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Will higher rates plunge governments into despair?

It's a complicated answer

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Summary

- Higher interest rates are starting to impact government finances. In this report we project how higher interest rates affect a few key debt metrics.
- We find that most countries can continue run a primary deficit in the coming years and still maintain a stable debt-to-GDP ratio.
- As the years progress, the allowed deficit does, however, decline, while in several member states a surplus – or much higher nominal GDP growth – will be necessary to put the debt ratio on a firm downward trajectory and/ or keep a lid on high financing needs.
- Moreover, debt affordability will worsen as the interest-to-revenue ratio is set to rise.
- In a scenario of higher inflation and interest rates staying higher for longer, debt sustainability becomes a serious issue for Italy and Spain.

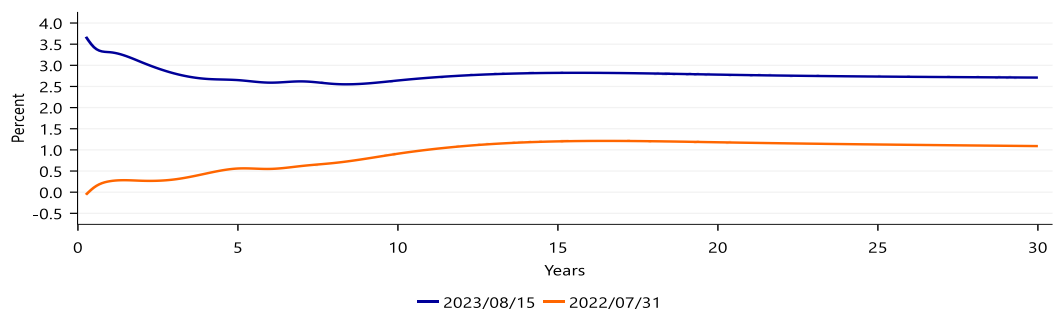
Not just an Italian job

Last year we [published a piece](#) on the effect of higher interest rates on Italy's debt sustainability. We argued that higher rates seem bearable in the short run, but that in the medium term, debt affordability could become a serious issue. Since we published the report, yields on Italian bonds have risen further, raising the question whether the situation has become even more pressing.

But high debt ratios and increasing interest rates are not just an Italian problem. Plenty of other Eurozone countries face rising interest costs. Obviously, higher interest costs are unpleasant for every government, but for some more than for others. At the same time, higher nominal GDP growth could dampen the implications of higher rates for debt sustainability across the Eurozone.

In this follow-up special we will try to answer two questions: i) Which Eurozone countries are hardest hit by the increase in interest rates? And ii) How would countries fare under different interest rate and inflation regimes?

Figure 1: Interest rates have risen dramatically over the last year (German sovereign curve)



Source: Macrobond, Bloomberg

Europe trip(s)¹

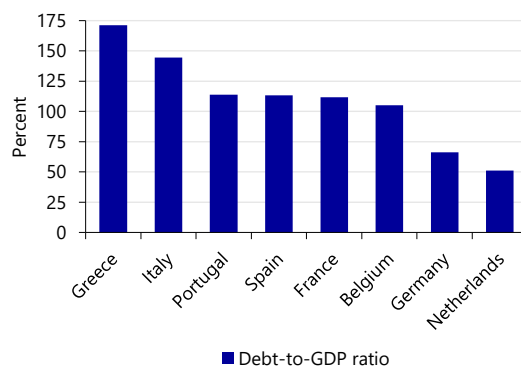
Recently, the spotlight has been on Italy, as it is a major Eurozone country with a massive debt pile. During the Eurozone debt crisis, however, it were smaller countries that sparked panic in financial markets. We assess each Eurozone country on a number of indicators to see if similar trouble is brewing as a result of the recent interest rate shock. Given that our analysis does not suggest the smallest member states warrant great attention, however, we only include the data for Germany, France, Italy, Spain, the Netherlands, Belgium, Portugal and Greece in this report.

Debt sustainability is dependent on quite a number of factors, but in order not to overcomplicate things, we select a few critical indicators: (i) the debt-to-GDP ratio, (ii) interest payments as a percentage of revenues, and (iii) gross financing needs as a percentage of GDP.

Debt-to-GDP ratio

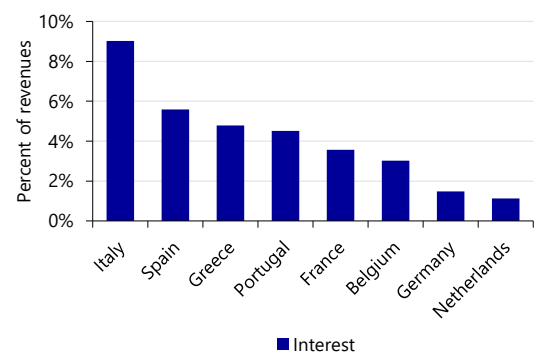
For the debt-to-GDP ratio, not only the level but also the direction of travel matters. This direction of travel depends on a few variables, namely: the primary balance, the implicit interest rate, GDP growth and stock-flow adjustments². A persistently increasing debt ratio is a strong indicator that servicing that debt will become harder and harder. Generally speaking, however, low-debt countries tend to be better able to cope with rising debt ratios than high-debt countries. From this perspective, Italy has much less fiscal space than the Netherlands, for example (Figure 2).

Figure 2: Debt-to-GDP ratios are very diverse in the Eurozone (2022)



Source: RaboResearch, Eurostat

Figure 3: And the same holds for interest-to-revenue ratios (2022)!



Source: RaboResearch, Eurostat

Debt affordability: interest-to-revenue ratio

It's not just the ratio of debt to GDP that is important. **The composition of the debt, specifically the maturity profile and at what yield the bonds were issued, is important as well.** Some countries used the low interest rate environment of the past years to lock in low yields. Austria for example, locked in a favorable interest rate when it issued a 100 year zero coupon bond in 2020. Meanwhile, Greece, Spain, Portugal and Cyprus still benefit from European support dating back to the Eurozone debt crisis (see Appendix A, alternative financing) . Especially in Greece this has led to relatively low interest payments compared to its outstanding debt. Not only because the support has depressed yields – EU loans bear lower rates than market financing for Greece –, but

¹ This special with publication date 4 September 2023, is an update of the version first published on 23 August 2023.

² Stock-flow adjustments are flows that alter the debt-to-GDP ratio but not the budget balance. They include the acquisition of financial assets such as banking shares during/ in the aftermath of the financial crisis. Yet for example also tax credits related to energy saving house renovations in Italy – known as the *Superbonus 110*. Due to accounting guidelines such tax credits appear in the budget balance at the time of issuance, while they only affect revenue and hence debt at the moment they are actually used to offset taxes (see [Italy's Stability Programme 2023](#), P.19). The year of issuance can differ from the year of usage.

also because it does not have to pay interest on the sizeable share of its EFSF loans (37% of total debt) [until 2032](#).

In order to assess the affordability of debt, we should also take government revenues into account. The higher the revenues, the easier it is to service the debt and vice versa. The ratio of interest payments to government revenues is often used as a measure for such debt affordability.³ Not surprisingly, Italy currently spends the largest portion of its revenues on interest payments (Figure 3), as it has a large debt and does not have EU support like Greece. Last year's ratio came close to the median of speculative graded countries at credit rating agencies (see footnote 2).

Gross financing needs

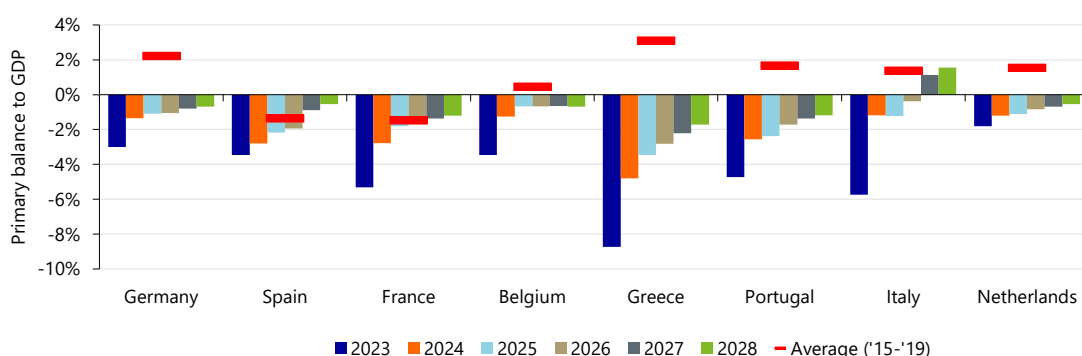
A combination of the aforementioned factors and current fiscal policy yields a third commonly used indicator in debt sustainability analysis: gross financing needs as a percentage of GDP (GFN). The gross financing needs-to-GDP ratio assesses liquidity issues and rollover risk and is impacted by the primary budget balance, interest payments, maturing debt, and stock-flow adjustments. According to the European Commission, the indicator is particularly useful in assessing the risk of fiscal stress in the short term, but it is also useful in medium-term assessments. The IMF assesses medium-term liquidity risks using GFN within its sovereign risk and debt sustainability framework.

Up, up, up?

Whilst servicing debt was relatively easy in a world of ultra-low interest rates and accommodative monetary policy, it may not be as simple today. As interest costs rise, governments may need to take action to prevent the debt-to-GDP ratio from rising. One way to do so is to raise the primary budget balance, i.e. the general government budget balance excluding interest payments, through austerity measures. But given that nominal GDP is an important component of the debt-to-GDP ratio, a higher primary budget balance should not come at the detriment of GDP growth.

Turning the latter observation around it is also true that as long as the economy is growing at a sufficient pace, discretionary action need not be required to compensate for higher interest payments. First, because the primary balance generally tends to improve when the economy grows. Second, as long as the economy is growing in nominal terms, a growing debt pile does not have to lead to an increase in the debt-to-GDP ratio.

Figure 4: The primary deficit that keeps debt-to-GDP constant compared to pre-pandemic average



Source: RaboResearch, Eurostat, IMF

Our analysis shows that governments can permit to run a primary deficit in the coming years without sending the debt-to-GDP ratio upwards (Figure 4), since every economy is expected to

³ As a reference, the median interest to revenue ratio for countries credit rating agency Fitch rates at BBB and the speculative BB is 7% and 9.2% respectively. For the sake of simplicity, we use a ratio of 10% or higher that warrants at best a speculative degree rating, i.e. indicating the country is vulnerable to shocks and default risk.

grow considerably in nominal terms. In fact, in the coming years, member states can afford a larger primary deficit than their pre-pandemic average (2015-2019). That said, it is evident that the maximum bearable deficit to keep the debt ratio constant will fall over the years. This is the result of more modest nominal GDP growth in the medium term, whilst at the same time higher interest cost (based on the current forward interest rates) start to bite. Moreover, Figure 4 only shows the primary balance required to stabilize the debt ratio and not the ratio required to put debt on a downward trajectory, which will be especially important for high debt member states.

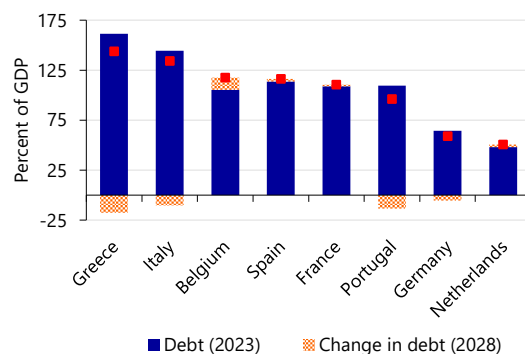
Trouble brewing

The degree to which these higher interest rates will start to bite, differs from country to country. Some have locked in low rates for long periods or simply don't have much debt. To see how each member states fares, we have simulated the sustainability metrics mentioned, based on economic forecasts for GDP, inflation and the primary budget balance. We have furthermore assumed that governments will lock in future financing cost through entering forward rate agreements. This is a simplification, but it saves us from making explicit assumptions regarding the shape of the future spot curve. We have included a full list of our assumptions in Appendix A.

Debt-to-GDP ratio

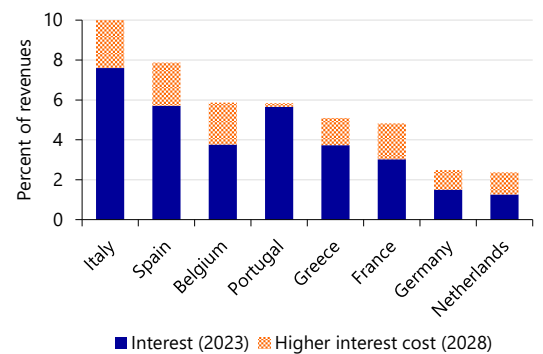
Our projections show rather diverging trajectories for the debt ratio across the block (Figure 5). Despite an increase in interest costs between 2023 and 2028, the debt ratio is actually expected to fall in Portugal (-13.4pp), Italy⁴ (-10.2pp), Greece (-17.6pp) and Germany (-5.3pp). It is expected to increase in Belgium (12.2pp), France (1.6pp), Spain (2.6pp), the Netherlands (2.6pp).

Figure 5: The trajectory for debt ratios varies



Source: RaboResearch, Bloomberg, IMF

Figure 6: But the interest burden is set to rise



Source: RaboResearch, Bloomberg, IMF

The main reason for the varying changes in debt-to-GDP ratios is not necessarily different vulnerability to the higher interest rate environment (except for Greece, which pays relatively little interest on its debt as a result of a favourable agreement with the ESM). Indeed, Figure 6 shows that the interest burden also increases in the countries in which the debt ratio is set to decline, for example. Instead, different paths for nominal GDP growth and the primary balance are more important (see appendix C). While strong nominal GDP growth keeps a lid on the increase in the debt ratio in all member states, the extent differs. Meanwhile, projections for the primary balance diverge even more, with some countries expected to run a surplus and others a deficit. The strong rise in Belgium's debt-to-GDP ratio for example, is mainly driven by a high primary deficit, compared to a pre-pandemic surplus. Italy on the contrary, is expected to improve its primary balance significantly in the coming years according to the IMF, even beyond its pre-pandemic

⁴ Due to the unpredictable timing of their usage, we have not included the Italian tax credits mentioned in footnote 1 in the projection of Italian public debt by 2028. If all tax credits that were handed out in 2021 and 2022 would be used over the coming years, the debt ratio would come in about 4.5 percentage points higher by 2028.

average. Consequently, the figures might overstate the increase in the debt-to-GDP ratio for Belgium, whilst understating it for Italy if such a trajectory doesn't come to pass. Beyond our forecast horizon, the impact of higher yields is expected to increase, however, as more and more debt is rolled over at higher yields.

All in all, the fact that we project the debt-to-GDP ratio to fall in some countries, doesn't necessarily mean that no fiscal effort is required on behalf of these member states. Especially not if they want to put the debt-to-GDP ratio on a firm downward trajectory. Especially in France, Italy, Spain and Belgium stabilizing or decreasing the ratio may require painful steps.

Interest to revenues

The interest burden is set to increase over the coming years (Figure 6). Unsurprisingly, the increase is largest in high debt countries, with the notable exception of Portugal. This can be explained by the fact that Portugal has a sizeable amount of outstanding high coupon bonds from 2006 and 2010. Refinancing those at the current interest rates in some cases actually mean that interest costs will still fall.

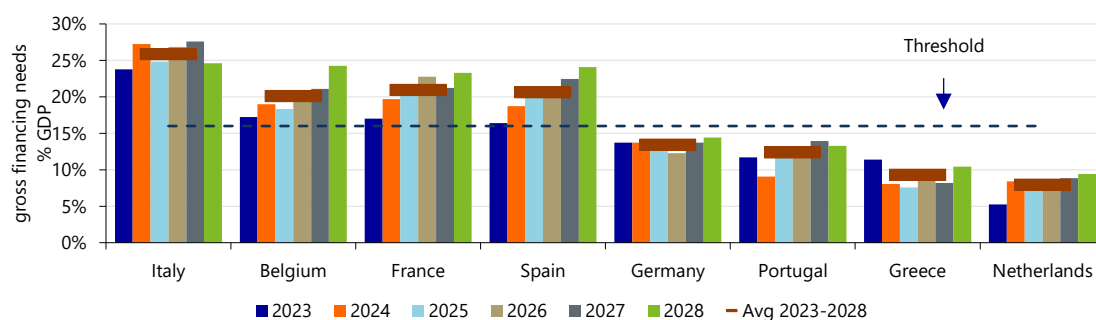
The figures are particularly worrisome for Italy. Compared to [the report](#) published last year, the results are quite similar despite the higher interest rates, mainly because the outlook for nominal GDP growth – and thus revenues – improved. The projected interest-to-revenue ratio still exceeds the threshold for a speculative grade rating, however, whilst the ratio moves in that direction in Spain. Whilst credit ratings are not based on solely one indicator, these figures require alertness.

Gross financing needs

Figure 7 shows that gross financing needs are projected to increase in all countries but Germany over the coming five year. The increase is most pronounced in Belgium, France and Spain, while they will remain very high in Italy. On average, GFN are projected to surpass the [European Commission's high vulnerability threshold](#) of 16% in Italy, Belgium, France and Spain⁵.

The relatively contained increase in financing needs in Italy and Greece in the coming years may appear counterintuitive given their massive debt burdens, but can be explained from their projected primary surpluses, as mentioned above. Meanwhile, as with the debt ratio projections, the increase in GFN for Belgium may be overstated given the forecast of a very large deficit.

Figure 7⁶: Financing needs rise fast in Belgium, France, and Spain, and remain very high in Italy



Source: RaboResearch, Bloomberg, IMF

⁵ The [IMF no longer uses a single threshold](#). It rather incorporates its GFN projections in a stress scenario, supplemented by data and judgement about possible risk dampening or amplifying factors. Such factors include the availability of cash buffers, the size of the domestic investor base, and absorption capacity of the domestic banking sector in case foreign investors flee in times of a shock. Please see Appendix B for extra information.

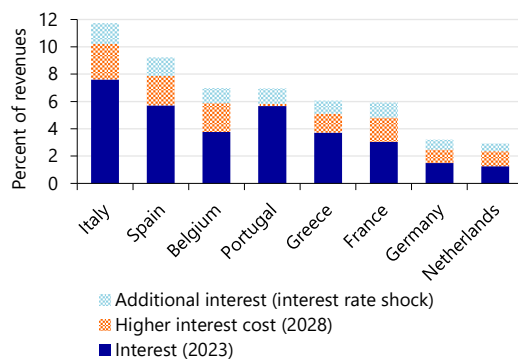
⁶ We have not included the Italian tax credits mentioned in footnote 1 in the projections for Italy's gross financing needs, since it is unknown when they will be used to offset taxes. Since tax credits handed out in 2021 and 2022

But what if interest rates rise further?

Inflation – and thus interest rates – have been surrounded by much uncertainty lately. So what if the latter rise further? To get a feeling for how sensitive our results are to interest rate shocks, we have applied a parallel shift of 100 basis points to the current yield curve of every country.

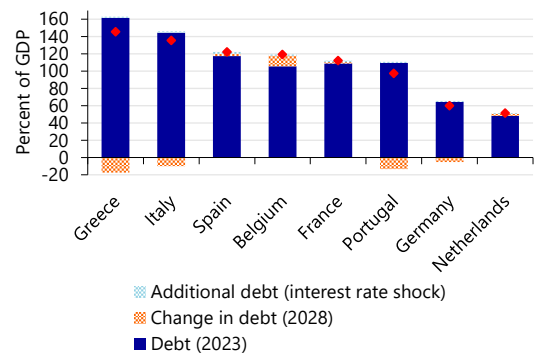
There are a couple of things that stand out in Figures 8 and 9. As expected, interest costs rise further similar to the effect seen in Figure 6, with high debt countries leading the pack. Another point worth noting, is that the effect of higher interest on the debt-to-GDP ratio is fairly limited. As we will show in Appendix C, over the forecast horizon, the debt-to-GDP ratio is more sensitive to the rate of nominal GDP growth than to changes in interest rates. It takes a while before higher interest rate seep through to the outstanding debt.

Figure 8: Interest cost would rise significantly



Source: RaboResearch, Bloomberg, IMF

Figure 9: But the effect on the debt-to-GDP ratios is limited



Source: RaboResearch, Bloomberg, IMF

Whilst these results provide some insights, a parallel shift to the yield curve, without any changes to the economic outlook, is not a realistic scenario, however, since higher interest rates seldom come in isolation. The current rise in interest rates for example, is driven by higher inflation, but interest rates could also rise because investors demand higher compensation for the perceived risk. In case of the latter, the impact on debt metrics could be larger, for example, if they are the result of a deterioration of fiscal balances or the growth outlook. At the same time, as our baseline analysis shows, higher yields against the backdrop of higher inflation prove much less damaging for certain debt metrics – at least in the short to medium term. We should therefore work with scenarios, rather than just tweaking one variable.

Uncertainty? Use scenarios

If the last two years have taught us anything, it's that forecasting inflation is particularly difficult. Since inflation began to rise in late 2021, economists and central bankers have consistently underestimated the rate and persistence of inflation. This is why we look at two alternative scenarios: one with a higher inflation and interest rate path, and one with lower paths.

Scenario I: Higher for longer

Currently, markets don't really price in structurally higher inflation rates in the long term. The 5y5y inflation swap (an indicator closely followed by the ECB) for example, is currently priced at 2.64%. This is slightly higher than before the European debt crisis. **There are plenty of arguments why inflation could structurally overshoot the ECB's target** ([see this report as an example](#)).

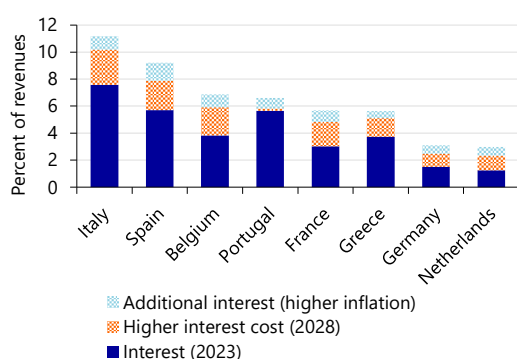
but not yet used amount to about 4.5 percent of GDP, we possibly underestimate financing needs by about that same amount on an accumulated basis.

Geopolitical tensions have risen and there are risks for further escalation, threatening to derail global supply chains once more. In anticipation of these risks, some companies indicate that they intend to re-shore some of their production, which is likely to be inflationary.

Given these risks, it's worth considering a scenario in which inflation – and interest rates – remain higher for longer. Although reality can differ, textbook economics say that if long-term inflation expectations shift higher, long-term rates rise faster than short-term rates. In an environment of structurally higher inflation, investor could demand a higher risk premium and/or term premium, potentially resulting in a bear steepening of the yield curve.

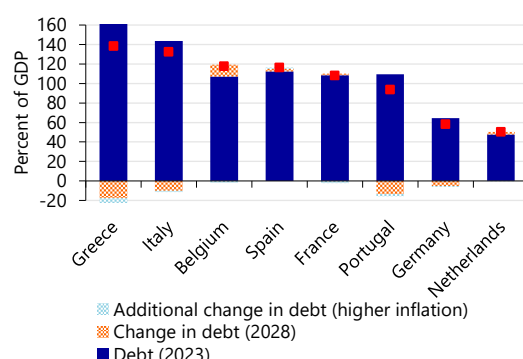
We created a scenario in which we assume inflation will stabilize at 3 percent rather than the ECB's target rate of 2 percent. We anticipate that interest rates will rise along the curve, but especially on the long end of the curve. Additionally, higher inflation will also increase nominal GDP growth. We have included the full details of the assumptions in the appendix. We have included the results of this scenario in Figures 10 and 11.

Figure 10: Interest will take up a bigger chunk of revenues in this scenario



Source: RaboResearch, Bloomberg, IMF

Figure 11: The impact on the debt-to-GDP ratio is limited however



Source: RaboResearch, Bloomberg, IMF

As expected, interest cost will eat up a bigger portion of revenues than in our base case scenario. If this scenario were to materialize, Italy would actually cross the 10% interest-to-revenue threshold (see footnote 2), whilst Spain would come dangerously close to it. Interest costs rise quite aggressively in Belgium as well, whilst the higher interest rates seem to have a much smaller effect on Portugal due to the already mentioned maturing of very high-yielding bonds. Turning to the other indicators, the outlook for both debt to GDP and financing needs to GDP does not materially change over the forecast horizon compared to our baseline scenario. If anything, the debt ratios come in somewhat lower than in our baseline. So, in the short to medium term, downward pressure from higher nominal GDP growth outweighs the upward pressure coming from higher yields. Beyond our forecast horizon, we expect the opposite.

But what about spreads?

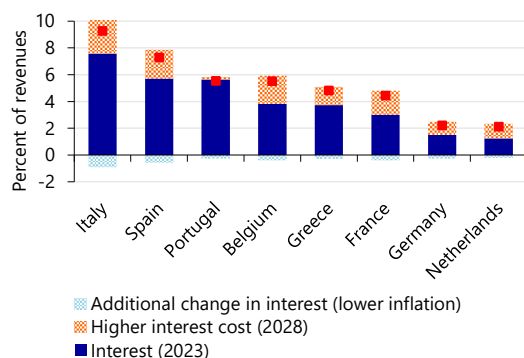
These higher interest rates, and the associated risks to debt sustainability, are unlikely to go unnoticed. Investors may demand a higher return to compensate for the associated risk in certain countries. Furthermore, in times of turmoil, investors may seek safe havens such as German bonds, further increasing spreads. The change in peripheral spreads would require a country-by-country analysis however, which is beyond the scope of this report.

Scenario II: Inflation falls quicker than expected

The risks are not only to the downside however. A steep fall in energy prices last year showed that inflation can fall quicker than expected as well. Although this is not our base case, one could argue that the price for goods may even fall (or at least not rise as fast) since there is evidence that inventories are piling up whilst consumer demand is falling at the same time. **Producer price**

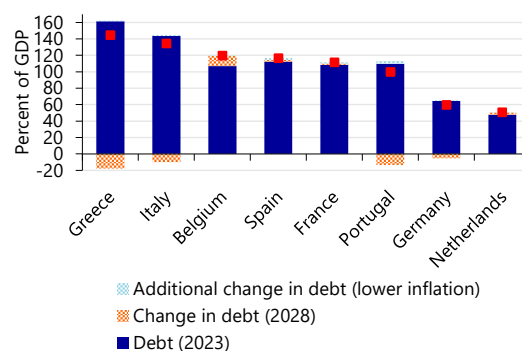
inflation has already collapsed, so why shouldn't consumer price inflation do the same? We elaborate on our assumptions for inflation and interest rates in the appendix.

Figure 12: Lower interest rates lead to a slightly lower interest burden



Source: RaboResearch, Bloomberg, IMF

Figure 13: Debt-to-GDP ratios change in a similar matter



Source: RaboResearch, Bloomberg, IMF

What stands out from Figure 12, is that despite the lower interest rates, the decline in the portion of revenues spent on interest cost is limited. Although this might seem counterintuitive, it does make sense. Together with the lower interest rates, inflation and nominal GDP growth drop as well. Consequently, government revenues also fall compared to the baseline.

Like in scenario I, the outlook for both debt to GDP and financing needs to GDP does not materially change over the forecast horizon compared to our baseline scenario. Yet contrary to the higher for longer scenario, the debt ratios in fact come in somewhat higher than in our baseline due to lower nominal GDP growth. Again, in the short to medium term, the impact of a different path for nominal GDP growth outweighs the impact of a different path for yields.

Conclusion

According to the analyses conducted in this report, another Eurozone debt crisis is not on the horizon. However, some worsening debt sustainability metrics are a cause for concern as higher interest rates begin to bite. In short, the rest of the decade will see very high financing needs, particularly in Italy, Spain, France, and Belgium. To keep debt sustainable, a firm commitment to improve the primary budget balance seems required – without destroying GDP growth. Lifting nominal GDP could also be a way out, but that is even easier said than done, especially in the short to medium term. While no government is doomed to fail, there is little room for complacency or fiscal slippage as governments can still be vulnerable to shocks.

While interest payments will require a larger portion of all countries' revenues, Italy and Spain are expected to face the greatest debt affordability challenges. In Italy, the interest-to-revenue ratio is expected to reach a level broadly matching that of countries with a speculative grade rating. On the bright side, there is still time to avoid such a situation.

At the moment, investors clearly distinguish between the health of different member states' public finances, as evidenced by spreads in bond yields across the bloc. However, there is little evidence of genuine panic or excessive spreads. Still, the longer the current environment persists, the greater the risk that a shock will push a country into an upward debt and interest spiral. The ECB still has a few tricks up its sleeve (flexible reinvestment of maturing instruments under PEPP and the TPI), but intervening would put the ECB in an awkward position of tightening and loosening monetary policy at the same time.

Another option for countries in great difficulty would be for governments to turn to the ESM - and possibly subsequently request the so far never-used ECB tool OMT. Yet that would come with conditionality, which may deter some governments.

Appendix A: Methodology

A few ingredients are required to forecast debt metrics for Eurozone countries. The most important components are: i) the initial government debt; ii) the projected primary balances; iii) currently outstanding debt instruments; iv) bond yields; v) nominal GDP growth; and vi) government revenues. The projected government debt is simply the sum of the initial government debt, the projected primary balance, and the required interest payments, the latter of which is the most complicated variable.

The primary balance

One crucial element is that we use the IMF's projections for the primary balance. This means that our analysis is based on the projection that the primary balance improves in some but worsens in other countries. As we show in the report and Appendix B, assumptions regarding the primary balance matter a great deal. Furthermore, as interest rates rise we assume that governments will not actively deviate from the baseline provided by the IMF. This enables us to understand when governments are forced to take drastic measures.

Future yields and debt maturity profile

To estimate how interest payments evolve over time we assume that governments lock in current forward rates (analysis done on August 15). This means that when a bond matures, it is replaced by a bond of the same tenor yielding the forward rate available at the time the analysis was done. This allows us to estimate how higher interest bearing bonds are gradually replacing the current relatively low yielding bonds, without making any explicit assumptions about the shape of the future spot curve. This also implies that governments do not change the maturity preferences of their debt.

Alternative financing

A portion of the Eurozone's outstanding government debt is owed to institutions such as the European Stability Mechanism and the European Commission. These loans are particularly important for countries in Southern Europe. [Greece](#), for example, owes the EFSF EUR142 billion, the ESM EUR62 billion, and the GLF EUR53 billion. This represents more than half of Greece's total outstanding debt, whilst Greece does not have to [pay interest](#) on the loans to the EFSF until 2032.

These are often loans with long maturities and variable interest rates, based on the funding cost of the issuing institutions. The interest paid on these instruments slowly adjusts to higher market rates. We have estimated a path for the funding cost of the ESM and adjusted the interest cost for governments accordingly.

In addition to the loans that have already been granted, the Recovery and Resilience Facility (RRF) has some untapped capacity. Italy, for example, can still borrow up to EUR85 billion from this fund – so far only EUR38 billion has actually been reimbursed out of a total allocation of EUR 122.6 billion. Upon accomplishing pre-determined milestones, Italy will be granted access to these RRF loans. For several countries, including Italy, borrowing from the RRF may prove to be less expensive than borrowing from the market. For example, according to the European Commission, the cost of the raised funding in the first half of 2023 was 3.2 percent, which is less than the yield for Italian debt of any tenor. The difference is relatively small, however, limiting the possible downward impact on interest costs. Furthermore, RRF loans are long-term loans, and governments may prefer not to extend the duration of their debt at the current interest rates. Given the limited impact on government finances (for Italy, the annual impact would be roughly 70 basis points on EUR85 billion, or EUR600 million compared to total average annual interest payments of EUR 58 billion) and uncertainty about the take up, we did not explicitly include RRF funds in our interest cost projections.

Nominal GDP growth

Higher (lower) inflation and higher (lower) interest rates do not come in isolation. (Nominal) GDP growth is also affected, which matters hugely for the sustainability of debt. Consequently, we have modelled the effects of different assumptions on inflation and interest rates on economic growth using [NiGEM](#), our in-house macro-econometric model.

Table 1: Data sources

<i>Data</i>	<i>Source</i>	<i>Comment</i>
Nominal GDP	Eurostat, IMF	We use in-house forecasts for the five biggest Eurozone countries
Initial government debt	National sources	
Primary balance	IMF	
Government revenues	Eurostat	
Outstanding debt instruments	Bloomberg	

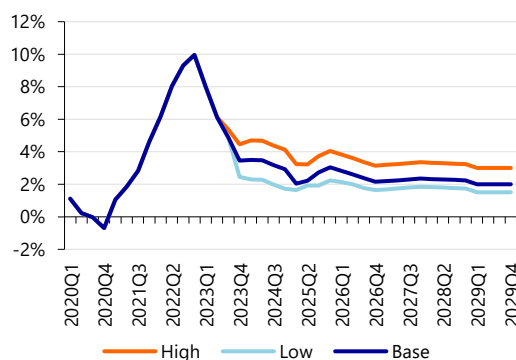
Source: RaboResearch

Assumptions for scenarios

We have already described the main assumptions for our scenarios in the main body of this report, but wish to elaborate on the additional assumptions and models here.

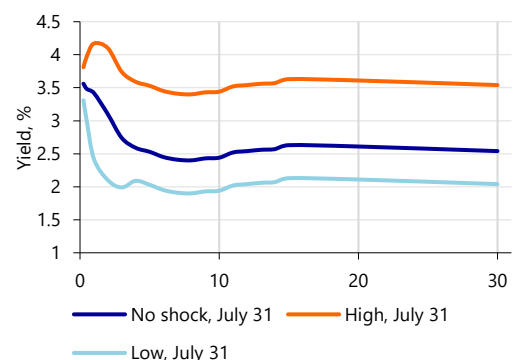
In our 'higher-for-longer' scenario we have assumed that inflation will not return to the ECB's target of 2%, but will rather stabilize at 3%. This has both implications for short-term and long term interest rates. We expect the ECB to deliver additional hikes (mainly impacting money market rates), and expect that the ECB's neutral rate will shift in accordance with the higher inflation, which in turn affects long term rates. In our 'lower-for-longer' scenario we have assumed that inflation falls quicker than expected and settles slightly below the ECB's policy target of 2%. Please note that the two scenarios are not completely symmetrical.

Figure 14: Our inflation assumptions for the three scenario's



Source: RaboResearch, Eurostat

Figure 15: The change in the German yield curve as an example



Source: RaboResearch, Bloomberg

Appendix B: ECB and EC to dampen financing challenges?

Even though the ECB only acts in the secondary market, bond buying programs of the ECB have accommodated refinancing debt of member states in recent years. However, as of July 2023, the ECB no longer reinvests maturing bonds under the APP framework, only those under the smaller PEPP program. Data on maturing PEPP bonds is not publicly available, but based on total holdings by the ECB, a back of the envelope calculation shows that for example some 10% of Italy's financing needs are 'accounted' for by the ECB. Adjusting countries' financing needs for the PEPP program does not materially change the susceptibility to a shock for the most vulnerable member states however. The ECB intends to reinvest the principal payments from maturing securities purchased under the program until at least the end of 2024.

Simultaneously, government's finances are hindered by the ECB's restrictive policy. After years of quantitative easing, central banks hold low yielding government debt, but pay relatively high interest rates on commercial bank deposits. This leads to a fall in profits. Back in October last year, the Dutch central bank even [indicated](#) that they don't expect to make a profit until 2028. A simple calculation shows that in Italy – the country in which the impact on public finances is largest – this loss of central bank dividend payments, ceteris paribus, worsens the budget balance by about 0.3% of GDP. The fact that as from September the ECB will remunerate commercial banks' minimum reserves at 0%, rather than at the deposit facility rate of 3.75%, is not going to change this story according to [RaboResearch calculations](#).

In a [recent report](#), our Rates colleagues showed that the Italian and Portuguese government have been tapping household savings for funding. Their research also shows there is still some untapped potential in both these countries as well as in some other member states such as Belgium and the Netherlands. This untapped potential is not sufficient to counter the slow withdrawal of ECB support however.

Appendix C: Sensitivity analysis

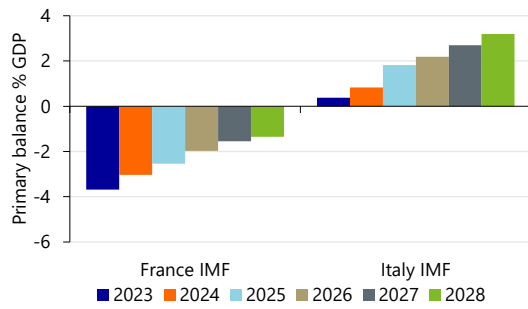
The accuracy of a forecast is only as good as the underlying assumptions. To see how stable our results are, we ran a number of sensitivity analyses to see how some debt metrics change when some key assumptions are changed.

Sensitivity to the primary balance

Because higher interest rates take time to be reflected in interest costs, the primary balance is the primary driver of changes in the debt-to-GDP ratio in the short run. We use IMF forecasts in our scenarios. These forecasts differ widely between countries and they can also differ from what national central banks expect, for better or worse.

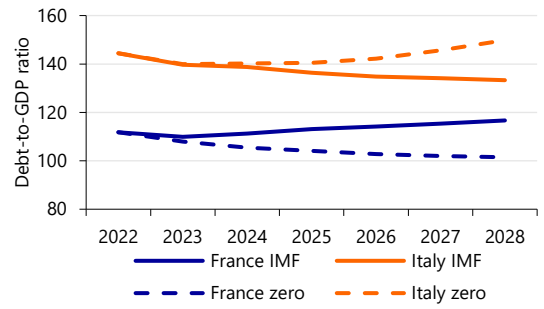
As a result, we compared the debt-to-GDP ratio trajectory in our base case (based on the IMF's projections) to a "simple" scenario in which the primary balance is exactly zero. We do not consider any alternative effects (a sharp tightening of the government budget probably dampens economic growth as well for example). These assumptions are clearly an improvement for France, as the IMF predicts that France will run a primary deficit in the coming years. The opposite is true for Italy, where the IMF predicts a (very) strong primary surplus by 2028.

Figure 16: IMF assumptions for the primary balance



Source: RaboResearch, Bloomberg, IMF

Figure 17: The assumption on the primary balance can make a big difference



Source: RaboResearch, Bloomberg, IMF

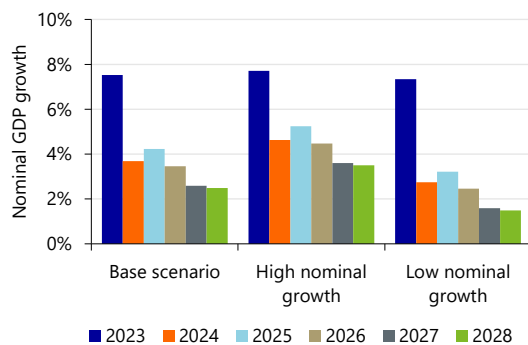
Unsurprisingly, debt-to-GDP ratios respond in kind. If Italy had a balanced primary budget, the ratio would be 16%-points higher by 2028 than in the base case. In France, the debt-to-GDP ratio would fall by 10%-points instead of rising by 5%-points, resulting in a similar effect.

Sensitivity to nominal GDP growth

Nominal GDP growth is another important factor in our analysis. The pandemic and subsequent energy crisis are clear examples of how GDP growth expectations can be quite off, especially when looking ahead a few years. However, because GDP is in the denominator of the debt-to-GDP ratio, it is a significant input.

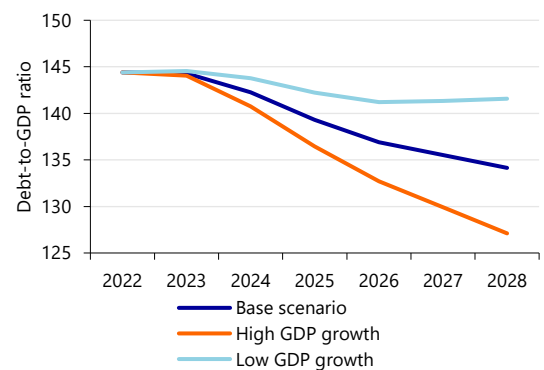
We project Italy's debt-to-GDP ratio under three GDP trajectories, each with 1% higher/lower nominal GDP growth than the base scenario. These trajectories are taken in isolation, so no other effects are included (such as higher interest rates which could come in tandem with higher nominal growth, or a better primary balance). Figure 19 depicts the trajectories. Not surprisingly, when we consider higher nominal GDP growth, the debt-to-GDP ratio falls significantly. By 2028, it is 7 percent lower than in the base case. When we take into account lower nominal GDP growth, the debt-to-GDP ratio rises by 7 percent.

Figure 18: The GDP growth assumptions for Italy under different scenarios



Source: RaboResearch, Bloomberg, IMF

Figure 19: Debt-to-GDP is sensitive to GDP growth as well (Italy)



Note: See footnote 5. The debt-to-GDP ratio in the base scenario could come in some percentage points higher than projected, due to the accounting rules for tax credits.
Source: RaboResearch, Bloomberg, IMF

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A summary of the methodology can be found on our [website](#)

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