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GREECE

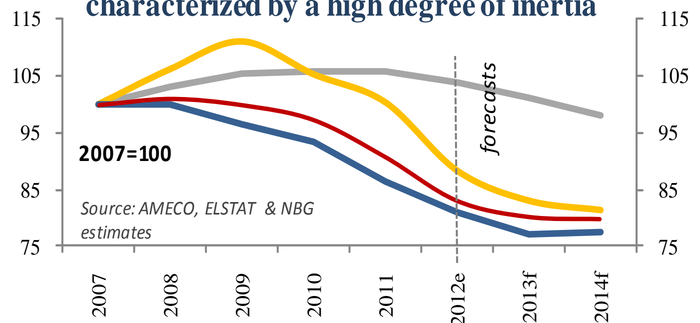
ECONOMIC & MARKET ANALYSIS

November 2012

Rapid labor cost adjustment versus consumer price inertia: The asymmetric adjustment puzzle reflects once-off factors as well as structural rigidities

- The Greek economy faces an unprecedented challenge of reversing its accumulated competitiveness losses, requiring both a swift adjustment of wage and price levels, as well as a broad-based improvement of structural competitiveness through the elimination of long-standing distortions and inefficiencies of the economy.
- The macroeconomic adjustment achieved during the first two years of the program is notable, but characterized by a high degree of inertia, which should not have been unexpected. Indeed, employment initially appeared resilient to the decline in output, before it began to fall sharply in 2011, while the decline in wages only gained momentum in 2012.
- Despite the delay, employment and wages have now undergone an impressive adjustment:
  - A decline in output of 17½% between 2009 and H1:12 has had a larger-than-expected impact on unemployment: it rose by 15½ pps between Q4:08 and Q2:12 (to 24% in Q2:2012 and near 33% for private sector wage-earners) -- an elasticity of output with respect to employment near 1 -- suggesting an ongoing structural adjustment.
  - The introduction of important structural reforms in the wage-setting mechanisms, combined with recessionary pressures, led to a drop in the average nominal wage of c. 13% in 2012 and 9.5% for the period 2010-2011.
  - Wage compression has translated into material declines in nominal ULCs, which NBG Research estimates will cumulatively exceed 12% in the period 2012-13, following an adjustment of 6½% in 2010-11, easily exceeding the 2nd program target for a ULC correction of 15%.

Macroeconomic adjustment is arduous and characterized by a high degree of inertia



HICP without energy at constant taxes — Wage (average, in nominal terms) — GDP (at constant prices) — Employment

- *Economic & Fiscal developments pp.18-26*
- *Macroeconomic Outlook pp. 27-31*

Paul Mylonas
Director of Research
NBG Group Chief Economist
(+30 210) 334 1521

Strategy and Economic Research Division
86 Eolou Str., 102 32 Athens, Greece
http://www.nbg.gr/Press/Publications/Economic and Financial Bulletin

- Consumer prices have exhibited even greater inertia, and have only begun to decline in earnest in early-2012. Inflation has been held up due to a combination of factors. Tax hikes and high energy prices appear to have delayed the adjustment of consumer prices significantly. Without their impact, prices would have declined by about 2.8% in 2010-12. Inflation has also been pushed up by imported inflation arising from the still high share of imports linked to consumption (final goods as well as inputs), reflecting a narrow domestic production base (a very high ratio of intermediate and consumer goods imports to manufacturing value added).
- However, the disinflation process appears to be gaining momentum in recent quarters, as accelerating wage cost declines are evident in a broad-based disinflation in the business services sector (-2.0% y-o-y in September), which is gradually supporting reductions in the prices of goods. NBG Research empirical evidence finds that prices adjust to wages with a 5 quarter lag, implying that the period of sharp wage declines is only now starting to feed through to prices.
- Indeed, disinflation is now being supported by rapidly declining domestic costs (such as transportation, storage, legal and accounting services), which are down 5.6% y-o-y in Q3:2012, as well as shrinking profit margins, especially in the period 2010-11, reflecting domestic firms' reduced pricing power.
- Adding together the estimated contributions of the main structural and conjunctural drivers of inflation, and adjusting for transmission lags, NBG Research estimates that consumer prices will decline by 5.2% between Q3:12 and end-2014 (HICP basis), which combined with the cumulative estimated increase in consumer prices in the euro area of 4.5% during the same period, will result in a return of Greek relative price competitiveness to its 2002 level by end-2014.

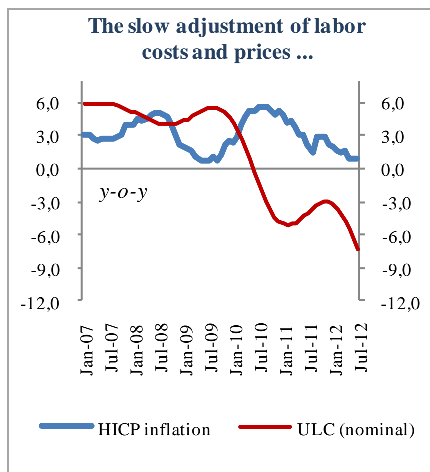
GREECE: RAPID LABOR COST ADJUSTMENT VERSUS CONSUMER PRICE INERTIA: THE ASYMMETRIC ADJUSTMENT PUZZLE REFLECTS ONCE-OFF FACTORS AS WELL AS STRUCTURAL RIGIDITIES

Nikos Magginas, Ph.D.
(+30210) 334 1516
e-mail: nimagi@nbg.gr

Effrosyni Alevizopoulou,
(+30210) 334 1620
e-mail:ALEVIZOPOULOU.E@nbg.gr

Introduction

The Greek economy faces an unprecedented dual challenge: Within a very limited time period, to restore fiscal sustainability and reverse its accumulated competitiveness losses of previous years. An ambitious reform agenda has been put in place to ensure a swift adjustment of wage and non-wage costs, and to diminish long-standing distortions and inefficiencies of the economy with a view to accelerating the recovery process, helping preserve employment and ensuring a sustainable and broad-based improvement in competitiveness. Nonetheless, progress on the restoration of competitiveness is said by some to be slow. Indeed, the adjustment process during the first 12-18 months following the outbreak of the crisis in 2009 exhibited a relatively high degree of inertia. In fact, employment initially appeared resilient to the decline in output, before it began to adjust sharply from late-2010, while the decline in labor costs only gained momentum in late-2011, accelerating further in 2012. Consumer prices, even adjusted for the impact of adverse developments unrelated to domestic economic conditions, have exhibited even longer adjustment lags, with their decline starting in earnest only in H2:12.



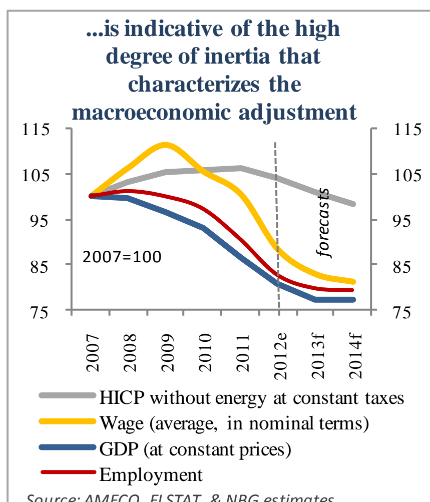
In addition to the delayed reduction in wage costs, other intrinsic characteristics of the Greek economy appear to have also played a significant part in delaying the transmission of labor cost reductions to consumer prices:

i) the still high share of imports in final consumption -- even following the recent sharp contraction in the imports of durables;

ii) relatively high levels of imported inputs -- due to the narrow domestic production base;

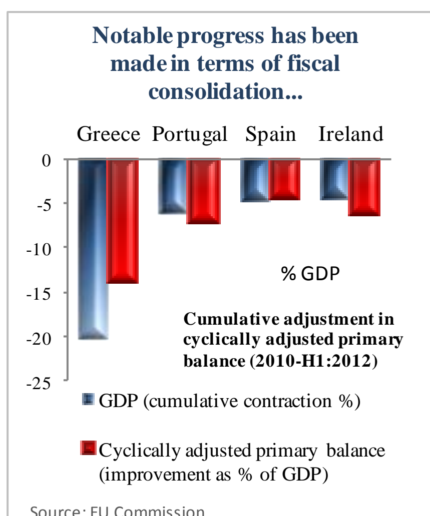
iii) tax hikes; and

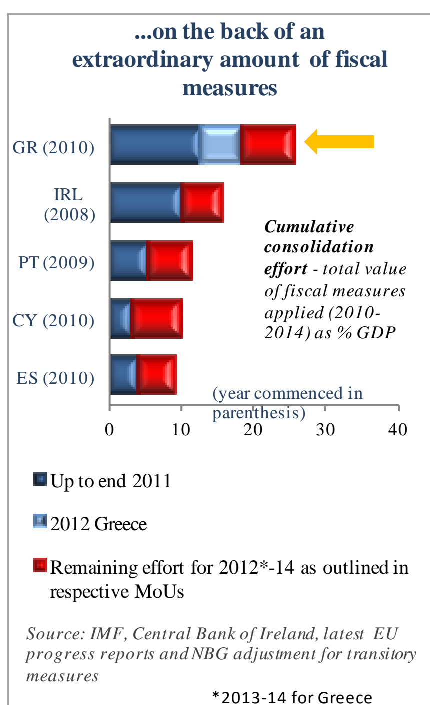
iv) inelastic profit margins due to the existence of many small firms in the production process.

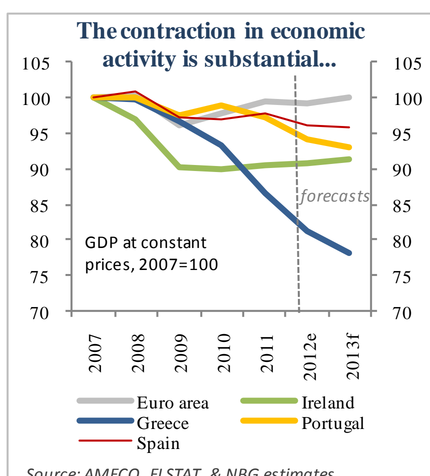


Source: AMECO, ELSTAT & NBG estimates

However, the disinflation process appears to be gaining momentum in recent quarters, despite the persistent inflationary headwinds from imported inflation, as an accelerating decline in wage costs is leading to broad-based disinflation in the services sector, which in turn is supporting price reductions in the goods' sector.







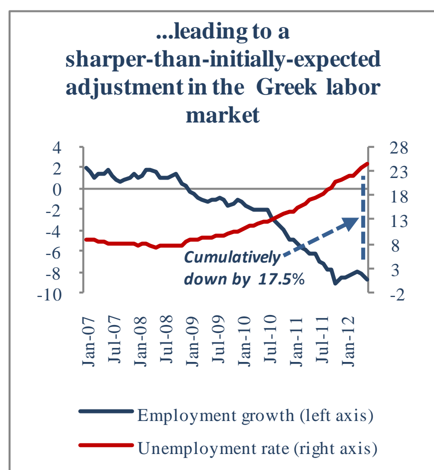
I. Employment and wages undergo an impressive adjustment in a strongly recessionary environment, combined with far-reaching structural reforms

The Greek labor market faces strong headwinds against a backdrop of rapidly declining economic activity that has been accompanied by extensive business restructuring in key sectors of the economy, and a notable shift of bargaining power from employees to employers. Market forces, backed by significant, albeit delayed, progress in the implementation of bold labor market reforms, are transforming the Greek labor market from one of the most regulated in the euro area to one of the most flexible -- especially in effective terms -- within an extremely short period of time. Indeed, the 2nd program for Greece placed even more emphasis on securing reductions in unit labor costs and sustainable improvements in cost competitiveness. In this regard, the combination of a new, more intensive round of upfront nominal wage cuts in early-2012 and additional labor market reforms, as well as intensified efforts to eliminate rigidities in product and service markets, aim at: i) lowering costs and facilitating the reallocation of resources towards the tradable sectors; ii) supporting growth and employment in the medium term; but most importantly iii) putting a brake on the free-fall of employment in the near term.

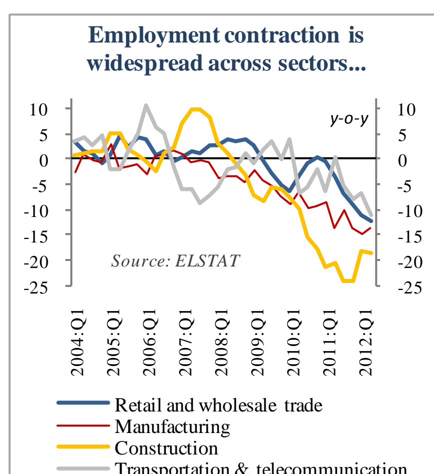
Labor market flexibility is also influenced by intrinsic characteristics of the economy, such as the dominance of micro firms in the Greek business structure, which typically make extensive use of personal employment contracts (referring to employment contracts between the employer and the employee, which are not directly affected by the terms of existing firm-level or collective wage agreements) and the high proportion of self-employed in the workforce (35% compared with 26% for the euro area average).

Due to the size of the primary balance fiscal adjustment (-14.0% of GDP in cyclically-adjusted terms in the period 2010-12) and delays in implementing structural reforms, Greece has experienced an unprecedented deterioration in labor market conditions. The unemployment rate has risen to a level last seen after the end of WWII and the civil war sixty years ago -- over 1.2 million compared with a private sector labor force of 4.9 million -- with the level of long-term unemployment exceeding 16% in H1:12. This development represents a severe policy challenge and a critical social parameter for the sustainability of fiscal adjustment in the medium term.

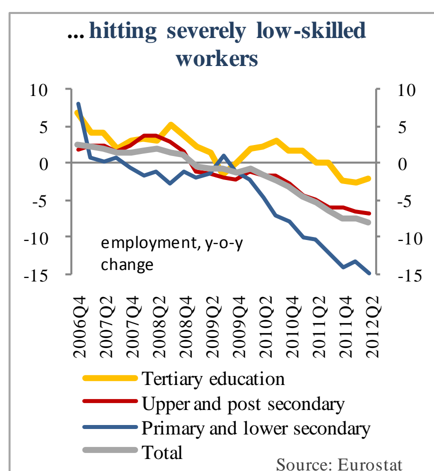
Greek labor market undergoes a period of intense adjustment in a strongly recessionary environment…



Indeed, the impact from the recession on the Greek labor market has been sharper than initially expected, with unemployment increasing by 15.6 pps between Q4:08 and Q2:12 (to 24.4%), reflecting a severe domestic demand shock, combined with the commensurate need to correct a large competitiveness gap, which together have triggered an extensive restructuring by Greek firms. The correlation of employment to the contraction in real GDP over the past 4 years has risen. Indeed, the elasticity of employment with respect to output during the past 4 years was surprisingly high (0.92 versus a traditional benchmark of about 0.5), suggesting an ongoing structural adjustment, over and above an extremely adverse negative cyclical component.

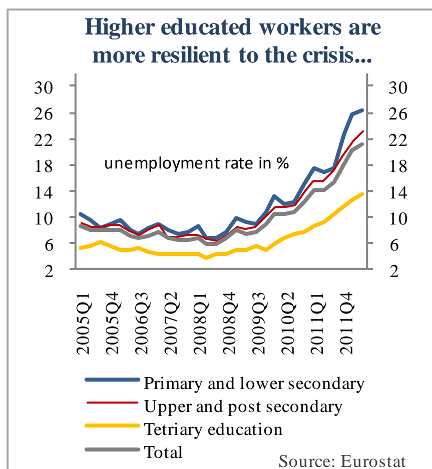


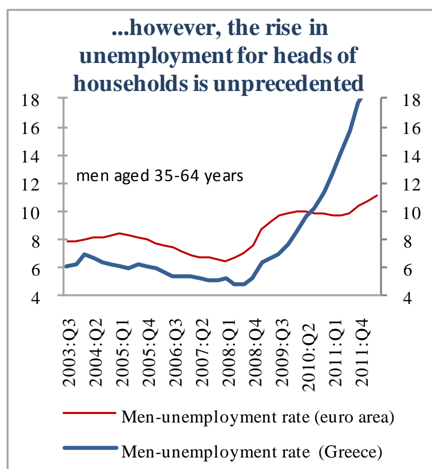
The pace of employment contraction in 8M:12 (-8.1% y-o-y) remains alarming in view of its intensity after 9 consecutive quarters, which has led to a cumulative loss of almost 750k jobs in the Greek economy (17.3% of total employment) in the 4 years to Q2:12. Approximately 200k jobs were lost in 2010, 390k jobs in 2011 and 155k jobs in 8M:12. Employment contraction is widespread, including in sectors in which the adjustment had started several years earlier (e.g. the employment decline in the construction and manufacturing sectors continues for a 24th consecutive quarter). The level of unemployment is even more disturbing if one considers that c. 17% of the labor force are employed in the public sector, and have suffered relatively marginal employment losses, and about 35% are self-employed, businessmen or employees in family enterprises who were traditionally less prone to headline unemployment pressures, as they had been able to adjust their working hours substantially. Adjusting for the above factors, underlying unemployment is closer to 33%.

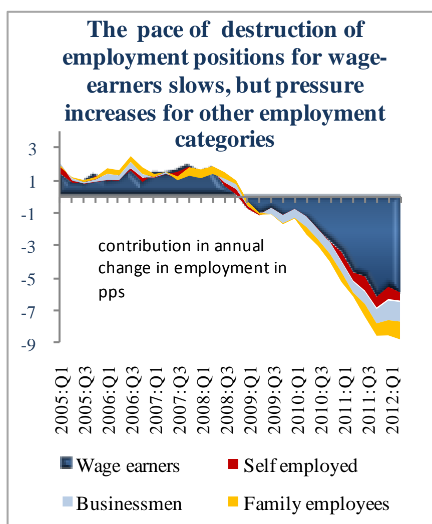


Moreover, working hours for full-time employees are estimated to have declined by about 8% over the past 3½ years (from 44.1 hours per week in 2009 to c. 40 hours in 2011 for full-time employees). The effective decline in average working hours is likely to be substantially higher -- to the tune of 12-15% between 2009 and 2011, if we take into account adjustments in working hours of self-employed and part-time workers. However, the annual pace of adjustment in working hours is exhibiting some signs of slowing since Q1:12 (an estimated -2.8% y-o-y from -4.2% in FY:11).

Importantly, employment losses have been far larger for low-skilled workers and they are accelerating in H1:12 (-14.9%, y-o-y in Q2:12 from -13.3% y-o-y in Q4:11), possibly reflecting deteriorating conditions in the retail and wholesale sector, but also a widening share of undeclared employment.





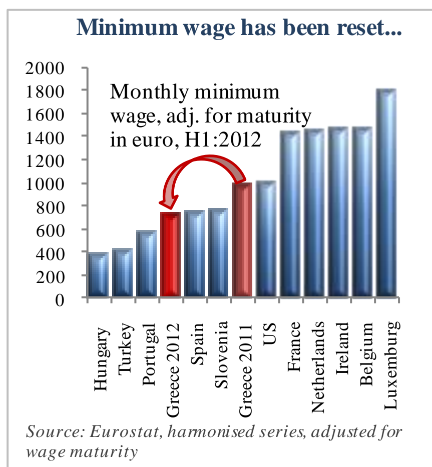


Evidently, higher educated persons are more resilient to the crisis and they play an increasing role in labor market restructuring due to their higher inter-sectoral mobility. Indeed, employment for those with tertiary degrees shows far more resilience (-2.2% in Q2:12 from -2.4% in Q4:11), while the unemployment rate in this population category is significantly lower than the rest of population (14% versus 25.6% in Q2:12).

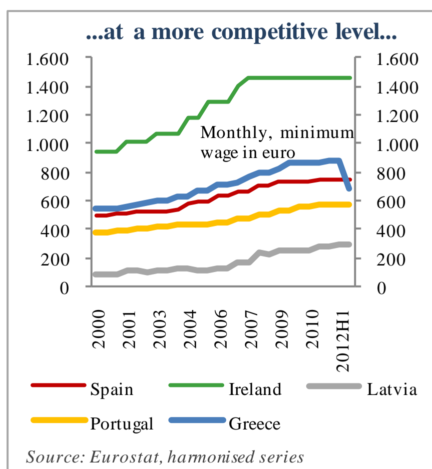
The return of immigrants, mostly illegal ones, to their country of origin and the departure of Greeks abroad, with the latter estimated to have exceeded 55,000 persons in the period 2010-11, have reduced unemployment pressures. Immigrants appear to have experienced an even more significant hit from the recession compared with the population average, perhaps only in part due to their lower educational levels. Indeed, employment of immigrants is estimated to have contracted by more than 25% since 2010 compared with a decline in total employment of 14% in the same period, with a high share of immigrant employment in sectors experiencing the most severe adjustments, such as the construction sector -- where total employment contracted by 45% since 2010.

Importantly, from a social cohesion viewpoint, unemployment has also hit hard the historically most resilient age group -- heads of households (proxied by men aged 35-60 years) -- where the unemployment rate has increased from 5.2% in 2008 to 18.2% in Q1:11. Indeed, this segment of the labor force was traditionally characterized by the lowest unemployment rate by far, and by the highest percentage of full-time employment in the euro area. Heads of households acted, in the past, as an effective social safety net in periods of economic slowdown, which was typically characterized by employment losses for more vulnerable segments of the population, such as women and youth. This employment adjustment mechanism operated at the beginning of current recession, but the severity of recessionary headwinds and the need for a structural shift in production away from the non-tradable sector have led to a significant erosion of the resilience to unemployment of the heads of households.

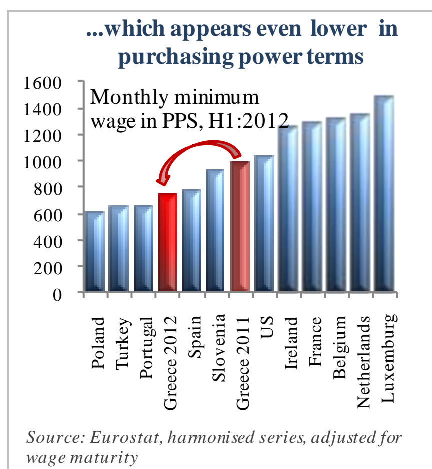
Another fundamental change in the Greek labor market is the increased share of flexible labor contracts. Indeed, a significant share of new labor contracts signed in H2:11 and H1:12 (c. 50%) reflects flexible/part-time arrangements compared with a 6½% share in total employment. In addition, according to market sources, inter-sectoral employment search and mobility, which have traditionally been poor in Greece, climbed to unprecedented levels under the pressure of the recession. This inter-sectoral mobility is also accompanied by a significant reduction in wages due to new



Source: Eurostat, harmonised series, adjusted for wage maturity



Source: Eurostat, harmonised series



Source: Eurostat, harmonised series, adjusted for wage maturity

employment contracts, which in most cases have the form of personal contracts.

However, there are increasing signs of a significant feedback between employment trends and wage adjustment (see below), with positive implications for sectoral employment outcomes. More specifically, it has become increasingly evident from Labor Force Survey data releases in recent quarters that enhanced labor market flexibility and falling wage costs appear to have eased, to some extent, the downward pressure on dependent employment (wage earners), especially in sectors which are at a more advanced stage in terms of business restructuring (such as transportation, some manufacturing sectors and construction).

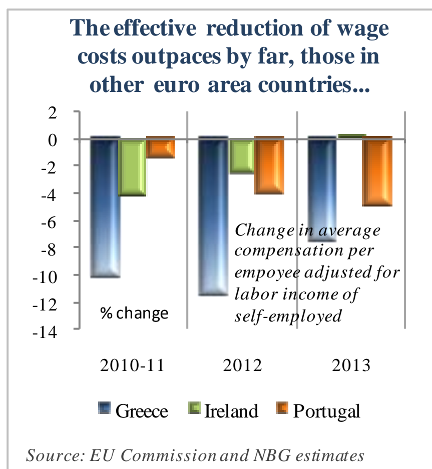
…which is increasingly reflected in a rapid reduction in wage costs

The fundamental changes in the labor market environment and wage-setting mechanisms, as well as the continuing decline in economic activity, have started to have a notable impact on labor costs.

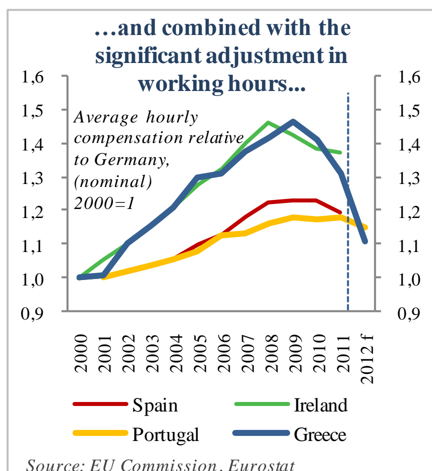
During 2010 and 2011, wage cost adjustment was a relatively uneven or fragmented progress -- with thousands of private sector employees with personal contracts and, to some extent, public servants bearing the brunt of the wage cost adjustment (the cumulative decline in public servant wages exceeded 13.5% over the past 2 years, 8.5% in 2010 and 5.3% in 2011). Indeed, the average wage in the economy in Q4:11 was only about 9.5% below its 2009 level.

However, the progress in wage cost containment accelerated significantly in 2012, to exceed, by a large margin, initial projections. Indeed, since early-2012, wage cost reduction has started to exhibit clear structural changes. Specifically, 5 large sectoral agreements (including sectors with a significant share in employment, such as retail and small manufacturing firms, hotels and accommodation, construction, affecting about 750,000 employees) and more than 800 firm-level agreements have been signed, achieving significant wage cuts of c. 12%, on top of the underlying adjustment already registered in these sectors over the past 2 years, mainly through personal contracts. In fact, labor unions have recently made notable concessions on wages in new collective agreements, with a view to avoiding an even larger adjustment in compensation in the event that a new collective agreement could not be reached. According to recent changes in legislation, wages would revert back to the significantly lower basic wage of the nationwide agreement plus a minimum set of general allowances, which would correspond to an effective decline in the average wage to the tune of 35-50%. In fact, the new collective

agreements signed during the past three quarters, directly or indirectly affecting the wages of more than 1.2 million employees or almost one third of total employment, resulted in additional wage reductions of about 15% on average.

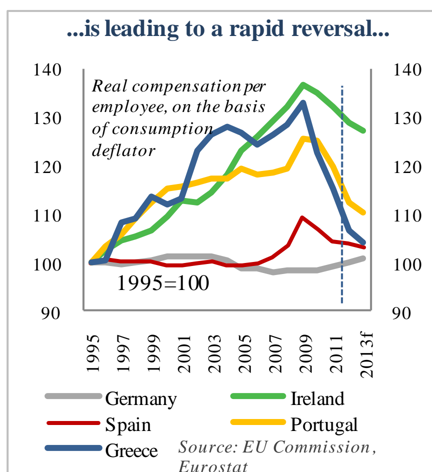


Moreover, the average decline in nationwide wages will exceed these effective sectoral benchmarks. Specifically, about 80% of firms employ less than 5 persons (c. 2.7 employees per firm) and will take advantage of the fact that the automatic extension of sectoral agreements is no longer possible, so as to further reduce wages either through firm-level agreements or through the use of personal contracts. Companies have availed of these reforms to reduce their employees' salaries over the past few months, imposing average wage cuts of about 18% (according to Greek Labor Inspectorate Office data).

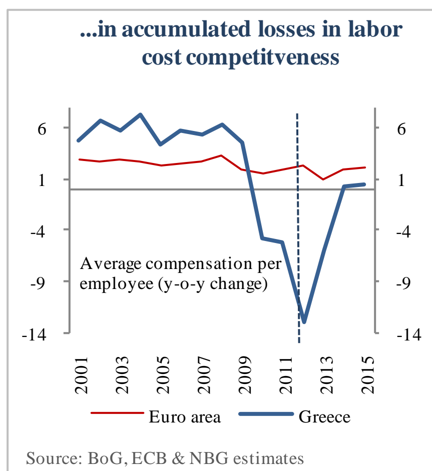


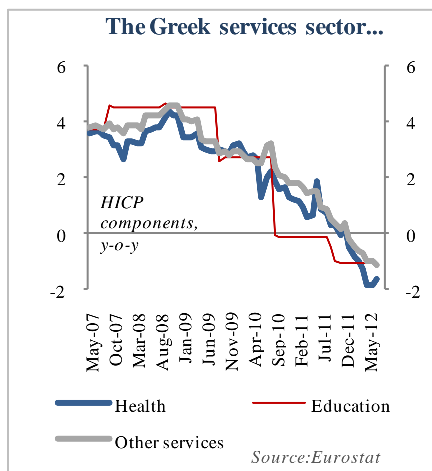
It is important to note that wage developments are often understated by official statistics, which are mostly based on the main collective agreements, which tend to understate wage adjustments through firm-level agreements or personal contracts. Similarly, the sharp contraction of national accounts-based proxies of imputed labor income of the self-employed (in the form of mixed income), combined with the relatively higher resilience of employment in this labor market segment, suggest that the effective decline in labor compensation (including income of non-dependent employment) exceeds the reported decline in wage income. Adjusting for this bias, NBG Research estimates a decline in the average wage will be about 13% in 2012, and is projected to decline by another 6% by end-2013, when the remainder of sectoral agreements will expire. The above figures incorporate an additional average decline in public sector wages by 4.8% in 2012 and c. 7% in 2013.

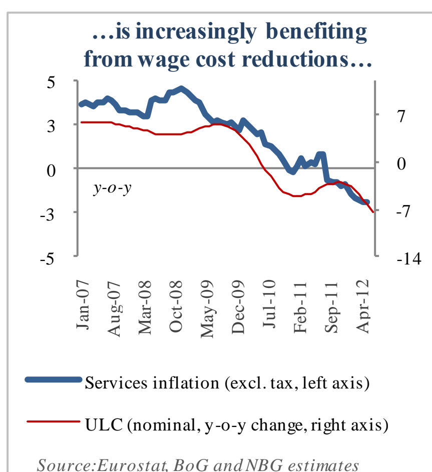
The outcome in Greece will be two or three times higher than wage adjustments achieved in other countries implementing stabilization programs, and about 50% larger than the wage adjustment of Latvia between 2007 and 2009 (-20% cumulatively), which is considered one of the most aggressive wage adjustments that ever occurred under a hard-currency peg.



Overall, the total contraction of the average nominal wage in the Greek economy for the period 2010-13 will reach 30% (25% without adjusting for self-employed income), bringing down nominal wages to 2000 levels and real wages to 1996 levels. More importantly, this adjustment more than offsets the cumulative wage growth differential versus the euro area since EMU entry of about 23%. Despite Greece's obviously different circumstances, one notes that Ireland and Portugal had an average wage decline of about 5.5% and 4.9%, respectively, for this 4-year period, and the euro area experienced an estimated increase of about 1.6%.







The Greek services sector is increasingly benefiting from wage cost reductions, which support external competitiveness

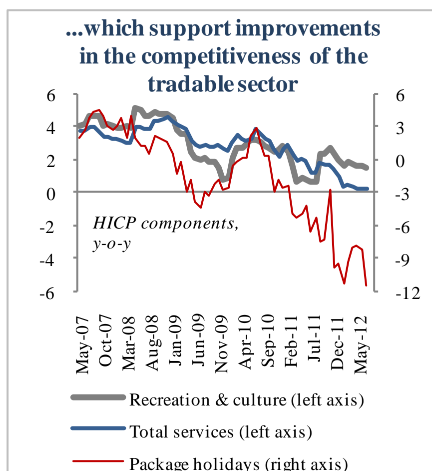
The services sector, which typically is more labor intensive and less susceptible to other exogenous sources of production-cost variability compared with the goods producing sector, is increasingly benefiting from the ongoing labor cost adjustment. Recall that during the previous decade, services inflation tended to exceed goods inflation (3.8% versus 2.7%, on average, in the period 2000-09), having a significant contribution to the positive inflation differential between Greece and the euro area.

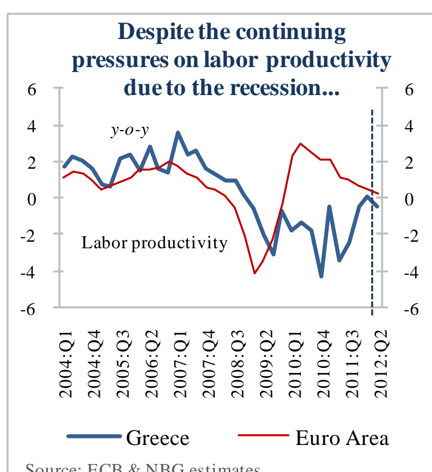
However, over the past 2½ years, service prices have exhibited increasing sensitivity to cyclical conditions. Indeed, services inflation began to decelerate rapidly in 2010, driven by the fall in prices in accommodation and other tourism-related services. The disinflationary trend gained further momentum since H2:11, leading to a broad-based decline in service prices (including health, education, recreation and other services). Specifically, services inflation, adjusting for the impact of taxes, entered into negative territory in Q4:11, in sharp contrast to goods inflation (adjusted for tax and energy effects), which continued to increase by 1.1% y-o-y on average. In 2012, total service prices fell further (-1.9% y-o-y in September 2012).

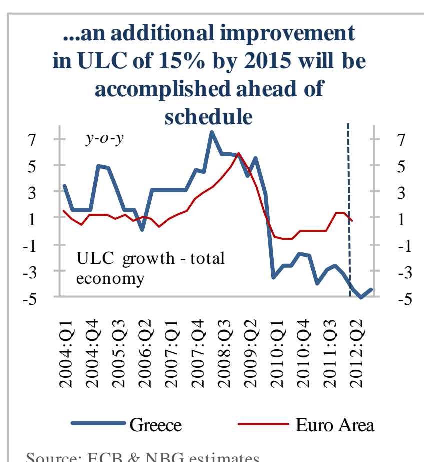
The Greek services sector appears well-positioned to take further advantage of the accelerating compression of labor costs and enhanced labor market flexibility. In view of the fact that labor costs correspond to a large part of total operating costs of the services sector (more than 65%, on average, compared with less than 40% for the manufacturing sector) and the fact that the typical firm in this sector is extremely small (employing 2.3 persons on average), greater labor market flexibility and wage compression create a favorable environment for additional business restructuring and cost rationalization.

2nd program target for an additional ULC correction of 15% by end-2015 will be accomplished ahead of schedule, despite the deeper-than-expected recession

The rapid compression of nominal wages has gradually translated into material declines in nominal ULCs. Specifically, ULCs declined by 3.8% in 2010 and 2.6% in 2011 (compared with an annual increase of 0.9% in the euro area). Preliminary data point to an annualized contraction of ULCs of about 8.0% y-o-y in FY:12 (5.7% y-o-y in H1:12) versus an increase of 1.2% in the euro area. A stabilization of the sharply declining trend in economic activity in H2:13, in conjunction with continuing wage and employment adjustments, should support a further reduction in ULCs by c. 4½% in 2013. Overall, the nominal target for wage cost adjustment







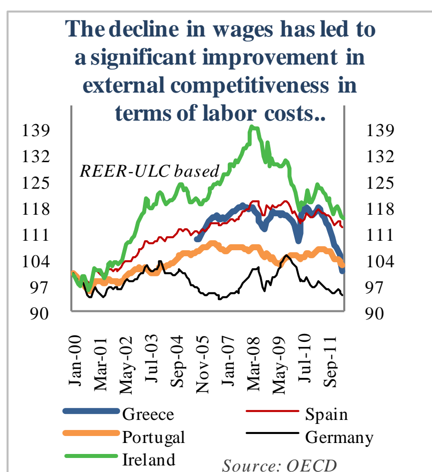
contained in the economic program of a cumulative reduction of 15% in ULCs by 2015 will likely be exceeded by end-2013. Indeed, the cumulative reduction in ULCs until 2013 is expected to offset 95% of relative ULC losses of the Greek economy compared with its euro area peers between 2000 and 2009 (estimated at 20%).

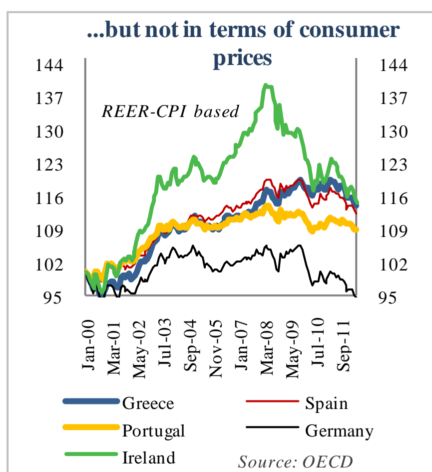
Overall, the progress of the Greek economy in terms of labor market restructuring and wage cost containment exceeds expectations, and thus an important aspect of Greece's accumulated competitiveness deficit -- based on these measures -- will be fully corrected in the next 5-6 quarters. Nonetheless, a complete and sustainable restoration of external cost competitiveness of the economy is conditional on a broad-based improvement of domestic costs and productivity. It is notable, therefore, that the wage cost adjustment has not been reflected in domestic consumer prices.

II. Consumer Price Inflation exhibits a high degree of inertia, despite the deep recession and the notable correction of wage costs

The response of consumer prices in Greece to rapidly shrinking demand and falling wage costs was extremely weak during the past 2½ years. Even in H1:12, when the disinflationary process gained momentum, HICP inflation in Greece remained relatively high compared with other euro area countries which have implemented less demanding austerity programs and have thus faced relatively milder recessionary headwinds. Indeed, the domestic HICP-based price level in Greece increased by almost 11% in the 3½ years to June 2012 (c. 7.7% excluding energy and seasonal food components), despite a decline of 17½% in economic activity and the peak-to-date decline of almost 20% in the average nominal wage.

In contrast, in other euro area countries implementing stabilization programs, inflation developments were far more benign during the same period. More specifically, Ireland stands out as the most successful example of a timely and significant response of domestic prices to macroeconomic conditions, a development that ameliorated pressure on real disposable household income and amplified gains in the external price competitiveness of the economy. In Ireland, the consumer price level declined by 3.7% in the period 2008-10, and by 4.8% on the basis of HICP excluding energy and seasonal food components. During the same period, Irish real GDP registered a peak-to-trough correction of 8.4% cumulatively. Similarly, the average annual inflation in Spain and Portugal was 1.8 pps lower than that for Greece in the period 2009-12, although these economies have also experienced a cumulative contraction for GDP significantly smaller than that of Greece (-4.0% and -3.6%, respectively).



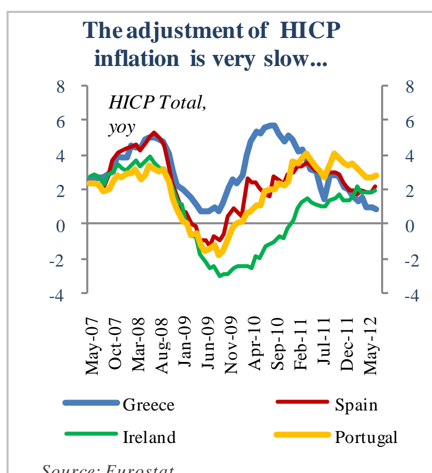


In this vein, the steadily rising trend of the consumer price level in Greece during the past 2½ years implies an equivalent drag on Greek households' disposable income (of about 11% in HICP terms), which is compounded by a significant decline in wages (about 20% peak-to-date) and an effective increase in the average tax burden of c. 14% (excluding the impact of automatic stabilizers). In this respect, the cumulative contraction of real household disposable income in Greece already exceeds 28%, in gross terms, and 21% if we adjust for the favorable effect of fiscal stabilizers, compared with respective declines of 7% and 9% in Portugal and Ireland.

The very slow adjustment of inflation delays the improvement of external competitiveness

Inflation inertia is reflected in the extremely slow pace of improvement of CPI-based measures of REER compared with other euro area countries. In fact, the Greek economy appears to have made only marginal progress in terms of price competitiveness restoration. Indeed, in contrast to ULC-based measures of REER, which have improved by about 12% in the 2½ years to H1:12, and the significant gains in terms of relative price competitiveness in specific sectors (such as tourism packages and accommodation), HICP or core inflation based measures of REER have registered only a marginal improvement. These broader measures of price competitiveness are likely to reflect more accurately the sustainability of any achievement in terms of cost or inflation containment in an economy with a large share of self-employment and small firms. Indeed, any attempt by export-oriented businesses to price more competitively their products or services is likely to be short-lived if it is not supported by comprehensive disinflation across the supply and distribution chains.

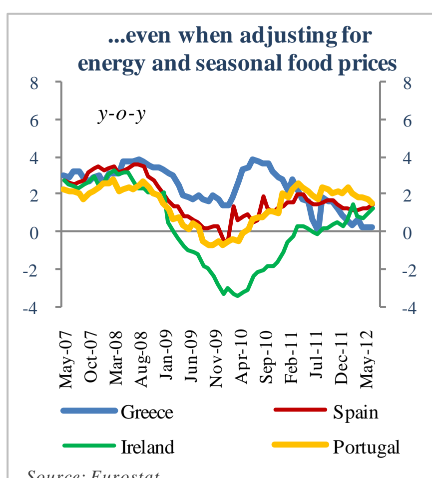
In the following paragraphs, we attempt to shed some light on the determinants of consumer price inflation in Greece. The analysis provides evidence that intrinsic characteristics of the Greek economy, such as relatively high import and oil dependence, together with significant increases in tax rates over the past 2½ years, and structurally high -- and slow to adjust -- profit margins, due to the existence of many small firms in the production process, are among the main factors that slowed the inflation adjustment. Encouragingly, recent developments in structural determinants of inflation, namely unit labor costs and other categories of business cost structure -- mainly related to service price deflation -- together with the ongoing compression of profit margins, presage an accelerated adjustment of consumer prices in 2013-14, as the relatively long lag with which these factors affect prices is mostly past.



Tax rate hikes have slowed the disinflation process in the early stages of the program

Significant increases in indirect and consumption taxes in the context of revenue enhancing measures included in the fiscal stabilization program, especially in 2010, fuelled once-off increases in prices. Indeed, standard and reduced VAT rates increased by 4.0 pps cumulatively in 2010 and early-2011 (to 23% and 13%, respectively), the VAT rate on serviced food and beverages increased by 10 pps (to 23%) in September 2011, and VAT has been applied to some service categories previously excluded from tax (e.g. legal services and sales of fruit and vegetables in outdoor markets). The effective increase in VAT rates in Greece (+4 pps) since 2010 was higher compared with Ireland, Spain and Portugal where the VAT rate increased by only 1.8 pps on average.

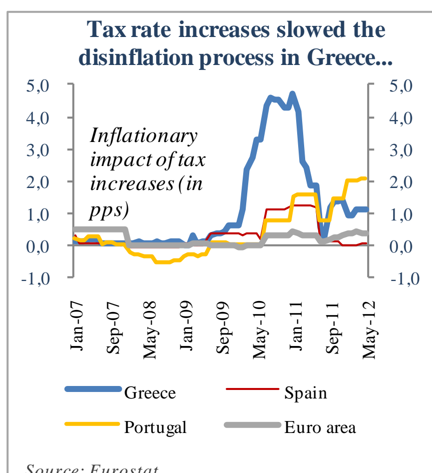
Regarding the impact of the VAT increase, consumer price developments suggest that non-energy VAT hikes had a pass-through coefficient of about 0.78%, as Greek firms absorbed a part of the VAT increase by compressing their profit margin. Nevertheless, the inflationary impact remained sizeable (about 1.7 pps per year in the period 2010-H1:12).



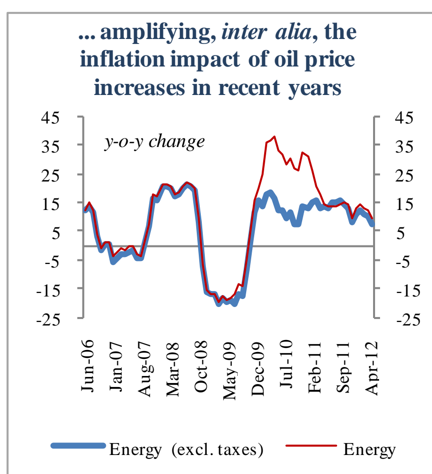
During the same period, consumption taxes on oil and gasoline were increased by about 35% and effective taxation on tobacco products increased by 40%. The impact on HICP was reinforced by the fact that energy price inflation was relatively high during this period (+15% y-o-y, on average, in 2010-H1:12), driven by average annual increases of 22% in international oil prices (in euro terms). Indeed, although the impact from rising fuel prices, excluding taxes, was broadly analogous to other euro area countries with similar weights of liquid fuels in the HICP basket (1.2 pps per year, on average, in the 2½ years to H1:12), the total impact exceeded 1.8 pps per year due to the increased taxation (see Table 1). As regards alcohol and tobacco prices, it is estimated that excise tax increases have been fully transmitted to the final consumer, adding about 0.14 pps to annual inflation. Overall, VAT and excise tax increases jointly added about 2.5 pps per year in the period 2010-H1:12 compared with an average annual contribution of 0.9 pps in other countries implementing austerity programs.

Correcting for the direct inflationary impact of the above factors, the disinflation process appears to be gaining momentum in 2012. Though Eurostat publishes data on total HICP adjusted for tax rate changes, NBG Research uses a similar methodology to obtain a measure of core inflation, net of tax effects (i.e. HICP inflation stripped of energy, food and tax effects). This measure of inflation was 2.2 pps per year lower than the respective euro area average

over the past 2½ years and entered into negative territory in Q2:12. Indeed, core inflation at constant taxes is estimated to have dropped to a 14-year low of -1.3% y-o-y in September.



In the event, it must be noted that although higher taxes create a permanent shift in the price level, they directly affect annual inflation mainly during the first year following the change in the tax rate. In this respect, the inflationary impact of tax rate hikes in previous years has virtually faded in 2012, while the inflationary push from the VAT increase on serviced food and beverages should expire in September 2012. However, the increase in heating oil tax of 40% from October 2012 and the planned increases in electricity prices in January 2013 are expected to directly add about 0.7 pps to average consumer price inflation in 2013.



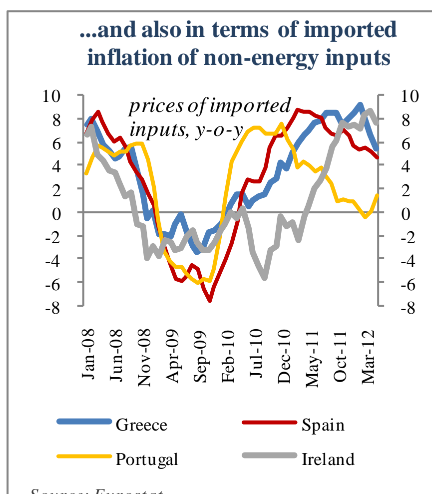
Imported inflation inhibited a faster adjustment of domestic prices

It is well known that import penetration in the Greek economy increased substantially during the previous decade, with the share of imports in GDP reaching 36% in 2009 compared with 22% for the euro area average. As a result, imported inflation plays a significant -- and often overlooked -- role in consumer price developments.

Specifically, imported inflation affects consumer prices both directly -- through imports of consumer goods -- and indirectly, as the Greek economy remains highly dependent on imports of non-energy primary and intermediate inputs. It must be noted that in the previous decade, imported inflation (excluding energy) was, on average, lower than domestic inflation (as proxied by domestic producer prices excluding energy products) and acted as a brake on inflation. However, over the past two years, when domestic inflationary pressures started to dissipate under the pressure of recession (e.g. non-energy producer prices declined to 1.4% y-o-y in 2011-H1:12), imported inflation (excluding energy) began to have a positive -- and inelastic -- contribution to consumer inflation.

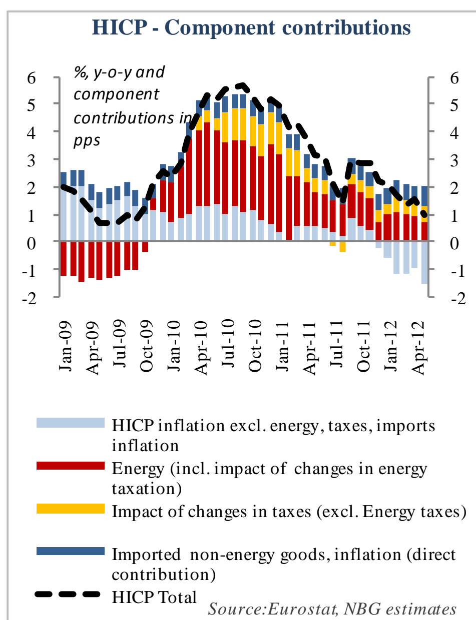
Indeed, despite the substantial decline in import spending in recent years, the value of goods imports (excluding energy, see graph on p.16) corresponds to a considerable share of GDP (22%), of which about 6.2% of GDP represents imports of consumer goods (excluding consumer durables) and 11.5% of GDP is imports of intermediate goods for further processing by the Greek industry. About 60% (or 7.0% of GDP) of intermediate goods imports (excluding energy), are inputs for the production of consumer goods and their share in GDP declined only marginally over the past three years. Indeed, the sharp correction of domestic demand led to a notable contraction in spending in import categories typically

characterized by a high income elasticity (such as consumer durables, capital goods, primary intermediate goods used as inputs by the Greek industry in cyclical sectors, such as metals, building materials, consumer durables, chemicals, etc.), with their share in GDP dropping from almost 13% of GDP in 2009 to 5.8% of GDP in H1:12. However, imports of basic consumer goods and intermediate inputs used by Greek manufacturing sectors that produce consumer goods, have exhibited a significantly lower sensitivity to economic conditions. Thus, the joint share of these latter import categories in GDP declined only marginally (from 13.8% of GDP in 2009 to 12.7% in H1:12 or about 16% of private consumption of goods and services after adjusting for re-exporting of some imported goods). In this respect, as domestic inflation dissipates, import price developments continue to exert upward pressure on total HICP, in view of the fact that Greece is a price-taker for a broad range of imported goods.



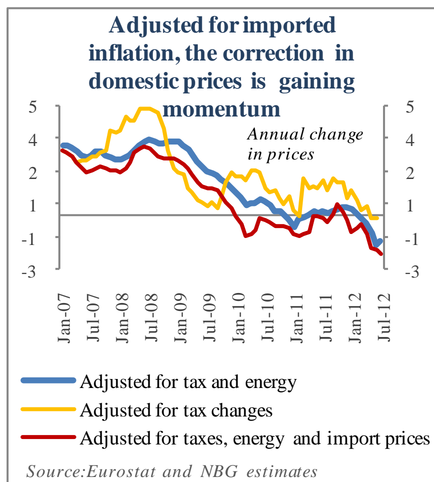
To estimate the impact of imported inflation on HICP, we use the share of imported consumer goods and intermediate non-energy inputs used for the production of consumer goods in GDP, combined with import price developments for these categories. The analysis indicates that imported inflation, which has averaged 3.2% for these categories of goods during the period 2010-12, has added about 0.5 pps per year, on average, to HICP inflation during this period.

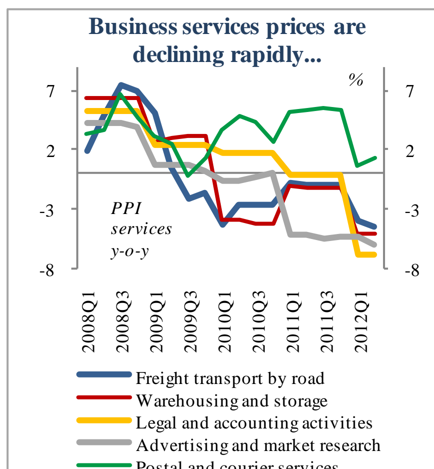
Taking into account the impact of imported inflation, as well as tax and energy, adjusted core inflation drops further to -0.6% y-o-y, on average, in the 2½ years to H1:12 and to -1.5% y-o-y in September 2012.

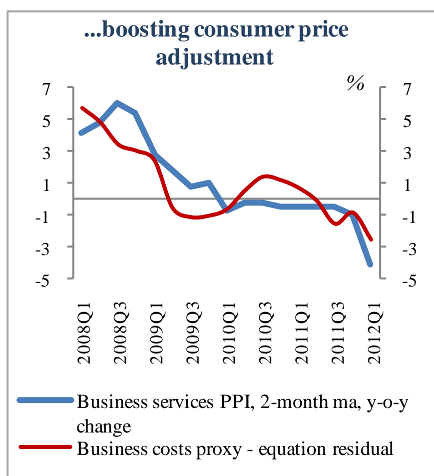


In view of the relatively high share of imported inputs in the Greek economy, second-round effects from import prices on consumer prices -- i.e. an additional inflationary impact of imports transmitted across the production chain -- is likely to be considerable. This latter issue will be addressed in the following paragraph by using an empirical model on the basis of which we estimate, *inter alia*, the second-round effects of imported-input prices on domestic inflation.

It must be noted that the GDP deflator can be considered as an alternative measure of underlying price developments that is directly comparable with our adjusted measure of core inflation. Indeed, the GDP deflator is not affected by import prices and tax rate developments, and measures the prices of domestically-produced goods and services, including investment goods and government services. However, it must be noted that the GDP deflator is not based on a fixed basket of goods and services like HICP, but is allowed to vary in real time along with changes in composition of GDP. In the event, the average rate of change of the GDP deflator in the 2½ years to H1:12 was almost 1 pp higher







compared with our adjusted measure of inflation, but appears to follow a similar declining trend over the same period, falling to -0.9% y-o-y in Q3:12. This difference is likely to reflect the relatively slower adjustment of prices of domestically-produced goods and services related to fixed investment and government consumption (jointly corresponding to c. 23% of GDP).

Falling wages and distribution costs are expected to accelerate price adjustments in the medium term

Nevertheless, in view of the sharpness of the recession, it is still a puzzle why inflation has not adjusted by an even larger amount. Our analysis shows that structural factors underlying core inflation developments have held up the price adjustment process, but that they are now showing signs of adjustment. The analysis focuses on: i) labor costs; ii) profit margins; iii) other sources of business costs; and iv) second-round effects from energy and import prices on core inflation.

In this respect, a VAR system comprising nominal unit labor costs (ULCs), the share of gross operating surplus in GDP (macroeconomic proxy for profit margin), an empirical proxy of "other business costs" developments, together with imported input and energy prices (with the latter variable being contemporaneously unrelated to core inflation, and used to capture second-round inflationary effects of energy prices and imported input prices), is used to describe core inflation dynamics. As regards the variable used as a proxy of "other business costs", we utilize the residual from the regression of goods inflation (excluding energy) on services inflation to capture developments in components of business cost structure that are specific to the goods' market, such as storage, transportation and other distribution costs. Intermediate imports prices will not affect this variable, due to their separation in the system. The VAR system is used to identify the transmission lags of specific inflation drivers and estimate the relative contributions of structural factors to inflation in the medium term.

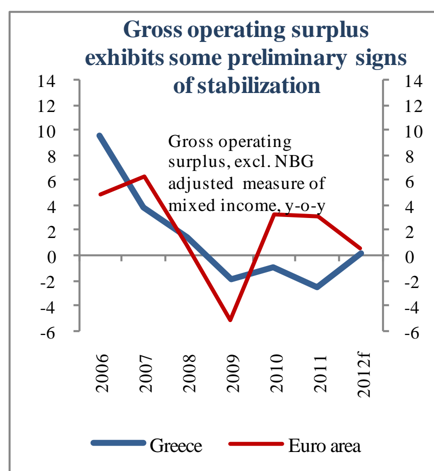
The empirical results suggest that ULC and profit margin developments explain more than 65% of core inflation growth over the previous decade. Moreover, the transmission of wage changes to final prices takes more than 5 quarters to become significant (this lag is also confirmed by a long-term regression between wage and price growth over a 40-year period). The estimated transmission lags appear to be relatively long compared with international experience, which indicates that 3 to 4 quarters are generally sufficient for wage adjustments to have a significant impact on consumer prices.

Greek business stucture characteristics delay price adjustment

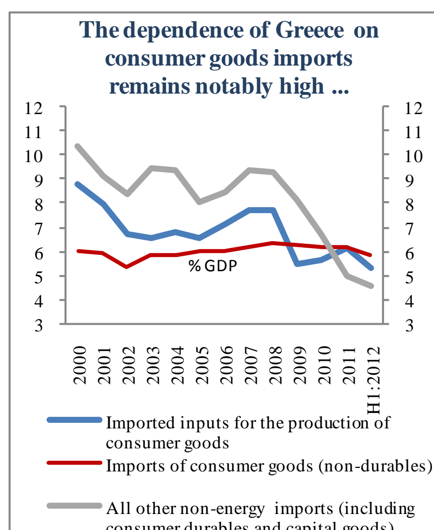
2010	GREECE		EUROPE	
	Ebitda / Turnover	Gross Operating Surplus / Production	Ebitda / Turnover	Gross Operating Surplus / Production
Manufacturing	3,7%	17,8%	11,4%	14,1%
Services	9,2%	41,6%	23,0%	25,5%
Trade*		23,7%		23,8%
*Trade**	*2,8%*	*6,8%*	*4,8%*	*6,8%*
TOTAL	**5,2%**	**34,1%**	**12,9%**	**21,9%**

** For comparability purposes, the Gross Operating Surplus/Production ratio for the Trade sector is adjusted for the existence of product resales that are not included in the calculation of production*

Source: Eurostat, Icap, Bach database, NBG estimates



Gross operating surplus exhibits some preliminary signs of stabilization



The dependence of Greece on consumer goods imports remains notably high ...

Greece likely suffers longer lags due to inertia arising from "other components of business costs", and inflexible profit margins characteristic of economies with business structures dominated by very small enterprises, a relatively narrow production base, a high dependence on imports and relatively difficult access to financing. Indeed, the above factors appear to be inhibiting a faster adjustment of domestic production costs and consumer prices, as they offset the gains from an accelerating compression of labor costs.

Based on this empirical analysis, the disinflationary impact from the cumulative correction of ULCs of about 6.0% in the period 2010-11 has only started to become significant in H2:11 and should gain momentum in 2012, and especially in 2013 and 2014, when an estimated additional compression of ULCs is expected to occur (by about 8% y-o-y in 2012 and 4.5% y-o-y in 2013). The average impact of the decline in ULCs on consumer prices is estimated at -1.8 pps per annum over the period 2013-14 from only -0.5 pps in the period 2010-H1:12 (see Table 1).

The empirical evidence suggests that profit margins -- proxied by the annual change of the ratio of gross operating surplus to nominal GDP -- were a key explanatory factor of near-term inflation persistence in the period 2000-09 when it registered average annual increases to the tune of 1.5-2%, contributing 0.6 pps to annual inflation during this period. Since 2010, however, it has been exerting a significant disinflationary role (the average profit margin declined by c. 5.5% in the period 2010-11) due to the notable erosion of Greek firms' pricing power against a backdrop of rapidly shrinking domestic demand and the closure or merger of firms. In H1:12, there are some signs of a small recovery of this economy-wide proxy of profit margin, which possibly reflects the accelerated pace of labor income reduction. In the event, profit margin compression subtracted about 0.4 pps from annual inflation in the period 2010-H1:12, and is estimated to have a negative annual contribution of about -0.1 pp in the period 2013-14. Indeed, the additional contraction in Greek households' nominal disposable income by c. -10% over the 2013-14 period (mainly reflecting the austerity measures underlying the medium-term fiscal adjustment strategy and the weak state of the Greek labor market) is expected to prevent firms from attempting a faster normalization of their profit margins, even in the medium term.

As regards distribution and other service-related business costs, the empirical evidence suggests that they also appear to have turned from an important supply-side driver of persistent inflationary pressure in the previous decade (adding about 0.8% to annual

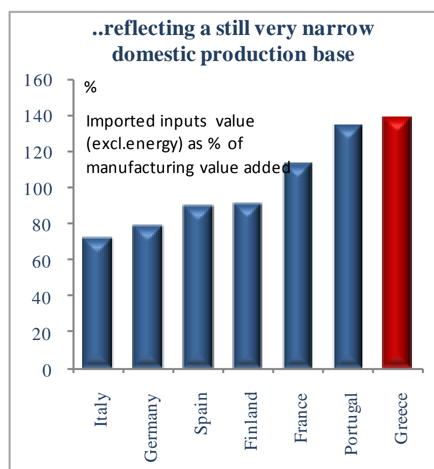


Table 1: Decomposition of key drivers of consumer price inflation

	2000-09	2010-H1:12	Sep 2012	2013-14 (f)
	period average in pps			
Taxes (VAT & excise)	0,0	2,5	0,1	0,5
Oil	0,3	1,2	0,8	0,2
Imports	-0,1	0,3	0,6	0,3
Oil -second round	0,3	0,4	0,3	0,1
Imports - second round	-0,1	0,2	0,2	0,1
Profit margin	0,6	-0,4	-0,2	-0,1
Labor cost	1,4	-0,5	-1,1	-1,8
Other Business costs	0,8	-0,4	-0,5	-1,1
HICP total	**3,2**	**3,3**	**0,2**	**-1,8**
Core inflation	**3,0**	**1,8**	**-1,2**	**-2,8**
Core inflation (*excluding tax, imports*)	**3,3**	**-1,2**	**-2,1**	**-3,7**

Source: Eurostat & NBG estimates

inflation over the period 2000-09), to a factor that increasingly supports disinflation (an annual contribution of -0.4 pps in the period 2010-H1:12). Indeed, in view of the fact that some categories of business services are key inputs in the production and distribution chain (such as transportation, storage, legal and other related services), the continuing correction in their prices is expected to facilitate a faster adjustment in goods inflation. Indeed, the average price of business services (based on the Eurostat index of producer prices in the service sector), comprising distribution, logistics, transportation and management costs, declined by 4.4% cumulatively in the period 2010-11 and by 6.2% y-o-y in 9M:12. (This index moves in line with the above-described proxy of business costs in the VAR system, see figure). The correction is expected to continue at a relatively lower pace of 2.5% per annum in 2013-14. In this respect, the empirical estimates suggest that the disinflationary effect of falling business costs is transmitted to final prices with a 5-6 quarter lag, on average, indicating that the disinflationary impact on the economy will become increasingly evident in the period 2013-14, when its contribution is estimated to exceed -1.1 pp per year, from -0.4 pps in 2010-H1:12.

On the contrary, the second-round effects from oil and imported input inflation -- representing the last building block of the VAR model -- although weaker compared with the period 2010-12, will continue to exert upward pressure on inflation in the period 2013-14. Indeed, assuming a stabilization of oil prices at c. €90 per barrel, and an average non-oil import price inflation of about 2.5% in the period 2013-14, the combined second-round effects on core inflation of oil and imported inputs inflation will be about 0.2 pps, on average, from almost 0.6 pps in the 2½ years to 2010. These second-round effects are compounded by the concomitant direct effects of imported inputs on core inflation (+0.4 pps, on average, in 2013-14), bringing the aggregate inflationary impact of energy and imported inputs (comprised of imports and second-round effects of imports and energy) in the vicinity of 0.5 pps per annum over the period 2013-14 from 0.9 pps in the period 2010-12.

Adding together all the above drivers of inflation (including the impact of recent heating oil and electricity price increases) points to a notable drop in consumer prices in 2013-14. Overall, the decline in HICP between Q3:12 and end-2014 is estimated to exceed 5.0% (-2.3% y-o-y annualized), which corresponds to a return of Greek relative -- economy-wide -- price competitiveness to its 2002 level by end-2014, despite the persistent inflationary impact of imports. In terms of core inflation, the cumulative adjustment over the same period is estimated to exceed 6% (-2.8% y-o-y annualized).

Greece: Macroeconomic adjustment continues in an extremely challenging environment

The Greek economy remained deep in recession in Q3:12, with GDP contracting by 7.2% y-o-y -- trapped in strongly negative territory for a 16th consecutive quarter -- against a backdrop of high uncertainty (reflecting a protracted pre-election period and intense euro exit speculation), a persistently strong fiscal drag from the additional austerity measures implemented in H2:11 and 9M:12 and extremely tight liquidity conditions.

The resolution of electoral uncertainty following the formation of a coalition government with a strong parliamentary majority, in conjunction with the intensification of compliance efforts under the 2nd program targets and the gradual recognition by EU partners of the country's sacrifices and increasing social costs of the adjustment effort, led to an improvement in economic sentiment in Q3:12; however, a relatively weak tourism season offset any gain in terms of economic activity. In this vein, recessionary headwinds will remain strong in the following 2-3 quarters, as an already sizeable hit on household real disposable income (-20% in the 2½ years to H1:12) is compounded by additional austerity measures, to be implemented in Q4:12 and 2013 (about 5.2% of GDP in Q4:12 and 2013, of which c. 4.4% corresponds to spending cuts), and rapidly deteriorating labor market conditions (estimated average decline in employment of 7.6% in 2012, and by about 3.5% in 2013 and an estimated decline in real wages by -5.6% in 2013, following a decline of -14.5% in 2012).

In this respect, the contraction in private consumption is expected to continue in H2:12 and in 2013, with the hit on consumer spending from the new fiscal measures higher than previous years, as the ability of households to smooth their consumption over time has been further diminished in view of the rapid contraction in financial wealth (especially bank deposits) and the continuing correction in real estate valuations and rental incomes.

Although current business trends appear to provide some encouragement, with a slowing pace of job losses and disinvestment, a business-led recovery is unlikely in the near term. Indeed, capacity utilization remains at very low levels -- about 18% lower than its 30-year average level, except for the food industry in which capacity utilization is only 7% lower compared with its long-term average -- while uncertainty and liquidity shortages -- even if somewhat alleviated by the distribution of the next tranche -- combined with declining demand, will maintain the pressure for further business restructuring, especially in the micro and SME segments.

The significant increase in the real estate tax burden and tight credit conditions are expected to further delay a stabilization of the residential component of investment until 2014, by fuelling excess supply pressures. In this respect, house price correction accelerated further in Q3:12 (-11.7% y-o-y), bringing the cumulative peak-to-Q3:12 adjustment to -24.3%. An increase in public investment spending -- reflecting a normalization of public investment budget disbursements -- in conjunction with the disbursement of part of the outstanding €14bn of earmarked EU and EIB funds, could provide a decisive boost to this segment of fixed investment in 2013. Such a development is estimated to contribute to a slowing in the contraction of fixed investment to c. -13.0% y-o-y in 2013 from -19.9% in 2012.

Manufacturing production was the only component of domestic economic activity that surprised on the upside during the past 2 quarters, driven by key exporting industrial segments such as food, non-metallic minerals and oil products. Taking into consideration the continuing compression of domestic demand and the still sizeable liquidity problems in the economy, the cumulative increase in industrial production volume, in seasonally-adjusted terms, of about 1.6% in the 5 months to September, provides tentative evidence of an evolving restructuring of the domestic production base and an increasing shift towards exports.

A successful completion of the 1st Review of the 2nd economic support program in Q4:12, and the concomitant disbursement of the pending installments of the program for 2012 of €31.5bn (which could reach €44bn assuming the disbursement of all remaining tranches for 2012), should pave the way for a sustainable improvement in the economic climate. Thus, in 2013, strong net exports (supported, *inter alia*, by a good tourism season and continuing adjustment of imports), stronger public investment spending, the beneficial effect on liquidity from a prospected clearance of c. €3.5bn of government arrears and a possible reduction of outstanding value of treasury bills by about €6-8bn, are expected to ameliorate recessionary pressures, despite a large fiscal drag. In this respect, real GDP is expected to contract by 6.7% in 2012 and by about 4.7% in 2013, reflecting a sizeable negative carry on 2013 GDP of about -3.0% y-o-y in 2013 and an effective fiscal drag of -3.7%.

The pace of adjustment of external imbalances accelerated remarkably in 2012, with the current account deficit registering an extraordinary improvement. Indeed, the current account deficit declined by 5.2 pps, to 1.9% of GDP in 9M:12, compared with the same period in 2011 when the current account deficit stood at 7.1% of GDP. The sharp correction of non-oil goods and services imports of -18.6% y-o-y (or 3.2% of GDP) has outweighed the decline in goods and services export revenue (-1.8% y-o-y or 0.3% of GDP). Moreover, the significant contraction of public debt servicing costs following the successful completion of PSI and the favorable terms on new official loans to Greece contributed to an improvement in the income deficit by 2.3% of GDP in 9M:12. The annual current account deficit is expected to decline by almost 50% compared with 2011, to c. 4.5% of GDP, and to 3.6% of GDP in 2013, bringing the external balance closer to a long-term equilibrium.

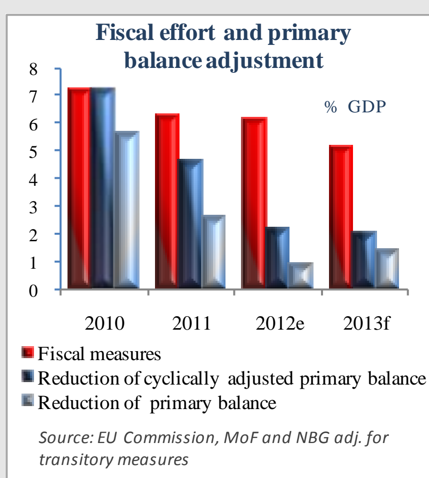
Liquidity conditions in the economy remained tight, as bank lending to the private sector continued to contract by 4.5% y-o-y in 9M:12, while the €3.5bn increase in bank deposits in Q3:12 is a small fraction of the €25½bn contraction registered in H1:12. Private sector deposits were almost €100bn (or 38%) lower in September 2012 compared with their peak in mid-2009. Eurosystem financing -- mainly through ELA -- appears to have stabilized at €130bn in Q3, covering liquidity shortages in the Greek banking system. The effective tightening in liquidity conditions was significantly higher than that suggested by bank lending data, as high uncertainty and falling activity amplified problems in inter-firm transactions, while the further increase in government arrears (that reached €9.0bn in September 2012, including tax arrears, from €6.7bn in December 2011) deprived the private sector of vital funding.

The expected approval of the 2nd tranche of the economic support program in late November, is a critical milestone for Greece. It will signal a change in sentiment, which will benefit the economy with a sharp decline in uncertainty as well as improved liquidity conditions. Combined with progress in program implementation, the growth outlook for Greece would be significantly improved.

Box 1: Fiscal Overview & 2013 Budget

Greece's intensive efforts to address the large fiscal imbalances are bearing fruit, bringing the economy closer to a primary balance

The progress made over the past 2½ years as regards government deficit reduction has been outstanding by historical standards. The general government deficit declined from 15¾% of GDP in 2009 to 9.4% in 2011 and is expected to decline further to below 7% in 2012, while the primary deficit contracted by 8.5% of GDP to 2.3% in 2011 and is expected to shrink further to c. 1.2% of GDP in 2012 in an extremely challenging macroeconomic environment. Indeed, in cyclically-adjusted terms, the cumulative reduction of the primary deficit is estimated to exceed 13.5% of GDP by end-2012 (and somewhat more in structural terms) -- compared with an adjustment of 9.1 pps in the primary deficit in the same period -- demonstrating the sizeable cyclical losses in fiscal efficiency due to the recession. Indeed, a vicious spiral comprising high uncertainty, shrinking economic activity, liquidity shortages, and the implementation of additional measures to correct ensuing fiscal slippages, poses severe challenges for macroeconomic policy.



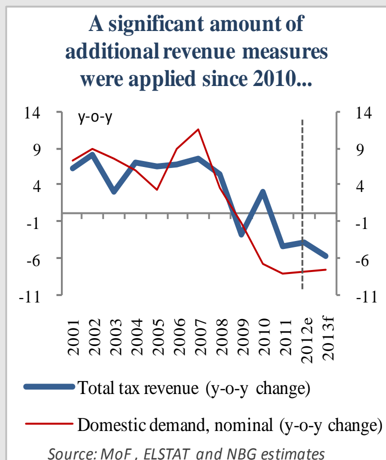
Source: EU Commission, MoF and NBG adj. for transitory measures

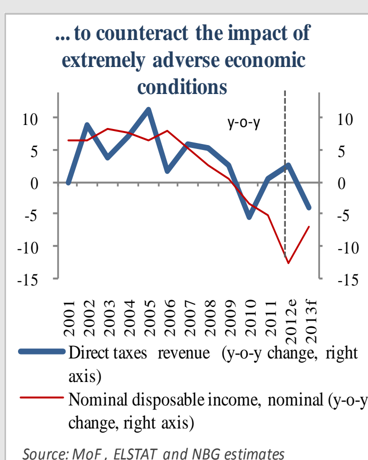
The fiscal adjustment has been based on the implementation of an unprecedented level of fiscal measures to counteract diminishing fiscal returns due to the sharper-than-initially-expected recession and the weak progress on structural reforms. Indeed, the cumulative fiscal effort over the 3-year period 2010-12 amounts to an impressive 19.3% of GDP (including once-off measures of 2.7% of GDP), but will have reduced the general government primary deficit by much less. The need for nearly double the fiscal effort, compared with the result, reflects the fact that the measures will have reduced output by almost 13% cumulatively, leading to a significant contraction of the tax base. The decline of the tax base is greater than the decline in GDP, as it results from the contraction in household disposable income and domestic non-financial firms' profitability -- by more than 20% and 35%, respectively, in the same period -- while imports contracted by 33%, suggesting a revenue loss of about 4.8% of GDP.

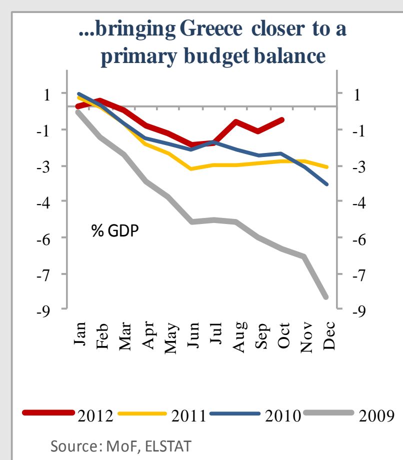
Fiscal Measures in the 2010-2014 period

	2010	2011	2012e	2013e	2014e	2010	2011	2012	2013e	2014e	Total
	in bn euro					*% of GDP*					*%GDP*
Total Measures	**15,5**	**13,0**	**11,8**	**9,4**	**4,1**	**7,0**	**6,3**	**6,1**	**5,2**	**2,2**	**26,7**
Revenue measures	**7,9**	**6,9**	**5,4**	**1,8**	**1,9**	**3,6**	**3,3**	**2,8**	**1,0**	**1,0**	**11,7**
of which											
Tax measures	4,8	5,2	5,1	1,3	1,9	3,0	2,5	2,6	0,7	1,0	9,8
Spending measures	**7,6**	**6,1**	**6,4**	**7,6**	**2,2**	**3,4**	**2,9**	**3,3**	**4,2**	**1,2**	**15,0**
of which											
Wage and pension cuts	3,8	1,3	0,9	5,8	0,9	1,7	0,6	0,5	3,2	0,5	6,5
Social spending and healthcare	1,1	1,9	1,8	0,7	0,7	0,5	0,9	0,0	0,4	0,4	2,2
Intermediate consumption, operational, military expenditure	1,5	1,5	2,0	1,0	0,6	0,7	0,7	0,0	0,5	0,3	2,3
Public investment	1,2	0,8	0,2	0,0	0,0	0,5	0,4	0,0	0,0	0,0	0,9

Source: MoF, IMF and NBG estimates







The recession has negatively impacted the budget from the expenditure side as well. Social spending has increased, as unemployment has skyrocketed (more than 0.75 million jobs have been lost during the period 2008-8M:12, corresponding to 17.3% of the labor force) and there has been a sharp increase in retirements -- especially in the public sector -- during a period when revenue of the social security system has contracted significantly. The latter effect has been offset by significant cuts in pensions (by about -18% in the period 2010-12), as well as other components of social spending. Moreover, nominal wages at the level of general government were reduced by an estimated 19% in the period 2010-12, and the number of employees in the public sector was reduced by about 11% or about 86,000 persons.

The vicious circle of uncertainty, fiscal contraction and recession imposes a severe dilemma to policymakers in view of the fact that the effective fiscal multiplier (i.e. the impact on GDP from the implementation of 1 pp of GDP of new measures) appears to have risen significantly during the period 2010-12, exceeding 0.7 in 2012, and based on current trends, it will approach unity in 2013 (see Box 2). In this regard, the fiscal drag from measures implemented in 2012 is estimated at about 3.3% of GDP (after adjusting for the timing of implementation of measures in Q4:12 and FY:13 and the expiration of temporary measures from previous years) and is expected to increase to 3.7% in 2013 when almost €11bn of new measures (€9.5bn in net terms, equivalent to 5.2% of GDP) will be implemented.

Budgetary developments in 9M:12 are encouraging as regards the achievement of annual fiscal targets

The central government budget remains on track to meet its end-of-year cash targets, on the back of a notable contraction in primary spending (-9% y-o-y in 9M.12 or -1.8% of GDP), as well as government investment spending (down 1% of GDP y-o-y in 9M:12). Moreover, an improvement in direct tax revenue trends since Q3:12, supported by a relatively strong growth in PIT and real estate tax revenue, as well as an improvement in the performance of indirect tax revenue, albeit still declining, has also helped in meeting the target. In fact, net revenue is only down 0.2% in 10M:12 (on the basis of preliminary data). The recovery in the direct tax revenue performance mainly reflects an effective broadening of the tax base through the reduction of the tax-free bracket to €5,000 from €12,000 in 2010, the imposition of a solidarity tax on annual declared incomes higher than €12,000 (with graduated tax rates ranging from 1% to 5%), a more strict application of presumptive taxation for the self-employed, and a new progressive property tax applicable on a broader base. The above factors have outweighed the negative impact of the erosion of the tax base in 9M:12 due to the further drop in disposable income and the concomitant reduction of private consumption by -12% and -6.7% y-o-y, respectively, in nominal terms, during the same period.

Government Budget Implementation 9m.2012 & 2013 forecasts (modified cash basis)							
	9m.2011	9m.2012			9m.2012/11 y-o-y change	2012 FY	2013 FY
		Outcome	9m.Target	*Deviation from target*	Outcome 9m	Target	Target
		as % of GDP			*y-o-y*	*as % GDP*	
I. State Budget Net Revenue (1+2)	**17,7**	**18,7**	**19,4**	**-0,7**	***-0,4***	**27,7**	**27,8**
1. Ordinary Budget Net Revenue (a-b)	**16,8**	**17,4**	**17,7**	**-0,3**	***-2***	**25,2**	**25,0**
a. Revenue before Tax Refunds	18,7	18,7	19,1	-0,4	*-6*	27,1	26,5
b. Tax refunds	1,9	1,3	1,4	-0,1	*-36*	1,9	1,6
2. Public Investment Budget Net Revenue	0,9	1,3	1,7	-0,4	*36*	2,5	2,8
II. State Budget Expenditure (3+4)	**27,3**	**25,2**	**26,3**	**-1,1**	***-13***	**35,6**	**33,9**
3. Ordinary Budget Expenditure	**25,6**	**23,8**	**23,8**	**0,0**	***-13***	**31,9**	**30,2**
of which 3.1 **Primary expenditure**	18,1	17,6	17,6	0,0	*-9*	24,5	24,1
3.2 **Net interest payments**	6,7	5,4	5,4	0,0	*-24*	6,0	4,8
4. Public Investment Budget Expenditure	1,7	1,4	2,5	-1,1	*-21*	3,5	3,7
State Budget Primary Balance (I-II+3.2)	**-2,9**	**-1,1**	**-1,5**	**0,4**	***-66***	**-2,4**	**-1,2**
State Budget Balance (I-II)	**-9,6**	**-6,5**	**-6,9**	**0,4**	***-37***	**-8,4**	**-6,1**

Source: MoF monthly release on Budget implementation and Government Budget 2013

The contraction of social security system revenue, by almost 0.2% of GDP in 9M:12, led to the absorption during 9M:12 of almost 84% of the annual social security allocation in the government budget. In this respect, social security system financing is the main challenge on the spending side of the State Budget for Q4:12. Another uncertainty is related to the size of government arrears, accumulated in part because of the delayed disbursement of the second tranche under the program. Specifically, government arrears reached 4.6% of GDP in 9M.12 (including arrears related to pending tax refunds) from 3.2% in December 2011. However, the estimated over-performance of about 1.5% of GDP in the adjusted cash balance at the level of general government in 9M:12 appears sufficient to offset the additional arrears of about 1.2% of GDP built up during the same period (of which around 1.8% of GDP should be cleared by end-year). Overall, the general government deficit is expected to decline to below 7% of GDP in FY:12, from 9.4% in FY:11 and a program target of 7.3% for 2012, also helped by a faster drop in interest payments following the PSI and the favorable terms of official lending under the 2nd program.

General Government Budget Implementation (% of GDP)					
	9m.2011	9m.2012	2011	2012	2013
(% GDP)	modified cash basis		ESA adjusted, accrual		
	Outcome	Outcome	Outcome	Target	Target
State Budget					
Revenue	**17,7**	**18,9**	**25,9**	**27,5**	**27,1**
Primary Expenditure	20,6	20,0	28,9	30,0	29,3
Primary balance	-2,9	-1,1	-3,1	-2,4	-2,1*
Extra budgetary Funds					
Balance (+surplus, -deficit)	0,5	0,5	0,9	1,8	0,7
Local Governments					
Balance (+surplus, -deficit)	0,5	0,2	0,4	0,3	0,3
Social Security Funds					
Balance (+surplus, -deficit)	-0,2	0,4	-0,5	-1,1	1,5
General Government					
Primary balance	**-2,0**	**0,6**	**-2,3**	**-1,2**	**0,4**
Interest payments	7,0	5,6	7,1	5,4	5,6
Total Gen. Government Balance (ESA 95)	**-9,0**	**-5,0**	**-9,4**	**-6,6**	**-5,2**

2013 Government Budget and NBG estimates, program target on modified cash base

* Note that target is -1.2% of GDP on a modified cash basis (see above table), with the difference reflecting ESA adjustments

Government Budget 2013

The government budget for 2013 aims to achieve the first primary surplus since 2002, despite the envisaged sharp drop in GDP (-4.7% y-o-y). The Budget foresees a general government deficit of 5.2% of GDP (about 1.4% of GDP lower than the MoF estimate for the 2012 deficit) and a primary surplus of 0.4% of GDP from a deficit of 1.2% of GDP in 2013 (i.e. an adjustment of 1.6% of GDP).

In total, measures equivalent to €9.4bn or 5.2% of GDP will be taken in 2013 (following 7.0% in 2010, 6.3% in 2011 and 6.1% in 2012). The adjustment is based on a credible set of measures comprising €7.6bn of easily implemented spending cuts (mostly pensions and public employee wages -- €5.8bn or 3.2% of GDP -- and €1.7bn, or 0.9% of GDP, of additional cuts in health, social, military and other operational expenditure at a general government level) and about €1.8bn of new revenue measures (mostly comprising the elimination of tax exemptions and the zero tax bracket).

Evidently, the considerable discrepancy between the net amount of fiscal measures for 2013 (5.2% of GDP) and targeted adjustment of only 1.6% of GDP demonstrates the substantial cyclical losses, in terms of fiscal measures efficiency, due to the recession. Indeed, the size of measures taken compared with the targeted adjustment implies an underlying assumption of fiscal multiplier in the vicinity of 0.9, which appears plausible in the current macroeconomic environment. Accordingly, the net fiscal drag for 2013 is estimated at c. -3.7% y-o-y.

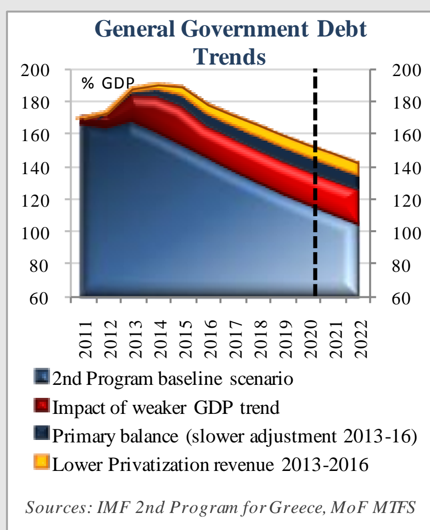
The projections regarding tax revenue appear conservative (-5.8% y-o-y) and are reflected in Budget estimates for an annual reduction in income taxes, indirect taxes and consumption taxes of -15.6%, -6.8% and -3.5% y-o-y, respectively, compared with 2012. Budgeted revenue from property taxes and from the settlement of tax obligations of previous years are the only revenue components that are estimated to register an increase in 2013 (of +15.5% and +57.5%, y-o-y, respectively), with the former reflecting a new unified property tax (including a broader base and no zero bracket).

Moreover, the targeted decline in primary spending of about -6.2% y-o-y arises from the further contraction in government wage and pension bills of -9.7% and -9%, respectively, and in operational expenses of c. -15% y-o-y. Higher-than-currently-anticipated financing needs of the social security system -- mainly due to a further shrinkage in social security contributions and increasing demand for unemployment benefits and early retirements -- put important limitations on the spending side, despite the fact that the Budget assumes a relatively rapid deceleration in the pace of employment losses (-2.1% y-o-y in 2013 compared with -7.9% in 2012) and an unemployment rate of 22.8% compared with 22.4% in 2012, following the implementation of labor market reforms. Indeed, the pace of deterioration in labor market conditions and the concomitant increase in social spending needs, as well as a larger financing gap by social security funds, reflect the key risks for the government budget in 2013, as NBG Research estimates that employment will contract by about 3.5% in 2012, while the average unemployment rate will increase by about 2.3 pps to 26.2% in 2013 (LFS data).

Overall, the Budget for 2013 is designed to provide positive surprises on the revenue side, even under a more adverse scenario for economic activity, while cyclical risks on the spending side appear manageable, boding well for meeting the target of a balance in the primary budget by end-2013.

Government funding gap and impact on debt dynamics

The Medium Term Fiscal Strategy for the period 2013-2016 provides updated estimates of the expected path of fiscal adjustment and projections of relevant macroeconomic variables. These estimates incorporate the effect of new fiscal measures to be implemented in the period 2013-16. It reveals higher financing needs for the Greek State compared with 2nd program original estimates, and concomitantly, a slower decline of government debt as a per cent of GDP. These worrisome developments arise from:



Sources: IMF 2nd Program for Greece, MoF MTFS

i) the downward revision of nominal GDP for 2011 by about -3%;

ii) the deeper-than-initially expected recession in 2012 (estimated contraction in real GDP of -6.7% in 2012 compared to 2nd program estimates -4.8%);

iii) the weaker GDP growth over the 2013-2016 period (real GDP growth of +0.4%, y-o-y per annum, on average, compared with previous estimates of +2.2% per year, with the average deflator growth being broadly unchanged compared to the original program);

iv) a slower pace of primary balance adjustment (an average surplus in primary balance of 2.1% of GDP in 2013-16 versus 3.8% per year projected in the 2nd program); and

v) lower privatization revenue (of 1.3% of GDP per year in the 3 years to 2016 compared with original estimates of 2.4% of GDP).

Indeed, weaker economic activity in the period 2012-20 appears to be the key determinant of the increase in financing needs and the ensuing deterioration in government debt dynamics. Moreover, the net impact of weaker GDP growth on government financing needs is estimated at €7.2bn over the period 2013-16. The cumulative impact of weaker economic growth on the estimated level of debt-to-GDP ratio in 2020 is even more pronounced than indicated by the change in financing needs, as GDP affects the debt ratio mostly through the "denominator effect" i.e. as the scaling variable of debt. The impact of lower GDP on the level of government debt-to-GDP ratio in 2020 is estimated at about 17% of GDP. The effective impact of GDP on debt is even higher since weaker activity is the main explanatory factor underlying the projections of a slower improvement in the primary balance, due mainly to the erosion of the tax base.

Additional Government Funding Needs

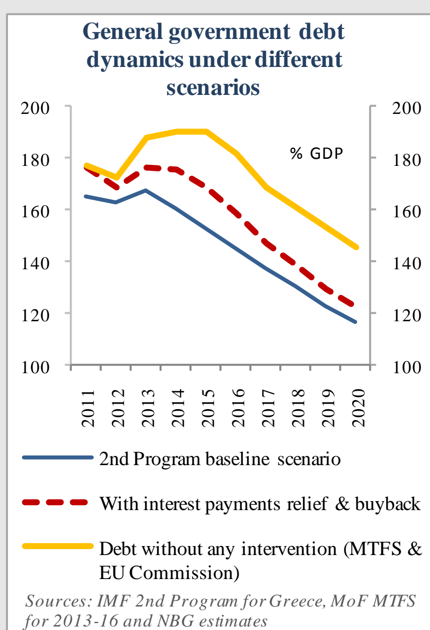
source of needs	2013-16 (in bn euro)
GDP	7,2
Primary Balance	14,3
Privatizations	11,4
Total	**32,9**

The slower improvement in the primary balance creates additional financing needs of about €14.3bn in the period 2013-16 (including additional debt servicing costs). The impact on debt to GDP ratio in 2020 amounts to c. 10% of GDP.

Lower revenue from privatizations in the 4 years to 2016 increases the funding gap by about €11.4 bn until 2016, while the impact on the debt-to-GDP ratio in 2020 is estimated at 8.2% of GDP. Overall, the total additional financing needs of the Greek Government in the next 4 years are estimated at €32.9bn, of which only €14.3bn reflect an inevitable -- due to the magnitude of recession -- slowing in the primary balance adjustment in this period. The combined impact of the above factors are expected to push the debt-to-GDP ratio in the vicinity of 190% of GDP in 2013-14 and to c. 150% of GDP in 2020 or about 35 pps of GDP higher than 2nd program baseline scenario.

Covering the additional financing needs over the next 4 years (up to 2016) appears to be attainable without resorting to more radical options -- and politically sensitive ones -- such as a haircut on official loans to Greece or on Greek debt held by the Eurosystem. Indeed, a deferral of the planned reduction in the stock of outstanding T-bills by about €9bn over the next 2 years and the use of a part of funds earmarked as a government cash buffer up to €5bn until 2014, could jointly provide additional liquidity of almost €14bn. Additional funding could arise from a reduction in interest rates applied on bilateral loans from the 1st program (a cumulative gain of about €1.8bn by 2016 assuming a 1 pp reduction in the interest rate on these loans) and a deferral of interest payments on EFSF loans (c. €12 bn). Finally, unused funds from the banking system recapitalization/resolution package -- especially in the event of the provision of an ESM guarantee on Greek banks GGB holdings, that would prevent mark-to-market losses -- could be also used to reduce the financing gap by an additional €9bn. The above five measures would be sufficient to close the funding gap for the period 2013-16. An alternative measure, though one which has been all but ruled out by the ECB, would be a rollover of ECB holdings of GGBs redemptions over the period 2013-16 (about €18bn).

Although the above options cope with the financing problem over the next few years, they are not easing Greece's elevated debt burden and thus, the sovereign solvency issue remains unresolved. Among the factors affecting debt sustainability, the option of debt buybacks appears to have received support from the official sector. The estimated debt relief assuming a buyback of half the stock of post PSI GGBs held by the private sector at an average repurchase price of 30 cents would reduce government debt by about 9% of GDP, net of the funds needed to finance the transaction. There are other measures that would also achieve significant debt reduction. First, a direct recapitalization of the banking system through the ESM would result in meaningful debt relief of about 15-25% of GDP, and provide funding relief, depending on whether it covers the existing bridge capital or just the new disbursements. Second, if the ECB returns the profits from its purchase of Greek bonds on the secondary market (about €40bn at 80 cents), the debt stock would be reduced by about 4.0% of GDP. Finally, a reduction in the interest rate on EU loans could reduce Greek debt substantially.



Indeed, the November 20th Eurogroup meeting reportedly discussed the reduction of the 150 bp spread on the bilateral loans of the 1st adjustment program to c. 50 bps and the shift back of all interest payments on EFSF loans by 10 years (i.e. zero interest for 10 years). These two measures combined could reduce the stock of debt by about 2.8% of GDP, and together with a successful debt buyback, would be sufficient to bring debt closer to the 120% threshold by 2020. The return to Greece of ECB profits on their purchase of GGBs on the secondary market are reportedly also on the table. Needless to say, these measures would reduce the financing gap for the period 2013-16 (€33bn plus €10bn for the buyback) by about €24bn. The Eurogroup meeting is expected to reconvene on November 26th to resolve these issues.

Box 2: Fiscal multipliers and economic depression

The experience of the Greek program suggests that the fiscal returns from austerity measures have been following a declining trend. In 2010, 1 pp of GDP in new austerity measures was sufficient to reduce the primary deficit by almost 0.8 pps of GDP. This ratio declined to 0.5 in 2011 and is estimated at 0.33 in 9M:12. In this respect, the underlying composite fiscal multiplier reflecting the combined impact on activity of all measures implemented in a specific period is likely to exceed 0.7 in 2012 and approach unity in the period 2013-14.

Similar evidence is provided by Barro & Redlick (2011) at an international level, who show that the fiscal multiplier of government spending on output when the unemployment rate exceeds 12% is about 1. Romer and Burstein (2009) estimate a multiplier during the global financial crisis at about 2.5-3.0, and Corsetti, Meier and Muller also show that multipliers tend to be significantly larger in periods of financial crises. This literature implicitly or explicitly argues that the magnitude of fiscal multipliers tends to increase in periods of recession, especially government-spending multipliers, and becomes dependent on cyclical and/or financial conditions in periods of economic turbulence or depression.

In view of the possible bias due to a limited data sample in Greece, the absence of adequate history of large cyclical swings in economic activity in Greece over the past 20 years as well as the existence of fundamental changes in monetary/inflation and exchange rate environment, we attempt to calculate the magnitude of the multiplier by using benchmarks from other countries that have experienced economic recessions.

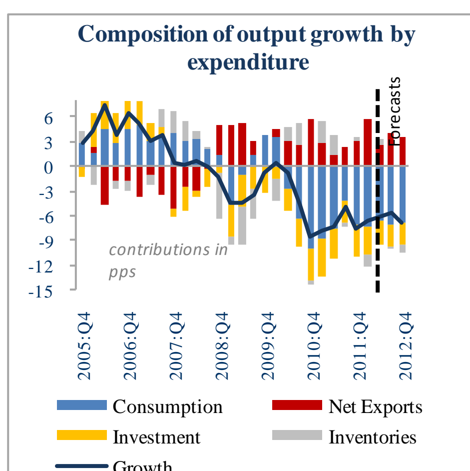
To estimate the impact of fiscal policy in the period ahead (2013-16), we calculate a proxy of the effective multiplier for Greece on the basis of the respective benchmarked values of spending and revenue multipliers for Italy and the euro area at times of economic recession as provided by Batini *et al.*[1] for several countries (without adjusting the multiplier for the larger-than-normal recession in Greece). We apply weights based on the relative annual share of permanent spending and revenue measures applied (or planned for) in the period 2010-14. In this way, we estimate the annual value of the "composite" fiscal multiplier in Greece for this period, which increases as the adjustment focuses more on expenditure cuts, which have higher multipliers.

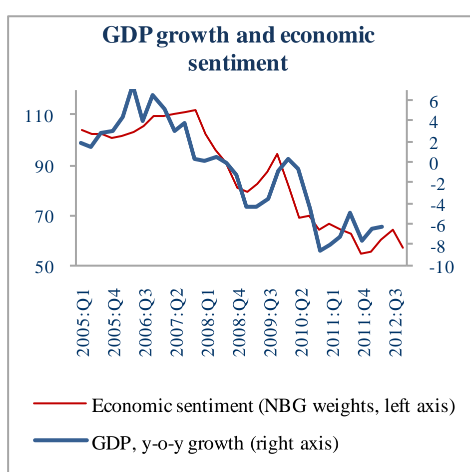
In this regard, the estimated composite fiscal multiplier for Greece based on the Italian benchmark is estimated at 0.6, on average, in the period 2010-12, rising to 1.0 in the period 2013-14 and implies a direct drag on growth of -4.2% per annum in the period 2010-12, and of -2.4% per year in the period 2013-14. The multiplier rises in 2013-14 mainly due to the much higher share of expenditure cuts compared with revenue measures.

The same analysis based on euro area benchmarks leads to an even higher multiplier value of 0.9 for the period 2010-2012 and estimated 1.5 in 2013-14. Accordingly, the estimated average fiscal drag on growth increases to -5.0% in 2010-12 and to -3.6% in 2013-14.

[1] *Batini N., Callegari G., and Melina G.. "Successful Austerity in the United States, Europe and Japan" IMF WP/12/190, July 2012*

GROWTH OUTLOOK





- GDP contracted by 7.2% y-o-y in Q3:12, similar to the Q1 outcome of -6.5%, dragged down by the continuing decline in disposable income, tight liquidity conditions and rapidly deteriorating labor market conditions. On a quarterly basis (s.a.), activity declined by a staggering 1.5% versus -0.8% q-o-q in Q2:12. The positive contribution of net exports to GDP growth (an estimated +3.8 pps, y-o-y) was insufficient to counterbalance the negative impact from the continuing contraction in private consumption and investment.

- Moreover, the quarterly pace of contraction in economic activity will remain high in H1:13, as the new fiscal measures (amounting to 5.2% of GDP), together with the continuing drop in employment and declining wages (including the adverse impact from the implementation of the new tax law on wage earners and the self employed), will take an additional toll on household disposable income, of almost -13% in 2013. Real GDP is expected to contract by 6.7% in 2012 and by c. 4.7% in 2013, when favorable base effects due to an reduction of uncertainty, together with a normalization of public investment spending, and a further improvement in external balances (supported by a better tourism season), are expected to gradually outweigh the adverse impact of a sizeable negative carry on 2013 GDP of about -3.0% y-o-y, and a net fiscal drag of -3.7% of GDP. In the event of no improvement in economic sentiment, liquidity conditions and the export sector performance compared with 2012, GDP could contract by about 6.0% in 2013.

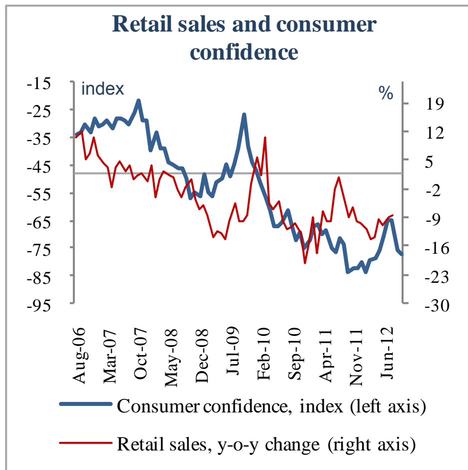
Greece: Growth Outlook

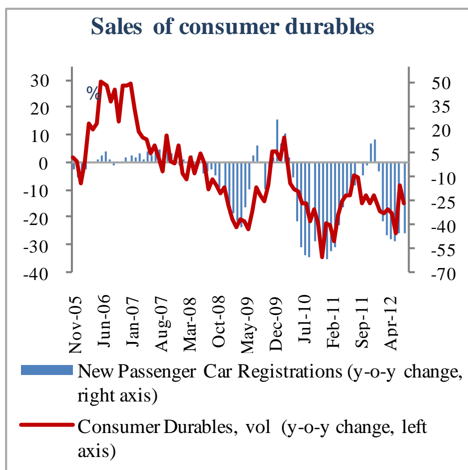
	2011	2012f	2013f	2011		2012e				2013f			
				Q3	Q4	Q1	Q2	Q3f	Q4f	Q1	Q2f	Q3f	Q4f
GDP[1] (% yoy, non-seas & w.days adj.)	**-7,1**	**-6,7**	**-4,7**	-4,0	-7,9	-6,7	-6,3	-7,2	-6,5	-6,6	-5,8	-3,7	-2,6
GDP (% q-o-q, NBG s.a.)	…	…	…	-0,7	-3,3	-0,7	-0,8	-1,5	-2,7	-2,0	-1,9	-0,3	-0,1
Domestic Demand (y-o-y)	**-8,7**	**-9,8**	**-7,6**	-6,1	-10,1	-11,0	-8,4	-9,8	-9,9	-8,6	-9,0	-8,1	-4,9
Final Consumption (y-o-y)	**-7,5**	**-7,8**	**-6,8**	-4,9	-7,9	-7,5	-7,2	-8,0	-8,4	-7,0	-7,5	-7,0	-5,5
Private Consumption (y-o-y)	-7,1	-7,6	-6,6	-5,2	-7,0	-8,7	-8,0	…	…	…	…	…	…
Public Consumption (y-o-y)	-9,1	-7,9	-9,8	-11,8	-3,4	-10,5	0,2	…	…	…	…	…	…
Fixed Capital Formation (y-o-y)	**-20,6**	**-19,9**	**-13,0**	-16,4	-22,2	-21,3	-19,4	-20,0	-19,0	-16,0	-17,0	-13,8	-8,5
Construction**	-24,8	-20,3	-14,4	…	…	…	…	…	…	…	…	…	…
Equipment & other**	-17,2	-17,8	-12,3	…	…	…	…	…	…	…	…	…	…
Inventories* (contribution to GDP)	**1,1**	**-0,2**	**0,1**	0,6	0,1	-1,6	0,8	-0,1	0,0	-0,2	-0,1	-0,2	1,0
Net exports (contribution to GDP)	**2,4**	**4,1**	**2,9**	2,3	3,2	5,8	2,7	3,8	4,1	2,7	3,5	2,9	2,5
Exports (y-o-y)	**-0,8**	**-1,8**	**2,4**	4,5	-6,1	1,5	-4,1	-3,3	-1,5	-2,3	2,5	4,5	4,9
Imports (y-o-y)	**-8,1**	**-15,1**	**-8,1**	-3,8	-14,2	-16,9	-12,3	-16,0	-15,0	-11,0	-10,5	-5,8	-5,0

*also including other statistical discrepancies **estimates [1] *Revised aggregate GDP series - November 2012*

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

CONSUMPTION

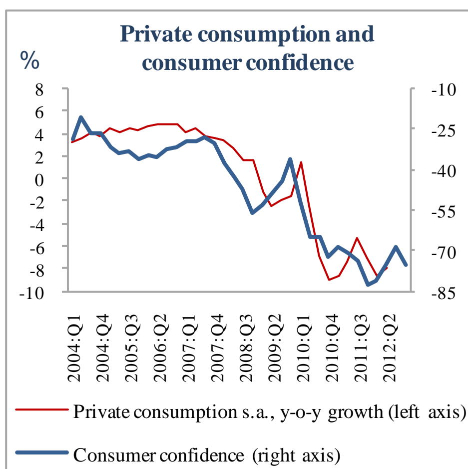


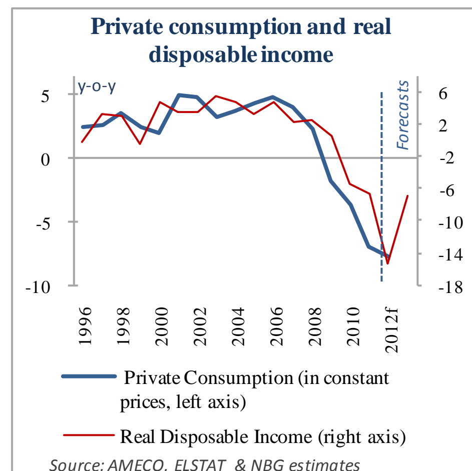


- Consumer confidence improved considerably and reached a 2-year high in July 2012 after the June elections. This improvement, combined with the seasonal recovery of the tourism sector in Q3:12 following a very weak H1:12, contributed to a leveling-off in retail sales (volume terms) in the 3 months to August 2012 (+2.8% q-o-q, s.a. volume terms, on average, and -9.2% y-o-y, compared with -12.2% y-o-y in H1:12).

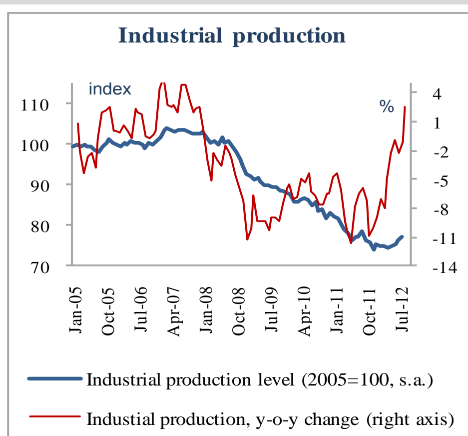
- However, in September-October, consumer sentiment weakened again, as increased tax payment obligations and a heavier-that-initially-expected burden from new fiscal measures appear to increasingly weigh on household spending decisions. Indeed, the contraction in private consumption is expected to accelerate in Q4:12 and in 2013, as household disposable income remains on a rapidly declining trend as a result of continuing wage correction (an estimate of -6% y-o-y in 2013, following -13% y-o-y in 2012) and declining employment (-7.6% and -3.5%, y-o-y for 2012 and 2013 respectively), while uncertainty remains high.

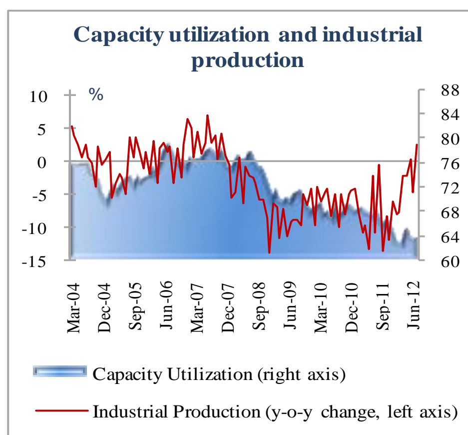
- The sensitivity of final consumption to the contraction of disposable income appears to have increased, as the ability of households to smooth their consumption over time has been further diminished, mainly due to the contraction in financial wealth (especially bank deposits). In this regard, private consumption is expected to shrink at a rapid pace over the next 3 quarters -- a contraction of about -7.6% in 2012 and estimated at -6.6% in 2013.

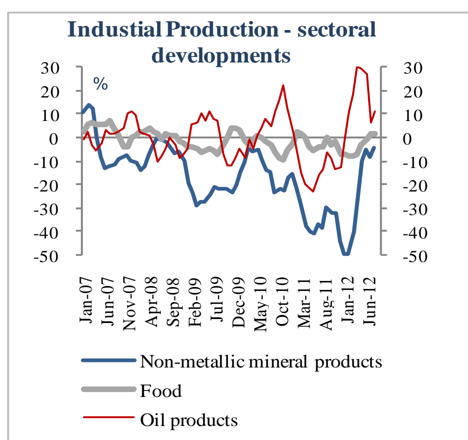


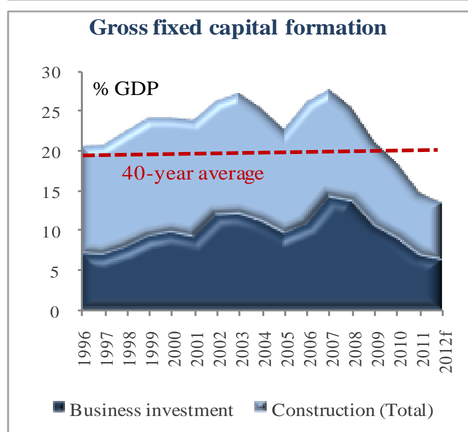


BUSINESS SECTOR & CONSTRUCTION







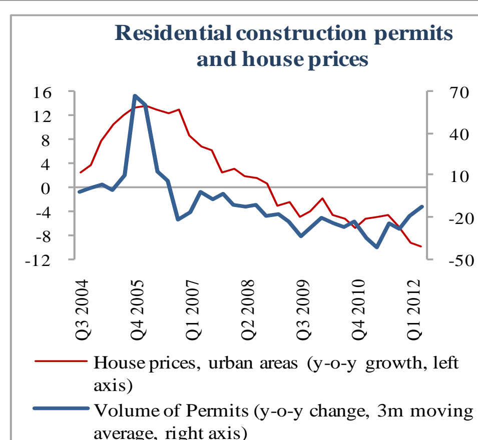


- Manufacturing rebounded in recent months, driven by an improvement in export orders. The cumulative increase in industrial production volume, in seasonally-adjusted terms, of about 1.6% in the 5 months to September, mainly reflects increasing activity in leading exporting industrial segments, such as food, non-metallic minerals and oil products.

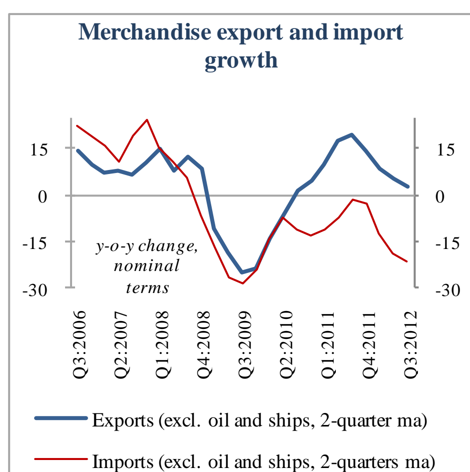
- Despite the good news on the export side, the latest readings of forward-looking indicators suggest that the contraction of domestic demand and tight liquidity conditions continue to weigh negatively on domestic business activity. In this vein, capacity utilization remains at very low levels -- about 18% lower than its 30-year average level, suggesting that a bottoming-out in business investment is unlikely before early-2014.

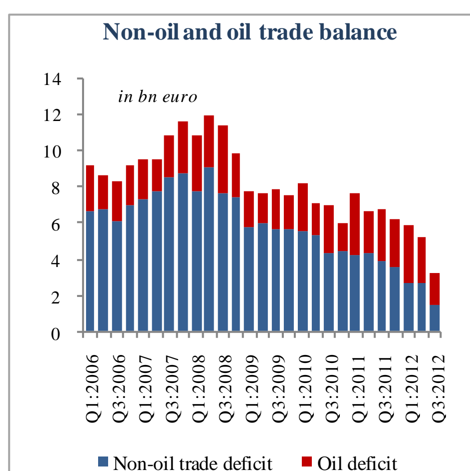
- The downward trend of residential construction activity continues, as indicated by the rapid contraction of construction permits (-28% y-o-y in the 3 months to July) that, *inter alia*, reflect a high but broadly stable stock of unsold houses (constructed from 2002 onwards) that corresponds to about 2½ years of demand (130,000 units). The significant increase in the real estate tax burden and tight credit conditions are expected to further delay a stabilization of residential investment until 2014. In this respect, house price adjustments accelerated further in Q3:12 (-11.7% y-o-y), bringing the cumulative peak-to-Q3:12 adjustment to c. -24%.

- A normalization of public investment spending -- in conjunction with the positive synergies from the €14bn of earmarked EU and EIB funds -- could provide decisive support to this segment of fixed investment in 2013, leading to a slowing in the contraction of fixed investment to -13.0% y-o-y in 2013, when the share of total investment in GDP will fall to a historical low of c. 13% of GDP.



EXTERNAL SECTOR





- The current account deficit registered an extraordinary improvement of 5.2% of GDP in only 9 months -- broadly analogous to the cumulative adjustment of the deficit between 2009 and 2011 -- driven by a sharp contraction in imports -- despite higher commodity prices -- a relatively resilient performance for merchandise exports and substantial relief on external debt servicing costs.

- The sharp reduction in non-oil goods and services imports of -18.6% y-o-y (or 2.6% of GDP) in 9M:12 has outweighed the decline in goods and services export revenue (-1.8% y-o-y or -0.35% of GDP in the same period). Terms of trade developments were negative, despite favorable developments in prices of merchandise exports (increasing prices of food and non-metallic mineral products). Indeed, merchandise exports in constant prices have declined marginally in 9M:12.

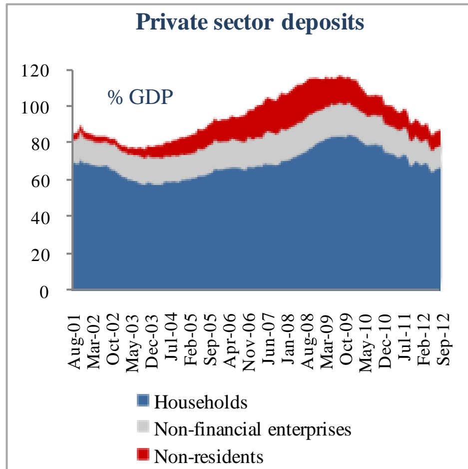
- Moreover, the significant contraction in public debt servicing costs, following the successful completion of PSI and the favorable terms on new official loans to Greece, contributed to an improvement in the income deficit of 1.7% of GDP y-o-y in 8M:12.

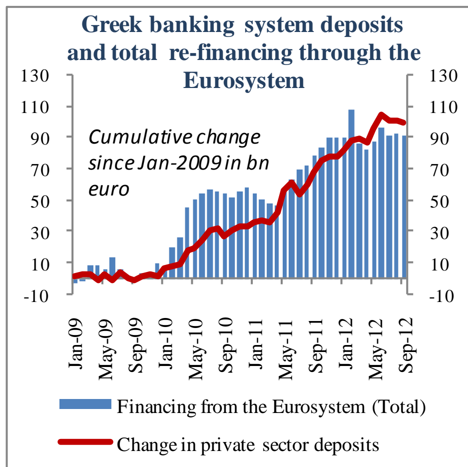
- The annual current account deficit is expected to decline by more than 50% compared with 2011, to c. 4.5% of GDP in 2012, and 3.6% of GDP in 2013.

Balance of Payments (in billion EUR)

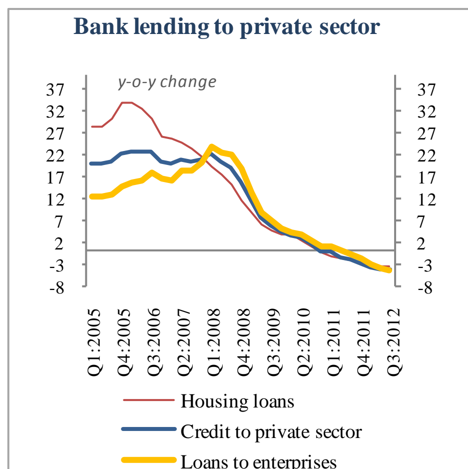
Source: Bank of Greece	2010	2011	2012f	2011				2012		
				Q1	Q2	Q3	Q4	Q1	Q2	Q3
Current Account (% GDP)	-10,3	-10,0	-4,5	-3,5	-2,8	-1,0	-2,9	-2,4	-1,2	1,3
Non-oil Trade Balance	-8,8	-7,7	-5,4	-2,1	-2,1	-1,9	-1,7	-1,4	-1,4	-0,7
Non-oil Exports	5,5	6,7	6,9	1,5	1,7	1,8	1,7	1,8	1,8	1,3
Non-oil Imports	-14,3	-14,5	-12,1	3,6	3,7	3,7	3,4	3,2	3,2	2,0
Oil Balance	-3,9	-5,3	-5,2	-1,6	-1,1	-1,4	-1,3	-1,6	-1,3	-0,9
Services Balance	6,0	7,0	7,5	0,5	1,7	3,6	1,2	0,8	1,8	2,9
Income Balance	-3,7	-4,3	-2,0	-0,9	-1,2	-1,2	-1,1	-0,9	-0,2	0,0
Current Transfers, net	0,1	0,3	0,4	0,6	-0,1	-0,2	0,0	0,7	-0,1	0,1
Capital transfers	0,9	1,3	1,9	0,1	0,0	0,4	0,7	0,5	0,0	0,3

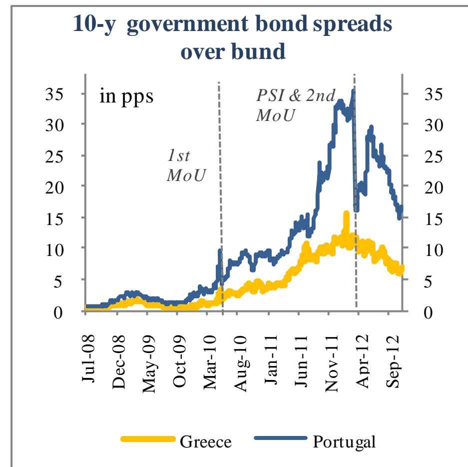
Source: Bank of Greece





- Liquidity conditions in the economy remained tight, with bank lending to the private sector contracting by 4.5% y-o-y in 9M:12, reflecting a decline in business and household lending of -4.9% and -4.2% y-o-y, respectively. Nonetheless, the pace of contraction appears to have slowed in August-September, with the average net monthly flow amounting to -€0.8bn compared with -€2.1bn per month in 7M:12.
- The improvement in economic sentiment in Q3:12 is reflected in the increase in private sector bank deposits in Q3:12 of €3.5bn, which corresponds only to a small fraction of the €25½bn contraction registered in H1:12. The total amount of net deposit inflows in Q3 reflects household deposits -- i.e. a part of liquidity previously hoarded outside the banking system -- while firms' deposits registered a new, though marginal, decline in the same period.
- Eurosystem financing -- mainly through ELA -- of about €130bn in Q3 continues to cover liquidity shortages in the Greek banking system.
- The reduction in uncertainty as regards Greece's near-term prospects accompanying the significant progress in the negotiations with Troika and the more supportive stance of our EU partners is reflected in the significant contraction of Greek government bond yields in the 5 months to October, when 10y-GGB spreads over bund returned to near 15% from a pre-election peak of 30%.





GREECE

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

Note: The Bulletin analysis is based on data up to November 15, 2012, unless otherwise indicated.