Public debt sustainability analysis and repayment capacity analysis in the context of financial assistance granted by the ESM ([1]), ([2])

Commission and ESM staffs' Working paper

1. Introduction

Legal background

Meeting the debt sustainability and repayment capacity requirements is a prerequisite for accessing to all ESM financial instruments (including precautionary financial assistance). In line with the (revised) ESM treaty, the ESM should provide stability support only to ESM Members whose debt is considered sustainable and whose repayment capacity to the ESM is confirmed. ([3])

Both EU law and the ESM Treaty include specific provisions regarding the analysis of debt sustainability ("DSA") of a euro area Member State requesting financial assistance. In the EU context, Regulation (EU) No 472/2013 of the European Parliament and the Council include the details on the main elements forming part of the DSA. ([4]) In the inter-governmental context, the ESM Treaty envisages that upon request for stability support, the Chairperson of the Board of Governors shall entrust the European Commission, in liaison with the ECB, and the ESM to assess whether public debt is sustainable and whether stability support can be repaid. ([5]) According to the revised ESM Treaty, the assessment of debt sustainability and repayment capacity shall be carried out in a transparent and predictable manner, while allowing for sufficient margin of judgment. ([6]) EU law already provides for an element of transparency regarding the DSA ([7]). In addition, the revised ESM Treaty allows the ESM to conclude a memorandum of cooperation between the Commission and the ESM detailing the cooperation inter alia as regards the DSA. ([8]) This memorandum of cooperation should incorporate the joint position on future cooperation between the ESM and the European Commission, ([9]) endorsed by

([1]) The methodological guidance detailed in this staffs' working paper will become applicable upon entry into force of the Amending Agreement to the Treaty Establishing the European Stability Mechanism and in particular Article 13(1)(b) of the ESM Treaty and recital 12A therein.

([2]) This non-paper has not been adopted or endorsed by the European Commission. It is a technical input by the Commission and ESM staffs and may not in any circumstances be regarded as stating an official position of the Commission. Moreover, this paper does not necessarily reflect views of the relevant institutions or their decision making bodies depending on the approval level. It is also without prejudice to debt sustainability analyses of the European Commission under the regular EU surveillance and of the ECB for monetary policy purposes. The ECB staff provided comments on this Staffs' working paper.

([3]) Recital 12A of the revised ESM Treaty (draft version agreed by the Eurogroup on 14 June 2019 and endorsed by the Euro Summit), see Articles 13 and 14 of the revised ESM Treaty.

([4]) Article 6.

([5]) Article 13 of the (revised) ESM Treaty. Wherever appropriate and possible, such an assessment is also expected to be conducted together with the IMF.

([6]) Article 13 of the revised ESM Treaty, see also recital 12A of the revised ESM Treaty.

([7]) Article 6 Regulation (EU) No 472/2013.

([8]) Article 13 (8) of the revised ESM Treaty

([9]) Recital 5b of the revised ESM Treaty; COM and ESM, "Future cooperation between the European Commission and the European Stability Mechanism", 14 November 2018: https://ec.europa.eu/info/sites/info/files/economy-finance/com-esm_cooperation.pdf. See in particular section 3 of the joint position.

the Eurogroup and Euro Summit of December 2018 detailing the respective roles of the Commission and the ESM in this collaborative process on the DSA.

With a view to further supporting the transparency and the predictability of the debt sustainability analysis and repayment capacity analysis, this staffs' working paper (SWP) lays down the methodological approach underpinning these assessments in the context of financial assistance. By providing a clear description of the different elements of the DSA and RCA, this SWP aims at allowing for an even-handed treatment of ESM Member States requesting support while taking into account country-specific circumstances.

Building on existing DSA frameworks, in particular those developed by the European Commission ([10]) and the ECB, ([11]) and on past financial assistance experience in the euro area, this staffs' working paper describes the main elements of the DSA and the RCA, as well as the working arrangements between the institutions. In particular, this note reflects the November 2018 Joint position between the European Commission and the ESM, which will become the future Memorandum of Cooperation between both of them, and as referred to in the ESM Term sheet agreed by the Eurogroup in December 2018. ([12])

This note does not cover the ESM governing bodies' decision-making based on the debt sustainability analysis and on the repayment capacity analysis. The way this analysis shall be used to inform the decision of the ESM Board of Governors to grant stability support to the ESM Member State concerned goes beyond the scope of this methodological staffs' working paper.

Conceptual and practical considerations

Public debt sustainability and repayment capacity are multifaceted concepts. For the purpose of the exercise described in what follows, it appears most appropriate to use the general definition of debt sustainability, laid down by the IMF in its DSA framework, ([13]) and used as a reference by the European Commission and the ECB in their (regular) DSA frameworks: *Public debt can be regarded as sustainable when the primary balance needed to at least stabilize debt under both the baseline (incorporating corrective measures, if applicable) and realistic shock scenarios is economically and politically feasible, such that the level of debt is consistent with an acceptably low rollover risk and with preserving potential growth at a satisfactory rate.* From an official creditor perspective, the repayment capacity requirement builds upon and complements the debt sustainability criterion as mentioned above with a shift in focus to the beneficiary's ability to manage its overall payment obligations, or liabilities, in a way ensuring the repayment to the ESM over the entire horizon of the lending relationship. Appropriately assessing and disentangling liquidity from solvency risks is at the core of the DSA in the context of financial assistance. Indeed, a country requesting financial support generally faces liquidity pressures, yet may well have a clearly solvent public debt. From a repayment capacity analysis perspective, loans should be repayable in the long-run, and at each point in time.

In practice, assessing public debt sustainability and repayment capacity is a complex exercise, requiring the use of a broad range of indicators to underpin the analysis. Several aspects contribute to make this assessment difficult. First, the core of the DSA is inherently forward-looking, resting on

([10]) See European Commission (2014) and European Commission (2019).
([11]) See Bouabdallah et al. (2017).
([12]) See https://www.consilium.europa.eu/media/37267/esm-term-sheet-041218_final_clean.pdf.
([13]) See IMF (2013).

underlying assumptions subject to important uncertainties, especially in periods of crisis and as we move forward in the projection horizon. Then, a wide range of factors of quantitative and qualitative nature contribute to public debt sustainability and need to be factored into the analysis. The DSA frameworks developed by the European Commission, the ECB and the IMF try to overcome these inherent difficulties by following a comprehensive multidimensional approach, bringing together many indicators and scenarios, and generally follow a risk-based approach. That way, rather than providing a binary conclusion on whether debt is sustainable, they give an indication of risks to debt sustainability. The ESM complements the DSA by assessing repayment risks from a debt management capacity perspective (e.g. review of the liquidity position and debt management operations required to meet financing needs, optimization of issuance strategies, cash buffers requirements).

General principles underpinning the DSA and the RCA in the context of financial assistance

The methodological approach described in this staffs' working paper is based on a series of general principles, reflecting the legal background and state-of-the-art practices in terms of debt sustainability analysis: i) the assessments are to be done in a *transparent and predictable manner*; ii) they should allow *sufficient margin of judgment* on a case-by-case basis, in particular avoiding applying automaticity in the analysis; iii) the projections should rest on *realistic assumptions*; iv) the results of the analysis are to be discussed and summarised in an *overall analysis of risks to debt sustainability and repayment capacity*.

The analysis of debt sustainability carried out for the purpose of providing financial assistance is to be grounded on the DSA performed in the context of EU regular surveillance, although with some modifications. Upon request for financial support, the preparation of the debt sustainability analysis should start from the latest available DSA carried out as part of EU regular surveillance. Yet, given its more specific function, the analysis of debt sustainability done prior to granting financial support likely needs to be augmented with additional information. While the regular DSA is a surveillance tool, the programme DSA needs to answer more specific questions (e.g. What is the size of the financing gap that needs to be covered from alternative sources?) As such, it also ought to have a stronger focus on government financing needs of the ESM Member State requesting financial assistance. ([14])

The rest of this document is organised as follows: section 2 describes the key building blocks of the DSA and the RCA in the context of financial assistance, section 3 presents the main outcomes of the analysis, and finally section 4 covers the key steps of a DSA and RCA preparation.

([14]) Conversely, the methodology described in this note does not pre-empt the European Commission from adapting its own methodology in the context of EU regular surveillance, including post-programme surveillance. As stated in Recital (18) of the revised ESM Treaty, post-programme surveillance is carried out by the European Commission in liaison with the ECB, and by the Council of the European Union within the framework laid down pursuant to Articles 121 and 136 TFEU.

2. Key building blocks of the DSA and the RCA in the context of financial assistance

Putting in practice the different conceptual elements presented in the introduction, this section presents the main building blocks of the DSA and includes a description of the RCA in the context of financial assistance. It describes the main variables that constitute inputs for the DSA (section 2.1), the set of deterministic scenarios and sensitivity tests to be performed (section 2.2), and to be complemented by stochastic projections (section 2.3), additional risk factors that need to be factored into the analysis (section 2.4), as well as the RCA (section 2.5). Building on the DSA results, the repayment capacity will look at the ability of the beneficiary Member to service its obligations to the ESM over the entire horizon of the lending relationship. ([15]) This includes assessing, where the need arises and while fully respecting the role of the Commission based on Union law, relevant country-specific factors that may adversely affect the repayment ability to the ESM of the Member State. The ESM and the Commission will work closely together on the ESM crisis management measures with an efficient governance in pursuit of financial stability by complementing expertise and competences and avoiding overlaps. ([16])

Compared with the DSA performed as part of EU regular surveillance, the analysis of debt sustainability here is more focused on the general government's gross financing needs (GFN) of the Member State requesting ESM financial assistance. ([17]) This stronger focus on GFN comes from the fact that the analysis also aims at *informing decisions regarding the potential financial gap*, yet without inferring any automatic link to how this gap could be filled. The GFN indicator has also been increasingly used as a *complementary variable in DSA frameworks*, emphasising the flow dimension of debt sustainability. ([18]) For instance, in cases where the existing maturity structure of debt is particularly long, the consideration of financing needs (alongside the debt indicator) usefully contributes to the debt sustainability analysis, by providing a complementary indicator of a government's debt burden. It is also a pivotal indicator in the analysis of liquidity risks, which is an integral part of the DSA and the core of the RCA (see section 2.4).

([15]) According to Recital 12A and Article 13(1) of the revised ESM Treaty, stability support should be granted only to ESM Members whose debt is considered sustainable and whose repayment capacity to the ESM is confirmed. Such assessments will be carried out by the Commission, in liaison with the ECB, and the ESM. The general expectation is that institutions will come to a common view and present it to the ESM decision-making bodies. However, in case the collaboration does not yield a common view, recital 12A of the revised ESM Treaty stipulates that the Commission will be responsible for the overall assessment of the sustainability of public debt (DSA), while the ESM will assess the capacity of the ESM Member concerned to repay the ESM.

([16]) In doing so, the ESM will not overlap, nor replicate the competences assigned to the ECB and the Commission by Union law and respect the confidentiality requirements imposed by the Union law.

([17]) Gross financing needs and debt indicators are inter-related variables. Indeed, broadly speaking gross financing needs are defined as the sum of the budgetary deficit and debt amortizations. Such financing needs have to be matched by financing sources, stemming from e.g. market financing. In a programme context, official lending can provide an additional financing source.

([18]) See Gabriele et al. (2017).

2.1. Main underlying variables used in a DSA in the context of financial assistance, and analysis of the realism of the assumptions

The preparation of the DSA in the context of financial assistance starts from the assumptions and the latest available outcome of the DSA carried out as part of EU regular surveillance. ([19]) The latter ought to be augmented with additional information relevant in a financial assistance context, such as the size and the modalities of the envisaged official support, as well as the set of policies and reforms that the ESM Member State concerned may be expected to implement, including their impact on all relevant macroeconomic and fiscal variables.

The division of tasks between the European Commission, in liaison with the ECB, and the ESM regarding the provision of inputs necessary to run the DSA simulations, and in working closely together to prepare the decision in principle by the ESM Board of Governors, notably the assessment of the beneficiary Member State's debt sustainability is described in the November 2018 Joint position, and as referred to in the ESM Term sheet agreed by the Eurogroup in December 2018.

- **Main underlying variables**

Debt (and GFN) dynamics are critically determined by assumptions for key macroeconomic, fiscal and financial variables. More precisely, debt (and GFN) projections entail formulating working assumptions over the short-, medium- and long-term, in particular on the following variables:

- Real GDP growth;
- Inflation measured by the GDP deflator;
- Primary balance, including the main items composing the primary balance (tax and non-tax revenue, and non-interest expenditure, including ageing costs);
- Interest rates and other relevant financing terms related to the rollover of existing debt instruments and new market issuances (including new borrowing maturity, grace period and currency denomination if relevant);
- Other country-specific debt creating / reducing flows such as, for example, bank recapitalization costs, ([20]) privatisation proceeds or arrears clearance (usually recorded in part as stock-flow adjustments). The assumed flows notably entail an analysis of contingent liabilities, in particular of their potential impact on government (deficit and) debt, and of their likelihood to materialise (see section 2.4);
- Country-specific consolidation elements between various general government entities. These elements are based on an analysis of the financial flows among the various general government entities, the possibility of using surpluses from some entities to finance deficits in other entities, through loans and consolidation elements that have to be taken into account when calculating the overall stock of general government debt;
- Exchange rate if relevant.

([19]) The DSA carried out as part of EU regular surveillance is performed at least twice a year by the European Commission. The results are published during the autumn in the *Debt Sustainability Monitor* (or the *Fiscal Sustainability Report*), and during the spring in the *Stability and Convergence Programme assessment notes*. This DSA is based on commonly agreed assumptions and methodologies (see for example chapter 1 of the European Commission (2019), *Fiscal Sustainability Report 2018* for a detailed presentation).

([20]) As long as deposit insurance is not covered at the European level. It should also be noted that the introduction of the SRMR framework significantly reduced the potential for such liabilities to materialise.

Furthermore, the projections should be based on reliable detailed data regarding the current stock of debt, associated interest rates and maturity structure, including the amortisation and interest payments of each debt instrument. Given the importance of estimates and projections in *cash* accounting (and not only in *accrual* terms) in a programme setting, information and assumptions on the Treasury cash buffer, including government deposits, as well as contingency buffers are required.

In line with the November 2018 Joint position, the Commission, in liaison with the ECB, and the ESM will work closely together on the preparation of the assessments of public debt sustainability. For the preparation of the DSA, the Commission works on the basis of its growth forecasts and estimates, existing stocks and stock-flow adjustments, net borrowings and fiscal path, incorporating also the Commission's assessment of compliance with current and anticipated Stability and Growth Pact (SGP) requirements. The ESM contributes to the DSA with the analysis of Member State's funding plans and cost of funding, which entails the assessment of the liquidity position, sovereign bond market and potential risks stemming therefrom, size and structure of outstanding debt, debt issuance plans of the Member State concerned (flows), interest rate developments, refinancing capacity / market access. The Commission and the ESM will assess the financing gap and determine financing needs. The Commission provides projections for the budgetary path, other debt creating or reducing flows such as arrears clearance, privatisation proceeds and other country specific elements. The ESM focuses on medium- and long-term debt redemption, size of cash buffers for short-term liquidity purposes and for easing market re-entry or maintaining market access at reasonable rates, risks to market funding and any technical liability management exercises planned or being conducted by the Debt Management Office (DMO).

- **Analysis of the realism of the assumptions**

As the core of the DSA is inherently forward-looking, the credibility of the analysis is closely linked to the realism of the underlying assumptions. At the same time, it should be recognised that important uncertainties surround any (even well grounded) set of assumptions. Henceforth, the key assumptions made on the different variables underpinning the baseline and adverse scenarios (notably real GDP growth, fiscal variables and market interest rates) should be motivated, especially when they deviate significantly from the standard methodology used in EU economic and fiscal surveillance, and taking into account in particular an assessment of their plausibility. In this context, the historical track record of the Member State concerned, available historical evidence in EU countries under comparable circumstances, ([21]) and relevant provisions under the EU surveillance framework need to be taken into account, ([22]) whilst structural changes envisaged under the programme that may reduce the relevance of a country's historical performance also need to be considered. Furthermore, the consideration in the DSA of sensitivity tests (section 2.2) and stochastic projections (section 2.3) also enables catering for a broad range of different environments.

([21]) Examples of such tools can be found in the European Commission regular DSA framework where the assumed structural primary balance (level and adjustment) under the baseline and two alternative scenarios is compared with the historical distribution of structural primary balances in EU countries.

([22]) Regulation (EU) 472/2013, Article 7.

2.2. Deterministic scenarios

The deterministic part of the DSA includes three main scenarios and additional sensitivity tests:

- A *no-policy change scenario*: this scenario is based on the assumption of unchanged policies. It draws from the latest DSA carried out as part of EU regular surveillance (updated if relevant with the latest available data and information);
- A *programme scenario*: this scenario should reflect the expected policy measures envisaged under the programme. It should in particular factor-in the potential macroeconomic and fiscal impact - on primary balance, economic growth, interest rates, stock-flow adjustments and other relevant variables - of the policy measures to be implemented;
- An *adverse scenario*: this scenario should be based on a worse than expected - under the programme scenario - macroeconomic and financial environment and / or a lower impact (or partial implementation) of the policy adjustment measures envisaged under the programme.

The scenario that will form the *baseline scenario* of the DSA in the context of financial assistance depends on the financial instrument chosen. For a Precautionary Conditioned Credit Line (PCCL), given the absence of ex post conditionality, the baseline scenario should be the *no-policy change scenario,* adjusted if relevant to take into account the impact of the granting of the PCCL on interest rate spreads or policy intentions outlines in the Letter of Intent. For all other ESM instruments (including the Enhanced Conditions Credit Line (ECCL)), the baseline scenario should be the *programme scenario*, including agreed policy conditionality, appropriate to the financial assistance instrument chosen.

Given the uncertainties surrounding any projection exercise over the medium- and long-term, the deterministic scenarios are to be complemented by a number of sensitivity tests performed on crucial DSA parameters and run around the baseline scenario. These sensitivity tests should be calibrated in a way to reflect the country's historical volatility (i.e. the size of past shocks), as well as the government debt structure. They allow assessing the implications for debt (and GFN) projections posed by realistic shocks to, in particular, the primary balance, GDP growth, interest rates, and if relevant the exchange rate. ([23]) These sensitivity tests are to cover a variety of different lending terms (working assumptions on maturities, interest rates, amount) of the envisaged official financial assistance.

The appropriate choice of debt burden indicators and time horizon is pivotal to accurately assessing risks to debt sustainability. In the DSA, the key variable projected is the government gross debt to GDP ratio; yet, given, its particular relevance in a programme context, the projected GFN to GDP ratio is also a key complementary debt burden indicator in the analysis. The projection horizon is to cover at least 10 years, in line with the DSA conducted as part of EU regular surveillance. It is to be extended if necessary, to cater for expected long-term spending pressures from an ageing population, and to cover the entire period of envisaged maturities for financial assistance.

([23]) These sensitivity tests could be designed in line with the ones performed in the context of EU regular surveillance (see European Commission, 2019).

2.3. Stochastic projections

Stochastic projections allow providing a probabilistic view of the uncertainty around a specific scenario, and have become a standard tool in DSA frameworks. Such projections present the advantage of illustrating, in a more comprehensive way than deterministic sensitivity tests, uncertainties in future macroeconomic conditions. They enable providing a spectrum of possible outcomes, summarised in the form of fan charts, based on past observed and country-specific volatility, also incorporating feedback between the different underlying variables that drive the debt (and GFN) dynamics. Stochastic projections feature in the DSA frameworks of the European Commission, the ECB and the IMF.

Several limitations should however be borne in mind when considering stochastic projections. Like in any other projection exercise, the results are conditioned to the inputs and methods used. In particular, alternative methods to generate shocks exist (e.g. historical variance – covariance matrix approach, vector autoregression method, also depending on the assumed distribution of shocks), and can produce different results. Furthermore, the existence of structural breaks in the underlying macroeconomic variables – for instance, as a result of the crisis – can make it difficult to extrapolate past statistical behaviour to the present and the future.

Having these considerations in mind, stochastic projections – based on the same approach as the one followed in EU regular surveillance (i.e. currently historical variance – covariance matrix approach) are to be performed around the baseline scenario and displayed for the standard debt burden indicators (debt to GDP ratio and GFN to GDP ratio). In general, in order to produce meaningful results, the projection horizon should not go beyond a short- to medium-term horizon. ([24])

2.4. Additional factors

The results of the analysis described in the previous sections need complementing with a number of additional factors that are particularly relevant when carrying out a DSA in a context of financial assistance. The consideration of these additional factors helps providing a fuller picture on a country's overall public debt sustainability. They include both standardised indicators, and all relevant country-specific factors. Examples of these additional indicators are given below.

- **Implicit and contingent liabilities**

An examination of potential future financing needs stemming from implicit and explicit contingent liabilities is carried out. For instance, if contingent liabilities are not part of the government debt (since by nature they are only potential and not actual liabilities), they can eventually have a large impact on public finances (if the contingency materialises). There are several sources for such liabilities, which have to be carefully analysed, notably on the basis of Eurostat data collection (as required by the

([24]) The dispersion of the debt distribution increases with the projection horizon - unless restrictions are imposed on the shocks' distribution or a fiscal reaction function is included. This widening of the debt distribution reflects the fact that uncertainty increases over time, as the shocks compound over time. Therefore, stochastic projections are traditionally more meaningful over a short- to medium-term horizon.

Council Directive 2011/85/EU, ([25]) and in the context of EDP since 2009, ([26]) for the part related to the support to financial institutions) and relevant country-specific information:

- *Contingent liabilities stemming from the banking sector*. These liabilities may be explicit (e.g. if there is a formal guarantee), or implicit (e.g. if there is an expectation that the government will bailout an entity of strategic importance). ([27])
- *Liabilities of state-owned enterprises* (classified outside the general government). These liabilities may constitute contingent liabilities for the government, either through direct guarantees or because these entities are loss-making and could require a government bailout. ([28])
- *Government guarantees*, which may be called.
- *Liabilities related to off balance sheet public-private partnerships (PPPs)*. These liabilities may be off balance sheet when partnerships are put into place, but may have to be taken over by the government if they fail.
- *Potential legal claims against the government* as a result of ongoing litigation.
- *Bailouts of subnational governments by the central government*. The DSA needs also looking at public financial management, and how the various general government entities interact with each other.

- **Governance and institutional factors**

Given the recognised importance of governance and institutional factors as a supporting factor to debt sustainability, the analysis considers relevant related factors. ([29]) These factors may include fiscal governance frameworks, debt and fiscal risks' management arrangements, as well as broader governance aspects.

- **Liquidity risks**

The analysis of liquidity risks is an essential part of the debt sustainability analysis. It aims at providing indications on foreseeable liquidity pressures in the short- to longer-term. To this end, preparing reliable short- to longer-term projections of gross financing needs (as described in the previous sections) is essential. As complementary analysis, a thorough examination of specific factors is also important, in particular: the *debt maturity structure*; any observed *change to the debt maturity structure*; the *ownership structure of government debt* (in terms of residents and non-residents, of institutional sectors - banks, pension funds, state owned companies and other general government entities - and whether these institutions are public or private holders); if relevant, the *currency composition of government debt*.

([25]) See https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:306:0041:0047:EN:PDF.
([26]) See https://ec.europa.eu/eurostat/web/government-finance-statistics/excessive-deficit/supplemtary-tables-financial-crisis.
([27]) However, this possibility has been considerably reduced with the introduction of the SRMR and is usually subject to Commission approval if it involves state aid.
([28]) The liabilities of state-owned enterprises classified as part of the general government are by definition already included in government debt (and hence considered in the projections). As part of the DSA, it may however be needed to closely examine whether all relevant entities are classified as part of the general government.
([29]) See European Commission (2019), *Fiscal Sustainability Report 2018* (Box 1.2) for a detailed survey of the literature.

2.5. Repayment capacity analysis (RCA)

From an official creditor perspective, the repayment capacity requirement builds upon and complements the debt sustainability analysis criterion described above and shifts the focus to the beneficiary's ability to manage its overall payment obligations, or liabilities, in a way ensuring the repayment to the ESM over the entire horizon of the lending relationship. This includes assessing liquidity conditions, optimal issuance strategies, market access and rating, as well as, where the case arises and while fully respecting the role of the Commission based on Union law, relevant country-specific factors that may adversely affect the repayment ability to the ESM of the Member State. These different elements are further described below.

Liquidity conditions

The analysis aims at gauging liquidity risks based on projections of treasury liquidity at a monthly frequency for the short-term, and at an annual frequency over the horizon of the envisaged financial support. This requires assessing financing needs and financing sources under the different DSA scenarios described above (no policy change, baseline and adverse scenarios), and implications of potential shortfalls. For financing sources, the analysis reviews the projections of the country's treasury, including issuance plans and funding cost developments and also on the assessment of market conditions described below.

Market access and ratings

An assessment of the extent to which the country is able to cover its funding needs on the market under the different DSA scenarios is made. It considers the implications of developments in market sentiment and rating outlook and their underpinning factors. The section discusses the main risks to market access.

The main indicators that guide the assessment of market access conditions include: (i) the sovereign's creditworthiness; (ii) changes in issuance techniques and instruments in terms of volume, instruments, financing terms, auction frequency and subscription, and; (iii) changes in sovereign financing conditions, in terms of shifts in yields and sovereign spreads. The analysis looks at, among others, the evolution of indicators over time and relative to peers while taking into consideration country-specific factors in terms of the supply side and/or the structure of markets. ([30])

Additional factors

The RCA also reviews, where the need arises and while fully respecting the role of the Commission based on Union law, relevant country-specific factors that may adversely affect the repayment ability to the ESM of the Member State. The ESM and the Commission will work closely together on the ESM crisis management measures with an efficient governance in pursuit of financial stability by complementing expertise and competences and avoiding overlaps. ([31])

([30]) For example, countries with sporadic or reduced issuances due to limited funding needs should not be considered as facing issues with market access.

([31]) In doing so, the ESM will not overlap, nor replicate the competencies assigned to the ECB and the Commission by Union law and respect the confidentiality requirements imposed by the Union law.

3. Main outcomes of the analysis

This section provides indications on the reporting of the results of the debt sustainability analysis and the repayment capacity analysis. In particular, it describes the main statistical outcomes of the analysis (section 3.1), and provides some guidelines on the write-up discussing risks to debt sustainability and to the repayment capacity (section 3.2).

3.1. Main statistical outcomes

The main statistical outcomes of the DSA are to be presented in the form of tables and graphs, drawing upon and enriching the current statistical reporting done in the context of EU regular fiscal surveillance (including post-programme surveillance). This statistical reporting includes in particular (see also Annex):

- *The debt (and GFN) trajectory under the baseline scenario*, including the contribution of variables driving its evolution;
- *A comparison of the projected evolution of the debt burden indicators* (debt to GDP ratio and GFN to GDP ratio) under the baseline scenario and the other deterministic scenarios described in section 2.2, as well as relevant sensitivity tests;
- *The results of the stochastic projections* for the debt burden indicators, displayed in the form of fan charts and including the estimated degree of uncertainty surrounding the baseline projections;
- *The assumptions* on the key underlying variables under the different scenarios and sensitivity tests considered;
- *Relevant indicators gauging the realism of the key underlying assumptions,* and in particular, of the assumed primary balance;
- *The relevant additional indicators* described in section 2.4, including latest relevant market information, selected indicators on the composition of debt, and selected indicators on implicit and contingent liabilities.

The reading of these results is to be done in line with the definition of debt sustainability anchoring the analysis (laid down in the introduction). In particular, due attention is given when interpreting the results to the *level* and *trajectory* (stabilising or not) of the debt burden indicators (debt and GFN ratios) in the baseline and alternative scenario, as well as realistic sensitivity tests, and to the *realism* of the assumed primary balance under the different scenarios and relevant sensitivity tests.

The RCA statistical reporting includes additionally tables on financing needs and sources, and other key indicators (see also Annex).

3.2. Write-up on risks to debt sustainability and to repayment capacity: some guidelines

The write-up on the risks to debt sustainability brings together the analysis made in the previous sections and in particular provides a discussion on:

- The *deterministic scenarios* and the *realism of the assumptions* made. This involves examining the historical pattern of the main variables behind the scenarios, as well as examining the design features of the potential programme that can justify a departure from these patterns. The discussion also includes the results of sensitivity tests on key parameters of the scenarios and their implications;

- The underlying uncertainties through the use of the *stochastic DSA projections*, while at the same time bearing in mind some of the limitations of this methodology;
- The *additional country-specific factors,* in particular, i) the refinancing risks coming from the composition of public debt (in terms of maturity, currency, holders), and any build-up of liquidity pressures due to large roll-over requirements, ii) the potential impact on public finances and likelihood of realisation of the contingent liabilities identified, iii) any additional relevant factors, notably those related to governance and institutional factors.

The write-up on the risks to repayment capacity complements the DSA write-up with a shift in focus to the beneficiary's ability to manage its overall payment obligations, or liabilities, in a way ensuring the repayment to the ESM over the entire horizon of the lending relationship.

The write-up concludes with an overall analysis of risks to debt sustainability and to the repayment capacity, on the basis of the above factors and making use of well-motivated discretionary judgement.

In addition to risks on debt sustainability and repayment capacity, the write-up also discusses the potential overall programme envelope and the main financing needs items that led to the envisaged amount. It includes an indicative disbursement schedule for the duration of the programme. The latest and expected market conditions also feed into the discussion of the potential size of official support.

Concrete examples of such a write-up can be found in the DSA and programme financing section of the compliance report for the third Greek programme of January or June 2018, in the DSA section of the economic adjustment programme reviews of Cyprus, Portugal and Ireland, and the IMF reports on granting financial assistance to market access countries.

4. Key steps of a DSA and RCA preparation

As a first step, the preparation of the DSA in the context of financial assistance starts from the latest available DSA produced by the European Commission for the country in question as part of the normal EU surveillance process, updated where relevant with the latest available data and information. The result of this DSA provides the no-policy-change scenario that indicates risks to debt sustainability in the absence of a programme. This first step can be implemented whenever there is financial stress indicating that a Member State may require financial assistance, but before the Member State in question formally requests it.

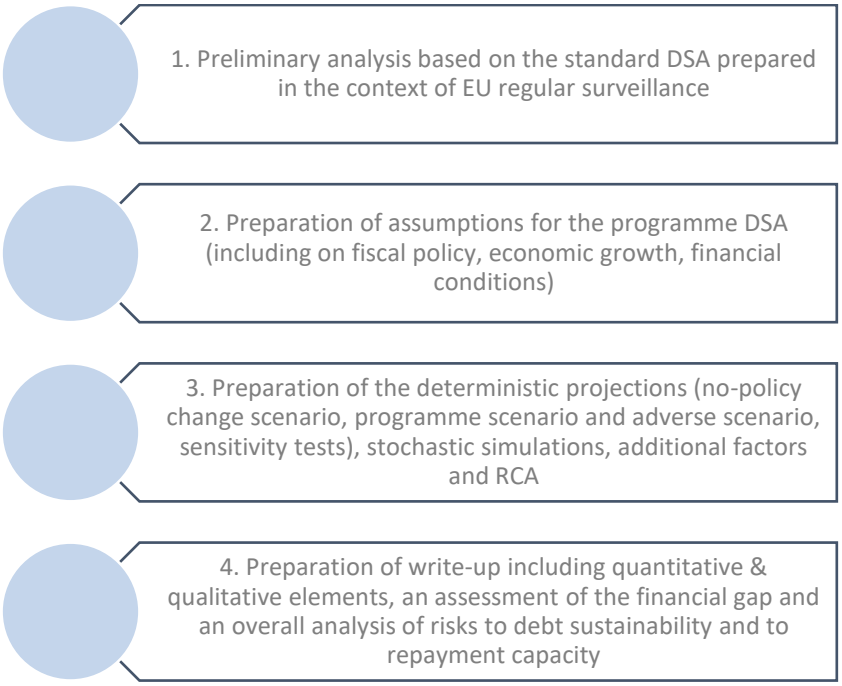
In a second step, the institutions prepare the assumptions for the DSA in the context of financial assistance, notably based on the design of the potential future programme. The DSA in the context of financial assistance includes detailed assumptions, notably on fiscal policy, economic growth and financial conditions, supporting the preparation of the baseline and adverse scenario.

The third step focuses on the deterministic scenarios (no-policy-change, baseline and adverse scenario, as well as relevant sensitivity tests), the preparation of the stochastic DSA projections, which provide an assessment of the uncertainty surrounding the projections, as well as the consideration of the additional country factors. Based on the jointly agreed DSA results, this step also includes the preparation of the repayment capacity analysis.

The fourth and final step consists in the overall write-up on the risks to debt sustainability and to the repayment capacity based on the elements presented in section 3.2. These steps are summarised in the chart below.

The second, third and fourth steps are prepared after the country has formally requested a financial assistance programme, at the end of the fact-finding mission aimed at designing the potential financial support needed. If relevant, these steps may need to be repeated once the negotiations on the potential programme are concluded in case there are notable differences in the assumptions made during the fact-finding mission.

Key steps of a DSA and RCA preparation



5. References

Bouabdallah, O., Checherita-Westphal, C., Warmedinger, T., De Stefani, R., Drudi, F., Setzer, R. and Westphal, A. (2017), "Debt sustainability analysis for euro area sovereigns: a methodological framework", *ECB Occasional paper series*, No. 185, April.

European Commission (2019) "Fiscal Sustainability Report 2018", *European Economy Institutional Papers*, no. 094, January.

European Commission (2016), "Fiscal Sustainability Report 2015", *European Economy Institutional Papers*, no. 018, January.

European Commission (2014) "Assessing public debt sustainability in EU Member States: a guide", *European Economy Occasional Paper*, no. 200, September.

Gabriele, C., Erce, A., Athanasopoulou, M. and Rojas, J. (2017), "Debt stocks meet gross financing needs: a flow perspective into sustainability", *ESM Working paper series*, No. 24.

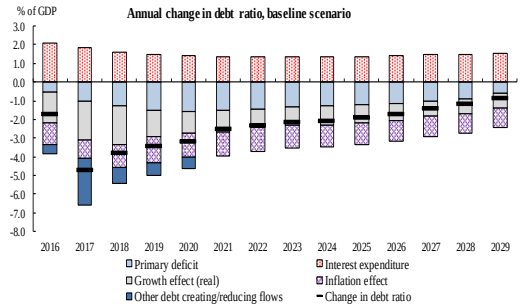
IMF (2013), "Staff guidance note for public debt sustainability analysis in market-access countries", May.

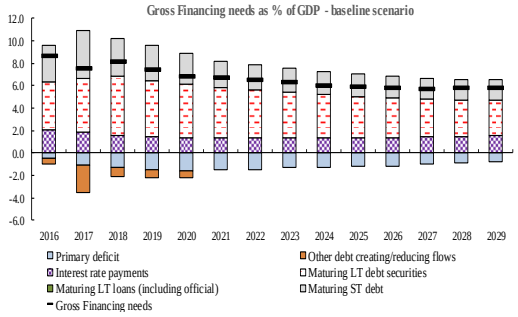
Annex

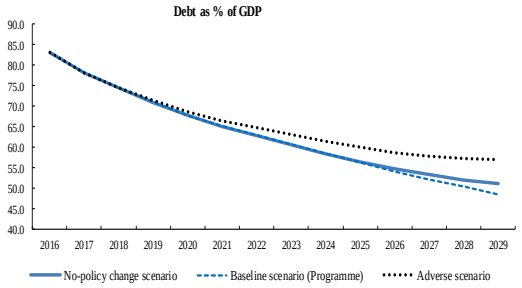
Example of a DSA statistical reporting in the context of financial assistance (inspired from the DSM/FSR statistical country fiches)

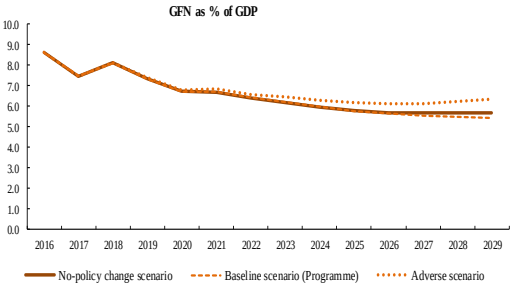
1. General Government Gross Debt and Gross Financing Needs projections (% of GDP)

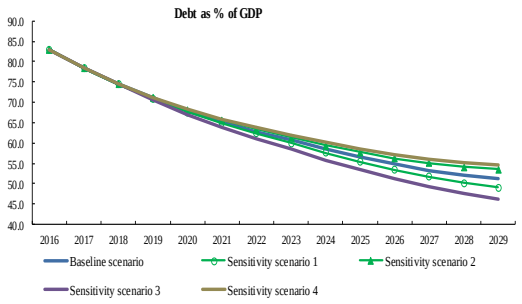
Debt and GFN projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**83.0**	**78.3**	**74.5**	**71.0**	**67.8**	**65.2**	**62.9**	**60.7**	**58.6**	**56.6**	**54.8**	**53.3**	**52.1**	**51.2**
Changes in the ratio (-1+2+3)	*-1.7*	*-4.7*	*-3.8*	*-3.5*	*-3.2*	*-2.6*	*-2.4*	*-2.2*	*-2.1*	*-2.0*	*-1.8*	*-1.5*	*-1.2*	*-0.9*
of which														
(1) Primary balance	**0.5**	**1.0**	**1.3**	**1.5**	**1.6**	**1.5**	**1.4**	**1.3**	**1.3**	**1.2**	**1.1**	**1.0**	**0.9**	**0.6**
(2) Snowball effect (2.1+2.2+2.3)	**-0.8**	**-1.2**	**-1.7**	**-1.3**	**-1.1**	**-1.1**	**-0.9**	**-0.9**	**-0.9**	**-0.8**	**-0.6**	**-0.5**	**-0.3**	**-0.3**
(2.1) Interest expenditure	*2.1*	*1.8*	*1.6*	*1.5*	*1.4*	*1.4*	*1.3*	*1.3*	*1.3*	*1.4*	*1.4*	*1.4*	*1.5*	*1.5*
(2.2) Growth effect	*-1.7*	*-2.0*	*-2.1*	*-1.4*	*-1.2*	*-1.2*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-0.9*	*-0.8*	*-0.8*	*-0.8*
(2.3) Inflation effect	*-1.2*	*-1.0*	*-1.2*	*-1.4*	*-1.3*	*-1.2*	*-1.2*	*-1.2*	*-1.2*	*-1.1*	*-1.1*	*-1.1*	*-1.0*	*-1.0*
(3) Other debt creating/reducing flows	**-0.5**	**-2.5**	**-0.9**	**-0.7**	**-0.6**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Bank recapitalization costs	*-0.5*	*-2.5*	*-0.9*	*-0.7*	*-0.6*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Privatization proceeds	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.3) Other debt flows	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Gross Financing Needs ratio														
GFN	8.6	7.5	8.1	7.4	6.7	6.7	6.4	6.2	6.0	5.8	5.7	5.7	5.7	5.7

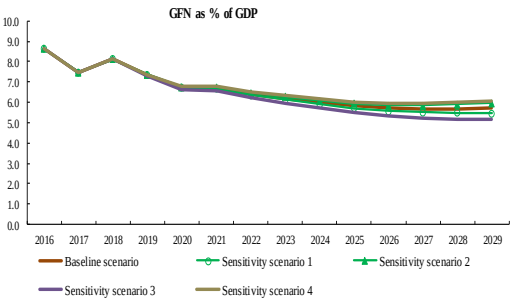


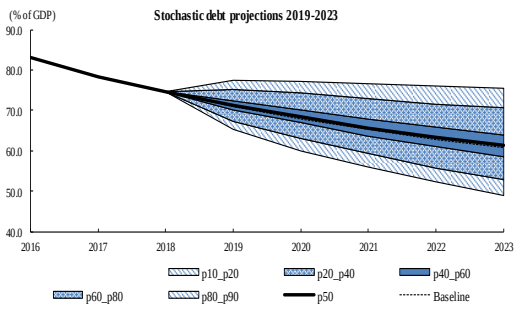


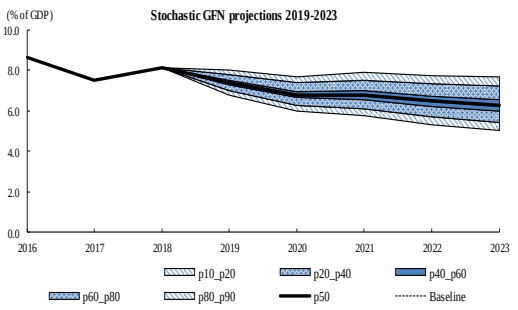




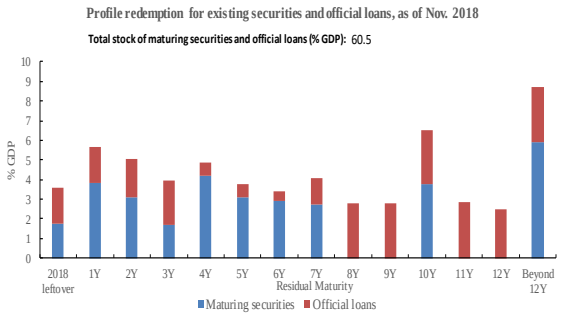


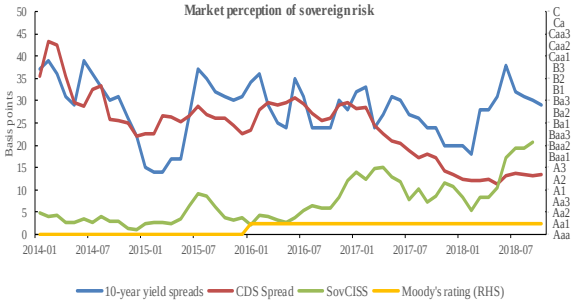






2. Structure of general government debt and financial information





Government debt structure - (2017)	Share of short-term government debt (p.p.): 7.9	Share of government debt in foreign currency (%): 4.5	Share of government debt by non-residents (%): 49.5

Sovereign Ratings as of Nov 2018	Local currency		Foreign currency	
	long term	short term	long term	short term
Moody's	Aa1		Aa1	P-1
S&P	AA+	A-1+	AA+	A-1+
Fitch	AA+		AA+	F1+

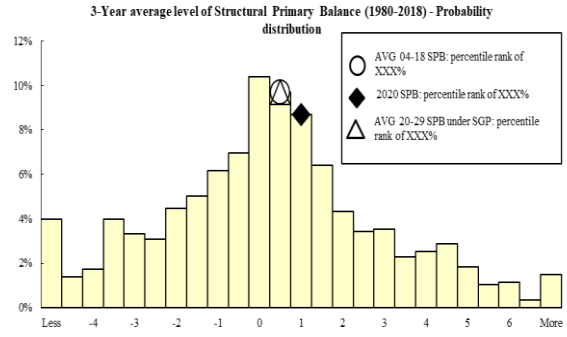
Sovereign yield spreads (bp)* - as of Nov 2018	10-year	29.0

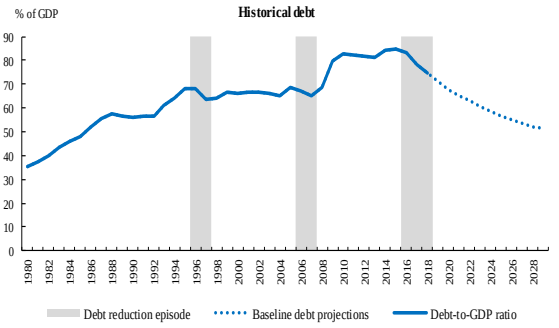
3. Risks related to government's contingent liabilities

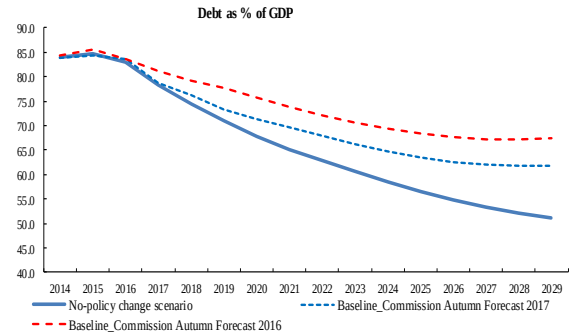
General government contingent liabilities		Country					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		15.3	9.3	8.6	8.3	n.a.	7.3
of which One-off guarantees		*15.3*	*9.3*	*8.6*	*8.3*	*n.a.*	*6.9*
Standardised guarantees		*0.0*	*0.0*	*0.1*	*0.1*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		*2.1*	*1.9*	*1.7*	*1.5*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	5.4	0.0	0.0	0.0	0.0	0.8
	Securities issued under liquidity schemes	4.8	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.1
	Total	10.2	0.0	0.0	0.0	0.0	1.0

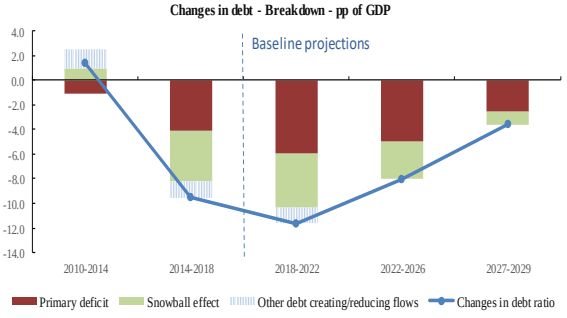
Government's contingent liability risks from banking sector - (2017)	Private sector credit flow (% GDP):	Change in nominal house price index:	Bank loans-to-deposits ratio (p.p.):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Reference scenario	Adverse scenario
	4.3	5.3	103.3	3.7	-1.4	52.7	0.00%	0.00%

4. Realism of baseline assumptions









5. Underlying macro-fiscal assumptions

Macro-fiscal assumptions	Levels						Averages		
1. No-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	74.5	71.0	67.8	56.6	53.3	51.2	71.1	57.3	60.7
Primary balance	1.3	1.5	1.6	1.2	1.0	0.6	1.4	1.2	1.2
Real GDP growth	2.7	2.0	1.8	1.7	1.6	1.6	2.2	1.7	1.8
Inflation rate	1.6	1.9	1.8	2.0	2.0	2.0	1.8	2.0	1.9
Implicit interest rate (nominal)	2.1	2.1	2.1	2.4	2.7	3.1	2.1	2.5	2.4
2. Baseline scenario (Programme)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	74.5	71.0	67.8	56.3	52.2	48.6	71.1	56.5	60.2
Primary balance	1.3	1.5	1.6	1.2	1.0	0.6	1.4	1.2	1.2
Real GDP growth	2.7	2.0	1.8	1.7	1.6	1.6	2.2	1.7	1.8
Inflation rate	1.6	1.9	1.8	2.0	2.0	2.0	1.8	2.0	1.9
Implicit interest rate (nominal)	2.1	2.1	2.1	2.4	2.7	3.1	2.1	2.5	2.4
3. Adverse scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	74.5	71.5	68.7	60.0	57.9	57.0	71.6	60.7	63.4
Primary balance	1.3	1.5	1.6	1.2	1.0	0.6	1.4	1.2	1.2
Real GDP growth	2.7	1.5	1.3	1.2	1.1	1.1	1.8	1.2	1.3
Inflation rate	1.6	1.9	1.8	2.0	2.0	2.0	1.8	2.0	1.9
Implicit interest rate (nominal)	2.1	2.2	2.2	2.9	3.3	3.7	2.2	2.9	2.7
4. Sensitivity scenario 1	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	74.5	70.9	67.6	55.5	51.7	49.1	71.0	56.1	59.8
Primary balance	1.3	1.5	1.6	1.2	1.0	0.6	1.4	1.2	1.2
Real GDP growth	2.7	2.0	1.8	1.7	1.6	1.6	2.2	1.7	1.8
Inflation rate	1.6	1.9	1.8	2.0	2.0	2.0	1.8	2.0	1.9
Implicit interest rate (nominal)	2.1	2.0	1.9	2.0	2.2	2.5	2.0	2.1	2.1
5. Sensitivity scenario 2	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	74.5	71.1	68.0	57.8	55.1	53.6	71.2	58.5	61.7
Primary balance	1.3	1.5	1.6	1.2	1.0	0.6	1.4	1.2	1.2
Real GDP growth	2.7	2.0	1.8	1.7	1.6	1.6	2.2	1.7	1.8
Inflation rate	1.6	1.9	1.8	2.0	2.0	2.0	1.8	2.0	1.9
Implicit interest rate (nominal)	2.1	2.2	2.2	2.9	3.3	3.7	2.2	2.9	2.7
6. Sensitivity scenario 3	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	74.5	70.6	66.9	53.4	49.2	46.2	70.7	54.1	58.2
Primary balance	1.3	1.5	1.6	1.2	1.0	0.6	1.4	1.2	1.2
Real GDP growth	2.7	2.5	2.3	2.2	2.1	2.1	2.5	2.2	2.2
Inflation rate	1.6	1.9	1.8	2.0	2.0	2.0	1.8	2.0	1.9
Implicit interest rate (nominal)	2.1	2.0	1.9	2.0	2.2	2.5	2.0	2.1	2.1
7. Sensitivity scenario 4	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	74.5	71.2	68.2	58.5	55.9	54.6	71.3	59.2	62.2
Primary balance	1.3	1.5	1.6	1.2	1.0	0.6	1.4	1.2	1.2
Real GDP growth	2.7	2.0	1.8	1.7	1.6	1.6	2.2	1.7	1.8
Inflation rate	1.6	1.9	1.8	2.0	2.0	2.0	1.8	2.0	1.9
Implicit interest rate (nominal)	2.1	2.3	2.4	3.0	3.4	3.8	2.3	3.1	2.9

Notes:

- *This template example takes the case of a country requesting financial assistance programme (i.e. for which the baseline scenario is the programme scenario, as described in section 2.2).*
- *More information on the data sources of some of the reported graphs and tables can be found in the Annex of the European Commission Fiscal Sustainability Report 2018, volume 2 Country Analysis.*

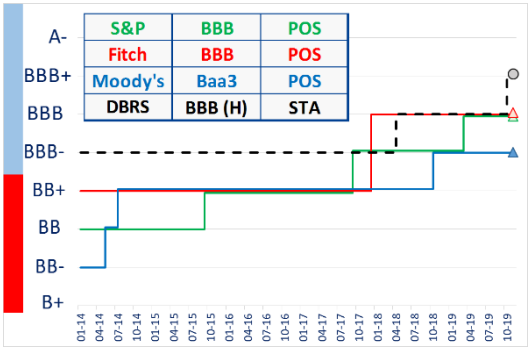
RCA: Additional tables and charts

Financing needs and sources over the medium term: Programme scenario

		2020	2021	2022	2023	2024	2025	2030
Financing needs	% of GDP	11.1	10.7	11.6	11.3	9.1	9.1	9.7
Overall deficit	% of GDP	0.8	0.7	0.7	0.6	0.7	0.7	1.0
Primary deficit ('-'=surplus)	% of GDP	-2.0	-2.0	-1.9	-1.9	-1.8	-1.8	-1.7
Interest payments	% of GDP	2.8	2.7	2.6	2.4	2.5	2.4	2.7
Amortization	% of GDP	10.3	10.0	11.0	10.7	8.5	8.4	8.7
Other	% of GDP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financing sources	% of GDP	11.1	10.7	11.6	11.3	9.1	9.1	9.7
Other	% of GDP	1.3	1.0	0.9	0.3	0.2	0.2	0.0
Market+Official financing	% of GDP	9.3	8.2	9.4	11.0	8.9	8.9	9.7
Short-term	% of GDP	7.8	6.6	5.4	4.4	3.4	3.3	2.8
Medium/Long term	% of GDP	1.5	1.6	3.9	6.7	5.5	5.6	6.8
Official	% of GDP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Liquid assets financing	% of GDP	0.5	1.6	1.4	0.0	0.0	0.0	0.0
Debt service	% of GDP	13.1	12.7	13.5	13.1	10.9	10.8	11.4

Note: The table above is indicative. Similar tables will be reported for all scenarios. The time horizon will cover the full repayment of the ESM loan.

Market conditions



Banking prospects