

Growth Outlook of the Greek Economy, Sustainability of Public Debt and the Impact of a 2-Year Extension in the Fiscal Adjustment Programme

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- This study attempts an assessment of the growth prospects of the Greek economy, the future trajectory of the country's gross public debt ratio and the potential impact of a 2-year extension in the fiscal adjustment programme under the new bailout agreement.
- We project contraction of real GDP by 7.1% in 2012 and by 2.4% in 2013, on the back of further significant declines in disposable incomes, rising unemployment and plummeting investment activity. The fiscal drag of the applied austerity programme, lingering uncertainty over the macroeconomic outlook and increased liquidity constraints in the domestic economy will continue to take a heavy toll on Greek growth prospects. Net exports are expected to remain the sole positive contributor, albeit mainly due to the sharp contraction of imports.
- We project a debt-to-GDP ratio of ca 125% in 2020, against 116.5% envisaged in the EC/ECB/IMF March 2012 baseline. This is due mainly to the deeper than expected recession and, to a lesser extent, programme implementation slippages incurred as a result of the prolonged pre-election period which have inevitably resulted in a worsening of Greece's fiscal dynamics relative to what was projected in the troika's latest baseline assessment (March 2012).
- On a *ceteris paribus* basis, a lengthening of the agreed fiscal adjustment period would likely result in an incremental worsening of public debt dynamics by 5 p.p over the entire projection horizon (2012-2020). The latter would mainly be the result of:
 - a more gradual improvement (relative to the baseline scenario) of the general government primary balance over the *extended* adjustment horizon
 - increased interest rate expenditure as a result of higher government borrowing to cover the ensuing financing gap.
- Longer-term, the Greek economy could experience growth rates higher than those envisaged in the troika's latest baseline scenario (March 2012). Such a scenario could materialize as a result of large accumulated (negative) output gaps and idle productive capacity caused by the multi-year depression. Once the recovery starts, this supply excess will have to be eliminated. Hence, a feasible optimistic scenario could be conceived, featuring annual trend growth rates of 3.7%. Such a trajectory would be conditional on the vigorous implementation of the structural reforms programme and the uninterrupted provision of official financing.
- Yet, under certain conditions, the said gap may well shrink or be even eliminated under a more favorable growth trajectory, envisaging a faster elimination of the negative output gap and/or a restoration of investor confidence with a beneficial impact on the attainability of the revised fiscal targets. Under this scenario, the public debt-to-GDP ratio is seen falling towards 108% by FY-2020.

1. Introduction

This study attempts an assessment of the growth prospects of the Greek economy, the future trajectory of the country's gross public debt ratio and the potential impact of a 2-year extension in the fiscal adjustment programme under the new bailout agreement. In a previous note,¹ we provided an assessment of the potential implications of such an extension for the government's borrowing needs and sources of funding in the period 2012-2016. In what follows, we present detailed analysis and projections for Greece's GDP and its components in the years 2012 and 2013. Subsequently, a simple theoretical framework based on the notions of potential GDP growth and output gaps is utilized to conduct longer-term growth projections, spanning the period 2014-2020. Finally, we examine how a 2-year extension in Greece's fiscal adjustment programme would affect growth prospects, longer-term fiscal sustainability perceptions and debt dynamics. More specifically, we employ a number of *internally-consistent* scenarios for the projected evolution of a set of underlying macroeconomic variables to forecast the likely path of the debt ratio over the period 2012-2020. We consider our analysis to be *strictly preliminary*, not only because of the unprecedented degree of uncertainty clouding the domestic macroeconomic outlook, but also because of uncertainties surrounding the outcome of the current and future government negotiations with the EC/IMF/ECB troika of official lenders. Notwithstanding these reservations, we interpret the main results of our study as follows:

- The fiscal drag of the applied austerity programme, lingering uncertainty over the macroeconomic outlook and increased liquidity constraints in the domestic economy will continue to take a heavy toll on Greek growth prospects. We project contraction of real GDP by 7.1% in 2012 and by 2.4% in 2013, on the back of further significant declines in disposable incomes, rising unemployment and plummeting investment activity. Net exports are expected to remain the sole positive contributor, albeit mainly due to the sharp contraction of imports.
- Longer-term, the Greek economy could experience growth rates higher than those envisaged in the troika's latest baseline scenario (March 2012). Such a scenario could materialize as a result of large accumulated (negative) output gaps and idle productive capacity caused by the multi-year depression. Once the recovery starts, this supply excess will have to be eliminated. Hence, a feasible optimistic scenario could be conceived, featuring annual trend growth rates of 3.7%. Such a trajectory would be conditional on the vigorous implementation of the

structural reforms programme and the uninterrupted provision of official financing.

- The deeper than expected recession and, to a lesser extent, programme implementation slippages incurred as a result of the prolonged pre-election period have inevitably resulted in a worsening of Greece's fiscal dynamics relative to what was projected in the troika's latest baseline assessment (March 2012).
- Augmenting the latter scenario with our new growth projections for 2012 and 2013 would result in a terminal debt-to-GDP ratio of ca 125% in 2020, against 116.5% envisaged in the IMF March 2012 baseline.
- On a *ceteris paribus* basis, a lengthening of the agreed fiscal adjustment period would likely result in an incremental worsening of public debt dynamics over the entire projection horizon (2012-2020).
- The latter would mainly be the result of: (i) a more gradual improvement (relative to the baseline scenario) of the general government primary balance over the *extended* adjustment horizon; and (ii) increased interest rate expenditure as a result of higher government borrowing to cover the ensuing financing gap.

To a certain extent, the potential worsening of public debt dynamics as a result of a time extension in the fiscal adjustment programme could be alleviated by higher GDP growth / less severe output contraction relative to the baseline scenario. This could, in turn, result from a lessening of the *fiscal drag* as the given austerity package would now need to be implemented over a more extended timeframe.

- As an indicative case, we examine a scenario envisaging a 2-year extension in the programme's fiscal adjustment horizon. Under this framework, the growth outlook for 2013 and 2014 would improve, while prospects for 2015 and 2016 would be somehow dampened. Overall, this scenario implies a slightly higher GDP in 2020 due to the more favourable growth dynamics. Subsequently, the terminal value for the debt-to-GDP ratio in FY-2020 under the extension scenario is found to be ca 5ppts higher than that under the *no extension* scenario.
- Yet, under certain conditions, the said gap may well shrink or be even eliminated under a more favorable growth trajectory, envisaging a faster elimination of the negative output gap and/or a restoration of investor confidence with a beneficial impact on the attainability of the revised fiscal targets. Under this scenario, the public debt-to-GDP ratio is seen falling towards 108% by FY-2020.
- A potentially more important, albeit difficult to quantify, benefit to debt dynamics could accrue from an increase in the efficiency of fiscal measures due to the impact of higher growth on the budget's automatic stabilizers.
- Overall, our analysis supports the case for a time extension in Greece's fiscal consolidation programme. This is not only because such an extension would likely support domestic

¹ Platon Monokroussos and Tassos Anastasatos, "Key issues in the upcoming negotiations with the troika and the government's MoU renegotiation agenda – What aspects of the existing programme could be changed and over what time horizon?", *Greece Macro Monitor*, July 19, 2012.

political stability and social cohesion but also because it would make sense on pure economic grounds.

2. Analysis and Forecast of Greek GDP in 2012 and 2013

This section aims in forecasting Greece's output growth in 2012 and 2013; a quantification of trends in components of GDP is conducted, with economic analysis provided for each. Under the main scenario, which takes into account only the expected impact of measures announced so far and no extension of the fiscal adjustment period, real GDP growth is estimated at -7.1% in 2012 and -2.4% in 2013 (Table 1). The forecasts presented in this note are provisional as a significant package of fiscal measures for the period 2013-2014 is yet to be finalised. Furthermore, 2012 is a year of unusual uncertainty given the prolonged election period and a pending assessment by the Troika of whether the Greek programme can be brought back on track. Hence, considerable risks to the growth outlook remain.

2.1. The Framework

In February 2012, Euro area finance ministers endorsed a second bailout package for Greece worth €130bn. The deal aims to bring the country's public debt-to-GDP ratio to 116.5% by 2020. The deal, encompassing a market-based restructuring of Greek public debt, came as an answer to concerns regarding the sustainability of Greek public debt following departures from the assumptions of the 1st bailout package. In particular, the 7.6%-of-GDP fiscal deficit target for FY-2011 was missed (final outcome 9.1%) and adverse growth dynamics deteriorated the projected debt-to-GDP path.

Failings occurred as a result of a deteriorating external environment, a deeper than expected recession and delays in the implementation of both fiscal and structural measures agreed as part of the 1st package. In turn, the deeper recession caused further slippages in both the expenditure and revenue sides of the budget (impact on budget's automatic stabilizers), which necessitated further corrective measures with an enlarged recessionary effect and so forth.

In detail, measures decided for FY-2012 before the signing of the second bailout agreement were estimated by the European Commission to be of a total worth of €13,191mn or 6.1ppts of GDP. These include: (i) measures agreed to be implemented in 2012 under the first MoU (including the carry-over of measures initiated in 2010); (ii) extra measures worth ca €6.7bn introduced by the Medium Term Fiscal Strategy (MTFS) announced in July 2011 (subsequently re-estimated to worth €5.4bn or 2.5% of GDP); and (iii) further measures announced by the Greek government in September 2011 (included in the draft budget in October 2011) to be implemented in 2011 and 2012 worth ca €7bn or 3.3 ppts of GDP. Actually, the latter concern the frontloading of measures already agreed in the MTFS but initially planned for later years.

In an effort to escape from the vicious cycle, a restructuring of public debt was deemed to be necessary in order to relieve the economy from some debt burden, liberate resources for growth purposes, reinforce the confidence of economic agents on the sustainability of fiscal accounts and thus, reinstate business sentiment and consumer confidence.

Table 1: Greek GDP in 2012 and 2013

	2011 €bn, Nominal	Shares in 2011 GDP	2012 %yoy growth, Real	2013 %yoy growth, Real
Private Consumption	162.3	75.5%	-11.6%	-4.2%
Government Consumption	37.5	17.5%	-11.8%	-9,5%
Total Consumption	199.9	92.9%	-11.6%	-5.3%
Gross Fixed Capital Formation	31.3	14.5%	-15.0%	0,0%
Domestic demand	231.1	107.5%	-12.4%	-4,6%
Exports	67.7	24.0%	8.5%	3,0%
Imports	51.7	31.5%	-12.9%	-4,7%
Real GDP	215.1		-7.1%	-2.4%
GDP deflator			0.5%	-0.5%
Unemployment Rate (% of labour force)			22%	23%

The second bailout package was accompanied by further measures: **(i)** additional fiscal measures worth ca €3.3bn or 1.5%-of-GDP to be implemented in 2012, over and above the measures already incorporated in the 2012 budget, in order to compensate for slippages in the execution of the 2011 budget; **(ii)** measures to enhance wage flexibility aimed in reducing labor costs and boosting competitiveness; **(iii)** actions aimed in downsizing the public sector and improving government efficiency; **(iv)** further steps to fully liberalize a range of closed professions; and **(v)** the recapitalization of the domestic banking system after the Greek debt swap (PSI).

However, a prolonged pre-election period, culminating in two consecutive elections in May and June 2012, caused a derailment of the adjustment process, increasing once again uncertainty as to the attainment of the programme's targets and Greece's Euro area membership status. Previous rounds of measures already took a heavy toll on domestic demand and also reinforced negative consumer and business sentiment. In 2011, GDP is estimated to have contracted by 6.9%, a recession much deeper than projected in July 2011 (3% real output contraction). This came on top of a contraction of real GDP by 3.5% in 2010. This section attempts an assessment of the GDP growth outlook in order to incorporate the impact of the extra measures, as well as of the change in the terms of the economy's financing.

2.2 Fiscal Multipliers and Fiscal Drag

As a *ceteris paribus* assessment of the impact of fiscal consolidation on the real economy, one should consider that if expenditure cutbacks and revenue increases agreed under the 1st programme (MoU1), the MTF5 (July 2011), the draft budget of October 2011 and the second bailout package (MoU2) were fully realized, net government expenditure should be reduced in 2012 by €16.5bn or ca 7.7 ppts of nominal GDP.

Consequently, one has to calculate the *fiscal multiplier*, i.e. the medium-term impact of a fiscal policy change (expansionary or contractionary) on economic activity. For the purpose of the study presented in this paper, we use the OECD's estimates.² These are based on an average of simulation results from various macro models surveyed for OECD countries. These multipliers express the magnitude of the final increase in GDP after a two-year period in relation to the ex-ante cost of a given fiscal policy change. Hence, they incorporate not only the "first round" effects of fiscal stimulus/contraction on output, but also subsequent second-round effects. Short-run multipliers from government spending generally exceed those from revenue-side measures since the former does not suffer from leakages to savings at the first round stage. OECD has judgmentally adjusted downwards fiscal multipliers in the current juncture, compared to these estimated under normal circumstances, as

² OECD (2009), *Economic Outlook, Interim Report, Chapter 3, March*.

heightened risks to employment and income for households increase the desire for precautionary savings. The same holds for businesses, since uncertainty about the economic outlook combined with the perceived need to hoard cash as a result of a dysfunctional financial system may lead to the postponement of investment decisions. The marginal savings propensity is further increased by the need for households to repair overstretched and damaged balance sheets.

In Greece's case, the multipliers for spending- and revenue-side measures are estimated at 0.7 and 0.3, respectively. The fact that the latter elasticity is well below unity is an indirect indication of the degree of inefficiency of government expenditure. It also reflects the fact that a significant portion of a fiscal stimulus leaks towards imports due to the economy's narrow productive base. Given that the composition of the fiscal consolidation programme for FY-2012 is $\frac{3}{4}$ on expenditure-side measures and $\frac{1}{4}$ on revenue-side measures, the average elasticity of GDP with respect to fiscal measures should be roughly equal to 0.6. Hence, a 7.7 ppts-of-GDP fiscal restriction in 2012 should result in a GDP growth decline of ca 4.6 ppts. However, as noted earlier, this is a *ceteris paribus* assessment. There are other factors having an impact on components of GDP, and thus on overall growth. On the one hand, slippages have historically been observed in the implementation of measures. Furthermore, it is not plausible to assume that such an aggregate projection accurately captures the impact of the recession on the budget's automatic stabilizers. On the other hand, the Greek economy is currently experiencing a liquidity squeeze due to deposit outflows, loss of access of domestic banks and businesses in international capital markets and the simultaneous tightening of the terms of access in Eurosystem financing. Hence, the reduction in the size of the public sector is not generating the crowding-in effect on the external sector that would be expected.

2.3. Real GDP growth forecast for 2012 (-7.1%)

Greece's new Memorandum of Understanding (MoU2) with its official lenders envisages, among others, an auxiliary budget for FY-2012, consisting of expenditure-side measures worth ca €3.2bn or 1.5ppts-of-GDP. These are over and above the measures already incorporated in the first programme (MoU1) and the revised medium-term fiscal plan (MTF5). A detailed review of the *auxiliary budget for FY-2012* is provided in the previous (1st) instalment of this study (*Greece Macro Monitor, July 19, 2012*). Note that this new package was approved by the Greek Parliament in March 2012 as a prior action to the second EU-IMF bailout agreement. In addition to these new measures, Greece has committed to implement an ambitious structural reforms programme, consisting, inter alia, of a 22% weighed average reduction in the minimum gross wage at all levels with an additional 10% cut for young people under 25 years of age; suspension of automatic wage increases; elimination of unilateral recourse to arbitration; elimination of permanent tenure in all existing legacy contracts and in all companies; full

implementation of legislation for liberalizing 17 closed professions; and a more flexible legislation on collective labour agreements. These extra fiscal and structural measures are expected to further dampen economic activity in the short-term. However, their timely and consistent implementation is a precondition for the disbursement of additional EU/IMF financing under the existing programme. Furthermore, they are deemed to be necessary for the restoration of investor confidence on Greece's economic and Euro area membership prospects and thus, the country's ability to eventually regain access to international funding markets. The exercise presented below aims to provide *theoretically-consistent* economic analysis which underpin projections on each sector of the Greek economy, including the quantification of the potential impact of agreed measures. The GDP growth forecast for 2012 and 2013, which we consider to be feasible, takes into account only measures that have been legislated or announced to be undertaken as of the time of publishing this report. Therefore, it does not embody any discussions regarding a possible extension in Greece's fiscal adjustment period.

2.4. Evolution of GDP Components in 2012

(a) Private consumption (75.5% of GDP): Private consumption predominantly depends on disposable income. In 2011, real private consumption and nominal disposable income are estimated to have contracted by 7.1% YoY and 8.3% YoY, respectively. Given that consumer prices (HICP) recorded an average increase of 3.1% YoY in 2011, real net disposable income is estimated to have declined by 11.4% YoY over that period. It seems that households and corporations continue to run down on their savings in order to finance their operations, albeit at a lower rate than in the previous two years. Private sector net saving declined by €8.1bn in 2011, following a €1.8bn drop in the prior year. The fact that the reduction of private consumption is not equiproportionate to the reduction of disposable income appears to be consistent with an intertemporal smoothing of consumption on behalf of the consumer.³ In the high growth period 2001-2008, the elasticity of consumption with respect to disposable income averaged 1.4. However, the said elasticity declined to 0.4 in 2009 and to -0.16 in 2010, before increasing again to 0.5 in 2011. This trend helps to explain why the fiscal drag in the previous two years was higher than that implied by OECD multipliers.

The pre-crisis growth model was primarily based on booming consumption and, apparently, it is not viable any longer. However, realization of this fact from the general population is a gradual process. Thus, it was only natural that in the first two

³ This theory postulates that consumers try to achieve a more balanced level of consumption intertemporally in order to maximise their utility. Hence, when optimism about future incomes is prevalent, consumption increases faster than current income. On the contrary, when consumers experience income cuts which they perceive as temporary, they run down on their savings and cut consumption by less.

years of the current recessionary phase the decline in consumption would be more gradual in comparison to developments in disposable income. Yet, households now appear to be realizing that the ensuing reduction in disposable income is likely to prove more permanent in nature than expected earlier. Consequently, consumption begins to align with developments in real incomes and the corresponding elasticity should increase again this year and the next. This will be mediated by the empirically documented fact that, for lower incomes, some parts of consumption are more income-inelastic. Nevertheless, while earlier restrictive measures primarily targeted higher income groups, which generally have a smaller propensity to consume, horizontal measures have been the norm last year.

According to AMECO, Greece's net disposable income last year was €168.6bn. The same source projects net nominal disposable income to decrease by 4.7% YoY in 2012. This projection does not take into account the *full* impact of MoU2 measures on incomes. Hence, the extent of the potential decline appears to be seriously underestimated. Our own projection is for net nominal disposable income to decline by 12.4% in 2012 or by 12.9% in real terms, assuming a GDP deflator of 0.5% this year (Eurobank EFG Research forecast).⁴ These estimations are based on the following drivers:

1. The cumulative impact of fiscal measures identified in the MoU1, the MTF5 (July 2011), the 2012 Budget (October 2011 draft) and the MoU2. In addition, we have accounted for the following: **i)** the fact that not all measures affect disposable incomes, at least not equiproportionately; **ii)** implementation of measures may be imperfect; and **iii)** the fact that households and corporations partly finance tax payments by drawing from savings, albeit to a lesser extent than in the prior two years.
2. A projection for a reduction of nominal wages in the private sector by 9%. As a reminder, the new legislation provides for a 22% weighted average reduction in the minimum gross wage at all levels, with an additional 10% cut for young people under 25 years of age (affecting ca 10% of the workforce). However, the degree to which this will be passed on to wages above the minimum level is still uncertain. Evidence from the Labour Inspectorate suggests that after the parliamentary approval of the labour market reform earlier this year, new contracts signed in replacement of expired *sectoral* and *personal* agreements recorded an average reduction in wages by 23%. However, it appears that, while many existing wage contracts remained unchanged, others were cut

⁴ This projection for the GDP deflator is higher than EC's 5th Review of -0.7%; inflation readings in the first months of 2012 lend support to our projection. Despite the impact of MoU2 measures on wages, prices show persistence, suggesting presence of rigidities in products markets.

before the phasing in of the said reform as wages were already under pressure due to decreasing demand and increasing unemployment. Moreover, a significant part of contracts remains in the reign of the grey economy. Thus, the picture portrayed by the Labour Inspectorate may not be representative. Other factors that need to be taken into account when forecasting private-sector wage developments include: (i) sectoral agreements do not directly depend on the national agreement, which determines the minimum wage, (ii) contracts being signed post the labour reform should not have a full year impact in 2012, and (iii) flexibility of the labour market law may help some part of the grey economy to migrate back to the formal economy so that the respective wage cuts will be recorded in official statistics.

3. A projection for an unemployment rate of 22% of the labour force in 2012. Unemployment was expected by the European Commission to rise to 19% of the labour force this year, from 17% in 2011 (see 5th review of 1st stabilisation programme for Greece). However, according to ELSTAT, Greece's unemployment rate reached 22.7% in March 2012, compared to 18.2% in October 2011. Part of this spike is related to seasonal factors. While reductions in wages and the recent labour market reform may help to somewhat contain further increases in the unemployment rate, lingering economic uncertainty and the domestic liquidity squeeze are likely to continue working in the opposite direction.
4. A projection for profits on capital to increase by 4.9% (after declining by 3.3% in 2011), as further significant reductions in wages are expected to boost profitability. In addition, disinvestment appears to be progressing at a faster pace than what should be explained by the concurrent drop in production, hence resulting in relatively more intensive use of capital⁵. Finally, productivity-enhancing reforms start to kick-in, albeit only gradually. However, capacity utilisation remains low and profitability will be adversely affected by reduced disposable incomes (wage cuts, unemployment rise).

Overall, we forecast real private consumption to contract by 11.6% YoY in 2012 (against an EC projection of -5.7%). This is consistent with the view that households now increasingly realize that the reduction in their disposable incomes is of a more permanent nature than initially thought. Therefore, intertemporal consumption smoothing will now be based on a lower *permanent* income and thus it is reasonable to assume that the reduction in consumption will now comprise a higher percentage of the loss in net incomes.

⁵ This should be even more the case when the economy starts to recover, but recovery is not expected before end of 2013.

(b) Government consumption: (17.5% of GDP): We project a real decline of 11.8% YoY in 2012, against the IMF's -11% projection. This accounts for both a more realistic assessment of the impact of MoU2 measures, as well as the risk of *less-than-complete* programme implementation.

Final consumption (92.9% of GDP): -11.6%.

(c) Gross Fixed Capital Formation: (14.5% of GDP): We project a real contraction of 15% YoY this year against the IMF's latest forecast for a 6.6% YoY decline. After peaking in 2003 as a percentage of GDP (23.3%), investment embarked on a downtrend, which accelerated after 2007. Investment fell by 14.5% in 2010 and by another 17% in 2011. Although this constitutes a favorable basis effect, the reduced level of domestic demand results in low capacity utilization, so that enterprises do not need to undertake new investment to serve this demand. Moreover, public investment continues to be reduced in an effort to facilitate fulfillment of the agreed fiscal targets. This net disinvestment undermines long-term growth potential. There is scope for increase here, given the availability of a still significant amount of EU structural and cohesion funds (ca €20bn) and more favourable terms of co-financing by national sources. Additional funds are also available by the EIB. However, bureaucratic procedures for absorbing those funds have not yet been improved considerably. In the short term, PIB will continue to be squeezed in order to meet fiscal targets. Private investment on the other hand should not be expected to reinvigorate unless uncertainty regarding the country's Euro area membership status is reduced. Even then, domestic credit conditions have to be improved and this requires the continuation of Eurosystem liquidity support to domestic banks. At the moment, liquidity scarcity and high risk premia keep interest rates elevated, thus eliminating positive NPV for many investment projects. Labor market reforms already legislated and product market reforms underway (opening-up of closed professions in particular), as well as measures to improve the entrepreneurial environment (e.g. simplification of procedures for starting a business, targeted and tax-relief oriented investment law and fast-tracking of strategic investment projects) are hoped to improve investment prospects and produce a supply boost. However, their full impact will materialize only gradually. Note though that investment is the GDP component with the highest sensitivity (both on the downside and the upside) to developments in the economic climate.

Domestic demand (107.5% of GDP): -12.4% change.

(d) Exports of goods & services (24% of GDP): We project Greek exports to grow this year by 8.5% YoY in real terms. This reflects the considerable improvement in competitiveness, with nominal ULCs expected to decline by 8% in 2012, following a 3% drop in the previous year. The benefit could have been more significant should strikes and social protests had not harmed

trade and tourism, hence indicating room for a cumulative effect this year. However, the benefit from the competitiveness gain is likely to be mediated by uncertainty, as well as the deterioration in the growth outlook of the country's main trade partners.

(e) Imports of goods & services (31.5% of GDP): We forecast a 12.9% YoY real decline in imports this year. Over the past three years, imports fell more aggressively than overall domestic demand (-20.2% YoY in 2009; -7.2% YoY in 2010 and -7% YoY in 2011, respectively). This constitutes a low basis but it also reflects the fact that, to a large extent, imports comprise of investment goods and consumer goods of high income elasticity. This trend is likely to be maintained for as long as recessionary pressures persist (imports declined by 16.6% in Q1 2012). Furthermore, efforts to capture the grey economy continue to weigh heavily on imports, especially given its large propensity to import. Hence, adjustment of imports should continue in 2012 to be faster than the adjustment of total private consumption.⁶ Indicatively, the elasticity of imports of goods & services w.r.t. net disposable income jumped to 6.4 in 2009 and to 3.6 in 2010, when income started to fall, from an average rate of 1.3 in 2000-2008. On the other hand, higher oil prices affect imports negatively as oil accounts for ca 1/3 of Greek imports. In addition, Greek exports have a large import content, hence the recovery of the export sector puts a floor to the shrinkage of imports.

2.5. Real GDP growth forecast for 2013 (-2.4%)

(a) Private consumption (70% of GDP): We forecast the pace of contraction to be 4.2% YoY in 2013 (against a real decline of 1.1% forecasted by the European Commission). Our forecast is underpinned by the following factors:

1. For 2013, MoU2 envisions additional fiscal measures worth ca €7.6bn to be specified this summer, on top of earlier-agreed measures worth ca €1.6bn. Although the exact breakdown of the new austerity package for next year is not yet finalised, MoU2 states that the corresponding measures should come in the areas of social benefits, restructuring of government and pension spending, all of which have a heavy impact on disposable incomes (albeit to differing degrees).

2. A decrease of nominal wages by 1.3%.

3. A further rise of the unemployment rate to 23% of the labour force.

4. A further rise of profits on capital by 1.8%.

⁶ Effectively, we project a reduction of imports' share in the consumer's basket.

5. An overall decrease of net nominal disposable income by 5.2%.

6. A GDP deflator of -0.5% YoY, assuming that structural changes in product markets will have started to deliver concrete results by then.

(b) Government consumption: (17.1% of GDP): We maintain the IMF's projection for a real decline of 9.5%.

Final consumption (87% of GDP): -5.3%

(c) Gross Fixed Capital Formation: (13.6% of GDP): Flat GFCF, against an IMF projection for a 5.8% real increase, as a result of high risk premia and continued liquidity scarcity, which will keep interest rates elevated.

Domestic demand (101% of GDP): A real decline of 4.6%.

(d) Exports of g&s (27.3% of GDP): We project goods and services exports to grow by 3% in real terms (against an IMF projection of +5.5%). This reflects a further decrease in nominal ULCs by 1.5% and a mild recovery in Greece's main trading partners.

(e) Imports of g&s (28.5% of GDP): We forecast goods and services imports to decline by 4.7% YoY in real terms.

3. Longer-term GDP Projections and the Impact of a Time Extension in the Fiscal Consolidation Programme

Predicting real GDP at longer horizons is admittedly a very difficult exercise, not least because of the potential multiplicity of driving factors. This holds especially for countries undergoing a process of deep structural change. In the case of Greece, a drastic adjustment programme is currently being implemented, aiming to restore fiscal sustainability, reclaim past competitiveness losses and, more generally, facilitate a shift towards a new paradigm of economic development and growth. The internal devaluation and structural reform programme encompasses such objectives as the transformation of the economy's structure in favour of the export sector along with a simultaneous decline in the State's contribution to the economy. Greece effectively experiences a number of structural breaks, a fact that largely invalidates any effort to forecast future trends based on historical data.

3.1 Real GDP, Potential GDP and Output Gap

In view of the aforementioned limitations, a more reasonable long-term prediction framework should encompass, among others, the key *Potential GDP* and *Output Gap* variables. [Figure 1](#) portrays the evolution of these crucial variables in the post-EMU accession era. Although Greece entered the euro area with a

August 2012

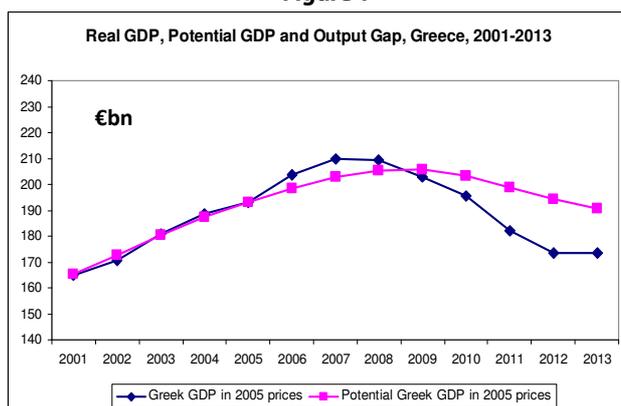
broadly flat output gap, over the period 2002-2008 the country's real GDP experienced growth rates higher than those of potential GDP, *i.e.* those compatible with full employment. As a result, the domestic economy entered a state of constant overheating. There are a number of reasons for this development, but most of them revolve around a consumption-led growth model and the expansion of the State's contribution to the GDP. In turn, these developments were facilitated by the easy and inexpensive access to international capital markets for financing the twin deficits (fiscal and external) accruing as a result of excessive domestic demand.

However, since the outbreak of the 2007/2008 international financial crisis and, especially, after the eruption of the Greek debt crisis and the ensuing subordination to the EC/IMF/ECB Support Mechanism, the whole situation has reversed. The rates of Greece's potential GDP growth fell, as a result of immense disinvestment; indicatively, GFCF as a percentage of GDP fell from a peak of 23.3% in 2003, to 14.5% in 2011. Still, real GDP fell over the same period much more rapidly, primarily due to a massive fiscal drag, *i.e.* decline in economic activity due to the fiscal consolidation, and the liquidity squeeze in the domestic economy. The latter is an equally important factor, if one considers that, despite the Eurosystem's sizeable liquidity support to the Greek banking system, credit expansion to the domestic private sector has already fallen to (single-digit) negative rates, from annual growth rates of 20% or higher in the pre-crisis period. To make things worse, a significant portion of the already scarce liquidity in the domestic economy is currently drawn by the State via increased T-bills issuance, in an effort to compensate for recurring budgetary funding gaps.

Cumulating the realised discrepancies between real GDP growth and potential GDP growth, *i.e.* output gaps, over the entire post-Eurozone entry period, Greece's real GDP is expected by EC to be ca 9 ppts lower than potential GDP at the end of 2013. This estimate is based on the latest (March 2012) EC macro forecasts for Greece (real GDP growth: -4.7% in 2012 and 0% in 2013; potential GDP growth: -2.2% in 2012 and -1.9% in 2013). Our revised predictions for real GDP growth in 2012 and 2013 now stand at -7.1% and -2.4%, respectively. Substituting these values, and adjusting potential GDP growth rates for 2012 and 2013 accordingly, we project real GDP to be ca 9.6ppts lower than potential GDP at the end of 2013.

The above analysis implies that the multi-year depression has already eliminated excess accumulated demand and, in addition, a significant surplus of aggregate supply (*i.e.*, idle productive capacity) has emerged. In the longer-term, after recovery begins and the economy heads towards its new steady state, this surplus should be gradually eliminated. The analysis also provides an alternative framework for projecting GDP growth rates in the period ahead. As a *grosso modo* exercise, we divide the accumulated output gap in 7 equal parts of 1.5ppts for each year between 2014 and 2020. We then use a trend *potential* GDP growth rate as a basis, and augment it by the part relating to the accumulated output gap.

In its latest review of the second Adjustment Programme (March 2012), the IMF estimates the long-term potential growth of the Greek economy to be around 2.5% per annum until the end of the current decade, when ageing starts to kick in and potential growth is reduced substantially, especially towards the end of 2020s. To be on the conservative side, we assume our trend potential GDP growth rate to be equal to *real* GDP growth rate for 2020 projected in the latest IMF baseline scenario, *i.e.*, 2.2%.

Figure 1

Source: EC

Table 2: Longer-term GDP Projections

	2012	2013	2014	2015	2016	2017	2018	2019	2020
IMF real GDP growth forecast	-4,8	0	2,5	3,1	3	2,8	2,6	2,5	2,2
Output gap elimination scenario	-7,1	-2,2	3,7	3,7	3,7	3,7	3,7	3,7	3,7
GDP in 2005 prices with IMF projections		173,4							198,6
GDP in 2005 prices with Output gap elimination scenario		169,6							198,7

With these assumptions, the cumulative negative output gap should have been eliminated by 2020, with the economy continuing afterwards to grow at rates more in synch with its long-term potential.

Table 2 performs this exercise and compares the accruing yearly growth rates with those projected in the baseline scenario envisaged in the latest IMF review. Attainment of annual growth rates of 3.7% over the period 2014-2020 is admittedly an ambitious aim.⁷ Conceivably, it would be feasible only on the conditions of: (i) vigorous implementation of the structural reforms programme, so as to unleash the full potential of the Greek economy, and (ii) uninterrupted provision of financing by official lenders. Therefore, this should be considered to be a rather optimistic scenario and not a baseline. However, as depicted in the table below, despite the significantly higher GDP growth rates for 2014-2020 predicted under our "Output gap elimination scenario", the terminal real GDP value in 2020 is equal to that implied by the latest IMF growth projections, as a result of the deeper recession in 2012 and 2013.

3.2. GDP forecasts under a scenario envisaging a 2-year extension of fiscal adjustment horizon

We next proceed to compare the GDP growth projections of our baseline scenario with these implied by a hypothetical scenario envisaging a 2-year extension in the implementation horizon of the agreed adjustment programme. If the existing programme is to be implemented as agreed initially, additional expenditure-side measures worth ca €11.6bn need to be adopted in the

Table 3: Growth Outlook for 2013 – 2-yr Extension of the Adjustment Programme

	Shares in 2012 GDP	2013 %yoy growth, Real
Private Consumption	70,0%	-1,1%
Government Consumption	17,4%	-9,5%
Total Consumption	87,4%	-2,8%
Gross Fixed Capital Formation	13,6%	0,0%
Domestic demand	101,0%	-4,6%
Exports	28,2%	3,0%
Imports	27,3%	-1,2%
Real GDP		-1,3%
GDP deflator		-0,5%
Unemployment Rate (% of l. f.)		23%

period 2013-2014 (ca €7.6bn in 2013 and ca €4bn in 2014). In case of a 2-year extension in the envisaged fiscal adjustment horizon, these measures would, instead, be allocated over a four-year period. For simplicity, we assume that these measures are distributed equally across years, i.e. new expenditure measures worth ca €2.8bn are implemented each year over the period 2013-2016. Under such a scenario, the applied package of new austerity measures would be ca €4.8bn and €1.2bn less in comparison to the baseline scenario for the years 2013 and 2014 respectively, but €2.8bn more in each of the years 2015 and 2016. This development could have important

⁷ It has to be noted, however, that the Greek economy has achieved sustained growth rates of this magnitude in the past. As a matter of fact, the 2000-2008 average growth rate was 3,9%. The highest growth rates were achieved in the 20 years after entering the Bretton-Woods agreement (1953-1973), when the Greek economy averaged a yearly growth rate of 7,8%.

Table 4: Longer-term GDP Projections with a 2-yr Extension in the Adjustment Programme

	2012	2013	2014	2015	2016	2017	2018	2019	2020
real GDP growth forecasts - baseline scenario	-7,1%	-2,4%	2,5%	3,1%	3,0%	2,8%	2,6%	2,5%	2,2%
Forecast under a 2-year extension scenario	-7,1%	-1%	2,9%	2,3%	2,2%	2,8%	2,6%	2,5%	2,2%
GDP in 2005 prices, under baseline scenario		165,4							180,4
GDP in 2005 prices under a 2-yr extension scenario		165,4							180,8

repercussions for the outlook of Greek GDP in the period ahead. Relative to the baseline scenario, it would reduce the fiscal drag for 2013 and 2014, with a beneficial impact on the level of economic activity, but it would increase it in the period 2015-2016.

To begin with, [Table 3](#) presents a detailed outlook of GDP and its components in 2013.

Under the current planning, the second bailout programme (MoU2) for Greece calls for the identification of additional expenditure-side measures for 2013 worth ca €7.6bn. These should come on top of measures worth ca €1.6bn agreed for the coming year as part of the first bailout package (including carry over impacts; see EC's March 2012 Review), thereby bringing the overall austerity package for FY-2013 to ca €9.2bn.

Under a 2-year extension scenario, measures worth ca €2.8bn should instead be applied next year (on top of the €1.6bn worth of measures agreed earlier as part of the 1st bailout package). Specifically, under such a scenario we estimate that:

- net nominal disposable income in 2013 would decrease by 1.7% instead of 5.2% estimated under the current planning;
- private consumption in 2013 would be reduced by 1.1% instead to 4.2% under the current planning;
- imports would be reduced by 1.2% next year, compared to 4.7% under the current planning.

Overall, real GDP growth in 2013 would be -1.3%, compared to -2.4% under the current planning.

In a scenario envisaging a 2-year extension in Greece's fiscal adjustment programme, GDP growth dynamics for the years after 2013 would also be altered significantly. [Table 4](#) takes IMF baseline forecasts for 2014-2020 as a benchmark and applies analogous adjustments to account for the reduced fiscal drag in 2014 and increased fiscal drag in 2015 and 2016. To derive an

approximation of the potential impact, the rule of OECD fiscal multipliers is used, i.e., for every 1 ppt less fiscal measures, GDP is higher by 0.6 ppts.⁸ It can be seen that, although the overall size of the new fiscal package is the same in both scenarios under examination, the 2-year extension scenario implies a slightly higher GDP in 2020 due to the more favourable growth dynamics. This factor also results in a modest improvement in debt dynamics.

4. 2-year extension in fiscal adjustment horizon and implication for public debt dynamics [Table 5](#) below depicts a number of scenarios for the projected path of Greece's gross public debt to GDP ratio over the period 2012-2020. **Scenario 0** replicates the baseline scenario presented in the IMF's March 2012 debt sustainability analysis (DSA) (IMF Country Report No. 12/57). **Scenario 1** makes a number of adjustments to the IMF baseline projections, so as to better reflect current economic realities and the outlook going forward. **Scenario 2** adjusts scenario 1 to incorporate a hypothetical extension of the fiscal adjustment period by 2 years. Finally, **Scenario 3** assumes a faster elimination of the output gap as analyzed in [Table 2](#) of the present report.

⁸ For reasons of consistency this approximation is applied for 2013 too, which yields a growth rate of -1%, more optimistic than the -1.3% yielded by the analytical forecast.

Table 5 – Greece: Debt sustainability analysis under different adjustment scenarios

<i>Scenario 0</i>												
IMF baseline (March 2012)												
	Actual			Projections								
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Real GDP (%)	-3.3	-3.5	-6.8	-4.8	0.0	2.5	3.1	3.0	2.8	2.6	2.5	2.2
GDP deflator (%)	2.8	1.7	1.6	-0.7	-0.5	-0.1	0.8	1.0	1.3	1.6	1.8	1.9
Avg nominal interest rate on debt (%)	4.5	4.4	4.5	3.3	3.4	3.5	3.6	3.8	3.8	3.8	3.8	3.8
Primary balance (% of GDP)	-10.6	-5.0	-2.4	-1.0	1.8	4.5	4.5	4.5	4.5	4.3	4.3	4.3
Gross public debt (% of GDP)	129.0	144.5	165.3	163.2	167.3	160.7	153.1	145.3	137.5	130.4	123.3	116.5

<i>Scenario 1</i>												
New baseline												
	Actual			Projections								
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Real GDP (%)	-3.3	-3.5	-6.8	-7.1	-2.4	2.5	3.1	3.0	2.8	2.6	2.5	2.2
GDP deflator (%)	2.8	1.7	1.6	0.5	-0.5	0.0	0.8	1.0	1.3	1.6	1.8	1.9
Avg nominal interest rate on debt (%)	4.5	4.4	4.5	3.4	3.5	3.5	3.6	3.8	3.8	3.8	3.8	3.8
Primary balance (% of GDP)	-10.6	-5.0	-2.4	-1.5	1.4	4.5	4.5	4.5	4.5	4.3	4.3	4.3
Gross public debt (% of GDP)	129.0	144.5	165.2	167.2	176.3	169.6	162.0	154.3	146.4	139.2	132.1	125.1

<i>Scenario 2</i>												
2-year extension in fiscal adjustment horizon												
	Actual			Projections								
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Real GDP (%)	-3.3	-3.5	-6.8	-7.1	-1.0	2.9	2.3	2.2	2.8	2.6	2.5	2.2
GDP deflator (%)	2.8	1.7	1.6	0.5	-0.2	0.3	0.8	1.0	1.3	1.6	1.8	1.9
Avg nominal interest rate on debt (%)	4.5	4.4	4.5	3.4	3.6	3.6	3.7	3.8	3.8	3.8	3.8	3.8
Primary balance (% of GDP)	-10.6	-5.0	-2.4	-1.5	-0.5	1.8	3.2	4.5	4.5	4.3	4.3	4.3
Gross public debt (% of GDP)	129.0	144.5	165.2	167.3	175.4	170.4	165.5	159.1	151.2	144.0	136.9	130.0

<i>Scenario 3</i>												
Output gap elimination scenario (see also Table 1)												
	Actual			Projections								
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Real GDP (%)	-3.3	-3.5	-6.8	-7.1	-2.2	3.7	3.7	3.7	3.7	3.7	3.7	3.7
GDP deflator (%)	2.8	1.7	1.6	0.5	-0.5	1.0	1.5	1.8	2.0	2.0	2.0	2.0
Avg nominal interest rate on debt (%)	4.5	4.4	4.5	3.3	3.4	3.5	3.6	3.8	3.8	3.8	3.8	3.8
Primary balance (% of GDP)	-10.6	-5.0	-2.4	-1.5	1.4	4.5	4.5	4.5	4.5	4.3	4.3	4.3
Gross public debt (% of GDP)	129.0	144.5	165.2	167.0	175.6	165.2	155.4	145.4	135.2	126.2	117.4	108.8

Source: IMF Country Report No. 12/57 (March 2012), Eurobank Research

Explanatory notes to Table 5

Scenario 0

- The primary deficit outcome of FY-2011 was slightly better than projected in the IMF March 2012 DSA (2.2%-of-GDP vs. 2.4%-of-GDP). However, on a *ceteris paribus* basis, this does not change much the earlier debt ratio projection for FY-2020.
- The latest IMF Fiscal Monitor Update (July 2012) revised downwards its near-term fiscal deficit forecasts for Greece,

noting though that the new forecasts remained subject to further revisions. Specifically, the general government deficit forecast for FY-2012 was lowered to 7.0%-of-GDP from 7.3%-of-GDP envisaged in the March 2012 DSA. Moreover, the deficit forecast for FY-2013 was revised to 2.7%-of-GDP from 4.6%-of-GDP seen earlier. In our understanding, these revisions were due to an earlier miscalculation of the *nominal* interest rate expenditure post-PSI. We also believe that the new deficit forecasts for FY-2012 and FY-2013 (to be presented in the next IMF report) will be revised to the worse, mainly as a result of more pessimistic underlying assumptions regarding GDP growth. In Scenarios 1-3, an effort was made to correct for

the *purported* initial miscalculation of interest rate expenditure in FY-2012 and in the coming few years.

Scenario 1

- *Scenario 1* makes certain adjustments to the IMF March 2012 baseline to better reflect current economic realities. Among others: (i) the real GDP growth forecasts for FY-2012 and FY2013 are adjusted downwards to incorporate our new macro framework for Greece (as analyzed earlier in this report); (ii) minor changes are also implemented in the near-term inflation (GDP deflator) forecasts; (iii) future interest rate expenditure is recalculated to be consistent with the underlying assumptions of *Scenario 1*. Specifically, the decline in T-bill issuance is now expected to take place in a more gradual fashion than projected in the IMF March 2012 baseline with outstanding issuance assumed to remain constant at ca €6bn/annum after FY-2014; (iv) a slippage of 0.5ppts-of-GDP/annum is now assumed in the IMF baseline scenario's primary deficit targets for FY-2012 and FY-2013; (v) the privatization revenue target for 2012 has been revised to €1bn from ca €3.2bn envisaged in the IMF March 2012 baseline.

Scenario 2

- *Scenario 2* incorporates the GDP growth and inflation projections we believe to be consistent with a 2-year extension in the fiscal adjustment horizon (i.e., €11.6bn of new expenditure-side measures distributed evenly over the coming 4-year period instead of being implemented in 2013-2014).
- Outstanding issuance of s-t debt is assumed to remain constant at current levels over the period 2012-2016 and some additional official funding (ca €13-15bn) is made available to Greece in 2014-2016 (over and above that already earmarked under the new bailout programme).

Scenario 3

- This scenario is broadly consistent with the macro assumptions presented in Table 2 ("Output gap elimination scenario").

4.1. Non-linear Fiscal impact of improved GDP Dynamics

In the section analyzing our new GDP growth forecasts for 2012-2013, we explained that, by using OECD's fiscal multipliers, the average elasticity of the Greek GDP with respect to fiscal measures should be roughly equal to 0.6. However, given the gain in GDP from the reduced fiscal drag, the budget should benefit from the feedback of the GDP gain in the budget's automatic stabilizers.

To understand this, consider that fiscal consolidation measures usually cause *fiscal drag* i.e., reduce the level of national income, which, in turn causes certain tax revenues that are income-elastic to decline and social benefits expenditure to increase. This necessitates the implementation of extra measures to facilitate a given deficit-reduction target, which further suppresses incomes and so forth.

Given the aforementioned estimate for the fiscal multiplier, and by relying on a symmetric argument, a reduction in the primary deficit by 1ppt of GDP in a recessionary environment would necessitate measures of total worth of 1.5 ppts of GDP. Reversely, any improvement in the growth outlook would automatically improve the budget outcome. This is an extra effect, which we did not include in our previous estimations on primary budget outcomes in the various scenarios for being conservative. In addition, data on the execution of the Greek budget during the Adjustment Programme (2010-2012) show that the efficiency of fiscal measures has fallen drastically, i.e. more and more fiscal measures need to be taken in order to reduce the primary deficit by a given amount. This means that the elasticity of the Greek GDP with respect to fiscal measures cannot be considered to be constant overtime. Main reasons to explain this include:

1. While measures in the first year of the Programme were targeted at wealthier individuals, horizontal measures were the norm in later stages. This means that measures increasingly hurt less well-off parts of the population whose propensity to consume is higher. Thus, the fiscal drag is higher as the leakage towards savings is gradually being reduced.
2. As we explained earlier, 2010 was characterized by limited reduction in consumption due to consumption smoothing. Now that people realize that income cuts are permanent and that they have to maximize their consumption behavior around a lower level of permanent income, the crisis is having a more significant impact on consumption.

Should this logic prove correct, the overall benefit to debt dynamics from a 2-yr extension of the Adjustment Programme could be substantially larger than the benefit implied by previous calculations. In particular:

1. Sentiment-related factors trigger an extra boost to investment, consumption and overall growth.
2. Better GDP prospects in 2013 and 2014 produce a secondary feedback in the budget's automatic stabilizers. Given the current low efficiency of fiscal measures (given value of measures decreases deficit by less due to skyrocketing of social benefits and recession-related tax revenue losses), this gain would exceed the loss from extra measures in 2015 and 2016, when recovery would have commenced. Hence, the

net beneficial effect on the primary deficit would be larger.

5. Concluding remark

The debt sustainability analysis (DSA) presented in this section supports the case for a time extension in Greece's fiscal consolidation programme, especially if such an extension increases the chances for a swifter move towards a more favorable domestic trajectory as the one portrayed in *Scenario 3*. A lengthening of the fiscal adjustment period by, say, to 2 years would likely support domestic political stability and social cohesion and it would also make sense on pure economic grounds.

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