

GREECE: MONTHLY MACROECONOMIC OUTLOOK

Strategy and Economic Research Division

March 2011

Bank deposits: Liquidity conditions are a critical component of Greece's recovery

Main Macroeconomic Indicators							
	2008	2009	2010e	2011f			
GDP Greece (y-o-y change)	1,3	-2,1	-4,4	-3,5			
CPI inflation (y-o-y change)	4,2	1,2	4,7	2,7			
Current Account Deficit (% GDP)	14,7	11,2	10.5	8,7			
Gen. Government Deficit (% GDP)	9,4	15,4	c.10½*	7,5			
GDP Euro area (y-o-y change)	0,4	-4,1	1,7	1,7			
GDP SEE-5 (y-o-y change)	6,6	-5,5	-0,2	2,1			
Oil prices (in euro, pa)	66	44	63	80			
ECB main refinancing rate (eop)	2,75	1,00	1,00	1,75			
Baltic Dry Index (pa) 6010 2985 2758 230							
*In the process of being revised up from 9½ per cent							

Macroeconomic Analysis pp. 14-19

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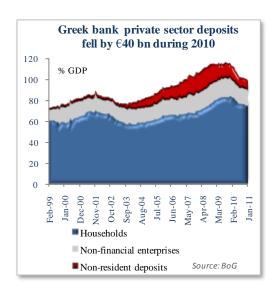
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- ➤ Private sector deposits in Greek banks registered the sharpest decline among euro area countries in 2010, contracting by almost €40 bn (a 14 per cent decline compared with their level of December 2009).
- ➤ This decline comes from the elevated levels of previous years when deposits increased by about 40 percentage points during the past decade, peaking at 118 per cent of GDP in Q2:2009, including an increase by 17 per cent of GDP from non-residents, a development which distinguishes it from most other euro area countries.
- Solid economic growth, attractive yields and low risk aversion were among the key drivers of deposit accumulation by residents in the post-EMU period, but "financial deepening" appears to be the single most important driver, explaining about 70 per cent of the increase.
- The sharp reduction in bank deposits during 2010 mainly reflects: i) a flight of resident and non-resident deposits of €18½ bn against a backdrop of mounting uncertainty about the prospects of the Greek economy (largely in H1:2010); and ii) the private sector's coverage of its widening financing gap (cash burn), an estimated €13 bn (disbursed relatively more evenly over the year), due to the sharp decline in disposable income and operational profitability, including the self-reinforcing liquidity constraints of the Greek banking system.
- ➤ Regarding 2011, the empirical findings suggest that cash burn related to the recession will continue to weigh negatively on domestic deposit formation, comprising the bulk of the estimated €19 bn of the projected additional deposit losses, with limited deposit flight, especially as non-resident deposits are now back at 2004 levels.
- As the economy emerges from recession in 2012, we expect Greek bank deposits to increase by about 3 per cent in nominal terms in 2012, and to gain further momentum from 2013 onwards, registering annual increases of the order of 6 per cent per year (€13 bn per year).

Decomposition of key deposit determinants				
	in bn euros			
	2010	2011		
Outflow of non-resident deposits	-10,2	-2,8		
Outflow of resident deposits	-8,2			
Treasury bills	-2,3	0,0		
Foreign equities and gold	-1,1			
Financing gap - Households	-7,0	-9,2		
Financing gap - Enterprises	-5,9	-7,0		
Cash hoarding & other investments	-4,6			
Total deposit reduction	-39,4	-19,0		
Source: BoG, IMF, BIS and NBG estimates				





Reduction in private bank deposits in 2010								
	q-o-c	q-o-q change in bn euro						
	Q1	Q2	Q3	Q4	Total			
Households	-5,4	-12,6	-2,4	-3,0	-23,4			
Enteprises (non-fin)	-5,2	1,6	-1,5	-0,7	-5,8			
Non residents	0,0	-7,4	-2,9	0,2	-10,2			
Total in bn euro	-10,7	-18,4	-6,8	-3,5	-39,3			
Annual change % (cumulative)	-4,0	-10,7	-13,2	-14,5	-14,5			
memo item Govern. Deposits	0,8	3,4	4,0	-2,4	5,8			
Source: BoG								

Bank deposits: Liquidity conditions are a critical component of Greece's recovery

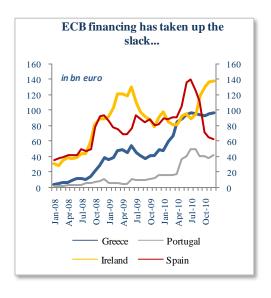
Greek bank deposits (excluding government deposits) contracted by almost €40 bn in 2010 (a 14 per cent decline compared with their level of December 2009) and by 15.5 per cent compared with their peak of €280 bn in Q2:2009 (118 per cent of GDP). This is the sharpest decline among euro area countries in 2010, exceeding reductions registered in other euro area economies experiencing financial stress, such as Ireland and Portugal (12 per cent and 6 per cent, respectively, in 2010).

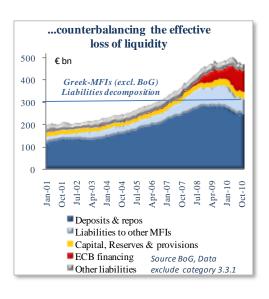
Part of this decline reflects the contraction of non-resident deposits from their elevated levels in previous years, when such deposits reached a high of €47 bn (or 20 per cent of GDP) in June 2008 (from 3 per cent of GDP in January 2003), as well as a flight of resident deposits abroad against a backdrop of mounting uncertainty about the prospects of the Greek economy. Nevertheless, over half of the reduction -- and the bulk of the reduction in H2:2010 -- in our view reflects factors related mainly to the impact of the recession on disposable income, and more importantly, on the savings decisions of the domestic private sector, as well as on the credit-provision potential of the banking sector. The loss in liquidity, as well as other sources of liquidity contraction, such as the reduced access to interbank and term funding markets, as well as the lower value of collateral pledged at the ECB either due to rating downgrades or a deterioration in their marked to market values, were partly offset by the issuance of about €62 bn of government guarantees on bonds issued by Greek banks, which are eligible for use as collateral for repo transactions with the ECB (at a discount of about 35 per cent).

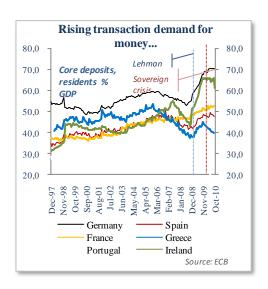
Private sector deposits remained on a downward trend in early-2011 -- declining by about €3.6 bn in January (-1.5 per cent m-o-m). Information from market sources suggests that the decline in February was significantly less, of the order €1½ bn. As a result, the liquidity of the banking sector continues to be severely constrained, raising doubts about the compatibility of the effective monetary/liquidity conditions in Greece with a scenario whereby economic activity bottoms out in late-2011. Moreover, in view of the fact that fiscal consolidation and the concomitant restoration of confidence of the Greek private sector is likely to be an arduous and uncertain process, it is crucial to identify the balance of risk surrounding near and medium-term liquidity developments, particularly the prospects for bank deposits.

Our analysis attempts to draw some light on key aspects of Greek deposit behavior -- focusing on the important drivers leading to the sharp contraction during 2010 -- and provide some quantitative estimates of expected deposit developments looking forward. Projections are based on the estimate of a medium-term trend for deposits derived from an aggregate deposit-demand equation. This estimate is refined by a more detailed identification of the explanatory factors of near-term deposit dynamics, which outline the transition path towards the longer-term trend.









The main empirical findings suggest that deposit flight is expected to be significantly lower in 2011, although adverse factors related to the recession will continue to weigh negatively on domestic deposit formation in 2011, fading out only in 2012. The estimate of additional deposit losses for 2011 is of the order of €19 bn (a further decline of about 8 per cent), of which about €16 bn will reflect deposit drawdowns to close the private sector's financing gap due to the continued decline in disposable income and operational profitability in the private sector, including the self-reinforcing liquidity constraints of the Greek banking system, which are translated into lower credit flows to the private sector. The other €3 bn is expected to reflect additional deposit flight, mainly from nonresidents. The loss in banking sector liquidity should be offset by another €30 bn in government guarantees, albeit at a higher cost and with increased conditionality, according to the envisaged tightening of ECB rules.

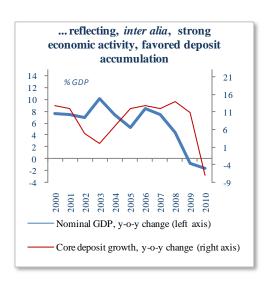
Our analysis outlines an important risk which could threaten to consolidation process and economic recovery, irrespective Greece's commitment the Adjustment to Programme. Specifically, larger-than-projected an even deterioration in domestic liquidity conditions, originating either from a premature withdrawal of outstanding liquidity support by the ECB, or from an insufficiently bold solution for the improvement of the EU financial stabilization mechanisms, which negatively affect confidence levels. Under such scenarios, Greece could face a much larger liquidity squeeze during 2011, choking off the economic recovery, and imposing an additional burden on Greek public finances.

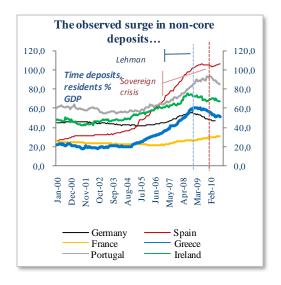
Positive domestic macroeconomic conditions and favorable financial trends have supported deposit accumulation since EMU participation

Increasing economic activity

Bank-deposit accumulation benefited during the past decade from strong economic activity, and the concomitant wage and capital income growth. These developments supported deposit accumulation through two basic channels: i) increased demand for transaction purposes (core deposits); and ii) higher potential for the Greek private sector to accumulate financial wealth (time deposits). Indeed, core deposits, comprising sight and savings (current) accounts of residents, and a proxy for the transaction-demand for money, remained broadly stable as a percentage of GDP (in the vicinity of 40 per cent of GDP between 2000 and 2009) -- not that different from the level in other euro area countries -- while in nominal terms they increased by about €37 bn. On the other hand, non-core deposits of residents rose significantly (from 28 per cent of GDP in 2000 to above 60 per cent of GDP in Q1:2009 -- €85 bn in nominal terms), a development that is exceptional compared with most other euro area countries (with the exclusion of Spain). Indeed, setting aside the role of the grey economy -- the savings rate of the private sector, according to Eurostat data, fell during the past







decade (from 10 per cent of GDP in 2000 to around zero in 2009), corresponding to a cumulative increase of private sector savings of only €34 bn, weakening arguments regarding higher financial savings as a key driver for the growth in time deposits. Moreover, Greek households continued to channel a substantial part of their savings in the real estate market, which corresponds to more than 80 per cent of total household wealth compared with 63 per cent for the euro area.

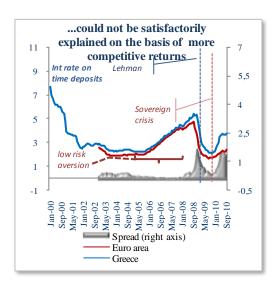
Indeed, total deposits (incl. non-residents) rose by 25 per cent of GDP in the euro area during the 2000-2009 period (to 115 per cent of GDP) compared with 36 per cent of GDP in Greece (to 118 per cent of GDP), although the euro area outcome is biased upwards by countries characterized by high economic growth and rapid credit expansion, e.g. Spain and Ireland, which registered remarkable deposits increases of 70 and 22 per cent of GDP, respectively, during the same period. Excluding two these countries, deposits in the euro area would have risen by only 18 per cent of GDP during this period (to 108 per cent of these countries' GDP). That being said, deposits as a percentage of GDP did exceed the euro area average significantly at end-2009, suggesting that most of the increase reflects the economy's real convergence.

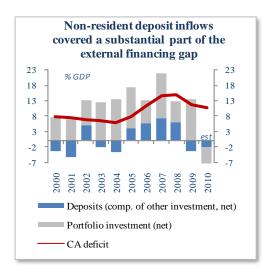
The attractiveness of time deposits compared with other financial assets also favored deposit accumulation

The limited attractiveness, for Greek residents, of alternative financial asset categories such as treasury bills and repos, mutual funds, and -- to some extent -- corporate bonds, which are broadly considered as close substitutes to (non-core) bank deposits, also supported deposit accumulation. The low penetration of these alternative asset categories in Greek household portfolios reflects relatively competitive yields for Greek non-core deposits during a period of extremely compressed risk premia (especially from 2003 through mid-2006) on sovereign and corporate debt. Specifically, interest rates on time deposits exceeded the euro average by about 40 basis points between 2003 and 2007, and the difference climbed to about 100 basis points in the period immediately following the Lehman Brothers crisis. Moreover, funds under management in Greek mutual funds amounted to only 9 per cent of GDP in 2008 and fell below 4 per cent in the 2009-2010 period compared with a euro area average of 26 per cent of GDP in 2009. This low penetration also reflects a relatively low degree of sophistication by the average Greek investor, who was unwilling to differentiate significantly his portfolio in favor of non-deposit asset categories. Moreover, Greek households remained generally cautious concerning equity investment after the traumatic experience of the sharp drop in equity valuations at the beginning of the decade from the extremely high levels reached in the late-1990s in the period preceding the bursting of the tech bubble.

Even non-residents were attracted to Greek bank deposits







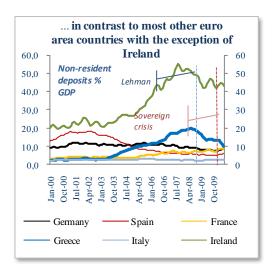
In the same vein, although the risk-return reward was attractive for non-residents in an environment characterized by low risk aversion and intensive yield hunting, it was insufficient to explain the sharp rise in Greek time deposits. Indeed, Greece and Ireland enjoyed the highest inflows of bank deposits from non-residents among euro area countries, corresponding to about 16 and 45 per cent, respectively, of total deposits in these countries at end-2009 in comparison to a decline of about 3 per cent in the respective share in the euro area as a whole. In the case of Greece, this inflow of non-resident deposits, mostly in time deposits, amounting to €40 bn in the 6 years to 2009 (equivalent to 17 per cent of GDP), provided a sizeable boost to domestic liquidity and helped finance the increasing external imbalances of the Greek economy. Indeed, average annual deposit inflows are estimated to have covered about 21 per cent of the current account deficit between 2004 and 2009, corresponding to about 26 per cent of total financial inflows registered during the same period.

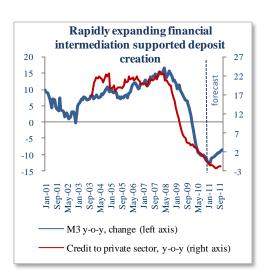
These inflows mostly reflected the partial repatriation of sizeable profits from the booming Greek-owned shipping sector, registering average annual changes in freight rates of the order of 17 per cent y-o-y in the three years to 2008. Moreover, rising savings of immigrants (by about €2-2½ bn despite the high level of remittances between 2000 and 2007), as a result of their increasing assimilation in the Greek labor market in the aftermath of an unprecedented Olympic Games-related boom, in construction and other activities characterized by a high immigrant-labor component, also contributed to the increase of non-resident deposits. Finally increasing sophistication of entrepreneurial structures (e.g. the number of offshore companies and foreign affiliates of Greek firms more than quadrupled during the previous decade) in conjunction with the healthy state of the Greek banking system also attracted deposits. Though officially categorized as non-resident deposits, most of the above inflows are closely linked to Greeks and Greek activity, though deposits from these sources may be somewhat less sticky than those from traditional Greek households and corporates.

Another big boost to Greek deposits occurred immediately following the Lehman collapse, due to the resulting internationally-led increase in yields on time deposits, the liquidation of more risky financial assets, and the initial resilience of the Greek banking system to the international crisis, having no exposure to toxic assets. As a result, time deposits rose by €13.7 bn (or 5.8 per cent of GDP) in the 9 months to June 2009, with total deposits thus peaking at €280 bn or 118 per cent of GDP in Q2:2009, up from €114 bn (77 per cent of GDP) in 2000.

In sum, about 25 per cent of the total increase in Greek bank deposits in the previous decade (17 percentage points of GDP) reflected non-resident deposit inflows (which peaked in Q3:2008, just before Lehman). Private sector financial savings, even under the extreme assumption that it was channeled completely to bank deposits, could explain another 20 per cent, raising the total to 43







Credit expansion appears to have driven deposits in 2000-2009 period

Pairwise Granger Causality Tests

H o Hypothesis	F-Stat	Prob.
Money does not Granger Cause Credit	1,13	0,35
Credit does not Granger Cause Money	2,32	0,04

per cent of GDP. In this respect, financial savings and non-resident deposits could explain, at most, about half of the increase in bank deposits during the same period. The residual increase relates to financial deepening.

Financial deepening played the most decisive role in deposit expansion

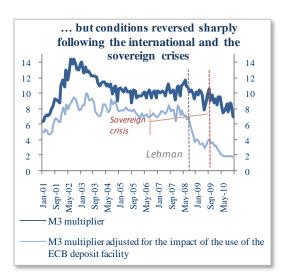
Specifically, the rapid progress of financial deregulation and innovation, and the concomitant strong expansion of financial intermediation in Greece, accompanying EMU participation, was another key driver of deposit expansion over the previous decade. Indeed, the above factors could not lead to the material increase in deposits observed in the 2000-2009 period without the multiplicative effect of rapidly growing financial intermediation in Greece. Specifically, credit expansion to the private sector rose from 38 to 108 per cent of GDP during the past 10 years, raising the loan-to-deposit ratio from about 40 per cent in 2000 -- the lowest in the euro area-12 -- to 106 per cent in Q2:2009.

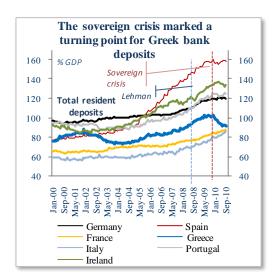
The eruption of the sovereign crisis marked a turning point for Greek bank deposits

The outburst of the Greek sovereign crisis in late-2009 was the catalyst for the emergence of the liquidity crisis in the Greek banking sector. The dramatic reappraisal of sovereign risk, which increased to unprecedented levels following the realization of the size of the fiscal imbalances in the Greek economy in H2:2009, in conjunction with the deepening of the economic recession and a relatively mild initial response to the Greek sovereign funding crisis by the EU, triggered a sharp decline in Greek bank deposits beginning in Q1:2010.

Increasing returns on time deposits were insufficient to compensate for the dramatic surge in country risk. Rumors regarding increased taxation of deposit income, in conjunction with the intention to use deposit information to improve the efficiency of tax audit processes, added to deposit flight in Q1:2010. Tensions intensified further in April 2010, following wild scenarios for an involuntary debt restructuring and an exit by Greece from the euro area. As a result,







the liquidity situation of the banking system became dire. The closing of interbank and term markets aggravated the liquidity squeeze on banks, despite Government support for bank liquidity through additional guarantees and the further loosening of collateral acceptance criteria for sovereign bonds by the ECB.

The activation of the EU/IMF support mechanism in May 2010 managed, in a relatively short period, to contain uncertainty and deposit flight, although deposit losses of about €29 bn had occurred by July 2010 (against an annual reduction of €40 bn).

Following the deposit flight between March-July, deposits continued to decline due to sizeable leakages in the form of cash hoarding, cash burn to finance current needs, and the shift of savings to "safer" asset categories (such as gold). Indeed, private consumption contracted by about 4.6 per cent in real terms in 2010 compared with an 11 per cent reduction in real disposable income suggesting a significant use of household saving accounts to smooth deteriorating income trends. Similarly, firms made intensive use of their cash accounts against a backdrop of increasing debt management pressures, tighter credit criteria, limited cash flows and stricter conditions for inter-firm transactions (e.g. the use of post-dated checks declined rapidly).

The onset of the crisis reversed a long process of financial deepening, and threatened the stabilization effort

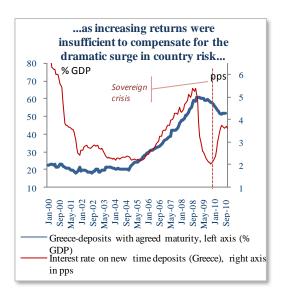
Against this backdrop, broad money aggregates entered a freefall, and the respective M3 money multiplier dropped to pre-EMU levels. Specifically, the broad money multiplier (M3) dropped from 10.7 in 2009 to about 7.2 in 2010 (and from 8 to 2 if we correct for the impact of liquidity provision by the ECB on the monetary base), reflecting a substantial contraction in M3 -- the first in decades -- rather than an increase in base money. In contrast, the decline in the respective money multiplier at the euro area level during the 2008-2009 recession (from 9.8 to around 7.7) mostly reflected the more rapid expansion of the monetary base due to the application of extraordinary liquidity support measures, while the broad money stock (M3) remained broadly stable. (Please note that the concept of the money multiplier for an individual euro area country suffers from the definition of base money; as a result its movement over time is more informative than its absolute level).

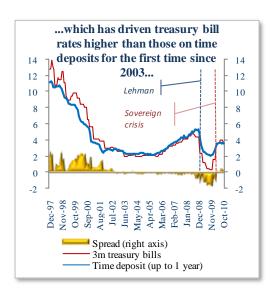
More worryingly, the downward momentum in broad money -which is usually considered a useful leading indicator of economic activity prospects on a horizon of 6 to 12 months -- remained unabated through the end of 2010 and early 2011, presaging additional pressures on economic activity in the following months.

Quantifying the main drivers of the reduction in Greek bank deposits

In this section, we attempt to identify the key explanatory factors for the short-term deposit dynamics leading to the 14 per cent decline in Greek bank deposits during 2010. Some of them are, more or less, directly measurable (e.g. flight of non-resident deposits), while others, such as the use of savings to finance current







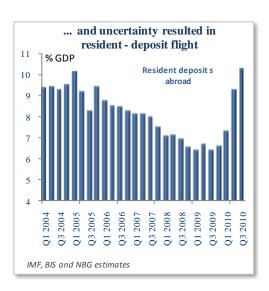
spending, liquidity hoarding by the private sector, the effect of credit constraints and the concomitant impairment in the liquidity creation process in the Greek economy, must be inferred indirectly. The impact of the latter set of "non-directly observable" factors is undertaken by estimating the "financing gaps" and the respective "cash burn measures" for consumers, firms and purchases of real estate assets. The above estimates are used to draw some projections for near-term deposit trends (2011 and 2012) and describe the prospected adjustment path of deposits towards their long-term trend, which is estimated on the basis of a structural demand of deposits.

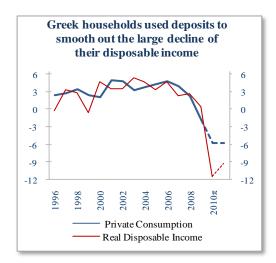
Deposit flight, mostly by non-residents, in H1:2010, explains a large part of the decline in deposits...

The following are the main factors which had a direct negative impact on deposits:

- A €10.2 bn outflow of non-resident deposits in 2010. This trend began in 2009, when such deposits registered outflows of a similar magnitude (about €10 bn), mostly during H2:2009. The outflows gathered further momentum in Q2:2010 and Q3:2010 (mostly July) when about €10 bn withdrew from the domestic banking system, coming to a halt in Q4:2010. The cumulative outflow of €20.2 bn of non-resident deposits during 2009 and 2010 brought down the share of this deposit category to GDP from almost 20 per cent of GDP in 2008 to 9 per cent -- the lowest level since 2004, when the era of strong non-resident capital inflows commenced, leaving this ratio only slightly higher that its 13-year average of 8 per cent of GDP.
- Another €8.2 bn in outflows was registered in 2010 in the form of withdrawals of deposits of Greek residents from the banking system, and their transfer to foreign credit institutions or other financial investments abroad (based on external investment position data of the BIS/IMF database). This trend clearly reflects the high uncertainty arising from the sovereign crisis, as well as an attempt by individuals and firms to avoid tax audits. It is important to note that the flight of resident deposits was significantly smaller in H2:2010 (€4 bn versus €7.2 bn in H1:2010). Many of these resident deposits went to offshore money centers, with Cyprus reportedly attracting approximately €2½ bn of Greek deposits and the UK -- on the basis of anecdotal sources -- another €4 bn.
- Increasing yields of treasury bills during 2010 -- which exceeded the interest rate on time deposits for analogous maturities for the first time since August 2002 -- in conjunction with the safety net provided by the activation of the EU/IMF support programme -- are likely to have attracted about €2.0-2.5 bn mainly originating from resident (non-MFI) deposits. This assessment is based on the average level of outstanding treasury bills of €9.0 bn in 2010, of which about 20 per cent is estimated







- -- by market sources -- to have been purchased by the domestic non-MFI sector.
- Purchases of foreign equities and gold by Greek residents reached €1.0 bn leading to a broadly analogous contraction of (non-MFI) deposit base.

...but there was also a substantial indirect drag on the domestic deposit base

Rapidly declining disposable income, tighter credit criteria and increasing financing costs forced Greek households to make greater use of their financial savings to finance their consumption and real estate asset purchases. It must be emphasized that the use of bank deposits by a household, to cover its spending needs, does not lead to a direct contraction of the economy-wide deposit base, *per se*, as each payment conducted by using a deposit account is broadly matched by a respective inflow in the deposit account of the recipient if the balance of payments is in equilibrium and the money multiplier does not decline due to cash hoarding either by banks or households and corporates. However, in an economy such as Greece, with sizeable external imbalances, a negative financing gap of the Greek private sector translates into a decline in system-wide deposits, which a high level of uncertainty-induced cash hoarding reinforces.

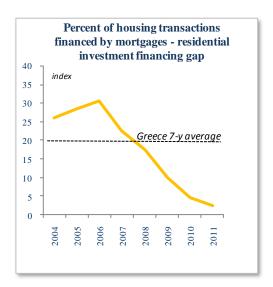
Our estimate of the level of the financing gap for Greek households is based on the difference between:

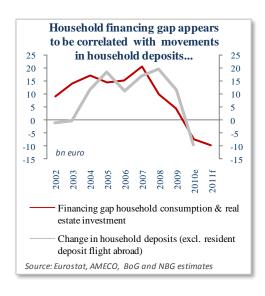
- i) the sum of household disposable income (in current prices) and annual consumer credit flows;
- ii) the sum of household consumption and deposit-financed spending for purchases of real estate assets.

The time series of the financing gap is normalized to zero (to correct for the impact of possibly omitted variables) by subtracting the sample average over the period 2000-2010 from the annual estimate of the gap.

The analysis suggests that Greek households have enjoyed positive financing gaps during the period 2001-2008, reflecting sizeable increases in disposable income, rapid credit expansion and a concomitant, implicit, financial and real estate equity withdrawal. However, households' financing gap entered negative territory in 2009 and widened further in 2010, exerting a net drag on resident







deposits. In 2009, the financing gap was offset by the continuing inflows of non-resident deposits and liquidations of non-deposit financial assets in 2010, the reversal of these factors, in conjunction with the stagnation in credit provision and the large drop in disposable income, led to a sharp widening of the gap in the vicinity of €7.0 bn. In this respect, this deposit reduction in 2010 reflects the cash burn by Greek households in order to smooth out the large decline of their disposable income. Indeed, private consumption contracted in 2010 by only 1.6 per cent y-o-y, in nominal terms, despite a 7½ per cent decline in household disposable income (in nominal terms).

There is a relatively good correlation between our measure of the household financing gap with actual near term developments in household deposits. The exception is the period 2002-2003, when there were portfolio re-allocations due to rapidly rising equity market valuations. Again reflecting extraordinary portfolio reallocation, there were considerable net inflows in household deposit accounts in 2008, from the liquidation of more risky assets due to the intensification of the international financial crisis.

Along the lines of the previous analysis for households, the financing gap of enterprises is estimated on the basis of the (normalized) difference between:

- i) the sum of gross operating surplus & property income and new loans towards the non-financial corporate sector; and
- ii) corporate spending (in the form of corporate gross fixed capital formation, production factor compensation and corporate-debt servicing costs).

Based on this analysis, financing conditions improved considerably for corporates between 2005 and 2008 against a backdrop of strong demand, relatively abundant liquidity and decelerating investment spending (especially in the 2007-2008 period). Conditions changed dramatically in 2009, and especially in 2010, with the financing gap widening to around ϵ 6 bn.

It must be emphasized that the total private sector financing gap in 2010 is €13.0 bn compared with a decline of bank deposits (excl. capital flight) of about the same magnitude.

Overall, direct and indirect factors, as quantified above, appear sufficient to explain about €35 bn or almost 90 per cent of the deposit reduction of residents registered in 2010. The remaining €4.6 bn we believe reflects cash hoarding by the private sector.

Downward pressure on Greek deposits will continue in 2011, mainly reflecting the financing gaps of the private sector

Along the lines of the previous analysis, we also estimate that the contractionary impact of the above factors will remain evident during 2011, as the economic recession continues and credit conditions remain tight. More specifically, assuming that confidence begins to stabilize, even at the relatively low level of





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Outflow of resident deposits	-8,2					
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Financing gap - Enterprises	-5,9	-7,0				
Cash hoarding & other investments	-4,6					
Total deposit reduction	-39,4	-19,0				
Source: BoG, IMF, BIS and NBG estimates						

H2:2010, additional downside risks from potential outflows of non-resident deposits appear to be relatively manageable (about €3 bn), reflecting a continuing reversal of non-resident deposits share to GDP towards their 13-year average of 8 per cent of GDP. The behavior of resident deposits under a scenario of resurging uncertainty reflects a downside risk, but significant outflows are not expected in the baseline scenario.

Indirect sources of deposits leakage appear to be the main source of outflows for 2011. In the baseline scenario, in which household disposable income contracts by another 6 per cent, in nominal terms (compared with $7\frac{1}{2}$ per cent in 2010), and credit to households declines at a somewhat higher pace than in 2010 (by about 3 per cent), cash burn is likely to increase, suggesting additional (resident) deposit losses of almost Θ .2 bn compared with Θ 7.0 bn in 2011.

In the same vein, the degree of cash burn by enterprises is also unlikely to subside in 2011, as financing needs of firms will remain elevated, while credit conditions will continue to be restrictive (corresponding to a deleveraging by the corporate sector by about 2 per cent on an annual basis). Moreover, business investment is likely to contract by $\[\in \] 2.2 \]$ bn y-o-y (compared with $\[\in \] 3.5 \]$ bn in 2010). As a result, we estimate an additional drag on resident bank deposits of $\[\in \] 7.0 \]$ bn (compared with $\[\in \] 5.9 \]$ bn in 2010).

Thus, the overall decline in deposits during 2011 is estimated at €19 bn -- 8 per cent down from their end-2010 level -- to 91 per cent of GDP from 100 per cent at end-2010 and 114 per cent at end-2009.

The main downside risks relate to a new round of uncertainty originating from an unconvincing EU response to the sovereign crisis of the European periphery, as well as from a further erosion of the liquidity base of the Greek banking system, *inter alia*, in the event of a premature tightening of existing ECB measures. In this case, deposit outflows would increase not only due to the possibility of a new round of deposit flight, but also due to accelerating cash burn for substituting for the shrinkage of alternative sources of financing.

The main positive risk is related to a faster-than expected restoration of private sector confidence, reflecting the accelerating progress on the fiscal consolidation front and favorable developments at an EU level, which could reverse liquidity hoarding by the private sector. Under this scenario, the improvement in domestic liquidity conditions could be substantial and the drop in deposits could be easily contained to about $\in 11$ bn -even with zero repatriation of deposits – as a result of a stabilization of non-resident deposit outflows (a $\in 3$ bn euro gain) and a reversal of cash hoarding (a $\in 4$ bn gain excluding favorable second round effects originating from a potential acceleration of bank lending). In the event of better-than-expected developments in credit provision (a credit expansion in the vicinity of 0.5-1.0 per cent y-o-y instead



Total Deposits of the Greek banking system will revert towards their long-term trend by end-2013 120 120 %GDP 110 110 100 100 90 90 80 80 70 70 60 60 50 50 40 40 Total deposits (incl non-residents) Long-term trend of deposits (HP filter on LT Total Deposit Demand Estimate) Source: BoG and NBG forecasts

of -3.0 per cent), deposit contraction could be confined to single digits.

Deposit base will revert towards its long-term trend by end-2013, driven by the increasing savings rate and the normalization of credit conditions

Irrespective of the short-term dynamics described above, deposits will converge to a level consistent with macro fundamentals. Indeed NBG forecasts of medium-term trends are based on the estimate of a demand equation for resident deposits, which describes bank deposits as a function of:

- i) the effective interest rate on new time deposits deflated by the CPI inflation (R);
- ii) real GDP growth as a proxy of the economy's potential for the accumulation of financial wealth by the private sector, as well as a measure of transaction demand for money (GDP);
- iii) the spread between the 1-year treasury bill and the interest rate on time deposits of a similar maturity (SPD);
- iv) an impulse dummy (Dum) corresponding to the difference between the Greek interest rate on time deposits and the respective interest rate in the euro area during the period Q3:2003-Q2:2009;
- v) the savings rate of the Greek private sector; and
- vi) the share of credit to private sector to GDP.

Our results suggest that the equilibrium level of deposits will bottom out in 2012 after an almost 4-year correction, bringing the trend-level of deposits to 95 per cent of GDP, about 7 per cent of GDP lower than the 2007 level and 3 per cent of GDP above the level at end-2011. This forecast is conditioned on:

- i) a recovery of economic activity in Greece in line with the assumption of the Adjustment Programme following a 3-year recession;
- ii) a drop of treasury bill returns below respective time deposit yields by Q4:2011;
- iii) a gradual convergence of the savings rate towards its long-term average (i.e. from an estimated 2 per cent in 2010 to about 8 per cent in 2015); and
- iv) a pace of credit expansion broadly matching nominal GDP growth from 2013 onwards.

Deposit projections for the period 2012-2015 are obtained by summing near-term forecasts of annual deposit changes with the estimated medium-term trend level of deposits. Provided that the impact of indirectly estimated adverse factors is expected to fade completely by 2013, we expect that Greek banks' deposits will increase by about 5 per cent in nominal terms in 2012, and will gain further momentum from 2013 onwards, registering annual increases of the order of $\mathfrak{E}13$ bn (or 6.2 per cent annually compared with nominal GDP growth of $4\text{-}4\frac{1}{2}$ per cent).





Greece: Macroeconomic Developments
March 2011



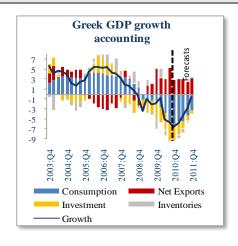
Economic Activity

In 2010, the Greek economy witnessed its largest recession in 60 years, with economic activity declining by about 4½ per cent y-o-y. Domestic demand bore the brunt of the adjustment, declining by an estimated 6 per cent y-o-y, as private consumption posted a sizeable contraction (4.5 per cent) and fixed investment continued its freefall (declining by -16.7 per cent y-o-y, following declines of 11 and 7½ per cent y-o-y in 2008 and 2009, respectively, down to an estimated 15.8 per cent of GDP in 2010). Activity was dragged down by high uncertainty resulting from the sovereign debt crisis and the impact from the implementation of about 7½ per cent of GDP of austerity measures. The improvement in the export sector during H2:2010 was insufficient to ameliorate the downward momentum of economic activity, which registered a record fall of -6.6 per cent y-o-y in Q4:2010 -- expected to be the worst quarter of the recession. GDP is projected to contract by another 5.2 per cent y-o-y in H1:2011, as domestic demand will continue to be held back by the widespread uncertainty and additional austerity measures applied in 2011 (amounting to approximately 7 percentage points of GDP). A bottoming-out in activity is expected to occur in late H2:2011, reflecting favorable base effects, as well as improved confidence from the effective implementation of the ambitious agenda of structural reforms, in conjunction with further progress in fiscal consolidation. Growth is projected to be -0.8 per cent y-o-y in Q4:2011, but average -3.5 per cent (in 2011) due to negative carry.

Nevertheless, the balance of risks for economic growth will continue to be tilted to the downside, reflecting:

- i) volatile private sector sentiment related to the uncertain impact from fiscal measures, compounded by programme implementation risks and a sharper-than-expected deterioration in labor market conditions (with unemployment expected to exceed 16 per cent in Q4:2011);
- ii) a more adverse-than-initially-expected liquidity environment as the dramatic contraction of market financing is compounded by additional deposit losses and pressure to lower dependence on ECB liquidity;
- iii) a new round of systemic turbulence for fiscally-weak euro area members, which may be reinforced by a weak EU response to the evolving sovereign crisis; and
- iv) an increase in oil prices that exceeds 20 per cent y-o-y, if current prices are maintained.

Greece: Growth Outlook												
	2009	2009	2010e	2011f	2010e*				2011f			
seasonally adjusted data	% GDP				Q1	Q2	Q3	Q4e	Q1f	Q2f	Q3f	Q4f
GDP (per cent y-o-y)	•••	-2,1	-4,4	-3,5	-0,7	-5,0	-5,1	-6,6	-5,8	-4,6	-3,0	-0,8
GDP (per cent q-o-q)**	•••				-2,2	-1,5	-2,1	-1,3	-1,0	-0,4	-0,3	0,7
Domestic Demand (y-o-y)	112	-3,7	-6,0	-5,8	-0,7	-7,5	-7,1	-8,8	-7,6	-7,0	-5,6	-3,2
Final Consumption (y-o-y)	95	0,4	-4,9	-5,1	-0,2	-5,9	-6,9	-6,7	-6,1	-6,0	-4,8	-3,6
Private Consumption (y-o-y)	72	-1,8	-4,5	-4,6								
Public Consumption (y-o-y)	22	7,6	-6,5	-6,8								
Fixed Capital Formation (y-o-y)	17	-11,0	-16,7	-10,0	-16,7	-20,3	-22,0	-7,6	-13,0	-11,0	-10,0	-6,0
Construction	8,5	-12,5	-17,9	-11,2								
Equipment	8,8	-10,2	-15,8	-9,4								
Inventories*** (contribution to GDP)		-2,2	1,0	-0,1	2,8	0,9	2,4	-2,0	-0,7	-0,3	-0,2	1,0
Net exports (contribution to GDP)		2,2	2,2	3,0	0,2	3,3	2,4	3,1	3,4	3,0	2,8	2,7
Exports (y-o-y)	19	-20,1	4,3	5,9	2,2	3,2	-0,9	12,8	2,0	6,7	7,4	7,5
Imports (y-o-y)	30	-18,7	-5,0	-5,1	0,5	-8,4	-8,9	-3,2	-7,5	-5,0	-3,8	-4,0
Source: EL.STAT. and NBG Research Estimates *quarterly figures for GDP components are seasonally unadjusted and subject to revision by EL.Stat **NBG estimate ****also including other statistical discrepancies												



Private Consumption

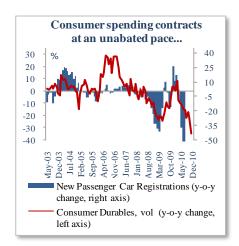
The downward momentum of private consumption intensified further in December 2010 and January 2011, with retail sales volumes registering its largest annual drop of 19 and 16 per cent y-o-y, respectively. Indeed, consumer durables excluding cars plummeted by 35 per cent y-o-y. Meanwhile, forward-leading indicators do not provide any signs of a rebound, with consumer sentiment remaining close to historical lows.

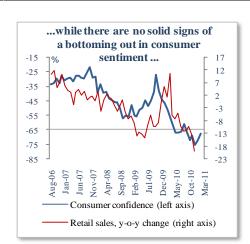
The ability of Greek households to smooth out their consumption is likely to be lower in 2011 -- compared with 2010

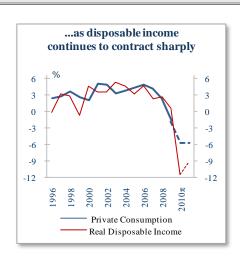


when real consumption declined by about 4½ per cent versus an estimated 11 per cent decline in real disposable income -- as household budget constraints become increasingly binding against a backdrop of austerity measures, wage reductions in the public as well as in the private sector (down by an estimated 6 per cent overall versus 5½ per cent in 2010) and declining employment (by about 2.5 per cent y-o-y versus 2.8 per cent in 2010), which jointly translate into a 9½ per cent decline in real disposable income in 2011. In this respect, private consumption is likely to contract by another 4.6 per cent y-o-y in 2011 compared with 4.5 per cent in 2010, reducing consumption to 72.2 per cent of GDP in 2011 from 74 per cent of GDP in 2008 -- with its high share of GDP evidence of the existence of a large grey economy.

A persistent terms of trade shock -- with oil prices remaining above €80 per barrel – is expected to exert an additional drag on private consumption of about 0.3 of a percentage point, as the Greek economy is among the most oil-dependent among euro area countries. A timely restoration of confidence of non-budget constrained Greek households through the successful implementation of the programme is the main positive risk.







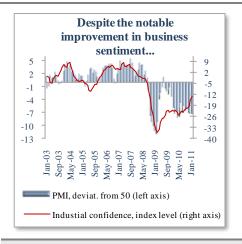
Business Sector - Fixed Investment

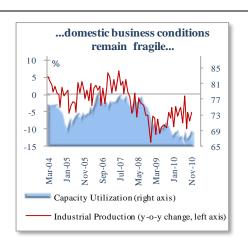
The relatively improved picture of export-oriented sectors (such as chemicals, refining, base metals and, more recently, food) has proved insufficient to outweigh the substantial drag on industrial activity from the contraction of domestic demand, which drove industrial production down by 6.0 per cent y-o-y in Q4:2010 (following the 6.4 per cent contraction in Q3:2010). Although forward-looking indicators (such as industrial confidence and PMI orders) provide signs of a forthcoming improvement in industrial activity, the sustainability of recovery will be mainly conditioned on the buoyancy of external demand (from the euro area and SE Europe). A key concern is the size of the impact of the oil price rally on the energy-intensive segments of domestic industry.

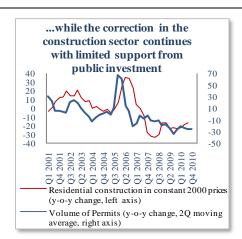
The contraction in private construction activity is expected to continue for a fourth successive year (declining by about 10 per cent on an annual basis following a cumulative decline of 32 per cent during 2008-2010), against a backdrop of a still sizeable backlog of unsold houses and a further weakening of the commercial real estate market, both reflecting deteriorating demand conditions and high uncertainty (due, *inter alia*, to tight credit conditions and an increasing tax burden on real estate), while support from public investment activity will remain subdued due to budget restrictions (government investment down to 3.6 per cent of GDP in 2011 from 3.7 per cent of GDP in 2010).

Against this background, a stabilization in fixed investment is unlikely yet, as the economy suffers from considerable slack (capacity utilization is about 6 percentage points below its 20-year average), while liquidity conditions remain an important challenge.







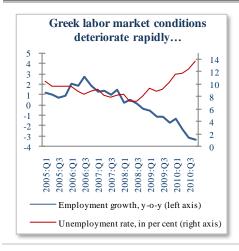


Labor Market

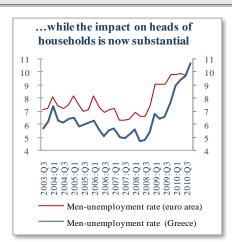
The unemployment rate remains on an sharply upward trend, climbing to 14.8 per cent in December 2010 (from an already elevated 12.3 per cent in Q3:2010 and 11.7 per cent in H1:2010), while employment shrunk by 3.8 per cent y-o-y in Q4:2010, reflecting the ongoing weakening of demand in the key sectors of economic activity, such as manufacturing, construction and business services, while the apparent resilience of employment of the retail and wholesale trade sectors is likely to reflect a significant reduction in working hours.

The labor market is expected to remain under considerable pressure in 2011, as the continuing decline in domestic demand, and the subsequent shortage in employment opportunities and working hours in the private sector, in conjunction with the recruitment freeze and the non-renewal of short-term contracts in the public sector, are expected to bring further losses in employment (the estimated employment decline is expected to be c. 2.5 per cent in 2011, and significantly more in terms of adjusted working hours), pushing the average unemployment rate in the vicinity of 15.5 per cent (peaking at c. 17 per cent in Q1:2012). Significantly, the unemployment rate for private sector wage earners has jumped to an albeit roughly estimated 20 per cent in Q4:2010, reflecting the fact that about 1/3 of wage earners are in the public sector and their jobs are generally protected. The only positive aspect of the rapid build-up in unemployment is that it signals a swift adjustment of the economy and foreshadows a reallocation of production resources towards the tradable sector.

The cumulative decline in economy-wide real wages is estimated to continue in 2011 (-6 per cent following 5½ per cent in 2010), more than offsetting the wage increases during the period 2007-2009. Nevertheless, the improvement in unit labor costs is significantly more muted (an estimated cumulative decline of about 5 per cent in 2010-2011) as the recession takes a heavy toll on labor productivity.





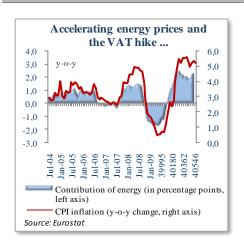


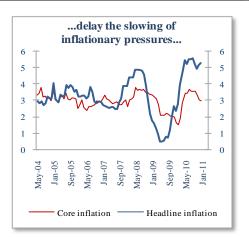


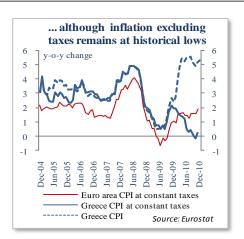
Inflation

Inflationary pressures eased in February (+4.4 per cent y-o-y from +5.2 per cent y-o-y in December 2010-January 2011 period), as deep discounts in clothing and footwear prices during the winter sales period (-7 per cent y-o-y) and a considerable restraint in food prices (+1 per cent y-o-y, despite the 2 percentage point increase in VAT) ameliorated the inflationary impact from surging oil prices and increases in non-energy segments of transportation costs (mainly reflecting public transportation and taxi fares, motorway tolls, etc.). In this respect, tax-adjusted CPI inflation dropped further to an estimated -0.1 per cent -- 1.9 percentage points lower than the euro area average -- while core inflation has also followed a declining path (+2.8 per cent y-o-y in February 2011 from 3.4 per cent in Q4:2010), underlining the intensifying deflationary impact of the recession.

In this regard, the contraction in domestic demand and the concomitant widening of the output gap, to more than an estimated -5.0 per cent, will further curb the pricing power of firms, outweighing the inflationary impact from higher energy prices on the energy dependent Greek economy (about 30 per cent higher than the euro area average), constraining core inflation to the vicinity of 1.7 per cent in 2011 (from 3.0 per cent in 2010). In the same vein, average headline inflation will slow to 2.7 per cent y-o-y from 4.7 per cent in 2010. The above estimates are conditioned on a scenario of an average oil price increase of about 20 per cent y-o-y in 2011 (in the vicinity of €80 per barrel p.a.) and a contraction in GDP of 3.4 per cent y-o-y.







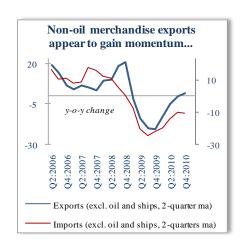
External sector

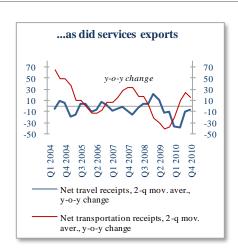
The current account deficit contracted by about 0.7 percentage points of GDP to $10\frac{1}{2}$ per cent in 2010, registering a relatively small improvement if compared with the size of the recession and the concomitant drop of non-oil imports (-13 per cent y-o-y). The improvement would have been substantially higher had there not been a significant widening of the deficit in Q1:2010 (to 4.2 per cent of GDP from 3.1 per cent in Q1:2009), which we believe was mainly due to the rebuilding of inventories by enterprises from the very low levels of H2:2009. The downward momentum in the deficit accelerated during the remainder of the year, with the deficit declining by 25 per cent y-o-y (or about \$\epsilon 4.5\$ bn) in the April-December period, as non-oil manufacturing exports recovered (increasing by +2.0 per cent y-o-y and 4.3 per cent in Q4), while non-oil imports continued to decline at a double digit pace (-14.5 per cent y-o-y and -12.7 per cent y-o-y in Q4). The service balance has improved due to increasing revenue from the shipping sector (+£1.6 bn in April-December), which has more than compensated for the decline in tourism revenue (of -£0.8 bn), mainly reflecting lower offer prices. The widening of the oil deficit and the contraction in current transfers of £1.0 bn and £1.1 bn, respectively (for the year as a whole), has slowed deficit reduction.



The pace of the current account adjustment is expected to accelerate substantially in 2011, with the deficit declining to 8.7 per cent of GDP, as domestic demand will remain subdued, while the outlook of the export sector, and especially of service exports, is expected to improve considerably next year, as tourism bookings are up by 7-10 per cent, following an approximately 15 per cent price reduction over the past two years. An oil price hike in excess of the currently-observed rate of 20 per cent y-o-y represents the key risk factor, which could again hinder the current account adjustment, although preliminary data on oil import volumes for January-February 2011 point to a contraction of about 16 per cent.

Balance of Payments (in billion EUR)							
Source: Bank of Greece	2008	2009	2010	2011f			
Current Account	-35,0	-25,8	-24,0	-19,8			
Current Account (% of GDP)	-14,7	-11,2	-10,5	-8,7			
Non-oil Trade Balance	-31,9	-23,2	-19,7	-15,6			
Non-oil Exports	15,6	12,3	12,1	13,3			
Non-oil Imports	-47,5	-35,4	-31,8	-28,9			
Oil Balance	-12,2	-7,6	-8,6	-9,1			
Services Balance	17,2	12,6	13,2	14,3			
Income Balance	-10,9	-9,8	-9,3	-9,6			
Current Transfers, net	2,8	1,3	0,2	0,2			
Capital transfers	4,1	2,0	1,5	1,6			
Financial Account	30,2	24,2					
Foreign Direct Investment, net	1,7	1,1					
Portfolio Investment, net	1,7	28,7					
Other Investment, net	12,1	-3,6					
Change in Reserve Assets	0,0	-0,3					
Source: Bank of Greece							





Fiscal Developments

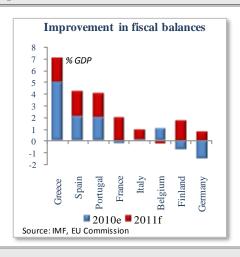
Significant progress has been registered on the fiscal consolidation front during 2010, with the (ESA-adjusted) general government budget deficit declining by almost 5.0 percentage points of GDP, in the vicinity of 10-10½ per cent of GDP, despite the strong recessionary headwinds (domestic demand contracted by 4.0 per cent, in nominal terms, compared with a projection of 2.8 per cent in the 2010 budget). An initial estimate of 9½ per cent of GDP is being revised upwards by 0.5-1 percentage points mainly due to: i) a downward revision of the balance in the social security system (from an initially-estimated surplus of about $\{0.9 \text{ bn to a deficit of about } \{0.4 \text{ bn}\}\)$, and ii) a higher level of arrears. The state budget deficit declined by 4.3 per cent of GDP (from 13.3 to 9.0 per cent of GDP), as a result of the considerable restraint in primary ordinary budget spending (-10.9 per cent y-o-y in 2010, against an original annual target of -6.0 per cent), in conjunction with the tighter-than-budgeted management of the public investment programme (3.7 per cent of GDP compared with an initial target of 4.1 per of GDP). There was also a notable improvement in revenue performance in Q4:2010 (partly reflecting revenue from the tax amnesty; 0.5 per cent of GDP), which minimized revenue deviation from the target (+5.5 per cent y-o-y against an MOU target of 13.7 per cent, and a shortfall of about €0.3 bn against the estimate contained in the 2011 Budget). The Adjustment Programme's target is on a cash basis, which was observed (and the corresponding EU/IMF tranche released). However, there was arrears build-up, which raises concerns over expenditure control; indeed the 2011 budget estimate for the ESA 95-based deficit includes arrears increase of approximately €3 bn.

Data on budget implementation for the first 2 months of 2011 point to continuing pressure on the revenue side (-9.2 per cent y-o-y and 14 per cent below budget). The decline compared with 2010 reflects large base effects, while the deviation from target reflects sizeable recessionary pressures and delays in policy implementation. In fact, the revenue decline arises from lower revenue from the extraordinary tax on profits of the large companies (by about $\{0.12 \text{ bn}\}$), as well as reduced withholding tax on personal income (-26 per cent y-o-y in January-February) and lower receipts from consumption taxes (-9.4 per cent y-o-y mainly due to a $\{0.3 \text{ bn}\}$ decline in vehicle circulation fees). The sustained improvement in VAT collection (+7.4 per cent y-o-y in January-February) has proved insufficient to counterbalance the

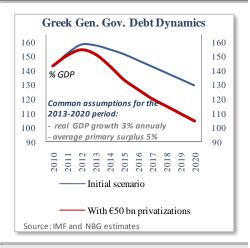


EU leaders, acknowledging the considerable progress in the implementation of the stabilization programme, decided at the informal EU Summit of March 11^{th} to reduce the interest rate on the EU loans (amounting to ϵ 80 bn) by 100 basis points and to extend their maturity to 7.5 years (from 3 years), in line with the intentions of the IMF. The above decision smoothes out the redemption profile of Greek debt, reducing sovereign borrowing needs in 2014 and 2015, by about ϵ 17 bn annually. Moreover, adjustments were made on the size and operation of the EFSF, and its successor ESM, including an increase of its effective lending capabilities to ϵ 440 bn (and to ϵ 500 bn for the ESM), as well as the possibility of using EFSF funds to buy government bonds in the primary market (under a specific programme of conditionality). The latter opens the door for increased EU funding of the Adjustment Programme post 2013.

Greek debt dynamics will benefit greatly from the speeding-up of the privatization and government real estate development programme, as well as from the lower interest rates (a reduction of 100 basis points of the interest rate on EU loans which correspond to 2/3 of the $\{110 \text{ bn package}\}$). These two developments would bring down the general government deficit in the vicinity of 110 per cent of GDP in 2020, compared with an estimated 130 per cent under the previous baseline scenario.



Budget Implementation (% GDP)								
	2010	2011	2010	2011				
	Jan-Feb	Jan-Feb	FY	Annual Target				
1.Net Revenues (a - b)	3,8	3,5	22,2	24,2				
a. Revenues before tax refund	4,1	3,7	24,5	25,8				
b. Tax Refund	0,3	0,3	2,2	1,7				
2. Expenditure (a+b)	3,9	4,1	28,9	30,8				
a. Primary Expenditure	3,5	3,5	22,5	22,9				
b. Interest Payments	0,4	0,4	5,8	6,9				
Public Inv. Budget	-0,3	0,2	-2,3	-2,0				
5. CG Budget Deficit	0,4	0,4	9,0	8,6				
6. Gen Budget Deficit	•••		c.10½*	7,6				
* In the process of being revised up from 9½ per cent								
Source:Budget 2011 and latest Budget Implement. report (Feb 2011)								



GREECE:

MONTHLY MACROECONOMIC OUTLOOK Strategy and Economic Research Division March 2011



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Editor: P. Mylonas, Director of Research, NBG Group Chief Economist, Tel: (+30210) 3341521, Fax: (+30210) 3341702, e-mail: pmylonas@nbg.gr. Contributors: N. Magginas and G. Murphy. This report is provided solely for the information of professional investors who are expected to make their own investment decisions without undue reliance on its contents. Under no circumstances is it to be used or considered as an offer to sell, or a solicitation of any offer to buy. Any data provided in this bulletin has been obtained from sources believed to be reliable. Because of the possibility of error on the part of such sources, National Bank of Greece does not guarantee the accuracy, timeliness or usefulness of any information. The National Bank of Greece and its affiliate companies accept no liability for any direct or consequential loss arising from any use of this report.

Note: The report is based on data up to March 30 2011, unless otherwise indicated.