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ECONOMIC & MARKET ANALYSIS

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External Rebalancing of the Greek Economy:

A stronger export performance needs more investment, but creates a short-term funding gap

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- During 2009-11, Greece experienced a much slower-than-expected adjustment in the Greek current account deficit (CAD) that narrowed by only 1.7% of GDP per annum, despite its high starting point (14.9% of GDP in 2008) and a steep recession (cumulative drop in GDP by 14.4% in the period 2008-11), raising concerns over the programme's policy mix.
- In 2012, however, the CAD registered an impressive improvement of about 6.5 pps, due mainly to the accelerated drop in disposable income, declining to 3.4% of GDP in 2012 from 9.9% in 2011. A nearly balanced position is within reach for 2013 (a deficit of about 0.5% of GDP).
- A remaining policy concern is the fact that in contrast to other euro area countries of the periphery, in Greece non-oil imports were the single most important driver of the external adjustment (a reduction of about 7.0% of GDP in total imports of goods and services and an increase of only 2.3% of GDP in total exports in the four years to 2012). On a more positive note, the bulk of the import decline was in mostly consumption-oriented income-elastic categories and, moreover, NBG Research estimates import substitution of the order of 1.5% of GDP.
- NBG analysis finds that the largest part of the reduction in import dependence will not reverse when a recovery takes hold, as it reflects a broad-based rebalancing of domestic demand from consumption to fixed investment, resulting in a reduction in the income elasticity of demand from 2.2 pre-crisis to an estimated 1.4 currently (compared with a euro area average of 1.7).
- The export contribution in economic rebalancing is gaining steam -- despite the recent weak performance of service exports due to adverse shipping market conditions and the high sensitivity of the tourism sector to uncertainty related to the economic crisis. The best performing merchandise export sectors are labor intensive (such as food, non-alcoholic beverage sectors), as they have improved their cost competitiveness significantly. Goods exports have also been supported by the geographical diversification of exports to non-EU destinations due to their proximity combined with the rising wealth of these countries. That being said, it is important to note that the income elasticity of Greek exports is very low compared with the EU average (about 1.2 *vs.* 1.7), reflecting a high share of low value added products in the Greek exports mix.
- Empirical evidence, based on gravity models, suggests the existence of a high level of physical constraints to the development of Greek exports (geographical distance from core markets and poor transportation interlinkages). Nevertheless, this analysis suggests a merchandise export potential of almost 20% of GDP *vs.* 11.5% in 2012, and a euro area average of 36% of GDP.

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- In the event, the constraints to increasing goods exports will continue to be offset by strong service exports (tourism, shipping and transportation). NBG Research's empirical model for the tourism sector suggests an increase in the net direct impact from tourism by 1.8% of GDP to 5.6% of GDP by 2016 (excluding multiplier effects of about 2x). Regarding shipping, the expected recovery of freight rates, combined with the increased size of the Greek fleet (15.9% of world tonnage), suggests that net shipping revenue will increase by 1.6 pps of GDP to 4.8% of GDP (again excluding multiplier effects).
- The notable improvement in the economy's savings-investment balance -- the counterpart of the CAD reduction -- mainly reflects the impressive fiscal adjustment (by 9.5 pps of GDP), a sizeable contraction in fixed investment (business and residential by 3.1 pps and 4.5 pps of GDP, respectively), that nevertheless came at the cost of a large net disinvestment in the economy. In fact, according to NBG estimates, the level of business capital per person in the labor force has declined considerably (-17% since 2009), and will reach a 20-year low in 2013, with negative implications for the country's growth and employment potential over the following years.
- A significant increase in business investment is needed in the coming years to ensure a sustainable economic recovery and to support a healthy pace of capital reallocation towards more productive and export-oriented sectors. Indeed, according to NBG Research's VAR analysis, a 10% increase in business investment should lead to an increase in real exports of almost 14% within 3 years, adding about 0.7 pps to annual GDP growth during the same period.
- Specifically, an increase of business investment to about 14% of GDP in 2016 from 10.1% in 2012 (and 11.3% in the baseline scenario of the programme for 2016) would be followed by a much stronger export performance in the medium-to-longer term -- exports of goods and services would rise to 36% of GDP in 2016 from 25.5% in 2012 compared with a euro area average of 46% of GDP. However, the higher-than-programmed investment will lead to a transitory deterioration of the current account deficit (from -0.5% of GDP in 2013 to -4.1% in 2015 compared with the programme's estimate for a small surplus of 0.2% of GDP).
- The more rapid recovery in business investment envisioned under the optimistic scenario could push the potential growth rate (NBG model) to above 3.3% in 2016 -- compared with 1.8% in the programme's baseline scenario -- creating about 150,000 additional employment positions compared with the baseline scenario, that corresponds to an unemployment rate below 19% by end-2016 compared with 22.5% in the baseline scenario.
- The financing of additional investment spending underlying this latter scenario is estimated to result in an increase in external financing needs by almost €20bn (about 10% of GDP) for the period 2013-16 compared with the baseline scenario. To attract such private capital inflows, the programme must be implemented efficiently (both the fiscal as well as the structural reforms), so as to raise foreign investor confidence, while doubts over the country's debt sustainability must be put to rest.

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EXTERNAL REBALANCING OF THE GREEK ECONOMY – COMBINING THE SIGNIFICANT CURRENT ACCOUNT ADJUSTMENT WITH LONG-TERM SUSTAINABILITY AND GROWTH

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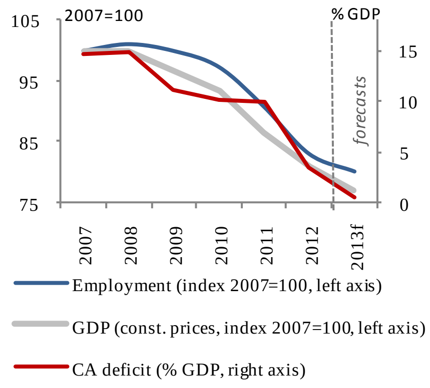
1. *Introduction & Overview*

During 2009-11, Greece experienced a much slower-than-expected adjustment in the Greek current account deficit (CAD*), that narrowed by only 1.7% of GDP per annum, despite its high starting point (14.9% of GDP in 2008) and a steep recession (cumulative drop in GDP by 14.4% in the period 2008-11), raising concerns over the programme's policy mix.

In 2012, however, the CAD registered an impressive improvement of about 6.5 pps, due mainly to the drop in disposable income, declining to 3.4% of GDP in 2012 from 9.9% in 2011. This is the largest one-year adjustment ever made in the external position of a euro area country in the past 30 years.

This trend continued in 5M:2013, with the CAD declining by another 50% y-o-y, indicating that the achievement of a nearly balanced current account is within reach for 2013 -- NBG Research projects an annual deficit of about 0.5% of GDP in 2013 -- provided that the tourism sector performs well (as is expected) and energy prices remain supportive.

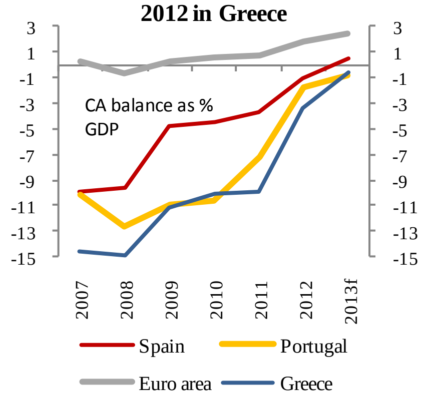
External adjustment in Greece accelerated notably in 2012 following a weak start



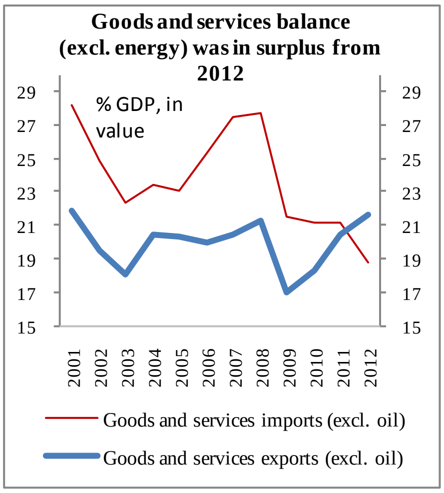
Source: AMECO, ELSTAT & NBG estimates

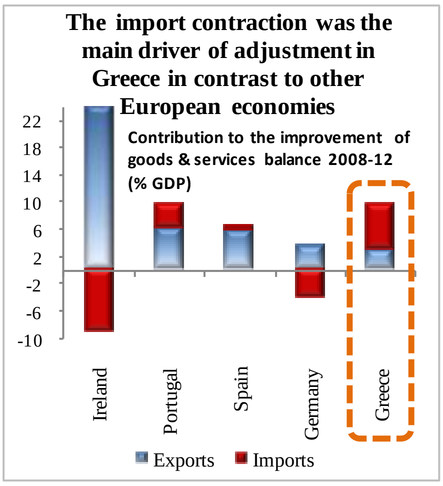
In the context of the discussion on restarting growth in Greece, it is important to note that the pattern of external adjustment in Greece raises concerns. In Greece, import contraction was the dominant factor underlying the current account adjustment during the period 2009-12. Specifically, total imports of goods & services experienced a decline of 33% in value terms (corresponding to 7% of GDP), and accounted for about 62% of the 11.5% of GDP adjustment in the CAD during this period. The drop in imports is related to the sharp fall in real disposable income, especially in 2012, diminishing margins for consumption smoothing, as well as the euro exit risk-induced drying-up of trade credits. Only 20% of the CAD adjustment reflects export growth, which was in any case, to a large extent, driven by the re-export of oil products, while the remainder mostly reflects a decline in interest payments following the PSI.

The pace of current account deficit reduction accelerated in 2012 in Greece



** Refers to Balance of Payments data which, it should be noted, differ in magnitude from the CAD on a national accounts basis. For example, the current account deficit in Greece was 3.4% of GDP in 2012 according to BoP data and 5.3% on the basis of national accounts data. In addition, the decomposition of exports by product category is from the Eurostat database and aggregate levels also exhibit some differences from BoP data.*

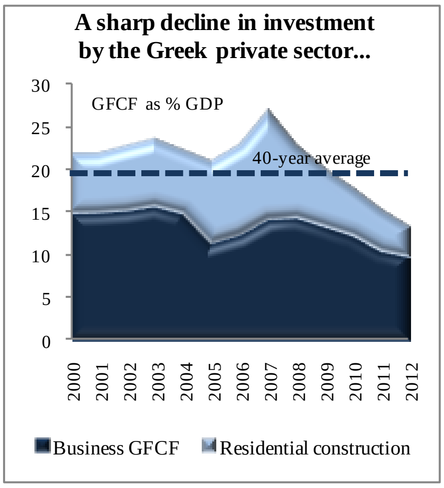


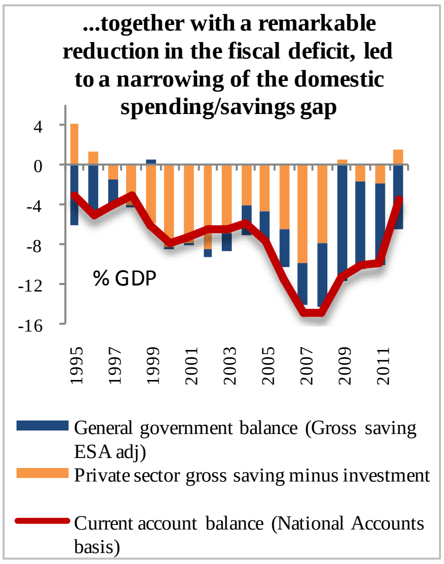


In other euro area countries, an increase in exports accounted for the major part of the improvement in the current account balance (about ⅔ of the total current account adjustment in Portugal, Spain and Ireland was based on increasing exports). Evidently, the high level of imports at the beginning of the crisis -- reflecting excessive domestic demand in Greece in the boom years -- and the intensity of the subsequent recession, largely explain the significant role of imports in the economic adjustment. Moreover, export revenue was held back by the stagnation of service exports in the period 2010-12, mainly due to external factors (the recession in Europe and a weak international shipping market), as well as price reductions to regain competitiveness in the tourism sector. However, it is also apparent that even though the export contribution in economic adjustment is increasing, it falls far short of the size necessary for Greece to achieve strong growth.

An important conclusion of our analysis is that the largest part of the reduction in import dependence is not expected to reverse when a recovery takes hold, as there has been a sustainable rebalancing of domestic demand from consumption to fixed investment. The conclusion also highlights the fact that the drop in imports reflects declining household financial leverage, and a more gradual, but continuing, improvement in the structure of domestic production, permitting, *inter alia*, import substitution. In this respect, the import share in GDP is projected to reach a trough in 2013, when the current broad-based contraction in domestic demand will bottom out. Subsequently, an increase in goods imports by about 2.6% of GDP is expected for the period 2014-16 under our baseline macroeconomic scenario -- that mainly reflects a necessary increase in the demand for capital goods and productive inputs needed to support investment and exports.

The outlook for exports is also more positive. Specifically, tourism is expected to perform strongly in 2013, and this development will likely be complemented by a gradual normalization of the shipping market in the near future. That being said, service exports (especially shipping), that corresponded to a sizeable 55% of total Greek exports in 2012, down from 64% (on average) in the previous decade, continue to face strong headwinds from weak international demand. Moreover, the domestic manufacturing sector (corresponding to more than 75% of goods exports) has traditionally been a relatively small sector of the economy. Overall, Greece's export potential (goods and non-shipping services) continues to be constrained by a relatively narrow and low value-added, productive base of the economy. In this respect, further improvements in cost competitiveness, as well as new private investment, are necessary to transform the productive landscape of the economy.

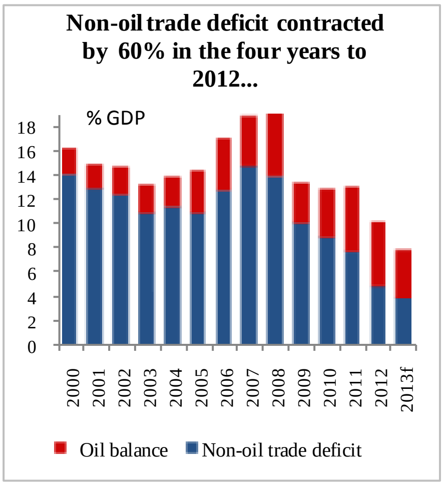


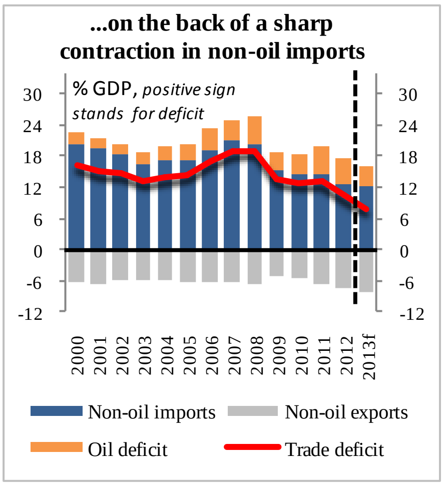


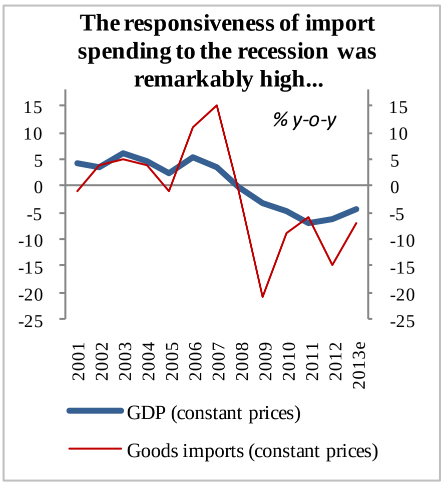
However, the prospects for obtaining the requisite investment to transform the economy are challenging. The notable improvement in the economy's savings-investment balance -- the counterpart of the CAD reduction -- mainly reflects the impressive fiscal adjustment, an ongoing and sizeable contraction in fixed investment (business as well as residential) and, more recently, an increase in the gross savings of the corporate sector. These developments imply a large reduction in net capital formation. Indeed, the level of business capital per person in the labor force has declined considerably (-17% since 2009), and in 2013 will reach a 20-year low, with negative implications for the country's growth and employment potential over the following years. According to NBG estimates, a 10% increase in business investment -- in the context of an effort to gradually reverse the cumulative erosion in the domestic stock of business capital -- is expected to lead to a cumulative increase in real exports of almost 14% within 3 years, adding about 0.7 pps to annual GDP growth in the same period.

The main conclusion of our analysis is that a significant increase in business investment is needed in the coming years to ensure a sustainable economic recovery and support a healthy pace of capital reallocation towards more productive and export-oriented sectors. In this respect, a stronger pace of business investment than is currently envisaged under the EC/IMF economic adjustment programme appears necessary, including a transitory deterioration of the current account deficit. In our scenario, an increase in investment of the order of 9% y-o-y in the period 2014-16 (or by 2.8% of GDP cumulatively in the 3 years to 2016) would be followed by a stronger exporting performance in the medium-to-longer term, with goods and services exports increasing their share in GDP by more than 10 pps, to about 36% of GDP by 2016, from 25.4% of GDP in 2012, narrowing significantly the difference with the euro area average (46% of GDP).

Nonetheless, the financing of the new investment spending and the concomitant increase in demand for imported capital goods and other inputs will lead to higher external financing needs for the domestic private sector compared with the baseline scenario of the programme, of the order of €20bn for the period 2013-16 (almost 10% of GDP). Therefore, the attraction of additional private capital from abroad will be an additional challenge for macroeconomic policy in the years to come, and will effectively determine the speed and sustainability of the necessary business transformation, and thus, the economic recovery and the pace of improvement in labor market conditions. To attract such capital, the programme must be implemented without policy slippages or delays (both the fiscal as well as the structural reforms), so as to raise foreign investor







confidence, while doubts over the country's debt sustainability must be put to rest.

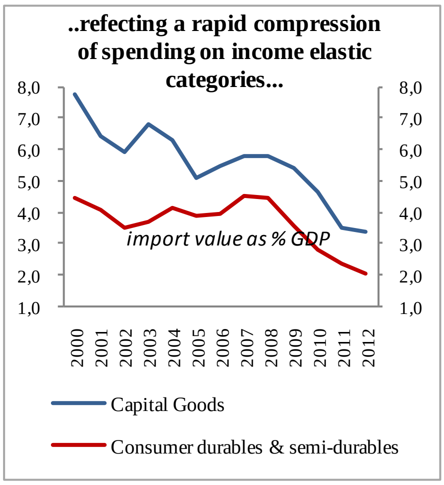
The roadmap of the analysis is as follows: In section 2, we evaluate the sustainability of the significant reduction in imports that was the key driver of the current account adjustment in recent years (along with PSI), focusing on the composition of imports and their income elasticities. In section 3, we analyze the main explanatory factors behind the performance of goods and service exports, and conclude with projections for the trade balance during the period 2013-16 based on NBG Research's empirical model. In section 4, a domestic savings-investment perspective of the CAD is presented, highlighting the adjustment role of private sector investment and its impact on the capital base. Finally, sections 5 and 6 analyze the export and import substitution potential of the economy under a more ambitious scenario, which involves higher investment, but also higher external financing of the economy.

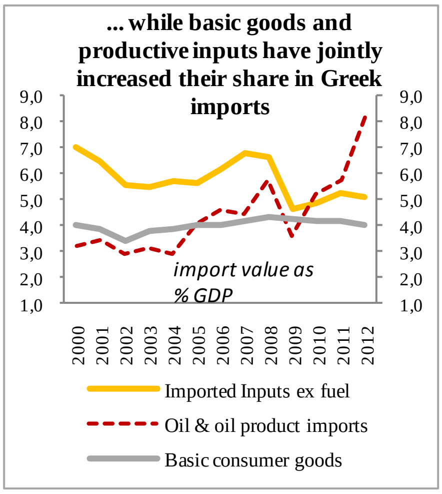
2. Import contraction in income-elastic categories was the most important driver of external adjustment since the beginning of the recession…

The first question we address is the sustainability of the significant reduction in imports over the past few years. Recall that the import dependence of the Greek economy has been reduced notably in the period 2009-12 (non-oil goods imports declined by 50% in nominal terms during the past four years, to 12.4% of GDP in 2012 from 20.4% in 2008).

The collapse in imports (in volume terms) has been mainly due to the compression of real disposable income. Indeed, in the four years to 2012, goods imports declined by 42% (in constant price terms) compared with an estimated cumulative decline in real disposable income of about 28%. This admittedly high sensitivity reflects the large share of import categories characterized by a high income elasticity. Indeed, import elastic categories such as consumer durables, semi-durables and other quality-differentiated goods or luxury goods together with capital goods, accounted for almost 50% of total exports at the beginning of the crisis in 2008, and these income-elastic import categories experienced a decline in their joint share in GDP, from 10.2% in 2008 to 5.1% of GDP in 2012.

The high share of income-elastic categories in Greek imports also reflects a relatively small domestic manufacturing sector (the value-added of Greek manufacturing corresponded to a mere 12% of GDP, on average, during the previous decade and declined further to 10% in 2012, in comparison to a euro area average of 18% of GDP). This low share reflects the accumulated loss of competitiveness of the Greek economy, and the concomitant crowding out of domestic production. Moreover, Greek production





Greece: Goods import structure and effective income elasticity of total non-oil imports

	2008	2012	2013	2016	elast. per category
import value as % of GDP (eop)					*total sample*
Capital Goods	5,6	3,1	2,9	4,3	*3,8*
Consumer durables & semi-durables	4,5	2,0	1,8	2	*2,9*
Imported Inputs ex fuel	6,3	4,8	4,9	5,5	*2,2*
Consumer goods (food & other non-discretionary)	4,2	3,8	3,7	4,0	*1,2*
Total non-oil	**20,6**	**13,7**	**13,3**	**15,8**	...
Oil products	7,0	8,0	8,0	8,5	*1,5*
Total	**27,6**	**21,7**	**21,3**	**24,3**	...
Import elasticity (weighted average of components)					
Aggregate income elasticity of imports *(weighted average of component elasticities)*	*2,2*	*1,4*	*1,4*	*1,8*	...

Source: Eurostat and NBG estimates

remains highly dependent on imports of energy, intermediate goods and other productive inputs, which amounted to 6.3% of GDP in 2008 (excluding energy), and then declined to 4.8% of GDP in the four years to 2012. Indeed, value added in Greek production and exports is only of the order of 50%, almost 30 per cent lower than the respective average for the euro area.

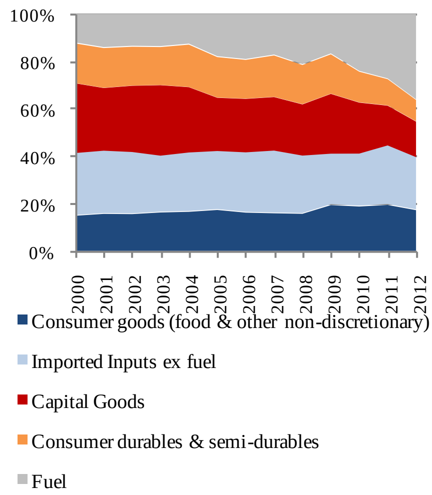
As a result of the sharp decline in imports, especially the more income elastic ones, the income elasticity of total import demand is estimated to have declined significantly. This reduction reflects the increasing share of (less import elastic) basic and intermediate goods categories in total imports, rising to an estimated 63% of total non-oil goods imports in 2012, from 49% in 2008. Specifically, the income elasticity of total imports is estimated to have fallen to 1.4 in 2012 (slightly lower than respective estimates of 1.7 for the euro area average) from 2.2 in the period 2000-08. The effective elasticity is calculated as a weighted average of import elasticities for the main categories of Greek imports, which are estimated on the basis of standardized import demand equations for a 15-year sample (expressing import volume as a function of real income and the relative prices of imported goods compared with domestic producer prices). The weights reflect the structure of Greek imports in 2012 (see Appendix).

In this respect, the responsiveness of import spending volume to the envisaged recovery in economic activity is expected to be relatively low, with imports of capital goods and productive inputs registering the most significant increases (with higher capital goods imports pushing up the total import income elasticity to 1.8). The actual increase in imports could be even lower than suggested by estimates of income elasticities, as relative price developments are playing an increasing role in private-sector spending decisions. Indeed, model-based estimates are likely to understate the current sensitivity of domestic demand to relative price movements, as it is likely to be substantially higher compared with the previous decade, in view of the significant decline in the disposable income of the Greek private sector, which has made budget constraints and cost minimization criteria far more significant in private-sector spending decisions. In the event, historical estimates of average price elasticity on the basis of a 15-year sample (0.025) are used for constructing the respective forecasts (which are low compared with import price elasticities in the EU15, an estimated 0.057).

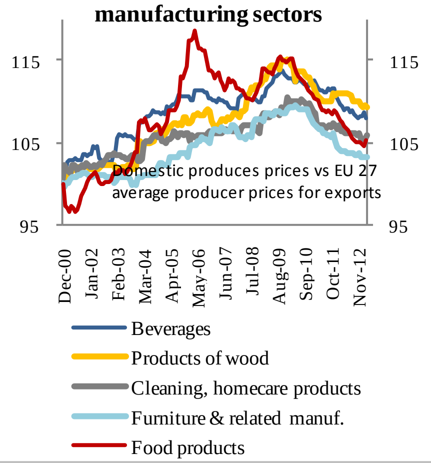
...in conjunction with some tentative signs of import substitution

Against this backdrop, some progress on import substitution has been made in recent years. In fact, there are some encouraging trends in specific sectors such as food, beverages and other categories of manufacturing (e.g. food and beverages,

The share of income elastic imports categories in total import value contracted notably



Greece: Price competitiveness has improved significantly in a number of labor-intensive manufacturing sectors

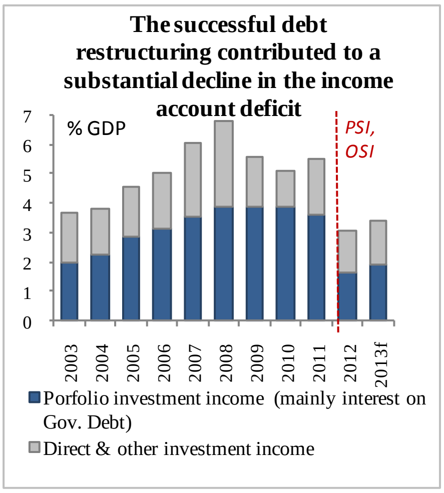


pharmaceuticals, other sub-categories of chemical products and household equipment, such as furniture). Indicative estimates of NBG research suggest that import substitution in these market segments could explain about 17% of the total contraction in non-oil import spending (corresponding to about 1.5% of GDP over the period 2009-12).

The analysis was based on a comparison of the ratio of the annual change in the domestic retail-trade-value index to the change in the import-value index, for specific product categories, with a larger drop in imports than in retail sales suggesting the existence of import substitution. Unsurprisingly, the identified market segments for which import substitution trends have been found correspond to the more developed and competitive sectors of Greek manufacturing (e.g. food, alcoholic/non-alcoholic beverage industries, household equipment, chemical industries, etc.), also characterized by a relatively strong exporting performance over the previous decade. However, these findings must be considered very tentative at this stage, as the identification of import substitution trends from relative changes in sales value or volumes is very difficult in an environment of a sharp and across-the-board contraction of domestic demand.

However, we have also found complementary evidence in improving producer-price trends of Greek industrial products relative to those of foreign production in the same sectors for which we observe import substitution as described above. As a proxy of relative price developments, in the Greek market we use the ratio of domestic producer prices for a specific product category to the respective EU-27 average index of producer prices for the external market (with the latter corresponding to a proxy of export prices of our main trade partners). Although relative price trends at an aggregate level (e.g. total manufacturing) or for broad product categories (such as consumer goods, capital goods, etc.) do not provide sufficient evidence of a broad-based increase in price competitiveness, an inspection of price trends in specific industrial segments suggests that relative price adjustment in some sectors is notable. Indeed, relative price inertia at an aggregate level is largely expected, provided that Greek producers are price takers for a wide range of industrial products (namely petroleum products, some key agricultural commodities, pharmaceuticals, basic metals), while they are also highly dependent on related imports of primary and intermediate inputs.

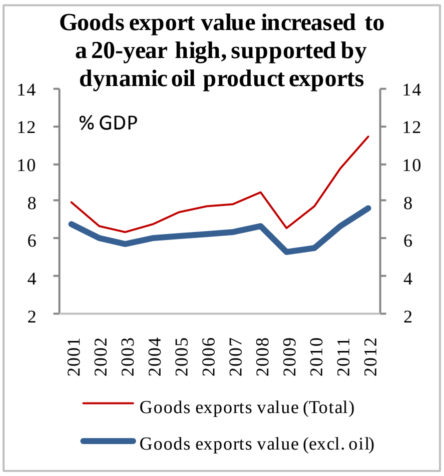
However, Greek firms in labor intensive sectors and especially those using mostly domestic inputs in their production (e.g. producers in the food or non-alcoholic beverage sectors) appear to enjoy a wider margin for downward price adjustment. Moreover, the international experience suggests that producers of more basic/lower value added products -- that correspond to more than 65% of Greek merchandise exports -- tend to compete primarily on the basis of price.



In this vein, producer prices in the food, non-alcoholic and alcoholic beverage sectors, furniture and wood product sectors, sub-categories of chemicals (e.g. cleaning materials, detergents, etc.) declined by more than 7%, on average, in the three years to 2012 compared with the EU27 average. However, structural issues related to the narrow production base, especially as regards more differentiated quality or technology intensive products, and the high dependence on imported primary and intermediate inputs, reflect a significant constraint that inhibits faster import substitution.

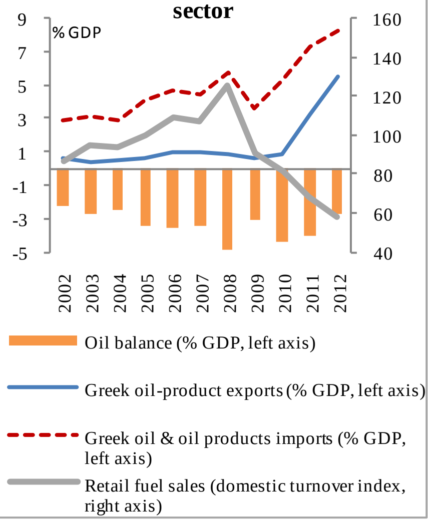
The income account deficit has improved significantly in 2012, due to the direct benefits of PSI and OSI

The income account deficit, which consists of net interest, dividends and profits paid to foreigners also narrowed drastically in 2012. The successful completion of the PSI and the improvement in the terms of official loans led to a notable reduction in total external debt-serving costs, by about 2.5% of GDP (3% of GDP in 2012 compared with 5.5% of GDP in 2011). (It must be noted that the payment of €5.3bn -- 2.7% of GDP -- of accrued interest on old GGBs through the issuance of EFSF short-term notes was not included in interest payments on government debt in 2012, as this transaction was recorded in the financial account of the Greek balance of payments instead of the income account). In addition, the reduction of private foreign investors' exposure to Greece in the past four years contributed to an additional compression of net income payments abroad by about 0.5% of GDP.

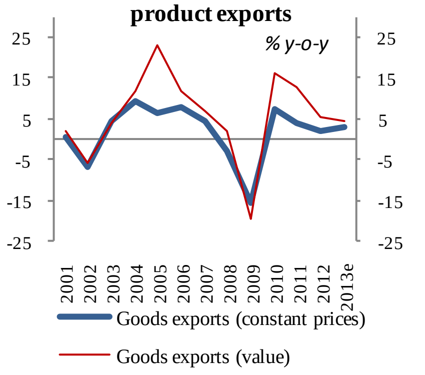


Looking forward, interest payments on external government debt in 2013-16 are estimated to remain low. Specifically, interest payments will increase modestly -- by about 1.0% of GDP cumulatively -- over the period 2014-16 and by another 1.0-1.3% of GDP in 2017-20, compared with their 2012 level, as a result of prospective increases in market rates on which official lending rates are based, and the rising path of coupons paid on new GGBs. The potential provision of additional relief on Greek debt and debt servicing costs through a further improvement in official loan terms or a reduction in the outstanding stock of debt held by the official sector -- along the lines of the Eurogroup decision of November 26 2012 -- could further compress interest payments in the following years, yet not before 2014.

The Greek oil-refining industry has become a leading exporting sector



The export performance is weaker in real terms mainly due to positive price effects from oil product exports



3. External rebalancing was supported by a notable recovery in goods exports, while service exports have, so far, remained weak

Merchandise export recovery, despite the challenging environment, is a remarkable achievement, although the effective support to economic activity is constrained by the relatively small size of the domestic manufacturing sector

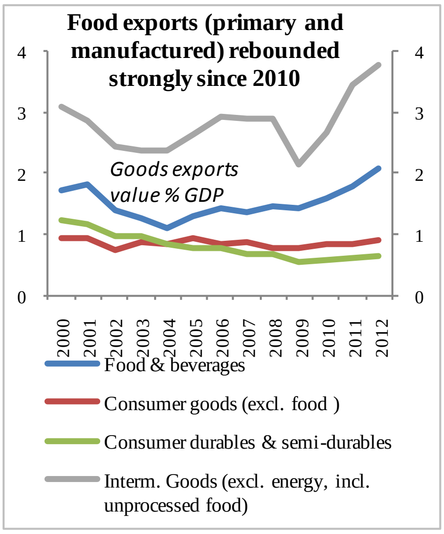
Exports of goods increased notably in nominal terms in the period 2010-12, following a sharp drop in 2009. Specifically, following a decline of 21% in 2009, non-oil goods exports (value terms) increased by 19% cumulatively over the past three years, and showed remarkable resilience in 2012 (+3.9% y-o-y in nominal terms and +1.8% in real terms), despite the contraction in economic activity in the EU27 -- the main destination of Greek exports (61% of non-oil merchandise exports in 2012).

Some of the best performing export sectors are labor intensive (such as food, beverages, pharmaceutical preparations, textiles and clothing apparel, and some agricultural products) and they appear to have improved their relative price competitiveness. It is encouraging to observe that the considerable progress in business restructuring in these specific sectors of Greek manufacturing, in conjunction with declining wage costs, is gradually translating into material gains in price competitiveness. In contrast, other capital, commodity or energy intensive sectors (such as steel, aluminum, import-intensive segments of chemicals) have received minimum benefit from the significant labor cost reduction.

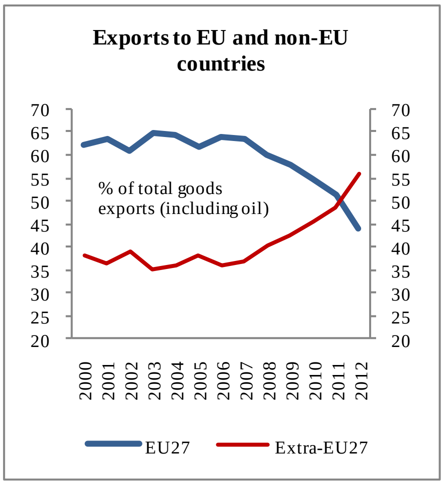
Moreover, exports of oil products registered a spectacular increase of about 75% in the four years to 2012 (c. +2.9% of GDP), reflecting increased access to rapidly growing markets (mainly Turkey in 2011 and 2012), and the improved competitiveness of the Greek oil-refining industry following a period of strong investment activity (2008-10). The ambitious investment program of Greek firms in this sector contributed to the enhancement of product quality and domestic value added. As a result, oil-product exports corresponded to 1/3 of total oil imports in 2012, compared with an average ratio of 16% between 2000 and 2008.

As a result, total export revenue reached a historical high of €22bn in 2012, while its share in nominal GDP increased by 4.8 pps to 11.4% of GDP during the three years to 2012. Moreover, the market share of Greek merchandise exports in the EU has stabilized, and for non-EU exports improved marginally in 2012.

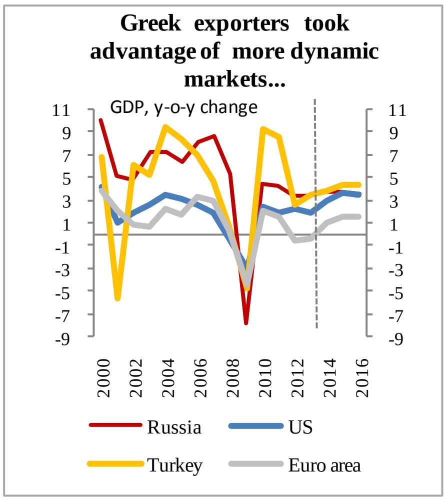
As regards export growth in constant prices, the outcome is weaker compared with nominal figures, mainly due to the positive terms of trade adjustment arising from petroleum prices, but also those of



Food exports (primary and manufactured) rebounded strongly since 2010



Exports to EU and non-EU countries



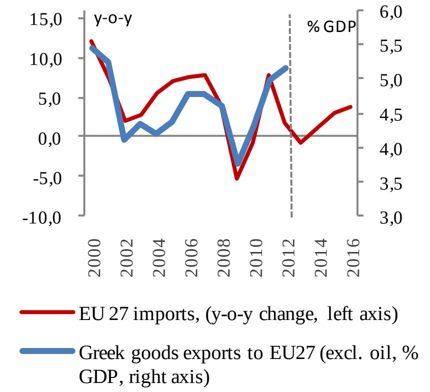
Greek exporters took advantage of more dynamic markets...

metallic minerals and food. Specifically in 2010-12, total exports of goods increased by 3.8% y-o-y per annum (in constant price terms). However, one should not forget that the combined real GDP growth of Greece's main export partners was also quite weak. Moreover, it is encouraging that the actual cumulative increase in export volumes in 2010-12 (5.2%) exceeds the estimate from an empirical export-demand equation for Greek goods exports (of about 3.7% in constant prices). The equation-based estimates of income and price elasticities of (1.2 and 0.011) were derived from data for the period 1999-2008 (see Appendix).

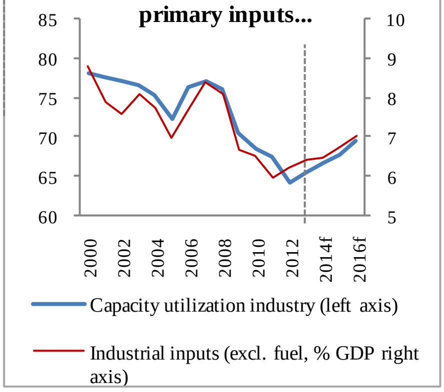
It is important to note that the income elasticity of Greek exports appears to be relatively low compared with the EU average (about 1.7 according to EU Commission estimates), reflecting a relatively high share of low value added/basic products in Greek exports (such as food, agricultural commodities, non-metallic minerals). Indeed, export volumes of these products typically exhibit relatively low sensitivity to external demand fluctuations and is a potential explanatory factor, not only for the relatively weak export performance of Greece during the previous decade -- when Greek exports lagged behind other euro countries that benefited the most from the strong growth in international demand -- but also for the relatively resilient picture of Greek goods exports during the international economic crisis (2008-09). Indeed, in this latter period, Greek non-oil export volumes registered a relatively mild contraction of about -8% cumulatively, compared with -11% for Portugal and -12.3% for the euro area average, partly due to the low income elasticity, but also due to the increasing geographical reorientation of exports.

Indeed, it is important to understand that the geographic reorientation of exports also played an important role in supporting export growth in an environment of subdued demand from key European markets, and a relatively weak recovery in the neighboring markets of SE Europe (jointly accounting for 61% of Greek non-oil merchandise exports in 2012). Indeed, Greek exports to non-EU destinations showed solid growth in the period 2011-12 (+14.7% per year in euro terms, compared with +3.7% y-o-y for exports to the euro area). More specifically, in 2012, it was mainly the strong demand from Turkey, the US, Russia, the Middle East and North Africa, together with Japan and China (albeit from a low base in the latter two cases), that more than compensated for declining demand in the euro area and relatively weak conditions in the SEE economies. Although oil-product exports were the main driver of export growth to Turkey and North Africa (a cumulative increase of almost 200% in the three years to 2012 or 1.6% of GDP), there was also a notable and broad-based increase in non-oil

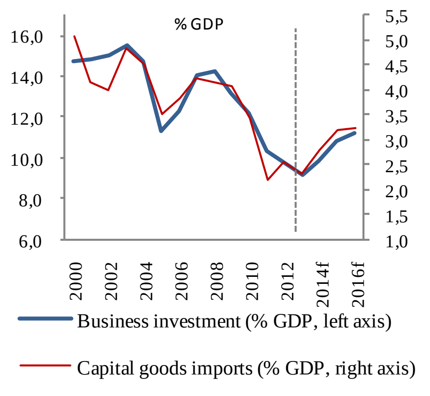
…and succeeded in increasing their market share despite weak EU demand



The prospective recovery in industrial activity will increase demand for intermediate and primary inputs...



...and ultimately, for capital goods imports



exports toward non-EU destinations that jointly exceeded 1.0% of GDP cumulatively during the period 2011-12.

This geographical diversification of exports is expected to continue as exports towards specific destinations have been following a -- broadly resilient -- upward trend for several consecutive years (e.g. exports to Turkey, Russia, China and the US have been increasing steadily since 2006, with the exception of 2009). The main drivers for the geographic reorientation of Greek goods exports are the rising wealth of these countries, combined with their geographic proximity of some of them to Greece, as well as the increasing price competitiveness of Greek exports.

Trade projections for 2013–16: Further gains in cost competitiveness and an improvement in external demand conditions portend a further adjustment of external imbalances…

In this section, we use NBG Research's empirical estimates from import and export demand equations to forecast external trade developments for the period 2013-16 for the baseline scenario. Estimates of the future path of total import volume is obtained from individual import demand equations for each import category that were described in section 2 (basic consumer goods, durables and semi-durables, non-energy intermediate goods, capital goods and energy). Each category of imports has a separate driver for demand, with income elasticities of investment and consumer durables being about 3 times higher than those for consumer goods (see Appendix and table on Page 13). Overall, import demand reflects a rebalancing of domestic demand towards investment and reflects total output growth of 2.5% per year, on average, for the period 2014-16).

As regards the projections for domestic price developments, we assume an across-the-board reduction in average domestic producer prices that amounts to -4.7% cumulatively in the period 2014-16 in all industrial sectors (except for the energy sector), that corresponds to about ⅓ of the estimated cumulative reduction in unit labor costs over the period 2011-15 (provided that prices respond with a lag of 3 to 6 quarters to ULC changes). Price developments are broadly consistent with the fact that the share of labor in total operating costs of Greek manufacturing amounts to c. 35% on average. In relative terms, the price competitiveness of domestic production is expected to improve by more, as average prices of imported goods (excluding oil products) are estimated to increase by 1.7% per annum in this period.

With these assumptions, goods imports are estimated to increase cumulatively by about 13% in volume terms or +1.6 pps as a per cent of GDP in the period 2014-16, driven by increasing demand

Goods Imports - demand drivers and forecasts						
	2008	2012	2013f	2016f	change 2012/16	
	% GDP (eop)					elast.
Import category as % of GDP (value)						
Basic consumer goods	4,2	3,8	3,7	4,0	0,2	1,2
Consumer durables	4,5	2,0	1,8	2,0	0,0	2,9
Intermediate goods	6,3	4,8	4,9	5,5	0,7	2,2
Capital goods	5,6	3,1	2,9	4,3	1,2	3,8
Oil & oil products	7,0	8,0	8,0	8,5	0,5	2,1
Total	27,6	21,7	21,3	24,3	2,6	...

Underlying drivers of import demand				
Activity Variable (y-o-y change, volumes)				
	2008	2012	2013	cumul. 2014-16
Private consumption	4,3	-9,1	-7,3	3,8
Industrial production	-4,1	-3,4	-0,5	9,3
Business investment	2,3	-13	-7,1	21,7
Change in Relative prices (y-o-y)				
	2008	2012	2013	cumul. 2014-16
Basic consumer goods	3,8	0,3	-3,6	-12,8
Consumer durables	2,1	-1,1	-3,1	-8,5
Intermediate goods	4,5	-0,2	-4,7	-8,1
Capital goods	1,6	-1,6	-3,3	-9,0

Export demand drivers (goods) and forecasts				
	2008	2012	2013	2014-16
Goods exports (value)				
% of GDP (eop)				
Goods exports excl. oil	6,7	7,6	8,1	8,9
Total Goods exports	8,5	11,5	13,1	14,4
y-o-y change (period average)				
Goods exports (vol.)	-3,0	1,8	3,9	4,8
Underlying drivers of export demand				
Main drivers of export-demand (y-o-y change)				
	cumul. 2008-11	2012	2013	cumul. 2014-16
EU27 growth	-0,9	-0,4	-1,1	6,7
Relative export prices	2,3	-2,7	-3,3	-4,7

for imports of capital goods and intermediate inputs. Adjusting for imported inflation developments (assuming an average non-oil imports inflation of 1.7% per annum in 2013-16, compared with an annual average of 3.8% in the period 2000-12) and assuming average oil prices in the vicinity of €90 per barrel in the same period, total import spending on goods is expected to increase to 24.3% of nominal GDP in 2016 from 21.7% in 2012, but remain lower than its average level of 27% in the period 2007-08. Specifically, about 2% of GDP, or almost 75%, of the total increase in imports, will reflect increased spending on capital, intermediate goods and primary inputs.

Similarly, we use an export demand equation (at an aggregate level in this case, excluding oil) to estimate export trends for the period 2013-16 (see Box or Appendix). Specifically, we assume that:

i) an improvement in economic conditions in the EU (following a further contraction of economic activity of -0.2% in 2013), with GDP in the region converging towards a long-term potential growth rate of +2.3% for the EU27;

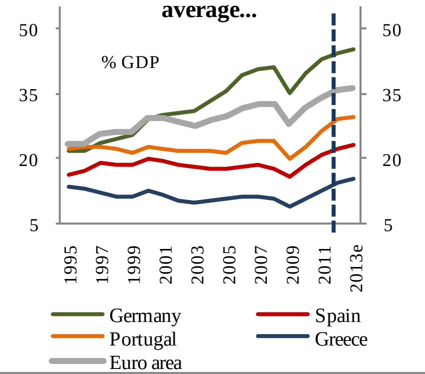
ii) a continuing trend of differentiation of Greek export destinations towards higher growth non-EU destinations (at a pace analogous to the period 2010-12);

iii) a further improvement in relative export prices of 8% cumulatively in 2013-16, of which around half reflects a further reduction in domestic producer prices and the other half the cumulative increase in the average GDP deflator in the EU during this period); and

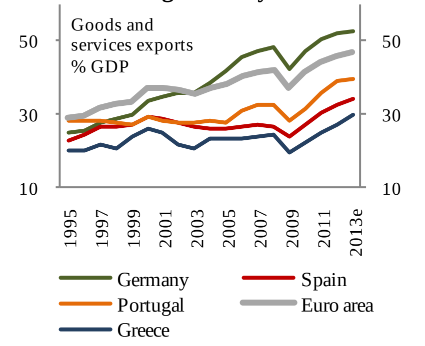
iv) no significant changes in the structure of exports in the period 2014-15 compared with the 2010-12 average.

Based on our model, exports of goods (excluding oil) are estimated to increase by 4.8% y-o-y per annum (in constant price terms), on average, during the period 2014-16. In nominal terms, the increase is 0.8 pps of GDP, to c. 9% by 2016 from 8.1% in 2013. Including oil exports the share of goods exports in GDP is expected to reach 14.4% of GDP in 2016 from 13.1% in 2013. Note that these projections suggest a further small improvement in the current account balance in the following years, which is expected to remain broadly balanced in the period 2013-14 and register a small surplus of about 0.6% of GDP cumulatively in 2015-16, broadly in line with the current programme's projections.

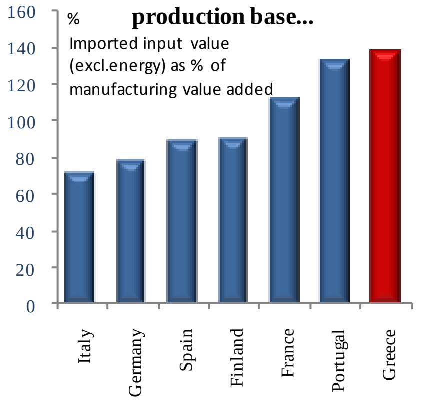
Despite the notable recovery, Greek goods exports continue to lag behind the euro area average...



... and the relatively high contribution of services exports does not change the picture significantly



A still very narrow and low-value added domestic production base...



The contribution of goods exports in economic activity remains significantly lower than its potential

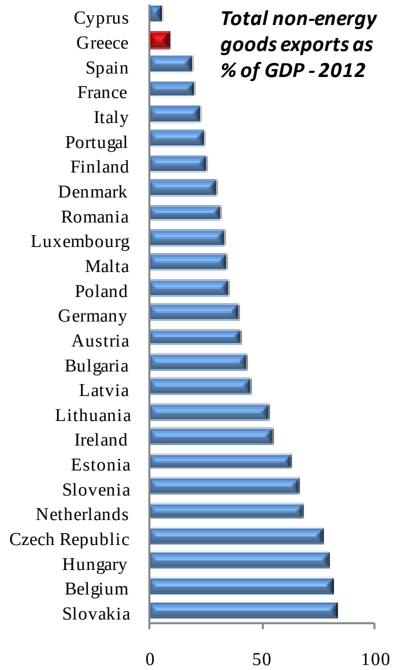
Despite the notable improvement in exports that is expected in the following years, the share of total Greek merchandise exports in GDP (14.4%) will remain far less than half of the euro area average of 36% of GDP, and even further away from the average of the smaller and traditionally more open euro area economies. Differences in export performance become even more notable if we adjust goods exports for their total import requirements in primary and intermediate inputs, so as to estimate their contribution to value added in the economy. Indeed, the role of re-sale and the relatively low depth and quality of the domestic supply chain in Greece appears to be large. Our analysis suggests that Greece, together with Cyprus and Malta, emerge as the countries with the weakest adjusted export performance that falls short by almost 16% of GDP of the euro area average and by about 10% of GDP of the average of a group of countries with broadly comparable characteristics to Greece (namely Spain, Portugal and Slovenia).

The pace of increase in goods exports and their respective contribution in GDP must be substantially higher than suggested in the scenario described above to support a faster transition to a more export-based model. In this respect, the ongoing need to regain cost competitiveness, as well as the need for other structural reforms, continues to represent major constraints to the growth prospects of the economy. Additional obstacles to export growth are, however, beyond the control of policy makers, and reflect Greece's position in the world economy (geographical proximity to major markets, supply chains, and transportation links).

One approach to estimating the long-term potential for exports is through standard gravity models, which are frequently used to estimate an economy's export potential (especially as regards goods exports) based on its geographical proximity to key markets and supply chains, its level of economic development, relative production and natural/commodity factor endowments and external demand conditions. It must be noted that empirical results obtained from these types of models are useful in identifying an indicative level of exporting potential that is justified on the basis of the respective explanatory factors, and not in providing estimates of a probabilistic outcome/target that will be met within a specific forecasting horizon.

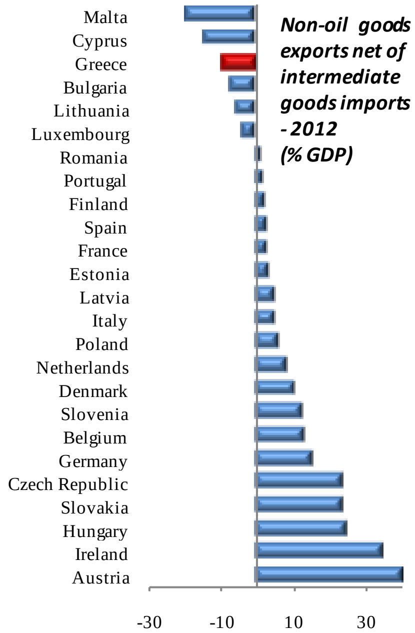
The analysis based on a gravity model suggests the existence of a high degree of natural constraints to Greek exports. Specifically, these models suggest that the relatively large geographical distance between Greece and core euro area economies acts as a major

...is suggestive of a considerable untapped exporting potential for Greece



Source: Eurostat

Current export performance is even weaker when adjusting for imported inputs



Source: Eurostat

constraint for the development of inter-industry or even intra-industry trade in merchandise exports with the EU (e.g. in contrast to Portugal, which has benefited from a strong interconnection with, and relative proximity to large EU economies such as France and Spain). Moreover, it should be noted that the export benefit from the increasing interconnection of Greece with the developing economies of SE Europe since the late 1990s, as well as better transportation links through the extensive use of EU structural funds, is fading as these countries have turned into direct competitors of Greek manufacturing exports in core euro area markets, attracting considerable FDI inflows to this end.

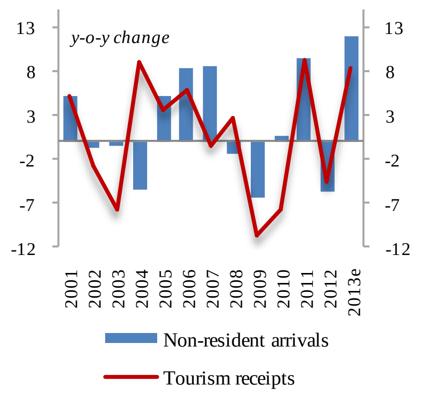
With all these caveats, this type of analysis suggests that the unexploited potential of Greek goods exceeded, on average, by 70-80% the Greek export volumes in 2008 (i.e. a gap of almost 9% of GDP). Adjusting the above estimates for actual developments in Greek exports in 2009-12, we derive an estimate of the potential margin of improvement for Greek goods exports as a per cent of GDP of about 7% of GDP in the long run. Such an increase would push the share of goods exports in GDP in the vicinity of 20% of GDP, still significantly below the respective euro area average of 36%.

Raising exports to such levels requires the successful implementation of significant reforms to support the already notable, albeit painful, progress in business restructuring. The crisis in Greece has triggered an unprecedented bout of restructuring in Greek manufacturing, which is reflected in the production, employment and dis-investment figures. Labor costs are declining, and firms are gradually adapting their strategies to the new economic conditions. They are rationalizing their production structure and disposing of unprofitable operations and activities. The reduction in uncertainty, combined with the completion of structural reforms, is gradually transforming the business environment in conjunction with improvements in liquidity conditions and business relations with suppliers and customers. However, new investment, in conjunction with structural reforms, is among the key pre-requisites for the Greek manufacturing sector to continue to restructure and move towards its potential (see below).

Service exports will provide considerable support to the export performance of the economy, following a period of stagnation in 2010-12

In view of the constraints to the development of goods exports, the development of service exports – for which Greece appears to have a comparative advantage, and are larger than goods exports in the case of Greece -- becomes even more important. Service exports had a negligible contribution to the external adjustment in the period 2010-12. Shipping revenue declined against a backdrop of a protracted downturn in international shipping markets. Tourist arrivals and revenue were weakened due to elevated uncertainty surrounding Greece during this period (especially in H1:2012), combined with a prolonged period of weak growth in the EU, the major source of Greek tourists (70% of the total in 2012). Moreover, terms of trade developments remained unfavorable, as intense regional competition and a pressing need to reverse accumulated losses in price competitiveness since EMU entry, led to a strong adjustment in tourism prices (which fell in 2012 to almost 20% below their 2008 level), while the prices of shipping services are near a 17-year low, due to excess supply pressures in the sector.

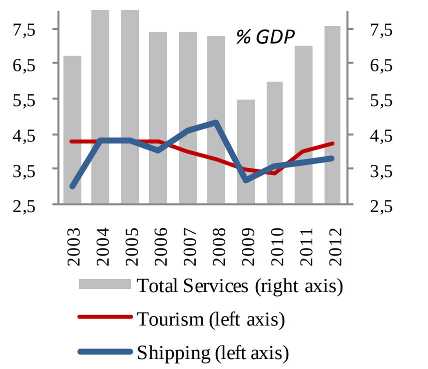
...but the tourism sector is set to recover strongly in 2013



Tourism activity is set to recover in 2013…

Looking forward, very favorable demand conditions in core tourism markets (e.g. bookings from key markets such as Germany and the UK are up by +15-20% y-o-y) and actual arrivals for 5M:2013 point to a strong year for tourism. Increased optimism for the sector also comes from the observed increase in demand from the rising middle class in emerging markets (especially Russia, but also Ukraine, SE European countries and Turkey, as well as Asia, including China), also reflected in a relatively strong tourism outlook for the Mediterranean region as a whole (expected growth of arrivals in the Mediterranean of 5.1% in 2013 and 5.7% in 2014). Against this backdrop and the improved price competitiveness of the Greek tourism sector, we expect an increase of 10-13% in tourist arrivals in Greece in 2013. The respective increase in tourism revenue will be somewhat weaker -- about 8-10% y-o-y -- as regional competition maintains pressure for even more competitive pricing, while the average duration of stay shows a slight downward trend.

The net contribution in GDP from exporting services...



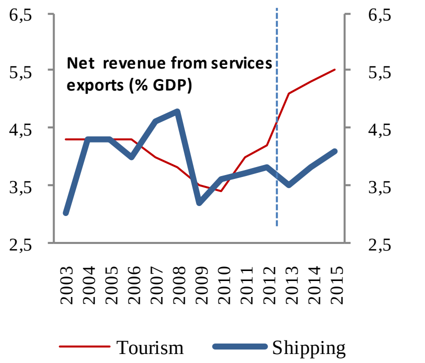
Source:Bank of Greece and NBG estimates

A further improvement in the economic climate, combined with structural reforms in Greece so as to attract foreign investment in the sector, and a stabilization in economic conditions in the euro area, would permit the Greek tourism sector to exploit its long-term growth potential. NBG Research has estimated an empirical model for the demand for Greek tourism based on regional demand conditions and relative price trends (see Appendix). Tourism demand trends at a regional level are approximated by GDP growth in the EU27 and the trend of regional arrivals are obtained from the WTO (World Tourism Organization) forecasts of arrivals in the Mediterranean region, while the ratio of Greek tourism-services inflation compared with the prices of Greece's direct competitors (an arithmetic average of tourism services inflation in Spain, Italy, Portugal, Turkey) is used to measure relative price competitiveness. For the period 2013-16, the region is expected to experience tourist growth of 5.8% per year based on World Tourism Forum forecasts, so that the average annual increase in tourist arrivals from abroad will exceed 6.0% per year in 2014-16 compared with 3.7% per year in the period 2000-08 (an improvement in market share after 16 consecutive years of losses). In total, net tourism revenue is projected to increase by 8.0% per year in 2013-16, to 5.6% of GDP in 2016 from 4.3% in 2012.

It must be noted that this estimate does not incorporate the effect of any potential improvements in the attractiveness of the Greek tourism product originating from quality upgrades to tourism and public infrastructures or the effect of other structural reforms in transforming the business environment and quality of services.

In addition, assuming solid progress as regards the transformation of Greece into a home port hub for cruise ships and that Greece retains its share in the Mediterranean cruise market (corresponding to almost 20% of total arrivals in the region in 2012), the additional annual revenue from cruise tourism is expected to exceed €0.9bn (about 0.5% of GDP) in 2016, with the average annual boost to GDP in the period 2013-16, from basically nil currently, to exceed €0.7bn or 0.35% of GDP in 2016 (NBG Sectoral Report on Cruise industry, August 2012).

...is expected to become even stronger looking forward



Source: Bank of Greece and NBG estimates

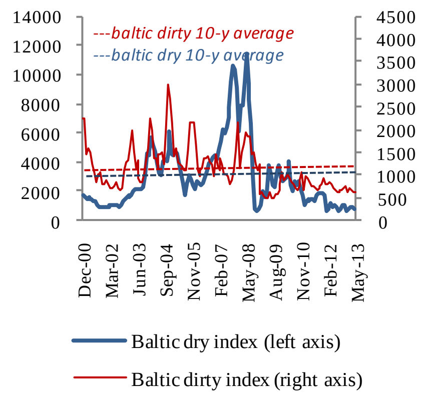
...while downward pressures on shipping sector revenue will ease in the near term, but the reduction of excess supply imbalances, that keeps freight prices at relatively low levels, is unlikely to be complete until 2014

Tourism demand drivers

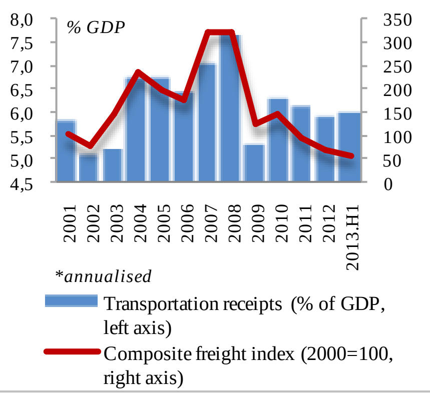
	2008-11	2012	2013	2014-16
y-o-y change (period average)				
Tourist arrivals	-1,2	-5,5	11,5	6,5
Tourism revenue (gross)	-1,5	-4,6	9,0	4,0
Tourism revenue (net)	-1,3	-0,7	13,8	6,0
% of GDP *(eop)*				
Tourism revenue (% GDP)	5,0	5,2	5,9	6,9
Tourism revenue net (% GDP)	3,8	4,3	5	5,6
Underlying drivers of tourism demand				
Main drivers of tourism demand (y-o-y change)				
	cumul. 2008-11	2012	2013	*cumul. 2014-16*
Arrivals in Mediterranean	1,8	2,7	4,2	11,5
Relative prices *(tourism services)*	-17,7	-19,4	-0,3	-4,8

The shipping sector -- the second largest export sector of the economy after tourism, which corresponded to 22% of total export revenue, on average, in the period 2000-12 -- continues to face severe headwinds from a protracted adjustment in international shipping markets as a result of weak demand conditions and excess supply of transport capacity in most market segments (especially in large dry bulk cargo and oil carriers and, more recently, in containerships). Net shipping revenue was almost 0.7% of GDP lower in 2012 compared with its peak of 2008 or about 4.3% of GDP and this trend continues in 5M:2013, with revenue declining by another 15.2% y-o-y. The above trends reflect the drop of composite freight prices to a 15-year low in 2012 -- 45% below the 20-year average -- and the negative impact of the Greek crisis on the attractiveness of the Greek shipping registry (a 5% decline in the combined tonnage of ships that carry the Greek flag compared with 2009).

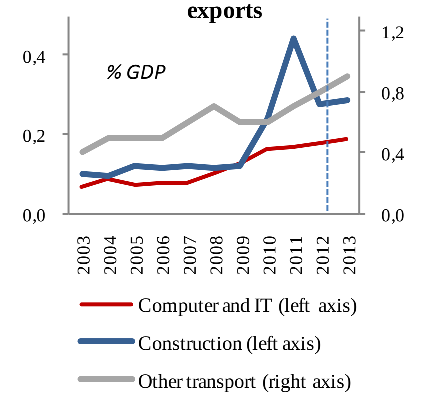
Freight rates remain 45% below their 20-year average...



...leading to a sharp decline in shipping revenue



Other categories of services are gaining importance in Greek exports



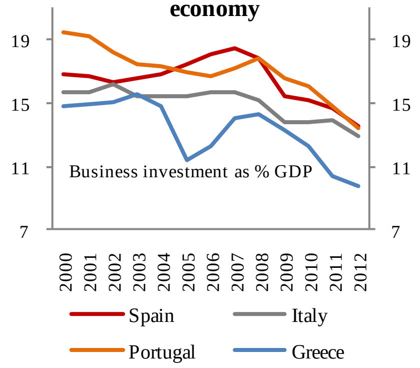
These developments have outweighed potential gains from a further increase in the size of the Greek-owned fleet (to 15.9% of world tonnage in 2012 from 14.9% in 2009), that reflects strong investment activity by Greek shipowners in the period 2010-12, who took advantage of rapidly contracting shipbuilding costs and very low prices in the second-hand market. The shipping market is expected to work through its excess capacity through further cancellations of shipbuilding in specific market segments, and a streamlining of the order-book through deferrals or the focus in maintenance of existing orders only in market sub-segments that have better prospects of recovery. Combined with the expected improvement in world demand by H2:2013 and especially in 2014 and 2015, these developments could support a gradual recovery of composite freight prices towards their 10-year average by 2015 (see projections of global shipping market trends from the latest analysis of Platou and Clarksons' research departments). Under this scenario, the cumulative increase in net shipping revenue will amount to +1.6% of GDP in the period 2014-16, to a projected 4.8% of GDP at end-2016.

It is important to note that gross revenue from "other services" categories is gaining ground in the Greek export structure, with road transportation revenue registering a notable increase of +18% in 2012. These gains have translated into an increase of its share in total export service revenue by 0.2 pps to 2.3% GDP in the two years to 2012. This development is mainly related to the exporting activity of Greek transportation firms to neighboring countries (e.g. petroleum products) and the opening of the market for truck services since 2011. The opening of the trucking sector to new entrants has intensified business restructuring trends and, in conjunction with the sharp reduction in domestic demand, has exerted pressure on Greek transportation firms to internationalize their activities. Finally, synergies from the gradual increase in the transportation of transit cargoes that is related to the booming activity in Piraeus port (due to the large efficiency gains and cargo handling potential related to the COSCO investment in this port) are providing support to the sector (NBG Sectoral Study, April 2013).

The upside potential of other segments of exporting services, such as construction -- that registered a strong increase in the period 2009-07 -- is also estimated to be considerable, in view of the significant amount of projects that large Greek firms have undertaken abroad and will implement projects valued at an estimated €3.5bn in the following years. An important comparative advantage of the construction sector is their experience in undertaking many domestic projects financed by EU structural funds during the past two decades.

Overall, total net revenue from export services is expected to grow by 9.2% per year in the period 2013-16, reflecting a cumulative increase in net tourism and shipping revenue of 35.2% and 38%, respectively, and of other services of 13%. The share of net revenue from export services in GDP is expected to increase by 2.8% of GDP, to slightly above 10.4% of GDP in 2016, compared with 1.1% of GDP for the euro area in 2012.

A revival in business investment would prompt a faster export-oriented transformation of the economy

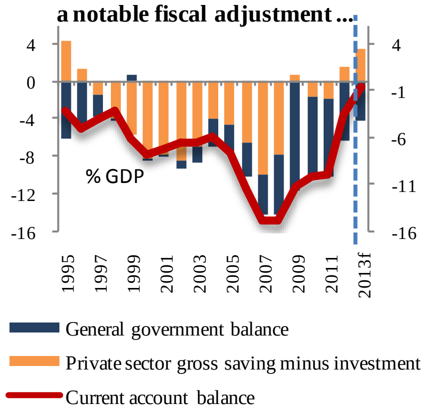


As was the case in manufacturing, new investment in the Greek exporting-services sector (excluding shipping where investment activity remains at high levels) is a vital aspect of economic transformation that aims at providing high quality and sufficiently differentiated and competitive services.

The exporting potential of the Greek economy could be significantly augmented by new investment and other supply-side reforms

Summing up, the NBG forecast of Greek export trends, in a baseline scenario of a gradual recovery in international demand and additional gains in cost competitiveness, indicates that the share of exports of goods and services in GDP will increase by about 5.4% of GDP in the period 2013-16, to c. 31% in 2016. This ratio will be still significantly lower than Portugal (38%), and the current euro area average of 46% of GDP. The contribution of net exports to activity would be about 1.3 pps per year in the period 2013-16, while the CAD improves by another 4.0% of GDP to a small surplus of about 0.5% of GDP in 2016, broadly in line with the latest programme's projections.

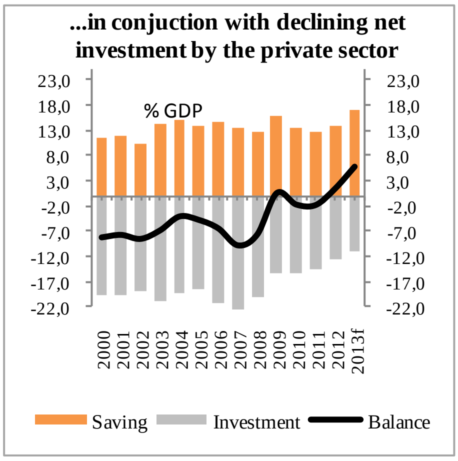
The closing of the domestic savings-investment gap reflects a notable fiscal adjustment ...

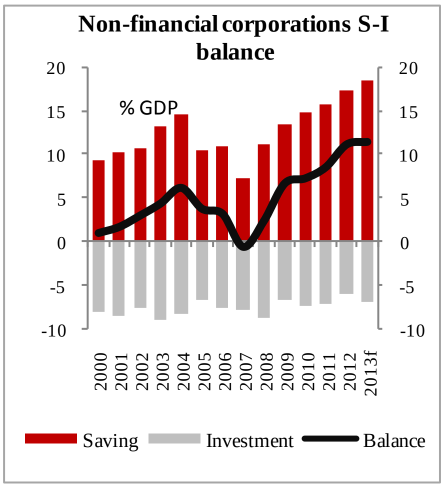


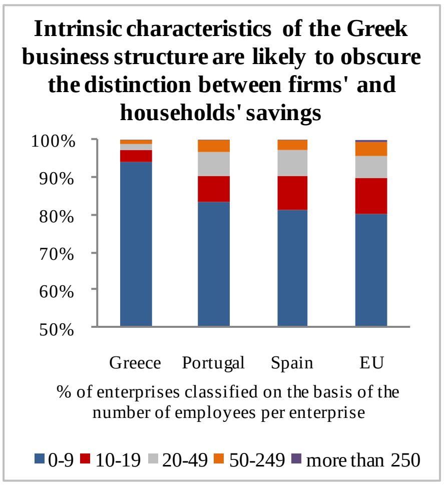
4. The closing of the national savings-investment gap reflects a steady reduction in fiscal imbalances, in conjunction with declining investment and a concomitant recovery of gross corporate savings

A closer look at recent developments in the economy's savings-investment balance provides a useful complementary perspective to the external adjustment process in Greece, and of the challenges lying ahead. In fact, the widening gap between investment and national savings in the economy over the previous decade, against a backdrop of excess domestic demand and rising public and private sector debt, translated into a large current account deficit (14.9% of GDP in 2008). Specifically, the counterpart to the large external imbalance were increasing fiscal imbalances, strong investment by firms and households -- with the latter pushed up by the residential housing boom -- in conjunction with diminishing private savings (see diagram).

This trend reversed course in 2009-12, with both the private and government sectors narrowing their savings-investment deficit. In this respect, the government sector and the investment part of







private sector balance sheets appear to have carried the burden of rebalancing, against a backdrop of an unprecedented fiscal consolidation effort and severe recessionary headwinds.

In view of the currently depressed levels of investment, and the need for investment to increase strongly if the growth and export potential of the economy is to be achieved, sections 5 and 6 attempt to quantify the impact of higher investment on the current account and compare it with the deficit assumed in the programme so as to gauge the impact on external financing.

The reduction in fiscal imbalances played a central role in closing the national savings-investment gap…

Indeed, the solid progress in fiscal consolidation was the key determinant of external adjustment. The reduction in the general government deficit by 9.3 pps of GDP in the three years to 2012 (excluding the fiscal impact of banking system support measures) has come in parallel with a large decline in the current account deficit. This trend is expected to continue in the following years, as the government deficit is estimated to decline by almost 2.5% of GDP in 2013 (to below 4% of GDP), and by another 3.3% of GDP in the three years to 2016.

… and the remainder of adjustment has been primarily based on the downsizing of private investment

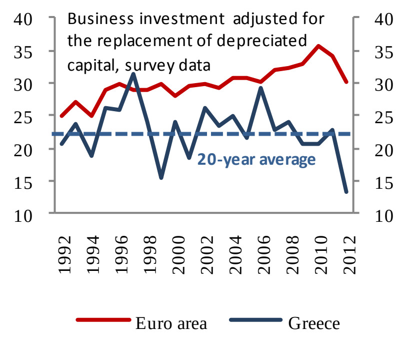
The adjustment in the private sector has also played an important part in reducing the external imbalance. Private sector balances (gross savings minus investment of non-financial corporations and households, unadjusted for capital depreciation) posted a surplus of 1.6% of GDP in 2012 -- for the first time since 1995 -- as a result of an intensive adjustment forced by the severity of the recession. Indeed, against a backdrop of declining domestic demand, gross private investment declined by 7.6% of GDP between 2008 and 2012 (or -4.6% of GDP between 2009 and 2012) to a 40-year low of 12.7% of GDP, reflecting a reduction of business and residential investment of 3.1% and 4.5% of GDP, respectively, more than offsetting a decline in private sector savings, mostly by households.

It must be stressed that the pace of reduction in net capital formation is significantly higher than that suggested by developments in gross-fixed investment (-60% *vs* -38% during the past four years), as the latter does not reflect the cumulative erosion of the existing capital stock. The statistical adjustment for obtaining net capital formation by Eurostat applies a fixed depreciation rate on the stock of existing capital that is equal for all countries and independent from cyclical conditions or differences in capital structure (e.g. relative weights of equipment, other business investment and construction). In the case of Greece, the rate of

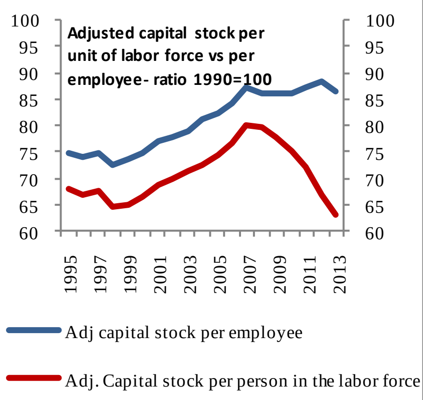
Savings- Investment Breakdown			
	2009	2012	2016f
Private sector gross savings	*15,2*	*14,3*	*14,5*
Private sector Investment	*17,2*	*12,7*	*18,1*
Private sector fin. Balance	***-2,0***	***1,6***	***-3,6***
Gen. Government balance	***-15,6***	***-6,3***	***4,5***
National Savings-Investment balance	**-17,6**	**-4,7**	**0,9**
Current account balance*	**-16,5**	**-5,3**	**0,8**

** National accounts basis*

Greek firms deferred the replacement of depreciated capital in a period of extremely deep recession



Net disinvestment narrowed the capital base of the economy



depreciation should, however, be higher due to the rebalancing of the economy from the tradables sector from the non-tradables sector, rendering investment obsolete (see below).

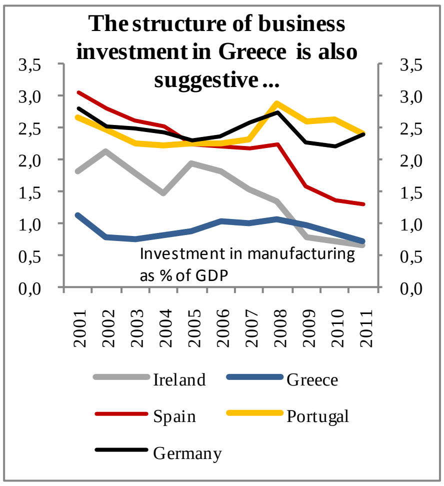
Moreover, in the corporate sector, the impact from the sharp decline in investment was reinforced by higher savings during the past three years. The latter arose from an intensifying trend of deleveraging and precautionary hoarding of liquidity in an environment of high uncertainty.

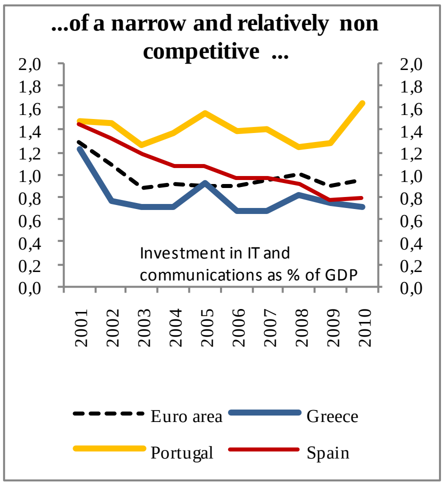
A positive sign of the evolving restructuring of the Greek corporate sector is the improvement in its operational profitability (as proxied by developments in the gross operating surplus for the non-financial business sector of the economy). This has occurred due to the ongoing corporate restructuring in recent years, together with the reduction in unit labor costs and rising turnover from exporting activities.

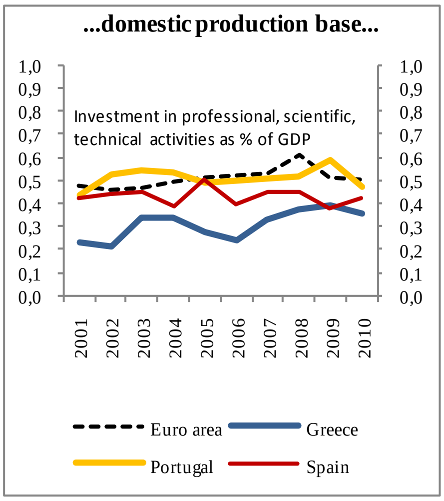
It must be noted that intrinsic characteristics of the Greek business structure related to the extremely high share of micro enterprises in economic activity and concomitant difficulties in separating personal from corporate income sources are likely to create an upward bias in corporate savings figures derived from sectoral accounts data. Indeed, household income tends to be underestimated and corporate income overestimated in the national accounts, resulting in an upward bias in corporate savings rates. These deficiencies in household income measurement could reflect, *inter alia*, income from unreported employment and/or difficulties in separating employment income from “quasi-business” income incorporated in the mixed-income definition of corporate sector income (mostly profits of unincorporated enterprises).

This trend is expected to intensify in the following years, as the operational profitability of Greek businesses will be supported by a further reduction in labor costs, and a further improvement in liquidity conditions. More specifically, the cumulative reduction in unit labor costs between 2012 and 2016 is expected to exceed 11%, providing a further boost to the operational profitability of the Greek business sector, which combined with a normalization in credit supply and reduction in average business lending rates (by about 1.2-1.8 pps) is estimated to lead to an average increase in the operating surplus of the Greek non-financial business sector by about €2.3bn per year in the period 2014-16 (3.3% of GDP).

As regards the household sector, and without attempting to adjust for possible biases in household income measurement, it appears that the drastic reduction in residential construction was the only option for households to close their financing gap. Indeed, the share of residential investment in GDP declined by about 4.5 pps in the







four years to 2012, accounting for the bulk of the balance sheet adjustment in this sector. On the other hand, severe downward pressure on household disposable income from austerity measures, rising unemployment and wage reductions have inhibited a recovery in gross household savings.

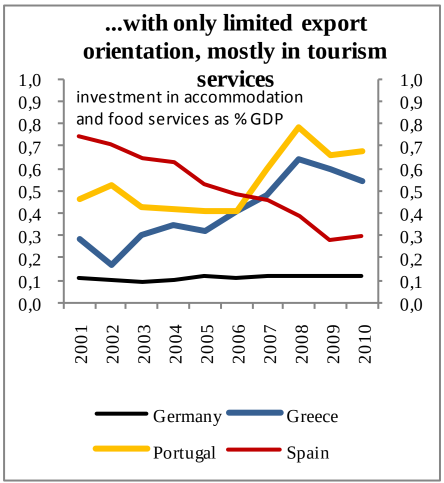
Overall, the progress in the adjustment of government and private sector balances over the period 2009-2012 is reflected in a cumulative reduction of the economy-wide gap between savings and investment of about 13% of GDP, of which 9.3 pps reflect the adjustment by the government sector and 3.6 pps is the net improvement in private sector balances, of which 4.5 pps is from a reduction in investment that outweighed a 1.0 pps decline in total private sector savings in the same period. This adjustment broadly mirrors the cumulative reduction of the current account deficit in the same period on a national accounts basis that amounted to 11.2% of GDP (7.8% of GDP on a balance of payments basis).

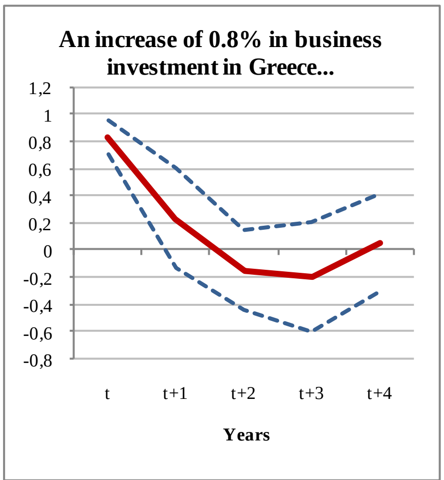
5. A strong recovery in business investment in the following years is needed to increase the productive potential of the tradables sector, and act as a catalyst for a new growth model

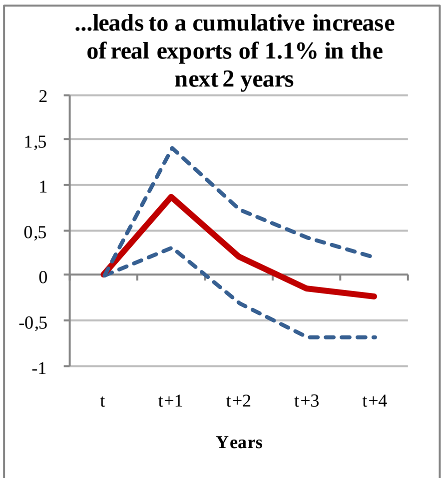
A more rapid adjustment of the supply side, that will complement the rationalization of domestic demand and augment the economy's import substitution-and-export potential, is expected to play a key role in the economic recovery. This supply-side adjustment will be primarily based on new investment spending and the efficient implementation of structural reforms with a view to creating an attractive business environment (e.g. product market, judicial sector, public and tax administration).

Indeed, the severe decline in investment in previous years and the tendency of firms to defer the replacement of depreciated capital in a period of extremely deep recession, and high uncertainty, have taken a sizeable toll on the capital stock of the Greek economy. Specifically, total business investment (comprised of investment in equipment, machinery and business construction) declined by 3.1% of GDP in the four years to 2012, following a period of strong growth that brought its share in GDP to a peak of 13.3% in 2007, and then fell to a 22-year low of 10.1% in 2012 compared with a euro area average of 13% in 2012.

Indeed, the net formation of business capital in the economy was negative over the past five years, reflecting a cumulative decline in business investment of -39%, combined with a depreciation of the capital stock by about 25% during the same period (assuming an average annual depreciation rate of 7.8%). The international experience, suggests that these rates tend to be significantly higher for business capital compared with residential capital, and to







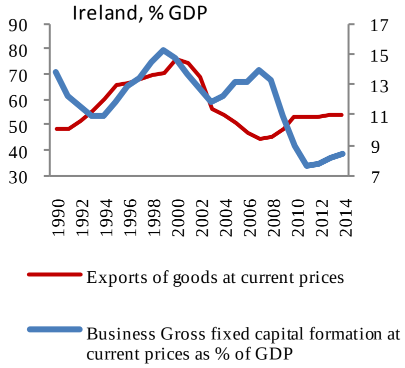
increase during recessions or in periods of economic crisis that are accompanied by major changes in the structure of the economy. In this light, the NBG estimates for a depreciation rate of 7.8% appear in line with international empirical estimates (with estimates ranging from 5.5-14% for business capital depreciation during significantly milder recessions – see Appendix).

As a result of the sharp decline in capital stock, the estimated contraction of the level of business capital per person in the labor force in Greece exceeded 17% in the past four years, and is projected to drop by another 5% in 2013, bringing the ratio to the lowest level in twenty years. The respective estimates for Portugal, Spain and Italy point to significantly lower declines of about 9.5%, 5.2% and 3.0%, respectively.

The reversal of this impairment in the economy's stock of capital is undoubtedly necessary for an economic recovery to take hold. Our baseline scenario for external adjustment described in section 2 is based on the assumption of an average annual increase in real business investment of 7% in the four years to 2016. This development would be sufficient to increase the capital ratio of the economy by about 1.5% of GDP during the same period, which would still reflect a ratio of business capital to the labor force and a share of business investment in GDP about 22% lower than their 20-year averages by end-2016.

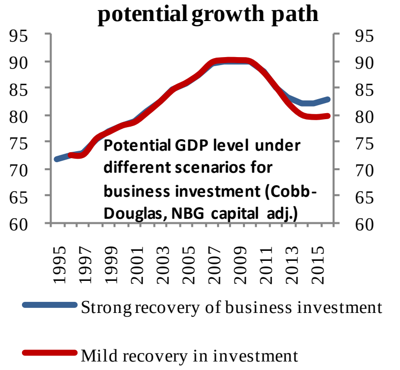
Moreover, Greece has to overcome an additional supply-side problem related to the relatively weak structure of the existing capital stock. Indeed, the seemingly strong pace of business capital formation in the previous decade has overshadowed underlying weaknesses related to the structure of investment, and especially the large share of non-tradable sectors in investment activity. Excess domestic demand, strong and stable profit margins and favorable liquidity conditions had encouraged investment in non-tradables, and especially in the consumer segment (e.g. retail and wholesale trade, services to households, personal services and to some extent health services), while investment in export-oriented or higher-value added segments of the Greek economy was significantly lower (such as manufacturing, information technology, business and other exportable services other than tourism and shipping). Investment in transportation equipment and the tourism sector (mainly construction in the latter case) were the only export-oriented segments of Greek economy that showed a relatively strong performance in terms of new investment during this period. Against this backdrop, a strong recovery in business investment is necessary not only for restoring a more favorable balance between capital and labor force at an aggregate level, but also for directing

The international experience suggests that business investment...



...tends to be strongly correlated with export perfomance

A stonger recovery in business investment will push the economy towards a higher potential growth path



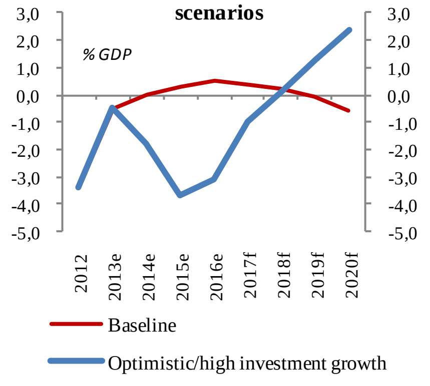
new investment towards more productive uses as soon as possible.

In this respect, NBG Research believes a more ambitious adjustment in the Greek production structure is needed to kick-start more rapid growth, originating from a stronger recovery of business investment. More specifically, the average growth of business investment should double to exceed 14% y-o-y in the period 2014-16, with the main part directed to the tradable sectors. The level of new investment is about 5 pps of GDP higher -- or about €11bn -- in nominal terms compared with the baseline scenario. This investment would be sufficient to bring the ratio of business-capital stock to GDP to above its 30-year average by 2016 (and business investment to near 14% of GDP compared with a 23-year average of 12.9%), and is estimated to also translate into a significantly stronger exporting performance by 2015. Indeed, the international experience suggests that countries that experienced an economic recovery based on strong net export performance had enjoyed a period of strong business investment that preceded the export boom by 1 to 4 years.

Indeed, historical evidence from aggregate data for the Greek economy supports the role of business investment in increasing the export potential of the country. Based on the analysis for the Greek economy obtained from a VAR system that describes the joint dynamics of business investment, exports and other macroeconomic variables representing internal and external demand and relative prices, a 10% increase in business investment (in constant prices) -- after adjusting for the impact of other macroeconomic factors -- leads to a cumulative increase in export volumes of almost 14% in the three years following the increased investment (see Appendix). Nonetheless, the investment boom tends to be accompanied by an almost contemporaneous increase in imports that lasts for two years, which is not followed by a statistically significant reduction in import spending through import substitution. That being said, historical estimates from a 23-year sample for Greece covering the period 1990-2012 are also affected by the relatively weak investment composition and a relatively protracted period of demand-driven expansion (1997-2007), and thus, likely overestimate the increase in imports.

Based on the VAR model, the increase in business investment assumed in the optimistic scenario would translate into a cumulative increase in export volume of almost +35% in the period 2015-16 (compared with +18% in the baseline scenario). The direct impact -- for the period 2013-14 -- on external balances is likely to be negative, as the increase in imports that comes with rapid investment recovery will result in a deterioration in the current account deficit by about 4.0% of GDP. However, stronger export dynamics from 2015 onwards would more than compensate for the near-term deterioration. Indeed, total exports are estimated to increase by almost 10 pps of GDP compared with their 2012 level, to almost 36% of GDP until 2016 and to 39% in 2020. In fact, the net improvement in the external balance of the country should be higher still, as the model does not capture the import-substitution capacity of investment, as it is estimated on the basis of sample in which Greece performed extremely poorly in terms of import substitution.

Current account balance developments under the baseline and the "high investment" scenarios



Overall, the higher investment/export growth path will also lead to a more rapid recovery in potential GDP growth and a faster improvement in labor market conditions. This is suggested by the results obtained from a stylized and internally consistent context of a Cobb-Douglas production function, that is used supplementary to the VAR analysis with a view to describing the long-term determinants of potential growth from the supply side and, most importantly, the interplay between capital and employment developments in determining a country's long-term growth prospects (see Appendix). In this context, the rapid recovery in business investment envisioned under the optimistic scenario could push the potential growth rate to above 3.3% in 2016 compared with 1.8% in the baseline scenario. This difference corresponds to the creation of about 150,000 additional employment positions in the next 3 years, which implies a reduction in the unemployment rate to below 19% in 2016 compared with 22.5% in the baseline scenario.

Current account balance (% GDP)
(high investment scenario)

	2009	2012	2013f	2014f	2015f	2016f
CA Deficit (% GDP)	**11,2**	**3,4**	**0,5**	**1,8**	**4,1**	**2,8**
Trade balance - Total	**-13,3**	**-10,1**	**-7,8**	**-9,3**	**-11,3**	**-11,8**
OIL balance	-3,3	-5,3	-3,9	-5	-6,1	-6,8
Trade balance excl. oil	-10	-4,9	-3,9	-4,3	-5,2	-5
Exports	**6,6**	**11,4**	**13,0**	**13,5**	**14,4**	**16**
Oil	1,3	3,8	4,8	5	5,1	5,3
Other goods	5,3	7,6	8,2	8,5	9,3	10,7
Imports	**19,9**	**21,5**	**20,8**	**22,8**	**25,3**	**27,1**
Oil	4,6	9,1	8,7	10	11,2	12,1
Other goods	15,3	12,4	12,1	12,8	14,1	15
SERVICES Balance	**5,5**	**7,6**	**8,4**	**8,9**	**9**	**10,2**
Receipts	**11,7**	**14**	**14,3**	**15**	**15,9**	**19,6**
Travel	4,5	5,2	5,9	6,1	6,3	7,7
Transportation	5,9	6,9	6,4	6,8	7,3	9,3
Other services	1,3	2	2	2	2,3	2,6
Payments	**6,2**	**6,4**	**6**	**6,1**	**6,9**	**9,4**
Travel	1	1	0,9	0,8	0,9	1,3
Transportation	3,1	3,3	3,2	3,3	3,7	4,6
Other services	2,1	2,2	2	2	2,3	3,5
INCOME account	**-3,9**	**-1,6**	**-1,9**	**-2,3**	**-2,7**	**-2,8**
CURRENT TRANSFERS	**0,6**	**0,7**	**0,9**	**0,9**	**1,0**	**1,5**

6. Investment financing is expected to be based on a combination of increasing domestic resources and accelerating inflows of foreign capital

The additional amount of business investment needed for a timely and comprehensive upgrade of the economy's export and GDP growth potential suggests that a combination of financing sources -- most importantly foreign capital inflows – will be needed in the following years to support the investment recovery.

The Greek crisis effectively closed private sector sources of external financing to the economy, leading to the activation of the extraordinary support mechanisms embedded in the economic support Programmes for Greece. In this respect, official sector loans and ECB financing (reflected in the cumulative change in Target 2 balances) allowed for a smooth reversal of current account imbalances by providing adequate financing to the Greek public sector and the banking system, and permitted a gradual adjustment of fiscal deficit, while preventing a much larger forced deleveraging process in the Greek private sector.

About €188bn in official loans to Greece under the 1st and 2nd Programmes of financial support by the EU and IMF (until December 2012), together with the purchase of €45bn of Greek government bonds under the ECB's SMP and an increase of €65bn in Greece's liabilities in the Eurosystem, have effectively financed a net outflow of about €200bn in private funds, in conjunction with cumulative government financing needs of €90bn (including debt servicing costs) over the period 2009-12.

The earmarked funding from official sources through the 2nd Programme of financial support (amounting to an additional €55bn in 2013-15) is sufficient to cover the external financing needs of Greece for most of 2014, assuming that the progress in fiscal adjustment and privatization revenue is in line with the Programme targets. Moreover, about €18bn of EU funds (under the ESRF 2007-13 and 2014-20) and €4.8bn of EIB loans are estimated to flow into Greece over the period 2013-16.

Nevertheless, an emerging external financing gap of about €10bn in 2015-16 is estimated -- in the baseline scenario -- to be covered through market sources or new supportive changes in the terms of official loans. The coverage of external financing needs on the basis of the above funding is also conditioned on the assumption that Greece succeeds in maintaining a surplus in the current account balance of about 0.5% of GDP cumulatively in the period 2014-16.

However, our analysis indicates that under a more ambitious scenario for investment, the external financing needs over this period will be higher. Specifically, the current account deficit will widen by about 3.5% of GDP in following, reaching 4.1% of GDP in 2015 and 2.8% in 2016 (compared with small surpluses of 0.2% and 0.3% of GDP, respectively, in the baseline scenario). Although increasing export revenue will ultimately be translated into an increasing long-term potential of firms to finance their activity from internal sources or to regain access to market financing on better terms, the higher financing needs in the transition period (2013-16) will require higher capital inflows, most preferably in the form of FDI or long-term investments.

According to our estimates, the total additional financing needs to support the higher fixed investment and the related increase in imports that are expected to accompany the high growth scenario of the economy for the period 2014-16 are about €28bn, but are partially covered by the increasing ability of the economy to generate financing from internal sources.

Indeed, the above estimate of external financing needs is based on

Greece: External financing needs and sources of financing under the optimistic scenario

% GDP	2013	2014	2015	2016
Current account balance	**-0,5**	**-1,8**	**-4,1**	**-2,8**
Official loan amortization	-0,9	-4,0	-4,5	-1,5
Other public sector loan amortization	-7,7	-10,3	-8,7	-4,4
Current & Capital transfers	1,8	1,9	1,7	1,6
Other private capital (net)*	2,2	4,9	7,1	7,2
Change in Target II liability	-15,2	-6,5	-5,9	-5,5
Program financing**	20,3	12,8	9,1	3,2
Additional Private Sector Financing - optimistic scenario	**0,0**	**2,9**	**5,3**	**2,2**
Additional Private Sector Financing - optimistic scenario (€ bn)	**0,0**	**5,5**	**10,3**	**4,5**

**As assumed in the Program (including, inter alia, privatization revenue)*

***including c.€10bn of official financing (to be identified, IMF May 2013)*

Source: BoG, IMF and NBG estimates

**including c.€10bn of official financing (to be identified, IMF May 2013)*

External adjustment under 2 different scenarios

	2014	2015	2016
Current account balance (% of GDP)			
Baseline	-0,1	0,1	0,5
Optimistic	-1,8	-4,1	-2,8
Exports of Goods and Services (%GDP)			
Baseline	28,4	29,8	30,9
Optimistic	28,5	32,3	35,6
Imports of Goods and Services (%GDP)			
Baseline	28,6	29,5	31,1
Optimistic	29,6	32,1	33,5
GDP growth			
Baseline	1,7	2,1	2,5
Optimistic	1,7	3,9	4,4
Unemployment rate			
Baseline	25,5	23,8	22,5
Optimistic	24,2	21,8	18,9

the following assumptions as regards financing from domestic resources:

i) Greek firms will be able to use about €4.5bn of additional own resources (gross saving) compared with the baseline scenario to finance their investment activity. These resources will reflect the recovery in gross operating surplus through increasing sales and declining costs, which is expected to generate an additional pool of internal financing of about €1.3bn per year or €3.9bn cumulatively until 2016.

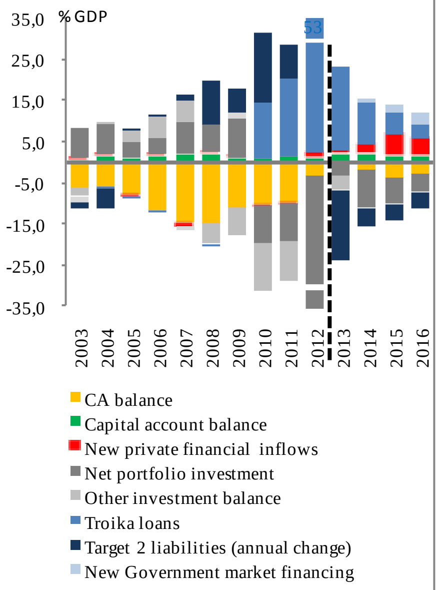
ii) The ability of households to provide additional financing to the economy is expected to be limited, as the faster growth in disposable income and gross savings post 2015, will be offset by a stronger recovery in residential investment (an average annual growth rate about +5% higher than the baseline scenario, in the 3 years to 2016).

iii) A more rapid increase in the domestic deposit base (almost 4% higher per annum in the period 2015-16), as the process of internal liquidity generation in the Greek economy will gradually start to take hold (higher deposit inflows from abroad combined with essentially a higher money/credit multiplier). This process is expected to ultimately be translated into a cumulative additional increase in credit to the private sector of about €4.3bn in the same period under the optimistic scenario (c. +1.1 pps in annual credit growth to the private sector in 2014-16).

The above factors correspond to a cumulative net flow of additional funding through internal sources of about €8bn compared with total additional financing needs of the economy of €28bn through 2016. In this respect, a cumulative residual inflow of almost €20bn in foreign funds is necessary to support the essential recovery in business investment over and above the baseline scenario.

For the private sector to provide such resources to Greece requires the creation of a sufficiently attractive investment environment, which in turn needs the successful implementation of the Programme and the speeding up of the structural reforms, especially in crucial areas such as land use, judicial reform and other bureaucratic obstacles.

Private funds inflows towards productive sectors are expected to play a key role in external financing in the future



Appendix: Empirical models underlying key macroeconomic estimates and projections

A. *An empirical model of Greek imports by product category*

Import demand equations for the main import categories are estimated on the basis of a sample covering the period 1998 to 2011. These categories comprise basic consumer goods, consumer durables and semi-durables, non-energy intermediate goods, capital goods (jointly corresponding, on average, to more than 70% of the total value of Greek imports, according to the BEC classification of external trade provided by Eurostat). Each equation estimates import-demand volume for the specific import category as a function of an activity/income variable and a measure of import prices relative to domestic producer prices for the specific category.

We use domestic producer prices instead of consumer prices, as the latter are directly affected by imported inflation, while the former permit a direct comparison with the respective import prices for the analogous product categories. As regards the choice of the respective activity/income variables, we use a separate driver for each import category on the basis of the relative explanatory power of the activity measure in describing sectoral import developments. For example, private consumption (in constant prices) is used as the activity variable in the import equation for basic consumer goods (M_{basic}), as well as in equations for consumer durables and semi-durables ($M_{durables}$). Similarly, industrial production is the activity variable in the equation for non-energy intermediate goods ($M_{Intermediate}$), and business investment (M_{Invest}, in constant prices) is used in the equation that describes imports of capital goods.

In this respect, the baseline specification for import demand has the following form:

$$M_t = \alpha_0 + \alpha_1 Yc_t + \alpha_2 Prel_t + \epsilon_t$$

where *Yc* denotes the respective activity/income variable and *Prel* stands for the relative price of imports versus domestic production (import price of the specific category versus the corresponding domestic producer prices). The estimated import demand equations are the following:

$$M_{basic} = +0.2 + 0.94Y_{basic} - 0.01Prel_{basic} + \epsilon_t$$ R^2: 0.83 (basic consumer goods)

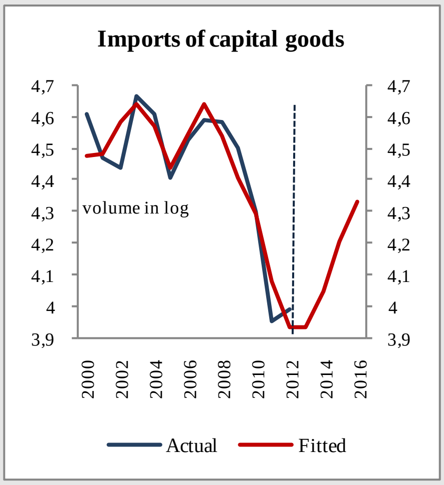
$$M_{durables} = +5.8 + 3.3Y_{durables} - 0.03Prel_{durables} + \epsilon_t$$ R^2 : 076 (consumer durables)

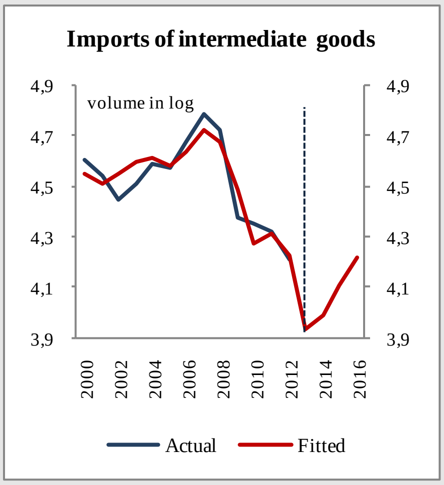
$$M_{interm} = -2.9 + 2.3Y_{interm} - \alpha_2 0.02_{interm} - 0.27Dum_{2011-12} + \epsilon_t$$ R^2: 071 (intermediate - goods)

$$M_{capital} = +1.1 + 2.8Y_{capital} - 0.02Prel_{capital} + \epsilon_t$$ R^2 :0.87 (capital goods)

The respective coefficients on activity and relative price variables are statistically significant and have plausible coefficients, while the introduction of a dummy variable capturing the potential impact of elevated uncertainty and the squeeze in trade credits on import volumes in the period 2011-12 is statistically significant only in the import equation for intermediate goods. This latter result also appears plausible, since the adjustment in consumer durables and capital goods imports started from 2009, and was already at an advanced stage in 2012. The empirical fit and key statistical properties of all equations appear satisfactory.

The above equations are used to forecast the path of import volumes in the period 2013-16 on the basis of the assumptions made for developments in exogenous variables (activity and relative prices) as presented in Table 2 of the main text.





B. An aggregate export demand equation for Greece

An aggregate export demand equation for Greece that describes non-oil export volumes (*Xt*) as a function of external demand (*Yx*) -- as proxied by the real GDP level in the EU27 -- and relative export prices (*Prelex*, as measured by the ratio of Greek producer prices for the external market compared with the average non-oil import prices in the EU27). Moreover, a dummy variable to capture the favorable effect on export performance from the increasing re-orientation of Greek exports post 2003 (initially towards the SEE 5 and subsequently, towards Turkey and other non-EU destinations), is also included in the demand specification that has the following form:

$$X_t = b_0 + b_1 Yx_t + b_2 Prelx_t + b_3 Dum_t + \epsilon_t \qquad (1)$$

$$X_t = 0.3 + 1.2 Yx_t + 0.012 Prelx_t + 0.14 Dum_t + \epsilon_t \qquad R^2: 0.92 \qquad (2)$$

Again, the estimated coefficients are statistically significant and theoretically correct. The equation is used to forecast the path of export volumes in the period 2013-16 on the basis of the assumptions made for developments in exogenous variables (activity and relative prices) included in Table 3 of the main text.

C. Tourism demand model

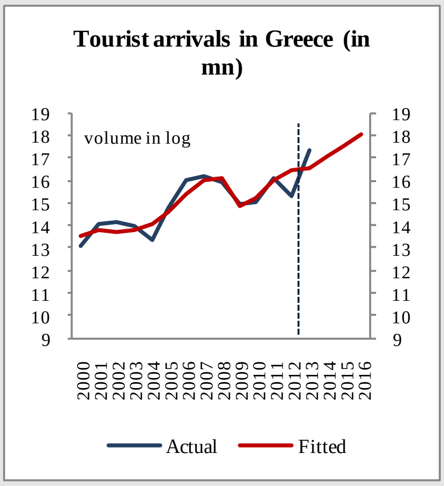
NBG Research estimated an empirical equation of tourist arrivals in Greece based on EU and regional demand conditions and relative price trends in tourism services. The model has the following form:

$$TA_t = c_1 Y_t^{EU} + c_2 A_t^{Medit} + c_3 PrT_t + c_4 Dum_t + \epsilon_t$$

where Y^{EU} stands for real GDP in the EU, A^{Medit} for total arrivals in the Mediterranean region as provided by the WTO (World Tourism Organization), while PrT reflects relative prices of tourism services (a weighted average of the HICP components for accommodation, food, restaurants, recreation and transportation services in Greece versus the respective prices of competitor countries comprising Spain, Italy, Portugal and Turkey -- the aggregate CPI is used in the case of Turkey -- weighted by 2012 tourist arrivals). The estimated version of the equation is:

$$TA_t = 0.3\, Y_t^{EU} + 0.1\, A_t^{Medit} - 0.08 PrT_t - 1.1\, Dum_t + \epsilon_t$$

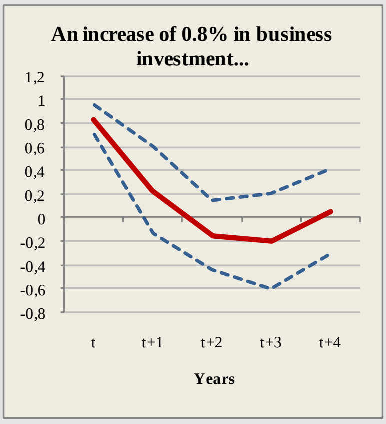
The empirical results suggest that arrivals in Greece have been far below model estimates only in 2 years over a 15-year sample: in 2004 and especially in 2012. The inclusion of a statistically significant dummy variable to account for the detrimental impact of uncertainty on the Greek tourism performance in 2012 did not improve materially the empirical fit for this year. In this respect, other factors took a heavy toll on Greek tourist arrivals, that exceeded 1mn persons. On a positive note, this slippage appears to be fully reversed in 2013. Moreover, the improvement in relative cost competitiveness of Greek tourism services of almost 20% in the 3 years to 2013 is estimated to support an additional increase in arrivals of about 1.2mn between 2013 and 2016.

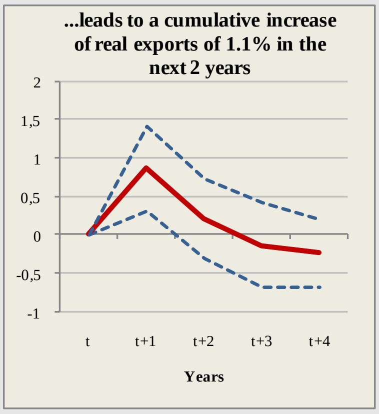


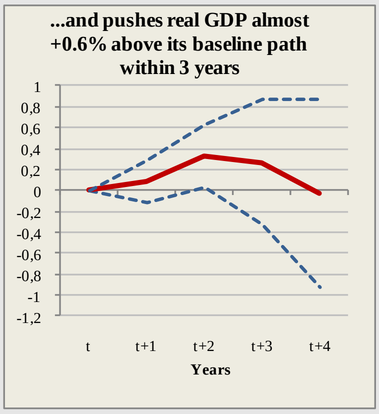
D. A VAR model of business investment-export correlation

A VAR system comprising of business investment, goods exports, domestic GDP (all in constant prices), and real economic activity in the EU27, is estimated for the period 1999-2011 with a view to assessing the sensitivity of goods exports in Greece to an increase in business investment.

The ordering of the variables for obtaining the decomposition of structural shocks (Choleski) is GDP, goods exports, business investment, whereas EU27 GDP is used as a proxy for external demand conditions. Most notably, the empirical results suggest that goods exports appear to exhibit a statistically significant response to increases in investment spending, despite the relatively poor structure of Greek business investment over the same period (mostly channeled to domestically-oriented sectors as suggested by the high share of retail and wholesale trade in total business investment).







E. A VECM approximation of a Cobb-Douglas Production function relating business capital with employment and long-term growth potential

A basic form Cobb-Douglas production function -- assuming constant economies of scale -- which describes potential output as a function of labor (L, potential employment in the business economy) and business capital input (K), in conjunction with developments in the combined productivity and efficiency gains in the economy (Total Factor Productivity, TFP), is used to describe the evolution of potential GDP in the Greek economy.

$$Y_t^{pot} = L_t^a K_t^{1-a} TFP_t \qquad (1)$$

The stock of business capital is obtained by summing the annual flows of business investment in the Greek economy since 1970. The effective annual depreciation rate on the existing business capital stock is assumed to be 5.5% (in line with respective long-term average estimates in the empirical literature for OECD and EU countries with broadly similar economic characteristics to Greece) in periods where the output gap (on the basis of EU Commission estimates) is in the range of -4 to +4% of potential GDP, i.e. in periods which can be broadly considered as "normal". The effective depreciation rate increases to 10.0% when the output gap exceeds the 5% threshold, reflecting the higher pace of business capital erosion in periods of severe economic slump. Employment corresponds to the total level of civilian employment in the business economy.

Our empirical estimates of potential GDP are undertaken using cointegration analysis. Indeed, the null hypothesis for the presence of a unit root could not be rejected for any of the three series (L,K,Y), while the Johansen–Juselius cointegration test indicates the presence of at least one cointegrating relationship between output, employment and the capital stock series. Consequently, the VEC model was estimated under the assumption of a unique cointegrating relationship among GDP, labor and capital inputs, which can be considered as an empirical proxy for a well-defined standard Cobb-Douglas production function

The estimation of potential GDP from the VEC model is a two-step process. First, the estimated parameters for the cointegrated, long-term relationship equation are substituted in (1) to obtain an actual series for the a, and subsequently the a, K, L series are smoothed using the HP filter, and are subsequently plugged into the production function equation to compute a final estimate of potential output.

The empirical estimate of the long-term relationship has the following form, while the estimated long-term parameters of the cointegrating relation have the expected signs and are statistically significant:

$$Y_t^{pot} = L_t^{0.62} K_t^{0.38} e$$

We used the estimated impulse response from this system (with GDP used as a lagged exogenous variable), in conjunction with supportive evidence related to the observation that changes in productive capital tend to Granger-cause changes in employment, to obtain an internally consistent estimate of the sensitivity of potential GDP growth and employment to changes in the capital stock. For simplicity, the TFP contribution to the level of potential GDP in the period 2013-16 is assumed to be zero, and thus the estimates of potential GDP growth are conservative.

In this context, the average potential GDP growth in the period 2013-16 is estimated at 1.8% assuming an average annual growth of business investment of 7% y-o-y during the same period, and increases to 3.3% if annual investment growth accelerates to +14% per year. On the basis of model-based estimates, the cumulative gain in employment from higher investment amounts to 130,000 jobs (an increase in total employment of +370,000 by end-2016 compared with 240,000 in the baseline scenario), which would reduce the unemployment rate from 27½% in 2013 to below 19% in 2016, compared with the baseline scenario of 22.5%.

Greece: Struggling to transform the tentative signs of improvement into sustainable economic recovery

Recessionary headwinds remained strong in Q1:2013, with GDP contracting by -5.6% y-o-y in Q1:2013 compared with a drop of -6.4% in 2012, and -23.9% since Q1:2008. Despite the notable reduction in uncertainty since late 2012 and especially in H1:2013 -- following the successful completion of scheduled Programme reviews, the provision of additional relief in the form of the reduction of public debt servicing costs and the near elimination of euro exit risk -- domestic demand continues to be weighed down by a fiscal drag of about -4% of GDP y-o-y in Q1:2013, and a still sizeable negative carry of c. -2.8% y-o-y.

In this environment, private consumption declined by -8.7% y-o-y in Q1:2013 (compared with -9.6% y-o-y in Q4:2012), against a backdrop of falling wages (by -10.1% y-o-y in Q1:2013 on the basis of ELSTAT's Labor cost index in the business economy), declining employment (-6.3% y-o-y in Q1:2013), ongoing deleveraging in the household sector (-3.8% y-o-y in 5M) and relatively tight liquidity conditions that reflected, *inter alia*, elevated tax payment obligations of the private sector in this period -- an estimated €11bn of tax payments in Q1:2013 (5.7% of GDP), on a cash basis.

Business investment remained on a declining path in Q1:2013 (-1.8% y-o-y *vs.* -18.7% in Q1:2012 and -3.8 pps of GDP cumulatively since 2008) as a still uncertain outlook, relatively tight liquidity conditions and a low level of capacity utilization in many sectors continue to hold back investment decisions. However, some clear signs of bottoming out in business activity are visible, especially in export-oriented sectors (food, beverage, pharmaceuticals, non-metallic mineral products), which should translate into new investment, in combination with the improving operating surplus (+1.7% y-o-y in Q2:2012 and an estimated +2.5% y-o-y in Q1:2013) in part due to lower labor costs, but also active restructuring.

The contraction of residential investment continues at an unabated pace (-34.4% y-o-y in Q1:2013 and -5.7 pps of GDP cumulatively since 2007), as the sharp drop in disposable income, tight liquidity conditions and elevated taxation on real estate property led to a further drop in demand and accentuated excess-supply pressures in this market. Indeed, residential prices have declined by 30% since their peak in Q3:2008, while the stock of unsold houses (built post 2002) remains high, corresponding to more than 3½ years of 2012 demand. In this respect, a stabilization of the market is not expected until 2015.

Net exports added almost 1.8 pps in real GDP growth in Q1:2013, on the back of a further decline in imports (-7.8 y-o-y, in constant prices, compared with -13.6% y-o-y in FY:2012), although a further reduction in services exports (-12.4% y-o-y, in constant prices, mainly due to declining shipping revenue) outweighed the relative resilient performance of goods exports (+4.9% y-o-y in Q1:2013), pushing real exports to -2.6% below their Q1:2012 level.

Labor market conditions remain very challenging, with economy-wide employment registering a further drop of -6.3% y-o-y in Q1:2013 and the unemployment rate reaching 26.6% in Q1:2013 (s.a. data). More importantly, youth unemployment (age: 15-29) exceeded 57% in Q1:2013 (420,100 individuals), while the number of Greek households with no employed person exceeded 180,000 by end-2012 (NBG estimate), underlining the severe social impact of the deep recession. Despite the slowing pace of employment losses in some sectors (e.g. retail and wholesale trade, transportation services), they continue at a double digit pace in other sectors (e.g. manufacturing and construction), suggesting that business restructuring is not yet complete. However, significant progress in wage adjustment (-23% peak-to-date) and improving employment prospects in tourist-related activities are laying the foundation for a gradual slowing in the annual pace of employment contraction in Q2 and especially Q3:2013. In this respect, the unemployment rate is expected to peak in the vicinity of 28% by end 2013 or early 2014.

External adjustment continued in 5M:2013 (an annual contraction in CAD of -49% y-o-y, in 5M or 1.6 pps of GDP), maintaining the strong momentum of 2012 -- when the CAD contracted by 68% y-o-y to 3.4% of GDP. Declining oil and services imports (-13.5% and -17.3% y-o-y, in value terms, respectively), and a further reduction in the income account deficit (mainly reflecting the impact of PSI and more favorable terms on loans from the official sector), have easily offset the further contraction in transportation revenue (-14.9% y-o-y) in the same period. Increasing evidence of a strong rebound in tourist revenue, in conjunction with rising merchandise export orders and relatively stable energy prices, are expected to contribute to a further drop in the CAD to the vicinity of -0.5% of GDP in FY 2013 -- the lowest level in 40 years.

Disinflationary trends in the economy gathered momentum with headline inflation in negative territory since March 2013 (-0.4% y-o-y, on average, in the 4 months to June 2013) and core inflation declining by -1.4% y-o-y, on average, in 6M:2012. The price adjustment is more notable in labor intensive sectors (e.g. -2.3% y-o-y in the services sector in 5M:2013), while the responsiveness of goods prices (excluding energy) remains very low (+0.7%) as Greece continues to import a broad range of goods, that form directly 18% of the CPI basket (including energy), while several components of the domestic business cost structure (e.g. energy and other imported intermediate goods) exhibit a relatively high degree of price inertia due to their large import content. The inflationary impact of these factors is also compounded by long-lasting structural deficiencies of the economy (segmented local markets, still sizeable role of re-sale, a limited domestic supply chain and a low degree of competition in specific market segments). Consumer prices are expected to remain on a downward path in H2:2013, with CPI inflation contracting by more than 1% by end-2013, with wages declining by -5.7% in H2:2013, although tight inventory management and a temporary increase in Greek firms' pricing power during the peak of the tourist season are likely to weaken, temporarily, the disinflation momentum in Q3:2013.

Liquidity conditions in the economy remain tight, as bank lending to the private sector continued to contract (-3.7% y-o-y in 5M:2013), while the cumulative increase in bank deposits of the private sector during H2:2012 and 5M:2013 (€10.2bn) is only a fraction of the €25½bn contraction registered in H1:2012 and about €95bn between Q3:2009 and Q2:2013. The increasing pace of clearance in government arrears (about €2bn of final payments in 5M:2013 *vs*. approvals of €3.2bn), which is expected to accelerate further in H2:2013 (an estimated €5.5bn), higher EU transfers (+24% y-o-y in 5M:2013 to €2.9bn) in conjunction with an envisaged normalization in public investment program payments (payments up to €5.1bn are budgeted for H2:2013) are expected to contribute to a gradual improvement in liquidity conditions and activity trends in the following quarters.

The successful completion of the 3rd Programme review in July 2013 and the concomitant disbursement of €5.8bn of funding in Q3:2013 and of another €1bn in Q4:2013, which are estimated to fully cover government financing needs in H2:2013, will contribute to a further reduction of uncertainty. This development, if combined with the achievement of a small primary surplus in the general government budget in 2013, and the acceleration of structural reforms (especially reforms of the public administration and tax collections) would considerably improve the growth outlook for Greece.

Against this backdrop, economic activity is expected to contract by -4.4% y-o-y in 2013, with the quarterly pace of decline slowing significantly to below -0.9% q-o-q s.a. in H2:2013. In this respect, the transition to positive growth rates in 2014 will be supported by increasing exports and business investment in conjunction with a significantly lower impact from negative carry and fiscal drag (an estimated combined total of -2.3% compared with about -6.0% y-o-y in FY:2013).

There are several downside risks to our baseline scenario: First, a significant deterioration in the international economic or financial environment. Second, a potential slippage in the implementation of the ambitious structural reform agenda domestically. Third, a coordination failure among Troika members, as regards the provision of necessary supplementary support to Greece for ensuring long-term debt sustainability -- along the lines of the Eurogroup agreement on November 27th 2012. Fourth, new pressures on Greece to counteract deviations from fiscal targets, through the implementation of additional measures, which would trigger a new round of political uncertainty.

Fiscal adjustment advances in line with Programme targets, despite intense recessionary headwinds

Greece continued to make substantial progress on the fiscal front, meeting FY targets for 2012 by a comfortable margin

Fiscal targets for 2012 were achieved despite the sharper-than-initially-expected recession, with GDP contracting by 6.4% compared with initial estimates of 4.8%. The primary balance of the general government (accruals basis, ESA-95 adjusted, excluding the net fiscal impact of the banking system's financial support measures), declined by 1.0 pp of GDP to -1.3% of GDP in 2012, slightly lower than the Programme target of -1.5% of GDP, while the overall deficit decline was from 9.4% in 2011 to 6.3% in 2012, supported by the reduction in interest payments following the implementation of PSI. Once again, the underlying fiscal effort exceeded the fiscal adjustment outcome by a substantial margin, reflecting a sizeable cyclical loss due to recession (an estimated effort of 5% of GDP).

Budgetary developments in 6M:2013 remain in line with the achievement of the annual fiscal targets of the Greek government for a primary surplus in the general government budget of 0.3% of GDP in FY:2013

The Greek State budget is on track to meet its end-year targets, on the back of a rapid contraction in primary ordinary budget spending (-11.6% y-o-y in 6M:2013 or -1.4% of GDP, against a 6M:2013 MTFS target of -3.6% y-o-y), as well as government investment spending (down 12.8% y-o-y, or 0.6% of GDP below target, in 6M:2013). Spending restraint outweighed the -8.9% y-o-y decline in ordinary budget revenue (0.9% of GDP deviation from the 6M:2013 target). In this respect, the 6M State budget outcome overperformed compared with the 6M target by more than 1.3% of GDP (on an accruals basis), while the primary deficit of the ordinary budget continues to be significantly lower than the respective 6M target (about 0.7% of GDP lower than the 6M target, and 1.3% including the public investment balance). However, tensions on the revenue side of the ordinary budget are increasing, with the slippage from the respective revenue target rising to 0.9% of GDP in 6M versus 0.3% of GDP in 5M:2013. The increase in revenue slippage of 0.6% of GDP (about €1.0bn) between May and June mostly reflects a shortfall in non-tax revenue, but also a delay in payments of PIT tax. More specifically non-recurring revenue was 0.4% of GDP lower than the June target, due to the non-payment by banks of the 10% return on the preferred shares in the context of the 2009 bank support plan. From the remaining 0.2% of GDP of revenue slippage, 0.1% reflects lower PIT revenue -- due to an extension in the respective submission deadline -- in conjunction with continuing weakness in CIT revenue, whereas the rest 0.1% is due to lower consumption taxes.

On a positive note, indirect tax revenue is showing tentative signs of improvement. Indeed, the pace of decline in VAT revenue slowed further to -10.3% y-o-y in Q2:2013 compared with -15.3% y-o-y in Q1:2013. However, the pace of decline in indirect tax revenue continues to exceed the annual decline in nominal consumption (-9.5% y-o-y in Q1:2013), reflecting slow progress in tax compliance, but also a further shift of private spending towards more basic goods categories, on which a low VAT rate is applied, as well as a sharp fall in oil sales volume (an estimated -27% y-o-y, partly due to the increase in heating-oil tax in November 2012). A slowing in the pace of contraction of domestic demand (supported by tourist activity) and imports is expected to support a further improvement in indirect tax revenue trends in Q3:2013, largely offsetting the envisaged adverse impact on PIT revenue during the same period, due to the push back of the submission deadline for tax statements due, *inter alia*, to technical difficulties in the automatic submission by banks to TAXIS of interest income for tax statements. Tax revenue in H2:2013 is also expected to be supported by revenue inflows from real estate tax on large properties (for 2011 and 2012) and the settlement of tax arrears from previous years.

Regarding ordinary budget spending in 6M:2013, the social security system represents the only source of significant pressure, as about 53% of the annual allocation to social security funds was spent in 6M:2013, as pension system revenue continues to lag behind budget targets (especially in the pension fund of the self-employed, OAEE) -- against a backdrop of rapidly falling employment and wages (by an estimated -6.3% and -10.1%, respectively, in Q1:2013) and still high social security contribution evasion. An additional concern is the fact that the main healthcare sector fund (EOPYY) continues to record spending overruns of about €0.4bn in 6M:2013 (on diagnostics and private clinics), as well as accumulating new arrears (about €0.3bn in 5M:13). The financing needs of the social security system until the end of the year are estimated to be about €0.6bn (0.3% of GDP) above Budget, while preliminary indications as regards the returns from the settlement of social security contribution arrears, which could ameliorate the slippage, are so far not very encouraging.

Overall, the 1.2% of GDP overperformance at a state budget level in 6M:2013, in conjunction with some corrective adjustment in the fiscal strategy agreed under the 3rd Review of the Programme, appear sufficient to offset emerging slippages in the social security system balances and a further deterioration in the financial position of EOPYY without jeopardizing the achievement of the annual targets.

More specifically, in order to partially reverse spending overruns in EOPYY, a claw-back mechanism will be applied on suppliers of products and services (c. €500mn), while annual targets have been set up in excess of which EOPPY will not reimburse billed goods and services. In addition, some measures initially planned for 2014, such as the luxury tax on cars, yachts, swimming pools have been brought forward and the tax on sales of shares of listed companies will increase by 50% (to 0.3%). Moreover, the returns from structural fiscal reforms as regards tax collection -- including a cross check from multiple sources of the imputed income profile of the self-employed and a broadening of the income base on which a special solidarity surcharge is applied through a comprehensive inclusion of interest income -- are expected to generate some additional revenue contributing to the containment of revenue slippages. However, the envisaged additional payments for Greek households, that exceed €6.5bn, on a cash basis, in H2:2013, will increase the pressures in terms of tax compliance, while it is likely to take an additional toll on liquidity conditions and domestic demand, and thus increase the challenges for fiscal policy in the following quarters.

At the level of general government, the primary deficit (general government, modified cash basis) of €0.180bn in 5M:2013 suggests that the fiscal performance is on target to meet the adjusted primary cash balance of general government for the 6M:2013 MoU target of -€1.2bn. The existing overperformance appears sufficient to offset the formation of new arrears of about 0.4% of GDP, mostly reflecting the impact of EOPYY, hospitals and delayed tax refunds. In addition, the financial position of general government entities (extra budgetary funds, local governments) appears compatible with the achievement of a FY surplus in these entities of about €1.4bn in FY:2013, which in conjunction with the planned deficit, at a state budget level, would result in a small primary surplus in FY:2013.

The progress in the clearance of existing arrears is notable, but actual payments to the private sector continue to lag behind approvals (payments of about €2.0bn in 5M:2013 compared with approvals of €3.2bn) although the pace of payments accelerated in April-May (€1.2bn compared with €0.7bn in Q1:2013). Accelerating approved payments is important as it provides much needed liquidity to the economy.

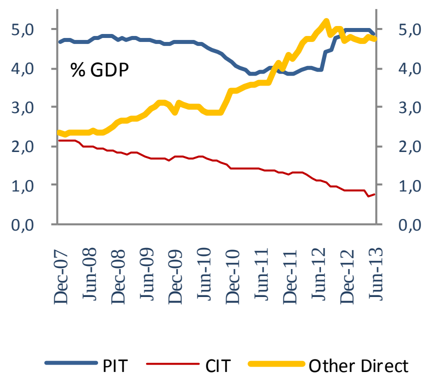
As regards government budget trends for 2014, the potential emergence of a small fiscal shortfall in 2014 could reflect permanent shortfalls in the return of measures applied in previous years (e.g. heating oil tax) or the non-implementation of measures agreed under previous Programme reviews (i.e. special solidarity contribution for the self-employed), or deviation from targets due to changes in fiscal strategy (e.g. lower VAT on restaurant services). The estimated slippage from these sources is unlikely, however, to exceed 0.5% of GDP, and should be offset through gains in tax efficiency or other measures.

The emergence of a financing gap in 2014 is more likely, and it would be very destabilizing, as the IMF cannot, under its articles of agreement, disburse resources if there exists a financing gap for the subsequent 12 months of the Programme. The risk of such a development mainly arises from the deviation from the November 2012 agreement by euro area central banks (ANFA) to rollover investment portfolio holdings of Greek GGBs. It would create a financial shortage of about €4.0bn in H2:2014. It is important to note that the front-loaded pattern of financing needs also arises due to the buyback of GGBs (an upfront payment of €11.3bn in December 2012). EU financing is expected to reach €133bn by Q3:2013, following the disbursement of the sub-tranche related to the completion of the 3rd Programme review in July (more than 90% of total EU funding under the 2nd Programme) and, in this respect, the financing of the Programme in Q4:2013 and, especially in 2014, is becoming increasingly dependent on IMF funds, privatization revenue and rollover of ANFA holdings, jointly representing more than 65% of total financing needs of about €17bn in the period to end-2014.

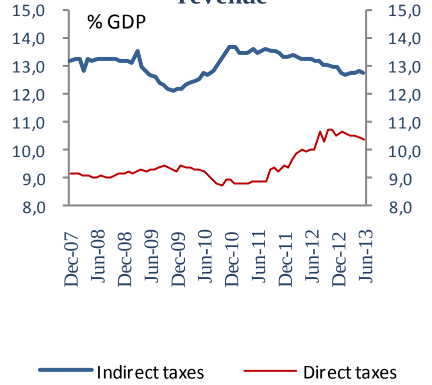
Government Budget Implementation 6m.2013 (modified cash basis)	6m.2012	6m.2013			6m.2013/12 y-o-y change	FY 2013
		Outcome	6m.Target	Deviation from target	Outcome 6m	Target
		as % of GDP			*y-o-y*	*as % GDP*
I. State Budget Net Revenue (1+2)	**11,5**	**12,0**	**12,4**	**-0,5**	***-2,7***	**28,3**
1. Ordinary Budget Net Revenue (a+b)	**10,8**	**11,1**	**11,5**	**-0,5**	***-4***	**25,5**
a. Revenue before Tax Refunds	11,7	11,3	12,2	-0,9	*-9*	27,0
b. Tax refunds	0,9	0,3	0,7	-0,4	*-66*	1,6
2. Public Investment Budget Net Revenue	0,7	0,9	0,9	0,0	*15*	2,8
II. State Budget Expenditure (3+4)	**17,7**	**14,6**	**16,2**	**-1,6**	***-23***	**32,9**
3. Ordinary Budget Expenditure	**16,7**	**13,7**	**14,7**	**-1,0**	***-23***	**29,1**
of which 3.1 **Primary expenditure**	12,0	11,4	12,4	-1,0	*-12*	24,6
3.2 **Net interest payments**	4,6	1,8	1,8	0,1	*-62*	3,5
4. Public Investment Budget Expenditure	1,0	0,9	1,5	-0,6	*-13*	3,7
State Budget Primary Balance (I-II+3.2)	**-1,6**	**-0,8**	**-2,1**	**1,3**	***-54***	**-1,1**
State Budget Balance (I-II)	**-6,2**	**-2,6**	**-3,8**	**1,2**	***-60***	**-4,6**

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

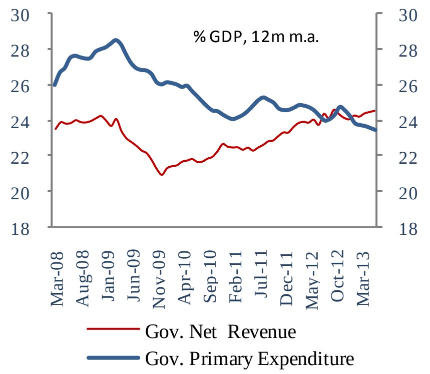
PIT, CIT and other direct tax revenue



Indirect and direct tax revenue

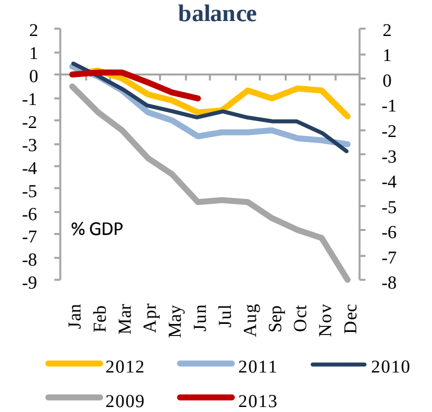


Government net revenue and primary expenditure



Source: MFIN , ELSTAT, Datastream

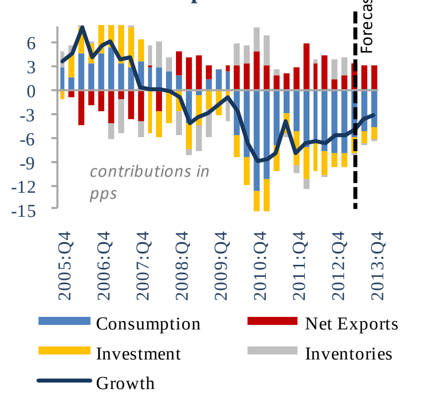
Greece - State Budget Primary balance



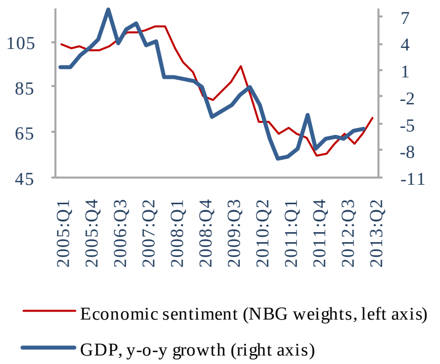
Source: MoF, ELSTAT

GROWTH OUTLOOK

Composition of output growth by expenditure



GDP growth and economic sentiment



- GDP continued to contract in Q1:2013 (-5.6% y-o-y), reflecting a fiscal drag of almost -4.0% of GDP y-o-y (in Q1:2013), as well as a sizeable negative carry of c. -2.8% y-o-y in the same period. As a result, domestic demand remained very weak (-6.8% y-o-y). A positive contribution of net exports (an estimated +1.8 pps in Q1:2013) mainly reflected a decline in import volumes of about -7.8% y-o-y in Q1:2013.

- On a quarterly basis (s.a. on the basis of NBG estimates), it is encouraging that activity declined at a slower pace (-1.2% q-o-q in Q1:2013 versus -1.7% q-o-q in Q4:2012), as downward pressure on private consumption is estimated to have eased, albeit to a still sizeable -2.5% q-o-q (s.a.) in Q1:2013, from a staggering -3.4% q-o-q in Q4:2012. Moreover, import spending contracted at a high pace of -3.4% q-o-q (s.a.) compared with a H2:2012 average of -2.3% q-o-q (s.a.), suggesting a shift to domestically-produced consumption.

- Looking forward, the notable recovery in economic sentiment, that climbed in May-June 2013 to its highest level since November 2009, portends a gradual easing of recessionary pressures in the following quarters. This improvement largely reflects a notable reduction in uncertainty following the elimination of the euro exit risk, increasing indications of a strong recovery in tourist activity in Q2:2013 and a gradual normalization in liquidity conditions (in view of the return of deposits, the evolving repayment of government arrears and accelerating inflows of EU funds). Economic activity is expected to begin to recover in 2014, supported by a more broad-based improvement in export activity and a gradual recovery in business investment in a number of export-oriented sectors.

Greece: Growth Outlook

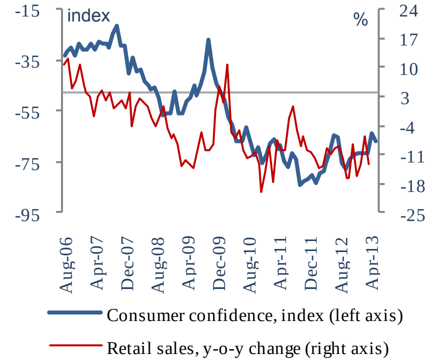
	2011	2012	2013f	2014f	2012				2013f				2014f			
					Q1	Q2	Q3	Q4	Q1	Q2f	Q3f	Q4f	Q1f	Q2f	Q3f	Q4f
GDP (% yoy, non-seas & w.days adj.)	**-7,1**	**-6,4**	**-4,4**	**0,7**	-6,7	-6,4	-6,7	-5,7	-5,6	-5,0	-3,8	-3,3	-1,9	-0,5	2,3	2,9
GDP (% q-o-q, NBG s.a.)	...	...	...	...	*-1,1*	*-1,4*	*-1,5*	*-1,7*	*-1,5*	*-1,2*	*-0,3*	*-0,9*	*-0,1*	*0,1*	*0,6*	*0,3*
Domestic Demand (y-o-y)	**-8,7**	**-9,4**	**-7,0**	**-0,9**	-11,0	-9,0	-11,0	-6,6	-6,8	-8,0	-7,2	-5,9	-4,1	-1,9	0,5	1,9
Final Consumption (y-o-y)	**-7,1**	**-8,2**	**-6,6**	**-1,9**	-7,5	-7,3	-8,8	-9,0	-8,3	-6,6	-6,0	-5,6	-4,4	-2,9	-0,8	0,5
Private Consumption (y-o-y)	-7,6	-9,1	-7,3	-0,9	-9,5	-8,6	-8,6	-9,6	-8,7	-7,1	-6,5	-7,0	-4,6	-2,3	0,6	2,7
Public Consumption (y-o-y)	-5,2	-4,1	-4,3	-5,3	1,4	-1,8	-10,2	-5,8	-5,5	-5,0	-3,9	-2,8	-4,0	-5,1	-6,0	-6,0
Fixed Capital Formation (y-o-	**-19,6**	**-19,2**	**-12,0**	**4,2**	-22,8	-21,5	-21,5	-10,3	-11,4	-14,0	-12,7	-9,9	-2,8	3,3	6,0	10,3
Residential construction	*-18,0*	*-32,9*	*-26,1*	*-9,6*	...	...	...	...	...	...	...	...	...	...	...	...
Total GFCF excluding residential	*-20,3*	*-13,1*	*-7,1*	*8,1*	...	...	...	...	...	...	...	...	...	...	...	...
Inventories* (contribution to GDP)	**0,7**	**0,4**	**0,4**	**0,2**	-1,2	0,5	-0,3	2,5	2,2	-0,4	-0,2	-0,1	0,1	0,2	0,5	0,1
Net exports (contribution to GDP)	**2,4**	**3,7**	**2,8**	**1,6**	5,8	3,2	4,3	1,4	1,8	3,3	3,1	3,0	2,4	1,4	1,8	0,9
Exports (y-o-y)	**0,0**	**-2,0**	**2,7**	**6,4**	4,1	-3,0	-4,2	-4,8	-2,6	3,0	5,7	4,5	5,8	6,0	7,0	6,9
Imports (y-o-y)	**-7,3**	**-13,6**	**-7,2**	**0,5**	-14,9	-12,9	-18,7	-8,1	-7,8	-9,0	-5,1	-6,8	-3,8	0,8	2,0	2,8

*also including other statistical discrepancies

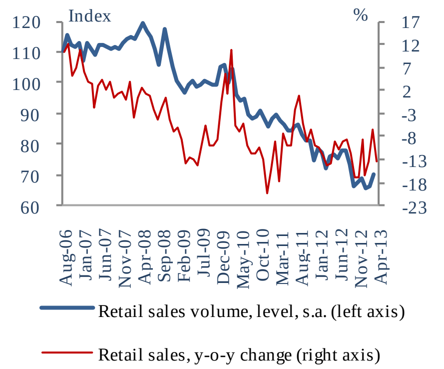
Source: EL.STAT. and NBG Research Estimates

CONSUMPTION

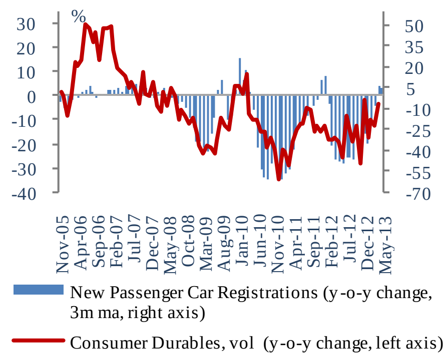
Retail sales and consumer confidence



Retail sales y-o-y & level s.a.

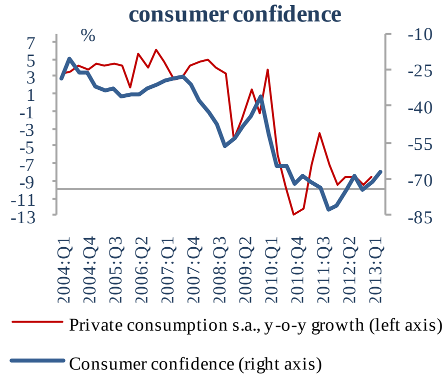


Sales of consumer durables

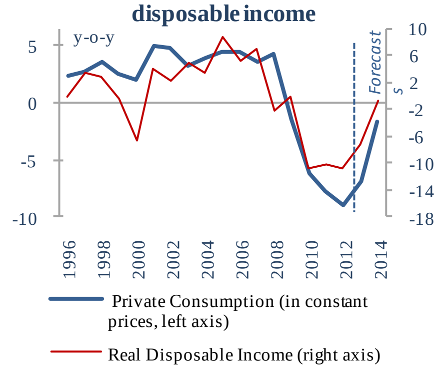


- Consumer confidence improved notably in May-June 2013, reaching its highest level since the June 2012 elections. The significant decline in uncertainty, that is reflected, *inter alia*, in the positive evaluation by the Troika and markets regarding the progress made by the adjustment programme, contributed to a more optimistic assessment by Greek households of their expected financial situation in the following months. Positive sentiment was also supported by additional signs of a slowing in employment contraction in April 2013 (-4.2% y-o-y) on the back of a strong recovery in tourist activity (an increase in arrivals of 9.5% y-o-y in 5M:2013).
- These developments contributed to a leveling-off in retail sales in February-March 2013 (+3.4% m-o-m in s.a. volume terms), on average, compared with an average monthly change of s.a. -2.6% in the 4 months to January 2013. The pace of reduction in sales volumes in more income-elastic categories of consumer spending, such as consumer durables, has also slowed to -11.1% y-o-y, on average, in 4M:2013 compared with a respective average of -13.9% y-o-y in Q4:2012, whereas the y-o-y change in auto sales entered positive territory in April-May (+9.2% y-o-y). However the -3.0% m-o-m s.a. decline in retail trade volume in April -- which was even more pronounced in basic goods categories -- is indicative of the fragile position of the Greek consumer, albeit exaggerated by the shift of the Easter holiday from April last year to May in 2013.
- Indeed, private consumption faces severe headwinds, comprising steadily higher tax payment obligations, still challenging labor market trends (a projected -3.5% y-o-y in employment in H2:2013), continuing wage adjustment (an estimated -5.7% in H2:2013), and an evolving deleveraging in the household sector (credit to households is expected to continue to contract by about -3.8% y-o-y in H2:2013). In this respect, the contraction in private consumption in 2013 is expected to continue at a rapid pace of -7.3% y-o-y (-6.8% in H2:2013) from -9.1% y-o-y in 2012, with the main downside risks related to the pace of reduction in uncertainty, while on the positive side, strong tourist demand could provide a much-needed boost.

Private consumption and consumer confidence

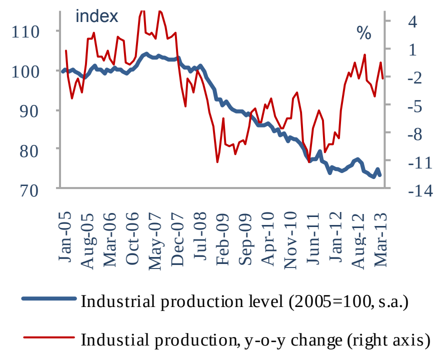


Private consumption and real disposable income

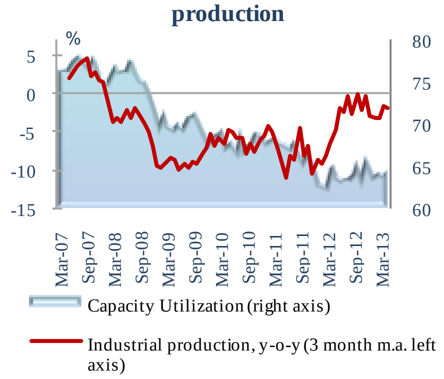


BUSINESS SECTOR & CONSTRUCTION

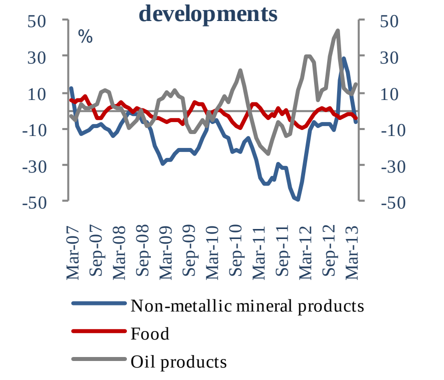
Industrial production



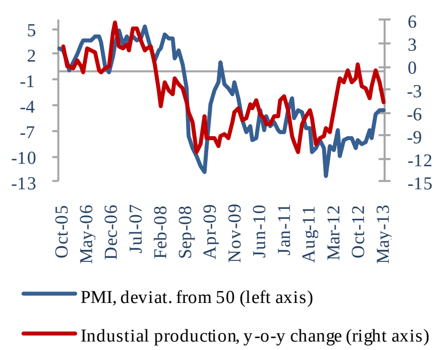
Capacity utilization and industrial production



Industial production - sectoral developments



PMI & Industrial production



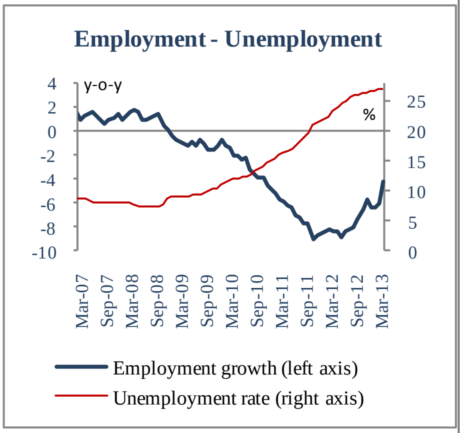
- Manufacturing production picked up in January-May 2013, driven by relatively solid increases in production of refined oil products, beverages and pharmaceuticals (by +9.7%, +5.7% and +10.7% y-o-y, respectively). This improvement partly reflects the low level of manufacturing inventories in these sectors. Export oriented manufacturing sectors such as non-alcoholic beverages, pharmaceuticals, chemicals, oil products and non-metallic minerals provided further signs of recovery in 5M:2013, with their combined production increasing, on average, by +6.5% y-o-y.

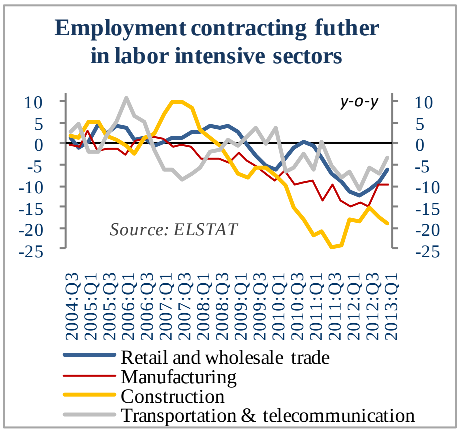
- Forward-looking indicators (such as PMI and business confidence) registered further increases in May-June, rising to a 2-year high, on the back of recovering export orders and a more optimistic assessment of domestic demand conditions by Greek firms for Q2 and Q3:2013. However, capacity utilization remains at very low levels in most sectors -- overall about 14% below its 20-year average level, suggesting that a bottoming-out in business investment is unlikely in 2013. Nevertheless, results of the new survey of investment prospects in industry published by the Foundation for Economic & Industrial Research (IOBE) indicate that the pace of contraction in investment activity in Greek industry is likely to slow considerably in 2013 (-7.6% y-o-y *vs.* -20% y-o-y in 2012, on the basis of survey data).

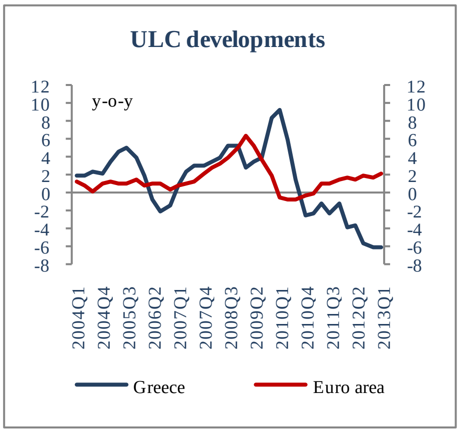
- The downward trend of residential construction activity continues, as indicated by the rapid pace of contraction in the issuance of residential construction permits (-40.5% y-o-y in the 3-months to April) that, *inter alia*, reflect a high stock of unsold houses (constructed from 2002 onwards) that corresponds to almost 3½ years of 2012 demand (160,000 units), which is augmented by the supply of existing houses for sale, including secondary homes. The significant increase in the real estate tax burden and tight credit conditions are expected to further delay the stabilization of residential investment until late-2014 or 2015. In this vein, the adjustment in house prices continued in Q1:2013, albeit at a marginally slower pace compared with Q4:2012 (-11.5% y-o-y *vs.* -13.2% y-o-y), bringing the cumulative peak-to-Q1:2013 adjustment to c. -30%.

- A normalization of public investment spending -- in line with the annual targets of the MTFS for 2013-16 -- and supported by accelerating inflows of EU funds and EIB loans (amounting to an estimated €5.5bn in 2013 and €4.8bn in 2014) could provide support to fixed investment in 2013 and mainly in 2014, leading to a return to positive territory for gross fixed capital formation growth in 2014, despite the continuing drag from residential activity.

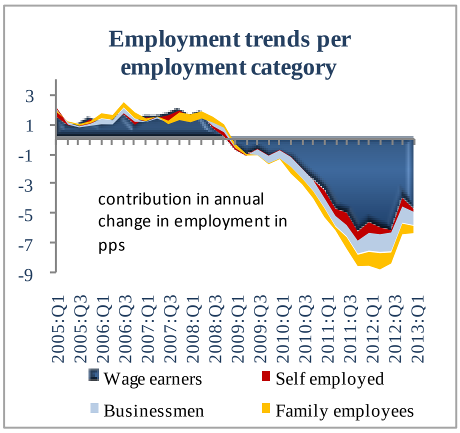
LABOR

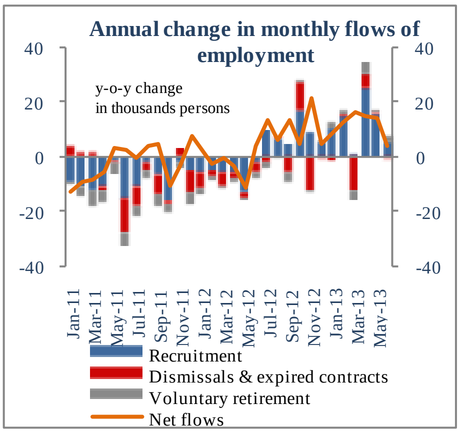






- The unemployment rate has continued to increase in a strongly recessionary environment, reaching 26.6% in Q1:2013 from 26.1% in Q4:2012, with youth unemployment (age: 15-29) exceeding 57% (420,100 individuals). Employment continued to contract at a rapid pace (-6.3% y-o-y, in Q1:2013), with sectors such as construction and manufacturing entering their sixth year of recession and registering employment losses of -18.9% and -9.6% y-o-y, respectively. However, latest s.a. data from LFS on employment trends in 4M:2013 -- at an economy wide level -- suggest than the annual pace of employment contraction slowed to -4.2% y-o-y in April, the smallest decline since November 2010.
- There are also some initial indications that increased labor market flexibility and declining wages (-10.1% y-o-y change in Q1:2013) are gradually translating into increased hiring, especially in the services sector (hotels, restaurants, retail trade) and the export-oriented segments of manufacturing (e.g. food sector). This improvement is reflected in a sharp slowing of employment contraction in these sectors in Q1:2013 compared with H2:2012.
- Latest readings for the monthly balance between job openings and layoffs (sub-sample of LFS data referring to wage earners only) from the electronic database "Ergani" of the Manpower Employment Organization (OAED), point to an improvement in dependent employment trends since the beginning of the year, that appear to have gained momentum in Q2:2013, even after adjusting for seasonal hiring (a net creation of employment positions of 99,400 in Q2:2013 *vs.* 66,400 in Q2:2012). Labor market conditions are expected to improve on the back of supportive labor-market policies (e.g. introduction of a training voucher system and other programs financed through ESRF for unemployed youths, long-term unemployed, jobless households and short-term public work programs, which will be activated in H2:2013). Against this backdrop, the unemployment rate is expected to stabilize in the vicinity of 27.5% in the following quarters and increase slightly in Q4:2013 (to c. 28%), while the average employment contraction will slow to below -3.5% in H2:2013, laying the foundation for a gradual stabilization of employment trends in 2014.





INFLATION

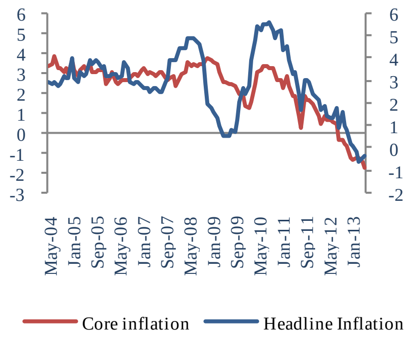
- Disinflationary trends in the economy have gathered momentum, with headline inflation having entered negative territory since March 2013 (-0.4%, on average, in the 4 months to June) and core inflation declining by -1.5% y-o-y in Q2:2013 (-1.3% y-o-y in Q1:2013).

- The pace of disinflation is more notable in the labor intensive services sector (-2.5% y-o-y in April-May 2013), with prices in the sub-sectors of health, education and communication declining by more than -3.8% y-o-y in April-May 2013, exemplifying a further erosion of pricing power due to shrinking demand, but also an increasing transmission of declining labor costs on final prices (a contraction in the labor cost index in Q1:2013 by 10.1% y-o-y and 23% cumulatively since Q2:2009). Moreover, unit labor costs declined by 5% y-o-y in Q1:2013 and by almost 16% from their peak in 2009, reversing 75% of the cumulative loss of competitiveness (by this measure) since EMU entry in 2001.

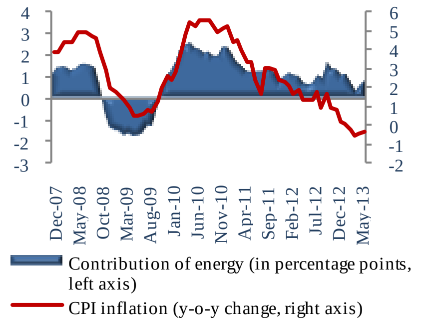
- However, the disinflation process in the goods segment remains slow, as the limited domestic production chain and the concomitant dependence of Greece on imports of productive inputs and final goods, in conjunction with high energy prices and remaining market rigidities continue to hinder a faster price adjustment. The limited amount of inventories, in conjunction with a transitory increase in the pricing power of Greek firms in Q3, when tourist activity peaks, is likely to create some temporary upside risks for inflation outlook in this quarter.

- Headline inflation is expected to remain in negative territory for the remainder of the year, with the drop in consumer prices accelerating further in Q4:2013, when the fading out of unfavorable base effects from the heating oil price increase in Q4:2012 is expected to push headline inflation below -1% y-o-y in Q4:2013. The envisaged 10 pp reduction of VAT applied on restaurant and catering services is expected to lead inflation deeper in negative territory, subtracting about -0.3 pps from annual CPI inflation in the period August-December.

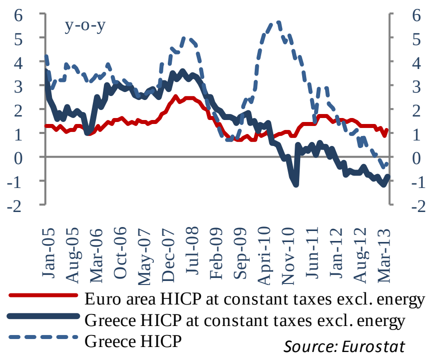
Consumer price inflation



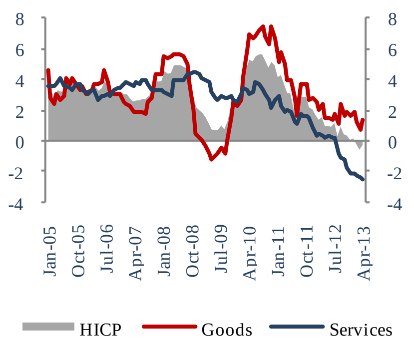
Impact of energy price on headline inflation



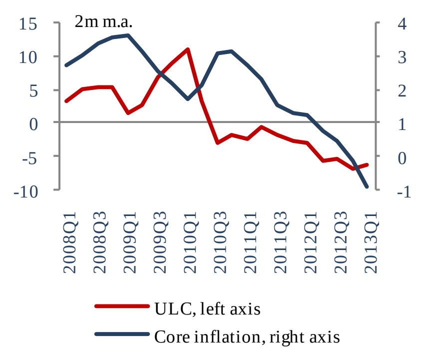
HICP vs. HICP excl. energy



Goods & Services inflation

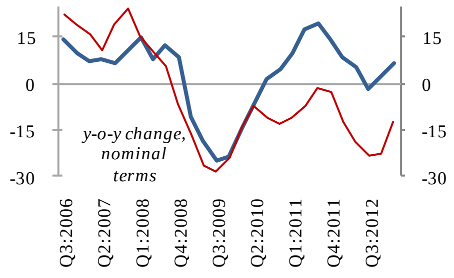


Core inflation vs. ULC

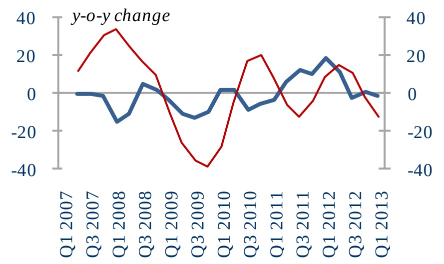


EXTERNAL SECTOR

Merchandise export and import growth



Net travel and transportation receipts



- The current account deficit (CAD) declined by another 1.6 pps of GDP (€3.4bn) in 5M:2013, reflecting a €1bn reduction in oil imports, which in conjunction with accelerating non-oil and oil exports (+€0.2bn and +€0.6bn respectively, in 5M:2013 or +4.3% y-o-y and +21.7% y-o-y) and declining payments for services abroad (-€0.9bn), has outweighed the €0.7bn drop in exporting service revenue (mainly due to a €0.9bn decline in shipping revenue).

- Moreover, the income account deficit shrunk further (by -€0.6bn or -27.5% y-o-y in 5M:2013), due to the significant reduction in government debt servicing costs, following the completion of the PSI and the additional improvements in the terms of official loans to the Greek State. Moreover, current transfers to Greece increased by €0.5bn (+37.9% y-o-y) compared with 5M:2012, as a result of a €0.1bn increase in EU transfers and higher net inflows through emigrant remittances from abroad (almost €0.2bn).

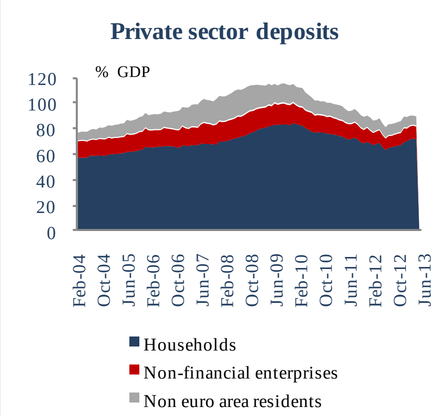
- The support from accelerating tourist revenue (an estimated +8% y-o-y, or +€0.9bn in FY:2013), improving export demand and relatively stable energy prices are expected to lead to a further reduction in the CAD, to the vicinity of 0.5% of GDP in FY:2013 -- a 40-year low -- from 3.4% of GDP in 2012.

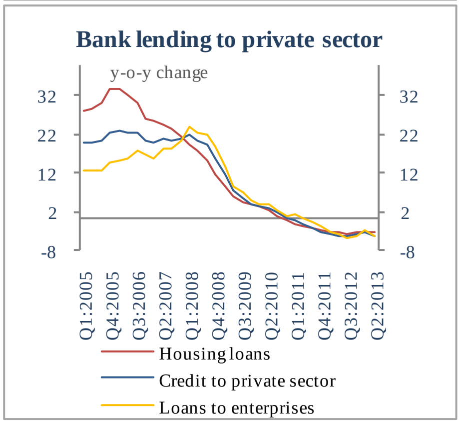
Balance of Payments (as % GDP)

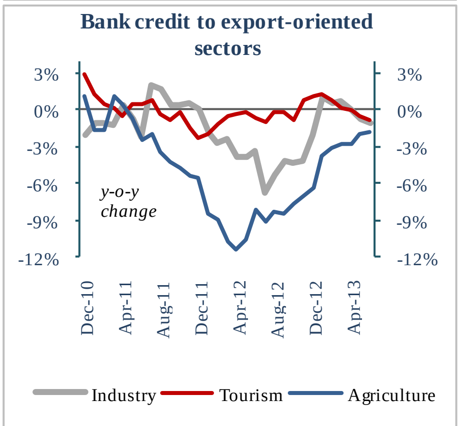
	2010	2011	2012	2013f	2012				2013
					Q1	Q2	Q3	Q4	Q1
Current Account (% GDP)	-10,1	-9,9	-3,4	-0,5	-2,5	-1,1	1,4	-1,2	-1,3
Non-oil Trade Balance	-8,8	-7,7	-4,9	-3,9	-1,4	-1,4	-1,1	-1,0	-1,2
Non-oil Exports	5,5	6,7	7,5	8,2	1,8	1,8	1,9	2,1	1,9
Non-oil Imports	14,3	14,5	12,4	12,1	3,2	3,2	2,9	3,0	3,1
Oil Balance	-3,9	-5,3	-5,3	-3,9	-1,6	-1,3	-1,3	-1,1	-1,3
Services Balance	6,0	7,0	7,6	8,4	0,8	1,8	3,9	1,1	0,8
Income Balance	-3,5	-4,1	-1,6	-1,9	-0,9	-0,3	-0,2	-0,2	-0,6
Current Transfers, net	0,1	0,3	0,7	0,9	0,7	0,1	0,0	-0,1	0,9
Capital transfers	0,9	1,3	1,2	1,7	0,5	0,0	0,3	0,4	0,6

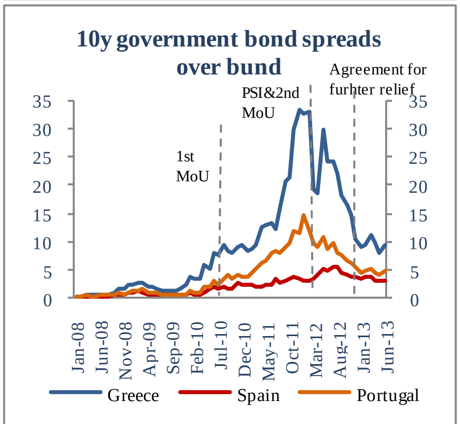
Source: Bank of Greece

CREDIT & LIQUIDITY CONDITIONS









- Liquidity conditions remain challenging, with bank lending to the private sector contracting by another -3.7% y-o-y in 5M:2013, reflecting a decline in business and household lending of -3.4% and -3.8% y-o-y, respectively. Indeed, credit has declined by a total of -10.4% since 2009, and by almost double this pace on a net of provisions basis. Only credit to export-oriented sectors, such as tourism and specific segments of manufacturing are showing signs of stabilization.

- The improvement in economic sentiment in H2:2012 and Q1:2013 is reflected in the €10.6bn increase in private sector bank deposits during the same period, albeit corresponding to only a small fraction of the €25½bn contraction registered in H1:2012. Deposit inflows in this period mainly reflect household deposits -- i.e. the part of liquidity previously hoarded outside the banking system and, to a lesser extent, firms' deposits. However, the crisis in Cyprus appears to have interrupted this favourable trend in April (a net reduction in private deposits of €1.7bn), although preliminary data from May point to a net inflow of deposits to the tune of €1.4bn.

- Eurosystem financing continues to cover liquidity shortages in the Greek banking system, although a major shift to lower cost ECB main refinancing facilities has been accomplished since December 2012, with the share of ELA diminishing to below 25% of the total financing of the Greek banking system at end-April 2013 (c. €19.5bn out of a total of €81bn).

- The reduction in uncertainty as regards Greece's near-term prospects accompanying the successful completion of the 2nd and 3rd Programme reviews, and the favourable liquidity environment internationally, led to a significant contraction of Greek government bond yields in 5M:2013 to a 2½-year low of 9.4% in May (spread over bund 788 bps). However, the strong rebound in international government bond yields in June in anticipation of a gradual unwinding of extraordinary liquidity measures in the US, in conjunction with some political turbulence preceding the government reshuffle in Greece, have pushed 10-year GGB yields to above 10.9% at end-June.

Greek Economy: Selected Indicators

	2012					2013		Most recent		2013f	2014f
	year aver.	Q1	Q2	Q3	Q4	Q1	Q2				
Real sector (y-o-y period average, constant prices)											
GDP	-6,4	-6,7	-6,4	-6,7	-5,7	-5,6	…	Q1:13	-5,6	-4,4	0,7
Domestic demand	-9,4	-11,0	-9,0	-11,0	-6,6	-6,8	…	Q1:13	-6,8	-7,0	-0,9
Final Consumption	-8,2	-7,5	-7,3	-8,8	-9,1	-8,3	…	Q1:13	-8,3	-6,6	-1,9
Gross fixed capital formation	-19,0	-22,8	-21,5	-21,5	-10,3	-11,4	…	Q1:13	-11,4	-12,0	4,2
Exports of goods and services	-2,0	4,2	-3,0	-4,2	-4,8	-2,6	…	Q1:13	-2,6	2,7	6,4
Imports of goods and services	-13,6	-14,9	-12,9	-18,7	-8,1	-7,8	…	Q1:13	-7,8	-7,2	0,5
Coincident and leading indicators (period average)											
Retail sales volume (y-o-y)	-12,2	-13,1	-11,4	-10,1	-14,1	-12,5	…	Apr	-14,2	…	…
Retail confidence (5-yr. average: -25,9)	-36,1	-36,2	-35,9	-31,5	-40,7	-29,8	-20,3	Jun	-19,1	…	…
Car registrations (y-o-y)	-40,6	-36,0	-49,9	-45,7	-30,9	-12,5	…	May	0,5	…	…
Consumer confidence (5-yr. average: -63,4)	-74,8	-81,0	-75,0	-68,5	-74,6	-71,5	…	Jun	-66,5	…	…
Industrial production (y-o-y)	-3,4	-8,1	-2,0	-3,0	-0,4	-3,2	…	May	-4,6	…	…
Manufacturing production (y-o-y)	-4,1	-9,9	-3,8	-4,0	1,3	-0,5	…	May	-1,8	…	…
Capacity Utilization (5-yr. average: 68,5)	64,3	63,5	64,6	63,7	65,5	64,5		May	64,5	…	…
Industrial confidence (5-yr. average: -20,5)	-21,5	-23,2	-22,0	-24,2	-16,5	-12,6	-8,9	Jun	-8,8	…	…
PMI Manufacturing (base=50)	41,2	40,0	41,3	42,1	41,4	42,3	45,2	Jun	45,4	…	…
Construction permits (y-o-y)	-29,5	1,9	-26,2	-49,7	-44,1	-43,5	…	Apr	-15,8	…	…
Construction confidence (5-yr. average: -49)	-58,3	-59,3	-60,6	-55,7	-57,7	-50,6	-36,2	Jun	-34,1	…	…
PIP Disbursements (y-o-y)	-16,5	-27,9	6,3	-46,4	2,2	-1,9	…	May	-10,9	…	…
Stock of finished goods (5-yr. average: 15,7)	10,7	13,8	14,6	9,4	5,0	4,9	-0,5	Jun	0,3	…	…
External sector (period average)											
Current account balance (% of GDP)	-3,4	-2,5	-1,1	1,4	-1,2	-1,3	…	Q1:13	-1,3	-0,5	…
Current account balance (EUR mn)	-6527,9	-4811	-2100	2654	-2271	-2347	…	Q1:13	-2347	…	…
Services balance, net (EUR mn)	14721,4	1515,7	3467,5	7608,5	2129,7	1500,1	…	Q1:13	1500,1	…	…
Current Transfers, net (EUR mn)	1431,5	1379,0	159,6	24,3	-131,4	1702,9	…	Q1:13	1702,9	…	…
Merchandise exports-- non-oil (y-o-y cum.)	3,9	8,3	5,2	1,4	3,9	1,9	…	Q1:13	1,9	…	…
Merchandise imports-- non-oil (y-o-y cum.)	-20,5	-17,2	-18,7	-21,4	-20,5	-7,1	…	Q1:13	-7,1	…	…
Employment											
Unemployment rate	24,3	21,9	23,9	25,4	26,1	26,6	…	Apr	26,9	28,0	…
Employment growth (y-o-y)	-8,0	-8,4	-8,6	-8,2	-6,6	-6,3	…	Apr	-4,2	-2,5	…
Prices (y-o-y period average)											
Headline inflation	1,5	2,0	1,5	1,3	1,1	0	-0,5	Jun	-0,4	-0,5	…
Core inflation	0,3	0,8	0,7	0,2	-0,5	-1,3	-1,5	Jun	-1,7	2,1	…
Producer prices	5,0	7,1	4,5	5,3	2,9	-0,1	…	Apr	-2,3	…	…
Producer prices excl.energy	0,8	1,1	0,7	0,7	0,6	0,3	…	Apr	0,3	…	…
Fiscal policy											
Government deficit/GDP	-6,3	…	…	…	…	…	…	…	…	-4,1	-3,1
Government debt/GDP	156,9	136,5	149,2	151,9	156,9	160,5	…	Q1:13	160,5	175,8	174
Revenues--Ordinary budget (cum. % change)	-5,2	0,1	-4,4	-5,8	-5,2	-9,1	-8,9	Q2:13	-8,9	…	…
Expenditure--Ordinary budget (cum. % change)	-12,3	24,0	0,3	-12,7	-12,3	-32,7	-23,3	Q2:13	-23,3	…	…
Monetary sector (y-o-y, end of period)											
Deposits (including repos)	-7,4	-18,8	-19,9	-16,2	-7,4	-2,3	…	May	1,6	…	…
Loans to private sector (incl. sec. & bond loans)	-4,0	-4,0	-4,3	-4,5	-4,0	-3,5	…	May	-3,7	…	…
Mortgage loans (including securitized loans)	-3,4	-3,4	-3,5	-3,7	-3,4	-3,2	…	May	-3,1	…	…
Consumer credit (including securitized loans)	-5,1	-6,8	-6,3	-5,3	-5,1	-5,3	…	May	-5,7	…	…
Interest rates (period average)											
10-year government bond yield	24,2	30,9	25,5	23,8	16,4	11,1	10,3	Jun	10,2	…	…
Spread between 10 year and bunds (bps)	2258,0	2903,2	2395,2	2238,5	1494,9	960,1	887,0	Jun	860,4	…	…
Exchange rates (period average)											
USD/euro	1,29	1,31	1,28	1,25	1,30	1,32	1,31	Jun	1,32	…	…

Sources: BoG, NSSG, MoF, ASE,NBG,Bloomberg

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