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Focus notes: Greece

Fiscal sustainability scenarios and the need for additional debt-reducing operations

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Greece's domestic macroeconomic environment continued to deteriorate since the signing of the 2nd bailout agreement, rendering obsolete some of the key assumptions underlying the previous (March 2012) troika assessment of the country's adjustment programme.[1] Back then, the *baseline* debt sustainability analysis (DSA) envisaged a terminal public debt to GDP ratio of 116.5% in FY-2020, taking into account a number of debt reducing operations decided at the February 21, 2012 Eurogroup. Regrettably, the deeper-than-expected domestic recession and programme implementation slippages incurred as a result of a prolonged pre-election period have seen a renewed deterioration of market perceptions over Greece's sovereign solvency position.[1] In view of these developments, speculation over the need for additional steps to bring the country's public debt towards a more suitable path has been on the rise lately, with official sources and press reports debating on a number of potential debt-reducing operations, ranging from debt buybacks, better terms on official loans to Greece or even an extension in the (DSA-relevant) forecasting horizon, so as to facilitate the release of the next EU/IMF loan tranche. In this short note, we take a closer look at Greece's solvency position, presenting a DSA scenario that broadly incorporates a range of macro and fiscal forecasts for Greece presented in the latest (Oct 2012) IMF *World Economic Outlook*. In addition, we measure the sensitivity of the aforementioned scenario to: **(i)** different assumptions about medium-term nominal GDP growth; and **(ii)** a number of potential debt-reducing operations discussed lately in the domestic and foreign media. It should be emphasized that the DSA scenarios presented herein do not necessarily express a view on the implementability (either from a technical, or a political perspective) of the different debt-reducing schemes under examination. The aim of this exercise is to merely provide a more general overview of the magnitude of the policy challenges lying in the way to bringing Greece's fiscal accounts towards a more sustainable position.

DSA scenarios

Table 1 below depicts the evolution of Greece's public debt ratio under a number of different scenarios described in greater detail in *Explanatory Note 1* and the *Annex* section at the end of this note. As demonstrated in the aforementioned table, Greece's public debt dynamics have deteriorated significantly since the signing of the 2nd bailout agreement. Under ***Scenario 0,*** which broadly incorporates the latest (October 2012) IMF forecasts for the period 2012-2017 (along with relatively benign assumptions thereafter) the debt ratio reaches 145.6%-of-GDP in 2020, before declining to 128.7%-of-GDP in 2o22. The following two scenarios make a number of adjustments to ***Scenario 0***, so as to incorporate 1 percent higher (lower) *nominal* GDP growth per annum in the period 2013-2022. Under a scenario envisaging 1ppt higher nominal growth, the debt ratio declines rapidly after 2014, reaching levels below 110% at the end of FY-2022. On the other hand, under a less favorable scenario envisaging 1ppt lower annual GDP growth relative to *Scenario 0*, debt dynamics broadly fail to stabilize, with the debt ratio remaining above 150% over the entire forecasting horizon. Finally, three additional scenarios are presented in *Table 1*, aiming to provide a preliminary overview of the implications for sovereign solvency of a number of new debt-reducing operations speculated lately in a number of market and press reports. We will revisit the issue of debt sustainability at a later stage, once the next troika report is out and there is more clarity over official lenders' deliberations in dealing with Greece's sovereign solvency problem. Nonetheless, a number of important conclusions can still be drawn from the preliminary analysis presented in this short note. First, the issue of Greece's public debt sustainability will probably need to be dealt more forcefully in the coming period, with an emphasis on strategies to alleviate the debt burden and/or future servicing costs. Even more importantly, additional emphasis should be placed on strategies to arrest the pace of domestic recession and facilitate a return to positive output growth. The latter is not necessary for social cohesion and political stability, but also constitutes a key precondition for stabilizing the country's fiscal position on a sustainable basis.

Table 1 – Greek public debt sustainability analysis

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Scenario 0	170.7	173.0	188.1	189.2	186.3	179.5	171.3	162.7	154.1	145.6	137.0	128.7
Scenario 0 (+1% nominal GDP growth)	170.7	173.0	185.7	184.4	179.2	170.3	160.2	149.6	139.4	129.2	119.1	109.4
Scenario 0 (-1% nominal GDP growth)	170.7	173.0	190.5	194.1	193.6	189.1	183.1	176.6	170.0	163.4	156.7	150.3
€30bn debt buybacks	170.7	173.0	177.0	177.8	175.0	168.3	160.2	151.3	142.6	134.0	125.2	116.6
Lower interest rates on EU bilateral loans	170.7	173.0	187.7	188.4	185.1	178.0	169.5	160.5	151.6	142.8	134.0	125.4
Direct bank recapitalization from the ESM	170.7	173.0	161.8	165.0	164.9	161.0	153.6	145.2	136.9	128.6	120.3	112.3

Source: IMF Oct 2012, Eurobank Research

Explanatory Note 1

Scenario 0

Nominal GDP growth

— In line with the latest IMF forecasts for the period 2012-2017.[1]
— Annual real GDP growth over the period 2018-2022 is assumed to remain unchanged at its 2017 value (3.55%).
— GDP deflator inflation is assumed to continue moving upwards in the period 2018-2022, yet remaining slightly below the 2% price stability threshold.

General government primary balance

— Broadly in line with the latest IMF forecasts for the period 2012-2017 (*World Economic Outlook*, *Oct. 2012*).
— Primary surplus (as % of GDP) is assumed to remain unchanged at its 2017 level (4.7%) over the period 2018-2022.
— Note that the new IMF forecasts for the evolution of general government primary balance effectively incorporate a 2-year extension in Greece's fiscal adjustment programme (*i.e.,* a primary balance improvement of 1.5ppts-of-GDP per annum over the period 2013-2016).

Effective interest rate on public debt stock

— Broadly in line with the latest IMF forecasts for the period 2012-2017 (*World Economic Outlook, Oct. 2012*).
— Annual interest payments over the period 2013-2017 are deduced as the difference between the overall general government deficit and the forecasted primary balance over the corresponding period.
— Effective interest rate on debt in year ***t*** *(for t = 2013, 2014…., 2017)* is deduced as the ratio of the corresponding interest bill in year ***t*** over the debt stock in year ***t-1.***
— Effective interest rate on debt at year ***t*** *(for t = 2018, 2019…., 2022)* constitutes our own estimates.

Stock flow adjustments

— IMF March 2012 baseline forecasts adjusted for lower privatization revenue (€25.5bn over the period 2012-2020 vs. €45.5 assumed in the March 2012 baseline).

Scenario 0 (+/- 1% GDP growth)

Nominal GDP growth

— ***Scenario 0*** adjusted for 1ppt higher (lower) nominal GDP growth per annum over the period 2013-2022.

General government primary balance

— ***Scenario 0*** adjusted to take into account an assumed output elasticity of the primary balance of 0.4, so as to incorporate the interplay of automatic fiscal multipliers.

Effective interest rate on public debt stock

— ***Scenario 0*** adjusted to incorporate lower (higher) interest payments stemming from an undershooting (overshooting) of the corresponding baseline forecasts/targets for the general government primary balance.

Stock flow adjustments

— Same as in ***Scenario 0***.

Scenario 0 with €30bn debt buybacks

— ***Scenario 0*** adjusted to incorporate €30bn buybacks of privately-held Greek sovereign bonds in early 2013.
— Required financing (up to €10bn) to conduct buybacks is assumed to be provided at EFSF/ESM funding rates.

Lower interest rates on EU bilateral loans (T-bill flat rate vs. 3m-euribor + 150bp currently)

— ***Scenario 0*** adjusted to incorporate lower interest rates on EU bilateral loans (~€52.9bn) disbursed under the 1st bailout programme.
— For demonstrative purposes, we assume a reduction in the interest rate on these loans from 3-month euribor + 150bps currently to the respective creditor country's (6-month or 12-month) T-bill rate.
— Ensuing interest cost reduction under the aforementioned scheme is estimated at ca €700mn/annum. [1]

Direct bank recapitalization from ESM

— ***Scenario 0*** adjusted to incorporate a direct recapitalization of the domestic banking system by the ESM, assumed to take place in 2013. That is, after the EU single supervisory mechanism becomes operational.
— Total funding earmarked under the 1st and the 2nd EU/IMF bailout programmes for Greece amounts to €50bn, while the March 2012 troika baseline DSA assumed total revenue from the privatization of bank-related assets of €16bn.

Annex **– DSA scenarios & underlying assumptions**

Scenario 0
New baseline

	Actual				Projections									
	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Real GDP growth (%)	-3.1	-4.9	-7.1	-6.0	-4.0	0.0	2.8	3.8	3.6	3.6	3.6	3.6	3.6	3.6
GDP deflator (%)	2.3	1.1	1.0	-0.4	-1.5	-0.3	0.0	0.5	1.0	1.6	1.7	1.8	1.9	1.9
Nominal GDP growth (%)	-0.9	-3.9	-6.1	-6.4	-5.4	-0.3	2.8	4.3	4.6	5.2	5.3	5.4	5.5	5.5
Primary balance (% of GDP)	-10.4	-4.7	-2.2	-1.5	0.0	1.5	3.0	4.5	4.7	4.7	4.7	4.7	4.7	4.7
Avrg nominal interest rate on debt (%)	4.5	4.4	4.5	3.3	2.6	2.7	3.1	3.4	3.7	3.8	3.8	3.8	3.8	3.9
Stock flow adjustment (% of GDP)	-0.1	2.4	3.4	-16.8	0.3	-3.0	-0.5	-0.8	-1.9	-1.7	-1.5	-1.5	-1.5	-1.5
Gross public debt (% of GDP)	**129.7**	**148.3**	**170.7**	**173.0**	**188.1**	**189.2**	**186.3**	**179.5**	**171.3**	**162.7**	**154.1**	**145.6**	**137.0**	**128.7**

Scenario 0 *(+1% nominal GDP growth)*

	Actual				Projections									
	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Nominal GDP growth (%)	-0.9	-3.9	-6.1	-6.4	-4.4	0.7	3.8	5.3	5.6	6.2	6.3	6.4	6.5	6.5
Primary balance (% of GDP)	-10.4	-4.7	-2.2	-1.5	0.4	1.9	3.4	4.9	5.1	5.1	5.1	5.1	5.1	5.1
Avrg nominal interest rate on debt (%)	4.5	4.4	4.5	3.3	2.6	2.7	3.1	3.4	3.6	3.7	3.7	3.7	3.7	3.7
Stock flow adjustment (% of GDP)	-0.1	2.4	3.4	-16.8	0.3	-3.0	-0.5	-0.8	-1.9	-1.7	-1.5	-1.5	-1.5	-1.5
Gross public debt (% of GDP)	**129.7**	**148.3**	**170.7**	**173.0**	**185.7**	**184.4**	**179.2**	**170.3**	**160.2**	**149.6**	**139.4**	**129.2**	**119.1**	**109.4**

Scenario 0 *(-1% nominal GDP growth)*

	Actual				Projections									
	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Nominal GDP growth (%)	-0.9	-3.9	-6.1	-6.4	-6.4	-1.3	1.8	3.3	3.6	4.2	4.3	4.4	4.5	4.5
Primary balance (% of GDP)	-10.4	-4.7	-2.2	-1.5	-0.4	1.1	2.6	4.1	4.3	4.3	4.3	4.3	4.3	4.3
Avrg nominal interest rate on debt (%)	4.5	4.4	4.5	3.3	2.6	2.7	3.1	3.5	3.7	3.9	3.9	3.9	3.9	4.1
Stock flow adjustment (% of GDP)	-0.1	2.4	3.4	-16.8	0.3	-3.0	-0.5	-0.8	-1.9	-1.7	-1.5	-1.5	-1.5	-1.5
Gross public debt (% of GDP)	**129.7**	**148.3**	**170.7**	**173.0**	**190.5**	**194.1**	**193.6**	**189.1**	**183.1**	**176.6**	**170.0**	**163.4**	**156.7**	**150.3**

€30bn debt buybacks

	Actual				Projections									
	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Nominal GDP growth (%)	-0.9	-3.9	-6.1	-6.4	-5.4	-0.3	2.8	4.3	4.6	5.2	5.3	5.4	5.5	5.5
Primary balance (% of GDP)	-10.4	-4.7	-2.2	-1.5	0.0	1.5	3.0	4.5	4.7	4.7	4.7	4.7	4.7	4.7
Avrg nominal interest rate on debt (%)	4.5	4.4	4.5	3.3	2.5	2.7	3.1	3.4	3.7	3.6	3.6	3.6	3.5	3.5
Stock flow adjustment (% of GDP)	-0.1	2.4	3.4	-16.8	0.3	-3.0	-0.5	-0.8	-1.9	-1.7	-1.5	-1.5	-1.5	-1.5
Gross public debt (% of GDP)	**129.7**	**148.3**	**170.7**	**173.0**	**177.0**	**177.8**	**175.0**	**168.3**	**160.2**	**151.3**	**142.6**	**134.0**	**125.2**	**116.6**

Lower interest rates on EU bilateral loans

	Actual				Projections									
	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Nominal GDP growth (%)	-0.9	-3.9	-6.1	-6.4	-5.4	-0.3	2.8	4.3	4.6	5.2	5.3	5.4	5.5	5.5
Primary balance (% of GDP)	-10.4	-4.7	-2.2	-1.5	0.0	1.5	3.0	4.5	4.7	4.7	4.7	4.7	4.7	4.7
Avrg nominal interest rate on debt (%)	4.5	4.4	4.5	3.3	2.4	2.5	2.9	3.2	3.5	3.6	3.6	3.6	3.6	3.7
Stock flow adjustment (% of GDP)	-0.1	2.4	3.4	-16.8	0.3	-3.0	-0.5	-0.8	-1.9	-1.7	-1.5	-1.5	-1.5	-1.5
Gross public debt (% of GDP)	**129.7**	**148.3**	**170.7**	**173.0**	**187.7**	**188.4**	**185.1**	**178.0**	**169.5**	**160.5**	**151.6**	**142.8**	**134.0**	**125.4**

Direct bank recapitalisation by the ESM

	Actual				Projections									
	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Nominal GDP growth (%)	-0.9	-3.9	-6.1	-6.4	-5.4	-0.3	2.8	4.3	4.6	5.2	5.3	5.4	5.5	5.5
Primary balance (% of GDP)	-10.4	-4.7	-2.2	-1.5	0.0	1.5	3.0	4.5	4.7	4.7	4.7	4.7	4.7	4.7
Avrg nominal interest rate on debt (%)	4.5	4.4	4.5	3.3	2.6	3.1	3.5	3.9	4.1	3.8	3.8	3.8	3.8	3.9
Stock flow adjustment (% of GDP)	-0.1	2.4	3.4	-16.8	-26.0	-0.9	1.6	1.3	-1.9	-1.7	-1.5	-1.5	-1.5	-1.5
Gross public debt (% of GDP)	**129.7**	**148.3**	**170.7**	**173.0**	**161.8**	**165.0**	**164.9**	**161.0**	**153.6**	**145.2**	**136.9**	**128.6**	**120.3**	**112.3**

Source: IMF Oct 2012, Eurobank Research

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