



How sustainable are government debts in the formerly stressed Southern European countries? Analysis and Recommendations

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Abstract

Will the sovereign debt of Italy, Spain and Portugal remain viable even if interest rates rise again and a moderate recession occurs? This debt sustainability analysis which comprises three relatively realistic scenarios and extends to 2022 comes to a differentiated conclusion. On the one hand, public debt ratios remain high not only in the moderately pessimistic scenario that includes a brief recession in 2019. This is also true in the baseline scenario (with rather conservative assumptions), mainly in Italy and to a lesser extent in Portugal and Spain. Only in the moderately optimistic scenario is the reduction in the public debt ratio somewhat faster in Italy, and all the more so in Portugal and Spain. However, even in this scenario it will take considerably longer than 2022 until the public debt ratios in Italy and Portugal will fall below 100 per cent of GDP. On the other hand, the public debt does not spiral out of control under the chosen assumptions, even in the rather pessimistic scenario. An important prerequisite is that fiscal policy, particularly in Italy (and somewhat less in Portugal and Spain), reacts with moderate consolidation. The primary surplus needed for stabilization is considerably below 3 per cent of GDP and thus within a reachable range. Therefore, there is no reason for the financial market to regard the debt situation unsustainable under normal conditions. However, this might be different if a deeper crisis or self-fulfilling prophecies on the financial market occurred or if populist parties dismissed the course of moderate fiscal consolidation.

In order to reduce the vulnerability caused by the high public debt levels and to avoid deeper crises, the main focus of economic policy should be on strengthening the growth potential and on avoiding economic and financial overheating. Growth enhancing measures are, above all, smart structural reforms and a reduction of private debt legacy burdens of the crisis. In addition, a more ambitious strategy for inclusive fiscal consolidation is needed. This is also required to enable countries to combat future recessions primarily with automatic stabilizers at the national level. If the financial market should not allow this, a new type of ESM-light programme should be introduced. It would allow for a limited increase in the fiscal deficit, but countries would have to pre-qualify for it by adhering to the European fiscal rules. In order to increase the market discipline and thus the consolidation incentives, accountability bonds are recommended. In addition, in order to revive the no-bailout clause, exposure limits are required for banks' portfolios of domestic sovereign bonds. Moreover, changes to the collective action clauses in sovereign bonds are necessary to allow a single vote so that holdout investors can be outvoted. To avoid crisis escalations, ESM assistance must also be credible for large countries. Therefore, the

maturities of government bonds should be extended with an ESM programme, while interest payments and nominal value of the bonds would remain untouched.

1. Introduction

Five years after the end of the acute phase of the euro debt crisis, the subsequent upturn in the euro area has increasingly gained momentum. This appears unlikely to change soon, as the sustained positive business climate in the euro area suggests. But how stable is the overall economic situation (Blanchard/Zettelmeyer, 2017)? This article is devoted to the question of how fragile the high public debt levels are in Southern Europe.

In Italy and Portugal the public debt ratio is very high, with some 130 per cent of GDP, and around 100 per cent of GDP in Spain. In all three countries, this ratio has hardly declined in recent years due to only limited consolidation progress, while it continued to rise slightly in Italy despite the slight upturn and extremely low interest rates. This raises the question as to whether the sovereign debts of these three countries are still viable if interest rates rise again. It is also necessary to discuss whether possible recessions would lead the debt ratios so far out of control that there might be an ultimate risk of sovereign defaults.

These aspects are of great relevance also to the current debate on the future EMU architecture. For example, advocates of a stronger fiscal integration (e.g. EU Commission, 2017a), justify their proposals also with the supposedly too great fragility of the highly indebted euro area countries.

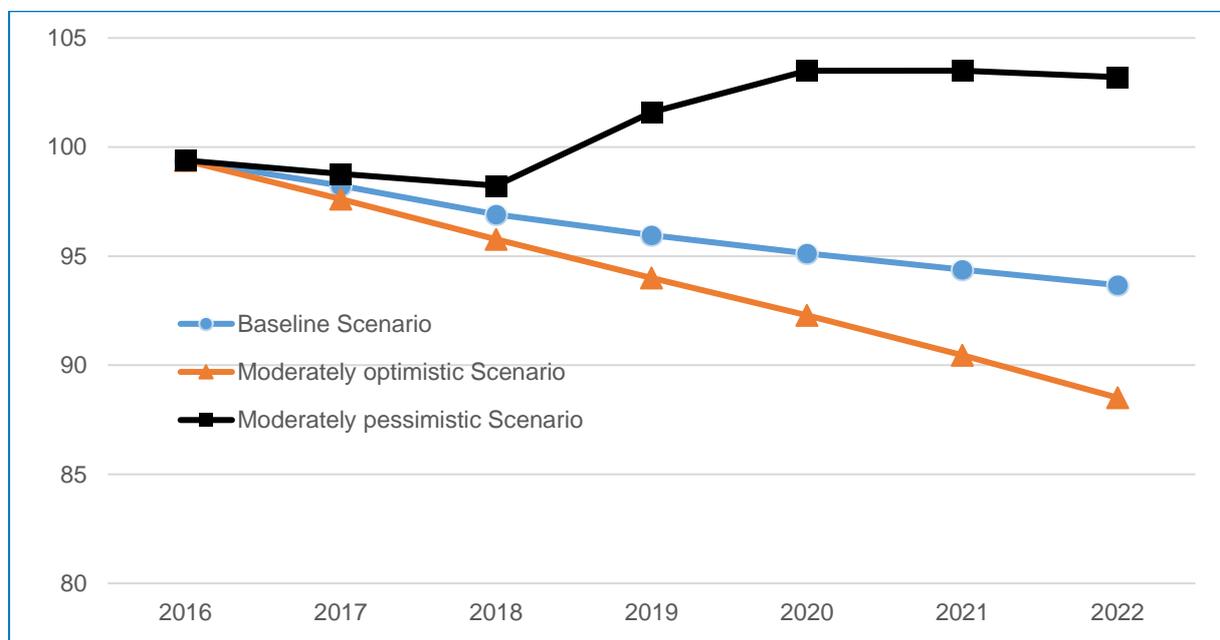
The assessment of debt sustainability also plays a role in the question of whether government bonds should be de-privileged in banking regulation. This step is necessary in order to break the state-banking nexus and to raise the disciplining effect on fiscal policy by financial markets (Matthes et al., 2016, Demary/Matthes, 2017; Matthes/Iara, 2017). However, such a step is likely to lead to higher risk premiums for countries with fragile public debts. Thus, opponents point to the risk of rating downgrades, which could eventually lead to sovereign defaults, if the debt sustainability is regarded to be too fragile.

Against this background, a debt sustainability analysis of Spain, Italy, and Portugal is carried out to assess how fragile the situation really is. For debt sustainability analyses for Greece see Matthes (2015a; 2016).

2. Spain

The Spanish economy benefits from the wide-ranging structural reforms during the crisis years (Matthes, 2015b). It is expected to grow dynamically in 2017 at a rate of around 3 per cent year on year (yoy) for a third consecutive year. In the first and second quarters of 2017, real GDP growth was again in this range. Important economic indicators, such as business and consumer sentiment, remain at a high level in the autumn of 2017. For example, the Economic Sentiment Index of the EU Commission stood at 109.9 in September 2017, which is the highest level since December 2015. In view of the rapid growth, the GDP deflator is estimated to increase by about 1.5 per cent this year after a prolonged period of weakness. As a result of reforms and the economic dynamic, the average interest rate on government debt at 2.7 per cent in 2017 is slightly lower than in Italy and Portugal (according to EU figures). On the other hand, certain weaknesses are still evident in regard of the fiscal situation. After a primary fiscal deficit of 1.7 per cent of GDP in 2016, the EU Commission estimates that a primary surplus will still not be reached this year (−0.6 per cent of GDP).

Figure 1: Scenarios of debt sustainability for Spain
 Public debt ratio in per cent of GDP



From 2017 data simulated based on the assumptions displayed in Table 1.
 Sources: European Commission; IMF; Cologne Institute for Economic Research

Despite this weakness on the fiscal side, dynamic growth and moderate inflation contribute in the **baseline scenario** to a fall of the public debt ratio (which has already slightly declined recently) from 99.4 per cent of GDP in 2016 to around 93.7 in 2022 (Figure 1). It is assumed that the growth rate of real GDP will decrease over time, that inflation and the average interest rate on public debts will rise slightly, and that the fiscal primary balance will improve continuously in small steps (Table 1). In the **moderately optimistic scenario**, the debt ratio falls further to 88.5 per cent of GDP by 2022. Here, the assumed growth decline over the time horizon is less pronounced than in the baseline scenario. Moreover, a somewhat accelerated price increase, a minor increase in the average interest rate, and a slightly greater improvement in the primary balance are assumed. The **moderately pessimistic scenario** foresees a poorer development and a temporary recession with only a slight recovery. Under these assumptions, the public debt ratio rises temporarily to 103.5 per cent, but stabilises again at only a small primary surplus of 0.5 per cent.

Table 1: Scenarios for Spain at a glance

Data in per cent

	2016	2017	2018	2019	2020	2021	2022
Assumptions	Baseline scenario						
Change of real GDP (yoy)	3.2	3.1	2.6	2.0	1.9	1.7	1.6
Change of GDP deflator (yoy)	0.3	1.5	1.5	1.6	1.6	1.7	1.8
Average interest rate on public debts	2.9	2.7	2.6	2.8	3.0	3.2	3.4
Public primary balance in per cent of GDP	-1.7	-0.6	-0.1	0.1	0.3	0.5	0.7
Public debt ratio in per cent of GDP	99.4	98.2	96.9	96.0	95.1	94.4	93.7
	Moderately optimistic scenario						
Change of real GDP (yoy)	3.2	3.3	2.8	2.4	2.2	2.1	2.0
Change of GDP deflator (yoy)	0.3	1.7	1.7	1.8	1.8	1.9	2.0
Average interest rate on public debts	2.9	2.7	2.6	2.7	2.8	2.9	3.0
Public primary balance in per cent of GDP	-1.7	-0.4	0.1	0.3	0.6	0.8	1.1
Public debt ratio in per cent of GDP	99.4	97.6	95.8	94.0	92.3	90.5	88.5
	Moderately pessimistic scenario						
Change of real GDP (yoy)	3.2	2.9	2.2	-0.5	0.5	2.0	1.6
Change of GDP deflator (yoy)	0.3	1.3	1.3	1.3	1.3	1.5	1.8
Average interest rate on public debts	2.9	2.7	2.6	2.9	3.2	3.4	3.6
Public primary balance in per cent of GDP	-1.7	-0.8	-0.3	-1.3	-0.5	-0.1	0.5
Public debt ratio in per cent of GDP	99.4	98.8	98.2	101.6	103.5	103.5	103.2

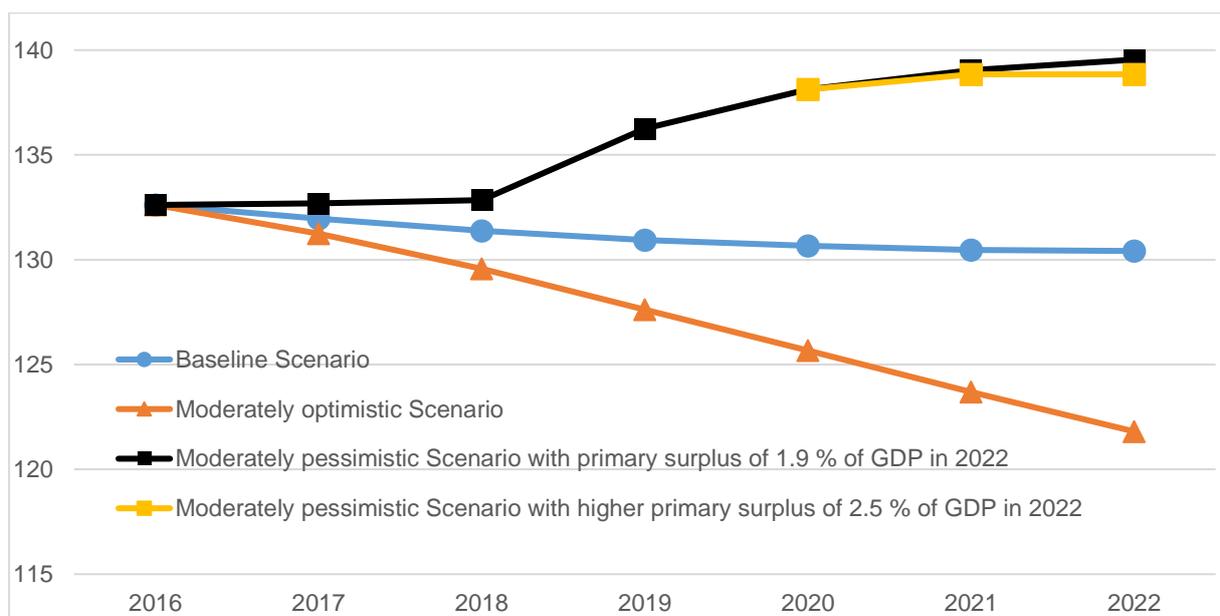
Sources: European Commission; IMF; Cologne Institute for Economic Research

3. Italy

Economic growth in Italy has not yet gained stronger momentum (despite some structural reforms), mainly because of the crisis-related legacy problems in the banking and corporate sector. In 2016, real GDP grew at only around 1.0 per cent (yoy). In the first two quarters of 2017, however, there was a slight acceleration with real GDP growth of 1.2 and 1.5 per cent (yoy). Moreover, many leading business cycle indicators have recently risen to high levels. The Economic Sentiment Index of the EU Commission reached 110.9 points in September 2017 – the highest level since autumn 2006. However, in view of the weak economic momentum so far, the price increase of the GDP deflator was still below one per cent in 2016. According to the EU Commission, the average interest rate on the government debt is 3.0 per cent in 2017, also because Italy, like the other countries viewed here, benefits from the low-interest rate environment and the ECB's sovereign bond purchases. The fiscal primary balance, unlike Spain, is clearly positive with 1.5 per cent of GDP in 2016 and 1.7 per cent in 2017 (estimates of the EU Commission).

In the **baseline scenario**, the high Italian debt ratio declines only very slowly between 2016 and 2022 - from 132.6 to 130.4 per cent of GDP (Figure 2). This is mainly due to the assumptions that real GDP growth and inflation remain very weak, while interest rates are rising (Table 2).

Figure 2: Scenarios of debt sustainability for Italy
 Public debt ratio in per cent of GDP



From 2017 data simulated based on the assumptions displayed in Table 2.

Sources: European Commission, IMF; Cologne Institute for Economic Research

In the **moderately optimistic scenario**, somewhat more positive but still relatively conservative assumptions are set. At just under 1.5 per cent on average, economic growth is expected to be higher than in the baseline scenario: However, this is roughly the same growth rate as the average for the period from 1998 to 2007. Inflation also rises slightly, but reaches only 1.7 per cent by 2022. The average interest rate increases only slightly less than in the baseline. And the primary balance rises to 2.5 per cent of GDP at the end of the time horizon. With these assumptions, the public debt ratio falls significantly to just under 122 per cent of GDP in 2022.

In the **moderately pessimistic scenario**, the public debt ratio continues to rise after the assumed recession in 2019. Given weak growth and inflation and higher interest rates, a primary surplus of 1.9 per cent of GDP does not suffice to stabilise the debt ratio. However, this would be achieved with a still moderate primary surplus of 2.5 per cent of GDP.

Table 2: Scenarios for Italy at a glance

Data in per cent

	2016	2017	2018	2019	2020	2021	2022
Assumptions	Baseline scenario						
Change of real GDP (yoy)	0.9	1.3	1.0	0.8	0.8	0.9	0.9
Change of GDP deflator (yoy)	0.8	0.9	1.2	1.4	1.4	1.4	1.4
Average interest rate on public debts	3.1	3.0	2.9	3.1	3.3	3.5	3.7
Public primary balance in per cent of GDP	1.5	1.7	1.5	1.6	1.7	1.8	1.9
Public debt ratio in per cent of GDP	132.6	132.0	131.4	130.9	130.7	130.5	130.4
	Moderately optimistic scenario						
Change of real GDP (yoy)	1.5	1.5	1.5	1.5	1.5	1.4	1.3
Change of GDP deflator (yoy)	0.8	1.1	1.4	1.6	1.6	1.7	1.7
Average interest rate on public debts	3.1	3.0	2.9	3.1	3.2	3.4	3.5
Public primary balance in per cent of GDP	1.4	1.9	1.7	1.9	2.1	2.3	2.5
Public debt ratio in per cent of GDP	132.6	131.2	129.6	127.6	125.7	123.7	121.8
	Moderately pessimistic scenario						
Change of real GDP (yoy)	0.8	1.1	0.8	-0.5	0.5	1.0	0.9
Change of GDP deflator (yoy)	0.8	0.7	1.0	1.0	1.0	1.2	1.4
Average interest rate on public debts	3.1	3.0	2.9	3.3	3.7	3.9	4.0
Public primary balance in per cent of GDP	1.5	1.5	1.3	0.3	1.1	1.4	1.9
Public debt ratio in per cent of GDP	132.6	132.7	132.8	136.3	138.1	139.0	139.5

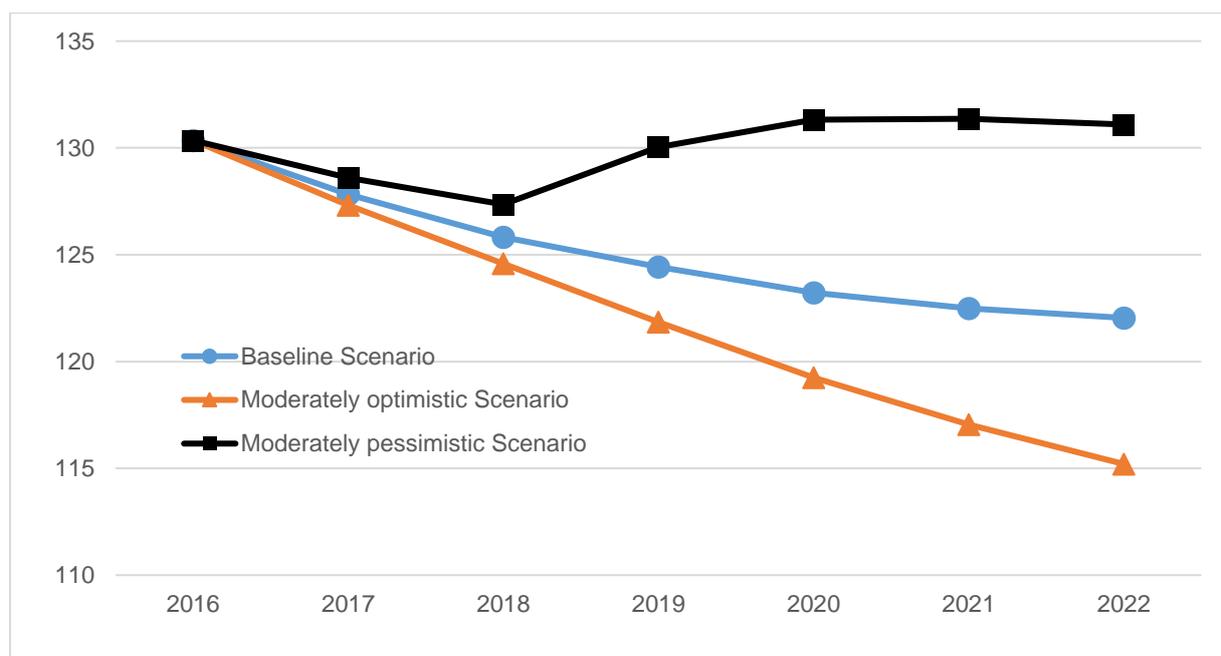
Sources: European Commission; IMF; Cologne Institute for Economic Research

4. Portugal

In the past two years, Portugal's economy has grown at a respectable rate of around 1.5 per cent (yoy), also due to structural reforms in the crisis years (Matthes, 2015b). In the first half-year of 2017, the dynamics increased significantly, with a growth rate of just under 3 per cent (yoy). Business cycle indicators also show a predominantly positive picture. The Economic Sentiment Index of the EU Commission reached 114.4 in September 2017 which is the highest level since March 2000. The increase of the GDP deflator is expected to remain at a subdued 1.4 per cent this year (IMF forecast). Due to the relatively high risk premiums, the average interest rate on public debts is comparatively high at 3.4 per cent in 2017 despite the low interest rate period. However, with a primary surplus of 2.4 per cent of GDP (2017), Portugal is the top performer among the three countries considered.

In the **baseline scenario**, the government debt ratio declines considerably from 130.4 per cent in 2016 to 122 per cent in 2022 (Figure 3), despite relatively conservative assumptions. In fact, in view of the moderately dynamic development currently, the assumed economic growth and price increases appear relatively low over the time horizon (Table 3). Moreover, interest rates continue to rise moderately despite the already relatively high level, and the primary surplus decreases slightly but continuously in this scenario.

Figure 3: Scenarios of debt sustainability for Portugal
 Public debt ratio in per cent of GDP



From 2017 data simulated based on the assumptions displayed in Table 3.
 Sources: European Commission; IMF; Cologne Institute for Economic Research

In the **moderately optimistic scenario** a higher growth rate of real GDP is assumed (based on the current dynamics) – which then decreases again as in the baseline scenario. As a result, price increases are set to be somewhat higher from 2017 onwards, while interest rates are lower due to reduced risk premiums. The fiscal primary surplus remains at a high level. As a result, the public debt ratio falls significantly faster and more strongly to around 115 per cent of GDP in 2022.

In the **moderately pessimistic scenario**, real growth and price increases are already significantly lower as of 2017 and the assumed phase of economic weakness in 2019/2020 is added. Under these assumptions, the government debt ratio rises again to over 131 per cent of GDP as a result of the recession. However, a primary surplus of 2.0 per cent of GDP is sufficient to stabilise the public debt ratio.

Table 3: Scenarios for Portugal at a glance

Data in per cent

	2016	2017	2018	2019	2020	2021	2022
Assumptions	Baseline scenario						
Change of real GDP (yoy)	1.4	1.9	1.7	1.2	1.1	1.0	1.0
Change of GDP deflator (yoy)	1.6	1.4	1.4	1.5	1.7	1.7	1.7
Average interest rate on public debts	3.4	3.3	3.3	3.3	3.5	3.7	3.9
Public primary balance in per cent of GDP	2.2	2.4	2.2	2.1	2.0	1.9	1.8
Public debt ratio in per cent of GDP	130.4	127.8	125.8	124.4	123.2	122.5	122.0
	Moderately optimistic scenario						
Change of real GDP (yoy)	1.4	2.2	2.1	2.0	1.8	1.6	1.4
Change of GDP deflator (yoy)	1.6	1.6	1.6	1.7	1.9	1.9	1.9
Average interest rate on public debts	3.4	3.3	3.3	3.3	3.4	3.5	3.6
Public primary balance in per cent of GDP	2.2	2.4	2.2	2.2	2.2	2.2	2.2
Public debt ratio in per cent of GDP	130.4	127.3	124.6	121.8	119.2	117.0	115.2
	Moderately pessimistic scenario						
Change of real GDP (yoy)	1.4	1.7	1.5	-0.5	0.5	1.3	1.0
Change of GDP deflator (yoy)	1.6	1.2	1.2	1.2	1.2	1.4	1.7
Average interest rate on public debts	3.4	3.3	3.3	3.6	4.0	4.1	4.1
Public primary balance in per cent of GDP	2.2	2.2	2.0	1.0	1.6	1.7	2.0
Public debt ratio in per cent of GDP	130.4	128.6	127.4	130.0	131.3	131.4	131.1

Sources: European Commission; IMF; Cologne Institute for Economic Research

5. Conclusion

5.1 Summary

The debt sustainability analyses carried out here are, of course, dependent on the assumptions made so that their results are to be interpreted with caution. However, the assumptions were chosen to appear realistic (from the author's point of view) in all three scenarios, thus keeping the bandwidth of the scenarios rather small. Against this backdrop, this study comes to a differentiated conclusion with regard to the question how fragile the public debt situation is in the three Southern European countries.

On the one hand, the public debt ratios remain high for an extended period:

- This is particularly true in the moderately pessimistic scenario. But also in the baseline scenario, the public debt ratios are barely falling in Italy until the end of the time horizon (2022), and only to a sizeable but limited extent in Portugal and Spain. It should be taken into account, however, that the assumptions of the baseline scenario appear relatively conservative.
- In the moderately optimistic scenario, the reduction in government debt ratios is faster. The assumptions do not appear to be unrealistic in view of the current economic situation. Another positive aspect is that an increasingly self-sustaining upturn is also generating sustained supply-side growth impulses, as the labour volume continues to increase due to the ongoing reduction in unemployment. However, the interest rate differential ($r-g$), which is important for debt dynamics, is positive also in the more optimistic scenario in Italy and Portugal at the end of the time horizon. This implies, that without a fiscal primary surplus the government debt ratio would continue to rise. This constellation also contributes to the fact that it would take a long time before the public debt falls below 100 per cent of GDP in Italy and Portugal even in the optimistic scenario despite a sizeable primary surplus.

On the other hand, the public debt ratios do not get out of hand under the chosen assumptions:

- This is true even if more pessimistic assumptions are chosen: rising interest rates as well as low nominal growth and even a temporary limited recession. The prerequisite, however, is that fiscal policy reacts to such a poor economic development by means of decisive but still moderate consolidation efforts. This is required particularly in Italy and somewhat less in Portugal and Spain. It appears

plausible to assume that fiscal policy would face disciplinary pressure from financial markets in this scenario which raises the incentives for fiscal consolidation.

- The size of the primary surplus needed to stabilise the public debt ratios is, however, within a range of less than 3 per cent of GDP. According to Bencek and Klodt (2011), who analysed countries covered by OECD statistics over the period from 1980 to 2010, a primary surplus of at least 2 to 3 per cent of GDP was reached in more than 20 per cent of the resulting 712 observations. Primary surpluses of more than 3 per cent of GDP were achieved in about 10 per cent of cases.
- In view of the impending increase of interest rates there is also a compensating effect. While rising interest rates tend to raise the public debt ratio, they usually go hand in hand with an increase in nominal growth, which lowers the debt ratio. In other words, the ECB will only raise interest rates to the extent that growth and inflation in the euro area are persistently increasing.
- Overall, with a usual business cycle (including a moderate recession) and with a typically reacting fiscal policy, there is no reason for the financial markets to consider the public debt burden unsustainable in the countries considered.

Against this backdrop, however, there are several risks:

- A highly nervous financial market could lead to self-fulfilling prophecies, even without a deeper crisis, as risk premiums on government bonds could rise so much (and ratings could be lowered as a result) that debt sustainability might be jeopardised. Such a “bad” equilibrium is conceivable, although the public debt ratios also stabilise again in the rather pessimistic scenario (under non-extreme assumptions).
- There may be a deeper and more prolonged economic crisis than assumed here in the more pessimistic scenario, for example, because new macroeconomic or financial imbalances could have previously developed, as was the case before the economic crises from 2008 onwards.
- Populistic parties could come to power and dismiss the course of moderate fiscal consolidation, so that without sufficient primary surpluses the debt sustainability would no longer be guaranteed (Blanchard/Zettelmeyer, 2017). In the latter two cases, an increase in the risk premiums is also likely, which would further exacerbate the situation.

5.2 Recommendations

In order to overcome these challenges and vulnerabilities, the high public debt burdens must be reduced as quickly as possible and reasonable. Moreover, it is necessary to limit the likelihood and extent of future crises and to strengthen the resilience of the countries in focus.

Debt reduction

In view of the impending rise of interest rates, the reduction of public debt burden should be achieved by strengthening the growth potential and by an ambitious strategy of fiscal consolidation.

Strengthening the growth potential is central to improve the decisive lever for the debt dynamics, i.e. the interest rate – growth differential ($r-g$). In addition, higher growth is also contributing to an increase in inflation and to a reduction in risk premiums on government bonds which both also tend to improve the public debt ratio.

Key recommendations for strengthening the growth potential are:

- **Structural reforms** in the labour and product markets (Matthes, 2015b), which are to be optimised by appropriate conception, combination and sequence in order to ensure their effectiveness, enforceability and social compatibility (Matthes/lara, 2017).
- **Future-oriented investments** in education, research and infrastructure.
- **A more rapid reduction of the legacy assets of crises**, mainly in Italy and Portugal. Private debt and, above all, non-performing loans in many banks' balance sheets need to be reduced more quickly in order to release this growth brake. Where appropriate, this adjustment in the banking system can be accompanied by a financial sector programme of the ESM, as in Spain.

An **ambitious fiscal consolidation strategy** is needed to bring down the public debt ratios more quickly and to provide for the next crisis (see below). The current upturn must be used to create fiscal space for the next crisis. When calibrating the consolidation strategy it is necessary and possible to do this in a more growth-friendly and socially inclusive way (Kolev/Matthes, 2013).

Recommendations for a more ambitious and smart consolidation policy are as follows:

- **Improve compliance with European fiscal rules** in the Stability and Growth Pact (SGP) and the Fiscal Compact. Claims that stronger fiscal consolidation would have a negative effect on the economy are becoming less and less justified given the broadened and more sustained upswing in the euro area. Also, the concern that spending cuts would restrict public investment can be qualified, because spending reviews can (and should) be used to reveal opportunities to switch spending within the public budget (Kolev/Matthes, 2013). In particular, it is important to reduce social expenditure which is not sufficiently targeted because it does not focus on the really disadvantaged. However, the expectations of a more stringent compliance with the SGP should not be too optimistic, as experience shows. One approach to increase compliance with the rules could be to provide positive incentives by making the compliance with the SGP a precondition for access to some kind of risk sharing instrument in the euro area (see below).
- The most effective method to achieve a more appropriate fiscal consolidation is to **strengthen market discipline**. This mechanism is currently hampered by the fact that the ECB is buying sovereign bonds in large amounts. The ECB will remain active as an influential buyer on this market even after the foreseeable end of the purchasing programme – and thus of the growth in the ECB’s asset stock of sovereign bonds. In fact, for an extended period of time the ECB will keep its sovereign bond stock unchanged and will therefore substitute maturing bonds with new bond purchases. Nevertheless, it cannot be ruled out that the debate on the ECB’s exit may lead to some unrest in the market for government bonds. The question arises as to how much market discipline is affected by doubts about the **validity of the no-bailout clause** because the financial market participants regard a sovereign default of a euro area country as highly unlikely as they expect the country to be rescued. Indeed, a major obstacle to a sovereign default lies in the fact that the banking system would suffer a deep crisis because banks often hold the bonds of their own sovereign due to regulatory privileges. Therefore, an urgent task is to reduce this exposure and thus limit the sovereign-banking nexus (Matthes et al., 2016). There are a number of options: at least, there should be sufficiently tight **exposure limits** for banks to hold government bonds of their own sovereign. In addition, also adequate risk-weights could be introduced and the liquidity privilege of government bonds restricted. However, with such reforms the need to introduce new forms of safe assets might arise in order to ensure that banks have sufficient collateral for refinancing (Demary/Matthes, 2017). In addition, a potential sovereign debt restructuring should be possible in an effective and legally reliable way. A minimum requirement is to change the voting rules in the newly introduced **Collective Action Clauses**. Individual minority investors (hold-outs) must no longer be able to block a restructuring agreement between the bankrupt state and the other creditors. Thus, it has to be ensured that potential hold-outs can be overruled by a qualified majority. For this, there

should be only one single vote (single limb aggregation) and not, as has been foreseen, a larger number of votes for individual issues of government bonds. In addition, the introduction of a formal, stepwise **sovereign debt restructuring mechanism** could be set up at the ESM (Matthes/Schuster, 2015) or a European Monetary Fund (Matthes, 2017). However, no automatism should be used to trigger a sovereign default of major relevance.

- The proposal to introduce some type of **accountability bonds** (Fuest, 2017) is useful. Sovereigns which exceed the structural fiscal deficit of 0.5 per cent of GDP (as prescribed by the Fiscal Compact for heavily indebted countries) should only be able to use subordinated bonds to finance the part of the current deficit that exceeds this limit. The precise nature of the subordination, the deficit limit and transitional arrangements need to be debated in order to ensure that the subordinated bonds are accepted in the financial market. But the basic idea is plausible because such a reform increases the incentive to comply with the fiscal rules and strengthens the market discipline at the same time.
- It is understandable that heavily indebted states are critical of any considerations to strengthen market discipline. They fear that such discussions will cause financial market turmoil and a significant increase in risk premiums that could endanger their debt sustainability. Priorities and sequencing can be identified to balance urgency and relevance with mitigating the danger of financial market unrest. The highly technical change of the Collective Action Clauses should be tackled first. The introduction of some kind of accountability bonds is also soon to be discussed because they only apply to a portion of newly issued bonds. However, a formal insolvency procedure for states, is rather a medium-term project. Even without such a mechanism a state bankruptcy can be handled, however with more uncertainty than necessary.

Strengthening the crisis resilience

Even in the moderately pessimistic scenario (including a slight recession) this study does not find that the public debts become unsustainable. More severe economic crises could change this. Therefore, a primary objective of economic policy must be to reduce the probability and the extent of future crises and to deal effectively with such situations. Only then is a sufficient crisis resilience achievable.

- To **mitigate the crisis potential**, macro-economic overheating must be prevented. In particular, the extremely low interest rate environment must not lead to another massive financial cycle and credit boom. Macroeconomic surveillance within the European Semester and, above all, the single financial supervision of the ECB and new macro-prudential measures provide important tools that must be actively used (Matthes et al., 2016). The reduction in the amount of non-

performing loans and the decoupling of the state-banking nexus are also decisive measures in this regard.

- The crisis mechanisms ESM, OMT and Target2 are powerful tools to **prevent self-fulfilling prophecies** in nervous financial markets (Matthes et al., 2016). However, they can achieve their goal of preventing an unjustified slipping of a solvent state into a "bad" equilibrium only if they are perceived as credible. Yet, the ESM's loan capacity is not sufficient for large and heavily indebted euro area countries. At the same time, a large increase in the ESM's capacity, which is sometimes proposed, risks to overburden also the highly creditworthy euro area countries and thus to endanger the whole ESM concept. Therefore, a proposal originally made by the Deutsche Bundesbank (2011) should be implemented: if a state enters into an ESM programme, the **maturities of all government bonds should be automatically extended by the duration of the ESM programme**. Importantly, while the repayment would be postponed, the interest payments would continue. This would avoid that the bulk of the ESM loans are used to finance the repayment of expiring government bonds; instead, the loans would be available to finance other current expenditure. The proposal would also prevent private investors from reducing their exposure as they would no longer be able to exchange their sovereign bonds at maturity for the repayment of the nominal bond value. As this repayment would usually be financed with ESM loans, there would be a commensurately increase in the exposure of euro area countries as public creditors (and owners of the ESM) – which is also prevented with this proposal. With this reform the existing loan capacity of the ESM is sufficient for a large and heavily indebted state like Italy, for example (Matthes, 2017). However, a narrowly limited increase in loan capacity may still be considered in order to cope with a crisis that includes also other smaller countries.

Some criticise the automatic triggering of a maturity extension (FAZ, 2017). In the jargon of the financial market, this would indeed be a credit event. As this could lead to a certain unrest in the financial markets, the criticism is understandable at first sight. However, the maturity extension would reduce the present value of the bonds concerned only marginally. The interest payments would continue and the nominal amount of the debt would not be reduced. Thus, the irritation on the financial market is likely to be only temporary. Nevertheless, financial market participants should be consulted before such a reform is introduced.

- In order to **mitigate recessions** in individual members of a monetary union (that cannot use currency depreciation or monetary policy). Structural reforms improved flexibilities in the formerly stressed euro area countries (Matthes, 2015b; Matthes/Iara, 2017). In addition, the risk sharing via financial market integration should be further strengthened in the euro area with a focus on equity-based and long-term oriented investments (Matthes et al., 2016). On top of that,

national financial policy is mainly responsible to cushion a recession by letting automatic stabilizers work and by allowing for the resulting increase in the fiscal deficit. Indeed, automatic stabilizers are much stronger in the euro area than in the US. In order for the fiscal deficit not to become excessive, sufficient fiscal space must be available before a recession hits. Thus, a structural fiscal balance is required in good times. The medium-term requirement of the European fiscal rules particularly aims to ensure that fiscal space is available when it is needed.

If some Euro countries are unwilling to comply with these requirements and thus do not fulfill their national responsibility to cater for future recessions, the demand for a common fiscal capacity in the euro area can hardly be justified for this purpose. However, the euro area needs precautions for the case that financial markets do not allow highly indebted states, that comply with the fiscal rules, to let automatic stabilizers do their work, because financial investors might demand excessive risk premiums. For such a case, it is necessary to consider introducing **a new type of ESM programme as a new risk sharing mechanism**. It should allow for a limited increase in fiscal deficits that is needed to use automatic stabilizers by means of limited but long-term ESM loans at low interest rates. However, only states should have access to them that follow the European fiscal rules. This would increase the incentive to comply with these rules. It is also conceivable to use ex post conditionality and to call for limited structural reforms, for example, by implementing a defined number of concrete country-specific recommendations within the framework of the European Semester.

Annex: Methodological Approach

Debt sustainability analysis

The change in the public debt ratio as a percentage of GDP (DR) at time t is derived from the average interest rate on the public debt (i), the nominal GDP change (g), which results from the year-on-year change in the real GDP and the GDP deflator, as well as from the fiscal primary balance (PB) (Gottschalk, 2014).

$$DR_t - DR_{t-1} = \frac{i - g}{1 + g} DR_{t-1} - PB_t$$

The debt sustainability analysis carried out here relies on data of the World Economic Outlook Database of the International Monetary Fund (IMF, 2017). In addition, the AMECO database of the EU Commission (2017b) is used. Assumptions on growth and inflation are checked for plausibility with data and forecasts from Eurostat, the OECD and the Consensus Forecasts. Estimates of government debt ratios are provided until 2022, as the IMF forecast extends to this year.

On top of a baseline scenario, two other scenarios are presented: a moderately optimistic and a moderately pessimistic one. The assumptions are chosen to reflect a relatively realistic development. For more details, see Tables 1 to 3 and for further explanations on the plausibility of the assumptions see Matthes (2017, German version only). Over the regarded time horizon, all scenarios assume (to different degrees) a decline in economic growth, a recovery in inflation rates, a rise in interest rates and an improvement in the fiscal primary surplus. The more pessimistic scenario is characterised by a recession of -0.5 per cent of real GDP in 2019 and only a tepid recovery of 0.5 per cent in 2020. For the three countries considered, structurally similar developments are assumed in the respective scenarios. Where necessary, country specific adjustments are made; for example, to reflect the effect of different debt levels and GDP growth rates on the risk premiums.

Interactions between the drivers of the public debt ratio are taken into account. For example, moderately stronger economic growth should increase inflation and should lead to lower risk premiums on sovereign bonds – both effects tend to further improve the debt situation on top of the direct growth effect.

As a caveat, it needs to be pointed out that setting the assumptions necessarily involves a subjective element.

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