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Department of Economics
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The Risk of Adopting the Bond Yield as the Anchor for the EU Fiscal Framework

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The Risks of Adopting the Bond Yield as the Anchor for the EU Fiscal Framework

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January 19, 2022

Comments invited

Abstract

The EU's fiscal rules, set out in the Maastricht Treaty of 1993 and the Stability and Growth Pact of 1997, are anchored to GDP. The debt ceiling and the deficit threshold are set to 60 percent and 3 percent of GDP, respectively. Recently, prominent economists and policymakers, have argued that the debt ceiling should be raised due to falling bond yields. By extension, this argument suggests a shift from GDP anchoring to bond yield anchoring of the EU fiscal framework. We discuss the risks of basing the fiscal rules on the bond yield rather than on the GDP. While such a change would provide short-run relief to highly indebted EU member states, it implies high long-run risks to fiscal sustainability should bond yields rise in the future. We conclude that GDP serves as a better anchor for the EU fiscal framework than the bond rate under present circumstances.

Key words: Fiscal framework, European Union, ECB, Stability and Growth Pact, secular stagnation, modern monetary theory, government debt, fiscal policy.

JEL codes: E5, E6, H6, N1

The Risks of Adopting the Bond Yield as the Anchor for the EU Fiscal Framework

Introduction¹

The foundation for the European Union's fiscal framework is found in the Maastricht Treaty of 1993 and the Stability and Growth Pact (SGP) of 1997. A key component of the framework is the ceiling (or "reference value") for the public debt set at 60 percent of GDP and the deficit threshold of 3 percent of GDP. The rules have been a source of constant controversy and reform. Of the eleven countries that adopted the euro in 1999, only Luxemburg has consistently maintained a debt level below the debt ceiling.² Other countries, including Germany that broke the debt rule in 17 out of 21 years between 1997 and 2019, have consistently maintained a too high debt ratio.³ Consequently, the framework has been modified and adjusted over the years to increase supervision of the public finances in the member states, and to strengthen the possibility to punish countries that consistently break the rules.

The large fiscal costs associated with the Covid-19 pandemic have re-ignited the debate on the design of the framework.⁴ Recently, Klaus Regling, with a background in the EU institutions as Director General of DG ECFIN 2001-2008 and presently Managing Director of the European Stability Mechanism, has proposed relaxing and raising the debt ceiling.⁵ His

¹ We have benefitted from constructive comments by Ronald Albers, Eoin Drea, Niklas Frank, Martin Larch, Geoffrey Wood and Pär Österholm.

² Strictly speaking, the requirement is below the debt limit or approaching it at sufficient pace, taking into account the special circumstances foreseen in the regulations of the Treaty and the SGP.

³ Several EU members outside the euro area have maintained a debt level below the threshold: the Czech Republic, Denmark, Poland, Romania, and Sweden.

⁴ See for example Martin et al (2021) and Thygesen et al (2020). A more radical approach has been suggested by Blanchard et al (2021) replacing the Maastricht rules with fiscal standards. Recently, a panel of experts on the EU economy agreed that the EU fiscal framework needs reform. However, they did not agree on how to revise the fiscal rules, see Ilzetzki (2021). The debate today about reforming the Stability and Growth Pact mirrors much of the debate when the pact was violated in 2004-2005. See here Fischer et al (2008) for a survey of 101 proposals to reform the SGP following this episode.

⁵ See for example an interview with Klaus Regling in October 2021.

<https://www.esm.europa.eu/interviews/klaus-regling-interview-der-spiegel-germany>

suggestion was motivated by two key observations: First, the present debt levels are, in most cases, far above the threshold and will not return below the threshold for many years to come. Second, bond yields have steadily declined for many years, which reduce the cost of servicing public debt, and consequently enable EU member states to maintain a higher debt level.

The present arguments for reforming and relaxing the EU fiscal rules point to an extreme solution where the future EU fiscal framework, in effect, would be anchored to the bond yield rather than to GDP. Inspired by the recent debate, we discuss the risks of shifting the EU fiscal anchor from GDP to the bond yield. We show that the bond yield varies over time and periods of relatively low real yields are followed by periods by relatively high yields. While it is easy politically to increase the public debt when yields are low, it is much more challenging to reduce public debt if future bond yields were to rise. Such a process would take many years and cause much economic and political turmoil. Consequently, we argue that the present debt anchor should be kept in place. EU member states that presently have too high debt levels should be urged to reduce their government debt levels over time through a combination of fiscal prudence and structural growth policies. In the long run, only sustainable economic growth leads to stable public finances.⁶

2. The EU fiscal framework and the GDP debt anchor

The original design of the fiscal and monetary policy framework of the EU reflects mainly German macroeconomic thinking in the 1990s, giving priority to price stability and fiscal discipline.⁷ The framework is based on a clear separation between fiscal and monetary policy. The European Central Bank (ECB) oversees the common monetary policy and is legally responsible for ensuring price stability within the euro area. The ECB shall also promote a stable economic development as long as it does not jeopardize its price stability mandate.

⁶ Growth is the key determinant of the long-run decline of the debt-to-GDP ratio of Sweden according to Andersson and Jonung (2019a, b).

⁷ See for example Buti and Gaspar (2021).

Fiscal policy plays a secondary role to monetary policy. The strict debt and deficit limits allow for temporary variations in the fiscal stance over the business cycle due to the workings of automatic stabilizers, but clearly restricts the space for discretionary fiscal stimulus.

While monetary policy is a common concern for the entire euro area, fiscal policy was originally a national competence. Later reforms have strengthened the level of co-ordination and harmonization across the EU. To ensure stable public finances, while fiscal policy remained a national competence, the SGP sets out debt and deficit rules for the EU member states to adhere to. The public debt ceiling of 60 percent of GDP and a deficit benchmark of 3 percent of GDP are the most prominent ones. Countries were expected to follow the rules over the duration of an average business cycle. Consequently, the euro area member states agreed to aim for a “near” balanced budget over the medium term to ensure that the budget deficit during recessions did not exceed 3 percent.

Member states have struggled to meet the fiscal rules. Figure 1 illustrates the proportion of euro area countries with a public debt ratio below the threshold value of 60 percent; first the proportion of the twelve-euro area countries that introduced euro banknotes and coins in 2002, and second the proportion of all 19 EU member countries that by 2021 had adopted the euro.

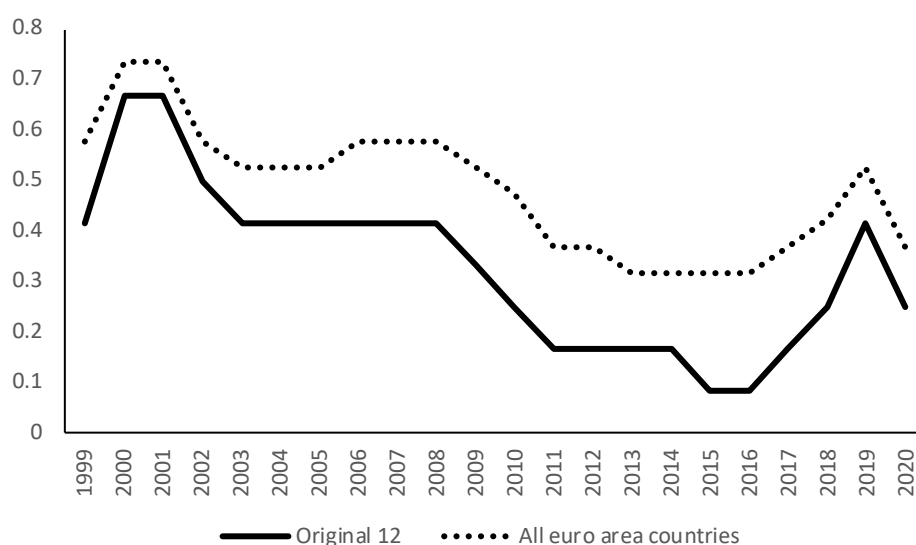


Figure 1. Proportion of euro area countries with a public debt level below the threshold value of 60 percent relative to GDP according to the Stability and Growth Pact.

Source: Eurostat.

Except for the first three years of the euro, less than half of the EU member states have kept public debt below the debt ceiling at any one given year. The share steadily declined over time with only a brief uptick in the years immediately preceding the Covid-19 pandemic. The total debt in the euro area had slowly grown hitting 84 percent of GDP in 2019 – the year before the Covid-19 pandemic. However, the pandemic caused a rapid increase. Now in early 2022, the debt ratio is around 100 percent of GDP for the euro area, and around 90 percent for the EU.⁸

The lack of adherence to the fiscal rules has led to a range of reforms of the SGP over the years. The rules were made less binding in 2005, giving member states greater fiscal leeway during recessions and periods of structural economic reforms. The global financial crisis and the European debt crisis led to further changes, emphasizing greater coordination in the framing of fiscal policy across the euro area, as well as more supervision of the adherence to the fiscal rules. Nevertheless, the key Maastricht thresholds, the 60 percent debt ceiling and the 3 percent deficit floor, have remained unaltered so far.

3. Shifting the anchor from GDP to the bond yield

When designing the fiscal framework, policymakers must address two key questions: first, when, if ever, does the size of the public debt become “too” large; and second, should fiscal policy be required to assist monetary policy to stabilize the economy during major economic crises? The macroeconomic consensus from the 1990s, when the euro area was formed, is increasingly being challenged today by academics and politicians alike.⁹

⁸ See Eurostat (2021). See also the Compliance Tracker of the European Fiscal Board: https://ec.europa.eu/info/business-economy-euro/economic-and-fiscal-policy-coordination/european-fiscal-board-efb/compliance-tracker_en. for a detailed account of the actual compliance to the EU fiscal rules.

⁹ The literature does not provide any clear answer to the first question. Reinhart and Rogoff (2010) and Reinhart and Rogoff (2012) find that public debts in excess of 90 percent of GDP, reduce economic growth, a result that Herndon et al (2014) disputes, among others. Egert (2015) argues that there is potentially a non-linear relationship between debt and growth and that the sustainable debt level varies from country to country. Andersson and Karpestam (2014) find that the negative growth effects are likely larger among less developed countries.

Changes in the macroeconomic landscape since the 1990s are contributing to the reassessment of the role of monetary and fiscal policy. Most importantly, long-term bond yields, nominal as well as real, have declined since the 1990s, reducing the burden of servicing public debt. The declining rates have also reduced the efficiency of monetary policy during economic downturns, forcing central banks to rely on unconventional, and often extreme, expansionary policy measures to combat a recession. In this new economic environment, the role of fiscal policy has been partially reevaluated with prominent academics arguing that fiscal policy needs to play a bigger role in stabilizing the economy.¹⁰

Figure 2 illustrates the nominal and real yield on a German 10-year government bond between 1957 and 2019.¹¹ Both yields have fallen significantly in recent decades. From the late 1950s to the mid-1990s, the average real yield was about 3.5 percent per annum. It was slightly lower during the 1970s and higher during the late 1960s and 1980s. Beginning in the early 2000s, the yield started to decline, averaging 1.5 percent until the global financial crisis of 2008, when the yield fell further. There was a large decline in yields once central banks began to increase the volume of credit in the economy through various quantitative easing programs. The ECB expanded its balance sheet from 2 200 billion euros in 2014 to 4 700 billion euros in 2019 through purchases of mostly government bonds.

¹⁰ Blanchard (2019) and Summers (2015) are two leading proponents of a more expansionary fiscal policy. For objections, see for example Wyplosz (2019) and Andersson and Jonung (2019b). Modern Monetary Theory (MMT) argues the case of an extreme debt-financed fiscal policy; see e.g., Kelton (2020). See among others Mankiw (2020) for a critique of MMT. The MMT appears too extreme to be taken as a serious approach when framing fiscal policy.

¹¹ The real interest rate is calculated as the nominal yield at period t minus the observed inflation rate at period t . A lack of data on inflation expectations from the 1950s and onwards prevents the calculation of *ex ante* real yields.

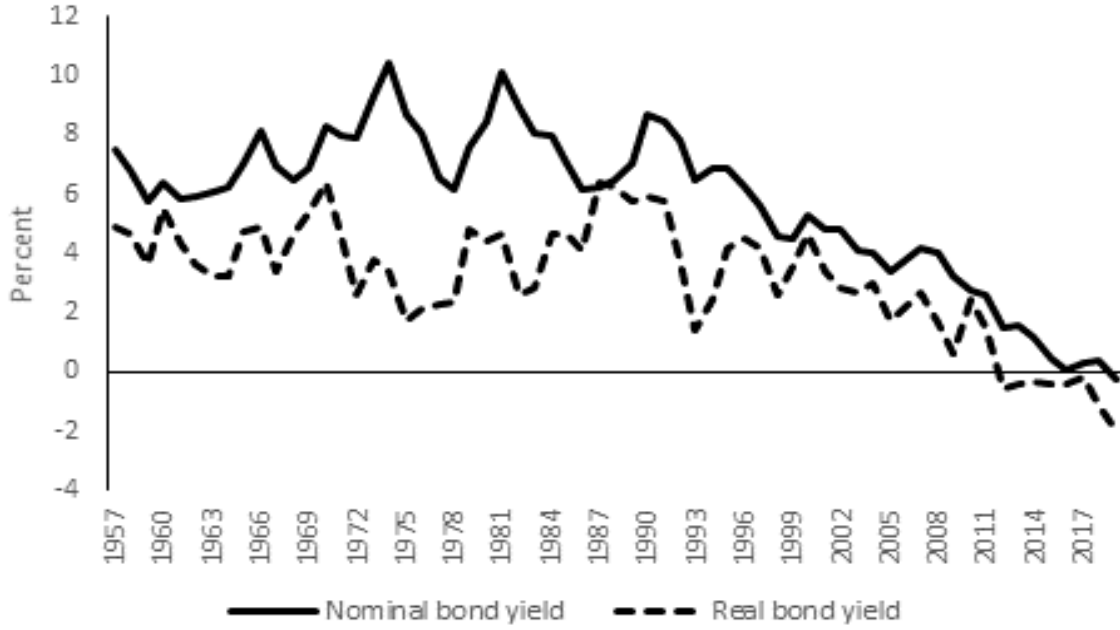


Figure 2. Nominal and real German 10-year bond yield, 1957-2019.
Source: OECD.

The key metric for the state of public finances is the cost of servicing the debt. When the bond yield declines, so does the burden of servicing public debt. Consequently, countries will be able to maintain a higher public debt level than previously. The relationship between the cost of servicing the debt and the debt level can be expressed through the following equation:

$$\text{debt service} = \text{public debt ratio} \times \text{bond yield} \quad (1)$$

where *debt service* is the cost as share of GDP of servicing the debt, *public debt ratio* is the debt-to-GDP ratio, and *bond yield* is the average interest rate the government pays on its debt.

Let us now assume that the government wants to target its debt ratio such that it maintains a fixed cost of servicing the debt. The targeted public debt ratio that ensures this fixed cost is thus given by:

$$\text{public debt ratio} = \frac{\text{debt service}}{\text{bond yield}} \quad (2)$$

which, of course, is a function of the bond yield.

Because the interest rate is in the denominator in equation (2), the relationship between the targeted public debt as defined by the fixed debt servicing cost is non-linear. Every time the bond yield is cut in half, the targeted public debt ratio can be doubled without the debt servicing cost increasing. Reducing the bond yield from say 3 percent to 1.5 percent cuts the interest rate in half, allowing for a doubling of the debt. A further halving of the bond yield to 0.75 percentage points again for a further doubling of the targeted debt ratio. However, the reduction in percentage points is much smaller. Thus, as the bond yield approaches zero, the possible debt increases rapidly. It goes to infinity as the bond yield goes to zero. As the bond yield becomes negative, the government earns revenue from its debt and could maintain any debt ratio.

When the threshold value for public debt of the Stability and Growth Pact was set in 1997, the nominal bond yield was close to 3 percent on average. A debt ceiling of 60 percent thus implied a maximum debt service cost of 1.8 percent of GDP. As the interest rate declined during the first decades of the 2000s to 1.5 percent, the debt-to-GDP ratio could increase to 120 percent without increasing the debt service cost as a ratio of GDP. Presently, negative real yields imply that the size of the public debt is of minor importance.

The relationship between the bond yield and the public debt ratio is illustrated in Figure 3. The black curve shows the maximum public debt level for different bond yields assuming the debt service cost is set at a constant rate of 1.8 percent of GDP as implicit in the Maastricht value based on GDP. The dotted black line shows the present SGP debt ceiling of 60 percent of GDP.

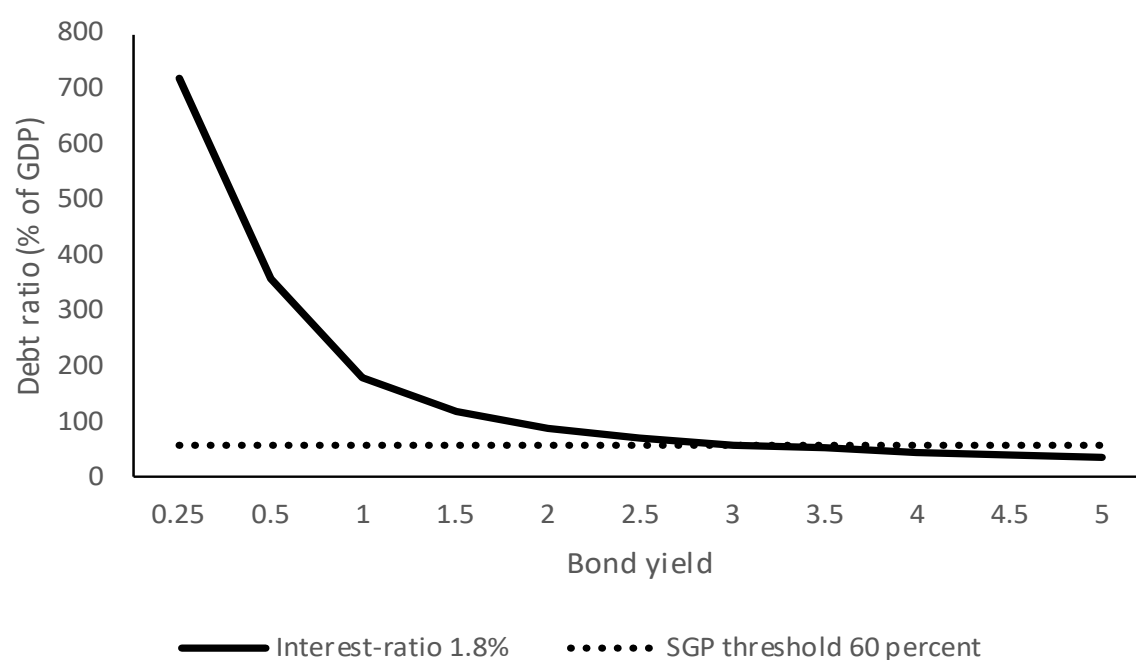


Figure 3. Possible public debt-to-GDP ratios with a constant debt service cost as implied by the Maastricht value of 1.8 percent of GDP for different bond yields.

Given the declining bond yields, there is clearly an argument for raising the public debt ceiling presently. Especially since the public debt-to-GDP ratio in the euro area is around 100 percent in 2021; well above the Maastricht reference value. Reducing the debt ratios in the coming years may force EU member states to cut back on public expenditures and threaten the recovery from the pandemic. As the cost of servicing a debt ratio of around 100 percent of GDP in 2022 is well below what the cost of servicing a debt ratio of 60 percent was in the late 1990s, the size of the debt is for the moment of lesser concern, at least as long as the ECB continues its pandemic emergency purchase program (PEPP).¹²

However, raising the public debt ceiling should not be viewed as a free lunch. It makes public finances more exposed to future increases in the rate of interest. Present studies of the decline of the bond yield primarily focus on the period from the 1980s or the 1990s, during which, as Figure 2 shows, bond yields have been declining. In a longer perspective, however, it is evident that real bond yields vary over time. Figure 4 presents an estimate of the trend in the 10-year real government bond yield between 1840 and 2019 for two major economies, the United States and the United Kingdom, and for a small economy, Sweden. Germany, and

¹² This program is planned to be terminated in March 2022.

other continental European countries, are not included in this figure due to the impact of the world wars on the continental European economy.¹³

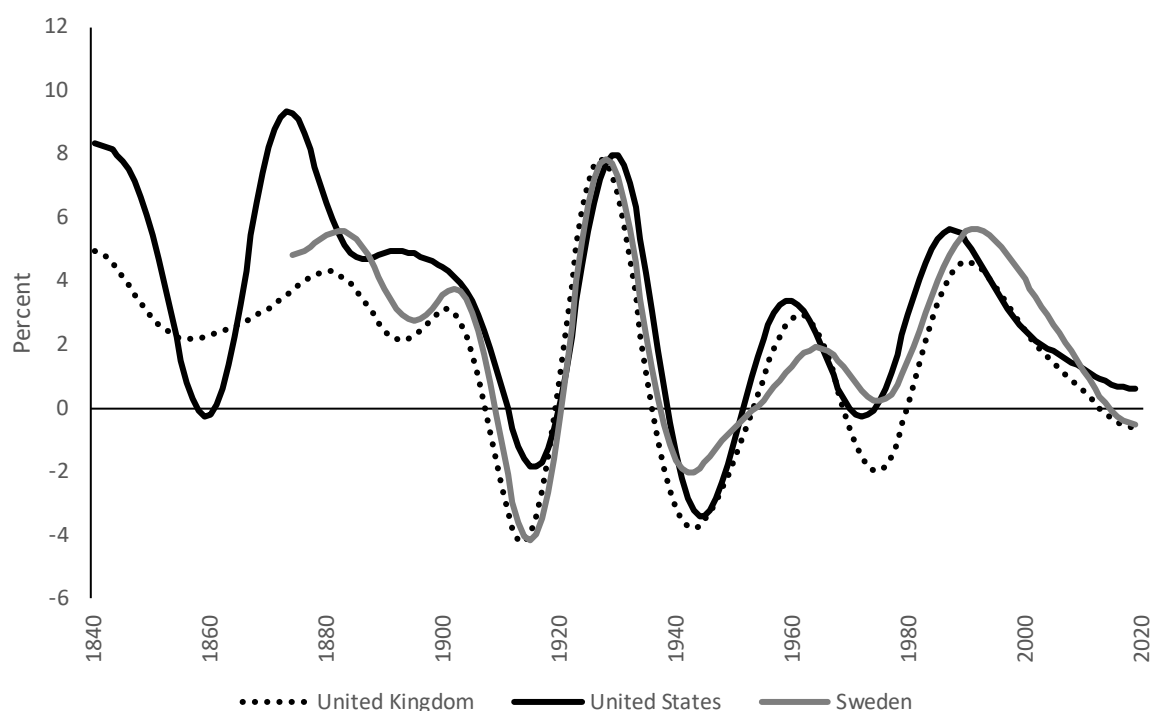


Figure 4. Trend estimate of the real interest rate for the United States, the United Kingdom and Sweden, 1840-2019.

Source: Own calculations

From Figure 4, we draw four conclusions. First, there are prolonged periods, lasting many decades, of either rising or declining real yields. From a historical perspective, the recent period of declining rates is not exceptional.

Second, periods of low (high) yields give way for periods of high (low) yields eventually. The long-run evidence suggests that yields may increase again in the future after the present period of low rates. Thus, any economic planning for the future should consider the possibility of increasing yields.¹⁴

¹³ The real yield is calculated as the nominal yield on a ten-year government bond minus the observed inflation rate.

¹⁴ Some central banks have recently raised their policy rates or made it likely that rates will be raised in the near future. It is impossible to state that these events herald a period of secular rising rates.

Third, real yields tend to fall during wars when interest rates are kept down by the policy of central banks while inflation is allowed to rise. However, the decline in real bond yields had in most cases begun before the wars. A possible interpretation is that wars may have aggravated an already ongoing decline in the real bond yields. In addition, the trend variations in the real interest rates are not only caused by wars; other forces have been at play as well. One such factor is total factor productivity, TFP. Real interest rates are high when TFP growth is high; interest rates decline as productivity growth declines.

Fourth, there is a high correlation across the yield estimates of the three countries indicating that the long-term bond yield is set by global, rather than by domestic forces. The possibility for one country to set its own yield appears to be small.

4. The risks of adopting the bond yield as a fiscal anchor

It is tempting to recommend an increase in the public debt ratio based on the present low real bond yields.¹⁵ This implies a move to the bond yield as the anchor for the EU fiscal framework. In a world of never increasing bond yields such an argument has some merit. Lower costs of servicing the debt reduces the risk of a fiscal crisis caused by large public debt. However, it is in practice an extremely risky strategy. There are several reasons for resisting a bond yield anchor.

First, a small rise in the bond yield would rapidly increase the cost of servicing the debt. There are reasons to expect that interest rates will increase in the future, not just because interest rates have varied over time as indicated by Figure 4, but because those factors that have contributed to lower rates in recent decades may swing in the near future, pushing real rates upwards.

Table 1 outlines short-term and long-term structural factors that have impacted on the interest rate during the last 20 years. The effect on interest rates of each factor is indicated by a plus or minus sign in the table.

¹⁵ See also Debrun and Jonung (2019, pp 147-148) and De Grauwe and Ji (2019) on this issue.

Short-term shocks	Long-term structural changes
2000: End of dot-com bubble (-)	Declining productivity growth (-)
2001: 9/11 terrorist attacks (-)	Globalization
	- China joins WTO (-)
	- EU expansion (-)
2008/09: Global financial crisis (-)	Digitalization (-)
2010–15: European debt crisis (-)	
2020–21: Covid-19 pandemic (-)	

Table 1: Short- and long-term factors that have affected bond yields, 2000-2021.

According to Table 1, five major short-term shocks have prompted central banks to lower short term nominal interest rates: i) the busting of the dot-com bubble in 2000, ii) the 9/11 terrorist attacks in 2001, iii) the global financial crisis in 2008/09, iv) the European debt crisis 2010-15, and v) the covid-19 pandemic. This string of severe negative shocks is unusual in a historical context. The world economy is usually hit by both positive and negative shocks over a twenty-year period. The consistently negative shocks have contributed to declining rates, nominal as well as real rates.

Over the long term, three major structural changes have contributed either directly or indirectly to lower interest rates. TFP-growth has declined since the late 1990s. Lower productivity growth is correlated with lower demand for capital and a downward pressure on interest rates. Globalization, including China's entry into the World Trade Organization (WTO), and the EU's expansion eastwards have contributed to lower inflation, which in turn have caused central banks with inflation targets to pursue a more expansionary monetary policy. Globalization has reduced profit margins (Andrews et al, 2018) and provided the world economy with relatively cheap labor that have held back wages and inflation (Knight et al, 2011; Nickell and Saleheen, 2015; Bundesbank, 2018). China has provided the global economy with a savings surplus, which reduced interest rates (Bernanke, 2005). Digitalization has reduced marginal costs and inflationary pressures (Charbonneau et al 2017).

In the future, these trends may be reversed; the world economy may return to a more normal state with negative as well as positive short-term shocks. There are signs that the trends are changing. Combating climate change requires large capital investments in new energy-sources, infrastructure, and production processes, which will drive up the demand for capital

(OECD, 2018; IPCC 2018). The globalization processes have slowed in recent years (O'Rourke, 2019; Reinhart and Reinhart, 2020), and may even reverse in coming years reducing the supply of cheap labor and reducing the level of competition. The economic benefits of digitalization may lead to a new investment boom among firms like the effect of new computer technologies in the late 1980s and the 1990s, which at that time caused higher interest rates. Of course, we cannot tell whether these new trends will materialize and whether they will cause higher interest rates. Nor is it possible to rule out this possibility. Public policy should be prepared for a change of circumstances.¹⁶

The EU may quickly find itself in another serious debt crisis.¹⁷ The only difference compared to the debt crisis of 2010-2015 is that it is likely to involve some of the major member states, such as France, as well. The French debt ratio in 2020 was 116 percent of GDP, well above the Italian and Greek debt levels of 106 percent and 109 percent, respectively, at the onset of the debt crisis in 2008.

While it is possible for a government to increase the debt ratio rapidly, reducing it takes time unless the central bank monetizes the debt. This policy solution is illegal according to the present EU treaties and not to be recommended judging from the historical experience. Should the ECB be allowed to monetize debt to ease the debt burden, high inflation and a loss of confidence in the euro are likely to follow.

Second, a bond yield anchor, instead of the present GDP anchor, creates a strong connection between fiscal and monetary policy. It will be extremely difficult for the ECB to remain a politically independent central bank. During the corona crisis, the ECB has stepped in and reduced the burden on fiscal policy through large asset purchase programs, pushing down government bond yields. Presently, the ECB holds roughly 30 percent of government debt in the euro area, a clear breach of the spirit of the Maastricht Treaty. The low bond rate today in the euro area is to a considerable extent the outcome of an expansionary monetary policy, not of a secular stagnation process.

¹⁶ On this point, see inter alia Rogoff (2021), a warning that low interest rates will not last forever.

¹⁷ On this account, see also Alcidi and Gros (2019) on the role of the risk premia.

Third of all, in case a bond yield anchor is adopted, such a change will most likely undermine the credibility of the entire EU fiscal framework. Its credibility is already weak. Still, a new framework will be viewed as an additional sign of weakness. If the fiscal framework is changed, many will expect it to be changed again to adjust to new circumstances.

Of course, we are aware that a move to a bond rate anchor for the EU fiscal framework would require a change in the treaty behind the SGP. Given the present political set-up in the EU, the likelihood of a consensus for a new fiscal framework is small. There may be agreement that the present system does not work. But there will probably be less agreement for a bond rule. Fiscally well-behaved member states are likely to oppose such an attempt.

In our view, the main economic challenge for the EU is to improve its long-run growth potential through supply-side reforms. There is a risk with the present debate about the future of the EU fiscal framework that it will focus on the wrong issues. A more expansionary fiscal policy or the abolishment of the Maastricht rules is not the way to raising economic growth in the long run.¹⁸

5. Conclusions

The EU fiscal framework was designed in the 1990s as a response to the high government debt, high inflation and high bond rates in the 1970s and 1980s. Since then, the EU fiscal rules have been anchored to GDP. However, the long-term decline in the bond yield since the 1990s has recently been put forward as an argument for relaxing the fiscal rules. In the extreme case, the bond rate might replace GDP as the anchor for the EU fiscal framework.

We have argued that moving from a GDP anchor to a bond rate anchor for the EU fiscal framework would be a very risky venture. Bond rates may be low today, but could increase in

¹⁸ Blanchard et al (2021) propose that the present EU fiscal rules should be abandoned and replaced by fiscal standards. In effect, this has already happened to a large extent as exemptions have been made to the Maastricht rules. However, a complete move to fiscal standards would most likely make the EU fiscal framework a very weak one, leaving a large leeway for bargaining, blame games and politics. In our opinion, this is not a promising route to take.

the future, making the bond rate an unstable anchor. Rising bond yields can quickly cause a fiscal crisis, or even a sovereign debt crisis, among highly indebted EU member states.

The present suggestions to raise the public debt benchmark would provide policymakers with a short-term respite from consolidating public finances. However, it would not solve the euro area's core economic problem: weak economic growth. Only growth-oriented reforms will increase the long-term growth rate.

A bond rate rule would also create a strong connection between monetary and fiscal policy in the euro area, undermining the independence of the ECB. The independence of the ECB has already been weakened to a major extent through the enormous purchases of government bonds and other assets as part of the program of quantitative easing (PEPP) during the recent pandemic.

To sum up, we see strong reasons to maintain and develop the present EU fiscal framework based on the GDP and resist the short-run temptation to use the currently very low bond rates as an argument for basing the fiscal rules on the bond rate. Instead, the debate should focus on raising the growth potential of the EU.

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