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First signs of economic rebalancing, but high uncertainty and a tough fiscal program slow the adjustment process

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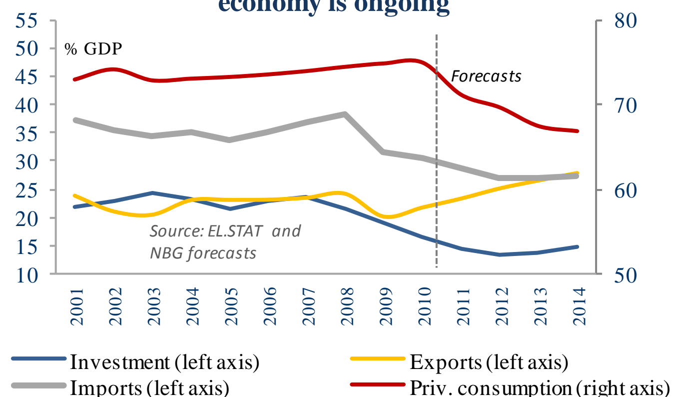
- The underlying rebalancing of the Greek economy is ongoing -- and often overlooked -- as the requisite intensification of the fiscal adjustment effort and deteriorating private sector sentiment delay the bottoming out of economic activity to H2:2012.
- Thus, the contraction of GDP in 2011 will amount to a sobering 5.9 per cent y-o-y in 2011, following declines in activity of 3.5 per cent in 2010 and 3.2 per cent in 2009. Output will also decline in 2012 -- by -2.7 per cent y-o-y -- however, this reflects sizeable negative "carry" from 2011, as the growth rate in Q4:2012 is expected to be +0.4 per cent y-o-y. Overall, the cumulative peak-to-trough decline in output will exceed 14 per cent.
- The high dependency of economic growth on domestic demand during the past decade is reversing rapidly (a drop of 17 pps of GDP in real terms during the past 2½ years), and as a result, imports have declined by 8 per cent of GDP (real terms), helping to close the external gap.
- At the same time, exports have recovered strongly, despite more competitive pricing by the tourism sector (-12 per cent) and a sharp decline in freight rates (-30 per cent -- 47 per cent below their 10-year average), with these two service sectors comprising over 60 per cent of total exports.
- The current account adjustment has been slower than expected (14.7 per cent of GDP in 2008 down to 9-9½ per cent in 2011), due to significant adverse terms of trade effects (oil, other commodities, shipping), combined with pricing-to-market in tourism, with both factors in sum having offset the adjustment by about 2½ per cent of GDP.

Underlying rebalancing of the Greek economy is ongoing



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- The labor market has adjusted far faster than expected, with large job losses in the private sector and a sharp fall in compensation. Employment is projected to decline by 5.3 per cent in 2011 and by 2.7 per cent in 2012, resulting in a peak-to-trough drop of 11½ per cent, while the unemployment rate is projected to peak slightly above 20 per cent in early-2013. The high elasticity with respect to output (0.8) clearly reflects structural adjustment, over and above a cyclical component.
- The rapid adjustment in employment has also been accompanied by significant wage compression. Nominal wages contracted by 4½ per cent in 2010 and by an estimated 4½-5 per cent in 2011, correcting for about 40 per cent of the cumulative wage growth differential versus the euro area since EMU entry. Even after correcting for productivity, the competitiveness gap is closing, with ULCs declining by 3 per cent in both 2010 and 2011, versus increases in the euro area. We estimate that following further wage compression in 2012, about 2/3 of the competitiveness gap, so measured, will have been covered.
- The pace of fiscal consolidation is facing increased headwinds, following a fiscal adjustment of 5 pps in 2010, arising from the implementation of measures equivalent to 7 per cent of GDP. The revenue side is underperforming by a significant margin, due to the deepening recession as well as to implementation shortfalls.
- An extraordinary intensification of the adjustment effort will be required in September-December to reduce the 2011 budget to a revised target of 8½ per cent of GDP. In fact, measures equivalent to c. 5 per cent of GDP are envisaged for the September-December period, resulting in an effective net fiscal drag of 2.5 per cent of GDP in the final months of the year, over and above the 3.1 pps of fiscal drag in 2010.
- The measures necessary to meet the 2012 Budget target of 6.8 per cent of GDP (equivalent to almost 5 per cent of GDP) -- and result in a primary surplus equivalent to 1½ per cent of GDP -- are expected to result in a further fiscal drag of 2.1 per cent of GDP.
- Indeed, the cumulative fiscal effort over the 3-year period 2010-2012 amounts to an impressive 18 per cent of GDP, but will have only reduced the deficit by about 9 pps of GDP. The need for double the fiscal effort, compared with the result, reflects the fact that the measures will have reduced growth by about 2½ per cent per year, on average, and subtracted about 6 per cent of GDP of revenue from the Budget by 2012. The vicious circle of fiscal contraction and recession poses an important dilemma to policymakers.
- In this regard, a recovery in output (as well as revenue) undoubtedly depends on a return of confidence, necessitating: i) the EU/IMF program (and its successor arrangement) to remain on track, and with a more assertive implementation of the reform process; ii) a PSI initiative (the current or a revised version) to be completed successfully; and iii) the formulation of a commonly-agreed strategy in Europe on how to deal with the crisis. Moreover, a more rapid implementation of structural reforms will have the double benefit of unleashing Greece's large growth potential (see NBG - Greece Economic & Market Analysis, Nov. 2010) and provide a strong signal of commitment to change.

FIRST SIGNS OF ECONOMIC REBALANCING HAVE EMERGED, BUT HIGH UNCERTAINTY AND A TOUGH FISCAL PROGRAM SLOW THE ADJUSTMENT PROCESS

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Introduction

A year and a half after the launch of the EU/IMF program for Greece, macroeconomic challenges for the Greek economy remain sizeable. Although a cursory reading of recent developments in key macroeconomic indicators does not yet appear to provide indications of a material improvement in domestic macroeconomic conditions -- indeed, macroeconomic tensions have intensified since Q2:2011 -- the first signs of adjustment in key areas of the Greek economy are becoming evident. In several cases, these changes have been overshadowed by the still strong recessionary momentum, which has been amplified by higher uncertainty, additional austerity measures and tighter liquidity conditions.

In fact, despite the important decisions taken at the Eurozone leaders' Summit in July 2011, uncertainty has intensified in Q3:2011 as a result of the weaker-than-expected progress on implementing the IMF/EU Adjustment Program (fiscal slippage and delays in structural reforms) and, just as importantly, due to increasing skepticism about the willingness of the EU to adequately deal with market concerns over the European sovereign debt crisis. As a result, Europe experienced contagion to other euro area economies, notably Spain and Italy, as well as to the European banking system. Following the IMF/World Bank meetings in late-September, European leaders appear to be considering bolder action, including leveraging the EFSF to increase its size and broadening its scope to include the direct recapitalization of banks for the possible impairment of their sovereign portfolios, and a more comprehensive solution to the Greek sovereign debt crisis. Concrete action in this direction would result in a sharp drop in uncertainty. See Box 1 for a review of key events during the past 6 months (IMF/EU Program milestones, credit rating agencies, EU initiatives).

Greece: Growth Outlook

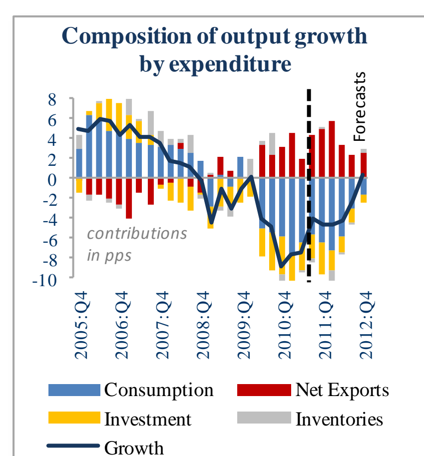
	2010*	2011f	2012f	2013f
GDP (% y-o-y, non-seas & w.days adj	**-3,5**	**-5,9**	**-2,7**	**1,7**
GDP (% q-o-q, NBG s.a.)		…	…	…
Domestic Demand (y-o-y)	**-5,6**	**-8,9**	**-5,7**	**0,8**
Final Consumption (y-o-y)	**-4,4**	**-7,0**	**-4,6**	**-0,3**
Private Consumption (y-o-y)	-3,6	-6,5	-3,5	0,6
Public Consumption (y-o-y)	-7,1	-9,4	-8,3	-4,8
Fixed Capital Formation (y-o-y)	**-14,8**	**-18,2**	**-10,4**	**4,9**
Inventories** (contribution to GDP	0,6	-0,3	-0,3	0,4
Net exports (contribution to GDP)	**2,8**	**4,0**	**3,3**	**0,8**
Exports (y-o-y)	**4,2**	**1,8**	**4,6**	**6,5**
Imports (y-o-y)	**-7,2**	**-10,9**	**-7,4**	**2,8**

*Revised annual figures (Oct 2011)

**also including other statistical discrepancies

Source: ELSTAT. and NBG Research Estimates (s. adj. based on X12 Eviews filter)

Despite the positive contribution from changes to the European support framework, the success of Greece's adjustment depends mostly on its own reform efforts. The following analysis attempts to identify the underlying adjustment trends, which when complete, will permit the Greek economy to return to a sustainable growth path.

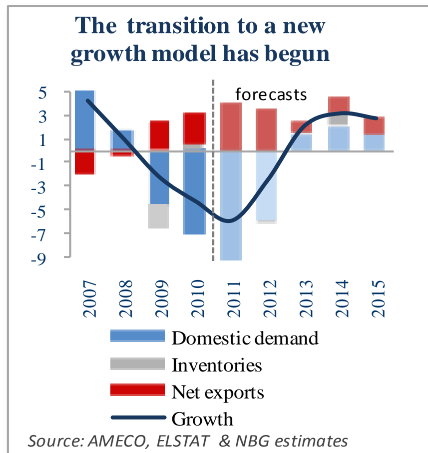


Among the recent indications of the above trends, the following are the most significant:

i) The high dependence of economic growth on domestic demand during the past decade is rapidly reversing course, commencing with a collapse in fixed capital formation, and followed by a sharp contraction in private consumption. As a result, import spending is declining rapidly (by 8 pps of GDP, in constant price terms, to date), with a significant part of this adjustment expected to be structural and lead to a permanent reduction in the import dependence of the country.

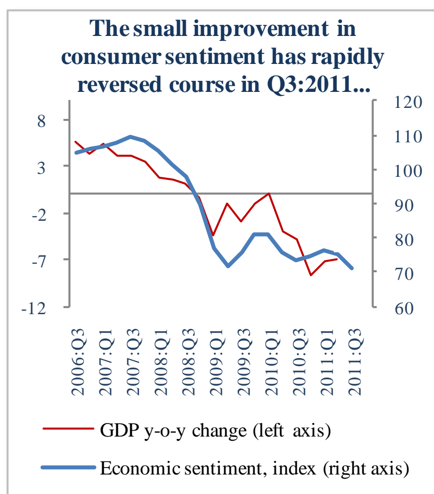
ii) At the same time, Greek exports have registered a notable recovery, driven by the strong rebound in tourism. As a result, exports (in constant price terms) have fully recovered from the sharp drop in 2009, increasing by almost 3½ pps of GDP in 2010 and H1:2011.

iii) Labor compensation, an important source for the sizeable loss of cost competitiveness of the Greek economy since EMU entry, is estimated to have declined by c. 10 per cent cumulatively in 2010 and 2011 (in nominal terms), reversing a significant portion of the excessive wage growth of the post-EMU era (c. 26 per cent cumulatively during the 2001-2009 period). These gains are gradually translating into material declines of ULCs compared with increases for the euro area as a whole, and thus improving cost competitiveness, and the improvement is more pronounced in the export-oriented sectors (tourism and manufacturing).



iv) A structural adjustment is ongoing in the labor market, with total employment continuing to contract at a rapid pace (down 8.3 per cent from its peak). It is encouraging that there are indications that employment in export-oriented activities appears more resilient in the past few quarters. Moreover, more flexible forms of labor contracts (part and fixed time as well as flexible time arrangements) appear to be rapidly gaining importance in the Greek labor market, setting the stage for a more competitive market.

v) Headline inflation is declining at an accelerating pace, as unfavorable base effects from tax increases and commodity price appreciation subside, while firms compress further their profit margins. Similarly, a significant part of losses in relative cost competitiveness of Greek tourism during the previous decade appears to have been restored as a result of the increasingly competitive pricing of tourism services since 2009 -- especially tour packages (where prices have declined by almost 20 per cent).



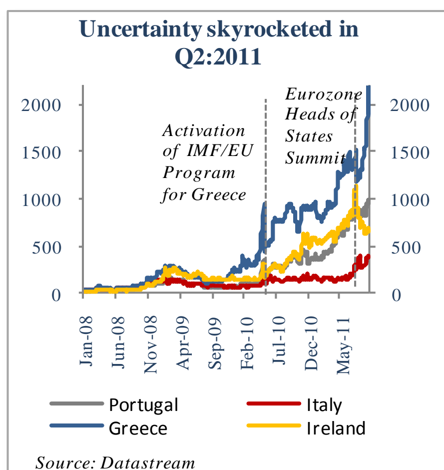
The evidence is encouraging, though it is still not sufficient to provide comfort that the economy is on a sustainable track to appropriately rebalance. For the process to accelerate and result in less social dislocation, a far more determined implementation of structural reforms to promote growth and the fiscal adjustment progress is required, together with decisive and time-consistent support from our EU partners. Taken together, such action would quickly begin to restore confidence in Greece's prospects, which would be gradually reinforced as the adjustment process unfolds.

For the moment, however, the sharp recession and loss of confidence are having a significant negative impact on the fiscal outcome. The analysis concludes with an overview of developments in the fiscal sphere. Specifically, the FY:2011 budget should meet the revised end-year target of 8½ per cent of GDP, if the new adjustment measures are fully implemented. In this case, fiscal

policy will have a -2.5 per cent contractionary impact on the economy in H2:2011 and about -2.1 per cent in 2012, when the deficit is programmed to decline further, to 6.8 per cent of GDP.

Underlying rebalancing of the Greek economy is ongoing

Though the requisite intensification of the fiscal adjustment effort and deteriorating private sector sentiment delay the bottoming out of economic activity to H2:2012, the underlying process of rebalancing of the economy is ongoing and often overlooked.

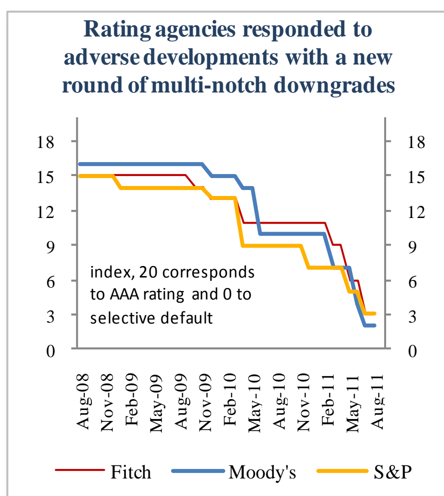


Source: Datastream

The Greek economy remains in deep recession, with GDP declining by an estimated -7.3 per cent y-o-y in Q2:2011 from -7.6 per cent y-o-y in Q1:2011 and -8.8 per cent y-o-y in Q4:2010 (on the basis of ELSTAT non-seasonal and working days adjusted data). The respective quarterly figures (seasonal and working days adjusted by NBG) are -0.9, -1.2 and -2.2 per cent. Activity was dragged down by high uncertainty resulting from the European sovereign debt crisis, tightening credit and liquidity conditions, and most importantly, the impact from the implementation of about 7 per cent of GDP of austerity measures in 2010, and a further (estimated) 1.1 per cent of GDP of measures in H1:2011 (out of a total of 6.0 per cent of GDP for FY:2011, following the inclusion of the July and October measures), as the implementation of initially-budgeted measures has slipped into H2:2011.

Conjunctural indicators, after showing signs of recovery in Q1:2011, slump on heightened uncertainty

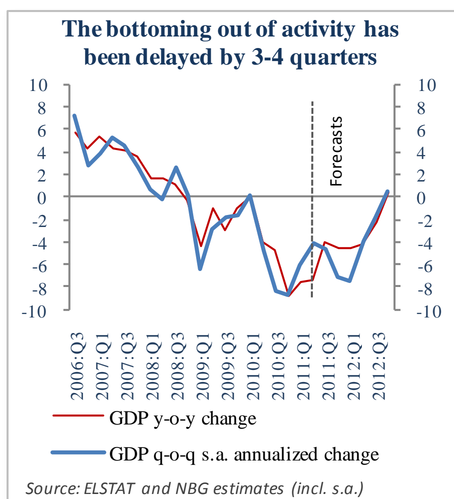
Greek private sector sentiment, as reflected in respective confidence and conjunctural indicators, deteriorated rapidly in Q2 and Q3:2011, after a small improvement in the period following the approval of the initial May 2010 program until Q1:2011. Specifically, industrial production, which had provided some signs of stabilization in H2:2010 and early-2011, on the back of increasing export orders and declining stocks of unsold products (which converged to their 25-year average), declined rapidly in Q2:2011 (-11 per cent y-o-y in Q2:2011 from -6.3 per cent in Q1:2011 and -6.9 per cent in H2:2010). Similarly, retail sales showed signs of stabilization in the February-April period, declining by an average pace of -0.4 per cent per month in s.a. terms compared with an average pace of contraction of -1.6 per cent in Q4:2010, before slumping in Q2:2011 (-2.5 per cent q-o-q s.a.). It must be said that developments in conjunctural indicators appear at odds with the poor showing of activity in H1:2011, as depicted by the national accounts data.



Despite the still favorable external demand conditions, as reflected in the latest readings of relevant survey data for Q3:2011, a weakening of demand from the euro area is increasingly likely in the remainder of the year, as uncertainty appears to dent the region's near-term growth prospects. Moreover, the recovery of demand from SE Europe is, until now, relatively subdued and only the Turkish market is strong.

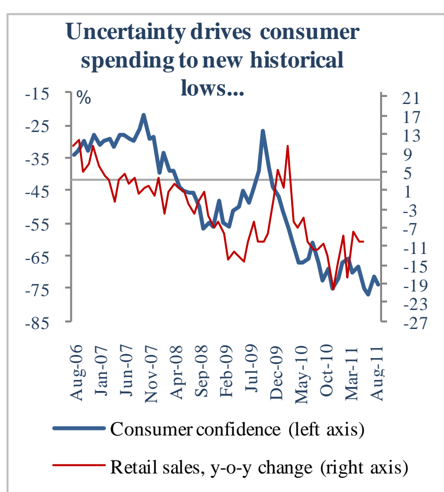
Domestic demand continues to bear the brunt of the adjustment

Domestic demand declined by an estimated 9.3 per cent y-o-y in H1:2011, as both consumption and fixed investment posted large declines. Private consumption contracted by 7.0 per cent y-o-y in H1:2011, and fixed investment continued its freefall (declining by about -10.5 per cent y-o-y in H1:2011). The continuing shrinkage of imports (-19.4 per cent y-o-y in H1:2011), was the main source of an approximately 3½ pp positive contribution of net exports to GDP growth.



The bottoming out of activity will be delayed by about 3-4 quarters, to H2:2012, mainly due to the impact of the additional fiscal measures (which are estimated at about 3½ pps of GDP in 2011 and about 5.0 pps of GDP in 2012), extremely weak private sector sentiment, and deleveraging by a liquidity-starved banking system. In this respect, GDP is expected to contract by 4.5 per cent y-o-y in H2:2011 (a drop of about -1.8 per cent, on average, on a quarterly basis, compared with -1.1 per cent H1:2011). Thus, the contraction of GDP in 2011 will amount to a sobering 5.9 per cent y-o-y in 2011, following declines in activity of 3.5 per cent in 2010 and 3.2 per cent in 2009. Though activity is projected to return to positive territory in Q4:2012 -- increasing by an annualized s.a. q-o-q pace of +1.2 per cent -- it will continue to decline on an annual basis in 2012 (-2.7 per cent). However, the negative 2012 outturn reflects a sizeable negative "carry" from 2011, as the growth rate in Q4:2012 is expected to be around +0.4 per cent y-o-y. The cumulative peak-to-trough decline in output will exceed 14 per cent.

Risks surrounding these forecasts still appear to be skewed to the downside, even following the supportive decisions of the July Eurozone leaders' Summit, due to heightened risks surrounding program implementation, high political risk (domestically as well as on the European stage), and very skittish international markets.



Consumption continues to adjust to more sustainable levels

The contraction in consumer spending is expected to accelerate further in H2:2011 in q-o-q s.a. terms, as real disposable income is likely to register a higher-than-initially-expected contraction of about 14½ per cent in 2011 (compared with a 10½ per cent drop in 2010 and an initial estimate for 2011 of about 9 per cent y-o-y). The key drivers of the decline are:

i) the continued sharp reduction in employment (-5.3 per cent y-o-y, on average, in 2011);

ii) a reduction in nominal compensation per employee of c. 4½-5 per cent y-o-y;

iii) the imposition of new tax measures in 2011 on households of about 2.2 pps of GDP (or 3 per cent of household disposable income); and

iv) an average rate of inflation of 1.0 per cent y-o-y (excluding the impact of tax increases).

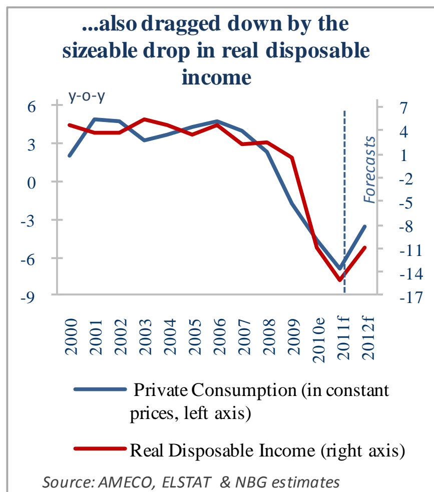
The drop in real disposable income is expected to continue in 2012, although at a slower pace of 11 per cent y-o-y, reflecting:

i) a further contraction in employment of 2.7 per cent;

ii) a decline in nominal compensation of 5½ cent y-o-y -- including the effect from the full implementation of a unified remuneration system in the public sector, which is likely to lead to a new effective reduction in average public sector wages in excess of 10 per cent y-o-y;

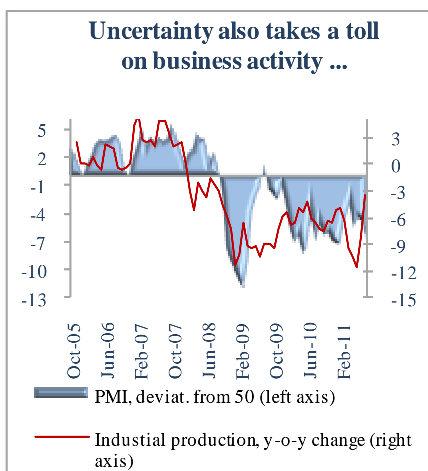
iii) an effective increase in the economy-wide tax burden of 2.8 per cent of GDP, reflecting the combined impact of new revenue measures applied in 2012 and a carry from measures implemented in H2:2011;

iv) an average increase in tax-adjusted consumer prices of about 0.3 per cent y-o-y in 2012.



As a result of consumption smoothing, private consumption will drop by 6½-7 per cent y-o-y in 2011, and by a further 3½ per cent in 2012, and is expected to return to positive territory in 2013. The correction in the size of private consumption from its peak of 74 per cent of GDP in 2010 is estimated to exceed 7 pps of GDP, declining to below 70 per cent of GDP by end-2012 and to below 67 per cent in 2013, still above the euro area average, but this phenomenon reflects the existence of a large underground economy. In fact, private consumption as a per cent of GDP exceeds 70 per cent, on average, during the past 15 years, and long before the recent imbalanced growth. In the event, we project that the large output gap (an estimated 10 per cent of potential GDP by end-2011) will shrink starting in 2013, mostly through the growth of exports and fixed investment, as consumption reduces its share in a more balanced GDP.

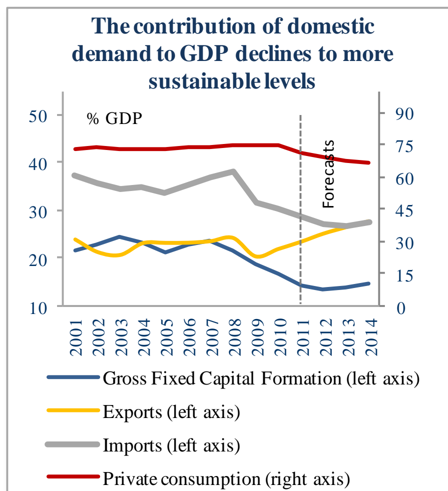
Similarly, the acceleration of the fiscal adjustment effort is expected to lead to a cumulative contraction in public consumption of about 2.2 per cent of GDP, which will bring its share to below 18.0 per cent of GDP in 2012 from a peak of almost 20 per cent in 2009 (compared with a euro area average of 19.7 per cent in 2010). Indeed, the need for lower expenditure than European peers reflects large tax evasion and a large deficit in the pension system.

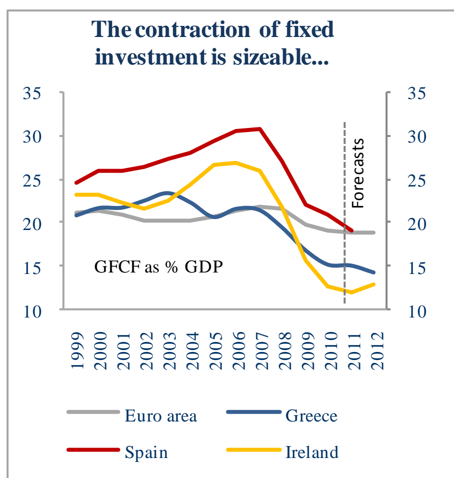


Gross fixed capital formation has also experienced a collapse, with business investment near its trough ...

Weak domestic demand, high uncertainty and bank deleveraging continue to discourage most private investment decisions. In this environment, we project a further contraction in fixed investment of 18.2 per cent y-o-y in 2011 (constant price terms) -- following a cumulative drop of 26 per cent in 2009 and 2010.

Boding poorly for business investment, capacity utilization remains at very low levels (about 10 pps below the 20-year average), even in industries which face favorable external demand conditions, such as basic metals, chemicals, pharmaceuticals, food, and petroleum products. In response to low demand, firms are cutting their profit margins sharply (as a proxy for the industry as a whole: down to 3.9 per cent in H1:2011 for listed non-bank, non-oil companies from a



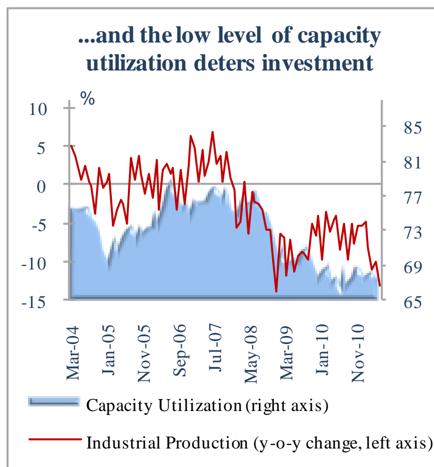


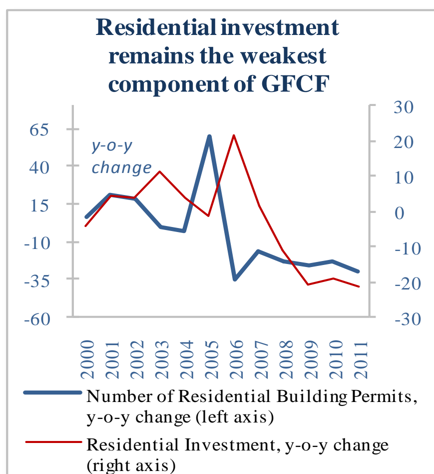
peak of 11.7 per cent in 2007 and 6.3 per cent in 2010). At the same time, bank lending to the corporate sector has declined by -0.8 per cent ytd (approximately €0.9 bn), reflecting both asset quality concerns and lack of liquidity in the banking sector. As a result, business investment is projected to contract by 17.2 per cent y-o-y in 2011, and by 6.8 per cent y-o-y in 2012, although it is likely to reach a trough in H2:2012 as incomes stabilize and demand recovers. In this respect, business investment should be the first component of private sector domestic demand to recover, with positive growth rates from Q4:2012. Overall, business investment will decline to 6.8 per cent of GDP in 2012, from 10.2 per cent in 2009.

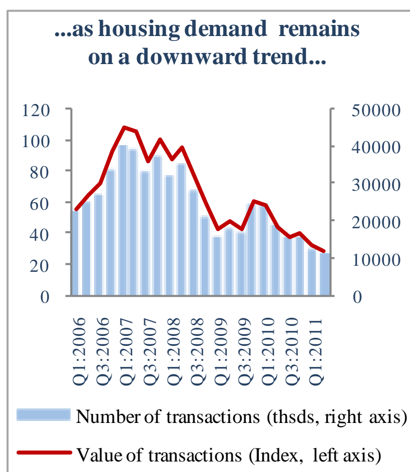
...and residential investment still suffering from an inventory overhang

As regards residential investment, stabilization appears to be even more challenging, as it is conditioned -- almost exclusively -- on domestic income and the availability of credit. The former is expected to remain extremely weak against a backdrop of declining disposable income and an elevated tax burden on real estate property (both directly through real estate property taxation as well as indirectly, as a means for inferring taxpayers' imputed income). Bank deleveraging will stymie the latter; indeed, lending to households is down 1.8 per cent ytd (approximately €2.2 bn), again due to both lack of liquidity in the banking sector and asset quality concerns. The still high outstanding stock of new houses constructed during the past 5 years (amounting to c. 75,000 housing units) is augmented by a large number of older constructions (c. 100,000), which have become available for sale due to declining household incomes as well as for tax purposes. Moreover, rental income for residential, as well as for commercial, property is contracting rapidly, as a large number of contracts are renegotiated, leading to sizeable cumulative reductions in residential rents (estimated to be more than 15 per cent since early-2010). It is important to state that such rental reductions do not appear to be reflected in the respective headline inflation-component trends (comprising 3½ per cent of the index), likely due to the fact that reported rents understate actual ones by a significant margin (20 per cent to 40 per cent). In this respect, residential investment prospects will remain weak. Indeed, the estimation of the current annual absorption capacity of the Greek market is extremely uncertain (it has likely fallen to below ¼ of the average level of 90,000 per annum of the previous decade).

Nevertheless, the absence of a bubble in house valuations in the years prior to crisis (at an economy-wide level), the relatively low share of houses held for investment purposes, the low liquidity of the market, relatively high transaction costs, as well as the fact that Greeks see residential property as a safe haven during the economic crisis, continue to backstop residential house prices. Indeed, the peak-to-date reduction in residential house prices is estimated at 12 per cent. Nevertheless, the continuing decline in disposable income







and evolving deleveraging will maintain downward pressures on house prices in H2:2011 and for the most part of 2012 (also reflected in the continuing collapse of building permits by 31.2 per cent y-o-y in January-May 2011 to 2,500 per month compared with a 12-year average of 8,500 per month). NBG Research projects an additional correction of prices, by about 10 per cent until 2013 -- overshooting long-term fundamental values by about 7 per cent -- which would bring the total peak-to-trough correction in the vicinity of 20-23 per cent, taking into account the potential impact on supply from increasing mortgage loan foreclosures (as the current ban is loosened). In this vein, an additional drop in residential investment of almost 20 per cent y-o-y is expected in 2011 (24 per cent in H2) and a further 14 per cent y-o-y in 2012.

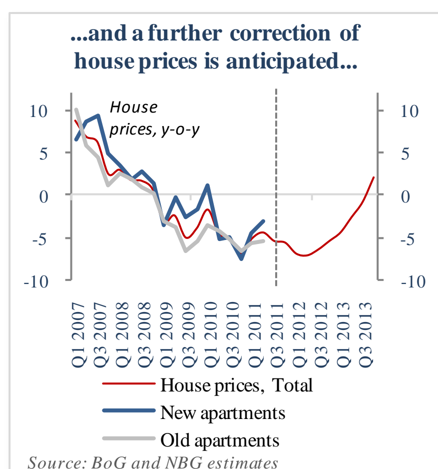
A gradual improvement in consumer sentiment could contribute to an acceleration of the absorption of the stock of unsold houses and a bottoming out of residential construction in 2013. This recovery could gain additional traction if more attractive house valuations, the gradual restoration of macroeconomic stability, and structural reforms attract foreign investment in the secondary-home market -- a largely unexploited segment of the Greek real estate market. As a percentage of GDP, residential investment will drop to 3-3½ per cent of GDP in 2013 from a peak of 9.7 per cent in 2007, while the respective euro area average had fallen to 4.5 per cent in 2010.

Government investment activity remains subdued

Extremely tight budget constraints have led public investment outlays 1.2 per cent of GDP below their average in the previous decade (2.3 per cent versus 3.5 per cent). The recently-announced agreement with the EU to lower the share of national contribution to access structural funds to 5 per cent -- from 27 per cent previously -- in conjunction with an enhanced flexibility regarding the "re-allocation" of undisbursed, as well as of the already earmarked EU funds under the ESRF towards more "mature" projects, are expected to support a recovery in public investment activity in the period ahead. These developments could directly augment the use of EU funds for the 2012-13 period by about €3.0 bn (or 0.6 per cent of GDP annually). Additional leverage of the above funds with co-financing from the EBRD and the EIB could create additional growth stimulus. In this respect, public investment is likely to be the first component of domestic demand that will bottom out during 2012, registering an average annual increase of about 7 per cent. A key risk for public investment is that it usually is the victim of fiscal slippage, held back to offset non-performance in other components of the budget.

The above trends are expected to lead total private gross fixed capital formation -- at the prospective end of the recession in mid-2012 -- to almost 50 per cent below its peak in 2007, while its share in GDP will register an extraordinary drop of 9½ pps of GDP -- to around 14 per cent of GDP -- before starting to recover gradually in 2013.

Overall, in view of the above developments, the share of domestic demand in GDP will contract cumulatively by almost 20 pps of GDP peak-to-trough, from 115 per cent of GDP to 96 per cent of GDP in 2013, with private consumption being the main driver of this drop in the 2011-2013 period (declining by about 6 pps of GDP), following the sharp drop in fixed investment of about 9½ pps of GDP between 2008 and 2012.



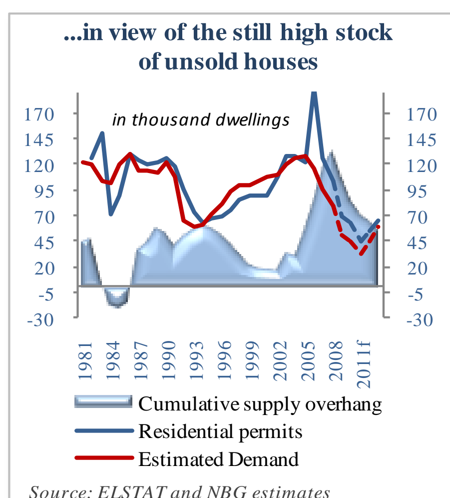
Source: BoG and NBG estimates

Nascent signs of adjustment and rebalancing can be observed in several sectors of the Greek economy

Despite the gloomy short-term outlook, the Greek economy has begun to adjust, rebalancing domestic and external demand and shifting production from non-tradeables to tradeables, regaining competitiveness, especially in key export sectors. The sections below describe this adjustment as it is reflected in import and export developments.

Import spending declines to more sustainable levels…

Driven by the continuing drop in domestic demand, Greek imports continue to contract rapidly (by an estimated 10½ per cent y-o-y, in constant prices, in H1:2011), following a cumulative contraction of about 26 per cent (in constant prices) in the 2009-2010 period from the historically high levels reached in 2008. This correction mostly reflects a peak-to-date contraction of goods imports (corresponding to c. 80 per cent of total import volume) by 25 per cent, while services imports dropped by 17 per cent (peak-to-date). Overall, the share of total imports in GDP fell by more than 8 pps of GDP to below 30 per cent of GDP in H1:2011 (in constant price terms) from 38 per cent in 2007.

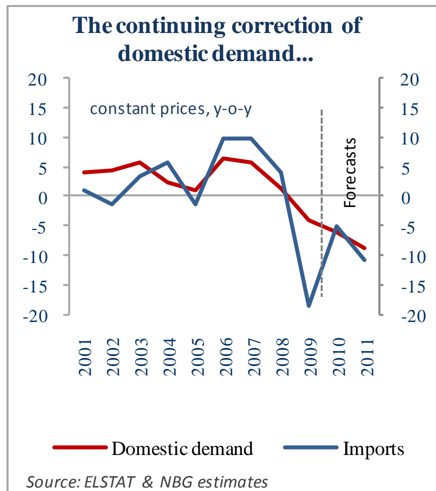


Source: ELSTAT and NBG estimates

In nominal terms, the decline in the goods import bill is also notable (c. -34.0 per cent peak-to-date), though about 2.9 pps of GDP lower compared with the respective correction in constant price terms (-26 per cent), as a result of unfavorable terms of trade developments in key categories of Greek imports.

It is important to note that the decline in imports of income elastic categories, such as consumer durables and capital goods has reached -48 and -39 per cent, respectively, peak-to-date (in nominal terms), and these two categories jointly correspond to almost 40 per cent of Greek imports. On the other hand, the value of non-durable consumer goods imports, which correspond to 20 per cent of imports, contracted by only 11 per cent due to their lower income elasticity (0.8 compared with 1.7 for consumer durables), as well as due to higher food-price inflation (international unprocessed food prices increased by 13 per cent y-o-y in Q1:2011). Fuel imports, corresponding to about 20 per cent of total imports, declined by 9.2 per cent in value terms, despite the 22 per cent increase in crude oil prices in euro terms between 2008 and H1:2011, as import volumes of fuel fell by about 18 per cent peak-to-date. Overall, it appears that higher goods import-price inflation has weakened the current account adjustment by about 3.0 per cent of GDP (see table on page 17).

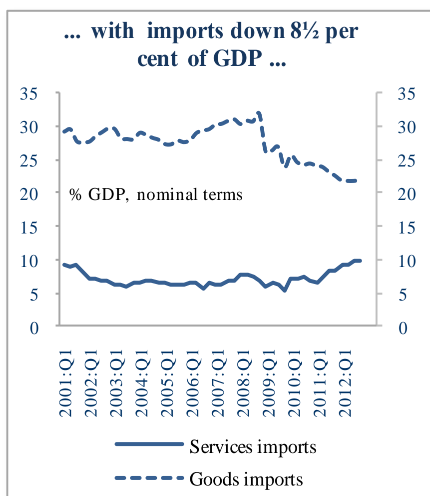
Looking forward, the downward trend in import spending is expected to continue in H2:2011 and 2012 (-9.0 and -7.4 per cent, respectively), reflecting the continuing drop in domestic demand. Indeed, the total contraction of merchandise imports as a per cent of GDP is expected to reach 13 per cent of GDP (constant price terms) until the end of 2012 (with the share of imports of goods and services in GDP declining to around 26½ per cent by end-2012), assuming elasticities of the respective import categories similar to their 2001-2010 average.



In fact, this import share is broadly analogous to the expected share of total exports in GDP by end-2012, though this reduction of imports clearly reflects overshooting due to the severe recession. We project import spending to rise in the medium term (2013 onwards) by about 3 per cent of GDP to c. 29 per cent of GDP, mostly reflecting the recovery of imports of intermediate goods (mostly primary materials/commodities and fuel), and capital goods, as economic activity and especially business investment pick up. In this respect, the permanent reduction in import spending will amount to c. 9 per cent of GDP, and the permanent adjustment will mainly reflect the normalization of spending on consumer durables (transportation equipment, mostly vehicles), down by 6.7 per cent of GDP from almost 14 per cent of GDP in 2008, as well as the rationalization of other-income elastic consumer goods categories.

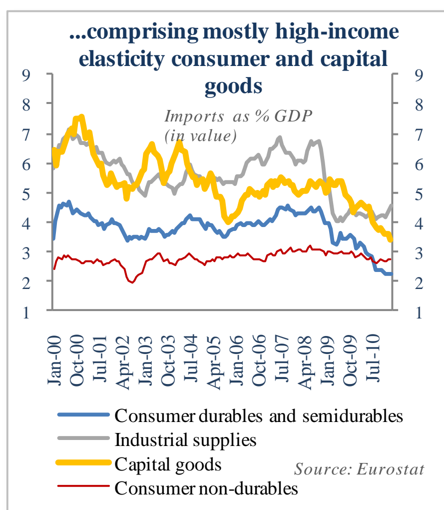
... while the recovery of the Greek exporting sector continues .....

An increasing contribution of exports in GDP is crucial for the restoration of the external balance, and concomitantly for a strong Greek economic recovery. Goods exports -- which correspond to about 43 per cent of total Greek exports (in constant price terms) -- have provided some encouraging signs, having risen by an estimated 4.0 per cent y-o-y in H1:2011, in constant price terms, following an increase by 11.2 per cent y-o-y in H2:2010. Their recovery has been supported by favorable base effects in commodity intensive Greek exporting sectors (following the extremely weak international demand in 2009), as well as from recovering demand in the euro area, eastern Europe and Turkey (see below). Moreover, the aggressive exporting policy of Greek firms and their evolving business restructuring has also played a role.



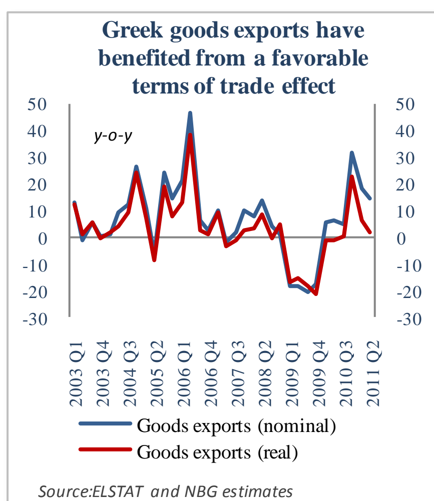
Goods exports increased their share in GDP to above 10½ per cent in H1:2011 (in constant price terms), exceeding the 10-year high attained in H1:2008. The total level of exports represents a very low level of GDP (c. 23 per cent compared with a euro area average of 43 per cent), suggesting that Greece is a very closed economy, and an export recovery will have a hard time pulling the economy out of recession. Moreover, it must be noted that almost one third of Greece's goods exports are re-exports of imported products (mainly fuels, chemicals and pharmaceuticals), reducing the effective export share even further, to c. 7 per cent of GDP for goods exports and 20 per cent of GDP for total exports.

In nominal prices, non-oil merchandise exports grew by an impressive 11.6 per cent y-o-y in H1:2011, benefiting from favorable terms of trade effects in commodity-intensive export categories such as metals and chemicals. Including energy products, the exports increase in the same period exceeds 30 per cent y-o-y). Indeed, fuel, commodity, and metal products exports grew by 27 per cent, 13 and 22 per cent y-o-y, respectively, contributing more that 75 per cent of total export growth in H1:2011. As mentioned above, however, the favorable export prices are fully offset by higher commodity import prices, reflecting re-exporting activity.



As regards the regional patterns of export demand, it appears that key euro area markets (especially Italy) as well as Turkey and some central and eastern European countries (mainly Russia) have been the main drivers of Greek merchandise export growth, contributing about 65 per cent of the increase in total exports between Q3:2010 and Q2:2011 (in value terms). As regards penetration to new markets, it appears that food exports to the US, China and eastern Europe were among the key drivers of the rebound in food exports since Q2:2011, which contributed about 25 per cent of the total export increase in this period.

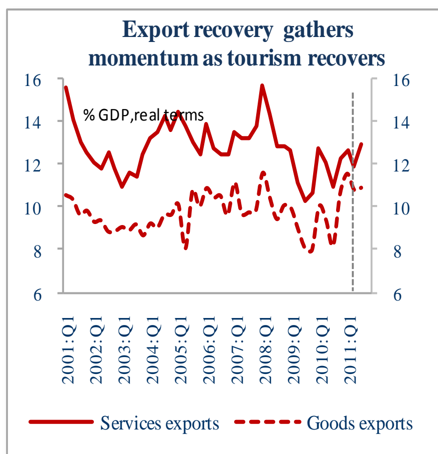
Maintaining the current trend in goods' exports in nominal terms, and most importantly, improving the export performance in volume terms, is a challenge in H2:2011 and 2012, as favorable base effects subside, while the international macroeconomic environment has deteriorated considerably. Indeed: i) most euro area economies have started to lose steam since Q2:2011; and ii) the economic recovery in SE Europe -- which absorbs more than 20 per cent of Greek exports -- continues to be relatively subdued (with GDP growth estimated at 3 per cent y-o-y in 2012, albeit double the 2011 outcome). The continued turn of Greek producers to external markets, combined with their pricing to market, will result in a further strengthening of exports. We project that the total share of goods exports in GDP could reach a historically high 11 per cent by end-2012 and 11.7 per cent in 2013 (constant price terms).

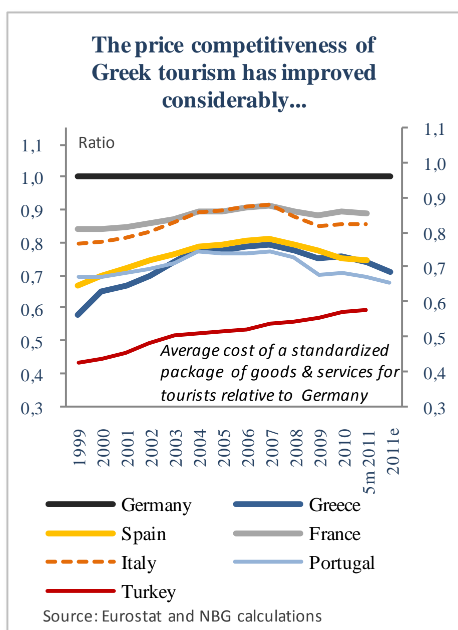


...supported by a strong tourist season, following substantially more competitive pricing ...

Tourism trends have improved considerably since Q2:2011, following two very difficult years for the sector, as a result of: i) improving cost competitiveness; ii) relatively solid economic growth in core euro area countries for the most part of 2011; iii) increasing penetration in rapidly developing markets, such as Russia and, to a lesser extent, China; and iv) the reduced attractiveness of neighboring tourism destinations in North Africa and the Middle East, due to the social and political unrest in the region.

The total increase in arrivals reached 11.4 per cent y-o-y in January-July 2011. The Greek market appears to overperform -- compared with the average arrival growth in the Mediterranean region --





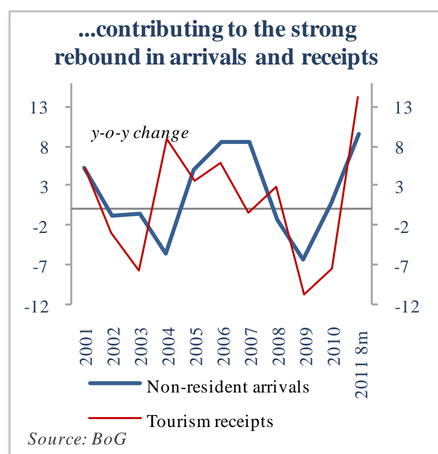
taking advantage of the recovering demand from EU countries, but also from increasing access to eastern European markets (e.g. arrivals from Russia increased by 59 per cent y-o-y corresponding to 4½ per cent of total arrivals in 7M:2011, and from China by 350 per cent, although from a very low base of 0.2 per cent of total arrivals). The rebound in arrivals is even more remarkable in sub-regions, which adopted more ambitious marketing practices (exceeding 30 per cent on some large Greek islands) -- based on private or local government initiatives. In general, these ensured a network of transportation interlinkages with important markets (mainly through low cost airlines), thus succeeding in meeting more competitive value-for-money standards.

In this vein, tourism revenue has also followed an accelerating trend during 7M:2011, with y-o-y growth in the January-July period climbing 14.2 per cent y-o-y (compared with a decline of -8.8 per cent y-o-y in 7M:2010). This favorable momentum appears to have accelerated in Q3:2011 -- a period that traditionally corresponds to about 50 per cent of annual tourism revenue in Greece -- leading the estimated average increase in arrivals in the vicinity of 10½-11 per cent, and revenue by about 13 per cent y-o-y. The results could have been stronger if arrivals in Athens, the largest destination city that corresponds to more than 20 per cent of total arrivals, did not suffer due to the rash of anti-austerity protests and the prolonged taxi strike. The above factors led to a reduction in arrivals to the capital by 1 per cent, in contrast to the rapid increase for the rest of the country, and likely deprived Greece of c. 300,000 arrivals at a country level (or c. 2 per cent).

It is notable that the increase in revenue exceeds the increase in arrivals (14.2 per cent versus 11.4 per cent y-o-y) -- suggesting an increase in average revenue per tourist of about 2.6 per cent y-o-y -- although the cost competitiveness of Greek tourism has improved during the same period (see next paragraph). In this respect, it appears that Greece had attracted more high quality tourists and/or tourists who stayed more days in the country (e.g. the average spending of a tourist from Russia is about 40 per cent higher compared with revenue from a euro area tourist).

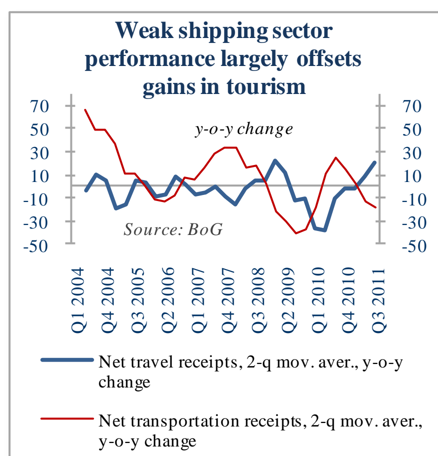
Although Greek tourism has probably benefited from extraordinary events -- e.g. political instability in a number of North African countries -- it appears that the continuing improvement in cost competeiveness acted as a catalyst for the recovery of the tourism sector. Indeed, challenging demand conditions and high external competition in the sector prompted firms in the tourism sector to follow far more competitive pricing policies. Specifically, the absolute price of a standardized package of products and services representative of tourist consumption (calculated as a weighted average euro price of a basket of tourism-related products and services, as provided by Eurostat, comprising accommodation, restaurants, transport, food, recreation and cultural activities) appears to have declined by 9 per cent between 2008 and H1:2011,

sufficient to offset about 60 per cent of the appreciation of this package since EMU entry. Though the relative position of the country in the respective international cost ranking has improved, neighboring economies, such as Turkey and Egypt, continue to maintain a substantial cost advantage based on this measure (with average prices for the same package remaining about 28 per cent below that of Greece).



However, the above estimate, which is based on developments of relevant CPI components, likely underestimates Greece's cost competitiveness gains. Specifically, tour packages offered directly to foreign citizens through large tourist operators or on the internet have experienced even larger price adjustments. Indeed, international internet travel websites indicate that the average price of a standardized package, including air tickets and accommodation in a 4-star hotel on the Greek islands or mainland, appears to be almost 20 per cent lower compared with 2008, and more importantly, the absolute price of this standardized package is directly competitive with destinations such as Turkey or Egypt (according to the online price/booking data of the 2 largest tour operators in the UK). It should be noted that package tours comprise about 35 per cent of tourist arrivals.

It must also be noted that the tourism sector corresponds to one of the most flexible segments of the Greek labor market, with part-time and temporary contracts corresponding to a high percentage of employment contracts. The sector is also characterized by high labor mobility and wage flexibility, especially during the economic crisis, providing further margins for business restructuring. Nevertheless, this flexibility often comes at the cost of a relatively high level of "grey" employment and activity in this sector, leading to tax revenue leakage.

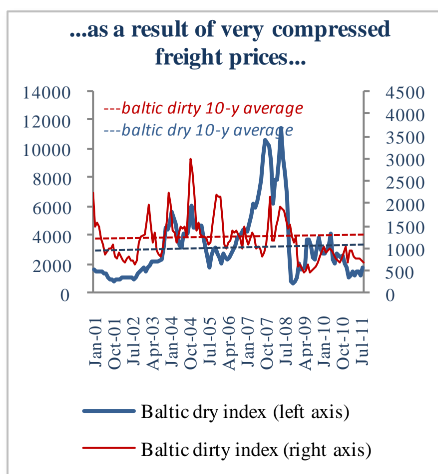


In view of the importance of this sector to the Greek economy, the debate regarding the VAT taxation of tourism-related products is often intense. Specifically, VAT on accommodation services was reduced from 13 per cent to 7 per cent in January 2011, more than offsetting its 4 pp increase in May 2010 (at the time of the general VAT increase). Moreover, the increase in VAT to 23 per cent (from 13 per cent currently) on restaurants, cafes and catering services was designed to affect only domestic purchases and to remain low for the purchase of services that are part of tour packages (e.g. half/full board).

... and a recovery in cruise arrivals

Although the new law for cabotage has not provided a material improvement in the country's relative competitiveness as a cruise home-port center, Greece appears to have enjoyed a surprisingly strong cruise season, based only on transit arrivals which increased by almost 20 per cent y-o-y in 7M:2011, while revenue reached €0.4 bn in the same period. Reduction of relevant fees, a more competitive pricing of related auxiliary services in Greece, as well as strong demand for cruises in the Mediterranean and some

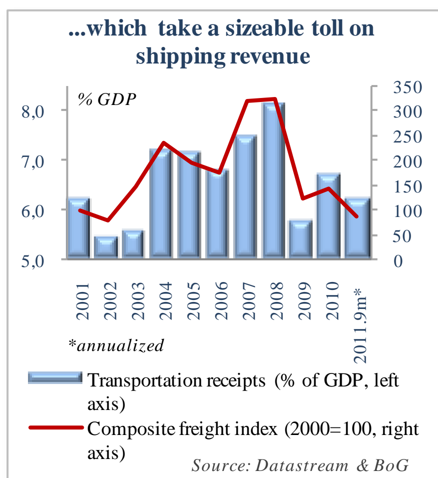
redirection of cruise routes away from North Africa appear to be the main drivers of this rebound. That being said, even small improvements in the attractiveness of the relative position of Greek ports as the home-port for cruises -- rather than a transit area -- could boost demand substantially in the years to come. The requisite policy changes are not considered burdensome and mainly require the implementation of existing legislation and some sensitivity to cruise company requests. Indeed, market estimates suggest that the average revenue from a tourist who starts his cruise in a country is about 5 times higher compared with a transit cruise visit. Indeed, Greece has a 22 per cent market share in cruise ship passengers in Europe, but only 4½ per cent of revenue due to its limited role as a home-port for cruises.



Overall, tourism revenue, as recorded in BoG balance of payments data, is expected to increase by 0.7 per cent of GDP in 2011 to 5.2 per cent of GDP (BOP data) and by a further 1.1 per cent in 2012, fully offsetting their decline during the past 4 years. The main drivers will be the increasing penetration in rapidly developing new markets and additional cost competitiveness gains, which are expected to outweigh the drag from a weakening euro area economy. The key risks for the sector are further incidences from special interest groups, as well as social groups harmed by the recession and austerity measures, negative news related to the country's macroeconomic prospects and a sharp slowdown of the euro area economy.

The weakness of the shipping sector reflects lower freight rates ...

Conditions in the shipping industry remain very challenging as the sector continues to face the combined headwinds originating from tonnage oversupply and relatively weak international demand. Indeed, pressure on dry bulk freight prices has been accentuated by the relatively subdued recovery of world trade (+3.7 per cent y-o-y in 2010 and, an estimated, 3.0 per cent y-o-y in H1:2011 versus a 10-year average growth rate of 5.7 per cent) in conjunction with extraordinary events in H1:2011, such as the catastrophe in Japan and disruptions in mining operations in Australia and Brazil due to weather conditions in early-Q2:2011. Price support has come mainly from Chinese demand, which corresponds to about 52 per cent of the total demand for dry load. Indeed, the Baltic dry index in H1:2011 dropped 38 per cent below its annual average level in 2010 and to 55 per cent below its 10-year average, with larger ships such as (capesizes) facing more severe losses.



Despite the small recovery of the BDI index in September (to above 1,800 points), pressure on bulk freight rates is likely to continue in 2011. Indeed, the shipbuilding order book remains elevated -- amounting to about one-fifth of the current size of the world bulkers' fleet, despite: i) the continued deferrals in new ship deliveries (about 20 per cent lower in H1:2011 compared with the original program of deliveries in DWT terms); and ii) the notable acceleration of ship scrapping since Q2:2011, which is heading

towards a 25-year high of 6½ per cent of existing bulkers' tonnage in 2011.

Freight prices could register a further sustainable increase of c. 25 per cent y-o-y, to above 2,000 points in 2012 (nevertheless remaining 35-38 per cent below their 10-year average), if: i) world economic growth registers only a small slowdown compared with 2011, i.e. remaining in the vicinity of 4.0 per cent y-o-y; ii) deferrals of new capacity continue at their current or at an even more accelerated pace; and iii) scrapping of old ships maintains its very strong pace of recent quarters.

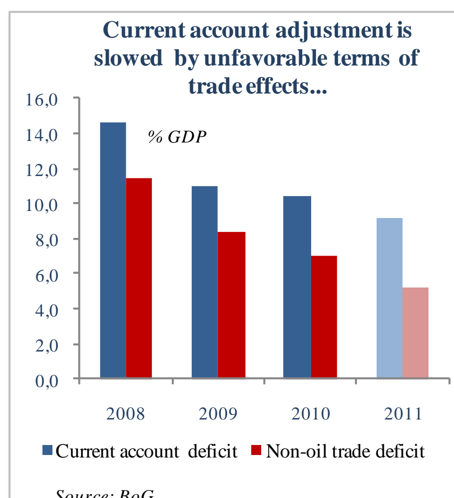
Current account balance (in billion EUR)

Source: Bank of Greece	2008	2009	2010	2011f	2012f
Current Account	-35,0	-25,8	-24,0	-20,5	-15,0
Current Account (% of GDP)	**-14,7**	**-11,2**	**-10,5**	**-9,2**	**-6,9**
Non-oil Trade Balance	-31,9	-23,2	-19,7	-15,2	-11,4
Non-oil Exports	15,6	12,3	12,1	13,6	14,8
Non-oil Imports	-47,5	-35,4	-31,8	-28,8	-26,2
Oil Balance	-12,2	-7,6	-8,6	-10,0	-9,3
Services Balance	17,2	12,6	13,2	14,1	15,4
Income Balance	-10,9	-9,8	-9,3	-9,6	-10,0
Current Transfers, net	2,8	1,3	0,2	0,2	0,3

Source: Bank of Greece

Although excess supply in the Tanker market is more manageable, freight prices have also dropped considerably (-33 per cent y-o-y in H1:2011 versus H1:2010), to about 38 per cent below their 10-year average. Specifically, the entry into the market of a supply of very large ships (i.e. VLCC) and a weakening of international demand since Q2:2011 have accentuated pressures on tanker freight prices. In this respect, tanker freight prices could recover by early-2012, increasing by about 25-30 per cent compared with their Q3:2011 level, supported by winter demand and recovering industrial activity after an expected slowdown in H2:2011.

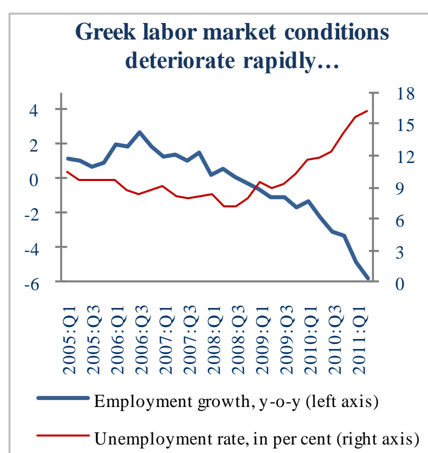
Nevertheless, Greek shipowners continue to increase their leading role in the sector, being among the most active participants in ships' transactions in second-hand markets, and maintaining almost 22 per cent of the existing shipbuilding order book in the tanker and bulk markets. Their investments in 2010 and H1:2011 exceed €11 bn (corresponding to c. 20 per cent of total investments in the sector in the same period) and presage an increase in the share of the Greek-owned fleet of about 0.7 pps until 2013, following a drop of about 1.4 pps between 2008 and 2010.



In volume terms, the size of the Greek-owned fleet registered a small correction in 2010 from the historically high levels of 2009 (-4 per cent as regards the number of ships and -2.1 per cent in DWT terms from 260 mn DWT in 2009, still 2 times larger compared with its size in the late-1990s). However, the Greek-owned fleet increased by 1½ per cent (in DWT terms) in June 2011 compared with its December 2010 level and is expected to reach a historic high by end-2012 (+2.3 per cent over its Q1:2011 level).

Nevertheless, the sharp correction in freight prices, by more than 70 per cent compared with their average 2008 levels (in composite bulker/tanker terms) overshadows any potential gains from the increased size of the Greek-owned fleet (as well as any gains from its expanding role in dynamic segments of the industry such as LNGCs and containerships) combined with the increase in world trade. Successful time-chartering contracts have provided some resilience in shipping companies' revenue, but the protracted correction in prices creates additional pressures for existing contract renegotiation, and gradually feeds further into the price of charter contracts (e.g. COSCO Holdings' attempts to renegotiate or delay charter hire contracts).

Current account adjustment			
peak-to-date adjustment (% of nominal GDP)			
H1:2008 - H1:2011			
	Real terms	Nom. terms	Terms of trade effect
Exports of Goods	-0,8	0,6	1,4
Exports of services	-0,5	-1,25	-0,8
Imports of Goods	-9,2	-6,3	-2,9
Imports of Services	-0,3	-0,1	-0,2
Change in Goods & Services Balance	-8,2	-5,7	-2,5
Other Current account balance components			
Income balance *(+ denotes increase in deficit)*	*0,1*	*0,1*	...
Current transfers balance *(+denotes decline in surplus)*	*0,8*	*0,8*	...
Other	*-0,2*	*-0,3*	
Total current account adjustment (implied)	-7,5	-5,1	-2,5
Total current account adjustment (actual, BoG data)	...	-5,3	...
Implied CA level ***H1:2011*** ***(% GDP, annualized)***	6,9	9,3	...
Source: BoG and NBG estimates			



Indeed, net revenue to Greece from the shipping sector has declined by 14 per cent y-o-y in January-July 2011, following a year of solid expansion (+12.2 per cent y-o-y in 2010). Evidently the drop in shipping sector revenue was lower than the respective drop in average freight prices (-28 per cent in the same period), as a result of existing charter contracts. Nevertheless, downward pressures on contract prices and the softening outlook of global economic growth are unlikely to support a notable recovery in shipping revenue in 2011 and for the most part of 2012. In this respect, the share of gross shipping revenue in GDP in 2011 will decline by 0.7 per cent of GDP to 5.4 per cent of GDP (BOP data) -- around 2.5 pps of GDP below its 2008 peak of c. 8.0 per cent (net revenue will be about 3 pps of GDP lower).

The supply/demand balance in the dry bulk market is likely to improve, but it is unlikely to fuel a sustainable rally in freight prices -- in view of the additional supply in the pipeline and an expected slowing of the world economy -- while the tanker market could register a subdued recovery. As a result, we expect that the share of shipping revenue in GDP will recover to 6.2 per cent in 2012, more than offsetting the 2011 decline.

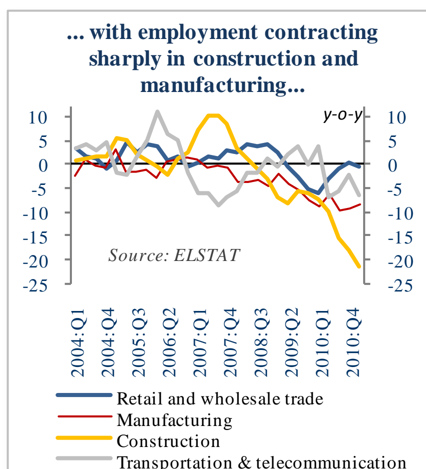
An acceleration of economic growth internationally, and an even bolder stance of shipowners regarding cancellations, and scrapping could be the catalysts for the sector. However, a weakening of the attractiveness of the Greek flag due to macroeconomic instability in Greece, and most importantly, the impact of uncertainty and tight liquidity conditions on global fleet management decisions could weight negatively on shipping revenue.

The current account adjustment has been slower than expected, due to significant negative terms of trade effects

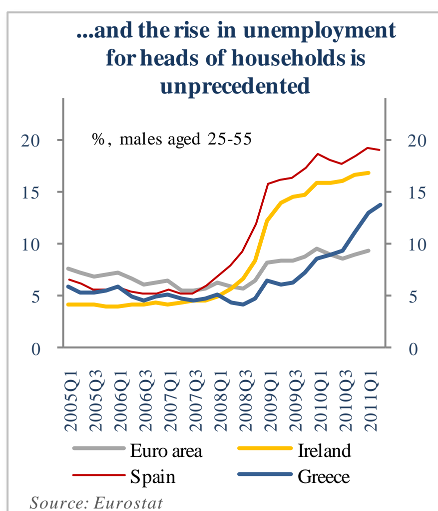
A cursory analysis suggests that the reduction of the current account deficit from 14.7 per cent of GDP in 2008 to an estimated 9-9½ per cent in 2011 has been too slow when compared with a cumulative correction of domestic demand by 17 per cent in real terms during the same period.

However, terms of trade effects and repricing to market, to a large extent, explain the slow speed of adjustment, in combination with a significant slowdown in EU transfers. Indeed, in constant prices, net exports have improved by over 8 per cent of GDP between 2008 and 2011. Specifically, international oil and commodity prices have pushed up both merchandise exports and imports, however, merchandise imports are 3 times larger than merchandise exports. Without these relative price changes for both exports and imports of goods, the current account balance would be approximately 1.5 per cent of GDP lower than its current 2011 estimate (see table).

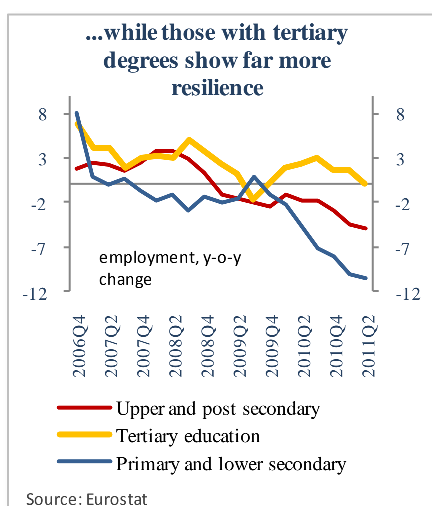
Moreover, in the service sector, international shipping cargo rates have declined by about 70 per cent (composite rate) from their peak to 40 per cent below their 10-year average. The decline has knocked 0.5 per cent of GDP from the current account balance. In the



... with employment contracting sharply in construction and manufacturing...



...and the rise in unemployment for heads of households is unprecedented



...while those with tertiary degrees show far more resilience

tourism sector, repricing of services in order to regain competitiveness has resulted in a price decline of about 15 per cent, which knocks another 0.3 per cent of GDP from the current account balance, though the latter changes reflect the necessary adjustments from previous years' excesses. The other contributing factors to the slow adjustment of the current account deficit are not directly linked to the recession. Current transfers contracted by about 0.8 per cent of GDP from an average of 1.1 per cent in the 2007-2008 period to only 0.3 per cent in 2010. Despite their recovery in January-July 2011, current transfers will remain about 0.6 of a percentage point lower from their 2007-08 level, mostly reflecting a delay in EU disbursements as well as a cumulative drop in incoming remittances, mainly from the Greek diaspora, of 45 per cent (or 0.4 per cent of GDP) compared with their 2008 levels. Moreover, the income account deficit remains broadly stable at c. 4½ of GDP, as the impact of higher interest payments on private holders of government debt has been broadly offset by lower payments of dividends and other returns on financial assets held by foreigners.

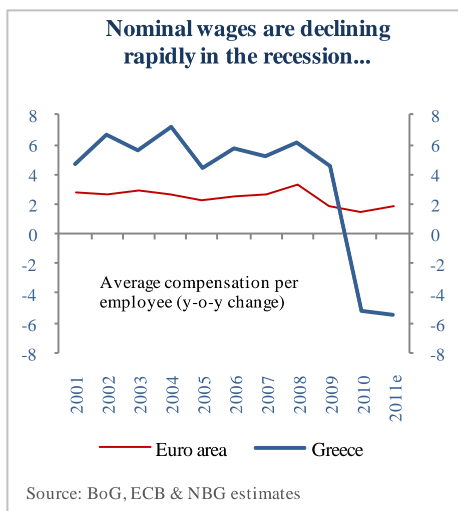
As a result of the relative price changes and the lower transfers, the contraction of the current account deficit will be only 1-1½ per cent of GDP in 2011 (to c. 9-9½ per cent from 10½ per cent in 2010). Without these negative terms of trade effects and the pricing to market of tourism, the current account deficit would be 2½ pps of GDP lower.

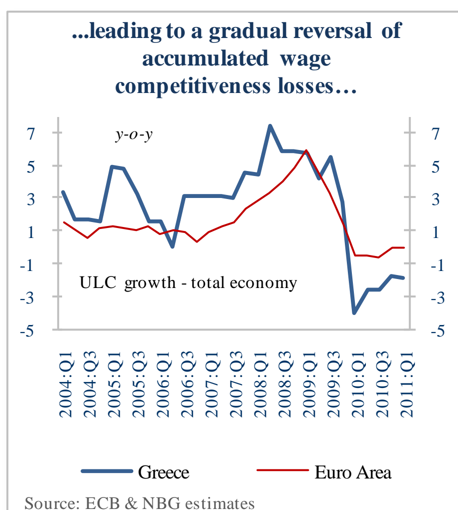
In 2012, assuming a continuance of the favorable momentum in tourism revenue, a recovery in transfers, in conjunction with the continued decline in imports (albeit somewhat smaller compared with 2011, as the drop in merchandise imports approaches its short-term limits), the correction of the current account deficit could exceed 2½ pps and would bring the deficit below 7 per cent of GDP by end-2012, and in the vicinity of 5½-6 per cent in 2013, excluding any benefit from a drop in international commodity prices.

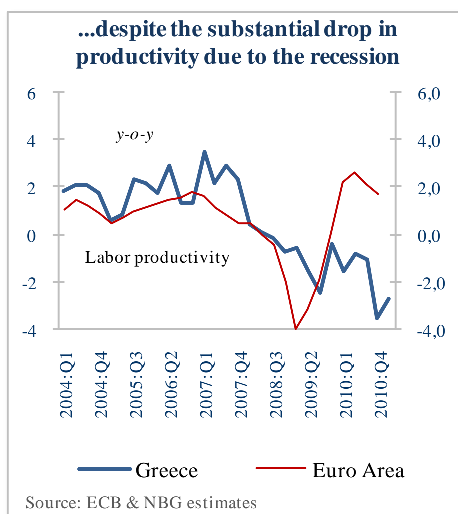
The labor market has adjusted far faster than expected, with large job losses in the private sector and a sharp fall in compensation

The hit to the Greek labor market from the recession is sharper than initially expected, with unemployment increasing by 8½ pps between Q4:2008 and Q2:2011 (to 16.3 per cent). Moreover, the pace of employment contraction appears to have accelerated further in H1:2011 to an unprecedented -5.5 per cent y-o-y (down by 8.3 per cent cumulatively from the peak in H1:2008) and is widespread, including sectors in which the correction had started several years earlier (e.g. employment contraction in construction and manufacturing sectors continues for a fourth consecutive year). The level of unemployment is even more impressive if one considers that about 20 per cent of the labor force are employed by the public sector, and have suffered hardly any job losses, and about 35 per cent are self-employed, who are less prone to unemployment.

The sharp fall in employment reflects the large contribution of







labor-intensive sectors in activity (such as retail and wholesale trade and residential construction). Sectors characterized by higher flexibility of employment arrangements, such as retail trade and tourism activities (with the latter also export-oriented), exhibit lower losses of employment (with construction being an exception). Moreover, unemployment has now hit the historically most resilient age group, heads of households (men aged 30-55 years), where the unemployment rate has increased from 5.2 per cent in 2008 to 13.8 per cent in H1:2011. Indeed, this segment of the labor force was traditionally characterized by one of the lowest unemployment rates and by the highest percentage of full-time employment in the euro area. In addition, employment losses have been far larger for low-skilled workers, while employment for those with tertiary degrees shows far more resilience.

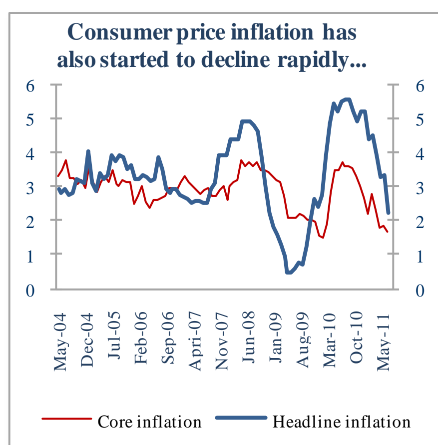
As a result, a significant share of new labor contracts (c. 40 per cent) signed in H2:2010 and H1:2011 reflects flexible/part-time arrangements compared with a 6½ per cent share in total employment. Similarly, according to market sources, inter-sectoral employment search and mobility, which have traditionally been poor in Greece, climbed to unprecedented levels under the pressure of recession.

The sharp fall in employment and its composition suggests that a structural adjustment is taking place in the labor market. Indeed, the elasticity of employment to activity is 0.8, when it traditionally is closer to 0.4 when due to cyclical factors.

Nonetheless, aside from enhanced flexibility and labor adjustment trends, the above developments pose challenges for economic policy. Indeed, the evolving rationalization of domestic demand, and the necessary downsizing of the public sector employment presage additional employment losses until mid-2013. In line with our projections for activity, employment is projected to decline by 5.2 per cent in FY:2011 and by about 2.7 per cent in 2012, resulting in a peak-to-trough drop of almost 11½ per cent -- c. 650,000 jobs. As a result, the unemployment rate is projected to peak slightly above 20 per cent in early-2013.

The rapid adjustment in employment has also been accompanied by sharp wage compression. Nominal wages have declined rapidly during the recession, despite the limited implementation of the ambitious new labor law, which effectively permits enterprises to opt out of sectoral collective bargain agreements, and a national collective bargaining agreement that calls for broadly flat wages in the private sector. Indeed, nominal wages contracted by almost 4½ per cent in 2010 and by an estimated 4½-5 per cent in 2011. This correction (along with wage developments in the euro area) compensates for about 40 per cent of the cumulative economy-wide wage growth differential versus the euro area between EMU entry and 2009 (26 per cent, not adjusted for productivity). The actual adjustment in labor compensation is surely higher, as wage statistics

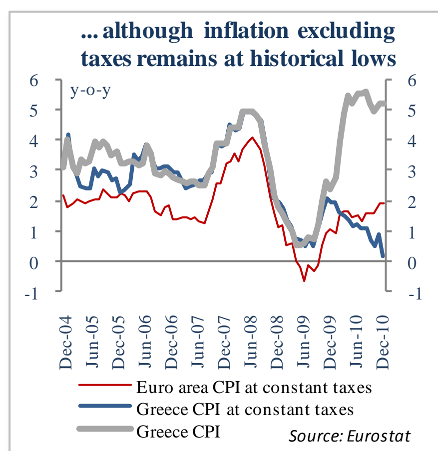
for dependent employment cannot capture the significant compression in labor incomes of the self-employed, and the fact that dependent employment is being paid with long delays, and for shorter working hours. For 2012, we project a further decline in wages of about 5½ per cent, including the impact of the further 10-15 per cent effective cut in public sector wages.



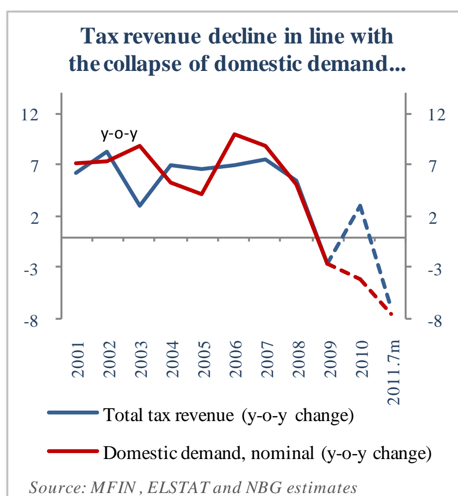
Gains in terms of relative ULCs are more subdued due to the sharp drop in productivity. Indeed, productivity declined by about 3.0 per cent per year in both 2009 and 2010, and is expected to decline by another 2.7 per cent in 2011 (versus a cumulative 3.7 per cent decline in labor productivity in the euro area during the 2008-2009 recession). As a result, ULCs declined by almost 3.0 per cent in 2010 (compared with an increase of 0.5 per cent in the euro area). Preliminary data point to a contraction of ULCs of about 3½ per cent y-o-y in FY:2011 versus an increase of 0.7 per cent in the euro area. A bottoming out of economic activity in H2:2012, in conjunction with continuing wage and employment adjustments, should support a further reduction in ULCs by c. 4-4½ per cent in 2012. Overall, the cumulative reduction in ULCs until 2012 is expected to offset about two thirds of relative ULC losses of the Greek economy compared with its euro area peers between 2000 and 2009 (estimated at 19 per cent).

Long-standing structural inflationary pressures are being squeezed out of the Greek economy

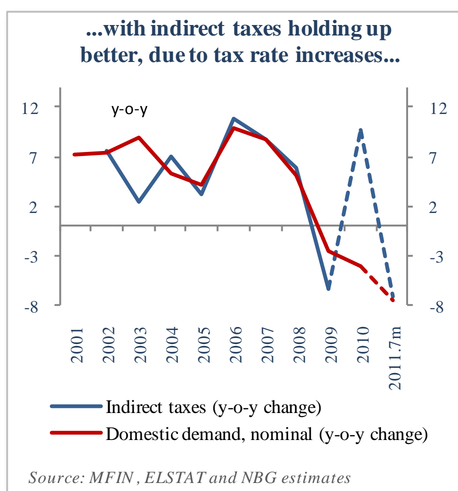
Declining wages, weakening pricing power of firms and the fading out of the inflationary impact from indirect tax increases and higher commodity prices in 2010 are pushing down inflation. Indeed, inflation has declined to 2.3 per cent y-o-y July-August 2011 from a peak of 5.3 per cent in Q3:2010. Inflation is projected to remain in the vicinity of 2.7-3.4 per cent in September-December 2011, due to the additional inflationary impact of c. 1.2 pps from the application of a higher VAT tax rate in restaurant, food and catering services, as well as on non-alcoholic beverages since September, and the increase in consumption tax on heating oil and natural gas in Q4:2011. The inflation rate, adjusting for tax effects and energy prices, is in negative territory since Q2-2011 (-0.3 per cent y-o-y).



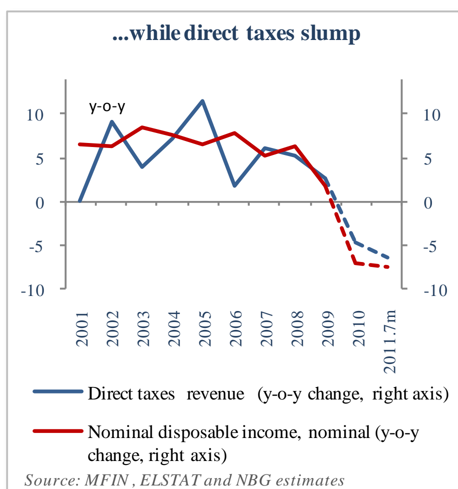
In view of the above developments, the external competitiveness losses as captured in ULC and CPI measures of the real effective exchange rate (REER) are reversing course. Indeed, the ULC-based effective exchange rate has depreciated by 3.8 per cent y-o-y in H1:2011, and the CPI-based measure by 2.5 per cent y-o-y. Nevertheless, the residual cumulative competitiveness losses since EMU entry appear to be still sizeable (of the order of 14 per cent). Looking forward, the pace of the ULC-based effective exchange rate adjustment is expected to accelerate significantly to -3½ per cent y-o-y in H2:2011 and to -5 per cent in 2012, supported by the favorable inflation and labor cost developments described above.



Source: MFIN , ELSTAT and NBG estimates



Source: MFIN , ELSTAT and NBG estimates



Source: MFIN , ELSTAT and NBG estimates

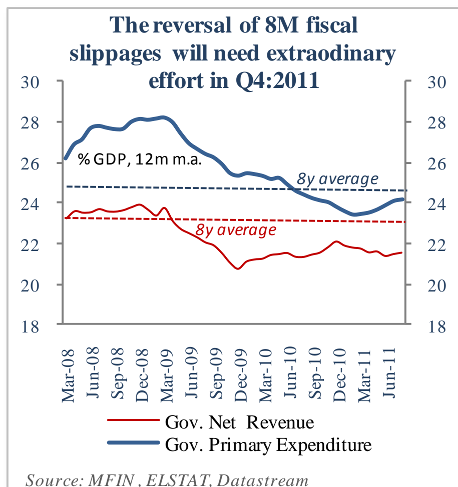
Fiscal consolidation lost steam in 8M:2011, due to the continuing recession and implementation shortfalls

Following a reasonably successful outcome on the fiscal consolidation front in 2010, in which the general government deficit declined by 5 pps to 10.5 per cent of GDP from 15.4 per cent in 2009, signs of adjustment fatigue emerged in early-2011. Data on budget implementation for the first 8 months of the year suggest that the pace of fiscal consolidation is facing increased headwinds, especially on the revenue side.

Indeed, revenue has clearly been the main source of budget underperformance with respect to the original 2011 Budget targets, with ordinary budget net revenue contracting by 5.3 per cent y-o-y in 8M:2011 against an initial full-year budget target of an increase of 8.5 per cent. In absolute terms, the shortfall from the original state budget deficit target for the first 8 months of the year reached €2.9 bn, as a result of a €3.4 bn slippage in net revenue and €1.2 bn in ordinary budget primary expenditure, which was only partially offset by the slowdown of the PIP budget implementation (by €1.7 bn). The decline in revenue reflects: i) a sharper-than-initially-expected contraction of the tax base (domestic demand contracted by 6.3 per cent y-o-y nominal terms in H1:2011 compared with an implicit 2011 budget projection of 4.8 per cent y-o-y), including higher-than-expected tax refunds; ii) relatively poor results of the effort against tax evasion (especially with respect to PIT and fuel taxes); and iii) the lower-than-initially-envisaged return of many of the originally-planned €11 bn (5 per cent of GDP) of measures contained in the 2011 Budget.

The weakest segment of government revenue has been PIT (a decline of 11.3 per cent y-o-y through August). This weak performance cannot just be explained by the effective declines in economy-wide wages by about 3.4 per cent y-o-y in H1:2011 and in employment by 5½ per cent y-o-y. Indeed, the impact of the contraction on the tax base has even counterbalanced potential gains from the effective increase in PIT tax rates in 2010 (ignoring the slippage to lower tax brackets due to declines in income). The sharper-than-initially-expected increase in tax refunds can also be attributed to a newly-introduced tax incentive; i.e. a higher PIT tax deduction on the basis of collected store receipts (corresponding to an effective increase of the tax free bracket to €15,000 from a statutory level of €12,000 for a significant number of taxpayers), introduced with the objective of reducing VAT evasion.

Nevertheless, VAT revenue -- corresponding to almost 40 per cent of total tax revenue -- slowed significantly during H1:2011 and finally dipped into negative territory in 8M:2011 (-0.3 per cent y-o-y), with contracting private consumption (-4.1 per cent y-o-y in nominal terms), outweighing the positive carry from the tax rate



increases during 2010 (by 4 pps on average), as well as from the imposition of a VAT on legal services, and local open air markets, which previously had been excluded from the tax. The VAT performance may also have been affected by the ability of corporates to offset tax dues with what the Government owes to enterprises, a measure introduced in 2011 with a view to improving tax administration efficiency. Indeed, the carry-over effect of the VAT changes in 2010 should have led to an additional €0.5 bn of VAT revenue (corresponding to 2.8 per cent of total VAT receipts). Another important component of indirect taxes is fuel taxes, which also underperformed in the first 8 months of 2011, reflecting the decline in fuel consumption by c. 20 per cent in volume terms, but also high tax evasion (which will be hindered in the future by the planned unification of home fuel and gasoline taxes).

Ordinary budget primary spending deviated from the original budget target (by €1.2 bn in 8M:2011), mainly due to the higher financing needs of the social security system -- as the system's receipts declined by €1.8 bn compared with the previous year -- and increasing payments for social transfers (especially unemployment benefits, up 0.2 per cent of GDP), but also an increase in retirements before the full implementation of the new pension regime. Moreover, financing needs of the healthcare system, and especially hospitals, remained elevated (despite the notable savings registered in 2010).

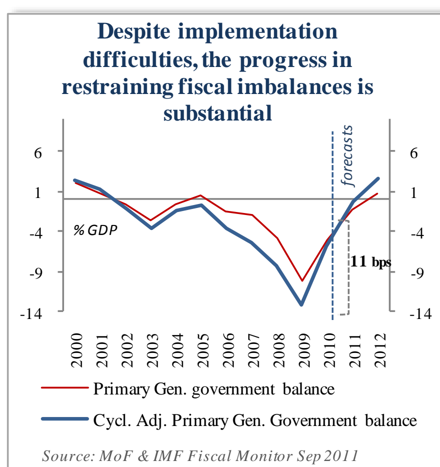
Budget Implementation *(% GDP)*

	8m	8m	11/10	2011	2012
	% GDP		y-o-y 8m 2011/10	Draft 2012 Budget	Draft 2012 Budget
1.Net Revenues (a-b)	14,2	13,9	-5,3	23,3	24,5
a. Revenues before tax refund	15,5	15,4	-3,8	25,5	26,2
b. Tax Refund	1,3	1,5	12,9	2,1	1,7
2. Expenditure (a+b)	19,2	21,4	8,1	31,6	31,2
a. Primary Expenditure	14,3	15,4	4,5	23,5	22,3
b. Interest Payments	4,7	5,8	19,4	7,4	8,1
Public Inv. Budget	-1,5	-0,6	...	0,0	0,0
3. Revenues	0,6	0,8	43,4	1,5	2,2
4. Expenditure	2,0	1,5	-30,3	3,4	3,5
5. CG Budget	6,5	8,2	26,3	10,8	8,7
6. GG Budget	...	...	...	8,5	6,8

**Gen Gov. cash adj. data for 7M*
Source:MoF - latest Budget implement. report

The accumulation of arrears to suppliers by ministries, hospitals and other public entities continues, albeit at a slower pace than in 2010 (and most categories of arrears are now within the definition of the performance criteria). Specifically, approximately €1.2 bn of additional new arrears were accumulated in 7M:2011 (0.5 per cent of GDP). More specifically, the social security system, together with local government and hospitals, appear to be the main sources of arrears accumulation.

New fiscal measures in July and October (estimated at €13-13½ bn) bring the 2011 Budget back on track and support fiscal adjustment in 2012



In view of the above developments, additional fiscal measures to correct fiscal slippages have been introduced initially in July at the time of the 4th review of the program (when fiscal intermediate targets -- July and September -- were partly adjusted for the ytd fiscal slippage, though the end-year target remained unchanged). The July measures amounted to c. €6.5 bn (2.9 per cent of estimated 2011 GDP), including, *inter alia*, new reductions in wages and operational costs of the public sector, increases in excise taxes, and an increase in the VAT rate applied on catering/restaurants and non-alcoholic beverages. Overall, about 1.6 per cent of GDP of these new measures corresponds to revenue measures and 1.3 per cent to spending cuts (see Appendix table).

Recent developments suggest that the 5th review is likely to be

State Budget Revenue Decomposition	2010	2011	11/10
	8m	8m	8m
	% GDP		% y-o-y
Recurring revenue	15,0	14,3	-4,3
Direct taxes	5,5	5,4	-5,4
Income tax	3,9	3,7	-7,9
PIT	2,6	2,4	-11,3
CIT	0,8	0,7	-11,7
Other	0,5	0,6	15,4
Property taxes	0,1	0,1	5,6
Direct tax arrears collections	0,6	0,6	-2,4
Other Direct taxes	0,8	0,9	2,0
Indirect taxes	8,6	8,4	-6,4
Transaction taxes	5,3	5,5	-1,2
VAT	5,0	5,2	-0,3
Other transaction taxes	0,3	0,3	-17,1
Consumption taxes	3,1	2,7	-15,9
On insurance premiums	0,1	0,1	-3,8
On vehicles	0,1	0,3	252,4
Excise tax on fuel	1,6	1,4	-15,2
Other excise taxes	0,9	1,0	4,1
Road duties	0,2	0,1	-76,3
Other consumption taxes	0,2	0,1	-31,6
Indirect tax arrears collection	0,1	0,1	7,3
Other indirect taxes	0,1	0,1	-7,1
Total tax revenue	14,1	13,7	-6,0
Total Non-tax revenue	0,9	1,1	24,4
Non-recurring revenue	0,5	0,6	13,4
Total Ord. Budget revenue	15,5	15,4	-3,8
Tax refunds	1,3	1,5	12,9
Total net revenue	14,1	13,9	-5,3

Source MoF

State Budget Expenditure	2010	2011	11/10
	8m	8m	8m
	% GDP		% y-o-y
A. Salaries & Pensions	6,6	6,5	-3,8
Salaries & pensions of central gov.personel	5,7	5,6	-3,9
of which			
Wages & salaries	3,6	3,4	-7,2
Pensions	1,8	2,0	3,9
Other allowances	0,1	0,1	-7,9
Productivity bonus (incorp. off budget accounts)	0,2	0,2	-4,6
Salaries for hospital personel & other govt. Bodies	0,9	0,9	-3,1
B. Grants to SSF, medical care, social protection	4,1	5,4	25,7
of which			
Medical care	0,3	0,3	6,2
Social security funds	3,1	4,0	24,0
Other health expenditure	…	0,3	…
Social protection	0,8	0,8	3,1
C. Operational & other expenditure	2,1	1,7	-22,7
of which			
Grants to other entities	0,8	0,5	-40,9
Consumption expenditure	0,4	0,3	-16,0
Conditional expenditure (Payments to EU, Agr.Subsidies)	1,0	0,9	-10,9
D. Earmarked Revenues	1,2	1,5	24,1
E. Payments in exchange of claims of the PPC personnel Insurance Fund	0,2	0,2	8,2
F. Reserve	…	0,0	…
Ord. Budget Total Primary Expenditure (A+B+C+D+E)	14,2	15,4	4,5
Transfers to hospitals for settlement of past debt	0,1	0,2	88,7
Interest payments	4,7	5,8	19,4
Ordinary Budget expenditure	19,1	21,4	8,1

Source MoF

completed successfully. The program is very close to its (revised) July performance criteria of a primary deficit of general government (cash basis, IMF definition) of €5.1 bn, corresponding to an overall deficit of €15.5 bn (7.0 per cent of estimated 2011 GDP), slightly higher than the deficit of €14.9 bn (6.3 per cent of GDP) in the corresponding period of 2010.

Moreover, in early-October, the Government announced the draft 2012 Budget and revised 2011 fiscal targets. According to the revised targets, the annual net revenue growth target for the ordinary budget is reduced to 1.4 per cent y-o-y from 8.5 per cent y-o-y in the 2011 Budget (or about €4.9 bn lower than the original 2011 budget target) compared with an outturn of -5 per cent y-o-y in the first 7 months of the year. The target for primary expenditure of the ordinary budget is revised down by €0.8 bn (-1.5 per cent y-o-y versus a 4.5 per cent outturn in the first 8 months of the year), and the target for public investment spending was reduced by €1.0 bn (in line with developments during the first 8 months of the year). With a view to achieving a deficit of 8½ per cent of GDP in 2011, the primary balance looks like it has to be in surplus during the remainder of the year at the level of general government. Preliminary data for September are in line with such an outcome.

Indeed, the revised budget targets imply an extraordinary intensification of the adjustment effort in September-December. Indeed, the 5th review will include additional measures equal to €6-6½ bn, of which €2.1 bn will be implemented in 2011. They comprise a tax on real properties (effective in 2011), a retroactive reduction of the zero rate bracket to €5,000 (from €12,000 in 2010), further reductions in wage and salaries in the public sector (of about 10 per cent, on average, in annualized terms) and an effective reduction in pensions of 4 per cent.

…but place a heavy burden on activity

The July and October measures, together with the significantly revised down estimate of the fiscal impact of the measures already included in the 2011 budget (by about 2.8 per cent of GDP, due to a lower-than-initially estimated return), amount to a combined effective fiscal effort of around 6 per cent of GDP in 2011. Assuming that the fiscal outcome in H1:2011 is indicative of the distribution of fiscal effort during the year, the effective net fiscal drag from the austerity measures will be mainly concentrated in H2:2011, amounting to 2.5 per cent of GDP (assuming a fiscal multiplier of 0.42 -- see *NBG Monthly*: *Greece 2011 Budget, another year of challenges*, *December 2010*).

The nearly 5 per cent of GDP of measures, which are being implemented in the last months of 2011, appear sufficient to achieve the aimed-at deficit reduction. However, the limited time available and the concomitant implementation risks in conjunction with the probable amplification of recessionary pressures create

considerable downside risks for the final budget outcome for 2011.

The 2012 Budget is currently being finalized. The draft Budget for 2012 foresees a general government deficit of 6.8 per cent of GDP (compared with a revised target of 8.5 per cent of GDP in 2011). The MTFS contains 2.5 per cent of GDP of measures (revised down from 3.1 per cent of GDP) and the 5th review will introduce additional measures of €4.8 bn for 2012 (equivalent to nearly 2.1 per cent of GDP). In total, the adjustment effort in 2012 will be equivalent to €10.9 bn or 5 per cent of GDP (following the 7 per cent one in 2010 and the c. 6 per cent one in 2011). Even if the impact of the measures is overestimated or the 2011 Budget outcome is less than expected, these measures appear broadly sufficient to meet the 2012 deficit target (see Table). Their full implementation would result in a net fiscal drag of about 2.1 per cent of GDP in 2012.

Fiscal effort and cyclical conditions

	2010	2011			2012
	FY	H1*	H2*	FY	FY
• GDP growth real (y-o-y)	-4,4	-7,1	-4,8	-5,9	-2,8
• Domestic Demand Nominal (y-o-y)*	-4,2	-3,5	-3,3	-6,8	-4,7
Cyclical loss based on DD (% GDP)	**-1,6**	**-1,3**	**-1,2**	**-2,6**	**-1,8**
• Change in Fiscal Deficit (% GDP)	-5,0	0,8	-2,8	-2,0	-1,7
• Change in Interest Payments (% GDP)	0,4	0,6	0,7	1,3	1,2
Implied Fiscal Effort (% GDP)	**7,0**	**1,1**	**4,8**	**5,9**	**4,7**
Implied Fiscal Effort (bn euro)	**16,0**	**2,4**	**10,6**	**13,0**	**10,3**

*Source: MoF, ELSTAT, NBG *Semi-annual growth figures are not annualized*

Indeed, the cumulative fiscal effort over the 3-year period 2010-2012 amounts to an impressive 18 per cent of GDP, but will have only reduced the deficit by about 9 pps of GDP. The need for double the fiscal effort, compared with the result, reflects the fact that the measures will have reduced growth by about 2½ per cent per year, on average, and subtracted about 6 per cent of GDP of revenue from the Budget by 2012. The vicious circle of fiscal contraction and recession poses an important dilemma to policymakers.

Appropriate external and domestic policies are necessary conditions for Greece to come out of the crisis

In this regard, a recovery in output (as well as revenue), undoubtedly depends on a return of confidence, necessitating: i) the EU/IMF program (and its successor arrangement) to remain on track, and with a more assertive implementation of the reform process; ii) a PSI initiative (the current or a revised version) to be completed successfully (see Box 2); and iii) the formulation of a commonly-agreed strategy in Europe on how to deal with the crisis. Moreover, a more rapid implementation of structural reforms will have the double benefit of unleashing Greece's large growth potential (see *NBG Greece Economic & Market Analysis: "Unleashing Greece's Growth Potential", Nov. 2010*) and provide a strong signal of commitment to change.

Box 1: Timeline of key developments in H1:2011

The adjustment process lost momentum in Q2:2011 in the face of increasing uncertainty…

The small improvement in sentiment in Q1:2011 due to:

- A relatively satisfactory fiscal adjustment outcome for 2010, with the general government deficit declining by almost 5 pps to 10.5 per cent of GDP, albeit revised up by 1 pp of GDP from initial estimates.
- The successful conclusion of the 3rd Quarterly Review of the Greek Program by the IMF/EU in February, which nevertheless noted slow progress on structural reforms and implementation risk in 2011.
- The March decision by EU leaders to reduce the interest rates applied on official loans to Greece (by 100 bps to c. 420 bps) and extend their maturities by 3-3½ years (up to 7½ years).
- At the same time, they adopted a permanent financial support mechanism, ESM, as a successor to EFSF by mid-2013 (albeit initially stating that ESM funding would be senior to existing funding, a decision reversed in June for the three program countries), the decision to increase the EFSF effective lending capacity to €440 bn (from €255 bn initially), and the expansion of its operational capability to purchase sovereign debt from the primary market under exceptional circumstances.

… has rapidly reversed course in Q2:2011, in the face of:

- A new outbreak of uncertainty reflecting fiscal slippage in Greece and the re-emergence of doubt about the country's ability to re-enter the markets in 2012, as was initially planned, as risk aversion for peripheral euro area debt resurged. These developments appeared to have temporarily jeopardized the disbursement of the 5th tranche of the program in July 2011.
- The public debate between ECB and EU government officials regarding an additional financing package for Greece to cover the emerging financing gap and the explicit demand by Germany for private sector involvement (i.e. burden sharing) in sovereign debt financing (the latter issue had been effectively introduced in the Deauville preliminary agreement in October 2010.
- Mounting political hurdles domestically (a weakening social consensus as social costs from the recession mount, leading to unprecedented unemployment rates) and abroad (increasing solidarity fatigue among EU countries; e.g. rising power of political parties such as the "True Finns").
- Rating agencies responded to these developments with a new round of multi-notch downgrades, which pushed Greek sovereign bonds deeper into junk territory, fuelling further uncertainty, especially regarding access by Greek banks to the ECB's repo facility. Indeed S&P, Moody's and Fitch downgraded Greece by seven, six and three notches, respectively, to CCC (Moody's Ca1) between March and early-July 2011, as the announcement of the debt exchange led to downgrades of the country's risk profile to just above a selective default rating.
- The EU Summit temporarily reversed the climate by:
  - Agreeing to an additional €109 bn of funding for Greece, including resources for funding the enhancements in the PSI initiative.
  - Providing official funding to Greece at more favorable terms (lower rates by another 100 bps, larger grace periods and maturities, to 10 years and 15-30 years, respectively).
  - Enhancing the flexibility of the EFSF, including the ability to buy sovereign debt in secondary markets, and lend to governments to recapitalize their banking sectors.

Box 2: PSI and Greek Debt Dynamics

On July 21st 2011, Eurozone leaders agreed to support a new program for Greece with total official financing estimated to be an additional €109 bn, over and above the undisbursed €42 bn from the original program for €110 bn approved in May 2010. The new program will provide cash flow relief through lower interest rates and extended maturities, and will include private sector participation through the voluntary rollover of Greek government bonds maturing up to June 2020 into a menu of four options (with the GGBs maturing during this period amounting to approximately €205 bn), with an estimated €55 bn held by the ECB (and thus unlikely to participate), and an estimated €50 bn held by Greek banks and pension funds (out of a total of €65 bn). The debt service burden will be reduced as future EFSF loans to Greece will be lengthened from the current 7½ years to a minimum of 15 years and up to 30 years, with a grace period of 10 years, while the interest rate on EFSF loans will be close to, without going below, the EFSF's lending cost (currently approximately 3.5 per cent). Regarding the menu of four options for the private sector bond rollover, it contains significantly below market interest rates (e.g., c. 4 per cent, for the first 5 years on the par bond exchange options), 15-30 year bullet payment maturities and credit enhancements (through partial to full guarantee of principal).

Specifically, the four options are as follows:

1. **Exchange into 30 Year Instrument at Par**, with a bullet payment and an interest rate that steps up from c. 4 per cent* in years 1–5, increasing by 50 bps for years 6-10 and a further 50 bps for years 11-30 and a full principal guarantee.
2. **Committed Financing Facility**, whereby holders of eligible GGBs will commit to provide financing to Greece when their eligible GGBs mature, by purchasing new 30-year par bonds, as described above, with a full principal guarantee.
3. **Exchange into 30 Year Instrument at an 80 per cent Discount**, with a bullet payment and an interest rate that steps up from c. 6 per cent* in years 1–5, increasing by 50 bps in years 6-10 and a further 30 bps in years 11-30 and a full principal guarantee.
4. **Exchange into New 15-Yr Average Life Bonds at an 80 per cent Discount**, with a maturity of 17 years, and an interest of 5.9 per cent*, amortizing in five equal annual installments commencing in year 13, and a guarantee for 80 per cent of the loss, up to 40 per cent of the principal.

** The interest rate on all bonds will be determined at the time of their issuance to result in a net present value of 79 per cent of the face value of eligible GGBs tendered.*

A letter of inquiry was sent to financial institutions on August 25th requesting the submission of the size of their participation and the allocation among the four options. A response was initially required by September 9th. The Greek Government has indicated that if it does not achieve a 90 per cent participation rate for the eligible debt for amortization occurring during the period to mid-2014 as well as that occurring during the period to mid-2020, it will have the right not to proceed with the transaction. The exchange is expected to be financed by the new IMF/EU program. The combination of the above measures will permit Greece to refrain from accessing credit markets until mid-2014, and significantly reduce its borrowing requirements until end-2019.

Attaining the requisite level of private-sector participation requires overcoming incentives to free ride. This would clearly be the case for some bond issues that mature in the near term and have higher market values than the NPV of the new bonds discounted at the current sovereign yield curve (with the enhancement discounted using a risk-free curve and only the coupons discounted by the Greek sovereign curve - see diagrams). For example, the NPV of Option 1 is 61¢ (October 3 data) compared with 46¢ on average for all eligible debt, but with higher marks for shorter maturities (see diagram).

The free rider problem has been mitigated significantly with the recent drop in GGB prices, and we now estimate bond holders expecting a benefit from PSI participation to represent 98 per cent of the eligible bonds in the period to mid-2020 and, more importantly, 96 per cent of the eligible bonds maturing until mid-2014, up from 78 per cent and 56 per cent, respectively, just two months ago. In the event, the participation rate is expected to be reinforced by the fact that Greek holders, who represent about 1/3 of the total eligible debt, are participating in full.

According to our estimates, a PSI participation rate of 90 per cent, in combination with investors' preference for Option 1, in view of its higher NPV versus the other options at the current wider sovereign spreads compared with July 2011 (61¢ in Option 1 versus 57¢ in Option 3 compared with 67.0¢ in Option 1 versus 65.0¢ in Option 3 in July 2011), implies credit enhancement financing needs of €46 bn to be paid upfront. In addition, the proposal assumes a €20 bn loan for debt buybacks and another €20 bn for bank recapitalization, summing up to €86 bn. Consequently, from the total amount of €109 bn, there are €23 bn remaining to cover the financing needs of Greece, (suggesting less-than-originally-envisaged resources to close Greece's 2011-2014 financing gap).

Turning to the effect that the proposal would have on the ability of the Greek economy to service its sovereign debt, we estimate the government debt of the Greek economy, net of credit enhancements, to drop slightly to €351 bn by end 2011 (160 per cent of GDP), from €363 bn pre-PSI (165 per cent of GDP). Indeed, PSI is not a debt reduction instrument, but one that reprofiles Greek debt service payments (pushing them to the outer years). Amortization payments until mid-2014 (the end of the new IMF/EU Program) only average €3 bn per year to the official sector, with non-participating bonds (mainly those held by the ECB) adding roughly €15 bn per year, significantly lower compared with €35 bn pre-PSI. More importantly, the effective interest rate of the Greek sovereign debt (net of enhancements) remains broadly unchanged at 4.5 per cent (versus pre-PSI levels).

PSI allows Greece time to undertake the requisite fiscal and pro-growth structural reforms. The sustainability of Greece's debt dynamics depends mainly on achieving a real GDP growth rate exceeding 2-2½ pps per year, a primary surplus in line with the program's objectives (i.e. c. 6 per cent of GDP), the ability for new borrowing starting in 2017 at a spread of 250 bps over bunds, and significant debt reduction from privatization (€35 bn by 2014 and €50 bn in total). Under these conditions, the debt-to-GDP ratio declines from a peak of 165 per cent of GDP in 2012 to 99 per cent of GDP in 2020.

The markets have not reacted positively to the PSI initiative, and within the context of a widening European sovereign debt crisis, European leaders are rumored to be considering more severe losses for the private sector compared with the approximately 20 per cent impairment losses taken by most European banks on their Greek bond holdings in Q2, with a view to reaching a comprehensive solution.

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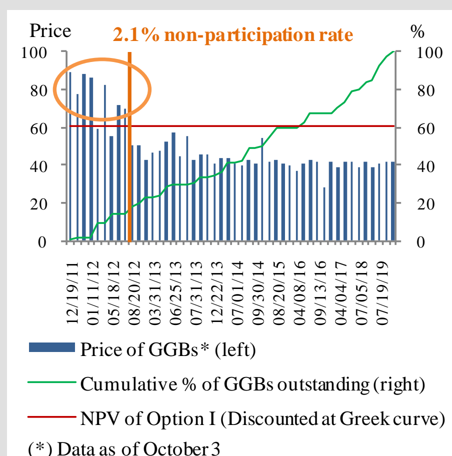
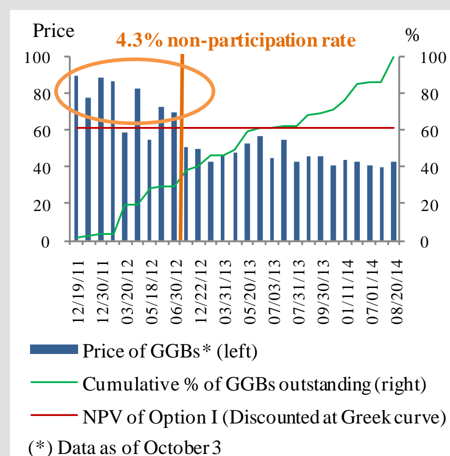
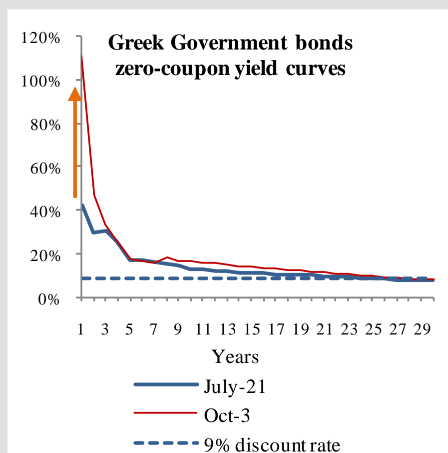


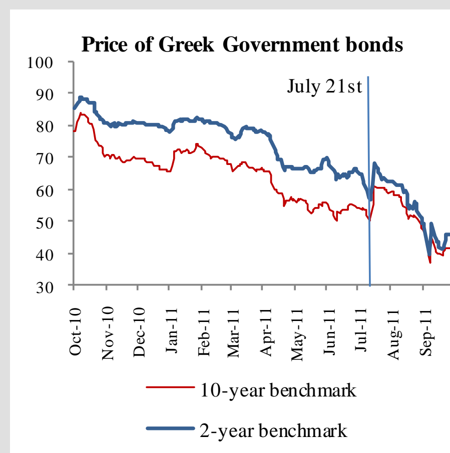
Price
2.1% non-participation rate
%
Price of GGBs* (left)
Cumulative % of GGBs outstanding (right)
NPV of Option I (Discounted at Greek curve)
(*) Data as of October 3



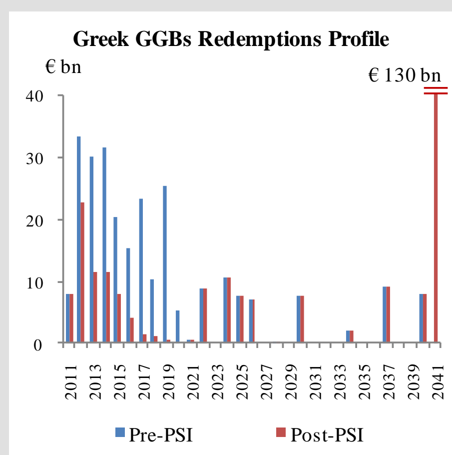
Price
4.3% non-participation rate
%
Price of GGBs* (left)
Cumulative % of GGBs outstanding (right)
NPV of Option I (Discounted at Greek curve)
(*) Data as of October 3



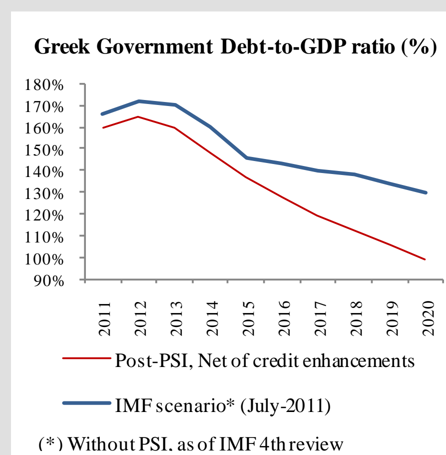
Greek Government bonds
zero-coupon yield curves
Years
July-21
Oct-3
9% discount rate



Price of Greek Government bonds
July 21st
10-year benchmark
2-year benchmark



Greek GGBs Redemptions Profile
€ bn
€ 130 bn
Pre-PSI
Post-PSI



Greek Government Debt-to-GDP ratio (%)
Post-PSI, Net of credit enhancements
IMF scenario* (July-2011)
(*) Without PSI, as of IMF 4th review

Appendix

Greece: Growth Outlook

	2010*	2011f	2012f	2013f	2010 Q3	2010 Q4	2011f Q1e	2011f Q2e	2011f Q3f	2011f Q4f	2012f Q1f	2012f Q2f	2012f Q3f	2012f Q4f
GDP (% y-o-y, non-seas & w.days adj.)	**-3,5**	**-5,9**	**-2,7**	**1,7**	-4,8	-8,8	-7,6	-7,3	-4,1	-4,6	-4,6	-4,3	-2,2	0,4
GDP (% q-o-q, NBG s.a.)		…	…	…	-1,5	-2,2	-0,9	-1,2	-1,1	-2,5	-2,2	-0,8	-0,1	0,3
Domestic Demand (y-o-y)	**-5,6**	**-8,9**	**-5,7**	**0,8**	-6,8	-10,7	-10,1	-8,6	-8,1	-8,7	-8,8	-7,1	-4,6	-2,2
Final Consumption (y-o-y)	**-4,4**	**-7,0**	**-4,6**	**-0,3**	-6,0	-6,5	-7,4	-6,8	-6,5	-7,1	-7,0	-6,2	-3,5	-1,8
Private Consumption (y-o-y)	-3,6	-6,5	-3,5	0,6	-5,8	-8,8	-7,5	-6,6	…	…	…	…	…	…
Public Consumption (y-o-y)	-7,1	-9,4	-8,3	-4,8	-6,8	-13,4	-6,9	-9,7	…	…	…	…	…	…
Fixed Capital Formation (y-o-y)	**-14,8**	**-18,2**	**-10,4**	**4,9**	-22,0	-19,4	-20,9	-17,9	-16,0	-18,0	-13,0	-12,2	-10,5	-6,0
Inventories** (contribution to GDP)	0,6	-0,3	-0,3	0,4	2,1	-2,1	-1,0	-0,1	-0,4	0,2	-1,2	0,0	-0,2	0,3
Net exports (contribution to GDP)	**2,8**	**4,0**	**3,3**	**0,8**	2,4	3,1	4,6	1,9	4,3	4,9	5,7	3,3	2,4	2,7
Exports (y-o-y)	**4,2**	**1,8**	**4,6**	**6,5**	-0,9	12,8	-2,6	-1,4	6,5	4,8	2,5	3,9	5,1	7,0
Imports (y-o-y)	**-7,2**	**-10,9**	**-7,4**	**2,8**	-8,9	-3,2	-12,8	-7,6	-10,0	-13,0	-14,0	-8,0	-3,9	-3,8

*Revised annual figures (Oct 2011) **also including other statistical discrepancies

Source: EL.STAT. and NBG Research Estimates (s. adj. based on X12 Eviews filter)

Current account balance (in billion EUR)

Source: Bank of Greece	2008	2009	2010e	2011f	2012f	2010 Q1	2010 Q2	2010 Q3	2010 Q4	2011 Q1	2011 Q2
Current Account	-35,0	-25,8	-24,0	-20,5	-15,0	-9,7	-4,4	-3,1	-6,8	-7,3	-5,9
Current Account (% of GDP)	**-14,7**	**-11,2**	**-10,5**	**-9,2**	**-6,9**	**-4,2**	**-1,9**	**-1,3**	**-3,0**	**-3,3**	**-2,7**
Non-oil Trade Balance	-31,9	-23,2	-19,7	-15,2	-11,4	-5,5	-5,3	-4,4	-4,4	-4,3	-4,3
Non-oil Exports	15,6	12,3	12,1	13,6	14,8	2,7	2,9	3,2	3,3	3,2	3,5
Non-oil Imports	-47,5	-35,4	-31,8	-28,8	-26,2	-8,3	-8,2	-7,5	-7,7	-7,5	-7,8
Oil Balance	-12,2	-7,6	-8,6	-10,0	-9,3	-2,7	-1,7	-2,6	-1,6	-3,3	-2,3
Services Balance	17,2	12,6	13,2	14,1	15,4	1,2	3,4	6,7	1,9	1,1	3,6
Income Balance	-10,9	-9,8	-9,3	-9,6	-10,0	-1,9	-2,5	-2,5	-2,3	-2,1	-2,7
Current Transfers, net	2,8	1,3	0,2	0,2	0,3	-0,7	1,8	-0,3	-0,5	1,2	-0,2

Source: Bank of Greece

Appendix *(continued)*

Fiscal measures 2011-2012

	bn euro		% GDP	
	2011	*2012*	*2011*	*2012*
Budget 2011 original measures (revised figures)	**4,9**	**…**	**2,2**	**…**
of which				
• *Carry over from 2010 expenditure measures*	1,0	…	0,5	…
• *Reduction of intermediate consumption*	0,3	…	0,1	…
• *Increased use of EU financing of the PIB*	0,4	…	0,2	…
• *Decline in military spending*	0,2	…	0,1	…
• *Cuts in tranfers and operational expences*	0,2	…	0,1	…
• *Rationalization of health expenditure*	0,7	…	0,3	…
• *Carry over from 2010 revenue measures*	1,5	…	0,7	…
• *Special levy to profitable firms*	0,6	…	0,3	…
MTFS measures (revised figures)	**5,9**	**6,1**	**2,7**	**2,8**
• *Reduction in Operational Expenditure*	0,2	0,1	0,1	0,0
• *Closure/ Merger of public entities/ reduction in subsidies*	0,3	0,2	0,1	0,1
• *Reorganization of State-owned Enterprises*	0,0	0,4	0,0	0,2
• *Reduction in Defense Expenditure*	0,0	0,2	0,0	0,1
• *Rationalization of costs of public healthcare services*	0,1	0,2	0,0	0,1
• *Rationalization of medical pharmaceutical expenditure*	0,2	0,3	0,1	0,2
• *Reduction in expenses of SSFs and rationalization of social spending*	0,9	1,0	0,4	0,5
• *Increased revenues of Social Security Funds and reduction in contribution evasion(solidarity contriburion of civil servants, wage earners and self employed for unemployment)*	0,7	0,4	0,3	0,2
• *Revenue measures / Reduction in tax exemptions (incl. reduction of tax free threshold to € 8,000)*	2,0	3,0	0,9	1,4
• *Rationalization of Public Investment Budget expenditure*	0,8	-0,3	0,4	-0,1
• *Other*	0,8	0,6	0,4	0,3
Measures introduced in Q4:2011	**2,1**	**5,0**	**1,0**	**2,3**
• *New reduction in tax deductions and exemptions (including, inter alia, a new reduction of tax free threshold to € 5,000)*	0,0	2,0	0,0	0,9
• *Special levy on real estate property*	1,7	0,1	0,8	0,0
• *New wage scale*	0,2	1,0	0,1	0,4
• *Pension cuts*	0,3	0,5	0,1	0,2
• *Civil servant reserve (at 60 per cent of basic wage)*	0,0	0,2	0,0	0,1
• *Increasing tax on heating oil and natural gas*	0,0	0,2	0,0	0,1
• *Other*	0,0	1,1	0,0	0,5
Fiscal impact of expenditure measures	**6,0**	**4,6**	**2,7**	**2,1**
Fiscal impact of revenue measures	**6,9**	**6,3**	**3,1**	**2,9**
Total fiscal impact	**13,0**	**11,1**	**5,9**	**5,2**

Source: MoF, Budget 2011, Draft Budget for 2012 and NBG estimates

GREECE

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