Greece: Preliminary Debt Sustainability Analysis
February 15, 2012

Since the fifth review, a number of developments have pointed to a need to revise the DSA. The 2011 outturn was worse than expected, both in terms of growth and the fiscal deficit; the macroeconomic outlook has deteriorated significantly, due to events in Europe; the fiscal outlook has deteriorated due to the economy and due to delays in developing fiscal-structural reforms; and the strategy of the program has been adapted, to place greater emphasis on upfront actions to improve competitiveness (which will change the expected profile of the recovery and have implications for the fiscal accounts). The DSA also must be updated to include the envisaged PSI deal between the IIF-led creditor group and the Greek authorities

The assessment shows that, in a baseline scenario, public debt will decline to around 129 percent of GDP by 2020, staying above the 120 percent of GDP level targeted by European leaders in October. The results point to a need for additional debt relief from the official or private sectors to bring the debt trajectory down, consistent with the objective of achieving a 120 percent of GDP debt ratio by 2020. The results will need to be updated once information on additional debt-reducing actions is available.

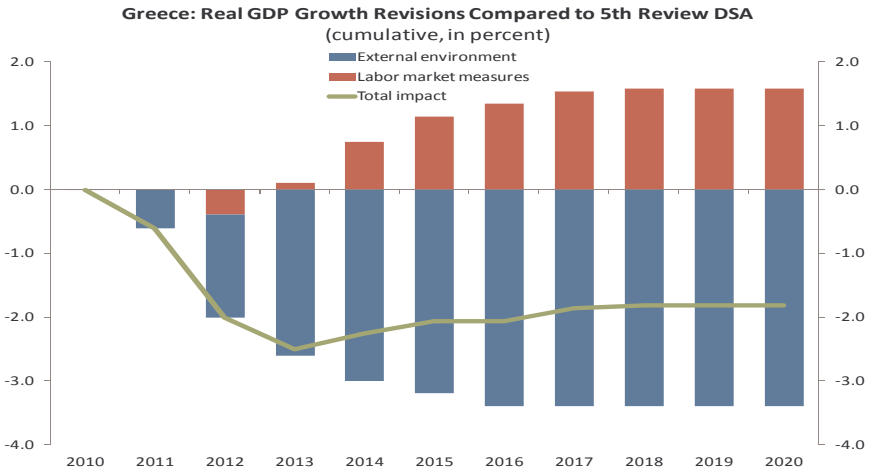
There are notable risks. Given the high prospective level and share of senior debt, the prospects for Greece to be able to return to the market in the years following the end of the new program are uncertain and require more analysis. Prolonged financial support on appropriate terms by the official sector may be necessary. Moreover, there is a fundamental tension between the program objectives of reducing debt and improving competitiveness, in that the internal devaluation needed to restore Greece competitiveness will inevitably lead to a higher debt to GDP ratio in the near term. In this context, a scenario of particular concern involves internal devaluation through deeper recession (due to continued delays with structural reforms and with fiscal policy and privatization implementation). This would result in a much higher debt trajectory, leaving debt as high as 160 percent of GDP in 2020. Given the risks, the Greek program may thus remain accident-prone, with questions about sustainability hanging over it.

I. Baseline assumptions

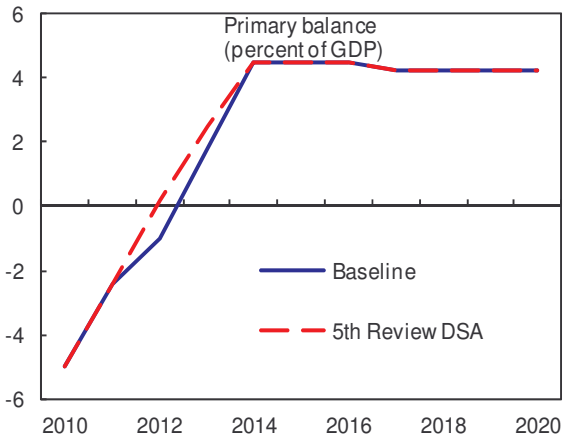
The revised DSA framework starts from the October DSA, and updates macro and policy assumptions along several dimensions:

The path for the projected economic recovery has been adjusted. Three factors have contributed to the new profile: (i) the worse-than-expected outturn for 2011 (growth below -6 percent versus -5.5 percent projected); (ii) the deterioration in the 2012-13 outlook for Europe (and globally); and (iii) the revised package of structural reforms agreed, which will tend to deepen the contraction initially, but will pull forward the recovery (by improving unit labor costs, which through the other structural reforms assumed in the program, translates into increased price competitiveness and higher investment). Medium-term potential growth

assumptions have been maintained, on the assumption that the whole structural reform agenda is able to move forward as envisioned in the October DSA.



The fiscal path has also been adjusted. The revised path captures; (i) the slightly worse than expected 2011 outturn (a deficit estimated to be 9¼ percent of GDP rather than the previously projected 9 percent); and (ii) an adjustment of the primary deficit target for 2012 (from 0.2 to to -1 percent of GDP), to accommodate the worse 2011 outturn and the deterioration in the macro context (including the impact on short term activity of more ambitious labor market reforms), and thus avoid a large new negative fiscal impulse. The path would still bring Greece to a primary general government surplus of 4½ percent of GDP by 2014, although additional measures will need to be identified to secure this outcome.



Estimated bank recapitalization needs have increased. The Blackrock diagnostic exercise, the PSI exercise (including its likely accounting treatment), and refined estimates of resolution costs (as opposed to recapitalization costs) have pointed to higher needs than assumed at the time of the Fifth program review (€50 billion versus €40 billion previously). Recoveries, through the sale of bank equity, are not expected to be materially higher in the medium-term.

Market access prospects have become more adverse. The PSI deal, in the process of being agreed with creditors (below), has worsened the outlook for new market access due to the proposed co-financing structure with the EFSF (which essentially implies that any new debt will be junior to all existing debt). It is now uncertain whether market access can be restored in the immediate post-program

years—a conclusive assessment on this issue also depends on the modality and scale of debt reducing operations required to bring the 2020 debt ratio to 120 percent of GDP. For the purpose of constructing the DSA baseline, Greece is assumed to maintain good policies post-program, and it is assumed that financing needs are met by Greece's European partners on standard EFSF borrowing terms.

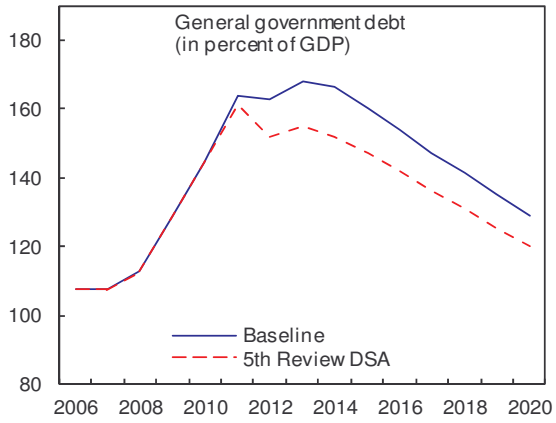
Financing assumptions have also been updated:

Private sector involvement. The assumptions about PSI now incorporate the design now in the process of being agreed between Greece and the IIF-led creditor group: (i) a reduction in the nominal value of eligible Greek government bonds by 50 percent (15 percent paid upfront in EFSF short-term notes, with the remaining 35 percent exchanged into 30-year bonds amortisable after 10 years); (ii) coupons of 3 percent in 2012-20 and 3¾ percent from 2021 onwards; (iii) a GDP-linked additional payment (capped at 1 percent of the outstanding amount of new bonds); and (iv) a co-financing structure with the EFSF concerning the 15 percent upfront payment. The pool of debt for the debt exchange has also been updated (although an exemption for retail investors, now under consideration by the authorities, is not assumed). The creditor participation rate is assumed to be 95 percent.

Official financing. EFSF funding is assumed to remain at cost, but the amortization period has been shortened to 25 years, and interest is now assumed to be paid annually, rather than quarterly. IMF lending is now assumed to be on EFF terms with broadly unchanged peak exposure versus the SBA (and would finance about three-elevenths of the projected need, excluding PSI-related financing, bank recapitalization, and Greece's ESM contributions). Importantly, the new official financing assumed does not incorporate the impact of potential separate actions by Greece's European partners to help reduce the debt stock to 120 percent of GDP, which would tend to reduce program financing needs.

II. Debt dynamics

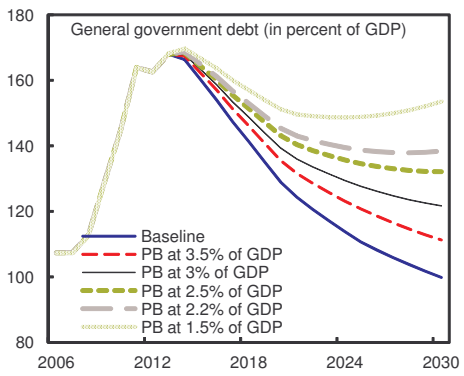
Projections indicate that, under the baseline scenario, and before any further action to reduce debt, the debt ratio would fall to 129 percent of GDP in 2020 (Table 1). This is noticeably above the target set by European leaders during the October Summit (120 percent of GDP), and above the upper limit of what could be considered sustainable for Greece. In terms of trajectory, the PSI deal helps to initially reduce debt, but debt then spikes up again to 168 percent of GDP in 2013 due to the shrinking economy and incomplete fiscal adjustment. Official financing needs between 2012 and 2014 would be about €170 billion before further

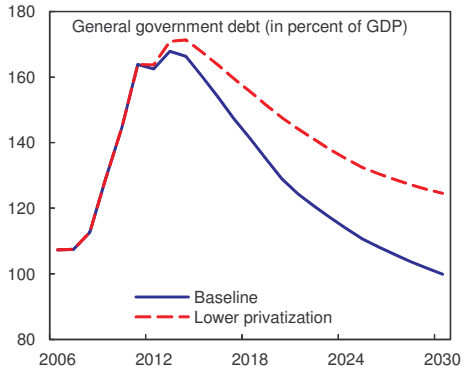


actions to reduce debt (or about €136 billion additional to what is already in the existing program). For the period 2015-2020 official financing needs could amount to an additional €50 billion (again before actions to reduce debt), although this figure could be a little lower if Greece is able to gain some limited market access in the last years of the decade.

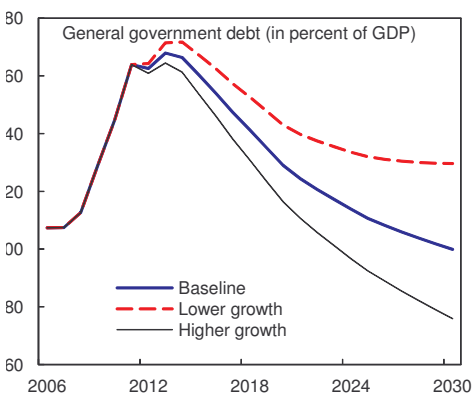
Stress tests continue to point to a number of sensitivities with the balance of risks mostly tilted to the downside:

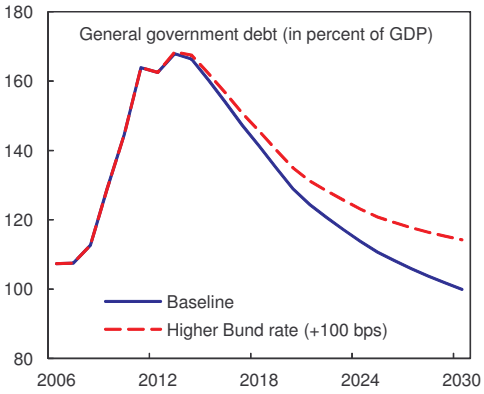
Policies. As before, if the primary balance gets stuck below 2½ percent of GDP (a level it now only exceeds in 2014), then debt would be on an ever-increasing trajectory. Significant shortfalls in privatization proceeds (only €10 billion of €46 billion realized by 2020), would raise the level of debt appreciably, and slow its projected decline, leaving it at 148 percent of GDP by 2020.



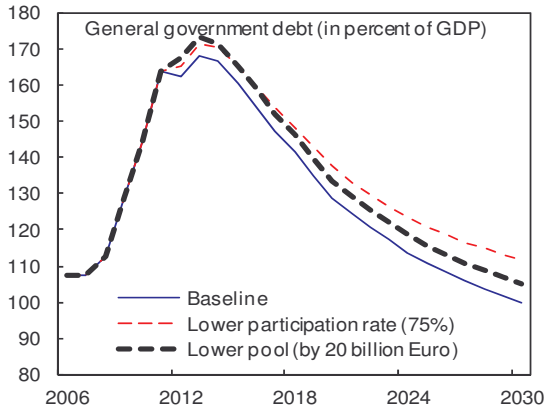


Macro parameters. Debt outcomes remain very sensitive to growth or to faster internal devaluation. Fixing the primary balance, nominal growth permanently lower by 1 percent per annum would send debt-to-GDP to 143 percent by 2020; nominal growth permanently higher by 1 percent per annum would allow debt to fall to 116 percent of GDP by 2020. Interest rate sensitivities arise via the rate charged on official financing (since Greece is out of the market for most of the decade under the assumed borrowing rule). If the spread on EFSF borrowing were to be 100 bps higher, then debt-to-GDP would reach 135 percent by 2020.





The PSI deal. Debt is sensitive to the degree of participation in the PSI deal, and also sensitive to the pool of debt to which the deal will apply. Concerning participation, for every 5 percent decline in participation (with hold-outs paid in full) the 2020 debt to GDP ratio would climb by 2 percent. With each €5 billion change in the pool of eligible debt, the debt to GDP ratio changes by about 1 percent of GDP.

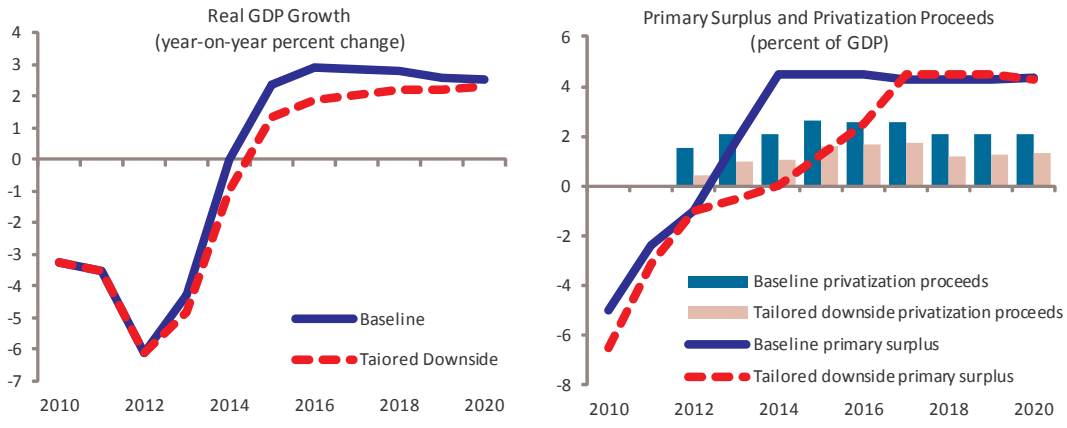


III. Debt dynamics under an alternative unchanged policies scenario

The Greek authorities may not be able to deliver structural reforms and policy adjustments at the pace envisioned in the baseline. Greater wage flexibility may in practice be resisted by economic agents; product and service market liberalization may continue to be plagued by strong opposition from vested interests; and business environment reforms may also remain bogged down in bureaucratic delays. On the policy side, it may take Greece much more time than assumed to identify and implement the necessary structural fiscal reforms to improve the primary balance from -1 percent in 2012 to 4½ percent of GDP, and concerning assets sales, delays may arise due to market-related constraints, encumbrances on assets, or political hurdles. And of course a less favourable macro outcome would itself further hurt policy implementation prospects.

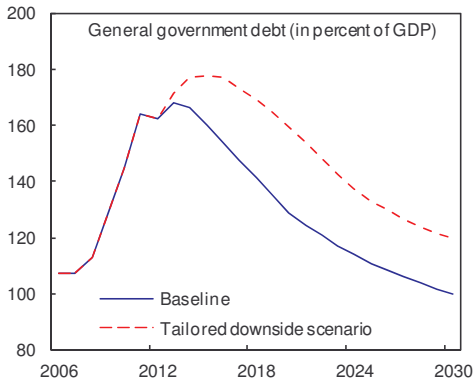
A tailored downside scenario can help to capture these joint risks. Specifically, a failure to reinvigorate structural reforms is assumed to hold up the recovery, forcing higher unemployment and deeper recession to secure internal devaluation over a longer period. At the same time, it is assumed that this, and difficulties in identifying reforms, delay the completion of fiscal adjustment by 3 full years. Finally, it is assumed that privatization plans take an additional 5 years to complete (with proceeds through 2020 reduced by €20 billion). Prospects for a return to the market become even less certain. For illustrative purposes, the additional financing requirements in this scenario are assumed to

Greece. Baseline vs. Tailored Downside: Key Macro and Policy Assumptions



be covered by the official sector on EFSF terms (under the assumption that despite delays Greece continues to make slow progress towards program objectives).

The debt trajectory is extremely sensitive to program delays, suggesting that the program could be accident prone, and calling into question sustainability (Table 2)**.** Under the tailored scenario described above, the debt ratio would peak at 178 percent of GDP in 2015. Once growth did recover, fiscal policy achieved its target, and privatization picked up, the debt would begin to slowly decline. Debt to GDP would fall to around 160 percent of GDP by 2020, well above the target of about 120 percent of GDP set by European leaders. Financing needs through 2020 would amount to perhaps €245 billion. Under the assumption that stronger growth could follow on the eventual elimination of the competiveness gap, the debt ratio would slowly converge to that in the baseline, but likely only in the late 2020s. With debt ratios so high in the next decade, smaller shocks would produce unsustainable dynamics, leaving the program highly accident-prone.



IV. Official Sector involvement

These projections do not account for potential actions by Greece's European partners to reduce debt to GDP, under the baseline, by about 9 percent of GDP to about 120 percent of GDP by 2020. The DSA will have to be redone once information on steps to reduce debt further are available. At this point, several main options that are being considered as follows:

Restructuring of accrued interest. At the time of the debt exchange, Greece is expected to pay the interest that creditors have accrued on each bond since the latest coupon was paid. Depending on the date of the exchange, this is estimated at around €5-5.5 billion. A decision to accelerate accrued interest and add it to the principal amount to be restructured would reduce the debt ratio in 2020 by about 1½ percentage points, and would reduce the official financing envelop during the program by nearly €5 billion.

Interest rate reduction on Greek Loan Facility (GLF). The Commission services estimate that there is scope to reduce the spread on GLF loans to 210 bps over their entire life (versus 200 bps increasing to 300bps over time).This reduction, if implemented, would lower Greece's interest bill (and deficit). The Commission estimates that it would reduce the projected debt ratio in 2020 by about 1½ percentage points. The official financing in the programme period would also be reduced by around €0.5 billion.

Restructuring of Greek bonds held by the National Central Banks (NCBs) of the euro area in their investment portfolios.[1] Including Greek government bonds held by NCBs in their investment portfolio in the debt exchange in PSI would reduce the debt-to-GDP ratio in 2020 by about 3½ percentage points (net, after accounting for sums needed to recapitalize the Bank of Greece).

SMP income. The income stream resulting from the orderly repayment Greek government bonds in the ECB's SMP portfolio (interest and capital gains) is assumed to be transferred to NCBs. NCBs will, in turn, distribute dividends reflecting this and other income to the respective government according to their statutes or regulations. This could be reflected in the DSA if euro area member states make explicit commitments to transfer specific amounts to Greece. If euro area member states commit to transfer over time specific amounts matching the expected income accruing to their NCBs from this source, this could reduce debt to GDP in Greece by about 5½ percentage points by 2020. During the program period official financing could drop by about €5 billion.

Table. Estimated effect of OSI options.

	Debt reduction by 2020 (percent of GDP)	Reduction in financing during program period (Euro billion)
Non-payment of accrued interest	1.5	5.0
Interest rate reduction on GLF	1.5	0.5
Restructuring of bonds held by NCBs	3.5	n.a.
SMP income	5.5	5.0

[1] The ECB Governing Council does not support this approach.

Table 1. Greece: Debt Sustainability Baseline, 2009–2030
(In percent of GDP, unless otherwise indicated)

	Actual			Projections											
	2009	2010		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	Debt-stabilizing primary balance 10/
Baseline: Public sector debt 1/	129	145		**164**	**163**	**168**	**166**	**160**	**154**	**147**	**141**	**135**	**129**	**100**	**1.5**
Change in public sector debt	16.3	15.6		19.4	-1.4	5.4	-1.5	-6.1	-6.3	-6.8	-6.0	-6.2	-6.2	-1.9	
Identified debt-creating flows (4+7+12)	18.3	16.7		17.8	37.5	5.9	-1.3	-5.8	-6.6	-6.9	-6.1	-6.3	-6.2	-1.9	
Primary deficit	10.4	5.0		2.4	1.0	-1.8	-4.5	-4.5	-4.5	-4.5	-4.3	-4.2	-4.3	-3.5	
Revenue and grants	37.9	39.5		39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5	
Primary (noninterest) expenditure	48.3	44.6		41.9	40.5	37.7	35.0	35.0	35.0	35.0	35.3	35.3	35.3	36.0	
Automatic debt dynamics 2/	5.9	8.0		13.9	12.1	7.0	2.9	0.7	0.5	0.2	0.2	0.0	0.1	1.6	
Contribution from interest rate/growth differential 3/	5.9	8.0		13.9	12.1	7.0	2.9	0.7	0.5	0.2	0.2	0.0	0.1	1.6	
Of which contribution from real interest rate	2.3	3.4		4.7	4.7	7.0	6.7	5.3	4.9	4.3	3.9	3.4	3.0	2.9	
Of which contribution from real GDP growth	3.7	4.6		9.2	7.4	0.0	-3.8	-4.6	-4.4	-4.1	-3.7	-3.4	-2.9	-1.4	
Contribution from exchange rate depreciation 4/	0.0	0.0		...	...	...	...	...	...	...	...	...	...	...	
Denominator = 1+g+p+gp	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Other identified debt-creating flows	1.9	3.7		1.5	24.4	0.7	0.3	-1.9	-2.6	-2.6	-2.1	-2.1	-2.1	0.0	
Privatization receipts (negative)	0.0	0.0		-0.5	-1.5	-2.1	-2.1	-2.6	-2.6	-2.6	-2.1	-2.1	-2.1	0.0	
Recognition of implicit or contingent liabilities	0.3	1.0		2.1	26.0	2.3	0.5	0.7	0.0	0.0	0.0	0.0	0.0	0.0	
Other 4/	1.6	2.6		-0.1	0.0	0.5	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Residual, including asset changes (2-3) 5/	-2.0	-1.1		1.6	-38.9	-0.5	-0.2	-0.4	0.3	0.1	0.1	0.1	0.1	0.0	
Public sector debt-to-revenue ratio 1/	340.5	365.5		414.4	410.9	424.5	420.7	405.2	389.2	371.9	356.6	340.9	325.3	251.7	
Gross financing need 6/	15.7	19.2		26.7	31.9	13.8	18.1	13.1	8.2	8.5	7.0	8.6	7.1	5.2	
in billions of U.S. dollars	50.8	56.9	10-Year	74.3	84.2	36.1	48.0	35.9	23.3	25.2	21.6	27.7	23.9	24.9	
Scenario with key variables at their historical averages 7/				**164**	**153**	**155**	**158**	**158**	**158**	**158**	**159**	**159**	**160**	**182**	
Scenario with no policy change (constant primary balance) in 2011-2021			Historical	**164**	**164**	**174**	**179**	**180**	**180**	**181**	**181**	**182**	**182**	**222**	
Key Macroeconomic and Fiscal Assumptions Underlying Baseline			Average												
Real GDP growth (in percent)	-3.3	-3.5	2.2	-6.1	-4.3	0.0	2.3	2.9	2.8	2.8	2.6	2.5	2.2	1.4	
Average nominal interest rate on public debt (in percent) 8/	4.7	4.2	5.2	4.7	2.1	3.8	4.0	4.1	4.2	4.2	4.3	4.3	4.2	4.9	
Average interest rate on new market debt (incl. T bills)				3.3	6.0	7.0	7.2	4.2	3.8	2.5	5.5	2.0	6.3	5.7	
Average interest rate on all new debt (includes EU bilateral and IMF debts)				3.4	2.4	3.6	3.9	4.1	4.4	4.4	4.5	4.4	4.4	4.8	
German bund rate				270	225	258	295	338	360	360	360	360	360	360	
Average real interest rate (nominal rate minus change in GDP deflator, in percent)	1.9	2.5	2.1	3.0	2.7	4.3	4.1	3.3	3.2	2.9	2.8	2.6	2.4	3.0	
Inflation rate (GDP deflator, in percent)	2.8	1.7	3.1	1.7	-0.7	-0.4	0.0	0.8	1.0	1.3	1.5	1.7	1.8	1.8	
Growth of real primary spending (deflated by GDP deflator, in percent)	2.8	-11.0	3.6	-11.6	-7.5	-6.9	-5.0	2.9	2.8	2.8	3.3	2.5	2.2	1.4	
Primary deficit	10.4	5.0	2.5	2.4	1.0	-1.8	-4.5	-4.5	-4.5	-4.5	-4.3	-4.2	-4.3	-3.5	

1/ General gross government debt (including debt for collateral requirements).
2/ Derived as $[(r - \pi(1+g) - g + \alpha\varepsilon(1+r)]/(1+g+\pi+g\pi))$ times previous period debt ratio, with r = interest rate; π = growth rate of GDP deflator; g = real GDP growth rate; α = share of foreign-currency denominated debt; and ε = nominal exchange rate depreciation (measured by increase in local currency value of U.S. dollar).
3/ The real interest rate contribution is derived from the denominator in footnote 2/ as $r - \pi (1+g)$ and the real growth contribution as -g.
4/ Includes build up of deposits, collateral requirements.
5/ For projections, this line includes exchange rate changes. For 2011, large residual can be explained by headline debt reduction following the discount bond exchange and debt buy backs. For 2012 onward, the residual is explained by the accrued interest on zero-coupon collateral, which lowers the deficit but not the debt.
6/ Defined as general government deficit, plus amortization of medium and long-term general government debt, plus short-term debt at end of previous period.
7/ The key variables include real GDP growth; real interest rate; and primary balance in percent of GDP.
8/ Derived as nominal interest expenditure divided by previous period debt stock.

Table 2. Greece: Debt Sustainability in Alternative Scenario, 2009–2030
(In percent of GDP, unless otherwise indicated)

	Actual			Projections											
	2009	2010		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2030	Debt-stabilizing primary balance 10/
Baseline: Public sector debt 1/	129	145		**164**	**162**	**171**	**177**	**178**	**177**	**173**	**169**	**164**	**159**	**117**	**1.5**
Change in public sector debt	16.3	15.6		19.4	-1.9	9.2	5.7	0.8	-1.0	-4.0	-4.2	-4.9	-5.1	-1.9	
Identified debt-creating flows (4+7+12)	18.3	16.7		17.8	36.7	9.7	5.9	1.2	-1.3	-4.0	-4.2	-4.9	-5.2	-2.0	
Primary deficit	10.4	5.0		2.4	1.0	0.5	0.0	-1.3	-2.5	-4.5	-4.5	-4.5	-4.3	-3.5	
Revenue and grants	37.9	39.5		39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5	
Primary (noninterest) expenditure	48.3	44.6		41.9	40.5	40.0	39.5	38.3	37.0	35.0	35.0	35.0	35.3	36.0	
Automatic debt dynamics 2/	5.9	8.0		13.9	10.4	7.4	4.6	3.4	2.9	2.2	1.5	0.8	0.4	1.5	
Contribution from interest rate/growth differential 3/	5.9	8.0		13.9	10.4	7.4	4.6	3.4	2.9	2.2	1.5	0.8	0.4	1.5	
Of which contribution from real interest rate	2.3	3.4		4.7	2.2	5.8	6.8	6.6	6.4	5.9	5.2	4.5	3.9	3.3	
Of which contribution from real GDP growth	3.7	4.6		9.2	8.2	1.6	-2.3	-3.3	-3.5	-3.8	-3.7	-3.7	-3.5	-1.7	
Contribution from exchange rate depreciation 4/	0.0	0.0		...	...	...	...	...	...	...	...	...	...	...	
Denominator = 1+g+p+gp	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Other identified debt-creating flows	1.9	3.7		1.5	25.3	1.8	1.4	-0.9	-1.7	-1.7	-1.2	-1.3	-1.3	0.0	
Privatization receipts (negative)	0.0	0.0		-0.5	-0.5	-1.0	-1.0	-1.6	-1.7	-1.7	-1.2	-1.3	-1.3	0.0	
Recognition of implicit or contingent liabilities	0.3	1.0		2.1	25.7	2.3	0.5	0.7	0.0	0.0	0.0	0.0	0.0	0.0	
Other 4/	1.6	2.6		-0.1	0.0	0.5	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Residual, including asset changes (2-3) 5/	-2.0	-1.1		1.6	-38.6	-0.5	-0.2	-0.4	0.3	0.1	0.1	0.1	0.1	0.0	
Public sector debt-to-revenue ratio 1/	340.5	365.5		414.4	409.7	432.9	447.4	449.4	446.9	436.9	426.4	414.1	401.2	296.6	
Gross financing need 6/	15.7	19.2		26.7	31.7	16.1	22.8	17.1	11.2	9.9	8.2	10.0	8.8	7.6	
in billions of U.S. dollars	50.8	56.9	10-Year	74.3	84.2	42.2	60.5	46.1	31.0	28.1	24.1	30.6	28.0	35.7	
Scenario with key variables at their historical averages 7/				**164**	**154**	**157**	**161**	**162**	**163**	**164**	**165**	**167**	**168**	**184**	
Scenario with no policy change (constant primary balance) in 2011-2021			Historical	**164**	**163**	**175**	**183**	**187**	**191**	**195**	**197**	**200**	**201**	**229**	
Key Macroeconomic and Fiscal Assumptions Underlying Baseline			Average												
Real GDP growth (in percent)	-3.3	-3.5	2.2	-6.1	-4.8	-1.0	1.3	1.9	2.0	2.2	2.2	2.3	2.2	1.5	
Average nominal interest rate on public debt (in percent) 8/	4.7	4.2	5.2	4.7	2.1	3.8	4.0	4.1	4.2	4.3	4.3	4.3	4.3	4.9	
Average interest rate on new market debt (incl. T bills)				3.3	6.0	5.0	5.9	6.5	6.8	6.6	6.6	6.9	7.1	5.8	
Average interest rate on all new debt (includes EU bilateral and IMF debts)				3.4	2.3	3.5	3.9	4.3	4.6	4.7	4.8	4.8	4.9	5.0	
German bund rate				270	225	258	295	338	360	360	360	360	360	360	
Average real interest rate (nominal rate minus change in GDP deflator, in percent)	1.9	2.5	2.1	3.0	1.3	3.5	4.0	3.8	3.7	3.5	3.1	2.8	2.5	2.9	
Inflation rate (GDP deflator, in percent)	2.8	1.7	3.1	1.7	0.8	0.3	0.0	0.3	0.5	0.8	1.2	1.5	1.8	2.0	
Growth of real primary spending (deflated by GDP deflator, in percent)	2.8	-11.0	3.6	-11.6	-8.0	-2.2	0.1	-1.3	-1.3	-3.3	2.2	2.3	3.0	2.9	
Primary deficit	10.4	5.0	2.5	2.4	1.0	0.5	0.0	-1.3	-2.5	-4.5	-4.5	-4.5	-4.3	-3.5	

1/ General gross government debt (including debt for collateral requirements).
2/ Derived as $[(r - \pi(1+g) - g + \alpha\varepsilon(1+r)]/(1+g+\pi+g\pi))$ times previous period debt ratio, with r = interest rate; π = growth rate of GDP deflator; g = real GDP growth rate; α = share of foreign-currency denominated debt; and ε = nominal exchange rate depreciation (measured by increase in local currency value of U.S. dollar).
3/ The real interest rate contribution is derived from the denominator in footnote 2/ as $r - \pi (1+g)$ and the real growth contribution as -g.
4/ Includes build up of deposits, collateral requirements.
5/ For projections, this line includes exchange rate changes. For 2011, large residual can be explained by headline debt reduction following the discount bond exchange and debt buy backs. For 2012 onward, the residual is explained by the accrued interest on zero-coupon collateral, which lowers the deficit but not the debt.
6/ Defined as general government deficit, plus amortization of medium and long-term general government debt, plus short-term debt at end of previous period.
7/ The key variables include real GDP growth; real interest rate; and primary balance in percent of GDP.
8/ Derived as nominal interest expenditure divided by previous period debt stock.