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The publication of the October 2013 issue of KEPE's journal "Greek Economic Outlook" coincides with some positive signs for the Greek economy. Indicators preceding an economic recovery are becoming increasingly apparent. The first phase of the recapitalization of banks was deemed successful, the retention of deposits, the falling interest rates giving conditions for restarting economic growth, the active interest of foreign investors, the significantly increased tourist arrivals recorded this year, the growth in exports and an improved current account balance, the recent positive path in the Athens Stock Exchange, along with the institutional tools of development –the good absorption of the NSRF and the new development/investment laws– are all expected by the end of 2013 to establish a solid basis for a 2014 with development and potential gains in employment.

The Greek economy, we believe, has passed the most difficult part of the economic downturn. But the problems caused by the cuts in social services and benefits are obvious. Rising unemployment, the strangling of family budgets and the inability to pay new taxes by large percentages of Greek businesses and households have become prominent problems. These have led to increased out-migration, and to new types of extreme political and social behaviors, delinquency and crime. These issues must be taken into account and addressed within the scope of medium-term financial planning to provide targeted policies and measures.

The **first part** of the journal is developed in four sections. The first section of *Macroeconomic analysis and projections* analyzes the structure of the demand, of the payments balance, of the consumer price index, measures the recession and concludes with the presentation of recent short-term forecasts from KEPE for the economy. In the second section, the *Public finance*, an assessment of the sizes of the 2013 budget and a presentation of the evolution of government debt are given. The third section of *Human resources and social policies* examines developments in the labor market and employment in our country. In the fourth section of *Development policies and sectors*, an analysis of recent developments in the field of renewable electricity production and of the transport of goods abroad through Greek ports is carried out.

The **second part** of the journal hosts three interesting articles, the first entitled "*Greek Economy, 1950-2012: How did Greece get into the present economic crisis – Investments and exports are the way out,*" by Professor J. Halikias. The second article is on "*Transport investment through the NSRF and prospects for the period 2014-2020*" and the third on "*The importance of investment climate improvement in exiting the crisis.*"

NICHOLAS VAGIONIS
Editor

1. Macroeconomic analysis and projections

1.1. Recent developments and prospects in the main demand components

Ersi Athanassiou and Ekaterini Tsouma

Changes in the main macroeconomic components between the first two quarters of 2013 and the corresponding quarters of the previous year are examined in the present section by use of the latest non-seasonally adjusted data of the quarterly National Accounts¹ (EL.STAT., provisional data, September 2013). This approach is adequate for the purpose of illustrating recent developments in the GDP and its main components, as the

trends in these variables during the current conjuncture are strong enough to not be obscured by seasonal variations.

According to the above data, the recession decelerated significantly during the first half of 2013, with the rate of change of the GDP averaging -4.7% over this period, versus -6.6% over the first half of 2012. More particularly, the rate of decline of the GDP amounted to -5.6% during the first quarter of 2013 and -3.8% during the second quarter, versus -6.7% and -6.4%, respectively, during the corresponding quarters of 2012 (see Table 1.1.1).

With regard to the primary recessionary factor, i.e. the rapid decline of domestic demand, the downward trends prevailing in the course of the year 2013 –and especially in the second quarter of this year– were considerably milder compared to 2012. Specifically, while gross fixed

TABLE 1.1.1 Main macroeconomic data

% rates of change compared to the corresponding period of the previous year (non-seasonally adjusted data, constant 2005 prices)

	Quarters						6 month period Jan. - June	
	2012Q1	2012Q2	2012Q3	2012Q4	2013Q1	2013Q2	2013	2012
Private Consumption	-9.5	-8.6	-8.6	-9.6	-8.7	-6.3	-7.5	-9.1
Public Consumption	1.4	-1.8	-10.2	-5.8	-8.8	-6.1	-7.4	-0.2
Gross Fixed Capital Formation	-22.8	-21.5	-21.5	-10.3	-11.4	-11.0	-11.2	-22.2
Domestic Demand*	-9.8	-9.5	-10.6	-9.2	-9.1	-6.9	-8.0	-9.7
Exports of Goods and Services	4.1	-3.0	-4.2	-4.8	-2.5	0.9	-0.6	0.1
Exports of Goods	6.9	-1.1	-0.1	2.7	5.1	3.1	4.0	2.5
Exports of Services	0.4	-5.3	-7.0	-13.9	-12.4	-1.6	-6.3	-2.9
Imports of Goods and Services	-14.9	-12.9	-18.7	-8.1	-7.7	-11.8	-9.8	-13.9
Imports of Goods	-16.1	-14.9	-19.1	-8.5	-5.2	-10.7	-7.9	-15.5
Imports of Services	-9.8	-5.0	-17.0	-6.3	-17.8	-16.0	-16.9	-7.4
Balance of Goods & Services	-41.1	-47.6	-1627.4	-18.0	-20.5	-94.4	-43.9	-43.3
GDP	-6.7	-6.4	-6.7	-5.7	-5.6	-3.8	-4.7	-6.6

Source: National Accounts, EL.STAT. (September 2013), own calculations.

* Excluding inventories.

1. Quarterly National Accounts data are not available on a seasonally adjusted basis for the reasons explained in EL.STAT.'s Press Release of 6.9.2013 with the title "Quarterly National Accounts: 2nd quarter 2013 (provisional)".

capital formation continued to fall rapidly in the first half of 2013, the relevant rates of decline nearly halved compared to the corresponding period of the previous year. In parallel, while private consumption continued to contract sharply, its rate of decline decelerated considerably during the second quarter of 2013. These developments resulted in a negative contribution of domestic demand to the rate of change of the GDP amounting to -10.1 and -7.2 percentage points in the first and second quarters of 2013, respectively, versus -11.3 and -10.2 points in the first and second quarters of 2012 (Figure 1.1.1).

Concerning the role of the balance of goods and services in restraining the depth of the recession, the persistently positive contribution of this balance to the rate of change of the GDP was preserved during the first half of 2013, mainly as a result of the continuing decline in imports. The decline of the deficit of the balance of goods and services developed at a rate of -20.5% in the first quarter of 2013 and -94.4% in the second quarter, resulting in a positive contribution to the rate of change of the GDP of 1.8 and 3.6 percentage points, respectively.

The recessionary conditions prevailing in the Greek economy are also depicted by the econometric estimates of the probabilities of a recessionary regime, presented in Section 1.4. Concerning the main factors shaping developments in the GDP, next follows a more detailed analysis of their evolution and prospects, on the basis of National Accounts data and selected short-term indicators.

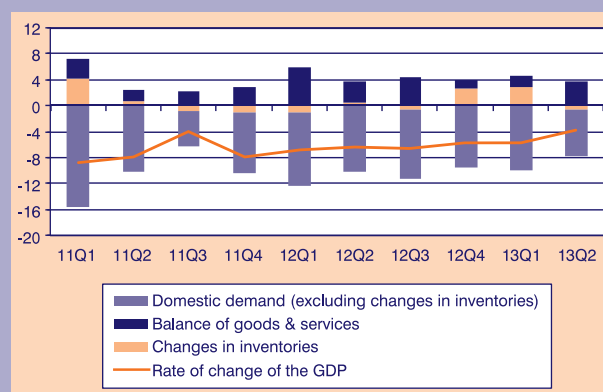
1.1.1. Private consumption

The decline of private consumption evolved at a rate of -7.5% over the first half of 2013, reaching -8.7% during the first quarter of the year and -6.3% during the second quarter.

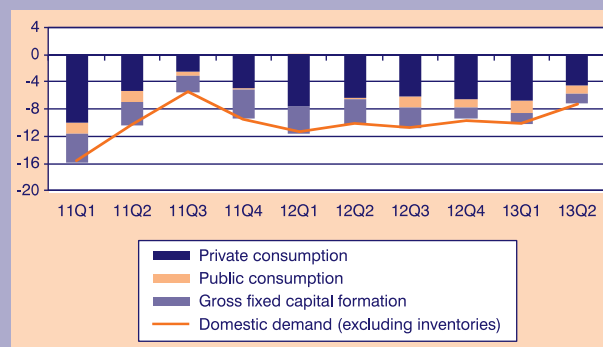
The respective unfavorable developments in private consumption expenditure are further reflected in the evolution of the monthly general volume index in retail trade during the January-June 2013 time period. Both the general volume index and the volume indices in the main retail sectors recorded negative rates of change compared to the corresponding six-month period of 2012. More specifically, the general volume index fell by -10.5%, following the decrease by -12.3% which had been recorded for the six-month period January-June 2012, compared to the same period in 2011. With reference to the negative percentage changes in the main sector indices –and in contrast to the respective evolution in 2012– it is interesting to observe that the most severe decrease (by -11.3%) was registered in the *food* sector, whereas the respective changes in the *automotive fuel* and *non-food* sectors were marginally below -10% (Figure 1.1.2). These developments are indicative of the depth of the recession the Greek economy is still undergoing, since the food retail sector appears to severely suffer despite the fact that it is mostly related to necessary goods and, as a result, the related demand should be particularly inelastic even during periods of negative economic shocks.

In looking at the evolution of the volume indices in the individual retail trade sub-sectors within the first half of 2013, it becomes evident that, again in contrast to the respective course in 2012, the situation worsened much more (-11.6%) in the sector of *supermarkets*, which belong to the category of non-specialized stores, and less (-4.6%) in the sector of *food-beverages-tobacco*, which includes smaller, specialized stores. Therefore, it follows that even the, until recently, relatively resilient retail sector of supermarkets has been severely hit by the ongoing recession. At the same time, the partial containment of the negative developments in the sector of small food stores might represent the first indication for potentially

FIGURE 1.1.1
Contributions to the rate of change of the real GDP
Domestic and net external demand

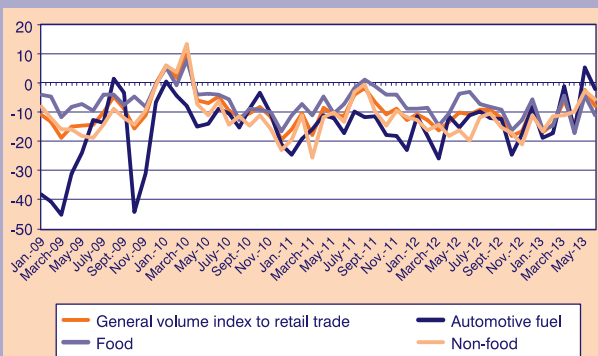


Individual components of domestic demand



Source: National Accounts, EL.STAT., own calculations.

FIGURE 1.1.2
Percentage changes in the general volume index and the main sector indices in retail trade



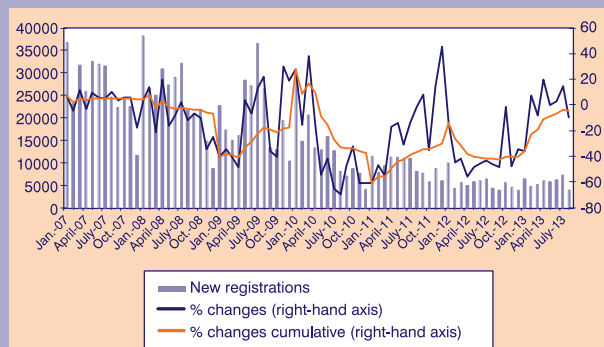
Source: EL.STAT., own calculations.

narrowing negative percentage changes. Something similar might hold also for the remaining individual retail sub-sectors, with the exception of the *pharmaceuticals-cosmetics* stores, given that the related negative percentage changes for the first half of 2013 appear to weaken compared to the respective ones for the same period in 2012.

Evidence on the course of private consumption is further provided by indications referring to the developments in the private passenger car sector. New car registration statistics offer a significantly improved picture, relative to the previous year, with a cumulative fall of -4.3% in the eight-month period of January-August 2013, as compared to the corresponding period of 2012 (Figure 1.1.3). The improvement lies in the difference between the recorded percentage change and the -41.9% decrease which had been registered in the same period of 2012 relative to 2011. With respect to the individual monthly indices for the number of new private passenger car registrations from May to August 2013, positive percentage changes were observed in almost all cases, with the exception of the month of August (0.3% in May, 3.3% in June, 14.5% in July and -9.8% in August). The above indications of more favorable developments in the private passenger car market seem to be confirmed by the evidence provided by the turnover statistics for motor trade. More specifically, the rate of change of the index of motor vehicles turned marginally positive in the second quarter of 2013, for the first time since 2008, as compared to the corresponding period of 2012, following a negative change of -38.6% which had been recorded in the respective period in 2012. The course of the related more comprehensive index for wholesale and retail trade, repair, sales of parts and accessories for motor vehicles and motorcycles, was also less adverse (-1.2%

in the second quarter), particularly as compared to the corresponding rate of change of -32% which had been recorded in 2012. It should be noted that the above described more favorable conditions in the private passenger car trading market might be related, to a significant degree, to the positive developments in the tourism sector, and in particular to the increased demand and absorption of new private cars for rental in significant tourist destinations. On the basis of the regular replacement of car fleets by car rental companies, but also in the case of a successful expansion of the tourist period and the continuation of the particularly favorable developments in the sector within the upcoming periods, this development might turn out to represent more than just a conjunctural process.

FIGURE 1.1.3
New private passenger car registrations

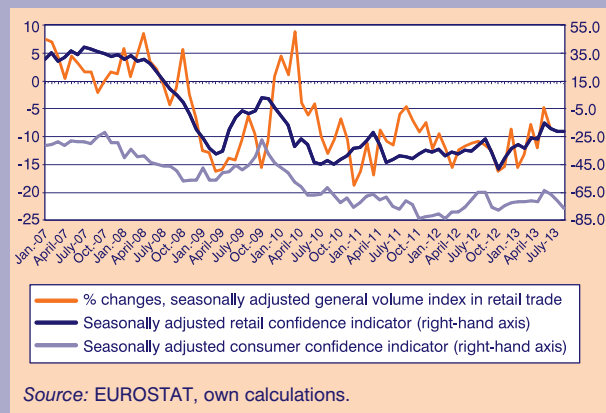


Source: EL.STAT, own calculations.

In total, the course of private consumption remained unfavorable given the considerable contraction recorded in the first half of 2013, due mainly to the adverse conditions characterizing the domestic labour market and the ongoing negative impact caused by the developments in incomes and household wealth. Nevertheless, the evidence provided by the evaluation of both quarterly and monthly related statistics delineates a weakening of the negative dynamics which characterized private consumption until the end of 2012. This development is partly related to the attenuation of the pronounced uncertainty conditions which had prevailed in the Greek economy up to September 2012. A gradually stabilizing environment can –under the condition of no additional financial burdens upon Greek households’ budgets– turn less cautious at least those households with the financial capacity to support part of the consumption expenditure necessary for a gradual recovery, but are still holding a wait-and-see stance.

With reference to the prospects for private consumption, the recorded falling trend is not expected to be reversed

FIGURE 1.1.4
General volume index in retail trade and confidence indicators



within the current year, given the lack of any anticipation of positive developments in either incomes or real household wealth. Nonetheless, a further narrowing in negative rates of change might be observed within the short term, on the basis of a domestic environment characterized by enhanced political stability but mainly by the avoidance of the imposition of new measures which would heavily weigh on households, and in particular upon the weaker ones. Several factors could, however, work in the opposite direction, such as additional tax burdens, in combination with wage cuts in the retail trade sector and the public sector mobility scheme. Consumers might already anticipate such an unfavorable development towards the end of 2013, as mirrored in their expectations which, according to the consumer confidence indicator, appear to have weakened during the June-August 2013 three-month period, despite the comparatively more positive course recorded in May. A similar stance might also be pursued by retailers, possibly expressed by a weakening trend in the retail confidence indicator during the same three-month time period (Figure 1.1.4).

1.1.2. Investment

The fall in gross fixed capital investment evolved at milder rates over the first half of 2013, thus playing a key role in the deceleration of the recession. As shown in Table 1.1.2, the rate of decline of investment reached -11.4% in the first quarter of the year and -11.0% in the second quarter, versus -22.8% and -21.5% during the corresponding quarters of 2012. These differences suppressed the negative contribution of investment to the

rate of change of the GDP to -1.6 percentage points in the first quarter of 2013 and -1.5 points in the second quarter, from -4.0 and -3.6 percentage points, respectively, in the corresponding quarters of 2012.

More specifically, with regard to investment other than construction, the trends recorded from the last quarter of 2012 onwards ceased to be uniformly negative, with developments in individual investment product categories containing intervals of stabilisation or improvement. More particularly, transport equipment expenditure exhibited a slower decline in the last quarter of 2012 and the first quarter of 2013 (-5.5% and -6.1%, respectively), and thereafter increased significantly in the second quarter of 2013. In parallel, metal products and machinery investment, while exhibiting a large fall in the second quarter of 2013 (-17.3%), had previously recorded an increase in the last quarter of 2012 (19.6%) and a rather stable path in the first quarter of 2013 (-0.2%). With respect to investment in other products, there was a decrease in the second quarter of 2012 and a marginal increase in the previous two quarters.

The above developments provide some initial encouraging signals of progress in investment other than construction, although they also reflect the continuing negative pressures on investment exerted by financing and liquidity constraints, the adverse course of domestic demand, and the milder, but still significant uncertainty. With respect to credit conditions, the rate of credit expansion to businesses remained negative throughout the first half of 2013, reflecting the impact of the crisis on the liquidity of the banking sector, the credit rate of businesses and the demand for new loans.

Concerning investment in construction, in the case of the other constructions category there was a marginal increase in the first quarter (0.7%) and a significant recovery in the second quarter of 2013 (5.7%), while, in contrast, in the case of investment in dwellings there was a further sharp decline during the first half of 2013 (-35.6%). It must be noted that from the fourth quarter of 2012 onwards the decline in dwellings investment represented the predominant factor behind the contraction of investment expenditure. It is indicative that in the second quarter of 2013, the fall in dwellings investment contributed -1.3 percentage points to the rate of change of the GDP, out of a contribution of -1.5 points for investment as a whole.

With reference to the residential investment sector, indications provided by the evolution of private building activity² on the basis of the monthly permits-based volume

2. A twelve-month moving average and the related percentage point changes are calculated.

TABLE 1.1.2 Main investment data

% rates of change compared to the corresponding period of the previous year (non-seasonally adjusted data, constant 2005 prices)

	Quarters						6 month period Jan. - June	
	2012Q1	2012Q2	2012Q3	2012Q4	2013Q1	2013Q2	2013	2012
Products of agriculture	-2.0	32.1	-13.3	-12.9	0.0	0.0	0.0	15.4
Metal products and machinery	-11.4	-14.6	-17.3	19.6	-0.2	-17.3	-9.2	-13.1
Transport equipment	-33.9	-36.8	-31.4	-5.5	-6.1	10.5	1.0	-35.2
Dwellings	-31.2	-31.1	-33.9	-35.7	-34.5	-36.8	-35.6	-31.2
Other construction	-9.6	-8.1	-7.7	-6.7	0.7	5.7	3.8	-8.7
Other products	-3.5	-5.8	-1.8	0.3	0.6	-4.7	-2.1	-4.7
Gross fixed capital formation	-22.8	-21.5	-21.5	-10.3	-11.4	-11.0	-11.2	-22.2

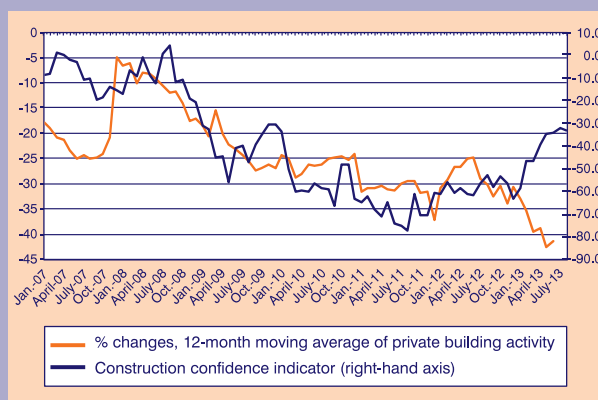
Source: National Accounts, EL.STAT. (September 2013), own calculations.

of new housing remain unfavorable, despite the observed recovery in the construction confidence indicator from the beginning of 2013 onwards (Figure 1.1.5). More specifically, the rates of change in the monthly permits-based volume of new housing continued to be significantly negative up to the month of June 2013 (-55.5% in March, -15.8% in April, -50.6% in May and -15.2% in June), while the average change in the estimated private building activity for the time period July 2012-June 2013 amounted to -41.2%.

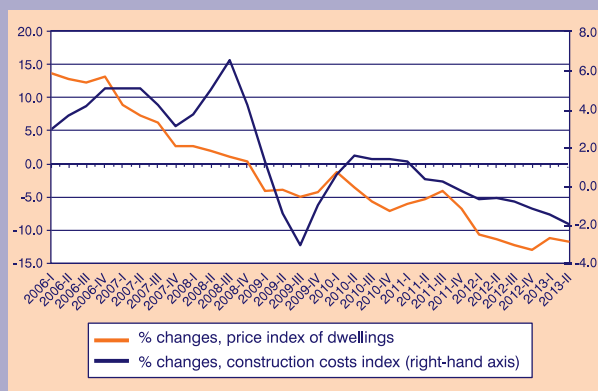
At the same time, the encouraging evolution of the construction confidence indicator, in combination with the indications provided by the business expectations index in construction, reflects the continuation of a significant recovery in expectations regarding the construction sector. Inspecting the course of the individual sub-sectors of the index of business expectations in construction, it becomes evident that improved anticipated prospects mostly refer to public construction works and not to private construction. The most recent statistics regarding the production index in construction for the second quarter of 2013 also point to the same direction, since the observed increase in the respective index by -20.6% exclusively reflects the execution of civil engineering works. It is noted that this category refers, among other things, to infrastructure works such as highways, roads, airports, bridges, tunnels and network projects, excluding building projects.

The ongoing contraction in the residential investment sector is further mirrored in the most recent statistics concerning housing prices. More specifically, the price

FIGURE 1.1.5 Private building activity and construction confidence indicator



Price index of dwellings and construction costs index



Source: EL.STAT., EUROSTAT, Bank of Greece, own calculations.

index of dwellings in all urban areas continued to record double-digit negative rates of change both in the first (-11.2%) and the second quarter of 2013, as compared to 2012. The index of apartment prices with respect to geographical area followed a similar course, with the highest double-digit negative percentage changes in the second quarter being recorded for the area of Athens (-12.7%), followed by the respective rates for other large cities (-11.5%), for Thessaloniki (-10.5%) and for the other urban areas (-10%). According to the division of the price index with respect to age, except for the case of other areas, negative rates of change were more pronounced for the category of old apartments in the second quarter of 2013. Following the general trends in the residential investment sector, the index of construction costs for new dwellings fell for the fourth consecutive quarter, with the corresponding percentage change amounting to -1.1% in the second quarter of 2013.

With respect to the short-term prospects for investment, the adversities related to the domestic economic and financing conditions are expected to continue to restrain investment spending over the next few months. Nevertheless, the country's progress in terms of competitiveness and economic adjustment, the restart of big infrastructure projects and the prospect for a gradual restoration of private sector financing, point towards a substantial reversal of the investment climate over the short term. This reversal is expected to lead to a significant recovery of investment in the non-housing categories, under a set of conditions that includes the further stabilization of the economy and the progress of structural changes that are key for attracting foreign capital.

1.1.3. External balance of goods and services

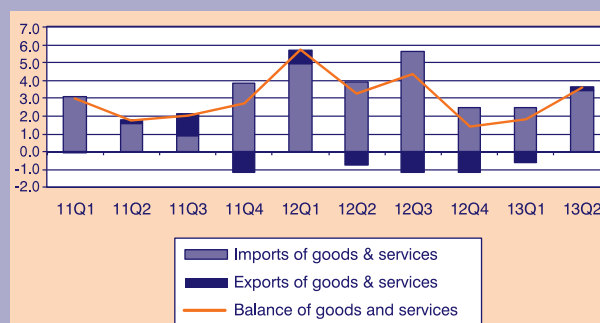
With regard to imports, developments during the first two quarters of 2013 were uniformly positive from the point of view of their contribution to the GDP. In contrast, concerning exports, the picture observed during this period was mixed.

More specifically, with respect to imports, the first quarter of the year was characterised by a significant decrease in the case of goods (-5.2%) and a large fall in the case of services (-17.8%), the result being a positive contribution of 2.4 percentage points to the rate of change of the GDP (see Figure 1.1.6). In the second quarter, developments in goods and services moved again towards the same direction (-10.7% and -16.0%, respectively), contributing 3.4 percentage points to the rate of change of the GDP. It is worth noting that with respect to goods imports, the overall rate of decline during

the first half of 2013 (-7.9%) was considerably slower compared to the corresponding period of the previous year (-15.5%), a development consistent with the recorded deceleration of the recession.

Concerning exports, their contribution to the rate of change of the GDP amounted to -0.6 and 0.2 percentage points during the first and second quarters of 2013, respectively. More specifically, there was an increase in goods exports by 5.1% in the first quarter of the year and 3.1% in the second quarter. In parallel, both quarters of the year were characterized by a reduction in services exports (by -12.4% and -1.6%, respectively), with exports from the tourism sector exhibiting, however, a very substantial increase. The large recovery of tourism receipts (by 17.8% in the first half of the year according to Bank of Greece data) represents the most favourable development in the course of the year 2013, both with respect to the external sector and with reference to the economy as a whole. It is a development that serves as a first signal of the growth dynamics arising from the improvement of competitiveness and the gradual stabilization of the economy.

FIGURE 1.1.6
Contributions to the rate of change of the GDP
Individual components of external demand



Source: National Accounts, EL.STAT., own calculations.

In the short-term, the contribution of the external sector to the rate of change of the GDP is expected to remain positive. Nevertheless, given that the falling trend in imports will tend to weaken as the economy exits the recession, the size of this positive impact will depend increasingly upon the improvement of the country's export performance. At present, the sought-after recovery of exports is favoured by the gradual stabilization of domestic economic conditions, the progress with respect to the adjustment programme and the prospect of recovery of the European economy. In parallel however, this recovery faces continuing internal obstacles, particularly with respect to the liquidity and financing of exporting businesses.

1.1.4. Conclusions and prospects

On the basis of the above analysis, the Greek economy continued to undergo a recessionary regime in the course of the first half of 2013. Nevertheless, the particularly negative dynamics characterizing domestic economic developments until the end of 2012 appear to be subsiding. More particularly, both quarterly data and selected monthly indicators, in conjunction with the econometric estimates of the recession probabilities for the current phase of the business cycle (Section 1.4), point to milder recessionary conditions and likely the start of a course towards an exit from the crisis within a short-term horizon. To this direction are also pointing both certain indicators reflecting expectations, and recession probability forecasts (see Section 1.4) for the remainder of 2013 and the KEPE forecasting models (see Sections 1.5 and 1.6).

With reference to the short-term prospects for private

consumption, the decreasing course is expected to continue throughout 2013. However, avoiding the imposition of both additional burdens on disposable income and new measures which could adversely affect households' real wealth can contribute to a further significant narrowing of the negative rates of change in private consumption within the year 2014. An influential role in the evolution of the respective growth component will certainly be played by the developments in the labour market. In parallel, a substantial positive reversal of the investment climate is expected, leading to a recovery of investment in the non-housing categories. With respect to the course of the external sector, the relevant contribution to the rate of change of the GDP is expected to remain positive in the short-term, but with the margins for further decline in imports during the forthcoming quarters gradually subsiding, and, therefore, the size of this contribution depending increasingly upon the improvement of the country's export performance.

1.2. Recent Current Account developments

Ioanna Konstantakopoulou

In the first half of 2013, the current account deficit was €2.88 billion, from €6.91 billion, in the corresponding period of 2012 (Table 1.2.2). The deficit as percent of GDP

was 3.26%, from 7.29% deficit in 2012 (Table 1.2.1). Moreover, the drop of the current account deficit was due to a decrease in the deficit of the trade balance and the improvement in the services balance.

More specifically, the trade balance deficit decreased to €8.26 billion in the same period of 2013, from €11.07 billion in the corresponding period of 2012, a change of about 25.4%. The deficit as percent of GDP was 9.34%, from 11.69% in the corresponding period of 2012.

TABLE 1.2.1 Current account (as percent of GDP)

	CA	Goods	Exports	Imports	Services	Income	Current transfers
2006	-11.39	-16.91	7.74	24.66	7.35	-3.46	1.63
2007	-14.61	-18.6	7.82	26.41	7.43	-4.16	0.71
2008	-14.92	-18.89	8.5	27.39	7.35	-4.56	1.18
2009	-11.17	-13.31	6.63	19.94	5.47	-3.89	0.56
2010	-10.13	-12.73	7.69	20.42	5.96	-3.45	0.09
2011	-9.89	-13.06	9.7	22.76	7.02	-4.12	0.27
2012	-3.37	-10.13	11.37	21.49	7.6	-1.58	0.74
2012q1	-10.58	-12.91	10.84	23.76	3.34	-4.03	3.04
2012q2	-4.26	-10.55	11.1	21.66	7.04	-1.06	0.32
2012q1-q2	-7.29	-11.69	10.98	22.66	5.27	-2.48	1.63
2013q1	-5.67	-10.72	12.92	23.64	3.46	-2.44	4.01
2013q2	-1.06	-8.09	12.15	20.24	8.74	-2.18	0.52
2013q1-q2	-3.26	-9.34	12.52	21.86	6.22	-2.31	2.18

Source: Bank of Greece and EL.STAT.

TABLE 1.2.2 Current Account (in EUR billions)

	CA	Goods	Exports	Imports	Services	Income	Current transfers
2006	-23.76	-35.29	16.15	51.44	15.34	-7.21	3.40
2007	-32.60	-41.50	17.45	58.94	16.59	-9.29	1.59
2008	-34.80	-44.05	19.81	63.86	17.14	-10.64	2.76
2009	-25.82	-30.77	15.32	46.09	12.64	-8.98	1.29
2010	-22.51	-28.28	17.08	45.36	13.25	-7.67	0.20
2011	-20.63	-27.23	20.23	47.46	14.63	-8.59	0.56
2012	-6.53	-19.62	22.02	41.64	14.72	-3.06	1.43
2012q1	-4.81	-5.87	4.93	10.80	1.52	-1.83	1.38
2012q2	-2.10	-5.20	5.47	10.67	3.47	-0.52	0.16
2012q1-q2	-6.91	-11.07	10.40	21.47	4.99	-2.35	1.54
2013q1	-2.39	-4.52	5.45	9.97	1.46	-1.03	1.69
2013q2	-0.49	-3.74	5.62	9.36	4.04	-1.01	0.24
2013q1-q2	-2.88	-8.26	11.07	19.33	5.50	-2.04	1.93

Source: Bank of Greece.

The reduction in the deficit of trade balance by €2.81 billion primarily reflects the decline in the oil trade deficit.

According to data from the Bank of Greece, exports in the first half of 2013 continued their upward trend, increasing by €0.67 billion, a change of 6.4%, compared the first half of 2012. The positive result is mainly due to the increase in

oil exports of €0.58 billion and, secondarily, on exports excluding oil and ships of €0.20 billion (see Table 1.2.4). Also, exports as a percentage of GDP stood at 12.52% compared to 10.98% of GDP in the first half of 2012. It is noteworthy that for the first quarter of 2013, exports as percentage of GDP reached 12.92% historical level (see Table 1.2.3).

TABLE 1.2.3 Exports-Imports (as percent of GDP)

	Exports	Oil	Ships	Other goods	Imports	Oil	Ships	Other goods
2006	7.74	1.41	0.78	5.55	24.66	5.61	2.41	16.64
2007	7.82	1.36	1.02	5.44	26.41	5.49	3.49	17.43
2008	8.50	1.82	0.68	5.99	27.39	7.04	2.70	17.65
2009	6.63	1.33	0.33	4.97	19.94	4.61	1.79	13.54
2010	7.69	2.23	0.36	5.10	20.42	6.11	1.99	12.32
2011	9.70	2.97	0.36	6.37	22.76	8.30	1.93	12.53
2012	11.37	3.83	0.38	7.15	21.49	9.11	0.92	11.46
<i>2012q1</i>	10.84	3.23	0.40	7.22	23.76	10.14	1.17	12.43
<i>2012q2</i>	11.10	3.92	0.43	6.76	21.66	9.03	1.04	11.59
2012q1-q2	10.98	3.59	0.41	6.98	22.66	9.56	1.10	11.99
<i>2013q1</i>	12.92	4.55	0.26	8.11	23.64	10.00	0.97	12.66
<i>2013q2</i>	12.15	4.45	0.37	7.33	20.24	7.31	0.93	12.02
2013q1-q2	12.52	4.50	0.32	7.70	21.86	8.59	0.95	12.33

Source: Bank of Greece and EL.STAT.

TABLE 1.2.4 Exports-Imports (in EUR billions)

	Exports	Oil	Ships	Other goods	Imports	Oil	Ships	Other goods
2006	16.15	2.94	1.63	11.58	51.44	11.70	5.02	34.72
2007	17.45	3.04	2.28	12.13	58.94	12.26	7.80	38.89
2008	19.81	4.25	1.58	13.98	63.86	16.41	6.29	41.17
2009	15.32	3.06	0.77	11.48	46.09	10.66	4.13	31.30
2010	17.08	4.95	0.80	11.33	45.36	13.58	4.42	27.36
2011	20.23	6.19	0.75	13.29	47.46	17.31	4.02	26.13
2012	22.02	7.43	0.74	13.86	41.64	17.65	1.78	22.21
<i>2012q1</i>	4.93	1.47	0.18	3.28	10.80	4.61	0.53	5.65
<i>2012q2</i>	5.47	1.93	0.21	3.33	10.67	4.45	0.51	5.71
2012q1-q2	10.40	3.40	0.39	6.61	21.47	9.06	1.04	11.36
<i>2013q1</i>	5.45	1.92	0.11	3.42	9.97	4.22	0.41	5.34
<i>2013q2</i>	5.62	2.06	0.17	3.39	9.36	3.38	0.43	5.56
2013q1-q2	11.07	3.98	0.28	6.81	19.33	7.60	0.84	10.90

Source: Bank of Greece.

Imports of goods, as percentage of GDP, stood at 21.86% against 22.66% in the corresponding period of 2012. In absolute terms, this was €19.33 billion, a decrease of 10%. The decline of imports is mainly due to decreased oil imports as well as the drop of imports of other goods.

The surplus of service balance, as percent of GDP, was 6.22% against 5.27% in the corresponding period of 2012. In absolute terms, the surplus was €4.99 billion

from €5.5 billion in 2012. The income deficit as a percent of GDP was 2.31% in the first half of 2012. In absolute terms, this amounted to €2.04 billion.

The current transfer balance showed a surplus of around €1.94 billion as against €1.54 billion in the corresponding period of 2012. Moreover, the surplus of current transfers expressed as a percentage of the GDP was 2.18%, whereas for 2012 it was 1.63%.

1.3. The evolution of the Consumer Price Index (CPI) in Greece and the Eurozone

Stelios Karagiannis and Yannis Panagopoulos

The headline inflation in Greece –estimated by the growth rate of the Consumer Price Index (HICP)– continues its declining trend that began in October 2012. More specifically, the headline inflation fell in August 2013 to -1.3% relative to the corresponding month of the previous year (see Diagram 1.3.1). This development verifies the persistence of the deflation process. Turning now to the core CPI, we also observe a continuous deflation which started in August 2012. More specifically, in August 2013 the core inflation reached -3.3% on a y-o-y basis. Additionally, we observe a slight acceleration of the deflation process with respect to June and July 2013 (-2.8% and -3%, respectively). Consequently, taking into account the lagged econometric correlation with the headline inflation (see Vol. 20, February 2012 of the current publication) we expect headline inflation to worsen in the near future.

According to the Hellenic Statistical Authority (ELSTAT), the aforementioned deflation trend (-1.3%) can be mainly attributed to subsequent price decreases in three of its sub-categories, namely: (a) the “Housing-equipment” category (by -5.7%) and specifically in the sub-category of house appliances and services, (b) the “Miscellaneous goods and services” category (by -5.4%) and especially in the price of personal care products, (c) the “Communication” category (by -4.3%) mainly due to the reduced prices of telephone services and (d) the “Education” category (by -4.0%) mainly due to decreases in fees for private school.

Additionally, Diagram 1.3.2 presents the harmonized CPI with and without constant indirect taxes (HICP and HICP-CT, respectively) in Greece. The difference between the rates of change of HICP and HICP-CT, as reported in previous issues, is the effect of the indirect tax rates on the final price that is actually paid by the consumers. From this Diagram, it is obvious that in August 2013 the difference between these two indices is eliminated and furthermore has a small negative value (-0.27%). This is possibly related to the recent reduction in the rate of VAT related to restaurants (from 23% to 13%).

Finally, in Diagram 1.3.3, we present a comparison between the harmonized inflation rates (headline and core) in the Eurozone and Greece. From the Diagram it is noticeable that the Greek headline inflation is falling at a faster rate than the corresponding European one. At the same time, the difference between the core inflation rate for Greece and the Eurozone has persistently widened since the middle of 2011. In numbers, we observe that in July 2013 the spread for

DIAGRAM 1.3.1
CPI, % change relative to the respective month of the previous years

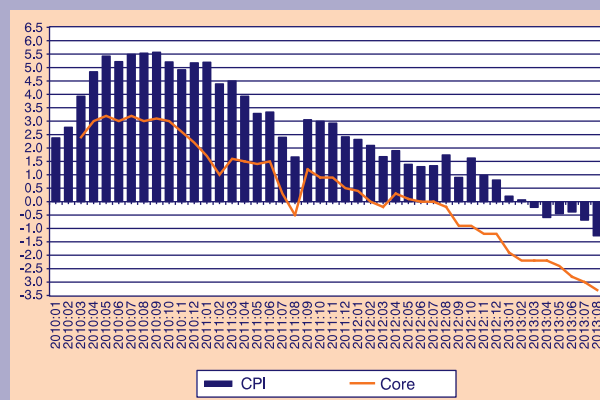


DIAGRAM 1.3.2
Harmonized index of Consumer Prices with (HICP) and without constant indirect taxes (HICP-CT), % change relative to the respective month of the previous years

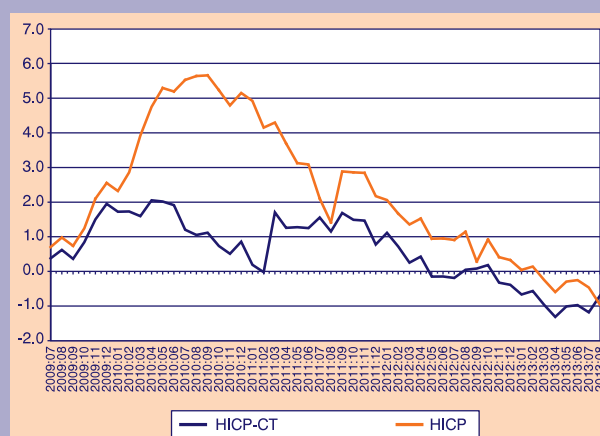
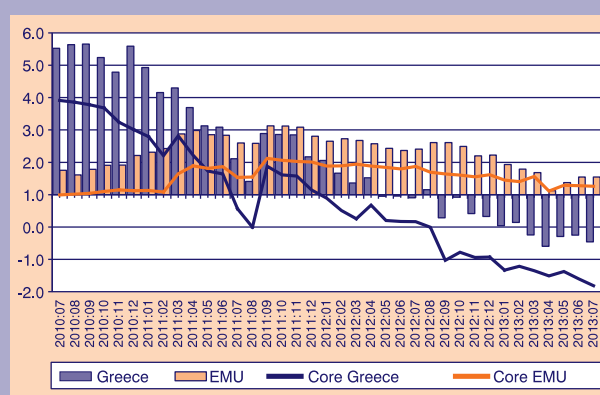


DIAGRAM 1.3.3
Harmonized indices of consumer prices, % change relative to the respective month of the previous years



headline inflation between the Eurozone and Greece reached 3.1% while for core inflation it is 1.8%.

1.4. Recession probabilities for the Greek economy – Current period and forecasts

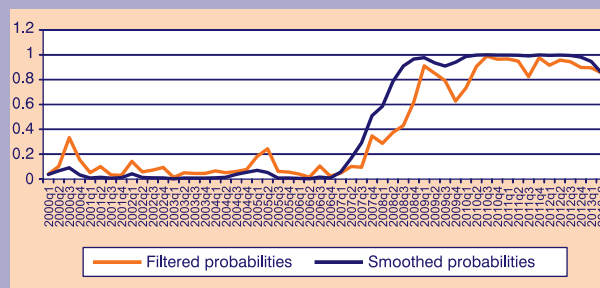
Ekaterini Tsouma

As has been analyzed in previous issues of the *Greek Economic Outlook*, it is possible to assess whether the Greek economy undergoes a recessionary (or expansionary) business cycle regime on the basis of recession (or expansion) probability estimates. Such estimates can be obtained by applying different models, like (a) Markov switching models and (b) probit models, and can either refer to the most recent time period and/or incorporate forecasts.

In the case of the Markov switching model,¹ which describes the business cycle as a process switching between an *expansionary* and a *recessionary* regime, the rate of change of the quarterly GDP² is used, whereby the GDP presents the selected measure of economic activity. The estimated filtered (based on information available up to time t) and smoothed (based on information available through time T) recession probabilities concern the most recent period for which economic data become available.

Figure 1.4.1 depicts the estimates of the respective recession probabilities for the time period from the first quarter of 2000 to the second quarter of 2013.³ It is noted, that according to the simple rule adopted, a recessionary period is signaled by a derived recession probability higher than 0.5. Both the obtained filtered and smoothed recession probabilities indicate that the Greek economy entered a recessionary regime in the late 2000s. In addition, the considerable level of the filtered and smoothed probabilities –which is equal in the two cases– according to the last available observation for the second quarter of 2013, lying at 0.8525, clearly confirms the continuation of the respective regime up to the first half of 2013. However, and in accordance with

FIGURE 1.4.1
Recession probabilities from Markov switching model



the indications for a decreasing trend already emphasized in the most recent analysis (*Greek Economic Outlook* 21), a continuing downward path in recession probabilities is observed. More specifically, the filtered recession probability recorded in the second quarter of 2013 the fourth consecutive decline, settling at 0.8525 down from 0.9567 in the second quarter of 2012. A similar development appears to characterize the smoothed recession probability course, which also continued to fall from the level of 0.997 in the second quarter of 2012. In interpreting these respective indications, the fact that the recession probabilities are still too high to suggest a regime change for the Greek economy within the first half of 2013 should be taken into account. Nevertheless, the most recent estimated recession probabilities provide a clear indication for a shift towards a falling trend process, which might turn out to describe the beginning of the process of the Greek economy exiting the recession. Against this background, it becomes particularly important to use estimation results provided on the basis of the probit model in order to check the degree of compatibility.

The probit model,⁴ which offers an additional estimation of the current phase of the business cycle assesses the state of the economy through a variable which takes two possible values, depending on whether the economy is in *recession* or not. The resulting fitted values from estimating the probability that the observable recession in-

1. For the detailed presentation of the specific model according to Hamilton (1989) as well as an interpretation of the resulting probabilities, see *Greek Economic Outlook* 13, September 2010, p. 22-24.

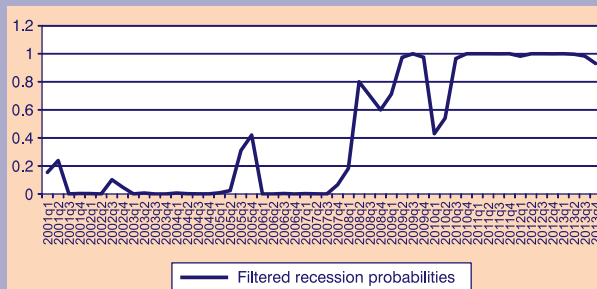
2. Note that the most recent revision of the National Accounts data has been taken into account and that the Demetra+ software is used in order to obtain seasonally adjusted quarterly GDP figures.

3. Whereas the estimations are carried out for the period 1970-2013, the shorter time period used for illustration is chosen for reasons of comparison to the probabilities resulting from the probit model that is presented below.

4. For the detailed presentation of the specific model according to Estrella and Mishkin (1998), see *Greek Economic Outlook* 14, January 2011, p. 27-28.

indicator takes the value of “1”⁵ are interpreted as the estimated recession probabilities. The selected independent variables are the rate of change of quarterly GDP and the constructed monthly Leading Indicator (see Tsouma, 2010), which is converted to quarterly frequency for the purposes of the current application. The data used refer to the time period from the first quarter of 2000⁶ to the second quarter of 2013, while recession probability forecasts are also included with the forecast horizon amounting to two quarters. Consequently, recession probability forecasts are provided for the third and fourth quarter of 2013. The estimates reveal, as illustrated in Figure 1.4.2, that high recession probabilities were forecast already at the onset of the recession that started in 2008 and have been retained during the total duration of the ongoing recession, which the Greek economy continued to undergo until June 2013 (with the exception of the probability value of 0.43 for the first quarter of 2010).⁷ On the basis of the evidence additionally offered by the provided forecasts for the third and fourth quarter of 2013, an estimation for the total of the year 2013 becomes possible and, hence, on the short-term prospects of the Greek economy. The underlying estimations of recession probabilities approaching unity do not provide an indication for exiting the recession within the year 2013. It is however important to stress that the fitted recession probabilities fell for the third consecutive quarter, hence confirming a first single indication as emphasized in the previous related analysis (*Greek Economic Outlook* 21). As a whole and in conjunction with evidence provided by the Markov switching model, even though recession probabilities remain high, there now appear to exist clear indications for a potential beginning of a process driving the Greek economy out of the recession. It should be noticed that the possibility of an intermediate shift in the observed downward path of the

FIGURE 1.4.2
Recession probabilities from probit model



estimated probabilities of recession cannot be excluded. Still, the evidence suggests that the Greek economy might exit the recessionary regime within the short term, whereas the exact speed of such a transition between regimes, and as a result the exact point in time of the end of the recession, cannot be forecasted.

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5. Due to the lack of an official Greek business cycle chronology, the recession indicator used is based on a related specification applied (see E. Tsouma, 2011), where the exact switch points between expansion and recession are derived.

6. The estimates start at the first quarter of 2001 due to the calculation of growth rates and the inclusion of lags. For that reason the respective figure depicts results starting in 2001.

7. The fall of the respective recession probability below 0.5 was clearly temporary and did not signal an exit from the recessionary regime. This is reinforced by the fact that the recession probabilities turned up immediately thereafter and remained at high levels ever since.