How far apart are the official creditors in their positions towards Greek public debt?

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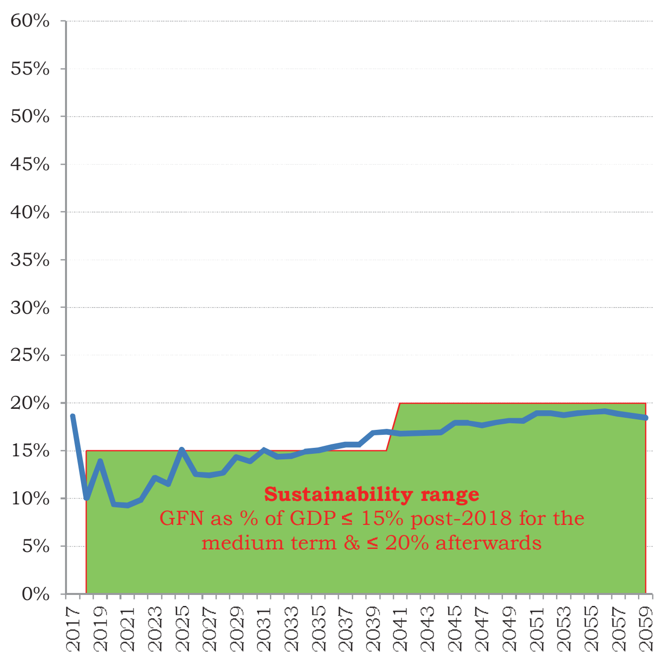
Summary of views & key findings

- The study presented herein constitutes an update of a relevant analysis we presented in *"Greece: How much relief is actually needed to restore public debt sustainability", Eurobank Economic Research, May 5, 2017*. It draws on a range of scenarios for Greek public debt that were reportedly discussed at the Eurogroup meeting of 22 May 2017 as well as a number of earlier official documents
- The study focuses on the divergence of the views between the IMF staff and the European institutions on the future evolution of Greece's gross financing needs (GFN) and the size of the medium- and long-term debt relief that is needed to restore debt sustainability i.e., ensure that the Greece's GFN does not exceed 15% of GDP after 2018 and for the medium and 20% afterwards
- It attempts a replication of the debt sustainability analyses (DSAs) that are understood to have been constructed by the IMF and the European institutions, based on a number of simplifying assumptions made by the author to make up for some important information pieces that are missing from the relevant official documents
- A key takeaway from the analysis that relates to the ongoing discussions between the European creditors and the IMF on the issue of Greek public debt can be summarized as follows: the views of the two sides on **a)** the baseline macroeconomic assumptions underlying their respective Greece DSAs; and/or **b)** the scope of the medium- and long-term debt relief that is required to restore Greece's debt sustainability should converge more substantially, to arguably facilitate the Fund's financial participation in the present programme
- Importantly, the scope and modalities of the existing debt relief framework (agreed at the Eurogroup of May 2016) may not be adequate to fully restore the sustainability of Greek public debt under significantly more downbeat macroeconomic assumptions, such as those currently assumed by the IMF; that is, unless the aforementioned framework is implemented in its most radical and far-reaching form
- In support of the aforementioned, we note that a significant part of debt relief implied by the existing medium- and long-term framework is projected to come from the targeted reprofiling (maturity & grace period extensions of, as well as lower interest rates on) the EFSF loans disbursed to Greece in the context of the 2nd bailout; and this, without incurring any additional costs for former programme countries or to the EFSF
- On the other hand, the existing framework does not envisage any interventions in/reprofiling of the remaining package of EU loans to Greece (GLF facility & ESM)
- However, the package of outstanding EFSF loans to Greece constitute c. 60% of <u>all</u> EU loans disbursed thus far and just c. 50% of all EU loans that are expected to be disbursed until the completion of the present programme (all in notional terms)
- The baseline of all these is that the scope of the existing medium- and long-term debt relief framework would probably need to be further extended (by e.g. envisaging a significant reprofiling of all EU loans disbursed to Greece) if debt sustainability were to be accommodated under significantly more adverse macroeconomic scenarios, such as the one currently assumed by the IMF

	Long-term real GDP growth (average)	Primary surplus (% GDP)	Required debt relief to restore Greek debt sustainability (GFN to GDP ratio no higher than: 15% after 2018 and for the medium-run and 20% afterwards)
Scenario A (Option 1)	1.25%	at or above 3.5% until 2032 & above 3.0% until 2038	None
Scenario A (Option 2)	1.25%	3.5% until 2022 & converging thereafter to c. 2.0% by mid-2030s and to 1.5% by 2048 (average of 2.2% in 2023-2060)	"Maximum possible" debt relief under consideration: **i)** extension of average weighted EFSF loan maturities by 17.5 years (from 32.5 years, currently); **ii)** ESM would limit Greek loan repayments to 0.4% of Greek GDP until 2050 and cap the interest rate charged on the loans at 1.0% until 2050; **iii)** any interest payable in excess of that 1.0% would be deferred until 2050 and the deferred amount capitalized at the bailout fund's cost of funding; **iv)** ESM would also buy back in 2019 the 13 billion euros that Greece owes the IMF
Scenario B (in line with the IMF staff's baseline scenario)	1.00%	3.5% until 2022 & 1.5% afterwards (2023-2060)	Medium- and long-term relief framework agreed at the Eurogroup of May 2016 not adequate to restore debt sustainability
Scenario C (a compromise between scenarios A & B)	1.25%	3.5% until 2022 & easing more gradually thereafter to average 1.8% (vs. 2.2% in Scenario A) in 2023-2060	Greek debt could be made sustainable with: **i)** an extension of EFSF weighted average loan maturities by 15 years with the last loans maturing in 2080; **ii)** the capping of interest on loans at 1.0% until 2050; and **iii)** setting the amortization cap at 0.4% of Greek GDP

Source: Reuters (May 24, 2017), Eurobank Economic Research

General government gross financing needs as % GDP (*)



(*) The depicted evolution of the GFN ratio may deviate somewhat from what is projected in the respective official-sector analysis due to differences in certain underlying assumptions

Underlying macroeconomic assumptions

Long-term real GDP growth		**1.25%**
Long-term nominal GDP growth		**3.20%**
Primary surplus (% GDP)	period 2018-2032	**≥ 3.5%**
	period 2033-2038	**≥ 3.0%**
	period 2039-2060	**2.0%**
Privatization revenue over full projection horizon (2017-2060)		**€19.4bn**
Set aside for any future bank recapitalisation needs		**No**
Assumed debt relief		**No**
Market access (simplified assumption)		**7-year fixed coupon bonds**
Assumed market refinancing rate (2018-2060 period average)		**5.10%**

Source: IMF (June 2015, May 2016, January 2017), IMF WEO (April 2017), EC (June 2016), Reuters, Eurobank Economic Research

Sustainability through the lens of the IMF staff (Article IV – February, 2017)

- **Gross financing needs (GFN) as percent of GDP expected to cross** the 15% threshold already by 2024 and the 20% threshold by 2031, reaching around 62% by 2060
- **This renders Greece's public debt ratio highly unsustainable** in the medium- & long-term (projected to reach 275% of GDP by 2060), despite generous large-scale flow relief received thus far
- **This unsustainable trajectory is attributed to:** a) downward revisions in the medium- and long-term forecasts for GDP growth and the general government primary balance; and b) the fact that, after 2018, Greece will need to re-access market financing and thus, roll over maturing debt at interest rates significantly higher than the current (concessional) ones paid on official loans
- **In order to address the issue of sustainability**, the Fund's revised debt sustainability analysis (DSA) has presented an indicative debt relief package (OSI) which would ostensibly be adequate to broadly keep Greece's GFN ratio to levels no higher that 15% of GDP during the post-programme period for the medium-term and 20% of GDP in outer years
- **In view of the aforementioned**, the IMF has stressed the need to bring forward significant debt relief (i.e., even before the expiration of the current programme, in a gradual/conditional manner) so as to facilitate a swift restoration of investor confidence towards Greece

The views of the EU institutions (European Commission, Compliance Report, June 2016)

- **In their latest (June 2016) DSA for Greece,** the European Commission portrayed a more optimistic view than that of the IMF on the basis of more benign assumptions regarding the future path of the general government primary balance as well as the medium- and long-term growth outlook of the Greek economy
- **Nevertheless**, the Commission's analysis concluded that the projected evolution of Greece's public debt and gross financing needs ratios point to serious sustainability-related concerns that shall be addressed through the implementation of the far-reaching reforms, strong reforms ownership by the Greek authorities and debt-mitigating measures granted upon full implementation of the conditionality agreed in the context of the ESM programme

The view of the IMF staff (Article IV – February, 2017)

- **In the IMF's latest (Jan./Feb. 2017) Article IV report**, the modalities of an indicative relief package to reinstate public debt sustainability are presented. This involves: a) significant maturity extensions, between 10 and 30 years; b) longer deferrals of interest and principal payments, between 6 and 21 years; c) fixing the interest rates at pretty concessional levels i.e., 1.5% per year until 2040 and 3.8% afterwards; and d) returning to Greece the profits accrued from 2019 onwards to the Eurosystem's ANFA and SMP portfolios plus a relevant amount of €1.8bn, which is pending from 2014
- **Importantly,** the aforementioned relief structure involves all European loans given to Greece; that is, all loans that have already been disbursed under the three bailout programmes, or will be disbursed under the present ESM facility

Debt relief framework for Greece agreed at the Eurogroup of May 25, 2016

- **At the Eurogroup of May 2016**, the European creditors agreed on a short-, medium- and long-term debt relief framework that will be subject to the pre-defined conditionality of the ESM programme and will be phased in progressively so as to ensure that Greek public debt remains sustainable under the new operational definition of sustainability
- **The modalities of the short-term leg** of the said framework were unveiled last December (and the relevant interventions are already in their implementation stage), while the medium- and long-term measures are to start being implemented upon the successful completion of the present ESM programme i.e., after August 2018
- **Importantly**, the scope and modalities of the medium- and long-term debt relief framework do not appear adequate to fully restore the sustainability of Greek public debt under significantly more downbeat macro assumptions than these assumed in the latest DSA analysis published by the European institutions (June 2016); that is, unless the aforementioned framework is probably implemented in its most radical and far-reaching form
- **In support of the aforementioned**, we note that a significant part of debt relief implied by the existing medium- and long-term framework is projected to come from some targeted reprofiling of the EFSF loans (c. 60% of all EU loans disbursed thus far and c. 52% of the latter plus the new ESM loans that are expected to be disbursed under the current programme – all in notional terms), without incurring any additional costs for former programme countries or to the EFSF
- **On the other hand**, the existing framework does not envisage any interventions in/reprofiling of the remaining package of EU loans to Greece (GLF facility & ESM)

***A key takeaway from the aforementioned analysis** that relates to the ongoing discussions between the European creditors and the IMF on additional debt relief for Greece is as follows: the views of the two sides on a) the baseline macroeconomic assumptions underlying their respective debt sustainability analyses and/or b) the modalities and scope of debt relief that can be provided to Greece in the medium- and long-run should converge more substantially to facilitate the Fund's financial participation in the present programme*

Public debt sustainability analysis (DSA)

Contrasting the latest baseline DSAs of the IMF and the EU institutions

❑ **Projected gross financing needs as % of GDP (annual average, 2017 – 2060)**
- European Commission: c. 18% (exceeds the 20% threshold long-term i.e., 2040 onwards)
- IMF: c. 34% (exceeds the 20% threshold already by 2031)

Sensitivity to underlying macro assumptions (based on the EU institutions' DSA & Eurobank Research projections)

❑ **Projected gross financing needs as % of GDP (annual average, 2017 – 2060)**
- Baseline: 18.3% (exceeds 20% threshold over the medium and long-term i.e., 2040 onwards)
- Higher GDP growth (+0.5ppts/annum): lower by c. 3.0ppts vs. baseline
- Lower GDP growth (-0.5ppts/annum): higher by c. 3.5ppts vs. baseline
- Higher primary surplus (+0.5ppts of GDP/annum): lower by c. 2.9ppts vs. baseline
- Lower primary surplus (-0.5ppts of GDP/annum): higher by c. 2.9ppts vs. baseline
- Higher average market refinancing rate (+50bps/annum): higher by c. 1.3ppts vs. baseline
- Lower average market refinancing rate (-50bps/annum): lower by c. 1.3ppts vs. baseline

Sensitivity to relaxation of the medium-term fiscal targets (based on the EU institutions' DSA & Eurobank Research projections)

❑ **Projected gross financing needs as % of GDP (annual average, 2017 – 2060)**
- Primary surplus target lowered to 1.5% of GDP from 2022 onwards: 5.1ppts higher vs. baseline
  - with higher GDP growth (+0.5ppts/annum): 1.7ppts higher vs. baseline
  - with lower GDP growth (-0.5ppts/annum): 9.1ppts higher vs. baseline
- Primary surplus target lowered to 1.5% of GDP from 2024 onwards: 4.1ppts higher vs. baseline

Medium- to long-term debt relief scenarios

Contrasting the latest DSAs of the IMF and the EU institutions

❑ **Projected gross financing needs as % of GDP (annual average, 2017-2060)**
- European Commission (baseline / no debt relief): c. 18% (exceeds the 20% threshold long-term i.e., 2040 onwards)
- IMF (baseline / no debt relief): c. 34% (exceeds the 20% threshold already by 2031)

Debt relief scenarios

❑ **Projected gross financing needs as % of GDP (annual average, 2017-2060)**
- IMF macro assumptions with debt relief Scenario I: c. 12% (remains within sustainability range over full projection horizon)
- IMF macro assumptions with debt relief Scenario II: c. 25.5% (exceeds sustainability threshold long-term)
- EC macro assumptions with debt relief Scenario II : 14% (remains within sustainability range over full projection horizon)
- EC with 1.5% of GDP primary surplus after 2023 & debt relief Scenario II : 25.5% (exceeds sustainability threshold from mid-2025 onwards)

Modalities of debt relief packages

❑ **Scenario I** (in line with IMF Article IV, Jan/Feb 2017)
- Debt relief implemented after expiration of current programme (mid-2018)
- GLF - loan maturity extension (30 years) along with longer deferrals on interest and principal payments (by 21 and 20 years, respectively)
- EFSF - loan maturity extension (14 years) along with longer deferrals on interest and principal payments (by 20 and 17 years, respectively)
- ESM - loan maturity extension (10 years) along with longer deferrals on interest and principal (by 19 and 6 years, respectively)
- Interest on deferred interest assumed to accrue at a fixed rate of 1.5% per year until 2040 and a long-run official rate of 3.8% afterwards
- Return of ANFA and SMP profits: €1.8bn pending from 2014 plus profits accrued from 2019 onwards

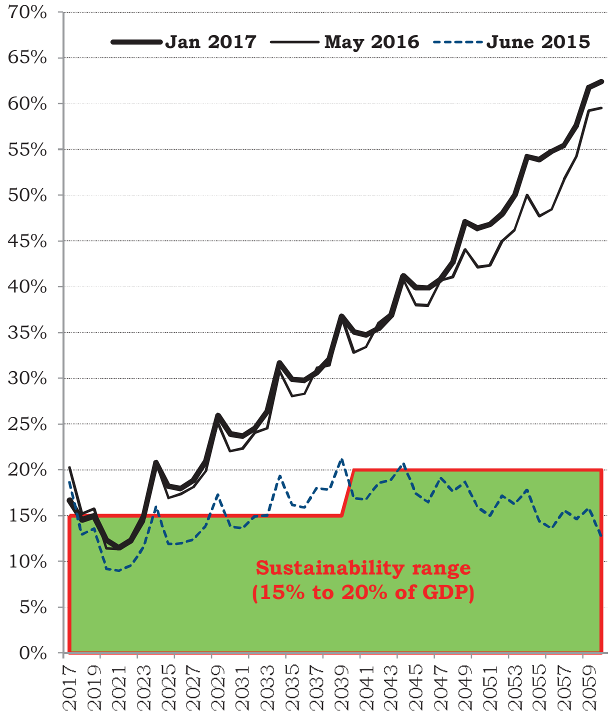
❑ **Scenario II** (hypothetical; deemed to be compatible with the framework agreed at the 25 May 2016 Eurogroup)
- Return of ANFA & SMP profits
- Removal of step-up interest rate margin related to debt-buyback loan tranche
- Full deferral of all EFSF loan principal payments to post-2060 period

The view of the IMF staff

Greek public debt highly unsustainable without further significant relief

General government gross financing needs as % GDP (*)

IMF baseline scenarios (no debt relief)



(*) The depicted evolution of the GFN ratio may deviate somewhat from what is projected in the respective IMF DSAs due to differences in some underlying assumptions

IMF baseline scenarios

Key assumptions

	June 2015	May 2016	January 2017 & WEO April 2017
Medium- and long-term average nominal GDP growth (%)	3.5%	3.0%	2.8%
General government primary suplus (% GDP) post-programme	3.5%	1.5%	1.5%
Set aside for bank recap needs (EUR bn)	none	€10 bn	€10 bn
Market refinancing rates (%)	6.25% average over the next several decades	6.00% in 2019; +/-4bps afterwards per +/-1ppt change in debt ratio	6.00% in 2019; +/-4bps afterwards per +/-1ppt change in debt ratio

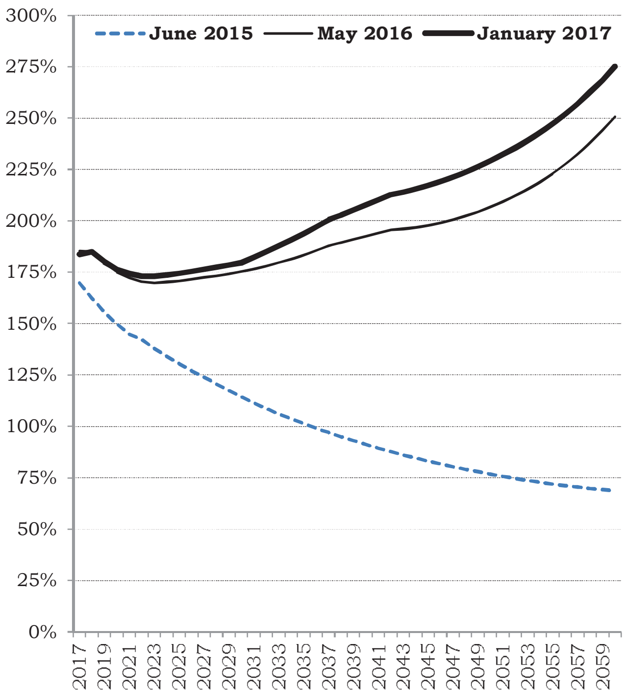
Source: IMF (June 2015, May 2016, January 2017), IMF WEO (April 2017), Eurobank Economic Research

The view of the IMF staff

Public debt ratio to follow explosive path after 2030 without further significant relief

Gross public debt as % GDP (*)

IMF baseline scenarios (no debt relief)



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IMF baseline scenarios

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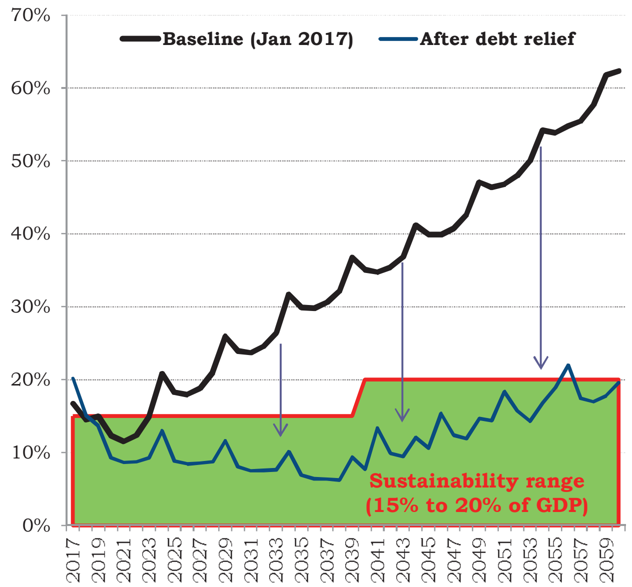
Source: IMF (June 2015, May 2016, January 2017), IMF WEO (April 2017), Eurobank Economic Research

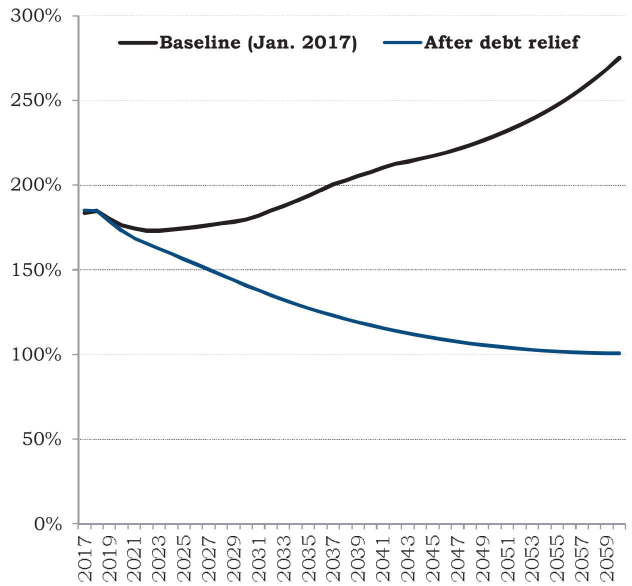
The view of the IMF staff

Indicative debt relief scenario to reinstate Greek public debt sustainability (Jan 2017)

Gross financing needs (% GDP)
IMF DSA (Jan 2017)
Baseline vs. debt relief scenario



Gross public debt (% GDP)
IMF DSA (Jan 2017)
Baseline vs. debt relief scenario



Debt relief assumptions

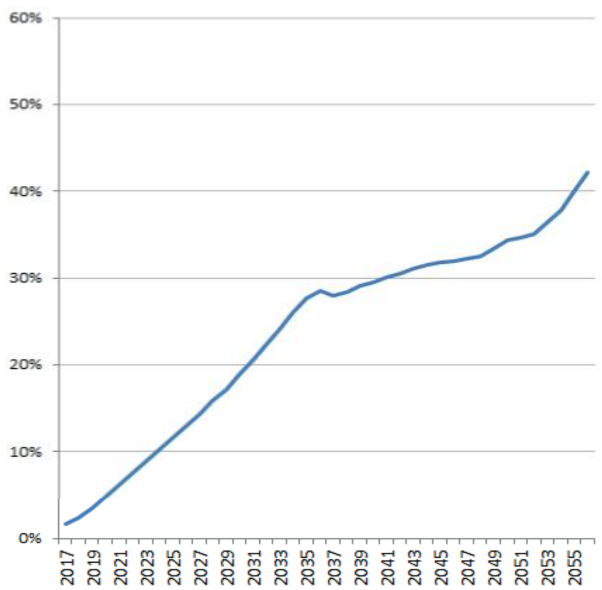
- **Debt relief** implemented after expiration of current programme (mid-2018)
- **GLF -** loan maturity extension (30 years) along with longer deferrals on interest and principal payments (by 21 and 20 years, respectively)
- **EFSF -** loan maturity extension (14 years) along with longer deferrals on interest and principal payments (by 20 and 17 years, respectively)
- **ESM** - loan maturity extension (10 years) along with longer deferrals on interest and principal (by 19 and 6 years, respectively)
- **Interest on deferred interest** assumed to accrue at a fixed rate of 1½ % per year until 2040 and a long-run official rate of 3.8% afterwards
- **Return of ANFA and SMP profits:** €1.8bn pending from 2014 plus profits accrued from 2019 onwards

Source: IMF (June 2015, May 2016, January 2017), IMF WEO (April 2017), Eurobank Economic Research

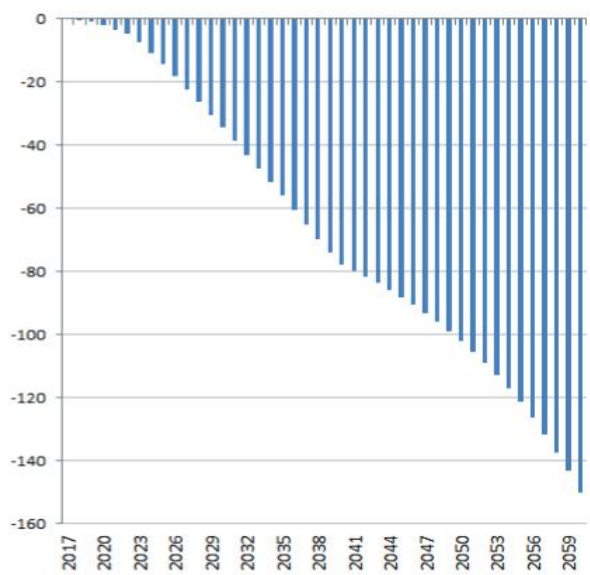
Indicative debt relief package for Greece

Implied cash flow & stock implications

Cash flow relief in NPV terms
Time evolution of NPV savings as % of GDP (*)
from t_0 = 2017 to T = 2060
Baseline vs. debt relief scenario (**)



Stock relief
Decline of debt to GDP ratio due to debt re-profiling
Baseline Vs. debt relief scenario (**)



(*) Discount rate for NPV calculation assumed at 3%
(**) Modalities of *baseline* and *debt relief scenario similar to these assumed in the previous page*

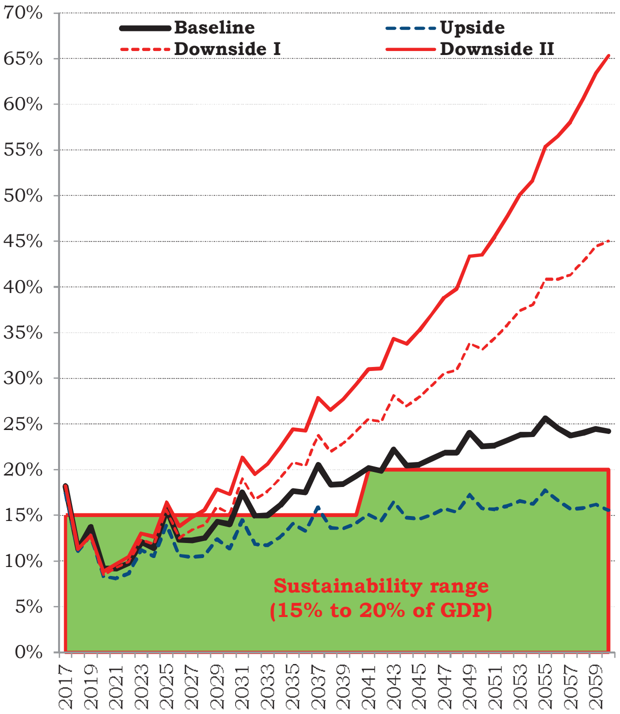
Source: IMF, Eurobank Economic Research

The view of the EU institutions

More benign baseline scenario relative to the IMF, but debt relief still needed

General government gross financing needs as % GDP (*)

EC baseline & scenarios (no debt relief)



(*) The depicted evolution of the GFN ratio may deviate somewhat from what is projected in the respective IMF DSAs due to differences in some underlying assumptions

EC baseline scenarios

Key assumptions

	Baseline	Upside	Downside I	Downside II
Medium- and long-term real GDP growth (%)	1.5% after 2021 & 1.25% after 2030	0.25 pp higher relative to baseline after 2019	0.25 pp lower relative to baseline between 2019 & 2030	0.25 pp lower relative to baseline between 2019 & 2030
General government primary suplus (% GDP)	3.5% for 10 years post-programme & decreasing gradually to 1.5% by 2040	assumed to average 2.4% of GDP in post-programme period	assumed to average 2% of GDP in post-programme period	assumed to average 1.7% of GDP in post-programme period
Privatization revenue	€18 bn	€20 bn over 2015-2022 (c. €50bn over entire projection horizon - Eurobank Research	€6.5 bn (Eurobank Research assumption)	€6.0 bn (Eurobank Research assumption)
Average market refinancing rate (%) post-programme	5.0%	5% (Eurobank Research assumption)	6.5% (Eurobank Research assumption)	7.3% (Eurobank Research assumption)

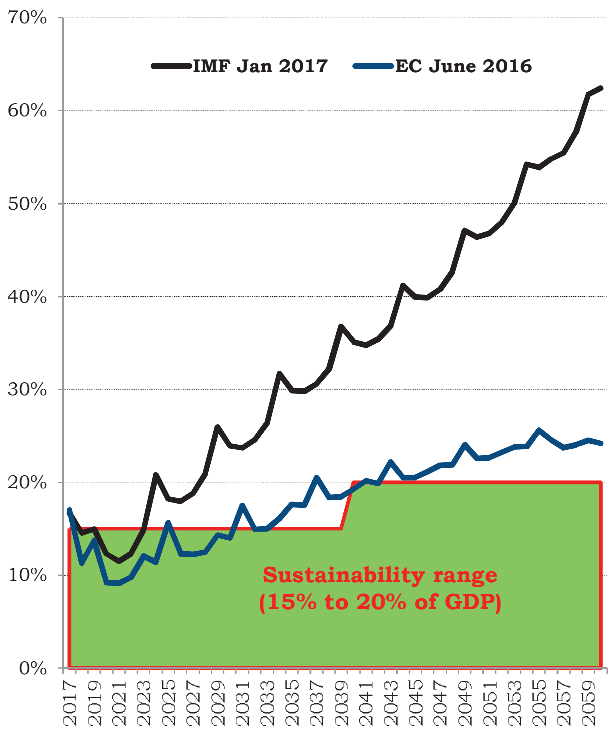
Source: European Commission (June 2016), Eurobank Economic Research

Greek public debt sustainability

Contrasting the views of the IMF and the EU institutions

General government gross financing needs as % GDP (*)

Most recent baseline scenarios



(*) The depicted evolution of the GFN ratios may deviate somewhat from what is project in the respective DSAs due to differences in some underlying assumptions

Baseline scenarios

Key assumptions

	IMF (January 2017)	European Commission (June 2016)
Medium- and long-term average nominal GDP growth (2024 onwards)	2.8%	3.2%
General government primary suplus (% GDP), post-programme period average	1.5%	3.5% for 10 years post-programme & decreasing gradually to 1.5% by 2040
Privatization revenue	€10 bn	€18 bn
Set aside for bank recap needs (EUR bn)	€10 bn	none
Market refinancing rates (%)	6.00% in 2019; +/-4bps afterwards per +/-1ppt change in debt ratio	5.00% average in post-programme period (Eurobank Research assumption)

Source: IMF (June 2015, May 2016, January 2017), IMF WEO (April 2017), EC (June 2016), Eurobank Economic Research

Scenario analysis based on most recent DSA published by the EU institutions

Evolution of gross financing needs (period average, in % of GDP)

		2017-2020	2021-2030	2031-2040	2041-2050	2051-2060	2017-2060	Δ (2017-2060) vs. Baseline
Nominal GDP growth (average)	**Baseline +0.5 ppts per annum**	12.6%	11.5%	15.3%	17.5%	18.1%	**15.3%**	**-3.0%**
	Baseline (3.8% in 2017-2023 & 3.2% from 2024 onwards)	12.8%	12.3%	17.5%	21.5%	24.0%	**18.3%**	
	Baseline -0.5ppts per annum	13.0%	13.2%	20.1%	26.2%	31.4%	**21.8%**	**3.5%**
Primary surplus (% GDP)	**Baseline +0.5ppts of GDP per annum**	12.3%	11.3%	15.2%	17.7%	18.7%	**15.4%**	**-2.9%**
	Baseline (3.5% for 10 years post-programme & decreasing gradually to 1.5% by 2040)	12.8%	12.3%	17.5%	21.5%	24.0%	**18.3%**	
	Baseline -0.5ppts of GDP per annum	13.3%	13.3%	19.8%	25.2%	29.3%	**21.1%**	**2.9%**
Average market refinancing rate post-programme (%)	**Baseline +0.5ppts per annum**	12.8%	12.5%	18.2%	23.2%	27.2%	**19.6%**	**1.3%**
	Baseline (assumed to average c. 5.00% over entire projection horizon)	12.8%	12.3%	17.5%	21.5%	24.0%	**18.3%**	
	Baseline -0.5ppts per annum	12.8%	12.2%	16.9%	19.9%	21.2%	**17.1%**	**-1.2%**

Source: European Commission (June 2016), Eurobank Economic Research

Implications from relaxing the medium- and long-term fiscal targets

Evolution of gross financing needs (period average, in % of GDP)

		2017-2020	2021-2030	2031-2040	2041-2050	2051-2060	2017-2060
European Institutions' DSA under different macro scenarios	**European Commission** June 2016 baseline	12.8%	12.3%	17.5%	21.5%	24.0%	**18.3%**
	European Commission adjusted to incorporate IMF staff's Jan 2017 baseline macro scenario	14.7%	18.5%	30.1%	40.5%	54.5%	**34.0%**
	Δ (average deviation in ppts of GDP)	1.9%	6.2%	12.5%	19.0%	30.5%	**15.7%**
European Institutions' DSA assuming relaxation of medium- and long-term fiscal targets	**European Commission** baseline assuming primary surplus target lowered to 1.5% of GDP from 2022 onwards	12.8%	15.0%	22.9%	28.1%	31.8%	**23.4%**
	European Commission baseline assuming primary surplus target lowered to 1.5% of GDP from 2024 onwards	12.8%	14.1%	22.0%	27.0%	30.4%	**22.4%**
European Institutions' DSA (baseline +/- 0.5ppt GDP growth / annum & relaxation of fiscal target)	**European Commission** baseline -0.5ppts GDP growth/annum and 1.5% of GDP primary surplus from 2022 onwards	13.0%	15.9%	25.6%	33.5%	40.4%	**27.4%**
	European Commission baseline +0.5ppts GDP growth/annum and 1.5% of GDP primary surplus from 2022 onwards	12.6%	14.2%	20.4%	23.6%	24.9%	**20.0%**

Source: IMF (June 2015, May 2016, January 2017), IMF WEO (April 2017), EC (June 2016), Eurobank Economic Research

Scope of m-t debt relief framework agreed at May 2016 Eurogroup

Needs to be extended to accommodate sustainability under the IMF's baseline macro scenario

Eurobank

	Macro scenario	Debt relief	GFN (period average, in ppts of GDP) 2017-20	2021-30	2031-40	2041-50	2051-60	2017-60
Baseline scenarios	**European Commission** June 2016	**none**	12.8%	12.3%	17.5%	21.5%	24.0%	**18.3%**
Baseline scenarios	**European Commission** adjusted to incorporate relaxation of the primary surplus target to 1.5% from 2024 onwards	**none**	12.8%	14.1%	22.0%	27.0%	30.4%	**22.4%**
Debt relief scenarios	**European Commission** June 2016	**Scenario compatible with medium-term relief framework** agreed at May 2016 Eurogroup (*)	12.8%	10.9%	14.2%	15.8%	15.6%	**14.0%**
Debt relief scenarios	**European Commission** adjusted to incorporate relaxation of the primary surplus target to 1.5% from 2024 onwards	**Scenario compatible with medium-term relief framework** agreed at May 2016 Eurogroup (*)	12.8%	12.6%	18.6%	21.3%	22.0%	**18.1%**
Debt relief scenarios	**IMF** January 2017	**Scenario compatible with medium-term relief framework** agreed at May 2016 Eurogroup (*)	14.4%	16.0%	24.1%	29.8%	36.6%	**25.5%**
Debt relief scenarios	**IMF** January 2017	**In line with the IMF's indicative debt relief package** Presented in the Article IV report of Jan/Feb 2017 (**)	13.6%	9.4%	7.6%	12.4%	17.8%	**12.0%**

(*) Debt relief assumptions: Return of ANFA & SMP profits; abolishment of step-up interest rate margin related to debt-buyback loan tranche; full deferral of all EFSF loan principal payments to post-2060 period

(**) Debt relief assumptions: See page 10 of report

Source: IMF (June 2015, May 2016, January 2017), IMF WEO (April 2017), EC (June 2016), Eurobank Economic Research

Greece: state borrowing needs & sources of funding (EUR bn)

January 2017 – August 2018

Eurobank

Greece - State borrowing needs & sources of funding, January 2017-August 2018 in EUR bn (*)

	FY-2017 Q1	FY-2017 Q2	FY-2017 Q3	FY-2017 Q4	FY-2017	FY-2018 Q1	FY-2018 Q2	July	August	Jan-Aug 2018
State cash primary balance [1] ("-" = surplus)	-1.0	1.7	-4.5	0.0	-3.8	-1.1	-1.1	-0.4	-0.4	-3.0
Interest payments	2.4	1.1	1.3	0.7	5.6	2.3	0.7	0.6	1.1	4.7
Amortization payments	0.2	2.2	7.1	0.2	9.7	0.7	0.8	2.4	0.0	3.9
Banking sector needs [2]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Partial unwinding of repo operations [3]	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0
Clearance of arrears [4]	1.7	0.0	1.8	0.0	3.5	1.0	1.0	0.0	0.0	2.0
I. Gross financing need	**3.3**	**5.0**	**5.7**	**3.0**	**16.9**	**2.9**	**1.4**	**4.6**	**0.7**	**9.6**
II. Gross financing source	**0.8**	**0.5**	**0.5**	**0.5**	**2.3**	**1.1**	**0.8**	**0.0**	**0.0**	**1.9**
Privatisation revenue [5]	0.5	0.5	0.5	0.5	2.0	0.8	0.8	0.0	0.0	1.6
Return to Greece of ANFA and SMP profits	0.3	0.0	0.0	0.0	0.3	0.3	0.0	0.0	0.0	0.3
III. Net financing need (I-II)	**2.5**	**4.5**	**5.2**	**2.5**	**14.6**	**1.8**	**0.6**	**4.6**	**0.7**	**7.7**
Official loan disbursements [6]	7.6	9.6	2.0	5.1	24.3	3.0	3.4	0.0	3.5	9.9
State deposit financing	-5.1	-5.1	3.2	-2.6	-9.7	-1.2	-2.8	4.6	-2.8	-2.2
Use of subsector deposits (repos)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IV. Financing gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Memo items										
Total State deposit stock e.o.p (assumed c. € 3bn at end-2016)	*8.1*	*13.2*	*10.0*	*12.7*	*12.7*	*13.9*	*16.7*	*12.1*	*14.9*	*14.9*

(*) Table assumes rollover of full amount of T-bills oustanding (c. €15bn currently)

1/ Assumptions for FY-2017 in line with 2017 Budget; assumptions for 2018 in line with EC compliance report (June 2016)

2/ Table assumes no need for any new bank recapitalisations

3/ & 4/ Eurobank Research assumptions

5/ Revenues assumed for FY-2017 in line with 2017 Budget; assumptions for 2018 in line with EC compliance report (June 2016)

6/ Timeline of official loan disbursements assumed to be in line with the EC compliance report (June 2016); €6.1bn loan tranche of 2nd programme review

Source: PDMA, Greek budget 2017, EC (June 2016); Eurobank Economic Research

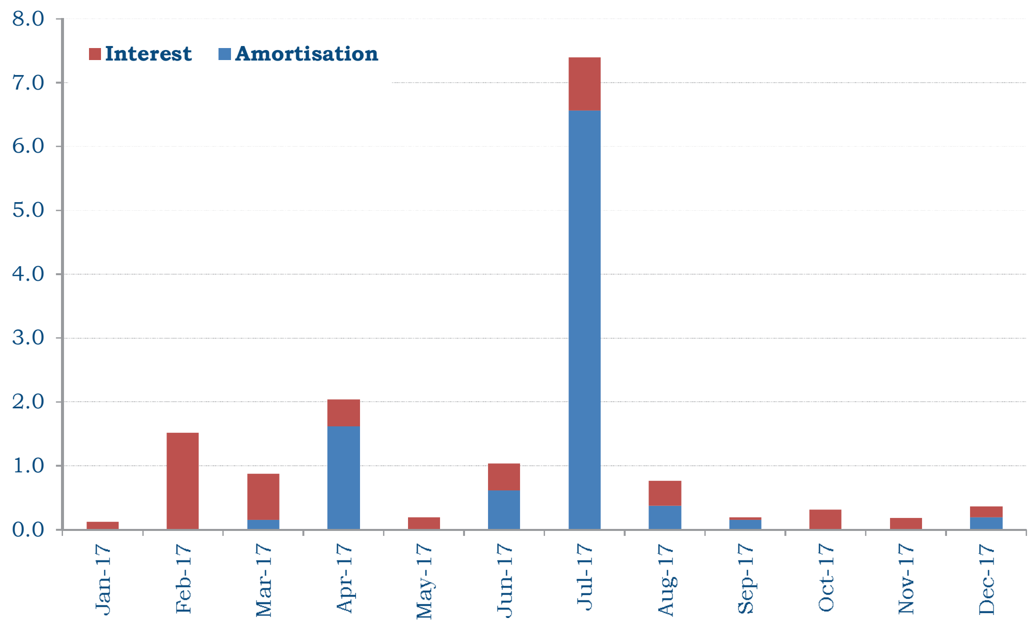
Greece: monthly amortization payments on public debt in 2017 (EUR bn)

	NCBs (ANFA)	ECB (SMP)	Old GGBs (holdouts)	GGBs issued in 2014	Bonds (total)	BoG loans	Special purpose & bilateral international loans (EIB)	Other loans	EFSF loans	GLF loans	IMF loans	ESM loans (3rd bailout)	**Total**
Jan-17													
Feb-17				0.005	0.005								**0.00**
Mar-17							0.01				0.15		**0.16**
Apr-17	0.17	1.23			1.40			0.21					**1.61**
May-17													
Jun-17						0.47	0.14						**0.61**
Jul-17	1.46	2.42	0.20	2.09	6.16		0.11				0.30		**6.57**
Aug-17			0.38		0.38								**0.38**
Sep-17							0.004				0.15		**0.15**
Oct-17													
Nov-17													
Dec-17							0.03				0.16		**0.19**
Total	**1.62**	**3.66**	**0.57**	**2.09**	**7.95**	**0.47**	**0.30**	**0.21**			**0.75**		**9.67**

(*) Table excludes T-bill maturities (full rollover assumed) & partial unwinding of repo operations (inter-governmental borrowing)

Source: PDMA, Greek budget 2017, EC (June 2016); Eurobank Economic Research

Greece: interest & amortization payments on public debt in 2017 (EUR bn)



Source: PDMA, Greek budget 2017, EC (June 2016); Eurobank Economic Research

Greece: multi-year amortization payments on public debt (EUR bn)

Outstanding amounts as of end December 2016

Year	T-bills (EUR 14.94bn outstanding)	NCBs (ANFA)	ECB (SMP)	Bonds	BoG loans	Special purpose & bilateral international loans (EIB)	Other international loans	EFSF loans re-profiled	GLF loans (1st bailout)	IMF loans	Repos (EUR 11.9bn outstanding)	ESM loans (all disbursements assumed to reach €64.8bn by late 2018)	Total (netting out T-bills & repos)
2017	15.0	1.6	3.7	2.7	0.5	0.3	0.2	0.0	0.0	0.7	2.0	0.0	**9.6**
2018	15.0	0.6	1.3	0.0	0.5	0.3	0.2	0.0	0.0	1.8	2.0	0.0	**4.6**
2019	15.0	1.0	4.8	4.8	0.5	0.3	0.2	0.0	0.0	2.0		0.0	**13.6**
2020	15.0	0.2	1.1		0.5	0.3	0.2	0.0	0.7	2.0		0.0	**5.1**
2021	15.0				0.5	0.4	0.2	0.0	2.1	2.0		0.0	**5.2**
2022	15.0	0.8	0.5	0.0	0.5	0.4	0.2	0.0	2.6	1.9		0.0	**6.9**
2023	15.0			1.8	0.5	0.4	0.2	2.3	2.6	1.3		0.0	**9.1**
2024	15.0	0.2	1.1	1.8		0.4	0.2	2.3	2.6	0.3		0.0	**8.9**
2025	15.0	0.1		1.7		0.4	0.2	2.3	2.6			0.0	**7.3**
2026	15.0	0.2	0.7	1.5		0.4	0.2	2.3	2.6			0.0	**8.0**
2027	15.0			1.5		1.4	0.2	2.3	2.6			0.0	**8.0**
2028	15.0			1.7		0.5	0.2	2.3	2.6			0.0	**7.4**
2029	15.0			1.5		0.2	0.2	2.3	2.6			0.0	**6.8**
2030	15.0	0.1	0.0	1.4		0.4	0.2	2.3	2.6			0.0	**7.1**
2031	15.0			1.4		0.1	0.2	2.3	2.6			0.0	**6.6**
2032	15.0			1.4		0.1	0.2	2.3	2.6			0.0	**6.6**
2033	15.0			1.5		0.0	0.2	2.3	2.6			0.0	**6.7**
2034	15.0			1.7		0.0	0.3	2.3	2.6			2.3	**9.2**
2035	15.0			1.4		0.0	0.3	2.3	2.6			2.3	**9.0**
2036	15.0			1.5		0.0	0.3	2.3	2.6			2.3	**9.0**
2037	15.0	0.1	0.0	1.4		0.0	0.3	2.3	2.6			2.3	**9.0**
2038	15.0			1.4		0.0		2.3	2.6			2.3	**8.6**
2039	15.0			1.3		0.0		2.3	2.6			2.3	**8.6**
2040	15.0			1.4		0.0		2.3	1.9			2.3	**7.9**
2041	15.0			1.4		0.0		2.3	0.6			2.3	**6.5**
2042	15.0			1.4				2.3				2.3	**6.0**
2043	15.0							3.4				2.3	**5.7**
2044	15.0							4.2				2.3	**6.5**
2045	15.0							4.2				2.3	**6.5**
2046	15.0							4.3				2.3	**6.6**
2047	15.0							4.2				2.3	**6.5**
2048	15.0							5.9				2.3	**8.2**
2049	15.0							7.2				2.3	**9.4**
2050	15.0							6.8				2.3	**9.1**
2051	15.0							7.3				2.3	**9.6**
2052	15.0							7.5				2.3	**9.7**
2053	15.0							7.6				2.3	**9.8**
2054	15.0							7.6				2.3	**9.8**
2055	15.0							7.6				2.3	**9.8**
2056	15.0							7.5				3.4	**10.8**
2057	15.0			1.1				0.0				3.4	**4.5**
2058	15.0											3.4	**3.4**
2059	15.0											3.4	**3.4**
2060	15.0											1.1	**1.1**
Total		**4.9**	**13.2**	**38.8**	**3.3**	**6.5**	**4.4**	**130.9**	**52.9**	**12.1**	**4.0**	**64.8**	**331.9**

Source: PDMA, Greek budget 2017, EC (June 2016); Eurobank Economic Research

Greece: short-term debt relief package

Approved at the Eurogroup of December 5, 2016

I. Smoothening of the EFSF repayment profile

Description: 4-year extension in the weighted average maturity of EFSF loans provided to Greece in the context of the 2nd bailout programme.
Objective: reduce refinancing risks for the Greek state, by back-loading EFSF loan amortizations and creating a much lighter (and smoother) redemptions profile over the next two decades or so.
Impact (FY-2060): -3.6ppts and -0.8ppts respective reductions in public debt and GFN ratios.

II. Use of the EFSF/ESM funding strategy to reduce interest rate risk

Scheme 1 - Issuance of long-term fixed rate notes and bonds to the market with maturities up to 30 years, with a view to fund the repurchase of floating rate notes held by Greece's four systemic banks.
Impact (FY-2060): -7.1ppts and -1.6ppts respective reductions in public debt and GFN ratios.

Scheme 2 - Use of interest rate swaps to mitigate the risk of higher market rates, with the ensuing benefits to Greece from a sustainability standpoint varying with maturity, the rate and the size of the swap transactions that can be executed in the market.
Impact (FY-2060): -6.9ppts and -1.5ppts respective reductions in public debt and GFN ratios.

Scheme 3 - Use of matched funding, via ESM fixed rate long-term issuances with maturities up to 30 years, for part of future disbursements to Greece under the current programme (c. €30bn).
Impact (FY-2060): -1.3ppts and -0.3ppts respective reductions in public debt and GFN ratios.

III. Waiver of the step-up interest rate margin on the DBB tranche

Description: waiver of the step-up interest rate margin related to the debt buy-back tranche (€11.3bn) released in the context of the 2nd bailout programme.
Impact (FY-2060): -0.3ppts and -0.1ppts respective reductions in public debt and GFN ratios.

Total projected impact of measures I, II, & III (FY-2060): -21.8ppts and -4.9ppts respective reductions in public debt and GFN ratios.

Source: Eurogroup (5 Dec 2016), ESM, Eurobank Economic Research

Table 1. Impact of short - term relief measures on Debt-to-GDP and GFN - to - GDP ratios under baseline scenario

Greece, DSA (central scenario)

		2016	2017	2018	2019	2020	2022	2030	2040	2050	2060
Debt-to-GDP	1. Smoothening the ESM repayment profile under the current WAM	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-1.0	-2.4	-3.6
	2. Use EFSF/ ESM diversified funding strategy										
	i. BtB extension	0.0	0.0	0.1	0.2	0.2	0.2	-1.2	-3.7	-5.7	-7.1
	ii. ESM, interest rate swap (IRS)	0.0	0.0	0.1	0.2	0.3	0.4	-0.4	-2.9	-5.1	-6.9
	iii. Split of the pool with matched funding (ESM)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-1.1	-1.3
	3. Walver of the step-up in interest rate margin (DBB) , 2017	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.3
	Second round effect on market rates	0.0	0.0	0.1	0.0	0.0	-0.1	-0.4	-1.0	-1.8	-2.6
GFN- to- GDP	1. Smoothening the ESM repayment profile under the current WAM	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-1.3	-0.8	-0.8
	2. Use EFSF/ ESM diversified funding strategy										
	i. BtB extension	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-0.9	-1.2	-1.6
	ii. ESM, interest rate swap (IRS)	0.0	0.0	0.1	0.1	0.1	0.1	-0.2	-0.7	-1.2	-1.5
	iii. Split of the pool with matched funding (ESM)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.3	-0.3
	3. Walver of the step-up in interest rate margin (DBB) , 2017	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
	Second round effect on market rates	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.3	-0.4	-0.6