, with indexation exceeding the rate of inflation. Over the simulation period as a whole, automatically indexed social benefits and public sector wages are projected to grow by 21 %, a faster pace than the rise in the GDP deflator. Ten years ago, the GDP deflator also lagged behind automatic indexation (see Chart 3). This lag was partly eliminated by the jump in the index approved by the federal government in 2015. This intervention meant that wages and social benefits were not increased by 2 %, as they normally would have been at the time.

Chart 3

The indexation of social benefits is expected to outpace growth of the GDP deflator

(index 2000 = 100)



Sources: FPB, NAI and NBB.

Inflation also impacts healthcare spending. Each year, the federal healthcare budget includes in its target a standard for volume growth, currently set at 2.5 %, to which an amount is added to reflect indexation. This amount is based partly on the expected automatic indexation of salaries as well as the change in the health index measured over the previous year. While this model works well when inflation is stable, it is less responsive when prices rise sharply. In fact, in 2022, healthcare indexation remained very limited, in line with the budget established in 2021 and well below what could be expected from our usual reference indicator. Consequently, by 2025, price rises will account for a mere 16 % increase in the healthcare budget. This implies that we do not expect a catch-up of indexation beyond 2022.

The indexation of other expenditure categories is less automatic and depends more on discretionary policy decisions. Our June 2023 scenario simulations reflect our judgment on current indexation practices.

For example, operating and investment expenses are not typically automatically linked to inflation. In the simulation, public sector purchases of goods and services are projected to increase by 15 % by 2025 due to rising prices. This increase lags behind that of the consumer price index, due to the assumed partial indexation of the budgets for these items. Public investment is assumed to only partially follow private investment deflator growth, leading to an increase of 16 % by 2025.

With regard to residual expenditure, various mechanisms are used to adjust these items to inflation. At the federal level, the SNCB's annual operating grant is indexed based on the change in prices measured at the end of the

previous year (although, for ease of reference, we used the estimated health index for the current year in our simulation). The budget allocated to the social energy tariff, classified as a miscellaneous social benefit, is closely linked to energy bill inflation, since it is designed to cushion the increase in gas and electricity prices for eligible households. Certain reductions in social security contributions, considered subsidies, are adjusted in tandem with the wages to which they relate. Exemptions from the remittance of taxes withheld from wages may also be temporarily inflated by delays in the adjustment of tax brackets. At regional level, subsidies granted to approved service voucher companies are subject to automatic indexation linked to the crossing of the trigger index.

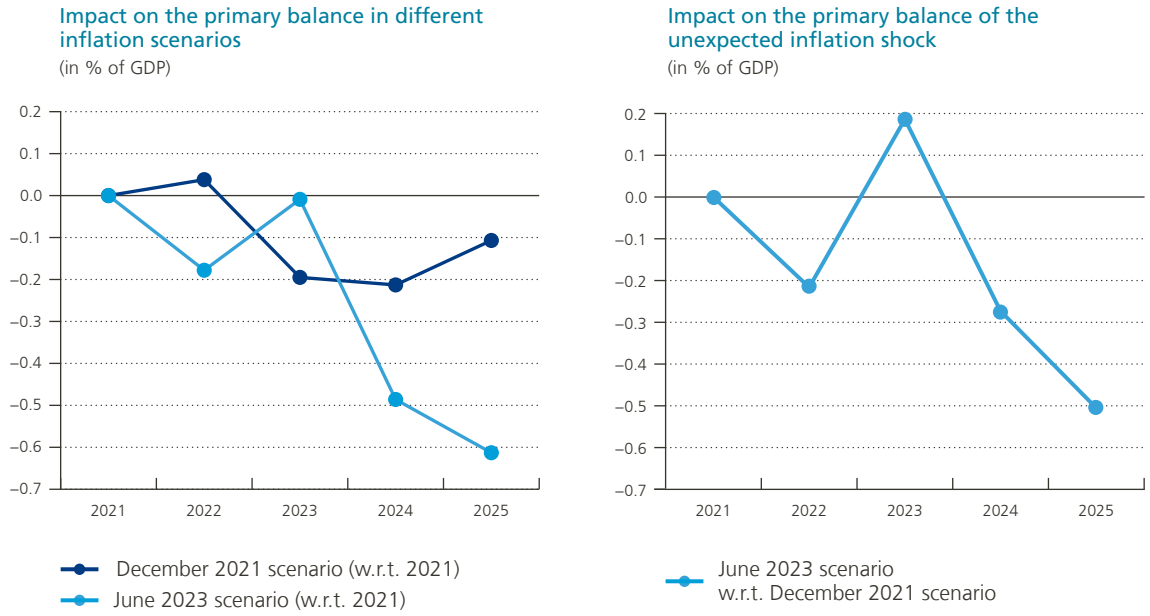
Appendix Table 2 gives more details of the spending categories and corresponding deflators used in the June 2023 scenario.

Impact on the primary balance – June 2023 scenario w.r.t. December 2021 scenario

To determine the impact of the unexpected inflation surge on the primary balance, we compared the June 2023 scenario with the December 2021 scenario.

Chart 4

In the medium run, inflation is expected to have a negative direct impact on the primary balance



Sources: NAI and NBB.

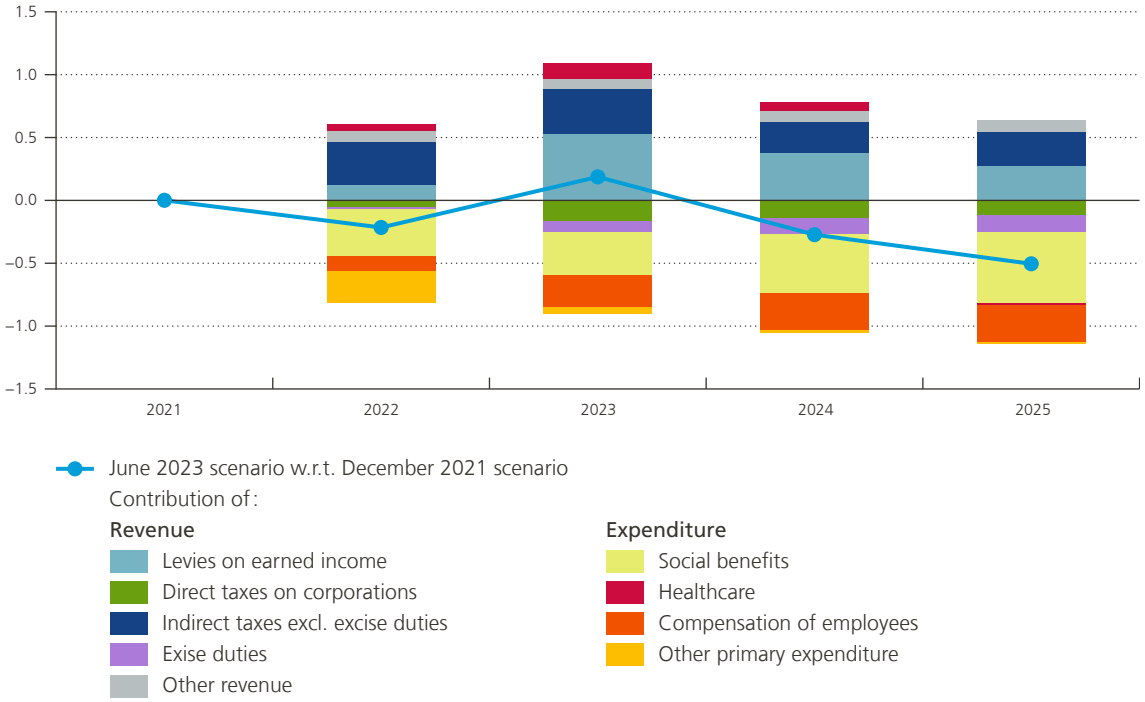
Taking 2021 as the reference point, the primary balance ratio (i.e. the primary balance expressed as a percentage of GDP) begins to improve somewhat in 2022 in the December 2021 scenario, with the expenditure ratio shrinking marginally more than the revenue ratio. The balance then deteriorates to –0.2 but reaches a slightly less negative territory of –0.1 percentage point in 2025. In the June 2023 scenario, inflation causes the balance to deteriorate in 2022 to –0.2 percentage points, followed by a short-lived improvement in 2023 before worsening again in 2024 and 2025, once transitory effects have faded, to –0.6 percentage points.

The overall impact of the upsurge in inflation can be illustrated by the difference between the June 2023 scenario and the December 2021 scenario and corresponds to a deterioration in the balance of –0.2 percentage point in 2022, followed by a temporary uptick of +0.2 point in 2023 before a degradation of –0.3 point in 2024 and

Chart 5

The positive impact of inflation on primary expenditure exceeds its positive impact on revenue

Decomposition of the impact of the unexpected inflation shock on the primary balance
(in percentage points of GDP)



Sources: NAI and NBB.

–0.5 point in 2025. The effect in 2025 can be considered the persistent impact of the inflation shock, given the disappearance of transitory effects.

The difference between the June 2023 scenario and the December 2021 scenario can be broken down into the various revenue and expenditure items in order to identify the factors explaining the profile of the impact of inflation on the primary balance.

In 2022, the impact is negative. Overall, the increase of revenue remains relatively limited compared to the rise in the GDP deflator. While indexation is relatively high for indirect taxes, this is not the case for other revenue components. For VAT, indexation is fairly pronounced, but there is a certain lag for property tax and the indexation of registration duties is more limited. Levies on earned income are not rising as quickly due to delays in wage indexation (compared to the change in both consumer prices and the GDP deflator). In addition, excise duties and corporate tax revenue are rising less rapidly than the GDP deflator, making a negative contribution to the balance. Furthermore, expenditure items are indexed at a rate that exceeds the GDP deflator and is more pronounced than that applicable to revenue. In the case of social benefits, automatic indexation results in a more marked change than the change in the GDP deflator. The increase in the social tariff, which has been heavily impacted by rising energy prices, is added to this. Wages of civil servants rise at a somewhat slower pace due to an additional one-month delay in automatic indexation. Other expenditure items are generally more heavily indexed than domestic production. Intermediate consumption, investment, subsidies and current transfers are assumed to have been indexed at a higher rate than GDP deflator growth of 5.9 % (see Appendix A2).

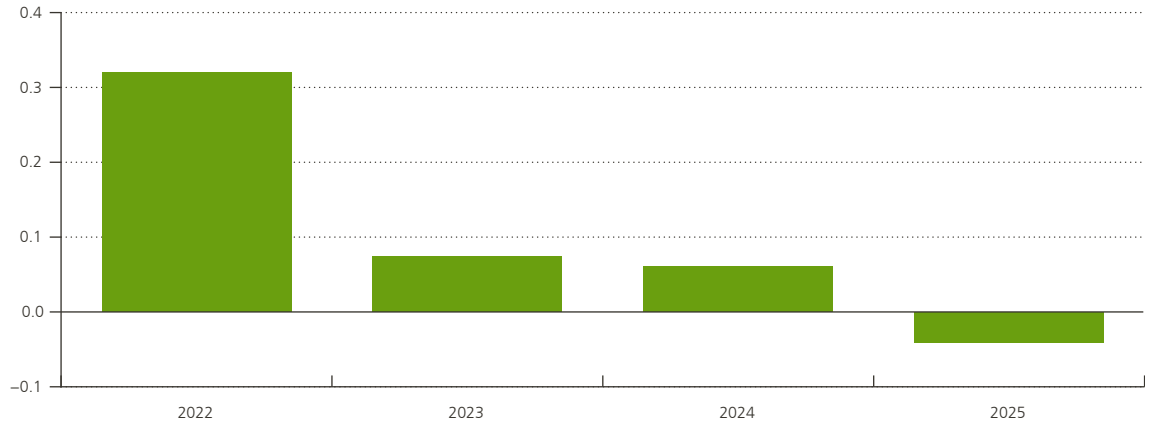
For 2023, the upsurge in inflation appears to have a temporary positive impact on the primary balance. The indexation of revenue is significantly greater than GDP deflator growth. Taxes on earned income catch up, although they are partially held back by the fact that the tax brackets are indexed based on the previous year's inflation figure (which was particularly pronounced). The indexation of indirect taxes remains fairly high, due to both VAT, which rises slightly faster than the GDP deflator, and property tax, which is linked to the very high 2022 consumer price index. On the expenditure side, indexation is more limited. In terms of social benefits and other expenditure items, there is no catch-up this year since they are adjusted to inflation with less delay and were already indexed significantly in 2022. However, the indexation of civil servants' wages is slightly higher owing to the additional month's delay.

As suggested above, the progressive nature of personal income tax makes it sensitive to bracket creep, which has a temporary positive effect on 2022 revenue. This is because a surge in inflation leads to a mismatch between adjustment of the tax brackets for earned income, which are indexed based on the previous year's lower inflation figure, and the adjustment of salaries, which are indexed more quickly. As a result, the additional income received by taxpayers is taxed at a marginal rate that is higher than the average previously prevailing rate. The beneficial impact on public revenue can be illustrated, for example, by comparing the current situation (indexation of tax brackets based on the previous year's inflation figure) with a hypothetical scenario in which tax brackets are indexed to current inflation (see Chart 6). As can be seen, the effect was beneficial mainly in 2022, amounting to some 0.3 % of GDP. In Belgium, this phenomenon dissipates in principle once the various tax brackets have been automatically adjusted.

Chart 6

The delayed indexation of personal income tax brackets has a temporarily beneficial effect on the budget balance

(in % of GDP)



Sources: NAI and NBB.

Having regard to the overall results for 2024 and 2025, after the dissipation of temporary factors linked to various time lags in the indexation of expenditure and revenue, the simulation shows that the structural impact of inflation on the primary balance is negative. In the end, revenue is higher as a percentage of GDP due to the relatively faster rise in wages and consumer prices, but these positive effects are partially offset by a lower rise in corporate tax and the non-indexation of excise duties. Expenditure growth is higher as a percentage of GDP, mainly due to greater indexation of expenditure items which are indexed automatically, namely social benefits and the wages of civil servants.

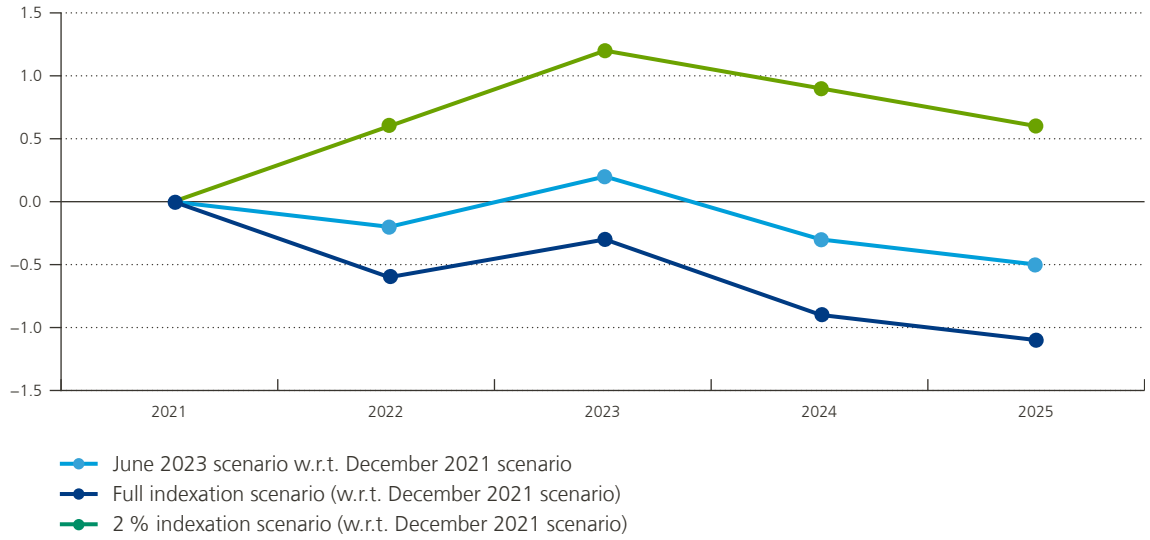
Alternative scenarios for indexation of primary spending

Apart from the automatic indexation of social benefits and public sector wages and the quasi-automatic indexation of healthcare expenditure, the indexation of spending categories largely depends on discretionary policy decisions. While the June 2023 scenario represents our judgment of the currently prevailing indexation practices, it is interesting to analyse the impact of alternative indexation hypotheses. Chart 7 presents two alternative scenarios that differ from the June 2023 scenario in terms of the degree by which the following expenditure items are indexed: intermediate consumption, family allowances in Flanders, subsidies and other current transfers, and capital expenditure, including public investment. In the first alternative scenario, these items are indexed in full based on the theoretically most appropriate reference price index (see Appendix Table 2).[1] in the second scenario, the annual indexation of these expenditure items is set at a flat rate of 2 %, regardless of the expected level of inflation. These expenditure items, which are usually indexed to varying degrees, together account for 30 % of general government primary expenditure.

Chart 7

Impact of the unexpected inflation shock, alternative scenarios with discretionarily indexed expenditure items

(in % of GDP)



Sources: NAI and NBB.

In the scenario with full indexation of all items, the inflation shock generates a 20 % increase in primary expenditure by 2025. In the scenario in which annual indexation is limited to 2 % for the abovementioned items, the increase in primary expenditure is 16 % with the same inflation projections. It should be recalled that in the June 2023 scenario, inflation-driven growth is almost 19 %. At first glance, these differences appear limited. In terms of the budget balance, however, they are substantial. By 2025, the differential between the most favourable scenario for public finances and the least favourable one will be 1.7 percentage points of GDP. The June 2023 scenario, which should better reflect the indexation mechanisms currently in force, results in a primary balance between these two extremes.

1 More precisely, in this alternative we put the percentages taken into account for these categories equal to 100.

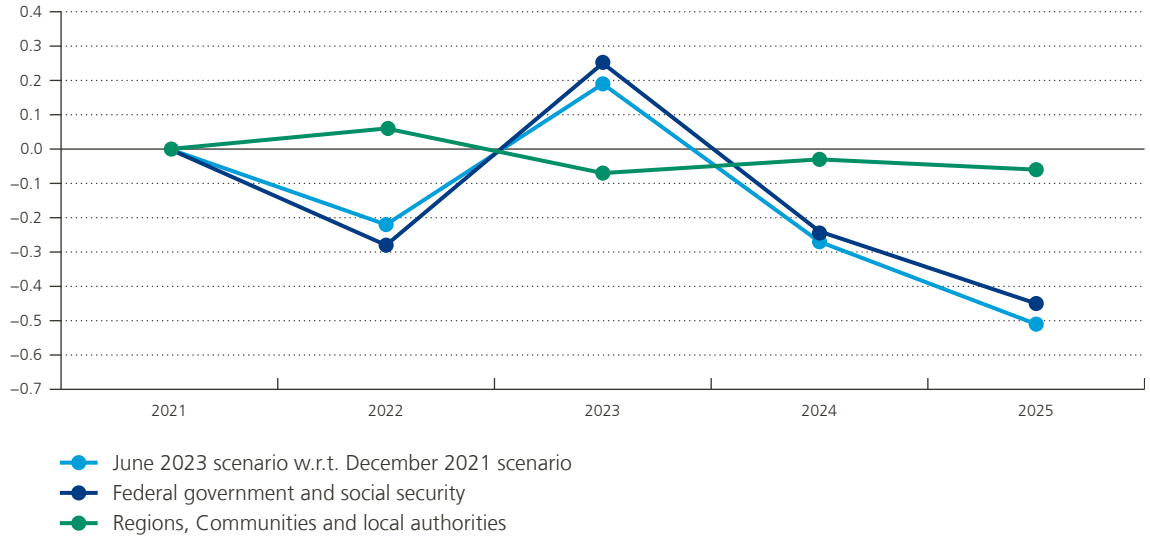
One lesson to be learned from these exercises is that partial indexation of spending, in a context of high inflation, can lead to a substantial deficit reduction.

Federal government and social security versus the Communities, Regions and local authorities

Chart 8

Impact of the unexpected inflation shock on government subsections

(in % of GDP)



Source: NAI and NBB.

In the medium term, inflation will have a more detrimental effect on the books of the federal government (including social security) than on the Communities, Regions and local authorities. The main reason for this is the special financing law, which links transfers from the federal government to the Communities and Regions to the national consumer price index, which is rising faster than the GDP deflator. Personal income tax and property tax, two other major revenue sources for local and regional governments, also benefit from automatic indexation of their base. In addition, the expenditure of the latter benefits from slightly less pronounced indexation overall, as is the case with family allowances and operating expenses in Flanders. The divergence in the profile of the impact of inflation on the budget balance of, on the one hand, the federal government and, on the other hand, that of the Regions, Communities and local authorities in 2022 and 2023 can essentially be explained by a mismatch in regional and federal personal income tax receipts.

3.2 Discretionary fiscal response

Significant discretionary measures were adopted by the authorities in response to galloping inflation, in particular to mitigate the impact of higher energy prices on households and consumers. These measures were only partly offset by financing measures. In 2022, the measures represented a total net cost (that is, the cost after deducting direct financing) to the public purse of € 5 billion (0.9 % of GDP). In 2023, the net cost is estimated to be € 3 billion (0.5 % of GDP). By 2024 the net cost is expected to have disappeared.

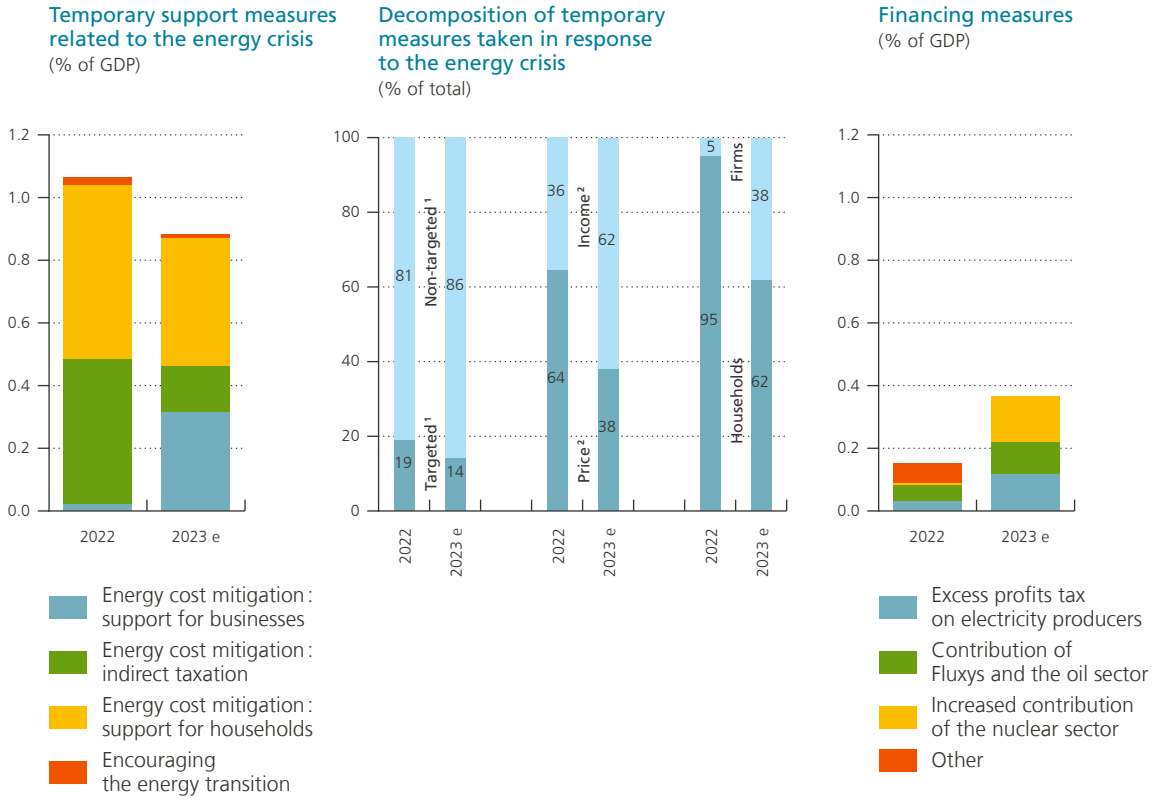
In 2022, the vast majority of discretionary measures were designed to immediately shore up household purchasing power, including through indirect taxation. In this respect, almost two-thirds of the measures

introduced in 2022 involved actions that reduced the cost of an additional unit of energy. Such measures partially cancel out the "price" incentive to limit energy consumption. In this context, the reduction of the VAT rate on gas and electricity from 21 % to 6 % represented a budgetary cost of € 1.7 billion, while the extension of the social tariff cost € 1 billion. Finally, the reduction in excise duties on petrol and diesel – a tax based not on the sales price but rather on the volume consumed – represented a cost of € 0.8 billion. The remaining third consisted of various measures that boosted household income without affecting the marginal cost of energy. Thus, households received a fixed sum which did not depend on their energy consumption. This type of measure does not distort the "price signal", which is preferable when the objective is to maintain an incentive to reduce energy demand. These measures mainly took the form of "energy vouchers" as well as credits applied directly to gas and electricity bills. In 2022, the cost of these vouchers and credits amounted to € 1.6 billion.

Many of the measures introduced in 2022 were extended, mainly through the first quarter of 2023. These included, for example, the reduced VAT rate for gas and electricity (€ 0.6 billion), the expanded social tariff (€ 0.3 billion) and the reduction in excise duties on petrol and diesel (€ 0.2 billion). The VAT reduction was made permanent but will be offset by a new (permanent) excise duty to partially counterbalance its budgetary impact.

Chart 9

The government adopted substantial measures to deal with the energy crisis, most of which were not targeted and many of which distorted the price signal



Sources: Communities and Regions, FPS Policy & Support, FPS Finance and NBB.

1 A targeted measure should be interpreted as referring to one "targeting households or firms that are vulnerable to rising energy prices". For households, a measure is considered targeted if it is subject to some type of means testing and is not intended to apply to most of the population. Means testing can take any form. A fundamental requirement is that the measure be applied selectively based on real income, specific social needs, access to other social benefits generally reserved for the poorest households, etc.

2 The distinction between price measures and income measures is based on their impact on the marginal cost of energy consumption. Price measures directly lower the cost of consumption of an additional unit of energy. Consequently, they reduce incentives to consume less or to increase energy efficiency. Income measures, on the other hand, do not directly depend on the quantity of energy consumed by an entity (for example, a low-income household or vulnerable SME) and therefore maintain the incentive to reduce demand or save energy. Measures that reduce energy consumption are also categorised as income measures.

The monthly contribution to household gas and electricity bills, applied in November and December 2022, was extended through March 2023 and will represent a total cost to the budget of € 1.5 billion. While so-called "income measures", which do not distort the price signal, made up only a third of discretionary energy-support measures in 2022, they will account for a majority in 2023. There will also be more targeted support for businesses this year. Firms will be able to benefit from an exemption from social security contributions, at a cost to the budget of € 1 billion. Regional subsidies for certain sectors whose activities are heavily dependent on energy costs are also planned.

These temporary discretionary measures, with the exception of the reduction in excise duties on petrol and diesel, have an impact on the health index. Since they drive prices down, they also help curb inflation and the resulting wage indexation. For households, this offsets the positive effect of the measures on their purchasing power, while for businesses it mitigates wage growth. In this way, public finances can impact inflation, meaning the relationship works both ways. For purposes of this article, however, the focus is on the impact of inflation on public finances.

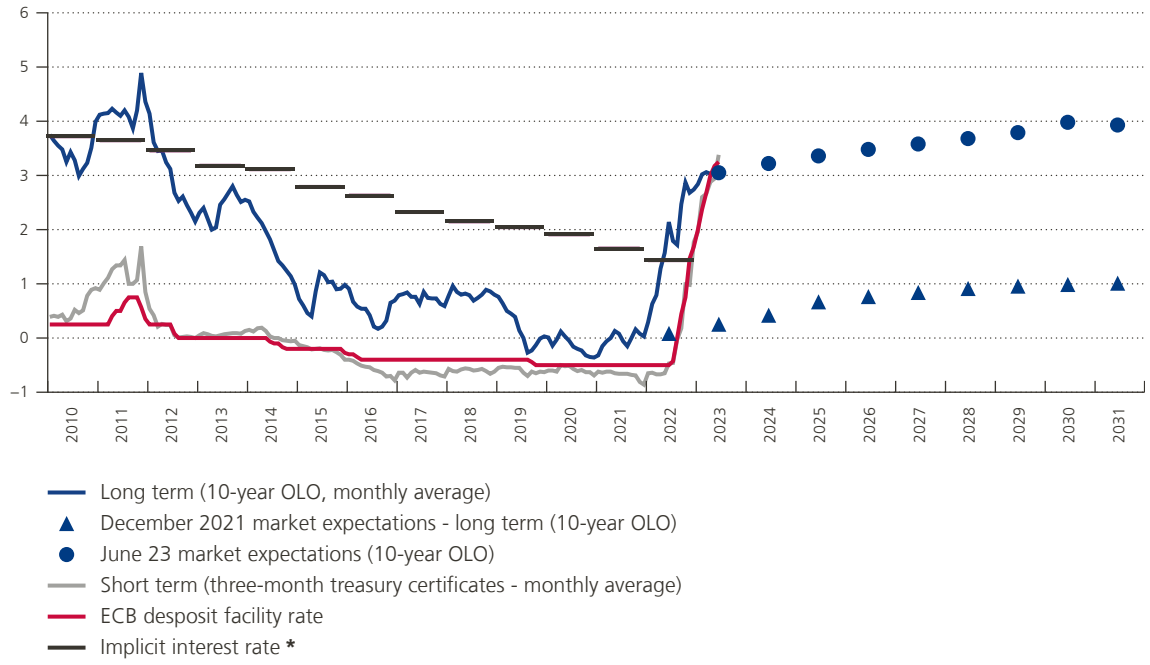
The direct financing of these discretionary measures is limited and covers only a fraction of their budgetary cost. The funding directly allocated to these measures amounted to € 0.8 billion (0.2 % of GDP) in 2022 and to € 2.1 billion in 2023 (0.4 % of GDP). These amounts include a contribution from the oil sector and Fluxys. In addition, a tax on the excess profits of energy producers has been levied since 2022. Indeed, non-gas electricity producers have been able to make much higher profits in the current energy crisis. The contribution from the nuclear sector was also revised upwards as a result of rising electricity prices.

3.3 Interest payments

Rising inflation has also led to a tightening of monetary policy and a general rise in interest rates. As a result, over the course of 2022, the benchmark rate for ten-year bonds, which was 0.3 % on average in January,

Chart 10

Interest rates and expectations have increased significantly since the beginning of 2022



Source : NBB.

* Ratio between interest expenses in the current year and debt at the end of the preceding year.

rose to an average of 2.7 % in December. In 2023, it remains close to 3 %, significantly higher than the levels observed and expected through 2021. In December 2021, the markets anticipated a very gradual rise in interest rates on 10-year government bonds, which were expected to reach around 1 % by 2030. Market expectations in June 2023 are almost four times higher, namely around 4 % by 2030.

To assess the impact of the new interest rate environment on public finances, two separate estimates of the evolution of interest expenses over the next decade were carried out. The first was based on the interest rate environment and market expectations applicable to the NBB's December 2021 economic projections (December 2021 scenario). The second was based on the interest rate environment and market expectations applicable to the NBB's June 2023 economic projections (June 2023 scenario).

Over the entire projection horizon, the annual amounts of short- and long-term refinancing are identical in the two exercises and are based on information provided by the federal Debt Agency and the regional authorities. With regard to deficit financing over the projection horizon, the assumptions used are presented in Section 2.

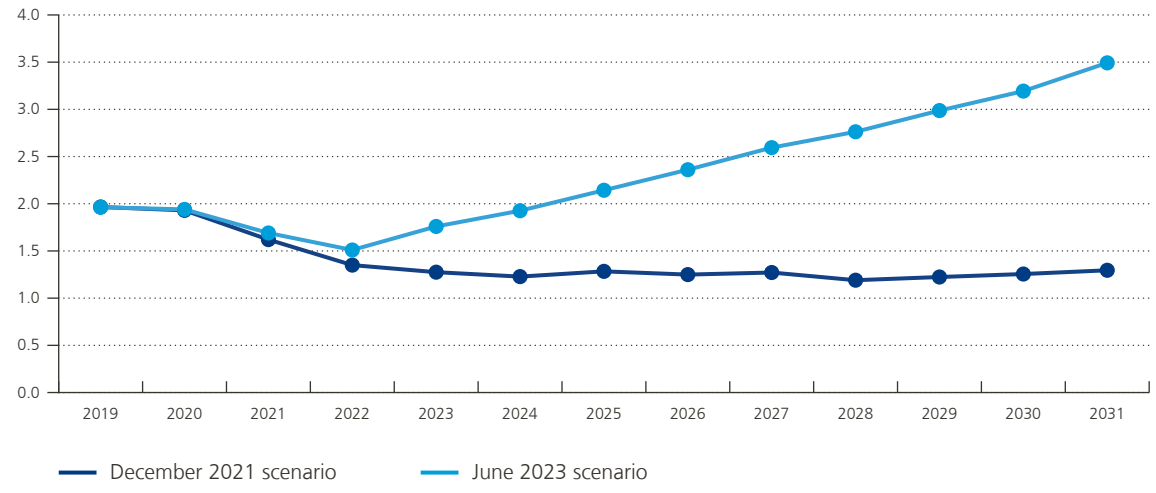
Several findings emerge from these estimates. First, for the December 2021 scenario, it appears that the margin to further reduce interest expenses was already shrinking before interest rates started to rise. This is due to the fact that maturing debt is already subject to low rates. In the context of refinancing, there was already significantly less room for further reductions in interest expenses than in the past. Consequently, in the December 2021 scenario, interest expenses stabilise at around 1.3 % of GDP.

In June 2023 scenario, rising interest rates cause a gradual but sustained increase in interest expenses of just over 0.2 % of GDP per year from 2023 onwards. As a result, interest expenses should rise from around 1.5 % of GDP in 2022 to almost 3.5 % of GDP in 2031. Compared with the December 2021 scenario, interest expenses will therefore be 0.9 % of GDP higher in 2025 and 2.2 % of GDP higher in 2031.

Chart 11

Interest payments are expected to rise by on average 0.2 % of GDP per year

(in % of GDP)



Sources: NAI and NBB.

3.4 Inflation and economic activity

As set out in Section 1, the nature of an inflation surge determines whether the rise in inflation goes hand in hand with a rise or decline in economic activity. As the dominant cause – supply or demand – of the current high inflation episode is subject to considerable uncertainty, so is its expected impact on the real economy (positive or negative) and consequently the budget balance. Indeed, the inflation surge in the euro area initially seemed to be driven by external supply shocks, but price pressures broadened over time. Energy prices have fallen sharply from their peaks, but wages are on the rise, supporting demand and keeping core inflation high. It remains to be seen how these two forces will play out.

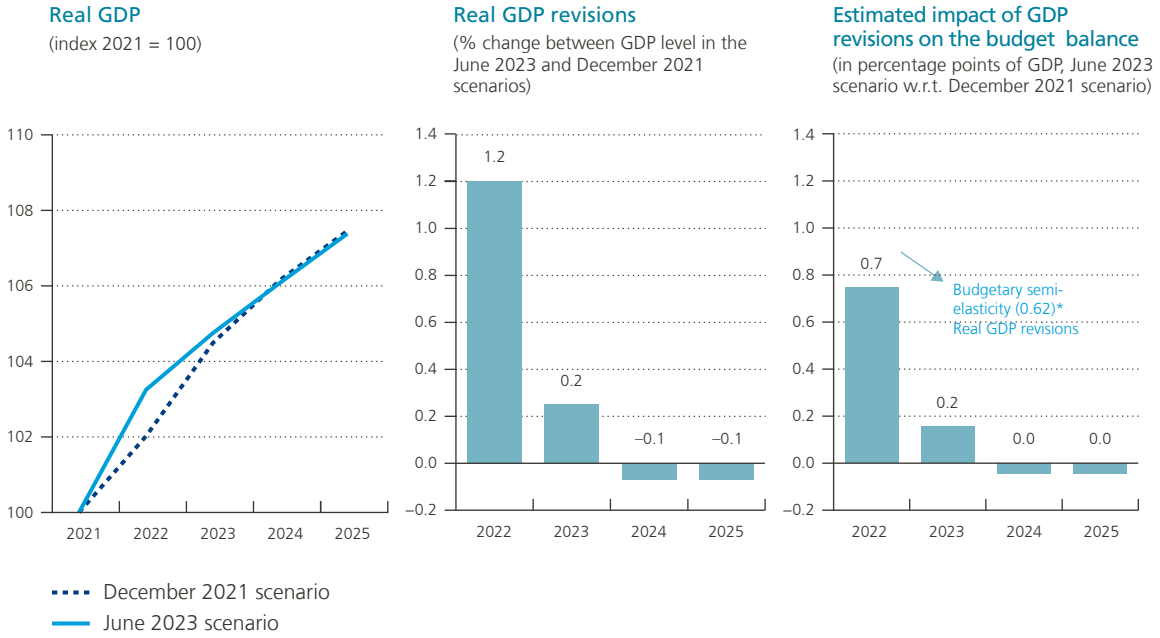
In an attempt to quantify the relationship between the inflation shock and the real economy over the period 2022-2025, we compared real GDP projections from the June 2023 BMPE with those from the December 2021 BMPE. In doing so, we took into account the endogeneity between inflation and output growth, as the GDP revisions between the two forecast rounds captured the impact of price revisions and, vice versa, price revisions reflected the impact of the GDP revisions. Of course, these GDP revisions can be considered only a very rough approximation of how the inflation surprise is expected to interact with the real economy as they reflect many other factors as well. Some of these are totally unrelated to the inflation shock while others are directly or indirectly linked to it.

In the short-term, economic activity is stronger in the June 2023 scenario compared to the December 2021 scenario[1]. Stronger-than-expected economic activity is being driven by stronger household consumption which, in 2022, likely reflected pent-up demand owing to reopening effects following the pandemic and, in 2023, the recovery of purchasing power stemming from wage indexation. Purchasing power is also protected in both

1 At first sight, the upward GDP and inflation revisions seem to suggest that demand shocks became more prominent in driving short-term macro-economic developments. This does not rule out, however, that the strong inflation shock in 2022 largely originates from sudden external supply pressures and a resulting increase in marginal costs.

Chart 12

Real GDP projections between two BMPE rounds can be compared to roughly quantify the link between the inflation surprise and economic activity and, in turn, the impact on the budget balance



Sources: NAI and NBB.

years by the discretionary support measures implemented by the government in response to high energy prices. Thus, the data revisions capture another endogenous relationship, namely that between the macro economy and fiscal policy. In 2024 and 2025, activity is expected to normalise, returning to potential and, at the same time, inflation is expected to return to the 2 % target. Beyond 2025, potential GDP – and thus real GDP – is projected to deteriorate slightly compared to the December 2021 scenario.

In turn, the budgetary impact of the GDP revisions is obtained by way of the budgetary semi-elasticity, which measures the reaction of the budget balance (as a percentage of GDP) to a change in macroeconomic conditions. [1] Following a strong beneficial impact in 2022 and a more muted but still positive impact in 2023, the economic normalisation should be broadly neutral for the budget balance by 2024. Beyond 2025, the assumed deterioration in the economic outlook is set to gradually worsen the budget balance compared to the December 2021 scenario.

3.5 In sum: the impact of inflation on the budget balance

Adding the impact on all budgetary items together, the simulations show that the inflation surge immediately and persistently weakens the Belgian budget balance over the projection horizon.

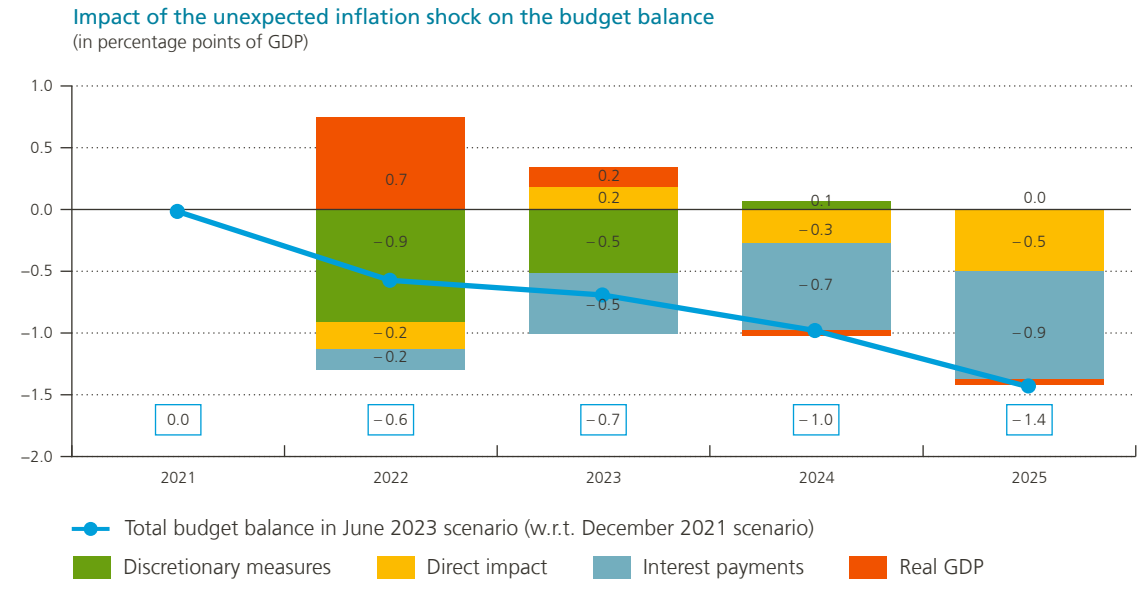
- The direct impact of inflation on the budget balance worsens over time as the indexation of spending accelerates and more than offsets the benefits on the revenue side.
- The discretionary fiscal support measures in response to the cost-of-living crisis, which are largely unfunded, weigh on the budget balance significantly in 2022 and 2023. [2]

1 Fiscal semi-elasticities are also used by the European Commission to calculate the structural balances used in the context of EU fiscal surveillance. For the methodology and estimates, see Mourre *et al.* (2019).

2 According to current government plans, the discretionary support measures will be fully withdrawn by 2024. With respect to financing measures, a contribution by the nuclear sector is expected to be paid in 2024 and will have a beneficial impact on the budget balance.

Chart 13

Overall, the unexpected inflation surprise worsens the budget balance immediately and persistently



Sources: NAI and NBB.

- Higher interest payments, reflecting monetary policy tightening in reaction to too-high inflation, will lead to the greatest deterioration in the budget balance over time, as debt matures and is refinanced at higher market rates.

- The improved economic outlook plays out favourably for the public deficit in the short run, but as activity returns to its expected baseline level, the effects turn neutral by 2024. If the real GDP channel is excluded, which could be justified given its dubious link with inflation, the inflation surge appears to harm Belgian public finances even more, as from the outset.

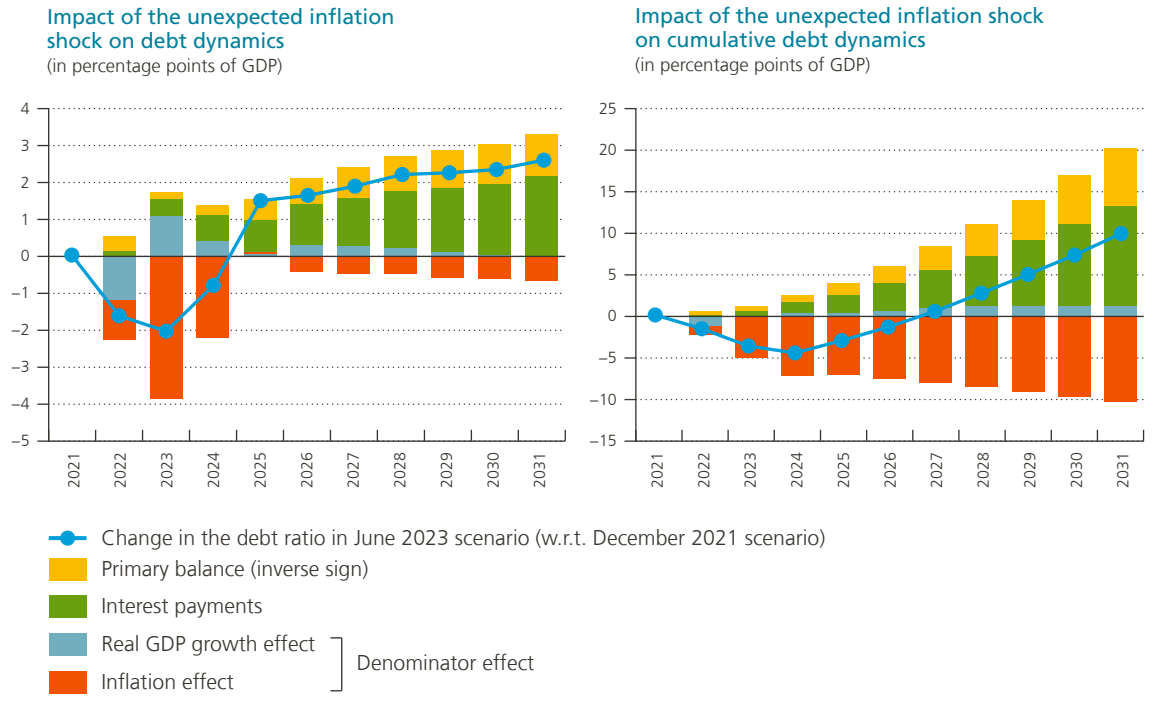
4. Impact of inflation on the debt-to-GDP ratio

Inflation affects the debt ratio via its impact on (i) the budget balance (numerator) and (ii) nominal GDP (denominator). According to the simulations set out above, the inflation surge will worsen the budget balance of the Belgian government and thus increase the numerator of the public debt ratio. Will higher inflation, in particular a rise in the GDP deflator, sufficiently increase the denominator so as to offset the growth in the debt ratio?

According to the mechanical debt simulations described in Section 2, the unexpected increase in prices is indeed strong enough to reduce the debt ratio in the short run. However, in the longer run, the negative impact of increased interest payments is set to outweigh the benign denominator effect stemming from the rise in inflation, according to recent market expectations. At the end of the simulation horizon and considering all

Chart 14

The debt ratio will drop in the short run but rise in the medium term, due to second-round effects stemming from the inflation surprise



Sources: NAI and NBB.

channels, the Belgian public debt ratio is set to be some 10 percentage points higher compared to a no-surge scenario. Our finding that high inflation will not durably lower the debt ratio is consistent with the results of other international historical studies, for example by the IMF (2023) and Eichengreen and Esteves (2022). The latter, for instance, concluded that "[…] the frequency of successful debt consolidations was lower in periods of relatively high inflation, when interest rates show a tendency to quickly catch up. On the contrary, the largest concentration of debt consolidations in fact coincides with periods of relatively low and stable inflation in the context of credible monetary policies and sound fiscal policies."

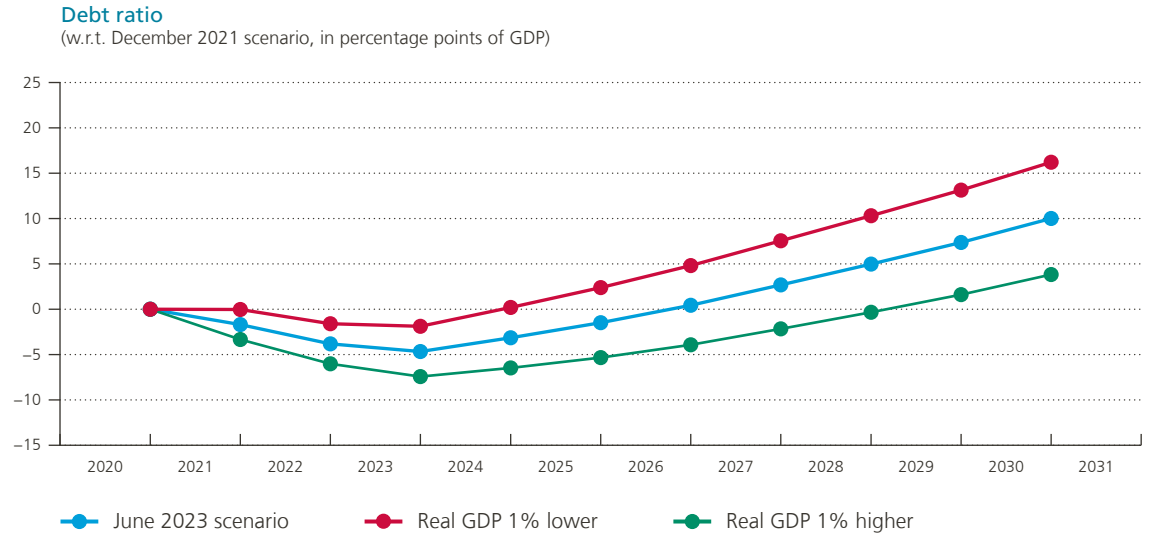
As with all simulations based on assumptions and projections, the results presented here are subject to uncertainty. For one channel, namely the link between inflation and the real economy, the degree of uncertainty is particularly high. It should be recalled that, in the simulation, the impact is only roughly approximated by comparing the real GDP outlook of the June 2023 BMPE to that of the December 2021 BMPE. Consequently, to assess the robustness of the results, we simulated two alternative debt paths in which the level of real GDP is in each year 1 % lower or 1 % higher compared to the level in the June 2023 scenario.[1] The lower-GDP scenario can be assumed to reflect that the inflation surge is driven more by external supply factors, while internal demand factors play a more dominant role in the higher-GDP scenario. The simulation results show that in the longer term, the debt ratio increases in all scenarios compared to the December 2021 scenario, but it does so faster in the lower real GDP scenario. In all simulations, the difference between the average interest rate on government debt and economic growth (r-g) remains favourable, resulting in a debt-reducing impact, but in the longer term the difference narrows compared to the December 2021 scenario.

Consequently, the risk of an unfavourable snowball effect (positive r-g) has increased. Continued monetary tightening, a rise in interest risk premia and/or a noticeable setback in economic growth could lead to this result. Longer-term risks to the sustainability of Belgian public debt, deemed high prior to the inflation surge[2] (due to the high debt-to-GDP ratio, namely 105 % in 2022, and rising path thereafter), appear to have intensified.

1 It should be noted that the less favourable (or better) real GDP outlook – through fiscal semi-elasticity – worsens (or improves) the budget balance and – through the denominator – worsens (or improves) the public debt ratio compared to the December 2021 scenario.
2 See for instance the debt sustainability analysis carried out by the EC (2023).

Chart 15

Sensitivity of the debt ratio to real GDP assumptions



Sources: NAI and NBB.

Conclusion

This article examines the impact of the high inflation seen since 2022 on Belgian public finances. It does so through simulations analysing and comparing the budgetary impact of the macroeconomic frameworks used to compile the NBB's December 2021 and June 2023 projections. The differences in these frameworks are assumed to be largely attributable to – or in any case associated with – the unexpected inflation surge. Based on these simulations, it appears that the high inflation seen of late has had – and will continue to have – a substantially negative impact on Belgian public finances.

The unexpected inflation surge is expected to structurally increase the budget deficit by about 1.4 % of GDP by 2025.

First, the primary balance will be about 0.5 % of GDP lower due to the automatic impact of the interplay of deflators affecting the various revenue and expenditure categories. Both revenue and primary expenditure will increase relative to GDP as their deflators are on average higher than the GDP deflator, which is the price component of domestic value added. However, the increase in primary expenditure will likely exceed that of revenue.

On the revenue side, the increase in receipts from taxes on earned income and indirect taxes is expected to be partially offset by a fall in corporate tax revenue and excise duties relative to GDP. Indeed, given that the inflation shock was initially import-driven, it is assumed that companies will not be able to fully pass on their higher costs – including automatically indexed wages – which will reduce corporate profit margins and the corresponding tax revenue. Excise duties, which are based on the number of units sold rather than the unit price, are also projected to fall relative to nominal GDP.

On the primary expenditure side, about half of expenditure items are automatically linked to the health index, which will rise more than the GDP deflator as it is expected to closely follow consumer prices in the period 2022-2025. Other expenditure items are also expected to largely follow inflation.

The negative direct impact of inflation on the primary balance will mainly affect the federal government (including social security). Indeed, transfers from the federal government to the Communities, Regions and local government, which account for around half their revenue, are linked to the national consumer price index. Personal income tax and property tax, two other major revenue sources for local and regional governments, also benefit from automatic indexation of their base.

Second, interest expenses are expected to increase the deficit by 0.9 % of GDP by 2025. Indeed, interest rates on public debt have been revised sharply upwards since late 2021. After 2025, interest expenses are set to continue to rise and, by 2031, to be around 2.2 % of GDP higher than before the inflation shock.

For its part, public debt is now projected to be 10 % of GDP higher by 2031 than it would have been but for the unexpected inflation shock, according to the simulation. Initially, however, inflation will have a favourable impact on the debt ratio. Indeed, thanks to high inflation, the debt-reducing impact of the denominator – nominal GDP – will exceed the debt-increasing impact of the primary balance and interest expenses. Over time, however, inflation – and hence the debt-reducing impact of the denominator – will normalise, while interest expenses are expected to continue to rise steadily. As from 2027, the cumulative effect of inflation on the debt ratio is set to be positive.

The simulation results set out above are subject to considerable uncertainty, given that the macroeconomic projections on which they are based are highly uncertain. However, it is likely that, going forward, the interest rate growth dynamics (or snowball effect) will be much less favourable than before the inflation surge. This implies that even greater efforts to balance the budget will be required to safeguard the sustainability of Belgian public finances.

Appendix Table 1

Deflators for revenue categories

(in %)

Revenue category	Tax base	Deflator change (in %)						p.m. Share in total revenue
		Type	2022	2023	2024	2025	2021-2025	2021
Tax revenue and social security contributions								
Direct taxes								
Households	Household income, mainly wages	Wage indexation (smoothed health index), combined with the effect of the lagged indexation of tax brackets	8.4	6.2	2.7	2.1	20.7	*21.8*
Withholding tax	Interest on savings/dividends (previous year's corporate profits)	Previous year's gross operating surplus deflator	5.1	6.9	0.0	2.1	14.6	*1.4*
Companies	Corporate profits	Gross operating surplus deflator	6.9	0.0	2.1	0.5	9.6	*7.9*
Other sectors	Various	GDP deflator	5.9	4.5	2.5	1.8	15.5	*0.5*
Indirect taxes								
VAT	Household consumption	Private consumption deflator	8.6	4.8	2.1	1.4	17.9	*13.9*
Excise duties	Consumption volume of specific products	Zero deflator	0.0	0.0	0.0	0.0	0.0	*4.2*
Registration fees	Real estate transactions	Real estate prices	6.2	3.0	2.2	1.8	13.8	*2.1*
Property tax	Imputed rental income from property	Consumer price index (NCPI) of the previous year	2.4	9.6	3.9	3.6	20.8	*2.3*
Other sectors	Various							*4.6*
Actual social contributions	Wages	Wage indexation (smoothed health index)	6.3	7.4	3.1	2.6	20.8	*26.2*
Capital taxes	Inheritance gifts, etc.	GDP deflator	5.9	4.5	2.5	1.8	15.5	*1.6*
Revenue other than taxes and social security contributions								
Imputed social contributions	–	Public wage indexation	7.0	6.8	3.4	2.5	21.1	*4.4*
Other	–	GDP deflator	5.9	4.5	2.5	1.8	15.5	*9.1*
Total			**6.5**	**5.7**	**2.5**	**2.0**	**17.7**	***100.0***

Sources: NAI and NBB.

Appendix Table 2

Deflators for expenditure categories

(in %)

Expenditure category	Reference index (in NBB framework)	Share taken into account (in %)				Change (in %)					p.m. Share in total expenditure
		2022	2023	2024	2025	2022	2023	2024	2025	2021-2025	2021
Compensation of employees	Smoothed health index	100	100	100	100	7.0	6.8	3.4	2.5	21.1	*23.2*
Intermediate consumption						6.7	1.8	4.1	1.8	15.1	*7.9*
Federal government and social security						3.9	1.9	4.3	1.8	12.5	*2.1*
Federal government	HICP	38	100	100	100	3.9	1.9	4.3	1.8	12.5	*2.1*
Communities, Regions and local authorities						7.8	1.8	3.9	1.8	16.0	*5.8*
Flanders	HICP	75	75	75	100	7.8	1.5	3.3	1.8	14.9	*2.1*
Other	HICP	75	100	100	100	7.8	1.9	4.3	1.8	16.7	*3.7*
Social benefits						6.5	5.4	3.7	2.5	19.3	*48.9*
Federal government and social security						6.4	5.4	3.8	2.6	19.5	*38.2*
Main social benefits in cash	Smoothed health index	100	100	100	100	7.9	5.9	3.4	2.5	21.1	*21.0*
Healthcare	Average (HICP t, health index $t-1$)	32	100	100	100	2.0	5.6	4.3	2.8	15.5	*13.1*
Social tariff	HICP energy component	100	100	100	100	57.9	–30.8	16.1	–0.9	25.8	*0.4*
Miscellaneous	Smoothed health index	100	100	100	100	7.9	5.9	3.4	2.5	21.1	*3.7*
Communities, Regions and local authorities						7.0	5.2	3.0	2.3	18.6	*10.7*
Family allowances in Flanders	Smoothed health index	13	17	30	40	1.0	1.0	1.0	1.0	4.1	*1.5*
Other	Smoothed health index	100	100	100	100	7.9	5.9	3.4	2.5	21.1	*9.2*

Sources: NAI and NBB.

Appendix Table 2 (continued)

Deflators for expenditure categories

(in %)

Expenditure category	Reference index (in NBB framework)	Share taken into account (in %)				Change (in %)					p.m. Share in total expenditure
		2022	2023	2024	2025	2022	2023	2024	2025	2021-2025	2021
Subsidies						6.9	4.4	3.2	1.7	17.1	*8.0*
Federal government and social security						7.9	5.7	3.4	2.1	20.4	*3.8*
Exemptions from taxes withheld from earned income	Private wage indexation	100	100	100	100	5.5	8.0	2.8	2.8	20.5	*1.4*
Other federal subsidies	Health index	100	100	100	100	9.3	4.4	3.8	1.7	20.3	*0.5*
Social security	Health index	100	100	100	100	9.3	4.4	3.8	1.7	20.3	*1.5*
Bpost and SNCB/NMBS	Health index	100	100	100	100	9.3	4.4	3.8	1.7	20.3	*0.4*
Communities, Regions and local authorities						6.0	3.2	2.9	1.4	14.1	*4.2*
Flanders	NCPI	63	63	63	63	6.0	2.4	2.3	1.0	12.2	*2.1*
Other	NCPI	63	100	100	100	6.0	3.8	3.6	1.7	16.0	*2.1*
Current transfers						7.5	4.4	3.1	1.8	17.7	*4.9*
Current transfers to the rest of the world	GDP deflator	100	100	100	100	5.9	4.5	2.5	1.8	15.5	*2.6*
Other	Heath index	100	100	100	100	9.3	4.4	3.8	1.7	20.3	*2.3*
Investment						7.0	5.8	1.7	1.2	16.4	*5.1*
Federal government and social security						3.9	5.5	1.6	1.1	12.6	*1.2*
Federal government	Private investment deflator	37	70	70	70	3.9	5.5	1.6	1.1	12.6	*1.2*
Communities, Regions and local authorities						7.9	5.8	1.7	1.2	17.5	*3.9*
Flanders	Private investment deflator	75	75	75	75	7.9	5.8	1.7	1.2	17.5	*1.6*
Other	Private investment deflator	75	75	75	75	7.9	5.8	1.7	1.2	17.5	*2.3*
Other capital expenditure	HICP	24	100	58	100	2.5	1.9	2.5	1.8	9.0	*2.1*
Total						6.7	5.2	3.4	2.3	18.8	*100.0*
p.m. GDP deflator						*5.9*	*4.5*	*2.5*	*1.8*	*15.5*	

Sources: NAI and NBB.

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Conventional signs

%	per cent
€	euro
et al.	*et alia* (and others)
etc.	*et cetera*
i.e.	*id est* (that is)
w.r.t.	with respect to

List of abbreviations

Countries or regions

EU	European Union

Abbreviations

BMPE	Broad macroeconomic projection exercise
CT	Corporate tax
ECB	European Central Bank
FPB	Federal Planning Bureau
FPS	Federal Public Service
GDP	Gross domestic product
HICP	Harmonised consumer price index
NAI	National Accounts Institute
NBB	National Bank of Belgium
NCPI	National consumer price index
OLO	Linear bond
SNCB	*Société nationale des Chemins de fer belges* (Belgian National Railway Company)
VAT	Value added tax

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