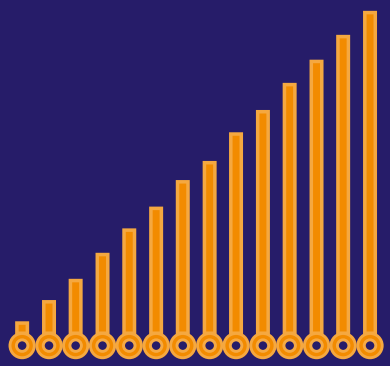
CENTRE OF PLANNING AND ECONOMIC RESEARCH

Issue 25, October 2014

GREEK ECONOMIC OUTLOOK



- Macroeconomic analysis and projections
- Public finance
- Human resources and social policies
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Editorial

Issue 25 of KEPE's journal "Greek Economic Outlook", finds the country before critical decisions regarding the modes of development. The strategy to gradually reduce taxation without increasing deficits pertains to a restriction on public and social goods and is aiming to rationalization. It requires flexibility and a fall in labour costs and consumer prices in order to accelerate the economy and work for the reception of new FDI. Another strategy is to enhance the disposable income and thereby stimulate the effective demand for growth. In each case the goal is efficiency in structures, institutions, mechanisms. Positive signs for the Greek Economy are awaiting confirmation (i.e. new stress tests for the banking system in October, etc.) while social issues (i.e. health, insurance, pensions) are awaiting treatment.

The positive developments following the recapitalization of the banking sector are the decline in interest rates, the stabilization in the ASE, the rebound in tourism for 2014 and an improved current account. The reformation of titles of general government debt to longer ones are theoretically more easily served. But the targeted appeal to the finance markets for new loans, when that happens, will not be a panacea; it will rather be a new test track, in which the economy must endure. And to do this it has to have established solid development processes. Soon and effectively.

Unemployment has stabilized at a high level with only a slight decline during the tourist season. It must be bent. It leads to increased migration, especially of young people and scientists. It leads the insurance system to a deadlock. It leads to alarming demographic risks. The entrance of the economy into a virtuous circle of development initiatives and processes is the main priority.

In the current issue, **the first part** consists of four sections. In the first section on *Macroeconomic analysis and projections*, specific analyses are hosted for the demand, for the current account, the consumer price index, the assessment model of the recession and the presentation of KEPE forecasts for the Greek economy. In the second section, on *Public finance*, the implementation of the State Budget is presented and analysed.

The third section on *Human resources and social policies* examines the developments in the labor market and makes an analysis of undeclared and unsecured labour. In the fourth section on *Development policies and sectors*, we present and analyze developments in tourism, followed by an analysis of the contribution of Information and Telecommunications Technology in the Greek Economy.

The **second part** hosts four interesting articles, which are entitled "Health spending evolution in Greece during the period 2009-2012", "Crisis management model for the pharmaceutical sector in Greece", "The role of the Greek food and beverage industry in the development process: trends and perspectives", and finally "The potential of festivals and their contribution to culture and tourism".

NICHOLAS VAGIONIS
Editor

1. Macroeconomic analysis and projections

1.1. Recent developments and prospects in the main demand components

Ersi Athanassiou, Ekaterini Tsouma

According to the latest non-seasonally adjusted data of the quarterly National Accounts (EL.STAT., provisional data, September 2014) the Greek economy is finally on the brink of exiting the recession that has prevailed since mid-2008. During the second quarter of 2014, the rate of decline of the GDP decelerated to -0.3%, versus -4.0% in the corresponding quarter of 2013, a development reflecting the elimination of the strongly negative dynamics characterizing domestic demand until recently. As evident from the data presented in Table 1.1.1, the observed rates of change in key macroeconomic variables in the course of 2014 point to a stabilization of private and public consumption and to a decisive weakening of the downward trend in investment expenditure. Thus, the negative contribution of domestic demand to the rate of change of the GDP was limited to -1.1 percentage points during the first quarter of 2014 and -0.1 points during the second quarter, from -10.2 and -7.4 points, respectively, during the corresponding quarters of 2013 (see Figure 1.1.1).

With respect to the external sector, its contribution to the rate of change of the GDP remained positive during the first two quarters of 2014, exhibiting nevertheless significant variations compared to the corresponding quarters of the previous year, both in terms of its size and in terms of the evolution of its main components. More specifically, imports, having followed a downward course nearly throughout the recession, recorded an increase in the first half of 2014 as a result of the gradual strengthening of domestic demand in individual sub-categories. In parallel, a major rise was also recorded during the same period in services exports, while, on the contrary, performance with respect to goods exports was weak, with a marked decline registered in the second quarter of the year. Overall, the contribution of the external sector to the

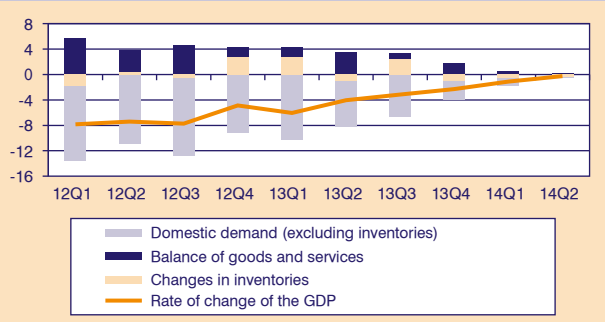
TABLE 1.1.1 Main macroeconomic data
% rates of change compared to the corresponding period of the previous year (non-seasonally adjusted data, constant 2005 prices)

	Quarters							6 month period Jan.-June	
	2012Q4	2013Q1	2013Q2	2013Q3	2013Q4	2014Q1	2014Q2	2014	2013
Private consumption	-9.6	-8.7	-6.6	-7.8	-0.2	0.1	0.0	0.0	-7.7
Public consumption	-3.3	-9.7	-5.5	1.7	-2.6	-0.9	0.0	-0.4	-7.6
Gross fixed capital formation	-10.3	-11.4	-11.5	-12.9	-15.3	-7.9	-0.8	-4.2	-11.4
Domestic demand*	-8.8	-9.2	-7.1	-7.0	-2.9	-1.1	-0.1	-0.6	-8.1
Exports of goods and services	-4.0	-2.2	1.6	5.2	0.5	5.4	5.3	5.3	-0.1
Exports of goods	3.0	5.6	4.6	2.7	-1.7	0.5	-3.4	-1.6	5.1
Exports of services	-12.7	-12.4	-1.7	7.7	3.4	13.1	15.6	14.6	-6.3
Imports of goods and services	-8.1	-7.0	-11.1	2.7	-5.6	2.2	4.6	3.4	-9.0
Imports of goods	-8.5	-4.5	-10.1	2.9	-4.0	2.3	4.2	3.2	-7.3
Imports of services	-6.5	-17.0	-14.5	1.6	-11.8	1.9	6.0	4.0	-15.7
Balance of goods & services	-20.3	-18.9	-97.6	19.5	-27.3	-7.2	-	-9.7	-43.1
GDP	-4.9	-6.0	-4.0	-3.2	-2.3	-1.1	-0.3	-0.7	-5.0

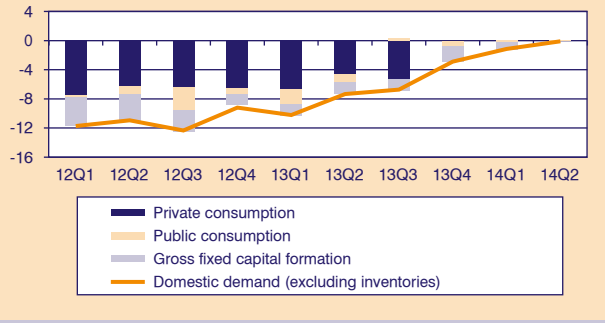
Source: National Accounts, EL.STAT. (September 2014), own calculations.

* excluding the change in inventories.

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.

rate of change of the GDP was limited to 0.6 percentage points in the first quarter of 2014 and 0.2 points in the second quarter, from 1.7 and 3.6 points, respectively, during the corresponding quarters of 2013. It is worth noting that in 2014, and for the first time from the year 2000 onwards, a small surplus in the balance of goods and services was recorded in the second quarter of the year, representing a further indication of the rebalancing of the economy's external sector.

The continuing unwinding of recessionary dynamics is also depicted in the econometric estimates of recession probabilities, presented in Section 1.4. Regarding the main factors shaping the aforementioned 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

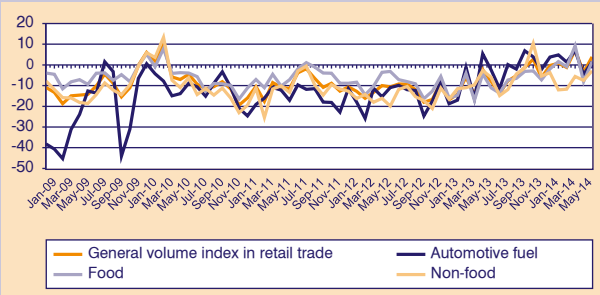
Private consumption stabilized in the first half of 2014, with the relevant rate of change amounting to 0.1% in the first quarter of the year and 0.0% in the second quarter, from -8.7% and -6.6%, respectively, in the corresponding quarters of 2013.

These favourable developments in private consumption expenditure are, to a significant degree, further reflected in the evolution of the monthly volume index in retail trade during the first half of 2014. More specifically, in the six-month period from January to June 2014, the general index recorded an increase by 1.1%, as compared to the respective period of the previous year. The significance of this positive percentage change becomes more evident relative to the respective rate of change of the previous year, which amounted to -10.5% for the same time period, as compared to 2012.

According to the corresponding rates of change in the three main retail sector categories, the registered increase is mostly due to the marginal increase in the *food* sector (0.1%) and the increase in the *automotive fuel* sector (2.3%), since the respective percentage change in the *non-food* sector remained negative (-7.3%). This conclusion is largely confirmed by the monthly indices in these three categories for the time period from January to June 2014, as monthly rates of change in the first two categories were positive in several cases, whereas the *non-food* category was characterized by exclusively negative, and occasionally quite significant, percentage changes (Figure 1.1.2). It should be noticed that the divergence with regard to the evolution of this specific retail trade category is a feature outlined during the preceding period of reference (see *Greek Economic Outlook*, Issue 24).

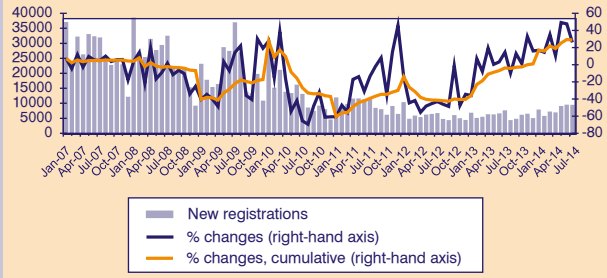
In order to explore in more detail which categories have recorded the most notable upward and downward trends during the first half of 2014, one can resort to the more comprehensive categorization of the volume index in retail trade in the eight specific store categories. As becomes evident from the related data on a monthly and half-year basis, positive developments in the sector were mainly driven by the *automotive fuel*, *clothing-footwear* and *books-stationery-other books* categories. In contrast, the volume in retail trade continued to follow a downward course in the *department stores*, *food-beverages-tobacco, pharmaceuticals-cosmetics* and *furniture-electrical equipment-household equipment* categories. It is worth stressing that the specific store categories which continue to bear the consequences of the crisis and are still characterized by unfavorable trends do not refer solely to durable goods (like furniture and electrical and household equipment), but also to non-durables, such as food, pharmaceuticals and cosmetics. At the same time, the developments in the sector of *department stores* indicate that even the larger and non-specialized retail trade stores do not yet record positive trends, meaning that they are still unable to benefit from particular advantageous features, such as the ones referring to the spatial and concentration dimensions.

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



Source: EL.STAT., own calculations.

FIGURE 1.1.3
New private passenger car registrations



Source: EL.STAT., own calculations.

Particularly encouraging signs, with reference to the most recent evolution in private consumption, are offered by statistical data for the private passenger car market, based on new registrations. This specific market appears to undergo a period of significant growth, with positive developments in the time period from May to July 2014, surpassing the favorable course already outlined in the preceding period of reference which covered the four-month period January-April 2014 (see *Greek Economic Outlo*ok, Issue 24). More specifically, in the three-month period from May-July 2014, both the rates of change of the individual monthly indices (49.2% in May, 47.7% in June and 26.1% in July, as compared to the corresponding months in 2013) and the cumulative changes (25.2% in May, 29.3% in June and 28.8% in July, as compared to the corresponding months in 2013) with respect to the number of passenger cars put into circulation for the first time, reached considerable positive double-digit rates (Figure 1.1.3).

The above described ongoing upward trend is further confirmed by the most recent statistics for the turnover index for motor trade in the first and second quarters of 2014. In particular, considerable positive rates of change, as compared to the corresponding quarters of 2013, characterized the index of motor vehicles (22.9% as compared to 2013, in relation to -16.2% in 2013, as compared to 2012, in the first and 34.8% as compared to 2013, in relation to -0.7% in 2013, as compared to 2012, in the second quarter of 2014) as well as the more comprehensive index of wholesale and retail trade, repair, sales of parts and accessories for motor vehicles and motorcycles (18.3% as compared to 2013, in relation to -11,7% in 2013, as compared to 2012, in the first and 24.4% as compared to 2013, in relation to -2.35 in 2013, as compared to 2012, in the second quarter of 2014).

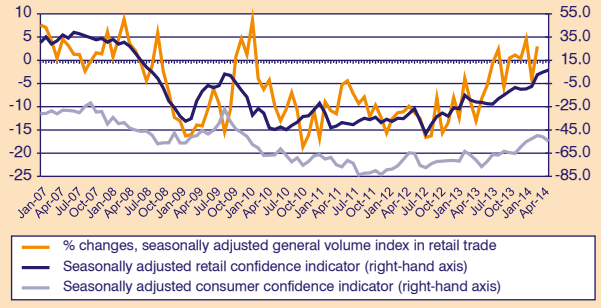
It should be noticed that the aforementioned particularly positive developments in the sector are to a significant degree linked to the highly favorable conditions pertaining to the tourism sector, absorbing a great number of cars in the car rental branch in all the tourist destinations of the country. At the same time, the fact should not be ignored that these developments mostly refer to imported products. Nevertheless, growth in the sector has a clear positive impact on all related products and services, and might also positively contribute to the creation and restoration of jobs.

All the above analyzed facts and indications imply that private consumption is going through a period characterized by the gradual elimination of the particularly negative dynamics recorded until recently and is moving towards a recovery phase. Given, however, the lack of any favorable changes with reference to household income as well as all the components of household wealth, it can be concluded that the most recent encouraging developments in private consumption are mainly attributable to the fact that there is a gradual attenuation in skepticism and reluctance with regard to consumption expenditure. This conclusion concerns at least those households which preserve the relative financial capability to support part of the necessary consumption expenditure and is justified by the weakening in uncertainty conditions and the enhancement of indications supporting the argument of stabilization with reference to the overall course of Greek economic activity.

The expected evolution in private consumption during the upcoming quarters will, to a significant extent, depend on potential adjustments aimed at alleviating the overall financial burdens faced by households, which might refer to either income and/or wealth. In addition, any improvements –even marginal ones– in the labour market and also in those markets directly affecting household real wealth may possibly trigger further positive trends in private consumption.

In any case, consumers and, in particular, retailers seem to anticipate favorable developments in the future course of private consumption, as reflected in their expectations incorporated in the most recent available statistics for the consumer and retail confidence indicators (Figure 1.1.4). More specifically, both indices record further improvement during the four-month period from May to August 2014. In the first case, the respective monthly rates of change approach levels which had not been registered since the beginning of 2010 (-52.5 in May, -49.8 in June, -51 in July and -54.7 in August), while in the second case the three latest available figures are positive, something that had not been observed since 2008 (with the exception of two single figures in 2009).

FIGURE 1.1.4
General volume index in retail trade and confidence indicators



Source: EUROSTAT, own calculations.

1.1.2. Investment

The decline in gross fixed capital investment decelerated decisively in the course of the first half of 2014. As shown in Table 1.1.2, the rate of change of investment amounted to -7.9% in the first quarter of the year and -0.8%, in the second quarter, versus -11.4% and -11.5% during the corresponding quarters of 2013. As a result, the negative contribution of investment to the rate of change of the GDP receded to -1.1 percentage points in the first quarter of 2014 and -0.1 points in the second quarter, from -1.7 and -1.6 percentage points, respectively, in the corresponding quarters of 2013.

More specifically, with regard to investment other than construction, developments in the course of the first half of 2014 were mostly positive, with expenditure in important individual investment product categories shifting towards positive rates of change. More particularly, transport equipment expenditure exhibited large increases in both the first and the second quarter of 2014 (23.7% and 26.0%, respectively). In parallel, metal products and machinery investment, while continuing to decline in the first quarter of 2014 (-14.1%), presented a significant recovery in the second quarter of the year (5.7%). Concerning investment in other products, the downfall decelerated in the course of the first half of 2014, with the relevant negative rate of change receding to a marginal -0.6% in the second quarter of the year.

Concerning investment in construction, in the case of the other constructions category there was a marginal

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)

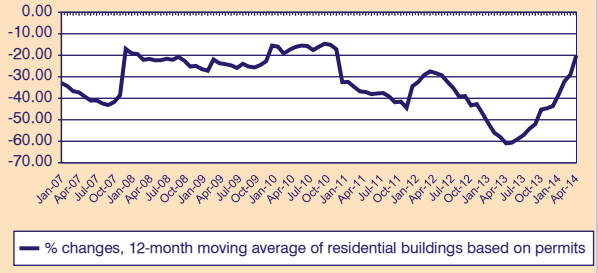
	Quarters						6 month period Jan.-June	
	2013Q1	2013Q2	2013Q3	2013Q4	2014Q1	2014Q2	2014	2013
Products of agriculture	-4.5	-4.0	50.0	-15.0	-4.8	-2.6	-3.5	-4.2
Metal products and machinery	1.6	-15.0	-12.0	-26.8	-14.1	5.7	-4.6	-7.1
Transport equipment	-6.1	10.5	11.8	-3.9	23.7	26.0	24.8	1.0
Dwellings	-34.6	-37.4	-39.6	-40.4	-42.3	-41.3	-41.9	-35.9
Other construction	0.2	2.4	3.9	5.4	-0.5	1.2	0.6	1.5
Other products	-3.3	-4.7	-25.4	-3.3	-1.9	-0.6	-1.3	-4.0
Gross fixed capital formation	-11.4	-11.5	-12.9	-15.3	-7.9	-0.8	-4.2	-11.4

Source: National Accounts, EL.STAT. (September 2014), own calculations.

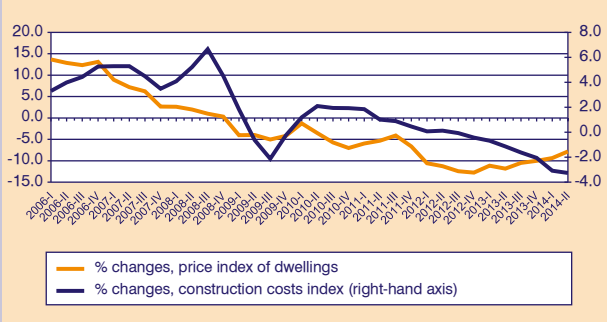
decrease in the first quarter (-0.5%) and a recovery in the second quarter of 2014 (1.2%), while, in contrast, in the case of investment in dwellings there was a further sharp decline during the first half of 2014 (-41.9% on average). It must be noted that the fall in dwellings investment actually prevented the transition of total investment to positive rates of change in the first half of 2014, with its negative contribution to the rate of change of the GDP amounting to -1.3 and -1.0 percentage points in the first and second quarters of the year, respectively.

The above developments confirm earlier assessments of KEPE with respect to the gradual recovery of investment in the non-housing categories. It is evident that the progressive elimination of negative pressures on investment from the side of domestic consumption, the improvement in the economy's competitiveness and the restart of big infrastructure projects, already induced a positive shift in the domestic investment climate. Nevertheless, crucial factors –such as the continuing financing and liquidity constraints and the milder, but still significant, uncertainty– continue to hinder a more dynamic recovery in investment expenditure. In parallel, the intensity of taxation of real estate property appears to be acting against the stabilisation of investment in dwellings, contributing to a continuing rapid decline of investment expenditure in this sector, despite the historically low levels this expenditure has already reached.

FIGURE 1.1.5
Estimated residential building activity based on permits



Price index of dwellings and construction costs index



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

Valuable additional information with respect to the latest developments in residential investment is provided by the residential buildings indicator, with respect to square meters of useful floor area, based on building permits. According to the mean monthly rate of change in the estimated private building activity,[1] the attenuating trends in, until recently, pertaining adverse dynamics are continued, as evidenced by the recorded -20% decline in the respective index during the time period from June 2013 to May 2014 (Figure 1.1.5). Similar indications are offered by the most recent individual monthly observations of the residential buildings indicator, with the corresponding decreases for the months of March and April 2014 amounting to no more than -11.3% and -23.3%, respectively, while the indicator increased by 15.1% in May.

The aforementioned trends in the residential investment sector are compatible with the course of developments with reference to both the construction cost for new dwellings and for housing and apartment prices (Figure 1.1.5). In other words, the ongoing contraction in residential building activity was accompanied by further reductions in the construction cost for new dwellings, but also by the continuing decreases in housing and apartment prices, thus reflecting the supply and demand conditions pertaining to the residential investment sector.

More specifically, the index of construction costs for new dwellings continued to record a downward trend, as indicated by the -3.3% decrease in the second quarter of 2014, as compared to the corresponding quarter in 2013. In parallel, and with reference to housing prices, the percentage change in the price index of dwellings in all urban areas remained negative in the second quarter of 2014 relative to 2013, albeit the continuation of weakening negative dynamics was already observed in the first quarter of 2014, as evidenced by the corresponding single-digit -7.8% percentage change. Similar developments characterized the course of apartment prices with respect to geographical area and with respect to age as well, where recorded significant negative rates of change continued to exhibit attenuating trends. The most notable decreases in apartment prices concerned the area of Athens (-10.7% and -9.6% in the first and second quarters of 2014, respectively), while the most moderate ones were related to the category of the other urban areas (-5.1% and -4.4%). In the area of Thessaloniki and the

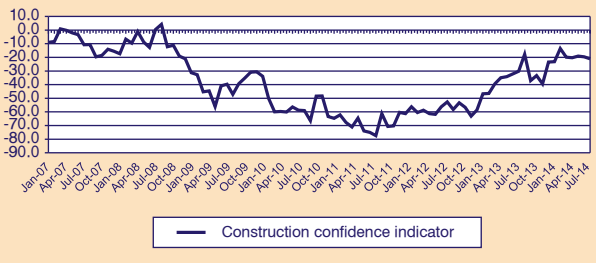
1. A twelve-month moving average and the related percentage point changes are calculated.

category of other large cities, the corresponding apartment price decreases amounted to -7.6% and -7.8% in the first quarter and -5.4% and -6.5% in the second quarter of 2014, respectively. In addition, prices for old (older than 5 years) apartments continued to fall at higher rates (-8%) compared to the declining rates for new (up to 5 years) apartments (-6.1%).

More generally and with reference to the construction sector, it is worth mentioning that increased activity was observed in the second quarter of 2014 mainly on the basis of infrastructure works, as indicated by the most recent evolution of the production index in construction. This concrete piece of evidence gains particular importance at the current economic conjuncture, where the promotion of infrastructure construction constitutes a prerequisite for economic growth in Greece in terms of both total economy and individual sectors, while it can also significantly contribute to the creation of jobs and induce substantial multiplier effects.

In particular, the increase in the general production index in construction by 23.4% in the second quarter of 2014 is primarily due to the favorable course of the sub-index of production of civil engineering (concerning, among other things, highways, bridges, tunnels, pipelines, networks and port development), which recorded a rise by 41.1%, as compared to the relative modest increase by 2.2% registered in the sub-index of production of building construction (concerning, among other things, dwellings, industrial and commercial buildings and other buildings). In any case, the parties involved appear to anticipate the continuation of the aforementioned trends in the construction sector according to their expectations, as mirrored in the business expectations in construction index and the construction confidence indicator. More specifically, during the four-month period from March-June 2014, the evolution of the construction confidence indicator exhibited signs of improvement, recording an average level of -20, relative to the corresponding period of 2013 during which the respective average was -33 (Figure 1.1.6). A similar development is displayed by the business expectations in construction index, whereby, according to the sub-indices, the upward trend is mainly due to expectations in relation to public works and not private sector constructions.

FIGURE 1.1.6
Construction confidence indicator



Source: EUROSTAT.

With respect to the short-term prospects for investment, the forecasted recovery of the economy in subsequent quarters and the country's progress in terms of economic adjustment and competitiveness, provide the conditions for substantial investment growth in non-housing categories. However, crucial requirements for this prospect to materialize include, on the one hand, safeguarding the country's stability and credibility and, on the other hand, promptly resolving the serious financing problems faced by the economy's private sector. The fact that the year-on-year rate of credit expansion to businesses remained negative in the first half of 2014 underlines the urgent need for an effective treatment of the remaining problems in the banking system in order to restore, as quickly as possible, the necessary flow of funds for investment.

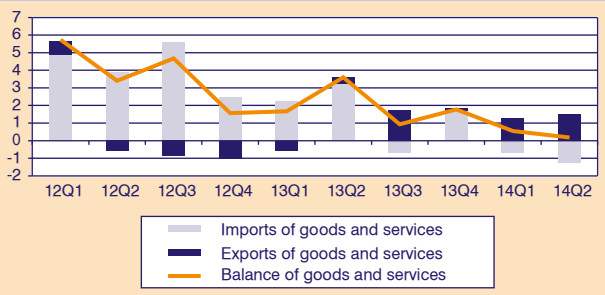
1.1.3. External balance of goods and services

With regard to exports, developments during the first two quarters of 2014 were positive on the whole, while concerning imports, the picture observed was negative from the point of view of its contribution to the GDP.

More specifically, with respect to exports, their contribution to the rate of change of the GDP amounted to 1.3 and 1.5 percentage points during the first and second quarters of 2014, respectively. Concerning services exports, a considerable increase was registered in both the first and the second quarter of the year (13.1% in the first quarter and 15.1% in the second quarter, respectively). This increase reflected the continuing rapid rise in tourism receipts (by 13.4% in the first half of the year according to Bank of Greece data), as well as the significant recovery of transportation receipts (by 7.8%, respectively, according to Bank of Greece data). Concerning goods exports, a small increase in the first quarter of 2014 (0.5%) was followed by a decrease in the second quarter of the year (-3.4%).

With respect to imports, the first quarter of the year was characterized by an increase in the case of both goods (2.3%), and services (1.9%), the result being a negative contribution of -0.7 percentage points to the rate of change of the GDP (see Figure 1.1.7). In the second quarter, developments in goods and services imports remained in the same direction (4.2% and 6.0%, respectively), contributing -1.2 percentage points to the rate of change of the GDP. These developments in imports are in line with the observed course of exit of the economy from the recession, and are related to the recovery of

FIGURE 1.1.7
Contributions to the rate of change of the GDP
Individual components of external demand



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

demand in individual sub-categories of consumption and investment.

Overall, the particularly favourable course of services exports in the first half of 2014 resulted in a reduction of the deficit of the balance of goods and services in the first quarter of 2014 and the achievement of a small surplus in the second quarter, a development which, as already mentioned, represents a further indication of the rebalancing of the economy's external sector.

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 imports will continue to rise as the economy recovers, the size of this positive contribution will depend on the improvement of the country's export performance. At present, the continuation of the rise in services exports and the upswing of goods exports are favoured by the foreseen improvement of domestic economic conditions and the prospect of strengthening growth in the world economy. In parallel however, these prospects are countered by the continuing difficulties with respect to the liquidity and financing of exporting businesses, as well as by the problems and risks posed by the crisis in Ukraine.

1.1.4. Conclusions and prospects

The results of the above analysis of the most recent developments with respect to the main demand components and a number of selected individual indicators demonstrate the shift in the recorded trends in a clearly more favorable direction and reflect the reinforcement of the prospect for the Greek economy to exit the recession within the short-term horizon. In particular, both quarterly statistics and selected monthly indicators considered, as well as the estimated recession probabilities for the current phase of the business cycle (Section 1.4), exhibit signs of improvement and support the assessment that the Greek economy will move ahead with positive growth rates in the upcoming quarters. These encouraging indications and favorable prospects are further strengthened by a number of indices incorporating expectations, and by the forecasts provided by the recession probability model (see Section 1.4) and the KEPE dynamic factor model (see Section 1.5).

In more detail and with reference to the short-term prospects for private consumption, the prevalence of any further positive developments in the short term will depend to a significant degree upon potential decisions inducing the alleviation of the overall financial burdens facing households relating to either income or wealth. Concerning the course of investment and exports in the short term, the prospect for a substantial improvement in investment other than housing and total exports is preserved. Nevertheless, crucial requirements for this prospect to materialize include safeguarding the country's stability and credibility and restoring financing to the private sector of the economy, while a significant role in domestic developments will also be played by developments with respect to the issue of Ukraine.

1.2. Current Account developments

Ioanna Konstantakopoulou

The Current Account deficit was 1.34 as percent of GDP in the first half of 2013, from 2.73% in same period of 2013, a reduction of 52.4%. In absolute terms, the reduction (see Table 1.2.2) was 53.7% (81.5%) compared to the corresponding period of 2013 (2012). Specifically, the factors that led to these positive results are mainly:

a) the balance of services due to increased net transport and travel services,
b) the income balance due to the reduction of interest payments,
c) the balance of current transfers mainly due to higher revenues from the EU,
d) the trade balance excluding oil and ships, where there was a marginal reduction in the deficit due to the strengthening of exports.

The trade balance deficit as a percentage of GDP increased during the first half of 2014 by 13% compared with the same period in 2013 (see Figure 1.2.1). This change is attributed to a significant widening of the ships trade deficit as a percentage of GDP, which stood at 1.83% of GDP compared to 0.62% for the corresponding period of 2013. In absolute terms, the level of trade balance deficit stood €9.04 billion against €8.27 billion, in the first half of 2013. In the other balances, there is a marginal improvement in the figure of the trade excluding oil and ships deficit, reducing the deficit of €0.21 billion, mainly due to increased exports and stabilized imports.

TABLE 1.2.1 Current Account *(as percent of GDP)*

	CA	Goods	Exports	Imports	Services	Income	Current Transfers
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	9.70	22.76	7.02	-4.12	0.27
2012	-2.39	-10.15	11.39	21.54	7.83	-0.81	0.74
2012, q1-q2	-6.36	-11.69	10.98	22.67	5.41	-1.70	1.62
2013	0.77	-9.46	12.38	21.84	9.33	-1.55	2.45
2013, q1-q2	-2.73	-9.31	12.46	21.77	6.31	-1.98	2.24
2014, q1-q2	**-1.30**	**-10.52**	**13.34**	**23.86**	**7.95**	**-1.58**	**2.85**

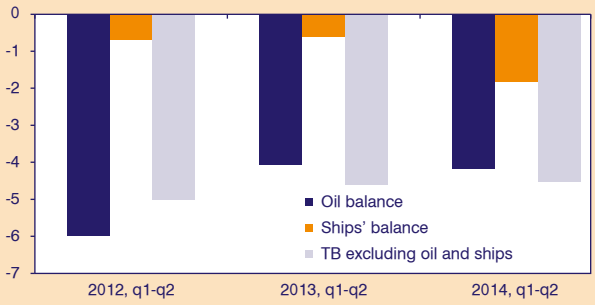
Sources: Bank of Greece and EL.STAT.

TABLE 1.2.2 Current Account *(in EUR billions)*

	CA	Goods	Exports	Imports	Services	Income	Current Transfers
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	-4.62	-19.62	22.02	41.64	15.14	-1.57	1.43
2012, q1-q2	-6.03	-11.08	10.4	21.48	5.12	-1.61	1.54
2013	1.40	-17.23	22.53	39.76	16.98	-2.82	4.47
2013, q1-q2	-2.42	-8.27	11.07	19.33	5.61	-1.76	1.99
2014, q1-q2	**-1.12**	**-9.04**	**11.47**	**20.51**	**6.83**	**-1.36**	**2.45**

Source: Bank of Greece.

FIGURE 1.2.1
The components of the trade balance
(as percent of GDP)



Sources: Bank of Greece and EL.STAT.

The services surplus was 7.95% of GDP in the first half of 2014, achieving a change of 26% over the corresponding period of 2013. In absolute terms, this amounted to €6.83 billion, an increase of €1.22 billion versus 2013. This positive development is attributable to a parallel increase in net transport and travel services (Table 1.2.3). Specifically, net transport receipts increased by €0.601 billion compared to the corresponding period of 2013. As a percentage of GDP, net transport receipts were 3.7%, increased by 19.5% (3.3%), compared to the corresponding period of 2013 (2012).

The income account deficit decreases in the first half of 2014. As a percentage of GDP reached 1.58% versus 1.98% in the corresponding period of 2013. In absolute terms, this amounted to €1.36 billion versus €1.76 billion in the same period of 2013. This change reflects the reduction in interest payments by €300 million compared to the first half of 2013.

The current transfer balance showed a surplus of around €2.45 billion as against €1.99 billion in the corresponding period of 2013. Moreover, the surplus of current transfers expressed as a percentage of the GDP was 2.85%, whereas for the first half of 2013 it was 2.24%.

TABLE 1.2.3 Service Balance: Net Receipts

	Travel services		Transport services	
	in EUR billions	as percent of GDP	in EUR billions	as percent of GDP
2009	7.98	3.45	6.48	2.80
2010	7.46	3.36	7.26	3.27
2011	8.24	3.95	6.86	3.29
2012	8.60	4.45	6.96	3.60
2012, q1-q2	2.04	2.16	3.57	3.77
2013	10.32	5.67	6.54	3.59
2013, q1-q2	2.59	2.92	3.09	3.48
2014, q1-q2	2.92	3.39	3.69	4.30

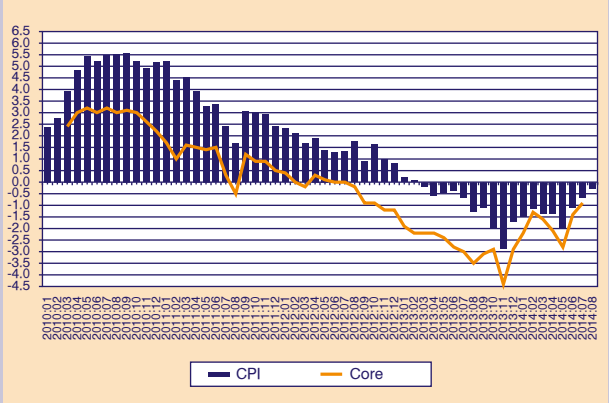
Sources: Bank of Greece and EL.STAT.

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

Yannis Panagopoulos

The headline inflation in Greece –estimated by the growth rate of the Consumer Price Index (CPI)– continues its declining trend. More specifically, during August 2014 the headline inflation decreased by 0.3% (-0.3%, y-o-y[1] basis) against a decline of 1.3% in August 2013 relative to August 2012 (see Diagram 1.3.1). It is also noticeable that after May 2014 the y-o-y CPI changes started to decline moving towards zero. If this decrease of deflation continues, then we will shortly face the end of this phenomenon which started in March 2013. On the other hand, we observe the same trend with respect to the core inflation. More specifically, in May 2014 the core inflation was -2.8% on a y-o-y basis. However, in July 2014 this negative value diminished to -0.9%. So, taking into account the lagged econometric correlation with the headline inflation (see Issue 20, February 2012 of the current publication), we can be optimistic about the termination of deflation regarding the headline inflation.

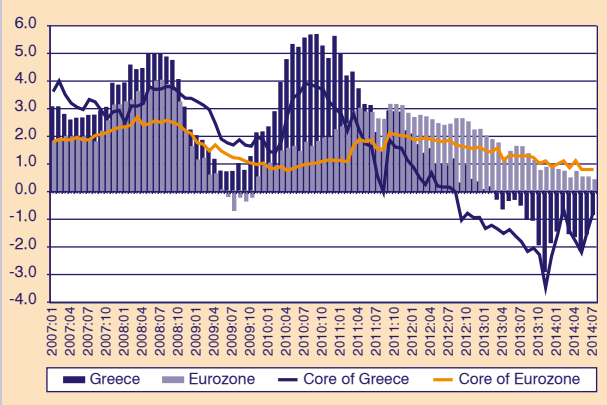
DIAGRAM 1.3.1
CPI, % change relative to the respective month of the previous years



According to the Hellenic Statistical Authority (ELSTAT), the aforementioned deflation level (-0.3%, y-o-y) in August 2014 can be mainly attributed to subsequent price decreases in four sub-categories, namely: (a) the "Education" category (by 3.9%) mainly due to decreases in fees for private schools and technical colleges, (b) the "Miscellaneous goods and services" category (by 2.6%) and specifically in the reduction of hair salon prices, the prices of personal care products, car and motorcycle insurance fees, etc., (c) the "Recreation and culture" category (by 2.5%) mainly due to decreases in the prices of optical and visual equipment, of PCs and in the prices of leisure services and (d) the "Food and non-alcoholic beverages" category (by 2.4%), due to price decreases mainly in fresh fruits and vegetables, meats, potatoes, fresh fish, sugar, meat, etc. Part of the aforementioned price decreases was offset by the increases in the prices of milk products, eggs and olive oil.

Finally, in Diagram 1.3.2, we present a comparison between the harmonized inflation rates (headline and core) in the Eurozone and Greece. As it is noticeable from the diagram, in April 2014 the Greek harmonized headline inflation was around -1.6% and in July had fallen to -0.8%. The same trend appears with respect to the harmonized core inflation rate in Greece (without non-processed fruits and energy). More specifically, the harmonized core inflation declined from -1.8% in April 2014 to -0.7% in July. Therefore, we observe that, like in the case of the CPI, we are gradually moving towards the end of deflation in Greece for both harmonized rates (headline & core).

DIAGRAM 1.3.2
Harmonized indices of consumer prices, % change relative to the respective month of the previous years



On the other hand, in the Eurozone –like in Greece– both harmonized inflation rates (headline and core) decline further, approaching gradually the zero level but from

1. y-o-y: year on year.

the positive side of the diagram and with different speed (see Diagram 1.3.2). More analytically, the harmonized headline inflation rate in the Eurozone has fallen from 0.8% in April 2014 to 0.4% in July. On the other hand, in the same time period, the core of the harmonized inflation rate looks rather rigid around 0.8%.

Finally, we can comment that the differences between the two harmonized inflation rates (headline and core), for Greece and the Eurozone in July 2014, were relatively close. More specifically, the headline inflation difference was around 1.6% and the core inflation difference was around 1.1%.

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

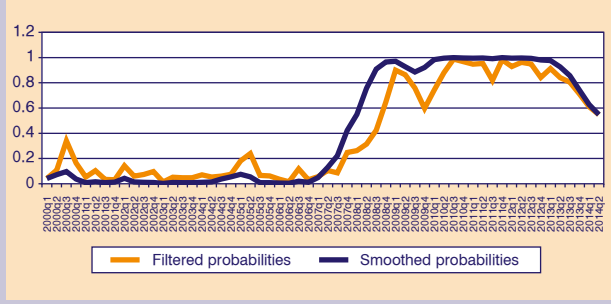
Ekaterini Tsouma

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 GDP[2] 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 2014.[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 and continued to undergo this specific business cycle phase up to the most recent period. Nevertheless, the course of the estimated probabilities recorded in the preceding quarters provides indications that the Greek economy is on a steady path leading away from the recession and towards an expansion within the short-term horizon. The respective conclusion is reinforced by the level of both the filtered and smoothed recession probabilities

FIGURE 1.4.1
Recession probabilities from Markov switching model



–which is equal in the two cases– according to the last observation for the second quarter of 2014, estimated at 0.5477. As a result, and despite the fact that recession probabilities still lie above the 0.5 threshold value, it follows that they have closely approached the point which signals the transition from the recession to the expansion. In addition, such a transition within the short term appears to be consistent with the observed evolution of the recession probabilities in time, characterized by a downward path in both the filtered –with one single exception– and the smoothed probabilities, which exhibits a remarkable continuity. More specifically, probabilities have been falling for eight consecutive quarters, from the levels of 0.9626 and 0.9972, respectively, in the second quarter of 2012 to 0.5477 in the second quarter of 2014.

Overall, and even though this particular model cannot provide forecasts as to whether or when exactly the Greek economy will be exiting the recession, both the levels and the recent course of the recession probabilities reinforce the assertion that the transition point will be reached very soon. For that reason, the provision of additional facts, confirming or contradicting the above presented evidence, based on estimation results offered by the probit model, as presented below, acquires particular significance.

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

1. For a 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 1970-2014, 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.

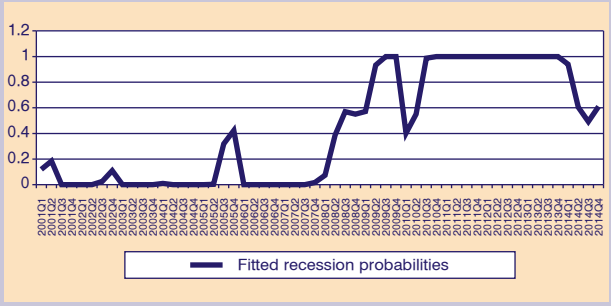
4. For a detailed presentation of the specific model according to Estrella and Mishkin (1998), see *Greek Economic Outlook* 14, January 2011, p. 27-28.

in *recession* or not. The resulting fitted values, obtained by estimating the probability that the observable recession 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 2000[6] to the second quarter of 2014, 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 quarters of 2014. This particular evidence gains importance at the current conjuncture, during which any piece of information regarding the potential exit from the recession becomes crucial.

The estimates reveal, as illustrated in Figure 1.4.2, that high recession probabilities were already forecast at the onset of the recession, which started in 2008, and have been retained until the end of 2013 (with the exception of the probability value of 0.40 for the first quarter of 2010[7]). However, both the most recent evolution and the corresponding levels of the estimated probabilities, including the evidence offered by the forecasts, are in line with the indications provided by the Markov switching model on a transition from the recessionary to an expansionary regime within the short-term horizon.

The evolution of the probabilities following the last quarter of 2013 confirms the simple hypothesis that the transition process will be gradual and will be characterized by a period of decreasing and lower recession probabilities. It is noteworthy that the derived value for the third quarter of 2014 indicates a level below the threshold value of 0.5, amounting to 0.49, despite the immediate increase to 0.61 which follows thereafter for the last quarter of 2014. Of course, any assessment of the significance of the respective increase in the estimated recession probabilities must be combined with the incorporation of additional information as soon as it becomes available, since it yet constitutes a single observation.

FIGURE 1.4.2
Recession probabilities from probit model



In summarizing and putting aside any potential sudden and unexpected negative disturbances in the interim, it follows on the basis of the indications provided by both applied models estimating recession probabilities that the Greek economy may possibly exit the recession within the year 2014.

References

Estrella, A. and F. S. Mishkin (1998). "Predicting US Recessions: Financial Variables as Leading Indicators", *The Review of Economics and Statistics*, 80(1), 45-61.

Hamilton, J. D. (1989). "A new approach to the economic analysis of nonstationary time series and the business cycle", *Econometrica*, 57, 357-384.

Tsouma, E. (2010). "Predicting Growth and Recessions Using Leading Indicators: Evidence from Greece", KEPE, Discussion Papers, 114.

Tsouma, E. (2011). "Dating the Greek Business Cycle: Is there Evidence on a Late 2000s Recessionary Regime for the Greek Economy?", *Essays in Economics-Applied Studies on the Greek Economy*, *50 years anniversary publication*, Athens: KEPE.

Tsouma, E. (2014). "Dating Business Cycle Turning Points: The Greek Economy During 1970-2012". *Journal of Business Cycle Measurement and Analysis*. http://dx.doi.org/10.1787/jbcma-2014-5jz0sr0pnhs8.

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 and Tsouma, 2014), 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 have remained at high levels ever since.

1.5. Factor model forecasts for the short-term prospects in GDP

Factor Model Economic Forecasting Unit
Ersi Athanassiou, Theodore Tsekeris, Ekaterini Tsouma

The current section presents the updated short-term forecasts of KEPE concerning the evolution of the rate of change of real GDP in Greece in the third and fourth quarters of 2014 and the first and second quarters of 2015. The forecasts are produced by implementing a dynamic structural factor model, whose detailed description can be found in Issue 15 (June 2011) of the *Greek Economic Outlook*. The underlying time series database used to estimate the model and produce the forecasts encompasses the main aspects of economic activity in the country on a quarterly basis, spanning the time period from January 2000 up to June 2014. Specifically, the database incorporates both real economy variables (such as the main components of GDP from the expenditure side, general and individual indices concerning industrial production, retail sales, travel receipts, the labor market and the economic sentiment indicator, as well as business expectations indices) and nominal variables (such as the general and individual consumer price indices, monetary variables, bond yields, interest rates, exchange rates and housing price indices). It is noted that the seasonal adjustment of all time series was carried out by use of the Demetra+ software, which is freely available from Eurostat.[1]

According to the factor model forecasts presented in Table 1.5.1, the mean annual rate of change of real GDP is estimated at 0.4% for the whole year 2014, incorporating actual data (adjusted for seasonality) up to the second quarter of 2014.[2] The most central characteristic of the present estimate, which becomes particularly crucial at the current conjuncture, relates to the fact that the forecasts confirm, for the fourth consecutive time, the assertion that 2014 will represent the year of transition from the deep, long-term recession, which had begun in 2008, to an economic expansion regime. This result is derived despite the intermediate downward revision of the GDP rate of change for the first quarter of 2014 and the publication of a negative percentage change for the second quarter of 2014 by EL.STAT. In addition, it is important to stress that the model forecasts the continuation of the upward path in GDP during the first half of 2015, for which a mean rate of change of 2% is estimated.

More specifically, the quarterly evolution of the rate of change in real GDP follows a favorable course during the time period from the middle of 2014 to the middle of 2015, recording growth rates of 1.2%, 1.8%, 1.9% and 2.1% in the third and fourth quarters of 2014 and the first and second quarters of 2015, respectively, as compared to the corresponding quarters of the previous year.

The above presented positive rates of change in real GDP for the upcoming quarters lead the Greek economy away from the recession within the year 2014 and towards significant rates of growth in the first half of 2015. This predicted evolution reflects the ongoing progress made with reference to rebalancing the main fiscal aggregates, strengthening competitiveness, promoting crucial structural reforms and smoothing out the conditions pertaining to financial markets. Positive effects from improvement in all these fields interact with each other and lead, among

TABLE 1.5.1 Real GDP rate of change
(%, y-o-y)

	2014		2015	
Quarters	**2014Q3**	**2014Q4**	**2015Q1**	**2015Q2**
Quarterly rate of change	1.24	1.81	1.85	2.07
	[1.18 , 1.29]	[1.71 , 1.92]	[1.70 , 2.01]	[1.87 , 2.27]
Mean annual rate of change	0.41*			
	[0.37 , 0.45]		-	

Note: Values in brackets indicate the lower and upper boundaries of the 95% confidence interval of the forecasts. *The figure incorporates official non-seasonally adjusted data for the first two quarters of 2014, which have been adjusted here for seasonality.

1. The TRAMO/SEATS filter was used for the seasonal adjustment.

2. The forecasts were finalized before the publication of the revised National Account data.

other things, to further enhancement of both the domestic economic climate and the credibility of the country.

More specifically, the aforementioned favorable developments are mirrored in the positive path with reference to a considerable number of variables, some of which are related to hard data, while others concern soft data derived from economic surveys. Indicatively, it is worth mentioning the encouraging evolution in (a) the tourism sector, as demonstrated by the data on travel receipts and export services, (b) the private passenger car market, as indicated by new registrations and the turnover index for motor trade, including sales of goods and services, (c) the retail trade sector, as recorded on the basis of both the general volume index and specific individual categories, (d) the competitiveness field, according to real effective exchange rates and unit labour costs, (e) financial services, as illustrated by the course of the General Index of the Athens Stock Exchange and the spreads, and (f) expectations and the overall economic climate, as registered on the basis of business expectation indicators in individual sectors and also the overall economic sentiment indicator for Greece. At the same time, it appears that the particularly adverse environment which continued until recently to characterize certain sectors of the economy has started to exhibit signs of reversal, as is the case in the construction sector, where the recorded positive developments refer mostly to public construction works.

Great importance should be further attributed to the recent developments in some of the main domestic demand components, such as private consumption and investment, featured by positive or non-negative rates of change in the first case and a considerable containment of the negative dynamics in the second case, driven by a positive evolution in individual sub-categories of investment.

In contrast, there are no overall encouraging signs in the manufacturing sector, apart from individual subsectors, as manifested by the industrial production index and the turnover index in industry for both the internal and the external market. Finally, the conditions pertaining to the labour market remain particularly adverse, as mirrored by the evolution of the basic unemployment and employment aggregates. It should, however, be noticed that there have been some first indications of a marginal increase in employment, based on developments in the tertiary sector, and of a slight decrease in unemployment, mainly due to the course of unemployment for the newly unemployed.

The forecasted upswing in GDP during the upcoming quarters might be potentially further strengthened through an agreement on the settlement of the Greek public debt, but also through the restoration of liquidity and financing conditions pertaining to the economy, since these conditions are key to the enhancement of business activity and the recovery in investment. Additional improvements with regard to the country's competitiveness, with positive impacts on exports, are also anticipated to enhance the growth process in the Greek economy. A more vivid recovery in the Eurozone is also expected to operate in the same direction. There exist, nevertheless, a number of counter-stabilizing factors which might operate in the opposite direction, by negatively affecting exports and tourism. The crisis in the Ukraine belongs to this category of factors, while the emergence of instability in the domestic political environment –potentially causing an increase in uncertainty and weakening of the credibility of the country– might disrupt the favorable course into which the Greek economy is about to enter in the upcoming quarters, according to the present forecasts.

2. Public finance

2.1. State Budget execution, January-August 2014

Elisavet I. Nitsi

The execution of the State Budget, the sum of the Ordinary Budget and the Public Investment Program (PIP), according to the latest available data from the Greek General Accounting Office,[1] on an eight month basis (January-August 2014), in modified base, showed a significant improvement by 13.7% in regard to the corresponding period of 2013, but it is far from the targets set by the government, that is the Medium Term Financial Strategy 2015-2018 (MTFS), as it diverges on the order of 39.6%. The Primary Balance of the State Budget displayed a reduction of €910 million or 31.81% compared to the corresponding period of 2013, but it shows an increase of €989 million from the target set by the MTFS.

More specifically, the State Budget displayed a deficit of €2.95 billion in the period January-August 2014, slightly increased from the deficit of €2.86 billion in regard to the corresponding period of 2013, but it was significantly reduced compared to the target of a €4.71 billion deficit set by the MTFS 2015-2018. The Primary Balance stood at a surplus of €1.95 billion, a reduction compared to the corresponding primary surplus in 2013, which was €2.86 billion, but a significant increase against the target for a primary deficit of €962 million.

The State Budget expenditures amounted to €35.77 billion, showing a reduction compared to the corresponding period of 2013 by €1.63 billion or 4.35%. More specifi-

TABLE 2.1.1 State Budget Execution January-August 2014

(million €)

	Jan-Aug 2013	Jan-Aug 2014		2013	2014	
	Outcome	Outcome	MTFS 2015-2018 Targets*	Outcome	MTFS 2015-2018 Targets*	Budget 2014 Targets
State Budget						
Net Revenue	34,893	32,924	33,249	53,018	55,935	54,695
Expenditures	37,395	35,769	37,366	58,459	56,542	56,248
Ordinary Budget						
Net Revenue	30,913	29,577	29,837	48,423	50,783	49,693
Expenditures	34,850	32,461	34,198	51,809	49,742	49,448
– Primary expenditure	28,447	27,000	28,198	44,230	42,612	41,946
– Interest payments	5,363	4,795	5,079	6,044	5,900	6,150
Public Investment Program (P.I.P.)						
Net Revenue	3,980	3,347	3,412	4,595	5,152	5,002
Expenditures	2,544	3,308	3,168	6,650	6,800	6,800
State Budget Primary Balance **	2,861	1,951	962	603	5,293	4,597
State Budget Balance **	-2,502	-2,845	-4,711	-5,441	-607	-1,553

* Medium Term Fiscal Strategy, 2015-2018.
** + surplus, - deficit

Source: General Accounting Office, Greek Ministry of Finance.

1. Data is presented on a modified cash basis as published in the State Budget Monthly Execution Bulletin, August 2014, General Accounting Office, Greek Ministry of Finance.

cally, the Ordinary Budget expenditures which amounted to €32.46 billion were reduced by €2.39 billion or 6.86% in regard to the corresponding figures of 2013, mainly due to the further reduction of the primary expenditures by €1.45 billion or 5.09% in comparison to the corresponding period last year, but also due to the reduced interest payments by €568 million or 10.59% in the corresponding period. It should be mentioned that both the expenditures of the State Budget and the Ordinary Budget are reduced compared to the targets set by the MTFS 2015-2018. The MTFS target of €37.37 billion is off from the outcome of the State Budget by €1.60 billion or 4.27%, while those of the Ordinary Budget by €1.74 billion or 5.08%.

Despite the improved figures relating to the government expenditures, revenues fall short both for the corresponding period of 2013 and the targets set by the MTFS 2015-2018. More specifically, the amount of net revenue of the State Budget amounted to €32.92 billion showing a decrease of €1.97 billion or 5.64% against the corresponding period revenues in 2013, while the reduction against the target of the MTFS is much lower and amounts to €325 million or 0.98%.

At the same time there is a corresponding lag in net Ordinary Budget revenue by €1.63 billion or 4.35%, as well as a reduction of the target set by the MTFS by €1.60 billion or 4.27%, mainly due to reduced net revenues of the Ordinary Budget amounting to €29.57 billion, decreased by €1.34 billion, but also revenue in the Public Investment Program (PIP) amounting to €3.35 billion lower than last year, at €633 million. Finally, the Public Investment Program is substantially balanced against a surplus of €1.44 billion compared to the same period of 2013, while there was a surplus target of €244 million.

From the evolution of the fiscal measures it seems that the targeted primary surplus will be maintained in 2014 and it will probably be extended to the remaining term of the year due to the expected increase in revenues as the arrangements for overdue tax and social security contributions that have been announced will be implemented. Moreover, a further increase in revenue is expected in the last months of the year, following the collection of the installments of personal income tax, as well as the ENFIA of 2014.

3. Human resources and social policies

3.1. Labour market developments

Ioannis Cholezas

The most recent data concerning the labour market show that the unemployment rate decreased in June 2014 compared with May, same year, and June 2013, since the number of unemployed also decreased by 4.5% and 2%, respectively. In addition, employment as a percentage of the population and as an absolute number increased in June. Youth record a significant reduction in the unemployment rate, contrary to the rest of the age groups, which is probably due to the numerous subsidised employment schemes in effect, since youth are the group most heavily supported by the state. This does not mean that there is no space for further improvements, of course. On a quarterly basis, the general unemployment rate decreased to 26.6% in the second quarter of the year driven by the reinforced tourist flows. The situation in the labour market seems less disappointing for Technical education graduates and more worrying for University graduates, although one should not jump to conclusions. Long unemployment spells constitute another parameter which continues to trouble many together with the inability of the unemployed who seek employment for the first time to get a job within a reasonable time span. Active labour market policy makers should be concerned with both issues.

At the same time, employment continues to decrease in industries disproportionately struck by the recession emphasising the need for better orientation of existing education and training schemes for the unemployed. Regarding flows of paid employment, hires continue to outnumber separations in August, but approximately half of these involve flexible forms of employment, while it has become common practice to convert full-time job contracts into part-time or work-in-shifts job contracts for those who are still employed. One positive development is that the number of job contracts conversions dropped, both compared with the previous year and compared with the previous month.

3.1.1. Monthly data on unemployment and employment

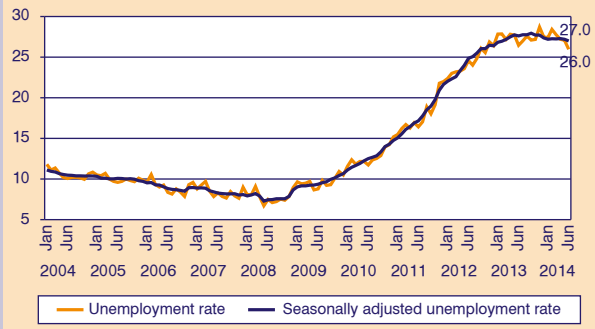
The situation in the labour market is mostly stable throughout the year, which is good in the sense that at least it is not getting any worse, but also troubling since the marginal downward movement of the unemployment rate and the weak increase in the employment rate raise doubts as to whether these variables will develop favourably in the near future in order to relieve those groups which bear the worst social and economic consequences of the recession. In order to provide the full picture of the labour market monthly data until June from the Labour Force Surveys (LFS) are utilised combined with quarterly data from the second quarter of the year. The main disadvantage of the former is that they provide limited information.

Based on monthly data from LFS, the seasonally adjusted unemployment rate for the age group 15-74 climbed to 27.0% in June (see Graph 3.1.1).[1] This means that the unemployment rate decreased by two tenths of a point compared with May and six tenths of a point compared with June last year. The number of the unemployed (not seasonally adjusted) decreased compared with May by 4.4% (or 58 thousand) and compared with last June by 1.8% (or 23.5 thousand). Given the revived economic activity caused by increased tourist flows, the reduction of the unemployed is expected. It is smaller though compared with June 2013, when the unemployed decreased compared with May of the same year by 79.3 thousand (or 5.5%). Coupled with the reduction in the unemployed, the employed increased in June, both compared with May by 1.2% (or 42.8 thousand), and compared with the same month last year by 0.8% (or 27 thousand). It should be noted that the situation was completely different last June (2013), since the employed decreased compared with June 2012.

In our case, employment and unemployment move towards the same direction, but this is not always the case. For instance, the reader should compare the respective data for unemployed and employed in May 2014. This means that a full analysis of the labour market should not be based solely on unemployment, but it should take into

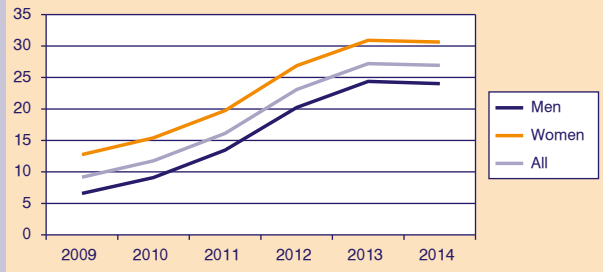
1. Seasonal adjustment leads to the time smoothing of the statistical series. In other words, it reduces the volatility of the data caused by monthly changes and sometimes by special circumstances.

GRAPH 3.1.1
Monthly unemployment rate seasonally adjusted or not (%)



Source: Published LFS data, ELSTAT.

GRAPH 3.1.2
Unemployment rate by gender in the first semester for years 2009-2014 (%)



Source: Published LFS data, ELSTAT, author's calculations.

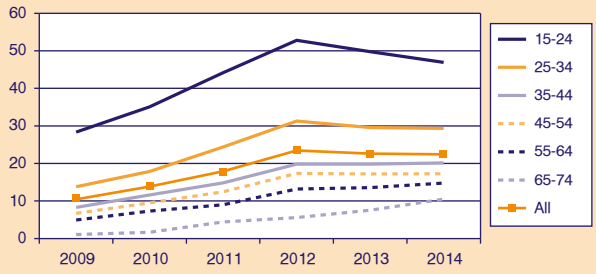
account the evolution of employment. Given the above, the employment rate increased in June compared with May 2014 and June 2013, while the picture a year before was very different, exhibiting a reduction on a yearly basis and an increase on a monthly basis.

Regarding gender, women continue to face a higher unemployment rate compared with men (31.1% vs. 23.8% in June), but they exhibit stability compared with May, while men face a marginally lower unemployment rate (see Graph 3.1.2). Compared with the previous year, women's unemployment rate declined slightly, while men's unemployment rate dropped by a percentage point, which is certainly a positive outcome. In the first semester of the year the average unemployment rate for men continues to be lower, the same with previous years, but the gender unemployment differential is quite steady throughout the recession (approximately six percentage points). Nevertheless, the unemployment ratio between men and women declined from 1.9 in the first semester of 2009 to 1.3 in the first semester of 2012, a value which remains constant until 2014. This means that the unemployment rate increases proportionately for both men and women during the recession, but the same is not true for the number of the unemployed as shown in previous issues of the *Greek Economic Outlook.*

Similar to women, the youth (aged 15-24) unemployment rate is higher than the average for the rest of the population. This observation has been noted repeatedly for both Greece and other European countries. What is interesting in the Greek case is that the unemployment differential is much larger compared with other European countries. Nevertheless, it is comforting that in the first semester of the year, following an upward movement which started in 2009, the youth unemployment rate seems to deescalate by 2.9 percentage points (see Graph 3.1.3). This observation is especially important, since no other age group exhibits an analogous reduction in the unemployment rate during the past year. On the contrary, the age group 55-64 records an increase of 1.2 percentage points during the same time.[2] Indeed, in 2009, when the unemployment rate was much lower for all groups, the ratio of youth unemployment to general unemployment (aged 15-74) was 2.7 in the first semester, while the respective ratio in 2014 is 2.1. *Ceteris paribus*, this is an impressive reduction and a plausible explanation could be the numerous active labour market policies targeting youth. Although the positive impact of those policies on restraining human capital depreciation and avoiding social alienation is not questioned, it seems reasonable to wonder about their effectiveness. On other words, is the reduction in the unemployment rate proportionate to the money spent from the national or European budget? What kind of an employment did these policies manage to offer? Is it sustainable employment or occasional? Is the employment offered matching the skills and competencies of the youth or not? Such issues and many more ought to be investigated, in order to evaluate policies implemented. The aim is not to abolish those policies, but to make the necessary refinements to improve their targeting and to increase their effectiveness and, perhaps, to complement them with more initiatives.

2. This is another sensitive age group, which deserves the state's attention, since chances for maneuvering are limited due to old age.

GRAPH 3.1.3
Unemployment rate by age group, first semester 2009-2014 (%)



Source: Published LFS data, ELSTAT, author's calculations.

3.1.2. Quarterly data on unemployment and employment

Monthly data analysis that preceded lacks in-depth information. For instance, there is no data available concerning education or data which combine more than one characteristic, e.g. gender and age. Therefore, quarterly data from the LFS need to be utilised, despite the fact that the most recent refer to the second quarter of 2014, i.e. April, May and June. This means that developments incorporate the strong effect of tourism in variables such as unemployment and employment. At an aggregate level, the unemployment rate fell to 26.6%, more than one percentage point lower compared with the first quarter of the year and a half percentage point lower compared with the corresponding quarter in 2013. The number of employed increased by 1.6% (i.e. 55.4 thousand) compared with the first quarter, but it decreased compared with the second quarter of 2013 by 2.6% (i.e. 93.1 thousand). Thus, the employment rate for the entire population over 15 years of age reached 38.1%.

The analysis based on quarterly data focuses on characteristics which are not available on a monthly basis, i.e. the level of education,[3] the administrative region and unemployment duration, while special attention is paid to employment. The main argument for that is that the unemployment rate does not give a full picture of labour market developments, because it is sensitive to changes in many variables, such as the labour force, the number of the unemployed and population. Suggestively, a reduction in the unemployment rate could be the outcome of a decrease in the number of the unemployed, because a number of them got a job or stopped looking for one, and they are not reported as labour force any longer. Alternatively, unemployment could decrease, because some of the unemployed decided to migrate and look for a job abroad.[4] Thus, employment seems a safer criterion for labour market developments, although it does have its own limitations, such as the miscounting of the number of the unemployed due to cases of undeclared and unsecured labour.[5]

Education

In accordance with many more studies which refer to the relationship between education and the individual labour market situation, the unemployment rate is higher and the employment rate lower for individuals with a low educational attainment. The view of the first quarter of 2014 is no different (see Table 3.1.1).

The unemployment rate ranges from 32.0% for Gymnasium graduates to 13.3% for PhD and/or Master's degree holders. In most educational groups the number of the unemployed fell. Compared with the second quarter of 2013, University graduates and PhD and/or Master's degree holders are the only groups with more unemployed (2.0% and 6.8%, respectively), while the same is true compared with 2014a only for University graduates. It should also be noted that on a year-on-year basis and despite low unemployment rates compared with other educational groups, the two top educational groups do not seem to perform very well proportionately. Not if one takes into account that being more educated theoretically ensures better chances to find a job abroad compared with lower educational level graduates. On the other hand, an important reduction in the number of the unemployed compared with the second quarter of 2013 is recorded for Technical education graduates (7.6%).

The employment rate also varies significantly between different educational groups and ranges in the second quarter of the year from 18.3% for Primary education graduates (or less) to 75.2% for PhD and/or Master's degree holders. The link between education and em-

3. It should be noted that the data available from ELSTAT for separate characteristics, such as education or region of residence, refer to the entire population over 15 years of age. Thus, they are not strictly comparable with previous tables and graphs, which often report data for individuals aged 15-64.

4. Let us not forget that the intense migration flows during the 1950's and 1960's constituted a part of the employment policy of the era, since the Greek economy was unable to absorb all unemployed.

5. In the context of the LFS interviews, the interviewees do not have an incentive to provide false information, as it is clear from the beginning that all information provided is confidential. Nevertheless, one cannot exclude the possibility that some report themselves as unemployed or economically inactive, while in reality they are working illegally (undeclared and unsecured) simply out of fear.

TABLE 3.1.1 Unemployment and employment rate by educational group

	2013b (%)	2014a (%)	2014b (%)	2013b-2014b ('000 and %)		2014a-2014b ('000)
Unemployment						
PhD and/or Master's degree	14.2	15.3	13.3	1.5	(-0.8)	-1.6
University	17.7	18.7	19.0	3.2	(1.3)	0.8
Technical education	30.6	29.2	27.5	-21.0	(-3.1)	-12.4
Lyceum	29.3	31.1	29.5	-23.1	(0.2)	-26.9
Gymnasium	32.5	33.1	32.0	-6.6	(-0.6)	-5.9
Primary or less	27.7	28.3	26.8	-24.4	(-0.8)	-16.2
Employment						
PhD and/or Master's degree	74.8	72.5	75.2	19.4	(0.4)	13.4
University	61.9	59.0	58.4	-45.2	(-3.5)	-10.6
Technical education	55.8	56.4	57.9	46.4	(2.1)	24.0
Lyceum	42.4	40.2	41.1	-65.7	(-1.3)	28.2
Gymnasium	30.5	29.7	30.5	-5.1	(0.0)	5.2
Primary or less	19.3	18.3	18.3	-42.9	(-1.0)	-4.7

Source: Published LFS data, ELSTAT, author's calculations.

ployment seems to be almost linear. The changes in the number of the employed, when comparing corresponding (second) quarters in 2013 and 2014, are positive with the exception of University graduates. On a year-on-year basis, the only noteworthy employment increase, by 4.6 thousand persons (or 7.4%), refers to Technical education graduates and PhD and/or Master's degree holders by 19.4 thousand (or 14.6%). Unemployed graduates from all other educational levels decreased over the past year.

Considering the data on both unemployment and employment one could conclude that compared with the rest of the educational groups, Technical education graduates seem to perform better. In contrast, the situation does not look very optimistic for University graduates. Nevertheless, one should not jump to conclusions.

Administrative region

The labour market situation differs across geographic regions and local labour markets. Although the grouping is not a simple task, since it is difficult to determine local labour markets, the notion of the administrative region is used as a close but incomplete substitute. In the previous issues of the *Greek Economic Outlook* it is clearly demonstrated that both unemployment and employment differ substantially across the thirteen administrative regions of the country. Both variables exhibit seasonal fluctuations, i.e. they move towards the same direction in certain periods over the year, in some regions these fluctuations are more intense than others, although at a national level they tend to cancel each other out to some extent. These often intense fluctuations[6] have to do with the volatility of the economic activity throughout the year. For example, it is worth mentioning the tourist activity which expands during the summer and is stronger in some regions than others.

The unemployment and the employment rate by region are presented in Table 3.1.2. In the first quarter of 2014 the unemployment rate ranges from 17.9% in South Aegean islands to 29.9% in West Greece and 29.4% in Central Macedonia. Compared with 2014a, the number of the unemployed decreased in eleven out of thirteen regions, an observation which is in accordance with the seasonal reinforcement of tourism. The largest reductions in absolute numbers are recorded in those regions with the largest populations, i.e. Attica and Central Macedonia. Compared with the second quarter of 2013, one year back, five out of thirteen regions report more unemployed, while the rest report less unemployed, in some cases significantly less. The Ionian Islands and South Aegean regions record the largest increases in

6. For example, based on the number of the unemployed, from the first quarter of 2008 and onwards, the regions with the highest ratio of standard deviation to mean number of unemployed are the North Aegean, Attica, Crete and Central Macedonia. Calculations are available from the author upon request.

the number of the unemployed (2.3 thousand or 13.3% and 1.7 thousand or 6.4%, respectively). In contrast, a relatively important decrease in the number of the unemployed is recorded in West Macedonia (9.0 thousand or 22.6%) and East Macedonia and Thrace (7.5 thousand or 10.9%) over the past year. The Peloponnese exhibits a remarkable stability in the number of the unemployed. On the other hand, based only on the unemployment rate, the results are split, since compared with 2013b four regions record an increase of over one percentage point in the unemployment rate and three more regions record a decrease of similar size. In the remaining regions changes in the unemployment rate are small.

Regions also differ regarding the employment rate. In the second quarter of 2014 the employment rate ranges from 34.2% in West Macedonia and Epirus to 46.6% in the South Aegean. This twelve percentage point difference is characteristic of the size of differentials between regions. It should be noted though that even in regions in which the employment rates are comparably high, they lag behind the corresponding European figures. For example, in the EU28 the employment rate for individuals over 15 years of age in the first quarter of 2014 was 51.2% and in the Eurozone of 18 member states it reached 50%.[7] Compared with North European countries, the differential in employment rates is quite wide (e.g. 67.9%

TABLE 3.1.2 Unemployment and employment rate by administrative region

	2013b (%)	2014a (%)	2014b (%)	2013b-2014b ('000 and %)		2014a-2014b ('000)
Unemployment						
East Macedonia & Thrace	26.9	25.4	23.9	-7.5	(-10.9)	-3.7
Central Macedonia	30.1	29.9	29.4	-18.7	(-7.5)	-1.1
West Macedonia	32.9	28.5	27.3	-9.0	(-22.6)	-1.5
Epirus	27.7	28.5	28.3	-2.7	(-6.3)	-0.7
Thessaly	25.6	25.2	25.1	-3.4	(-4.2)	-1.1
Ionian Islands	16.6	27.4	21.1	2.3	(13.3)	-5.2
West Greece	28.5	29.7	29.9	-7.4	(-8.1)	0.7
Sterea Hellas	26.7	27.6	26.8	-1.7	(-2.6)	-2.9
Attica	28.1	28.1	27.4	-23.5	(-4.5)	-16.7
Peloponnese	22.2	23.4	23.6	0.7	(1.2)	1.1
North Aegean	21.7	24.4	22.7	0.4	(2.2)	-1.5
South Aegean	19.3	30.3	17.9	1.7	(6.4)	-18.9
Crete	23.7	27.0	22.8	-1.5	(-2.3)	-10.9
Employment						
East Macedonia & Thrace	37.3	36.9	37.9	8.8	(4.7)	5.1
Central Macedonia	35.8	34.2	34.8	-27.2	(-4.7)	8.9
West Macedonia	32.8	33.7	34.2	0.9	(1.1)	0.9
Epirus	36.3	34.3	34.2	-10.2	(-9.1)	-0.5
Thessaly	38.2	37.6	37.4	-3.7	(-1.6)	-1.6
Ionian Islands	43.9	37.7	42.0	-13.8	(-15.8)	7.5
West Greece	36.8	34.5	34.4	-32.7	(-14.2)	-0.5
Sterea Hellas	37.4	36.4	36.3	-5.0	(-2.8)	-0.6
Attica	39.8	39.6	39.6	-18.3	(-1.4)	-1.1
Peloponnese	40.3	39.8	40.2	-13.4	(-6.6)	1.6
North Aegean	39.5	36.1	36.7	-2.5	(-3.8)	1.0
South Aegean	45.1	39.0	46.6	18.9	(17.1)	21.2
Crete	43.1	39.6	42.3	5.3	(2.5)	13.6

Source: Published LFS data, ELSTAT, author's calculations.

7. During writing the present article there was no available data for the Eurozone of 18 member states or the EU28, since there were no such data available for some countries. Therefore, data from the first quarter of the year are employed.

in Norway or 59.3% in Netherlands).[8] The consequences of such an observation is that every employed person in Greece needs to produce enough output to support two more individuals, when in other European countries the employed person has to support just another person. This means that either the Greek employed must work double the hours or be twice as productive as his/her European counterpart in order to ensure the same living conditions with the rest of the Europeans.

The number of the employed changes in all regions, but the sign of the change depends on the reference time chosen. Compared with the first quarter of 2014, the number of the employed increased significantly in five out of thirteen regions, probably due to the strengthening of the tourist activity, since the largest increases are recorded in the South Aegean and Crete. On the other hand, compared with the labour market situation a year ago, the number of the employed decreased in nine out of thirteen regions. These movements are more representative of the adverse economic circumstances the country faces. The largest decreases in terms of percentage change, not necessarily in absolute numbers, over the last year are recorded in the Ionian Islands (15.8% or 13.8 thousand less employed), West Greece (14.2% or 32.7 thousand) and Epirus (9.1% or 10.2 thousand). In contrast, the South Aegean seems to perform better, since the number of the employed increased by 17.1% (or 18.9 thousand) over the last year.

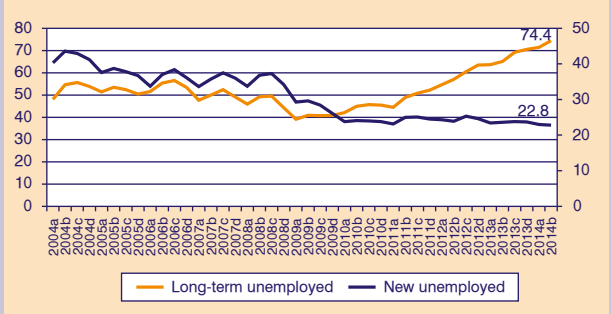
Unemployment duration

One of the key features of unemployment is the time the individual remains unemployed, i.e. its duration. The duration is important because unemployment is expected to have adverse social, psychological and economic effects on the individual as already discussed in previous issues of the *Greek Economic Outlook* which are linked to issues such as low self-esteem, depression, social exclusion, poverty, human capital depreciation, discouragement and dropping out of the labour market, etc. Given the above, the long-term unemployed (more than twelve months) are considered particularly vulnerable. Another group demanding special attention similar to the long-term unemployed is the new unemployed, i.e. those who have never worked in the past and look for a job for the first time. These two groups often overlap, i.e. individuals looking for a job for the first time for more than twelve months, creating an explosive mix.

These two groups of unemployed and their evolution over the last decade are presented in Graph 3.1.4 as a share of total unemployed. The share of the long-term unemployed is measured in the left-hand vertical axis and the share of new unemployed is measured in the right-hand vertical axis. It is interesting that before the recession the two groups fluctuate in a similar manner following a downward trend: those looking for a job for the first time usually found one in less than a year, while they who lost their job also found one relatively quickly. Long-term unemployed were usually outnumbered by new unemployed: at the beginning of the recession new unemployed were approximately 70% of total unemployed, while long-term unemployed were 55% of total unemployed. The two shares do not add up to unity, which is a proof that the two groups often overlap.

Once the recession is under way the share of long-term unemployed is stabilised and, then, it increases in mid-2012 to reach the level of 2004. From then on, it increases further to almost 75% in the second quarter of 2014. The share of new unemployed decreases up to 2010 and then seems to settle at less than 25%. It should be stressed at this point that these figures refer to shares of total unemployed, so in reality what is recorded is the faster increase of long-term unemployed compared with the total number of the unemployed and the proportional increase of new unemployed again compared with the total number of the unemployed. Therefore, both groups of unemployed increase in number, but in the case of long-term unemployed this increase is greater.

GRAPH 3.1.4
New and long-term unemployed as a share of total unemployed (%)



Source: Published LFS data, ELSTAT, author's calculations.

Having so many people out of work for such a long time and so many people who have never worked in the past is expected to add more problems in the effort to over-

8. Differences are similar for individuals aged 15-64, i.e. the most commonly mentioned age group. According to published Eurostat data, the employment rate in the EU28 was 64.1% in the first quarter of 2014, 63.2% in the Eurozone of 18 member states and 48.5% in Greece.

come the recession. First of all, to those people who will probably find themselves with obsolete knowledge and skills or without any work experience and, second, to the market itself which will not be able to find individuals with the skills it demands. The role of the state is crucial and should be expanded, so that the labour force is ready the day after. Subsidised employment schemes implemented mainly by OAED (the Greek Employment Agency) need to be evaluated, in order to spot their weaknesses and reinforce them to include an even greater number of unemployed and to expand the groups of participants (e.g. more attention should be paid to age groups other than youth and parallel to them). The same ought to happen with education and training policies for the unemployed; it seems reasonable to line up these policies with the needs and the demands of the labour market.

Industry of economic activity

Out of a total of 3.5 million employed in the second quarter of 2014, 71.5% are employed in the tertiary sector, 15.0% in the secondary sector and 13.4% in the primary sector. Compared with 2013b, the tertiary sector increased its share of employment, contrary to the other two sectors, although the change in the primary sector is marginal. This observation is characteristic of the country's industrial base shrinkage and it becomes even more obvious once the shares of employment in 2009b are taken under consideration, i.e. at the beginning of the recession: 11.7% in the primary sector, 67.2% in the tertiary sector and 21.1% in the secondary sector. In other words, the secondary sector has suffered greater losses in terms of employment size during the recession, since it lost approximately six percentage

TABLE 3.1.3 Employed by industry

	2009b-2014b (change %)	2013b-2014b (change %)	2014a-2014b (change %)	2014b (composition %)
Agriculture, forestry and fishery	-10.1	-3.7	-0.8	13.4
Mining and quarrying	-17.9	3.6	11.7	0.3
Manufacturing	-38.3	-5.8	1.0	9.0
Electricity, gas, steam and air conditioning supply	-7.9	2.2	-2.1	0.8
Water supply, sewerage, waste management and remediation activities	-14.4	7.6	11.3	0.7
Construction	-59.6	-14.0	-0.9	4.2
Wholesale and retail trade, repair of motor vehicles and motorcycles	-24.6	-4.8	0.5	17.6
Transportation and storage	-21.2	-4.1	-1.4	4.9
Accommodation and food service activities	-4.0	13.9	21.4	8.5
Information and communication	-8.0	-4.1	1.7	2.1
Financial and insurance activities	-16.6	-16.0	-8.5	2.7
Real estate activities	-73.6	0.0	-23.3	0.1
Professional, scientific and technical activities	-20.0	-6.4	-3.9	5.2
Administrative and support service activities	9.8	41.7	18.4	2.4
Public administration and defence, compulsory social security	-17.0	-5.7	-2.9	8.9
Education	-11.6	3.2	1.0	8.3
Human health and social work activities	-7.2	-5.7	1.5	5.9
Arts, entertainment and recreation	-13.6	16.1	9.3	1.4
Other service activities	-16.8	-0.7	3.6	2.0
Activities of households as employers, undifferentiated goods -and services- producing activities of households for own use	-45.2	-12.6	-2.1	1.3
Activities of extraterritorial organizations and bodies	18.2	-7.1	0.0	0.0

Source: Published LFS data, ELSTAT, author's calculations.

Note: In the last column of the table actual figures are never zero. In the case of the last industry though, they are very close to zero.

points in employment share, even though a part of that loss can be explained by technological evolution and the substitution of labour for capital.[9]

The shares of employment by industry in the second quarter of 2014 are presented in the last column of Table 3.1.3. The largest industry in terms of employment is Wholesale and retail trade (17.6%) followed by Agriculture, forestry and fishery (13.4%), Manufacturing (9.0%) and Public administration and defence (8.9%). It is interesting that often changes in employment are more intense on a quarterly basis than on year-on-year basis and in some cases they even have a different sign, obviously due to seasonality experienced in many activities. Such cases include Real estate activities, Arts, entertainment and recreation, Accommodation and food service activities, etc. As long as someone is interested in drawing some conclusion with respect to the intertemporal evolution of seasonally adjusted employment figures, it would be wise to employ changes in a year-on-year basis. Industries such as Accommodation and food service activities, Administrative and support service activities and Arts, entertainment and recreation move contrary to the general trend of decreasing employment. Some industries represent a small share of overall employment, so the results could have limited validity due to size, but not others (see Accommodation and food service activities with a share of 8.5% in 2014b).

Real estate activities (73.6%), Construction (59.6%), Manufacturing (38.3%) and Activities of households as employers, etc. (45.2%) are industries exhibiting the largest decrease in their shares, while even the larger industry in terms of employment, i.e. Wholesale and retail trade, suffered significant losses (24.6%). In absolute numbers though, the most job places were lost in Construction (approximately 218 thousand), in Wholesale and retail trade (around 204 thousand) and in Manufacturing (around 197 thousand). These industries are the ones in which efforts to reeducate and retrain dismissed employees should focus, so that they are able to find new job places. On the other hand, as often argued in the public discourse, Agriculture, forestry and fishery suffers from smaller losses of 10.1% or 53.7 thousand jobs. As a result, the significance of this industry is reinforced during the recession and could potentially absorb more unemployed, as long as this is done with consideration to contemporary consumer demands, e.g. organic goods or foods rich in nourishing elements, and to new technology and methods of production.

3.1.3. Flows of paid employment (ERGANI)

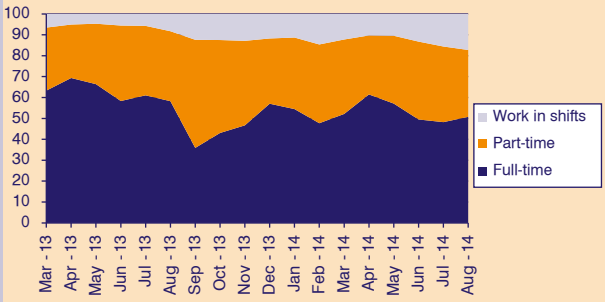
The most recent report of the ERGANI system was published a few days ago and refers to flows of paid employment in August 2014. Probably due to seasonal factors, net flows continued to be positive, but considerably smaller compared with previous months. In August there were just 1,311 more hires than separations, a performance which falls short by 9.6 thousand of net new jobs created in August 2013. In contrast, over the first eight months of the year new jobs are almost twice as much as they were in the corresponding period last year (190,883 vs. 102,580 new jobs last year), mainly because of the very good results in the labour market recorded in July. Indeed, the performance over the first eight months of the year (and July's) is one of the best performances recorded since 2001 (2nd and 3rd best performance, respectively), even compared with periods of economic growth. This is certainly a riddle, but some logical explanations could include the increase in the gravity of paid employment and the respective decrease of self-employed, the reporting in ERGANI of hires in the public sector and the reporting of hires under subsidised employment schemes administered by OAED, the containment of undeclared and unsecured labour as a result of increased labour market inspections, etc. A different approach could be that the hires recorded involve low employee compensation under flexible employment schemes and, therefore, are not enough to set the economy on a new growth path.

Compared with hires and separations of the past, both variables are bigger in August and the first eight months of the year, while the number of voluntary quits is significantly increased similar to what was observed in June and July. More hires and separations are not necessarily a bad thing as long as they reflect increased mobility in the labour market. Nevertheless, it would be interesting to examine the source of this mobility. More voluntary quits, as far as this is what they are and not camouflaged layoffs to avoid compensation pay, is a positive sign. In addition, notices of termination in the first eight months are 30% more compared with 2013, so it would be interesting to examine whether these are about terminations of open-ended contracts or fixed-term contracts. In the former case substituting fixed-term contracts for open-ended contracts is an unwelcome development for employed in general, since it most definitely involves lower earnings from work, and for the economy in a medium-term horizon, since it introduces greater uncertainty and restrains consumption and investment.

9. This part has to be extremely small given that net investments are negative over the last few years due to the recession and the uncertainty which prevails in business circles regarding future developments.

When August 2014 is compared with August 2013 it turns out that terminations of open-ended contracts constitute about one third of total terminations. Therefore, layoffs continue to involve primarily open-ended contracts terminations. How about hires? Full-time job hires are no longer the majority since 2013 (see Graph 3.1.5). The share of full-time job hires in August 2014 is 50.7% when the corresponding month last year was 58.2%. In contrast, flexible forms of employment continue to expand. In specific, part-time job hires constituted 33.5% of total hires in August 2013 and in August this year constitute 32.0%, while hires concerning work in shifts were 8.3% of total hires in August 2013 and are now 17.3% (August 2014). Upward trends are evident even if month-on-month changes are considered.

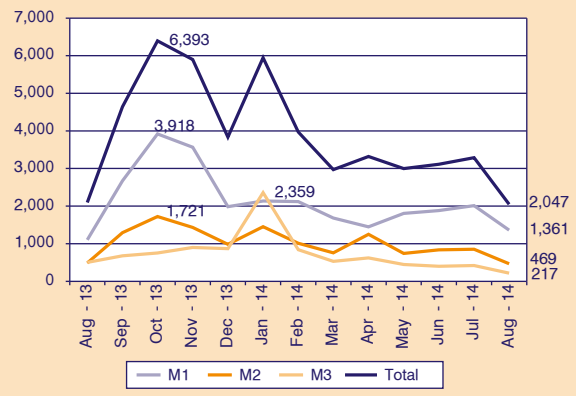
GRAPH 3.1.5
Hires by type of contract (%)



Source: ERGANI system, Ministry of Labour, Social Security and Welfare, author's calculations.

New hires are just one criterion for evaluating the labour market performance. Another one involves changes to work contracts of those already employed. In this context, Graph 3.1.6 presents the conversions of full-time job contracts into part-time job and work-in-shifts contracts, with or without the employees consent. Compared with the situation a year ago, converted contracts are marginally less (2.3%). In more detail, full-time job contracts converted into part-time contracts increased by 23.3%, while those converted into work-in-shifts contracts with the consent of the employee decreased by 4.1%. The fact that contract conversions into work-in-shifts contracts without the employee's consent are less than half compared with August 2013 is positive. Last but not least, compared with July 2014, total work contract conversions decreased by 37.7%, which could be just a seasonal effect.

GRAPH 3.1.6
Conversions of full-time work contracts



Source: ERGANI system, Ministry of Labour, Social Security and Welfare.

Note: M1 = conversions into part-time work contracts, M2 = conversions into work-in-shift contracts with the consent of the employee, M3 = conversions into work-in-shift contracts without the consent of the employee.

In summing up, net paid employment flows continued to be positive for another month, but considerably decreased compared with the previous months and the corresponding time a year ago. During the first eight months of 2014, the performance of the labour market is very satisfactory, since almost twice as many new jobs were created compared with the corresponding period a year ago. Thus, an optimistic momentum is shaped in the labour market, although questions about the methodology used and the exact object of measurements remain unanswered. One could also wonder about the large number of voluntary quits in a period when the unemployment rate is close to 27%. Despite the fact that job separations are dominated by the terminations of fixed term contracts (about 2/3), the data for new hires and conversions of existing full-time job contracts into flexible types of employment show that the labour market is becoming more and more flexible with consequences felt by those employed and the economy in general. In any case, the situation in the labour market leaves no room for complacency.

3.2. Undeclared and unsecured labour

Ioannis Cholezas

3.2.1. Project ARTEMIS

Undeclared and unsecured labour has unfavourable effects at both the individual and the collective level. On the individual level, as long as it is involuntary, it constitutes a breach of employees' rights, since he/she no longer falls under the rules of the labour law and is employed with no social security coverage, thus he/she has no protection against sickness, labour accident, unemployment or age. On the collective level, unsecured labour favours unfair competition amongst firms, since it decreases the cost of labour by evading social security contributions and income tax and provides an unfair advantage to firms adopting such practices against all other firms. In addition, by decreasing the labour cost the introduction of new technology through investment is either postponed or at least slowed down, since the price of one production factor, i.e. labour, drops compared with the price of the other production factors, i.e. capital. Such a deceleration makes local firms less competitive in the long run.[1] On a macro level, when firms become less productive, the economy as a whole becomes less competitive. Furthermore, social security contribution evasion decreases Social Security Funds revenues and, thus, their ability to fulfil obligations towards the insured successfully. Lastly, tax evasion through undeclared labour decreases tax revenues, and leads either to a lower level of social benefits, in terms of quality and quantity, or to a greater burden put upon those who already pay their taxes or, usually, some combination of the two (ILO, 2013).

For all the above-mentioned reasons, undeclared and unsecured labour is a practice which is condemned by the society and fought against by the state. The primary target of actions fighting the phenomenon should be to transform undeclared and unsecured labour to declared and secured employment. In other words, it is not about abolishing those jobs, but transforming them to legal ones which will pay social security contributions, taxes to the state and will ensure social security benefits to the insured. The target, of course, is not easy to accomplish. The proof of that is found in high rates of undeclared and unsecured labour recorded all over the European Union of the 27 member states (EU27), according to the recent special study conducted by the Eurobarometer (European Commission, 2014). The results, referring to 2013, indicate that approximately 11% of EU27 citizens had reasonable suspicions that the goods and services they paid for during the previous 12 months involved undeclared labour. Greece ranks first with a percentage of 30% and an increase of 13 percentage points compared with 2007, followed by the Netherlands with a percentage of 29%. The lowest percentages are recorded in the UK (8%), Germany (7%) and Poland (5%).

Another index which is indicative of the size of undeclared labour is the share of those who know someone who is employed illegally. On a European level the index is as high as 32%, lower compared with the respective share in the 2007 report (38%). Greece ranks third in this index with 54%, behind Denmark (59%) and the Netherlands (55%), but it exhibits the highest increase of all countries examined, by seven percentage points compared with 2007. A bit older evidence from Schneider (2011), for years 2010 and 2011, shows that Greece ranks above the average of 31 European countries (approximately 19.5%) based on the share of the shadow economy over GDP, since it is estimated that the shadow economy accounts for 25% of GDP, a share which is a bit lower than the respective share of countries ranking high on the list, such as Bulgaria, Romania and Croatia (approximately 30%).

In respect to intensifying the efforts against undeclared and unsecured labour, the Ministry of Labour, Social Security and Welfare (Ministry of Labour from now on) has set in motion the operative project ARTEMIS to fight against undeclared and unsecured labour as of September 2013. All auditing services of the Ministry of Labour, i.e. the Labour Inspection Body (SEPE) and the Special Agency for Security Auditing of IKA-ETAM (EYPEA) participate in the context of the project ARTEMIS. The former agency (in practice joined teams consisting of Labour Relations Auditors and Labour Safety and Health Auditors coming from SEPE) carries out focused audits in industries proven by past results to have increased shares of undeclared labour throughout the country, while the latter agency carries out random audits throughout the country. Their efforts are accommodated by the increase in the fine for those using undeclared employees, which since September 2013 equals €10,550 per undeclared

1. Firms have a weak incentive to invest in labour saving technologies, since labour is cheaper than it would have been if social security contributions and taxes were regularly paid. Therefore, cheaper labour leads to a more widespread adoption of labour intensive production methods and through this it suspends the adoption of capital intensive technologies, which increase labour productivity and firms' competitiveness.

and uninsured employee (€9,200 for those below 25 years), and it relies on focused audits throughout the country, which seem to have positive results so far.

Specifically, according to the ARTEMIS report published in July 2014, which involves audits performed from September 15, 2013 to June 30, 2014, some 17,281 firms were audited. Of those, 9.1% employed undeclared individuals, i.e. 1,574 firms. Out of the total number of employed in those firms (106,630 persons), just 2.3% were employed without being declared at IKA-ETAM, i.e. 2,415 persons (Ministry of Labour, Social Security and Welfare, 2014a). The data for July, coming from the last report published in August 2014, show an increase of both the share of firms who employ undeclared labour (17.6%) and the percentage of undeclared labour (6.7%) (Ministry of Labour, Social Security and Welfare, 2014b). The same holds compared with data from June, when 16.9% of firms audited employed undeclared labour and 4.8% of the total number of those employed were undeclared employees. This upward trend comes as no surprise, since the tourism industry, which is considered more prone to hiring undeclared labour, strengthens during the summer. For the rest, in period September 2013-July 2014, both men and women have similar chances of being employed illegally (2.7% of men and 2.8% of women), while the phenomenon is more common amongst foreigners (6.3% vs. 2.2% of natives).

The high rate of undeclared labour in some regions of the country is surprising, along with the high volatility it presents (Ministry of Labour, Social Security and Welfare, 2014a and 2014b, Tables II and III and Table III in the second). In West Greece, for example, the rate of undeclared labour in total employed during period September 2013-July 2014 was 6.3% and in June 2014 it was 23.6%, the highest rate amongst regions in both cases, but in July 2014 it decreased to 2.1%, a rate which ranks second to last. The Peloponnese, respectively, while it usually is located in the middle of the distribution, in July the rate of undeclared labour equalled 16.1%.

Compared with period September 2013-June 2014, in July the rate of undeclared labour increased more in Central Macedonia (8.8 times), in the Peloponnese (7.3 times) and in West Macedonia (4.4 times). Among them, only the Peloponnese ranks high in the distribution (3rd place) based on the results for period September 2013-June 2014, following West Greece (5.9%) and the Ionian islands (5.8%), while Attica ranks fourth (3.2%). Although it would be no surprise if undeclared labour rate differentials were fully explained by the fluctuation in economic activity in regions, in those industries with a greater weight in each region and to the extent they employ undeclared labour, nevertheless this is an issue worthy of investigation.

Finally, an interesting finding is that since the beginning of the ARTEMIS project the rate of undeclared labour has decreased significantly compared with past experience. For example, even during the summer, the period to which the data for the last two ARTEMIS reports refer and high rates of undeclared labour are expected, the incidence of undeclared labour seems to be quite low compared with the past: according to the last SEPE report for the first semester of 2013, the rate of undeclared labour in total employed audited reached as high as 38.4%, while for the corresponding period in 2012 the respective rate was 36.2% (SEPE, 2013).[2] A plausible explanation for this significant deviation is that audits performed by SEPE, as already mentioned, are focused on industries well known for their delinquent behaviour, while the results published in the ARTEMIS report rely on both focused audits and random audits throughout the economy, since the results from EYPEA are also included.[3] Another part of this deviation may be interpreted by the reduction in delinquency as a result of intensified audits and the higher fine for undeclared and unsecured labour.

3.2.2. Symptoms and recommendations for undeclared and unsecured labour

A phenomenon which attracted much attention recently after the processing of the ERGANI data is the sudden change in the number of hires during or just before the audits for undeclared labour were scheduled by joint teams of SEPE and EYPEA.[4] The results for June-August 2014, when tourism flows are the highest, published by the Ministry of Labour and concerning 25 areas with a traditionally strong tourist industry, show that there is a clear pattern of increased hires in certain days during the month which happen to coincide with the days that audits are conducted. It is obvious in Table 3.2.1 that there is a strong divergence of the employment flows balance (hires minus separations) in the period preceding and following the dates audits are conducted. It should be

2. It should be noted that June is included in both of these reports, but not July. Thus, the share of undeclared employed to total employed would be even higher if July was included.

3. Kanellopoulos (2012) estimates the average share of undeclared labour for the entire economy near 12% throughout period 2006-2012. This figure is considerably higher compared with the one coming from the audits in the context of the ARTEMIS project, but it is also considerably lower than the figure calculated in previous SEPE reposts.

4. See the Press Release from the Ministry of Labour, Social Security and Welfare of August 12th 2014.

noted at this point that the duration of audits varies between areas and ranges from three days (e.g. Spetses, Salamina) to eight days (.e.g. Chania, Rhodes), while a similar variation is recorded in the distribution of days before and after the days of audit. The most significant divergences are traced in Chalkidiki, Chania, Rethymno and Tinos, while there is also an issue with areas which show numerous separations beyond the days of audit, but significant hires during the days of audit, such as Achaia prefecture (Ministry of Labour, Social Security and Welfare, 2014c).

There is no doubt that the results of the ERGANI system for period June-August 2014 reveal the pathogenesis of the Greek economy and society, while at the same time verify that there is still much to be done to fight undeclared and unsecured labour. There are two key issues that emerge and should be a matter of concern.

The first one is that on-site audits are announced *a priori* giving the chance to delinquent employers to comply and avoid the fines which are exceptionally high. Indeed, according to the press,[5] audits are posted on the internet, on the Lucidity Project (Diaygeia) site, before they are conducted, since when they involve audits beyond the local jurisdiction of the relevant authorities (practically all audits), special public spending is required which has to be posted on the internet, on the Lucidity Project. It is obvious that an immediate change of the legislative framework is needed, since, despite the fact that the fine is too high and can drive firms out of business and have adverse effects on employment, it is certainly ineffective

TABLE 3.2.1 Hires based on the ERGANI system, June-August 2014

	M.A. of employment balance before and after the days of audit	Employment balance during the days of audit
Santorini	175.0	541
Salamina	-8.5	37
Spetses	-8.3	64
Mykonos	55.8	305
Rethymno	-6.3	198
Chania	-90.3	261
Katerini	-57.3	255
Naxos	47.5	295
Zante	88.8	190
Corfu	99.3	314
Chalkidiki	2.3	556
Rhodes	140.8	447
Lakonia	71.0	437
Simi	6.7	21
Tolo	14.3	46
Kythira	6.3	48
Tinos	3.8	117
Ilias pref.	66.2	293
Zante	114.6	280
Amaliada - Kourouta	-6.6	34
Kos	12.0	146
Kalymnos	17.2	28
Samos	9.3	37
Achaia pref.	-161.0	114
Chania	8.5	323

Source: Special report of the ERGANI system, August 2014.

Note: There are areas which are reported twice, since during period June-August 2014 they were audited two times.

5. See Proto Thema at: http://www.protothema.gr/economy/article/402304/. The newspaper calls upon the statements Mr. Pantasis made, who is employed as a special secretary for SEPE.

to cancel *a priori* its use as a means of repression. The Minister of Labour himself, to his credit, solved the issue with *a priori* audits announcement, but not the issue with the high fine. Under the circumstances, it would probably be preferred to impose a much lower fine to delinquents, since the target is to force firms to comply with the law and not to shut them down. In this context, it would be useful to examine the efficiency of raising the fine for undeclared labour and to investigate parameters such as the degree of firms' compliance accomplished and the collectability of the fine. It seems probable that a lower but certain fine (or even proportional to the firm's turnover[6]) in combination with procedures of immediate collection and the acceleration of non-monetary penalties (penal sanctions), in order to realise the adverse consequences of the delinquency at once and in full, as well as a parallel increase in audits, could produce better results in the fight against undeclared and unsecured labour.

The second issue which arises is the revealed mentality of a group of firms and employed, who choose to adopt delinquent practices, which distort competition and deprive the social security funds (social security contributions evasion) and the tax authorities (income tax) of valuable revenues. Illegal labour usually demands the cooperation of both sides: the employer and the employee. But, it seems logical to assume that given the high rates of unemployment, i.e. a labour supply surplus, those who look for a job have a weaker bargaining position and, thus, the largest share of responsibility lies with the employers. In this context, the state should devise more effective ways to force firms to comply. Given that it is impossible to constantly monitor all those involved in undeclared labour, the geographic peculiarities of our country and rejecting the Greek's innate propensity to delinquency, the increase in the effectiveness of audits through the adoption of new technologies and best practices transferred from other countries who have been successful in combating undeclared labour might be a solution worth considering.

Such best practices could involve setting a specific timeframe to conclude the process from the moment the fine is imposed until its collection. It could also provide for a penalty in case of unjustified delays and a discount in case of an early payment of the fine as well as a bonus for the employees involved when the case is completed on time. Another such practice could involve the exchange of information and know-how between audit services and the promotion of cooperation between them. Even an improvement in human capital (i.e. public servants) utilisation could result in significant gains, without, of course, *a priori* rejecting its reinforcement, either in number or in operational capabilities (e.g. through providing further education and training to be able to fully exploit new means of technology). As long as the effectiveness of audits is improved and delivering justice is accelerated, then a strong signal will be sent to the market and consistent employers and employees will finally feel vindicated. Furthermore, the jurisdiction for monitoring whether the law concerning undeclared labour is observed could be expanded to include more public services, such as the police, SDOE, or even marketing authorities, which could –in the context of their own audits– check whether the employee has been legally declared and if there is any doubt to notify the competent authorities.

To increase the degree of compliance a few other interventions might be helpful. For example, the reduction in social security contributions and income tax for individuals and firms, since it is often argued that non-wage costs are too high. As long as the increase in legal employment is significant, in other words given that the price elasticity of the demand for labour is adequately high (i.e. lower gross wages and salaries lead to even more hires), then it could offset the reduction in social security contributions and preserve revenues or even increase them. In this context, it would be useful to examine the consequences of the reduction in social security contributions institutionalised with Law 4254/2014 and implemented on July 1, 2014 (3.9% in aggregate, 2.9% lower for employers and 1% lower for employees).

Another intervention could involve the social security system. Many of the unsecured employed might be willing to work with no insurance out of fear that they will not retire or that their pension will be too low and inadequate to ensure a decent standard of living. This means that the incentive to work legally is weak and it is getting weaker if one focuses on the relationship between social security contributions and minimum pension. A substantial share of the employed receives the minimum pension even if they contribute more, so there is no incentive for them to do so (Matsaganis, 2011). It seems though, that the new social security system reform will mitigate this problem, at least in the long run, with the introduction of a different way to calculate pensions. In addition, many illegal employees do not even have the right to work legally. One example is illegal immigrants who cannot get a work permit and are often victims of exploitation under the threat of deportation.

Lastly, no one can discard the fact that some of the undeclared employed do not even know that their employer

6. For a large firm the given fine could be small, but for a small firm, such as those constituting the majority in Greece, it could be too big and even disastrous.

is evading social security contributions. Although such an eventuality is probably quite rare and the room for reaction –from the employee's side– is narrow given the economic circumstances, as already mentioned, nevertheless the possibility of having social security funds informing insured employees at regular time intervals about whether or not their contributions are regularly paid should not be *a priori* rejected.

References

European Commission (2014). "Undeclared Work in the European Union". Special Eurobarometer 402 / Wave EB79.2 – TNS opinion & social, DG Employment, Social Affairs and Inclusion.

ILO (2013). "Labour Inspection and Undeclared Work in the EU". Working Document No 29. International Labour Office, Labour Administration and Inspection Programme (LAB/ADMIN). - Geneva: ILO.

Kanellopoulos, C.N. (2012). "Size and structure of unsecured labour". Bank of Greece, *Economic Bulletin* 37: 25-44. (in Greek)

Matsaganis, M. (2011) *Social policy in hard times: economic crisis, fiscal austerity and social protection*. Kritiki Publishing. (in Greek)

Ministry of Labour, Social Security and Welfare (2014a). "Operational project for combating undeclared and unsecured labour ARTEMIS Period September 15th 2013 – June 30th 2014". (in Greek)

Ministry of Labour, Social Security and Welfare (2014b). "Operational project for combating undeclared and unsecured labour ARTEMIS Period September 15th 2013 – July 31st 2014". (in Greek)

Ministry of Labour, Social Security and Welfare (2014c). "Results from focused audits for undeclared labour in 25 areas across the country. ERGANI system". (in Greek)

Schneider, F. (2011). "Size and Development of the Shadow Economy of 31 European and 5 other OECD Countries from 2003 to 2011". Available at: *http://www.econ.jku.at/members/Schneider/files/publications/2011/ShadEcon31.pdf*

SEPE (2013). "The evolution of job contracts and the auditing activity of the Labour Inspection Body for the first semester of 2013". Ministry of Labour, Social Security and Welfare. (in Greek)

4. Development policies and sectors

4.1. Analysis of the Tourism trends in Greece

Nicholas Vagionis

4.1.1. Analysis of the Turnover Index in Accommodation and Food

It has been noted that the economic activity in tourism is important. Tourism proved resilient during the crisis and leading to the recovery of economic activity in our country. In this article we first consider the Turnover Index in Accommodation and Food Services.[1] By analyzing the yearly and quarterly configuration[2] of the index, and also with the help of Figures 4.1.1 and 4.1.2 it can be seen that:

Starting with a base of 100 in 2005, the average annual turnover index recorded its historically highest revenues in tourism in 2008, reaching 113.9. Then a phase of decline in turnover began and the average annual index fell to 103.6 in 2009; the downward trend continued in 2010 with the annual rate falling to 95.1, in 2011 the value was 88.1 and in 2012 it reached 72.9, decreased by 36% since 2008.

The Greek Statistical Authority in 2012 placed a new base of 100 for the annual average index of the year 2010. With proper conversion to the new base, Table 4.1.1 shows the corresponding new values of the index from 2005 to date (second quarter 2014).

Analyzing the data, we observe the following: In 2012 the lowest average annual value of the Turnover index was recorded, posting a record low for the decade, as well as all quarters of that year. The downward trend continued until the first quarter of 2013.

The recovery started in the second quarter of 2013, with an increase in the quarter's index at 84.2, that is 5% higher than the second quarter of 2012 (see Figure 4.1.2 and Table 4.1.1). In the third quarter of 2013 the index reached 147.5, being 1.2% higher than the corresponding third quarter of 2012, and in the fourth quarter of 2013 it became 57.6, a notable increase of 36% against the fourth quarter of 2012.

The upward trend in the index continued in the first quarter of 2014 with an impressive rate of 45% compared to the corresponding (weak) first quarter of 2013. The index continued to increase by 6.6% for the second quarter of 2014 compared to the corresponding quarter of 2013. According to all indications, an increase is expected for the remaining quarters of 2014. It should be noted, however, that even these significantly increased scores, in terms of turnover, of 2014, fall significantly short (almost 30%) if compared with those of 2008, the year with the highest turnover in all quarters (see Table 4.1.1).

In any case, it is important that starting from the second quarter of 2013 a continuous increase occurs which reflected both the percentage change of +4.5% average annual rate of the index from 2012 to 2013, and in the respective increases in individual quarters, which are evident everywhere. Also it is without doubt that the trend goes well on, in 2014.

It should be noted that the "off-peak" 4th and 1st quarters of each year showed the greatest changes in the period (see Figures 4.1.1 and 4.1.2) which brings out the high seasonality of the tourism phenomenon, which intensified in years 2011 and 2012. Changes were strongly downward much due to the collapse of internal non-summer tourism, but also in the lower attractiveness of urban destinations in the international market, and related actions of alternative to the 'sun - sea' (or 'sss') model, intensifying the seasonality and the problems associated with it.

It should also be noted, however, that starting from the fourth quarter of 2013 and first quarter of 2014 an impressive increase is recorded mainly due to international inbound tourism in cities and in alternative to 'sss' forms (conference, medical, professional, cultural, religious). It contributes greatly to mitigating seasonality and overall recovery, as the domestic tourism has not recovered sufficiently to affect significantly 'off-peak' periods. The

1. The Index, according to the NACE rev.2, classification is presented in detail in *Greek Economic Outlook,* Issue 22, "4.1 Recent tourist development in Greece".

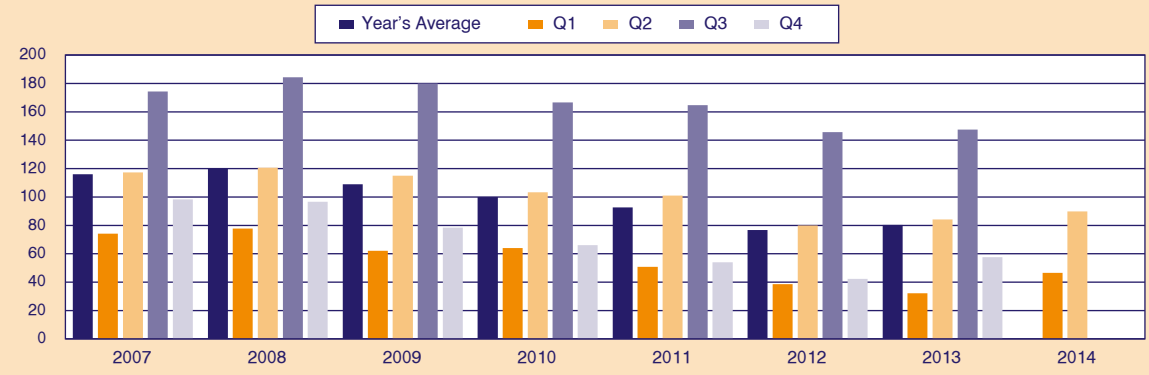
2. Hellenic Statistical Authority: "Turnover Index in Accommodation and Food Service Activities", *2nd quarter 2014,* Piraeus, Sep. 2014.

TABLE 4.1.1 Index of Turnover for "accommodation, food and beverage services"
Year's average and quarters, NEW BASE, 2010=100

	Year's Average	Q1	Q2	Q3	Q4
2005	**105.2**				
2006	**109.0**	67.4	111.4	168.1	89.3
2007	**116.1**	74.1	117.4	174.3	98.3
2008	**119.8**	77.7	120.6	184.3	96.6
2009	**108.9**	62.1	115.0	180.0	78.4
2010	**100**	64	103.3	166.6	66.1
2011	**92.6**	50.8	101	164.7	54
2012	**76.7**	38.6	80	145.7	42.3
2013	**80.3**	32.1	84.2	147.5	57.6
2014	**n/a**	46.5	89.8	n/a	n/a

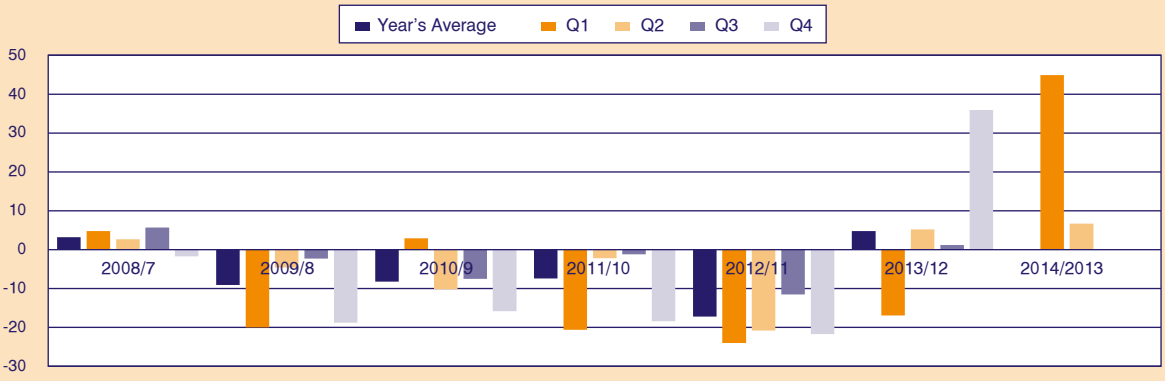
Source: Hellenic Statistical Authority, data treated by the author.

FIGURE 4.1.1
Greece: Index of Turnover for "accommodation, food and beverage services", 2007-2014
Year's average and quarters, NEW BASE, 2010=100



Source: Hellenic Statistical Authority: "Turnover Index in Accommodation and Food Service Activities", 2nd *quarter 2014,* Piraeus, Sep. 2014.

FIGURE 4.1.2
Greece: Index of Turnover for "accomodation, food and beverage services", 2007-2014
Annual % change of year's average and quarters



Source: Hellenic Statistical Authority: "Turnover Index in Accommodation and Food Service Activities", 2nd *quarter 2014,* Piraeus, Sep. 2014.

increase continued in the second quarter of 2014, with a percentage of 6.7%, reaching 89.8 points.

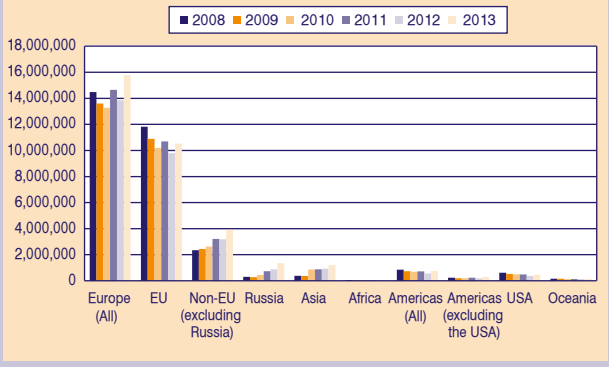
4.1.2. Analysis of international tourist arrivals by country of origin

The systematic analysis of recent data for **arrivals of non-residents** in the country[3] is a good indication of incoming tourism to the country and the recent trends from countries of origin.

The **total number** of visitor arrivals in the country for 2008 was 15.939 million people, while in 2009 they decreased to 14.916 million and in 2010 to 15.008 million. In 2011 arrivals recovered to the number of 16.427 million, in 2012 they fell again to 15.518 million, while in 2013 incoming tourists rose to 17.920 millions, setting a historical record.

Let's look at the breakdown by regions and countries of origin for the period 2008-2013. Figures 4.1.3, 4.1.4 and 4.1.5 present detailed data.

FIGURE 4.1.3
International tourist arrivals to Greece, Selected Geographical Origins, 2008-2013



Europe

By analyzing the origin of visitors, one can see that arrivals from Europe (EU and other European countries) in 2008 were 14.475 million individuals and accounted for 90.8% of **total** arrivals. During 2009, they decreased to 13.601 million, but the percentage of the total increased to 91.2%. In 2010, arrivals from Europe totaled 13.276 million and for 2011 increased to 14.652 million. The percentages for the two years were 88.5% and 89.2% of the total, respectively. In 2012, the European arrivals decreased to 13.851 million and accounted for 89.3% of the total, while in 2013 increased by 13.9% to **15.778** million and accounted for **88.1%** of total arrivals. In particular, one can note the following (see also Figure 4.1.3):

Arrivals from the **EU group** of countries for 2008 amounted to 11.815 million, accounting for 74.1% of all visitors. These **were reduced** to 10.888 million or 73% in 2009 and to 10.200 million or 68% of all visitors in 2010, and a slight increase (4.9%) showed in 2011, reaching 10.698 million but with reduction as a percentage of total arrivals (65.1%). For 2012, we have a decline to 9.792 million or 63.1% of total visitors. In **2013** there was an increase to 10.525 million, but with the falling of the rate for the first time below 60% of total arrivals (58.7%). The gradual and continuous fall from 74.1% to 58.7% is considered **significant and systemic,** which cannot easily be reversed without significant changes in the structure of the tourist product and the holistic approach to tourism. Certainly it is positive that the absolute number (though not as a percentage) of European arrivals is recovering and, as we shall see next, this demonstrates the increased attractiveness of Greece to countries on other continents.

In contrast, arrivals from **non-EU European countries** followed a **steady upward trend** during the period considered and in relation to their share of total arrivals. More specifically, in 2008 the rate stood at 16.7%, in 2009 at 18.2%, in 2010 at 20.5%. Then the rate of arrivals of non-EU European countries showed a relatively large increase in 2011 reaching 24.1%, in 2012 to 26.2% and finally in **2013** to **29.3%**. Here a strong growth tendency is identified. It is significant, firstly, because it indicates a shift in markets where the Greek tourist product is 'sold' and, secondly, due to the current economic dimension of this restructuring and the prevailing medium-term momentum.

Of course, each market separately has its own value (see also Figures 4.1.4 and 4.1.5) As of this situation regarding the distribution of arrivals of non-residents in the country, as a percentage of the total, the contribution for 2013 of Germany is the largest with **12.7%** (respectively, 13.6% in 2012 and 15.5% in 2008), followed by the UK with **10.3%** (12.4% in 2012 and 14.3% in 2008), Russia with 7.5% (respectively, 5.6% in 2012 and 1.9% in 2008), France with 6.4% with remarkable fidelity, and Italy 5.4% (from 6.9% in 2008).

The surge in arrivals of Russian tourists is probably due to the focused marketing of Greek tourism in Russia, which seems to have given results. In contrast, the traditional markets of Germany and the United Kingdom noted a continuing decline as a percentage during the period, with recent signs of recovery in absolute numbers.

3. Statistical Authority: *Arrivals of non-residents from abroad,* Jan-Dec. 2013.

Asia

Visitor arrivals from Asia in 2013 were 1.353 million, while in 2012 were 875,000 people compared to 739 thousand in 2011 and just 385 thousand in 2008. Asia accounted for **6.8%** of the total arrivals of **2013** in our country, compared with 6.0% in 2012 and just 2.4% in 2008. Arrivals from Asia show a big increase, which almost tripled between 2008 and 2013. The main country that contributed to this is Turkey, with **4.6%** from the 6.3% of the 'Asian', or 831 thousand visitors in 2013 (compared to 602 thousand in 2012 and 208 thousand in 2008). The next major Asian tourist flow is from Israel with 212,500 tourists in 2013 (compared with 208 thousand in 2012).

One should also mark the increasing inbound tourist trend from China with 28 thousand in 2013, compared to 12 thousand in 2012 and 6 thousand in 2008, which is important, **quadrupling since 2008**, but the figures are still very small. Increased arrivals were recorded from Lebanon and Syria from 13 thousand in 2012 to 36.6 thousand in 2013, but unfortunately, mainly due to the war there. Also visitors from South Korea and other Asian countries increased, while a decline occured in visitors from Iran, with 5 thousand visitors in 2013 versus 13.6 thousand in 2012.

America - Africa - Oceania

Total arrivals from the Americas was 754,500 in 2013, recording a recovery over 559,000 of 2012 and versus 719.6 thousand in 2011 and 849 thousand in 2008. Recovery needs to continue to consolidate with involvement of tourism marketing in our continent. In 2013, 142,600 visitors came from Oceania to Greece, compared to 133 thousand in 2012 and 160 thousand in 2008. Finally in 2013, 31,000 visitors came from Africa, of which 17,600 were from South Africa.

Figure 4.1.3 above shows the international tourist arrivals in Greece from **selected geographical areas**. Note that the EU was and remains the main feeder of Greek tourism by a large margin. Its downward trend could be stabilized and possibly reversed in the future. At the same time the increase is evident from other European countries, Russia and Asia, as well as the corresponding ratios, of course.

It is interesting to examine the details of arrivals at frontiers in the first and the fourth quarters of low tourism demand. (Figure 4.1.6 and Figure 4.1.7). As noted, after the fourth quarter of 2008 we had a gradual decline over time, mainly due to the decrease in arrivals from European countries. In 2013 recovery begins. Regarding the first quarter of 2014, a noticeable increase is observed, mainly from European countries, but still far from the 2008 figures.

It is significant, however, that in both quarters, a significant and steady growth is shown, both from the country of Russia and the continent of Asia. Specifically, arrivals from Asia, for the fourth quarter, presented an average annual increase of 21.07% and a total increase of 160% for the period 2008-2013. The figures for the first quarter, including 2014, were 28.1% and 342%, respectively.

These figures reflect the trend of improvement in the two quarters (1st and 4th) of the low demand for tourism and highlight the need to support traditional tourist markets through promotion of specific forms of tourism that are suitable for these periods (such as conference and business tourism). At the same time, they emphasize the importance of emerging markets, especially from

FIGURE 4.1.4
International tourist arrivals to Greece from selected E.U. countries, 2008-2013

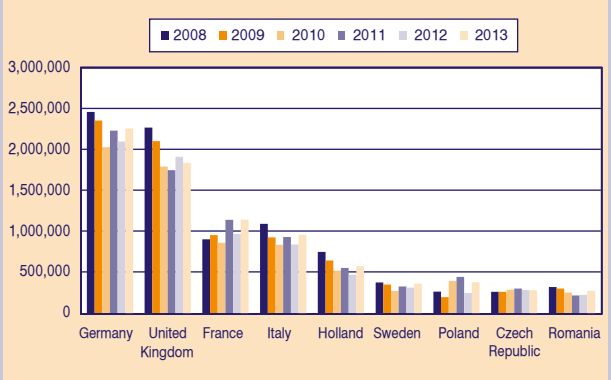


FIGURE 4.1.5
International tourist arrivals to Greece from selected non-E.U. countries, 2008-2013

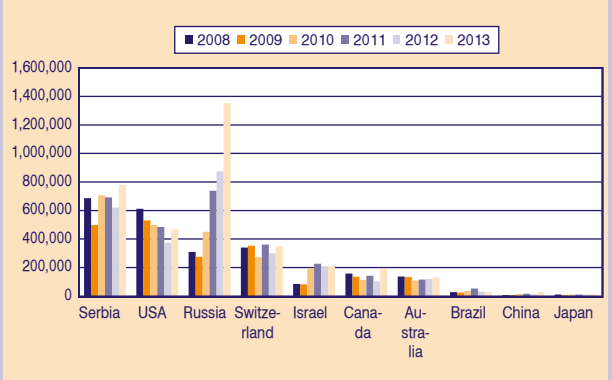


FIGURE 4.1.6
International tourist arrivals to Greece, Selected Geographical Origins, 4th Quarter 2008-2013

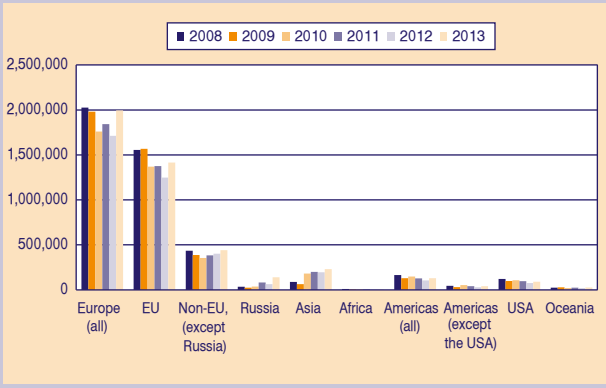
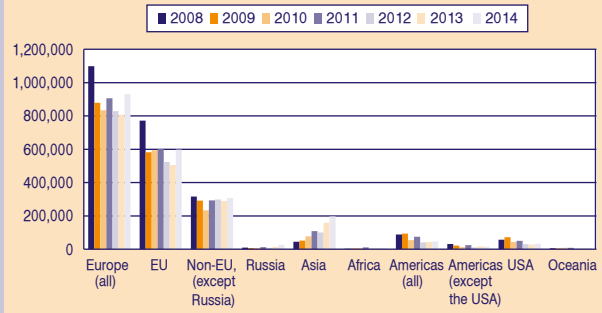


FIGURE 4.1.7
International tourist arrivals to Greece, Selected Geographical Origins, 1st Quarter 2008-2014



the Asian continent, and, of course, help to alleviate the problem of seasonality of the tourist demand.

4.1.3. Conclusions

The tourist arrivals since the decline of 2009 and 2010, rebounded in 2011, resumed their decline in 2012 and 2013. There is an increasing trend which is recorded in the first quarters of 2014. Clearly there is an increase in tourist influx with the important feature of restructuring the regions of origin of tourists, with more than doubling of tourist arrivals from the East (Russia and Asia), the stabilization of Western Europe and a partial recovery of America. Concerns however arise regarding the state of the Russian market and the management of adverse effects expected from events like the Ukrainian crisis and the bankruptcy of Russian travel agencies.

Tourist revenues until 2012 show a steady decline compared to 2008, while the recovery of 2011 concerned only arrivals and not revenue. The year 2013 has reserved a small increase in tourism revenue over 2012. In addition, for the first two quarters of 2014 there is an increase that is expected to continue throughout the year. The result is, of course, positive, but it is not equivalent to our capabilities. The conditions in the Mediterranean have been particularly advantageous for Greece, given the situation across North Africa and the Middle East.

Besides the growth of mass tourism arrivals from Russia –which may be limited for a while– and from elsewhere, the supporting and promoting of specific forms of tourism and activities is needed, like medical, conference, ecological, culinary, wellness and recovery, museums, festivals, sports, etc. Thus diversifying the tourist product from the stereotype 'sun-sea', and acting cumulatively and not competitively, for the increase of tourist consumption, help extend the tourist season while opening new markets.

Finally, it should be noted that it is appropriate to consider ways of validating the resources of the country in times of low demand (1st and 4th quarter) according to demand from several specific markets (typical example is China), especially with regard to urban centers. Finally, one should note the significant downturn in domestic tourism and the conjunct effects, due to the reduction in disposable (after tax) income and high unemployment.

4.2. The economics of Information & Communications: its contribution to the Greek economy and some policy proposals

Yannis Panagopoulos

4.2.1. Introduction: the economic contribution of the industry

The *Information and Communication* (I&C) industry is one of the most important and technologically evolving industries of economic and social life, not only in Greece but in every developed country. Its importance is multidimensional and significantly affects the allocation of the factors of production in each sector of the economy and, hence, the overall productivity. In simple words, this industry (sector) helps create strong economies of scale in many other sectors of the economy. Figure 4.2.1 shows the economic contribution of the I&C industry in the Greek economy during recent years (2001-2013).

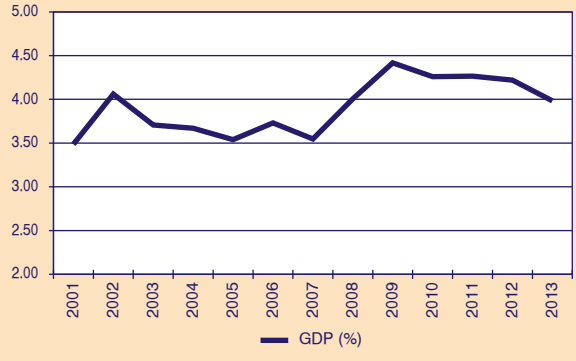
Based on Figure 4.2.1 there are no extensive variations, at least in the examined time period (2001 to 2013), of the I&C industry growth as a percentage of GDP (in current prices). More specifically, the growth of the industry ranged between 3.49% and 4.27%, while the average total growth rate of the country was around 3.91% in the period under consideration. Additionally, it is worth mentioning that the contribution of the I&C industry to the total GDP of the country had fallen during the crisis (2009-2013). This fall reached €3 billion in 2013. More analytically, its participation in the total GDP declined from 4.42% (€10.2 billion at current prices) in 2009 to 3.98% (€7.2 billion at current prices) in 2013. Finally, the short fall of the I&C industry contribution to the Greek economy, as a percentage (%) of the GDP, over the period of the Olympic Games (2002-2004) is also noticeable.

4.2.2. Employment in the industry

The I&C industry contribution to total employment is a bit different than the corresponding value added contribution to the total GDP. More specifically, employment in the industry reached its peak during the Olympic Games in 2004 (100.3 thousand employees) while the lowest value was in 2012 (76.5 thousand employees). In fact, from 2001 up to 2010 employment in the industry was steadily ranging around 86-88 thousand people while during the period 2002-2004 showed a sharp increase of about 15,000 jobs due to the Olympic Games. During the last recorded year (2013) we observe some recovery in the employment of about 4000 people (80.6 thousand employees overall) which can be considered as an optimistic message for the prospects of the industry.

Figure 4.2.2 shows the trend of employment in the I&C industry as a percentage of the total employment in the Greek economy. The share of the I&C employment reaches its highest value in 2004 (2.22% of the total employment) and the lowest in 2011 (1.77% of the total employment). Finally, for a significant time period (2005 to 2010) it moves steadily around 1.85% of the total employment.

FIGURE 4.2.1
The contribution (%) of the I&C sector to the Greek GDP



Source: ELSTAT.

FIGURE 4.2.2
The contribution of the I&C employment (%) to the economy

Source: ELSTAT.

4.2.3. The trade balance of the industry

Regarding the trade balance of the I&C industry we should report here that analytical data have been used for both the production and the services provided. More specifically, the analysis of the trade balance of the produced goods concerns, basically, telecommunications and, more specifically, telecommunications equipment. The data used are sourced from the COMTRADE and the OECD database and cover the time period from 2008 to 2013 (code ISIC Rev 4).

Table 4.2.1a presents the analytical trend for exports and imports for the sub-category of *Telecommunications, Equipment for soundstage and reproduction and Telecommunications equipment* (SITC Rev. 4-76). This subcategory represents the largest part of the trade balance in the production section of the industry. The impact of the recession on the Greek economy is evident in the trade balance figures. More analytically, there is a large drop in the trade deficit from $1.75 billion in 2009 to $822.8 million in 2013. This fall in the trade deficit was mainly due to lower imports and not due to any significant increase in the exports of the telecommunications equipment.

Apart from the production, we also have the services section. Thus, Table 4.1b shows the analytical trend of exports and imports in both Communications (mainly Telecommunication services, Code: S245) and Information services (mainly Computer and Information services, Code: S262). The data and the corresponding codes for these two categories are derived from the database of the World Trade Organization (WTO) and concerns the period from 2008 to 2013.

Based on the figures of Table 4.2.1b, it is evident that the overall performance of the I&C services trade balance seems to behave better than the trade balance of the I&C products (see Table 4.2.1a). More analytically, the subsector of Communications (mainly Telecommunication services, Code: S245), exhibits a trade deficit of nearly $8.8 million in 2013. More specifically, we observe a clear decline (except in 2012) of the imports, due to the economic crisis, as in the case of the I&C products. On the other hand however, in the case of the Information services (Code: S262), we have a complete reversal of the trade balance. More specifically, in 2013 we observe not only the elimination of the trade deficit but the existence of a surplus ($230.5 million). In conclusion, the sub-sector of Information services (Code: S262) appears to perform better than the Telecommunication products (SITC Rev. 4-76), in terms of trade balance results.

4.2.4. Prospects for the development of the industry

The future of the I&C industry in our country is not expected to be radically differentiated from the other developed countries. Due to the existing competition and continuous technological innovations, the first priority for I&C companies in our country (and internationally) –especially for the mobile IT companies, which perhaps constitute the most important part of the entire industry– is to minimize the charges for voice dialing at the levels

TABLE 4.2.1a The trade of the I&C* products *(in thousand dollars)*

Code	2009	2010	2011	2012	2013
76 (Imports)	2,048,409	1,650,805	1,336,501	1,320,470	1,175,052
76 (Exports)	296,204	329,596	442,877	450,177	352,212
Expo. -Imp.	***-1,752,205***	***-1,321,208***	***-893,623***	***-870,293***	***-822,840***

Source: Comtrade, UN. * (I&C: Information & Communication).

TABLE 4.2.1b The trade of the I&C* services *(in thousand dollars)*

Code	2009	2010	2011	2012	2013
245 (Imports)	678,411	518,710	551,132	649,703	523,813
245 (Exports)	410,811	414,531	517,255	455,200	532,669
Expo. -Imp.	***-267,600***	***-104,179***	***-33,877***	***-194,503***	***-8,856***
262 (Imports)	497,580	543,570	497,417	272,955	275,444
262 (Exports)	401,281	472,289	493,886	439,525	505,987
Expo. -Imp.	***-96,298***	***-71,280***	***-3,530***	***166,570***	***230,543***

Source: World Trade Organization (WTO). * (I&C: Information & Communication).

of fixed telephony. Such a policy aims to attract some new customers, while offering 4th generation value added services. A prerequisite for such achievement is to create an extensive network with upgraded antennas, which automatically means new investments in the industry. The ability of I&C companies to operate efficiently and to squeeze the costs is critical for the future of the industry in our country. At the same time, the economic conditions in the industry look favorable for business transactions, acquisitions and/or mergers. Such an environment could further promote the objective of a greater and more unified customer base in the near future. Additionally, in the broader area of the I&C industry, with the possible exception of the telecommunications equipment (hardware) sub-sector, a gradual increase in the number of providers of various telecommunications and information services is expected. The ability of these providers to offer an increasing variety of integrated services has intensified competition in the market and consequently the consumer/user is in the limelight of almost all the I&C companies enjoying (Perantonis, 2011):

a. Increased range of providers,
b. Some new modern IT services (e.g. Mobile marketing, telemetry services, payment services, etc.),
c. Improved quality of new and existing services,
d. Continuously decreasing prices.

Based on the above analysis we cannot exclude in the near future the possibility of a further convergence concerning fixed, mobile telephony and broadband services at all levels (not only in terms of networks and services but even on telecom devices). Such a development can be feasible earlier in the I&C industry through further alliances, acquisitions and mergers. Additionally, the continuous and rapid technological innovations may allow small I&C companies to build up new products and services without spending any excessive amount of money on high-tech investments. Additionally, due to the existence of high-tech personnel in Greece, it is possible to see the development of some new SMEs which can play a dynamic role in the recovery of the Greek economy.

Regarding to the crucial area of the internet, we could mention here that according to the report of the BCG (Boston Consulting Group, 2012), Greece lags behind the rest of Europe concerning e-commerce, where, as mentioned above, the internet commercial usage reaches 40%. More specifically, relatively few firms trust and accept any on-line payments, conducting B2B e-commerce with suppliers and customers or do online advertising or share any sensitive corporate information with their partners. The expanding use of the internet in business, according to BCG (2012), is expected to increase the enterprise's productivity by 10% to 20% either by reducing transaction costs or by accelerating and simplifying the production procedures. Such a development could potentially raise the contribution of the internet to the Greek GDP up to €6.5 billion in 2015 (see BCG, 2012).

Some targeted policy proposals

- The I&C industry, due to its critical role, project a vision for the economic growth of every developed country (including Greece) and transmits a message to domestic and foreign investors. Additionally, because it creates strong economies of scale for many of the other sectors of the economy, it needs special attention on behalf of the state.
- Further strengthening of the independence of the National Committee of Posts and Telecommunications (EETT in Greek) on issues related to market regulation and competition advocacy is required. Specifically, EETT should be strengthened as much as possible with qualified staff (technically and legally). Such actions are almost compulsory from the continuous and rapid technological developments of the industry.
- Due to the idiosyncrasies of the I&C market the future growth is expected to be rather complex and not easily predictable. More specifically, the penetration ability in different parts of the market, from the dynamic enterprises of the industry, is expected to intensify competition. At the same time, the rapid developments in technologies allow the creation of new needs which, in turn, generate new products and, consequently, new dynamic small-sized companies (SMEs) to 'satisfy' them. For example, in the past most of the global mobile phone companies did not predict the enormous impact of the short messages (*sms*) and were originally surprised by the dynamic emergence of this new market. Therefore, the lesson learned regarding the supply-side of the I&C market is that the government's main strategy should be to support young entrepreneurs, who tend to understand and adopt the emerging new technologies faster than others (as it happened with the mobile telephony and the internet). Thus the main guideline of the state to the banks should be: financial support for such new SMEs created by young scientists who can bring innovative ideas to the field of entrepreneurship.
- Further penetration of information technology (especially the internet applications) can help to increase productivity in the Greek economy in a variety of scientific areas such as tele-education, tele-medicine, etc. An additional goal is that the I&C industry applications can contribute to the modernization of the public sector. In particular, a widespread implementation of new technologies may have a positive effect on a number of governmental systems and networks

such as: public supplies, export procedures, network management, infrastructure and natural resources, public safety and security, justice and taxation, promotion of culture, etc.

4.2.5. Conclusions

The contribution of the I&C industry to the Greek economy is definitely positive. We clearly observe not only the widespread application of different IT packages in all sectors of the economy at decreasing and competitive prices but also the creation of new innovative products and services. Additionally, we face an industry that is in the process of continuous liberalization and development. Therefore, the purpose and strategy of the Greek state should focus on:

- Rigorous and continuous monitoring, by the regulators, of the industry's further liberalization process as well as the potential upcoming coalitions-acquisitions-mergers of the large providers (telecommunications companies and IT), for the sustainability of the market.
- Financial support for both the new and the old SMEs in the industry. These companies can then play a protagonist role for the increase of the value added and employment in the industry.
- The facilitation and encouragement of e-business and the dynamic SMEs who operate in this market.

Bibliography

[1] Boston Consulting Group (2012), "Factor Internet: The internet as a growth engine of the Greek Economy", Annual Report.

[2] International Telecommunication Union (2013), "Measuring the Information Society", Annual Report.

[3] Perantonis, C. (2011), "Telecommunications Industry Analysis Environment in Greece", Postgraduate Thesis, Financial Department, University of Macedonia.

Health spending evolution in Greece during the period 2009-2012

*Roxani Karagiannis**

1. Introduction

Health expenditures reflect the demand of each country's health care services and represent 10%, approximately, of the total economic activity in developed countries, while public expenditure represents 75% (Liaropoulos, 2007). The nature of health services and the need to ensure the optimum level of a population's health differentiate the health care expenditures relative to the expenditures of other economic sectors. Moreover, the main research issue concerns the extent to which citizens actually benefit from the available health spending.

The global interest in health expenditure can be explained by the fact that countries emphasize the cost-containment and cost-effectiveness of health expenditure, taking into consideration that the highest proportion of expenditures are financed through taxes or social insurance contributions (Gerdtham and Jonsson, 2000). The main research questions applied to literature were to what extent the overall organization of health care systems, the increased insurance coverage of health care services, the excess supply of doctors as well as the kind of their reimbursement, the use of a general practitioner as a gatekeeper, and the level of high-cost medical procedures may have positive or negative effects on the level of health expenditure.

The study of the aforementioned questions has led to several main conclusions about the factors that influence the level of health expenditures. Newhouse (1987) suggested that per capita income is the only relevant variable positively related to the increase in health expenditures. Pauly (1968) and Weisbord (1991) concluded that increases in health insurance can influence health expenditure both through the demand and supply of health care. The OECD (1996) suggested that the high percentage of public finance in health expenditures can increase public debt while mandatory insurance contributes to moral hazard. Evans (1974), Rice (1983), McGuire et al. (1993) supported that the supplier-induced demand is an explanation for the increase in health expenditure. Weisbord (1991) concluded that advances in medical technology, though sometimes making existing procedures cheaper, generally increase demand and supply resulting in increased health expenditure. Leu (1986), Gerdtham et al. (1992) and Hitiris and Posnett (1992) further demonstrated that demographic and institutional factors exhibit a significant influence on health expenditure. Baltagi and Moscone (2010) suggested that health care is a necessity rather than a luxury good, with an elasticity that is less than one, i.e. much smaller than that estimated by Newhouse (1987).

The demographic, socio-economic, medical and epidemiological factors as well as the increased volume and value of health care services constitute the main reasons for the growth of health care expenditures. The improvement in life expectancy and the phenomenon of population aging increased the number of elderly people, the medical care of whom requires more health resources and longer care. The overconsumption of health care services due to increased per capita income and the full insurance coverage of the population expanded private health spending. The continuous development and expansion of medical and diagnostic activities and the diffusion of biomedicine technology increased the cost of health care services despite the improvement of diagnosis and therapy. The expansion of chronic and degenerative diseases and the necessary long-term therapies required more and more health resources. Furthermore, the incautious demand of health care services, the improper use of biotechnology, the abuse of drug prescription and the over-supply of physicians increased the level of health expenditures over time.

Each government has implemented a series of structural policies concerning the demand and supply of health care services in order to cope with growing health expenditures, whose main objective is the productive and efficient use of available resources aiming to the improvement of health status. The demand-side policies, such as (a) a co-payment of outpatients for dental and medical visits, pharmaceutical products, diagnostic and laboratory tests and (b) special taxation on products which are responsible for increased use of health care services, are

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aimed at the containment of health care consumption and the release of health care resources which can be used for other health needs and priorities. The supply-side policies such as (a) global budgets, (b) capitation reimbursement systems, (c) barriers to entry for new physicians/doctors, (d) health technology evaluation, (e) control of pharmaceutical consumption, (f) pricing control of provided health care services, (g) reduction of pharmacies' profits, (h) introduction of negative and positive lists aimed at shrinking the volume of provided health services.

Health care expenditures are a key point of discussion and policy implementation, as mentioned above, especially in periods of economic recession. Greece constitutes a paradigm where one of the basic targets of the Economic Adjustment Programme is the rationalization of health care spending emphasizing on the containment of the pharmaceutical public expenditures and the restructuring of the health care system.

The main purpose of this article is to analyze the health care expenditures trend in Greece during the period 2009-2012, indicating in which financial agents/schemes, health activities and health providers have recorded significant changes after the implementation of recent structural reforms. The analysis is based on provisional revised data at the national level, on the basis of the System of Health Accounts of the Organization for Economic Cooperation and Development[1] (OECD), released by the Hellenic Statistical Authority (EL.STAT.) in March 2014. The analysis of health expenditures into their components can contribute to an essential piece of information for effective public policy decisions in the health sector.

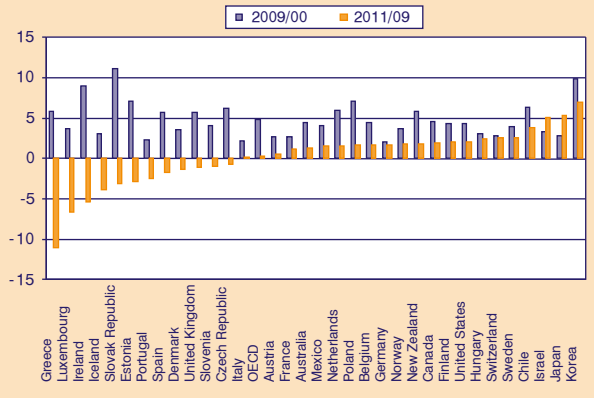
2. Overview of the health care expenditures evolution

Health expenditures fell or slowed in many OECD countries as a result of the global economic recession that began in 2008, after years of continuous growth. The drop in expenditures was due to the increase in the volume and prices of health care services, changes of demographic and consumer habits, rapid progress of technology as well as to the oversupply of doctors and their supplier-induced demand.

European countries were forced to contain the cost of health care services after the economic recession. Given that public funds account for around three-quarters of total health expenditures on average across the European countries, governments have adopted various measures to increase the efficiency of health systems such as (a) adjusting the level of financial resources, (b) regulating the demand for services and (c) controlling the cost of care (Morgan and Astolfi, 2013, 2014).

In all OECD countries, apart from Israel and Japan, the average annual growth rate of total health expenditures, in real terms, decreased during the period 2009-2011 relative to 2002-2009, while the average growth rate of OECD countries increased slightly by 0.27% (Figure 1). The countries which were hardest hit by the economic downturn recorded dramatic reversals in health spending. Greece occupied the first position among those countries with -11.08% average annual growth rate in the period 2009-2011 compared to 5.86% during 2000-2009. In Ireland, total health spending fell by 5.36% during the period 2009-2011 relative to an annual average increase of 8.98% between 2000 and 2009. Similarly in Portugal, total health expenditures fell by 2.45% compared to an increase of 2.72%, respectively. In twenty OECD countries, total health expenditure growth rates remained positive with a diminishing rate ranging from 0.10% in Italy, 1.73% in Germany, 2.60% in Sweden to 6.95% in Korea.

FIGURE 1
Average annual growth of total health expenditures among OECD countries, 2000-2011, million NCU* at 2005 GDP price level

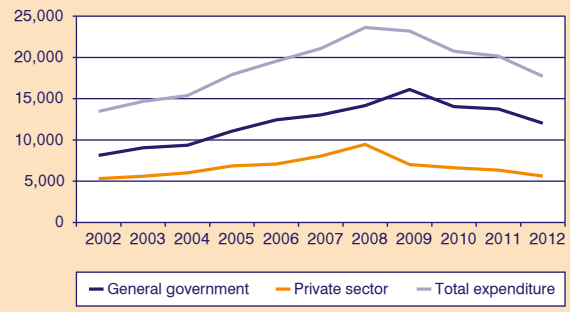


Source: OECD, Health Data Statistics (2013).
*NCU= National Currency Unit.

In Greece, total current health expenditures recorded the highest value (€23,615 million) in 2008 relative to €13,459 million in 2002. During the economic recession, total current health expenditures decreased to €17,708 million in 2012 of which €12,033 million referred to general

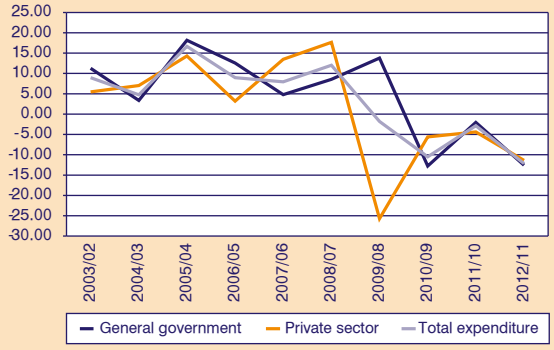
1. The System of Health Accounts aims at international comparability among countries and allows the provision of reliable data determining the economic burden of each financing sector and the direction of health expenditure by health provider and by health care activity.

FIGURE 2
Evolution of health care expenditures at current prices, 2002-2012 (in million euros)



Source: EL.STAT. (2014), OECD Health Data Statistics (2013).

FIGURE 3
Average health expenditure growth rates (%) at current prices, 2002-2012



Source: EL.STAT. (2014), OECD Health Data Statistics (2013), Author's estimations.

government health spending and €5,622 million to private sector spending[2] (Figure 2). The health expenditures of the general government and the private sector decreased significantly after 2009 and 2008, respectively, keeping pace with the total health expenditures trend. This reduction resulted both from the restructuring of health spending due to structural reforms introduced after the implementation of the Second Adjustment Programme in May 2010 and the shrinkage of disposable income.

Figure 3 shows the annual growth rate of current health expenditures during the period 2002-2012. We can observe that both the growth rate of total health expenditures and the public and private health expenditures follow a similar trend, apart from the period 2008-2009 where public expenditures increased in contrast to the private expenditures. The rapid increase in the growth rate of total health expenditures (8.21% on average) in period 2002-2009 was followed by a significant shrinkage (-8.50%) in 2009-2012. In addition, the health spending of the general government and the private sector decreased, on average, by 9.13% and 7.12%, respectively, after 2009 relative to a 10.35% and 5.06% increase during the period 2002-2009.

Total current health expenditures as a percentage of GDP amounted to 8.59% in 2002, 10.13% in 2008, 9.34% in 2010 and 9.16% in 2012. Health spending of the general government ranged from 5.20% in 2002 to 6.97% in 2009 and 6.22% in 2012 while private expenditures increased from 3.40% in 2002 to 4.06% in 2008, but decreased to 2.91% in 2012. It is noticeable that the health spending of the general government as a percentage of GDP decreased significantly (-2.89% on average) relative to private expenditures after 2009 followed by a positive growth rate of 4.50% in 2002-2009.

3. The financing of health care services by financing agent (demand-side)

The various health activities such as the curative, rehabilitative and long-term nursing care services and the medical goods dispensed to out-patients are financing by agents/schemes of the domestic economy and particularly by the general government, including Social Security Organizations (SSO), households, private insurance companies (out-of-pocket payment) and other agents. The proportion of total health expenditures as a percentage of GDP financed by the general government were 2.63%, 3.60% by SSO and 2.92% by households in 2012. Table 1 presents the proportional distribution of current health expenditures by kind of financing agent/schemes during the period 2009-2012 (EL.STAT., 2014). The main financial burden of the health care system, throughout the period under consideration, was shouldered by the social security funds (39.28% of the total health expenditures in 2012 or €6,957 million) and the total private sector (31.91% or €5,651 million) followed by the general government spending (28.67% or €5,076 million) and the other agents/schemes (0.14% or €24 million). The financing from social security organizations decreased while those of the general government and the private sector increased during the period of economic recession.

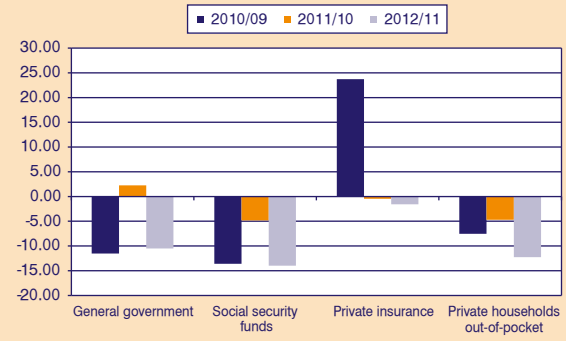
2. The term of public or private expenditures refers to the financial institution and not to the ownership status of the health care provider.

TABLE 1 Distribution (%) of health expenditures by kind of financing agents/schemes at current prices, 2009-2012

	2009	2010	2011	2012
General government	27.05	26.73	28.14	28.67
Social security funds	42.42	40.95	40.13	39.28
Private sector	30.53	32.29	31.56	31.91
Other agents/schemes	0.01	0.02	0.17	0.14

Source: EL.STAT. (2014), Author's estimations.

FIGURE 4
Annual growth rates (%) of health expenditures by kind of financing agents/schemes at current prices, 2009-2012



Source: EL.STAT. (2014), Author's estimations.

The implementation of structural reforms in the health sector, in accordance to the Second Adjustment Programme, has resulted in the highest contribution of social security organizations to cost containment relative to the other financing agents of health care services (Figure 4). More specifically, the social security organization's financing decreased by 10.80%, on average, and the general government's by 6.60% in 2009-2012. During the same period, the out-of-pocket payments of households for health services decreased by 8.18%, on average, due to the shrinkage of disposable income as a result of the economic recession, while spending for private insurance increased by 7.22%.

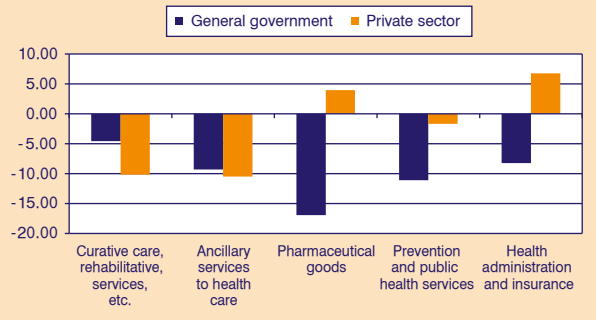
4. The financing of health activities by financing agent (consumption-side)

Total health care expenditures, regardless of the financing agent, are allocated to (a) in-patient and out-patient care (public and private), (b) rehabilitative and long-term nursing care services, (c) ancillary services to health care such as clinical laboratories, diagnostic imaging, patient transport and emergency rescue, (d) medical goods dispensed to out-patients such as pharmaceutical products, glasses and hearing aids, (e) prevention and public health services and (f) health administration.

Table 2 shows that the two main leaders of total health expenditures are in-patient care (curative, rehabilitative and long-term nursing care services) and out-patient services (ancillary services) as well as the medical goods dispensed to out-patients, with in-patient care to occupy the first position with an upward trend. The share of the general governments' expenditures for curative care services (64.24%) increased in 2012 relative to 2009 (56.07%) while the share of the private sector decreased from 70.88% to 63.70%, respectively. During the same period, the distribution spending for medical goods dispensed to out-patients with respect to total health expenditures presented an opposite trend. The share of the general government decreased from 34.89% to 26.55% while the share of the private sector increased from 21.21% to 28.69%. Simultaneously, both the general government and the private sector reduced their share of health expenditures for ancillary services.

General government expenditures, at current prices, reduced for all main categories of health care activities

FIGURE 5
Average annual growth rates (%) of health expenditures by kind of health care services/activities and by main financing agents at current prices, 2009-2012



Source: EL.STAT. (2014), Author's estimations.

TABLE 2 Distribution (%) of health expenditures by kind of health care services/activities and by main financing agents/schemes at current prices, 2009-2012

	2009		2010		2011		2012	
	General government	Private sector	General government	Private sector	General government	Private sector	General government	Private sector
Curative care services	56.07	70.88	56.25	68.86	59.14	68.67	64.24	63.70
Rehabilitative care services	0.07	0.00	0.07	0.00	0.07	0.00	0.63	0.00
Long-term nursing care services	0.51	0.14	0.81	0.19	0.51	0.22	0.66	0.45
Ancillary services to health care	4.12	6.13	3.63	5.71	3.95	5.33	4.01	5.51
Medical goods dispensed to out-patients	34.89	21.21	34.89	23.02	31.88	24.27	26.55	28.69
Prevention and public health services	1.82	0.05	2.07	0.06	1.93	0.06	1.68	0.06
Health administration and insurance	2.16	1.06	2.00	1.39	2.30	1.46	2.15	1.59
Not specified by kind	0.36	0.51	0.28	0.78	0.22	0.00	0.09	0.00

Source: EL.STAT. (2014), Author's estimations.

in 2009-2012, with the highest reduction recorded in pharmaceutical products due to the cost containment reforms according to the Second Adjustment Programme, followed by prevention and public health services (Figure 5). It should be mentioned that the general government policy with respect to the pharmaceutical expenditure is determined from the commitment that public expenditure for pharmaceutical products dispensed to out-patients should not exceed 1% of GDP, i.e. approximately €2 billion (in accordance with the average level of EU countries) and the total public pharmaceutical expenditure (in-patient and out-patient) should not exceed 1.3% of GDP in 2014. The private health expenditures for ancillary services to health care and curative care services reduced significantly while the pharmaceutical spending increased due to the enlargement of the negative list of drugs and the increase of patient co-payments in certain categories of pharmaceutical products.

5. The distribution of health expenditure by health provider (supply-side)

The main providers of health care services are hospitals (public and private sector), nursing and residential care facilities, ambulatory health care services such as offices of physicians and dentists, medical and diagnostic laboratories, retail sale and other providers of medical goods such as pharmacies and other facilities activated in provision and administration of health programmes.

The highest proportion of total health expenditures was allocated to hospitals and other nursing and residential care facilities followed by the retailers (pharmacies) and out-patient care services (Table 3). The financing allocation to hospitals with respect to total health expenditures increased over time from 40.39% in 2009 to 49.87% in 2012 while that of retailers and out-patient care providers (medical and diagnostic laboratories, etc.) decreased from 30.38% to 27.19% and from 26.54% to 20.45%, respectively.

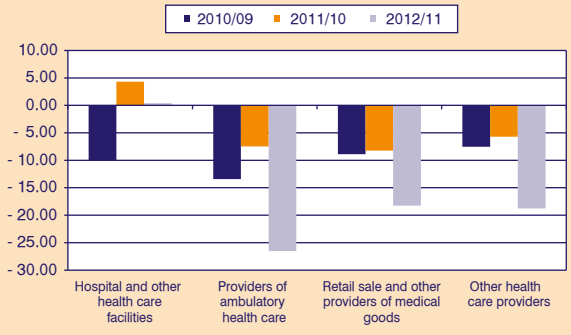
The current health expenditures with respect to hospitals and other nursing and residential care facilities increased over time in contrast to other providers who recorded significant reductions especially during the period 2011-2012 (Figure 6). More specifically, the negative growth rate (-9.97%) of hospitals and other nursing facilities' expenditures in 2009-2010 was followed by positive growth rates in 2011 and 2012 (4.30% and 0.41%, respectively). On the other side, the providers of out-patient care exhibited the highest negative growth rate (-26.52% in 2012) followed by retailers (-18.25% in 2012). The agents/schemes of the general government, including the social security organizations, shouldered the main financial burden of in-patient services while

TABLE 3 Distribution (%) of health expenditures by general category of health care providers at current prices, 2009-2012

	2009	2010	2011	2012
Hospital and other health care facilities	40.39	40.63	43.63	49.87
Providers of ambulatory health care	26.54	25.67	24.45	20.45
Retail sale and other providers of medical goods	30.38	30.92	29.22	27.19
Other health care providers	2.69	2.78	2.70	2.50

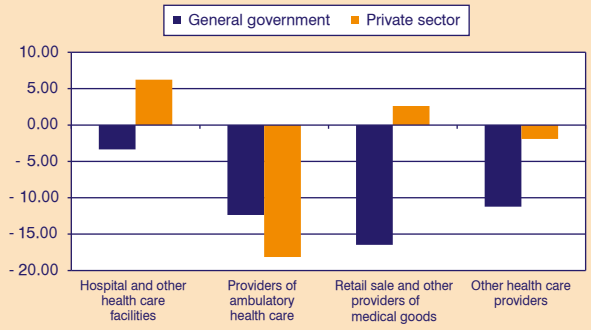
Source: EL.STAT. (2014), Author's estimations.

FIGURE 6
Annual growth rates (%) of health expenditures by general category of providers at current prices, 2009-2012



Source: EL.STAT. (2014), Author's estimations.

FIGURE 7
Average annual growth rates (%) of providers' reimbursement by main financing agents, at current prices, 2009-2012



Source: EL.STAT. (2014), Author's estimations.

the contribution of households remained low during the period 2009-2012. The social security organizations reimburse the highest proportion of spendins for retail sales and other providers of medical goods services. On the other hand, the households funded, to a great extent, the providers of ambulatory health care services.

During the period 2009-2012, the general government expenditures to hospitals and other health care facilities fell 3.35% on average, 12.36% to the providers of ambulatory health care, 16.47% to retail sales and other providers of medical goods and 11.23% to other health care providers. The private payments to hospitals and other facilities increased 6.23% on average and 2.61% to retail sales and other providers of medical goods while payments to providers of ambulatory health care decreased 18.14% (Figure 7). The aforementioned changes

TABLE 4 Distribution (%) of health expenditures by main sub-categories of health care providers at current prices, 2009-2012

	2009	2010	2011	2012
General hospitals	34.82	34.96	37.43	42.36
Offices of physicians	7.82	7.56	7.14	5.34
Offices of dentists	8.53	8.06	7.42	5.36
Out-patient care centres	4.28	4.33	4.32	3.86
Medical and diagnostic laboratories	4.14	3.70	3.77	3.85
Pharmacies	27.95	28.59	26.99	25.17

Source: EL.STAT. (2014), Author's estimations.

may be due to the increased co-payment of patients for nursing in private clinics and pharmaceutical products.

Regarding the proportional distribution of total health expenditures on main sub-categories of health care providers, the general hospitals occupied the first position with an upward trend amounting to 42.36% of total health expenditures in 2012. Pharmacies occupied the second position with 25.17% in 2012 relative to 27.95% in 2009. Offices of dentists occupied the third position with 5.36% in 2012 relative to 8.53% in 2009 (Table 4). During the economic recession, the health expenditures for physicians and dentists recorded the highest reduction (18.67% and 20.85%, respectively) relative to the general hospitals which exhibited the lowest decrease (2.24%).

6. Concluding remarks

Reeves et al. (2014) argued that the analysis of cross-national data in Europe does not show an inevitable relationship between economic recession and health care cuts. Some countries have allowed total spending to rise in the face of increasing population needs, in spite of budgetary pressure from rising deficits and debts. Another group of countries has specifically allowed health care expenditures to rise, as a measure that would facilitate improvement in the quality and accessibility of health services while fostering economic growth. A third group of countries argued that fiscal consolidation would promote future growth, appears to have substantially reduced government spending. More specifically, Iceland, Greece, Ireland, the UK, Spain and Slovenia implemented large reductions in spending on health, while the Netherlands, France and Switzerland have allowed real levels of spending to increase.

In Greece, during the period of economic recession, the total health care expenditures fell significantly. According to Thomson et al. (2014), Greece is among the countries where the per capita health expenditure decreased significantly, reaching 2007 levels. A large proportion of the aforementioned reduction was due to the shrinkage of the general government's health spending as a result of the restructuring of the health system and the implementation of structural reforms.

The in-patient and out-patient care services as well as the pharmaceutical expenditures, which reflect the demand side of the health sector and constitute the main components of total health expenditures, were financed by the social security organizations, private payments and the general government. The contribution of social security funds reduced during the period under consideration, mainly due to the pharmaceutical and ambulatory health care spending cuts. However, the contribution of private payments reduced with a diminishing growth rate. The reduction of household disposable income and the high rates of unemployment negatively influenced the upward trend of private payments for out-patient health care.

Regarding the supply-side, hospitals and other care facilities recorded the highest spending relative to the providers of ambulatory health care, such as offices of physicians and medical and diagnostic laboratories, and the retail sales and other providers of medical goods, such as pharmacies. The general government increased funding for hospitals and other care facilities while the social security organizations reduced funding for the retail sales and other providers of medical goods as a result of the restructuring of health care due to the establishment of EOPYY and the implementation of structural reforms for the reimbursement of pharmacies and medical and diagnostic laboratories such as the revision of patient co-payments, the reduction of profit margins for pharmacies and the imposition of rebates. The private payments financed mainly the providers of ambulatory health care while out-of-pocket payments to physicians and dentists reduced significantly.

The health expenditures of the general government reduced for all main categories of health activities that characterize the consumption-side with the highest shrinkage recorded for pharmaceutical goods. The containment of pharmaceutical expenditures was the basic objective of the structural reforms introduced by the Second Adjustment Programme in May 2010, as a result of the overconsumption of drugs both in terms of quantities and brand-names during the period 2000-2010, and the waste of resources created from supplier-induced demand. Greece occupies the first position in overconsumption of drugs such as antibiotics, anti-diabetic and/or anti-inflammatory medications (OECD, 2013). According to Morgan and Astolfi (2014), the reduction in the public pharmaceutical spending and other cost-cutting measures contributed to around 1/3 of the overall reduction in the public health budget in 2009-2011, helping to reduce the overall Greek public deficit by the equivalent of 1% of GDP. Furthermore, Greece occupies the first position among countries with significant cuts in financing of preventative and public health. On the other hand, the private pharmaceutical expenditures increased while the ancillary health care services spending decreased. The positive change of private health expenditures might be due to some of the burden being shifted from public funding to households through increased cost-sharing of insurers for specific categories of pharmaceutical products and the enlarged negative drug list.

The analysis of health care spending during the period 2009-2012 demonstrates a clear reduction in total health expenditures regarding the general government and the social security organizations and a diminishing growth

rate of out-of-pocket payments as a result of the impact of the economic recession and the consequent structural reforms. Further analysis of the implementation of health policy reforms with respect to cost containment could contribute to determining their impact on provided health care services and on the level of population health.

Bibliography

Baltagi B. and F. Moscone (2010), *Health care expenditure and income in the OECD reconsidered: Evidence from panel data*, IZA Discussion Paper no. 4851, pp. 22.

Centre for Health Services Management and Evaluation (2013), *National Health System Accounts 2003-2011 with OECD-SHA Methodology*, Faculty of Nursing, National and Kapodistrian University of Athens, Athens (in Greek).

Evans R.G. (1974), "Supplier-induced demand: some empirical evidence and implications", in M. Perlman (ed.) *The Economics of Health and Medical Care*, Macmillan, London.

Gerdtham U-G. and B. Jonsson, (2000) "International comparisons of health care expenditure: theory, data and econometric analysis", in Gulyer A.J. and J.P. Newhouse (eds.) *Handbook of Health Economics*, Elsevier Publishing, vol. 1A, pp. 11-53.

Gerdtham U-G., I. Sogaard, F. Anderson, and B. Jonsson (1992), "Econometric analysis of health expenditure: a cross sectional study of OECD countries", *Journal of Health Economics*, vol. 11, pp. 63-84.

Hellenic Statistical Authority (2013), *Health Expenditures-System of Health Accounts 2009-2011*, Athens.

Hellenic Statistical Authority (2014), *Health Expenditures-System of Health Accounts 2009-2012*, Athens.

Hitiris T. and J. Posnett (1992) "The determinants and effects of health expenditure in developed countries", *Journal of Health Economics*, vol. 11, pp. 173-181.

Leu R.E. (1986) "The public-private mix and international health care costs, in A.J. Culyer and B. Jonsson (eds.) *Public and Private Health Services,* Basil Blackwell, Oxford.

Liaropoulos L. (2007), *Management of health care services and systems*, Beta Publishing, Athens, pp. 177-184 (in Greek).

McGuire A., D. Parkin, D. Hughes, and K. Gerard (1993), "Econometric analyses of national health expenditures: can positive economies help to answer normative questions?", *Health Economics*, vol. 2, pp. 113-126.

Morgan D. and R. Astolfi (2013), "Health spending growth at zero: Which sectors are most affected?", *OECD Health Working Papers*, No. 60, OECD Publishing, http://dx.doi.org/10.1787/5jz5sq5qnwf5-en

Morgan D. and R. Astolfi (2014), "Health spending continues to stagnate in many OECD countries", *OECD Health Working Papers*, No. 68, OECD Publishing, http://dx.doi.org/10.1787/5k4dd1st95xv-en

Newhouse J.P. (1987), "Cross national differences in health spending: what do they mean?", *Journal of Health Economics*, vol. 6, pp. 159-162.

OECD (1996), "Health care reform: the will to change", *Health Policy Studies*, no 8, OECD, Paris.

OECD (2013), *Health at a glance 2013*, OECD Publishing.

OECD (2014), *Health Data Statistics 2013*, OECD Publishing.

Pauly M. (1968), "The economics of moral hazard", *American Economic Review*, vol. 58, pp. 531-537.

Reeves A., M. McKee, S. Basu, and D. Stuckler (2014), "The political economy of austerity and healthcare: Cross-national analysis of expenditure changes in 27 European nations 1995-2011", *Health Policy*, vol. 115, pp. 1-8.

Rice T. (1983), "The impact of changing medicare reimbursement rates on physician-induced demand", *Medical Care*, vol. 21, pp. 803-815.

Thomson S., J. Figueras, T. Evetovits, M. Jowett, P. Mladovsky, A. Maresso, J. Cylus, M. Karanikolos, and H. Kluge (2014), *Economic crisis, health systems and health in Europe: impact and implications for policy*, Policy summary 12, European Observatory on Health Systems and Policies, World Health Organization, pp. 41.

Weisbord B.A. (1991), "The health care quadrilemma: an essay of technological change, insurance, quality of care and cost-containment", *Journal of Economic Literature*, vol. 29, pp. 523-552.

Crisis management model for the pharmaceutical sector in Greece

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1. Introduction

Crises are regarded to be inevitable and they can be hardly predicted or avoided. In the modern economic environment, the issue of crisis management is increasingly involved in business life and leadership. Some industries are evidently more vulnerable to crises than others, as a result of their nature, the complexity of regulations wherein they operate and their internal procedures. The pharmaceutical industry is undoubtedly quite vulnerable to crises, as its companies play a vital role in improving people's life, treating patients and finding new medicines for uncured diseases. Thus, the potential socio-economic impact of a crisis situation in such an industry is expected to be significant. Moreover, crises have no geographical boundaries and they typically cause international cascading effects, depending on the type of organization and the operational model of each industry. Despite their inability to predict crises, organizations do know that crises will happen and the better prepared they are the sooner they will come out of this unfavorable situation.

The present article constitutes an effort to enrich the crisis management research in Greece, which is particularly limited in the pharmaceutical sector (Priporas and Vangelinos, 2008) as well as the other types of industrial activity. It additionally suggests a comprehensive framework of crisis management and a best practice model, in the form of a guideline for the business leaders in the Greek pharmaceutical market. The proposed model, its findings and the relevant recommendations can support crisis management plans and corresponding organizational changes of the given industry. The original research conducted in the course of this study encompasses 35 pharmaceutical companies. By and large, the results demonstrate that the Greek pharmaceutical sector possesses a considerable level of adaptation in crisis management; however, there is room for improving its crisis preparedness, on the basis of the proposed toolkit. Specifically, it is shown that each company should be proactive and not reactive, through planning and taking a series of certain actions to improve its crisis management capacity.

2. Families of crisis management strategies

Although it is considered that there are no boundaries for the range of potential crises, it is important to recognize the different groups or "families" of crises in order to be prepared (Pearson and Mitroff, 1993). Several typologies of crises have been defined and examined during the last two decades. Pauchant and Mitroff (1992) grouped crises according to their shared characteristics, referred to as crisis portfolios or "families". The families consist of the external information attacks, external economic attacks, mega damages, breaks, psychological and occupational health diseases. Coombs (2007) identified the following types of crises: natural disasters, malevolence, technical breakdowns, human breakdowns, challenges, mega damages, organizational misdeeds, and that of the workplace. In addition, crisis management has been examined as a process of an organization dealing with negative events. Especially, Pauchant and Mitroff, (1992) define crisis management as the organizational efforts related to crisis prevention and crisis response. Crisis management incorporates all strategies that an organization implements in order to prepare and respond effectively to an unpredictable negative event. It seeks to minimize the impact of this event and the time of recovery.

Crisis management components have been clustered into 5 families by Pauchant et al. (1991), based on previous studies and knowledge. This is a sum-up toolkit of all strategies that deal with crisis management. These strategies can be advantageous for the pharmaceutical companies, through helping them to focus in one place using a "quick guide", where all crisis management components have been incorporated. As it is shown in Table 1, the five families consist of (a) strategic efforts and strategies that companies should apply, apart from the regular strategies, in order to be prepared for negative events with effective crisis management, (b) structural and technical efforts, (c) evaluation and diagnostic efforts, (d) communications efforts, and (e) psychological and cultural efforts.

According to Fink (1986), it is essential to establish a crisis management team (CMT) before developing a preparation plan. The CMT may be composed of different members, with distinct roles and responsibilities, depending on the type of crisis. The core team to handle a crisis should include, at least, the CEO or the CFO

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TABLE 1 Crisis management families

Strategic efforts

1. Drastic changes in corporate philosophy
2. Integration of crisis management (CM) into corporate excellence
3. Integration of CM into the strategic planning process
4. Inclusion of outsiders on board, crisis management unit (CMU), etc.
5. Training and workshops in CM
6. Crises simulations
7. Diversification and portfolio strategies

Technical and structural efforts

8. Creation of a CMU
9. Creation of a dedicated budget for CM
10. Developing and changing emergency policies and manuals
11. Computerized inventories of plants' employees, products and capabilities
12. Creation of an emergency room or facility
13. Reduction of hazardous products, services and productions
14. Improved overall design and safety of products and production
15. Technological redundancy, such as computer backup
16. Use of outside experts and services in CM

Evaluation and diagnosis efforts

17. Legal and financial audit of threats and liabilities
18. Modifications in insurance coverage
19. Environmental impact audit and respect for security norms
20. Ranking of most critical activities necessary for daily operation
21. Early warning signals detection, scanning, Issues management
22. Dedicated research on potential hidden dangers
23. Critical follow-up of past crises

Communication efforts

24. Media training for CM
25. Major efforts in public relations
26. Increased information to local communities
27. Increased relationships with intervening groups (police, media, etc.)
28. Increased collaboration or lobbying among stakeholders
29. Use of new communication technologies

Psychological and cultural efforts

30. Strong top management commitment to CM
31. Increased relationships with activist groups
32. Improved acceptance of whistleblowers
33. Increased knowledge of criminal behavior
34. Increased visibility of crises' human impact on employees
35. Psychological support to employees
36. Stress management and management of anxiety
37. Symbolic reminding of past crises and dangers

Source: Pauchant, et al. (1991).

and the crisis communication executive, which, in the pharmaceutical industry, is typically the external affairs executive. The CMT members should meet regularly to assess and review the crisis plans. Managing a crisis requires the cooperation and contribution of numerous individuals to enable performing diverse functions. The CMT should also provide the guidelines for managing a crisis (Coombs, 2006). It is the "heart" of crisis management, responsible for treating all aspects of a crisis from the basics to the end (Stotka and Miller, 2002).

In a nutshell, the existing literature has provided a clear view of the efforts and strategies that an organization should apply to be prepared when a crisis hits. A best practice model incorporates efforts, processes and strategies that will be included in the crisis management plan. More specifically, crisis management should be part of the culture of each organization and should be incorporated in the planning process. The corporate excellence should focus on reducing the potential crises by changing the mentality of how organizations operate and produce goods. Crisis scenarios should be created using external resources and third parties, based on previous or future hypothetical crises. A crisis management team should be established including all appropriate people with clear roles, responsibilities, and expected results. Contingency plans including facilities, backups of systems processes and operations should be ready in case of a crisis, so as to operate in the most efficient and proper way. The organizations should have pre-arranged conference and backup rooms to provide updates and relevant information to the media. Appointed spokespersons and clear communication plans and channels should be established so as to reach people inside and outside in the most appropriate way.

3. The research in the Greek pharmaceutical sector

The empirical research about crisis management in Greece is very limited, both for the pharmaceutical sector as well as the whole industry. The outbreak of the global economic crisis in 2008, the fiscal debt crisis in Eurozone, the withdrawal of Greece from international bond markets and its inclusion in the three-party (EU, ECB, IMF) funding support mechanism in 2010, as a result of its high debt and public deficit, underline the need for deploying effective crisis management plans. Nevertheless, most companies do not usually examine the possibilities of crisis and they are not adequately prepared to handle them.

Regarding the health sector, the Greek government has already completed the largest part of the Economic Adjustment Programme 2011-2014, including the changes

in primary health care services, the reduction of pharmaceutical expenses and the penetration of generics. According to SFEE (2013), the per-capita public expenditure for pharmaceutical products has declined since 2009, as it was reduced from 456€ to 214€ in 2013, while further reduction is expected in 2014 (183€).The business leaders of the pharmaceutical industry should actively participate in this adjustment effort and be prepared to manage future crises, through developing suitable skills, plans and strategies. The proposed model can support this process, by helping pharmaceutical companies understand and assess sources of risk, potential problems and management practices.

As far as the current research characteristics are concerned, credibility with the respondents was established by using an introductory letter, which clearly defined the purpose of the research and the potential usage of the responses. Furthermore, it was clarified that confidentiality and the anonymity of respondents would be granted. A pre-research communication informed the respondents about the questionnaire structure and provided insight about its completion, to avoid misunderstandings and save time. The structured questionnaire was designed to identify the level of readiness of the pharmaceutical companies in Greece, in relation to the 5 families of crisis management.

The questionnaire involved 7 sections, starting from the demographic section, with questions based on predefined selections to capture the demographic data. The second section aimed to capture the crises that each company may have faced, including the perception of the level of preparedness, to allow the comparison with the actual efforts of preparedness, as described in the following 5 sections. The remaining 5 sections included questions based on the 5 families of crisis management, in accordance with the research objectives. The questionnaire consisted of only closed-ended simple questions, specific and adapted to strategies exclusively.

It is also noted that the questionnaire incorporated questions from already established surveys developed by Pauchant and Mitroff (1992), Guimaraes (1997), Dinkin (2007), and the Institute of Certified Professional Managers (2010). This approach contributed to the enhanced quality and time saving, as there was no need for a pilot study. The survey population refers to the total number (about 100) of pharmaceutical companies operating in Greece, based on SFEE (2013). Based on the number of responses to the questionnaire within the set timeframe, the research was limited to 35 companies. Nonetheless, 35% of the total population is regarded as an adequately representative and satisfactory sample size for the validity and reliability of the research, and the generalization of conclusions.

4. Research results

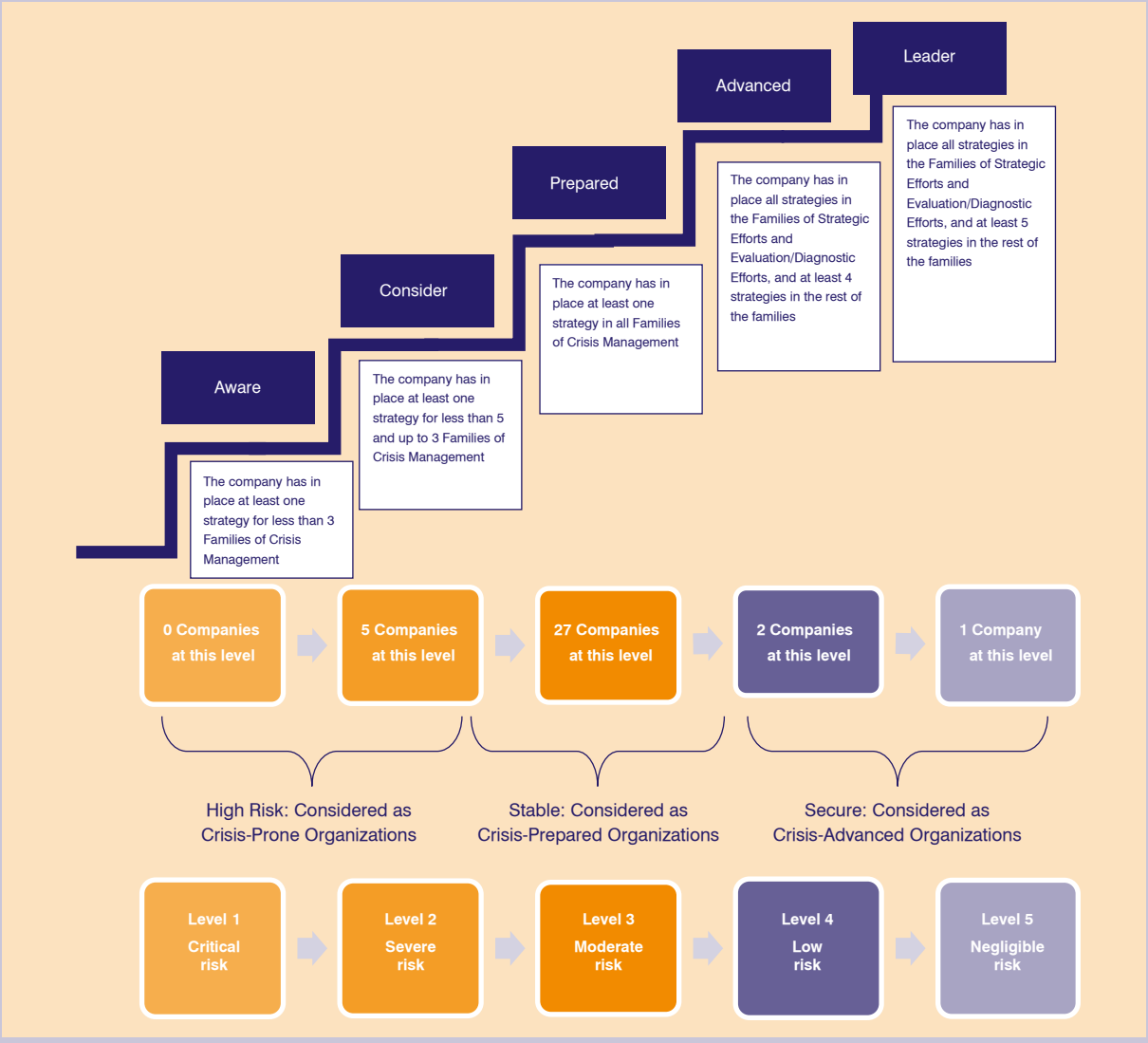
The analysis of collected data reveals that 71% of the pharmaceutical companies are foreign/multinational. The majority of them (57%) has more than 99 employees. Among the respondents, 68% are at a managerial level, 6% supervisors, 20% executives and 6% managing directors. Additionally, 60% work for the sales & marketing departments, while 68% are in the same pharmaceutical company during, at least, the last 5 years. This is another factor which adds to the overall confidence for high-accuracy responses about the crisis management. The educational level of pharmaceutical business leaders is very high, as 71% have an MBA and 14% a PhD. Almost 97% of the respondents has experienced at least one crisis in the past 5 years. The market crash is the number 1 type of crisis that companies faced. Pharmaceutical business leaders believe that they are highly prepared for the top three types of crises, i.e. cash flow, corruption and legal issues, and drug recall. Crisis readiness is their first priority topic and they believe that pharmaceutical companies should focus on how to manage crises. They also consider that pharmaceutical companies have a high possibility to face an adverse event and that they are in the position to face a crisis with use of proactive strategies rather than reactive ones.

Five steps are created to illustrate the level of usage of the crisis management families, starting from the “Aware” companies, and then to the “Consider” companies, the “Prepared” companies, the “Advanced” companies and the crisis management “Leader” companies. Each of these steps has specific attributes and cutoffs, as presented in Figure 1. For instance, a company is ranked as “Advanced” in crisis management when it has in place all the strategic efforts and evaluation/diagnostic efforts and at least 4 efforts in the rest of the families.

In addition, a simplified best-practice model, referred to as Crisis Management Adoption Ladder, is designed to evaluate and rank the firms’ efforts when dealing with crises, based on the clusters of readiness. Subsequently, risk levels are created so as to alert the companies and not just inform them about the crisis management adoption level (Figure 1). Companies who are placed in Level 1 and 2 are in high risk and are considered as crisis-prone organizations. Pharmaceutical companies ranked at Level 3 are regarded as prepared and to be stable from a risk perspective. However, this ranking does not imply that they do not face any risk. Organizations which belong to Level 4 and Level 5 are considered as secured and crisis-advanced organizations.

In general, pharmaceutical organizations in Greece use a significant number of strategies from the 5 families. They mainly focus on technical and structural efforts,

FIGURE 1
Classification of pharmaceutical firms in Greece according to their crisis preparedness level



as these strategies are the simplest to implement and the most common across the industries. Pharmaceutical companies also deploy a significant number of evaluation and diagnostic efforts. On the other hand, there are strategies from the rest of the families, such as that of psychological and cultural efforts, which clearly require additional sources to enhance their implementation. More specifically, the analysis and clustering of firms reveal that 77.1% are perceived as crisis-prepared with a stable risk factor, one company (2.9%) is the leader in crisis management adoption, as it applies almost all efforts and strategies from all families of crisis management, 5.7% are in the advanced level of crisis management adoption, and 14.3% are in the "Consider" level of crisis management adoption, facing a severe risk in a future crisis.

5. Conclusions

The objective of the present study is twofold. First, it performs the measurement of the crisis preparedness level of pharmaceutical companies operating in Greece, based on the 5 families of crisis management, as described by Pauchant et al. (1991). It should be noted here that, although the specific method provides a satisfactory approach for classifying companies according to their crisis readiness, some updates that incorporate recent (technological and organizational) advances in handling crises at the firm level would promote the proposed model. Second, it creates a simplified toolkit for immediate use, based on the crisis management model, to provide all pharmaceutical companies with comprehensive scoring and a clear guidance for the level of risk they probably

have, depending on their step on the crisis management adoption ladder.

The processing of the original survey data from 35 pharmaceutical companies demonstrate that the business leaders of this industry are highly educated with lengthy experience and they operate proactively, being confident that they will face a crisis. This outcome reflects the relatively high level of crisis readiness of pharmaceutical companies in evaluation/diagnostic efforts as well as in technical/structural efforts of crisis management. The essential contribution of these two strategies to the overall crisis management in the given sector can be attributed to the fact that those families are the easiest to implement initially. The medium level of preparedness in relation to the families of strategic efforts, communication efforts and psychological/cultural efforts highlights the importance of taking actions in these crisis management fields.

The study reveals that a high percentage (≈86%) of pharmaceuticals organizations operating in Greece is in the "Prepared" or a higher level on the crisis management adoption ladder. The latter outcome does not mean that pharmaceutical companies are not at risk, but it depicts the actual effort of this industry to survive in a volatile economic environment and operate smoothly. The sectoral average level of risk is moderate, while 14% of companies are found at a high risk and, hence, they should take immediate actions to become crisis-prepared organizations. The present modeling/evaluation framework is applicable and potentially useful for managing crises in several other industries of the Greek economy.

References

Colin, D., (2005), *Crisis Management in the Food and Drinks Industry: A Practical Approach,* New York: Springer.

Coombs, W. (2006), *Code red in the boardroom: Crisis management as organizational DNA,* Westport, CT: Praeger.

Coombs, W.T. (2007), *Ongoing crisis communication: Planning, managing, and responding,* 2nd ed. Thousand Oaks, CA: Sage.

Dinkin, D.R. (2007), *Organizational Crises in Local North Carolina Public Health Agencies: A Crisis Typology & Assessment of Organizational Preparedness,* Chapel Hill, NC.

Fink, S. (1986), *Crisis Management: Planning for the Inevitable,* New York: American Management Association.

Institute of Certified Professional Managers (2010), *Crisis Communications Management Readiness Questionnaire,* James Madison University, MSC 5504, Harrisonburg, VA.

Pauchant, T., Mitroff, I., and Lagadec, P. (1991), "Toward a systemic crisis management strategy. Learning from the best examples in the US, Canada and France", *Industrial Crisis Quarterly,* 5 (3), pp. 209-232.

Pauchant, T.C. and Mitroff, I.I. (1992), *Transforming the Crisis Prone Organization,* San Francisco, CA: Jossey-Bass, Inc.

Pearson, C.M. and Mitroff, I.I. (1993), "From Crisis Prone to Crisis Prepared: A Framework for Crisis Management", *Academy of Management Executive,* Vol. 7, No. 1, pp. 48-59.

Priporas, C.V. and Vangelinos, G. (2008), "Crisis management in pharmaceuticals: evidence from Greece", *International Journal of Pharmaceutical and Healthcare Marketing,* Vol. 2, No. 2, pp. 88-102.

SFEE (2013), *The Pharmaceutical Market in Greece: Facts and Data,* Athens: Hellenic Association of Pharmaceutical Companies.

Stotka, J.L. and Miller, M.A. (2002), "Managing a crisis effectively: A blue print for pharmaceuticals companies", *Drug Information Journal,* Vol. 36, 325-331.

The role of the Greek food and beverage industry in the development process, trends and prospects

*Ioanna Konstantakopoulou**

1. Introduction

The food and beverage industry is a rapidly evolving sector of Greek and European industry. Levels of employment, gross value added, exports, turnover and the prospects of food product demand in the future are all drivers of growth in both the European and the domestic environment. Furthermore, a positive result is the preservation of jobs in the food and beverage industry during the recession, in contrast to other major industries such as chemicals, industrial machinery and equipment where there was a significant drop in employment, in the same period.

The role of the food and beverage industry in the economic development of the EU-27 is very important. The food and beverage industry is a constantly growing and dynamic sector of European industry. Germany, France, Italy, the UK and Spain are the largest producers of this industry in the EU. Moreover, the food and beverage industry is a key part of national economies, and in 2012 the employment rate exceeded 15% in more than half of the Member States. During the recession, employment levels in the food and beverage industry remained firmly upwards. In terms of sub-sectors of the European food industry, the most dynamic in terms of sales are meat products, followed by bakery products and confectionery, dairy products and beverages. While, in terms of value added and employment, bakery products and confectionery and other food products are making higher prices.

The EU remains the leader in the food and beverage industry worldwide and in 2012, despite a decline in share of food and beverages between 2002 and 2011 in international markets. The external sector of the European food and drink industry remained positive from 2009 onwards. The surplus stood at €23 billion in 2012, compared with €13.2 billion in 2011, exports of the industry grew by 13.2% in 2012 with respect to 2011, while imports remained stable. In addition, the EU-27 is the largest exporter of food and beverage worldwide with a share of 16.5% of the total exports of the sector. The sub-sectors with the largest exports are beverages, meat products and dairy products, and high export growth rates show the sub-sectors, processed tea and coffee, and oils and fats. We note that, in most sub-sectors of the European food and drink industry there was a surplus. Only oils and fats and fish imports are greater than exports. Exports of EU-27 in the test industry are directed mainly to the USA (13.6% of total exports in the sector), Russia (7.9%), Switzerland (4.9%), an important value of exports goes to China (4.6%) and Japan (4.3%). In 2012 there were high rates of change in exports to China (30%), Australia (18%), Saudi Arabia (16%) and Japan (15%). EU imports come mainly from Brazil and Argentina, followed by USA and Switzerland (see Table 1).

TABLE 1 Top EU trading partners, *(€ million)*

	Exports			Imports	
	2011	2012-2011 %		2011	2011-2010 %
USA	13,580	13%	Brazil	7,359	5%
Russia	7,959	10%	Argentina	4,757	-12%
Switzerland	4,900	5%	USA	4,318	6%
China	4,595	30%	Switzerland	3,904	10%
Japan	4,265	15%	China	3,845	-5%
Norway	2,886	6%	Indonesia	3,196	2%
Hong Kong	2,732	-2%	Thailand	2,643	-7%
Canada	2,571	13%	Turkey	2,273	7%
Australia	2,039	18%	Malaysia	2,114	38%
Saudi Arabia	1,953	16%	Norway	2,029	3%

Source: CIAA, Data and Trends of the European Food and Drink Industry, 2012.

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2. Stylized facts of the Greek Industry of Food and Drink

Based on statistical data from the EL.STAT. and Comtrade, we analyzed the structural characteristics of the industry, such as employment, industrial production, gross value added, investment, and the value of sales in the industry. In a next step, we examine the performance of the external sector of each sub-sector and identify the comparative advantages of the product categories of sub-branches of the Greek food and beverage industry.

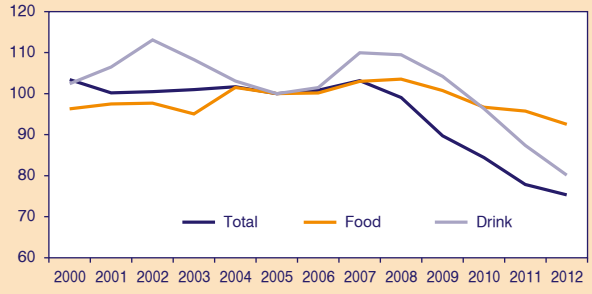
Index of Industrial Production: The performance of the food and beverage industry is emerging as a crucial variable for the progress of the Greek economy. The index of industrial food production, although decreased, shows signs of resistance (Figure 1). The average annual rate of decline of the industrial production index of food and beverages during the period of 2009-2012 was 2.8%, when the corresponding reduction in the total index was 5.9% and 7.3% for drinks. The sub-sectors with the largest weight in shaping the overall index of Industrial Food are the Processing and preserving of meat and Production of meat products, the Production of bakery and farinaceous products and Production of vegetable and animal oils and fats for the period 2000-2012. Dynamic sub-sectors highlighted are: a) Production of meat products, b) Production of prepared feeds, c) Production of vegetable and animal oils and fats, and d) Production of dairy products. While the sub-sectors of Processing and preservation of fruits and vegetables and Beverages show a decline.

Employment: Employment in the Greek food industry provides positive evidence for the long-run evolution. The food industry has maintained the level of employments relative to other industries during the deep recession of the Greek economy while employment in the field of beverages decreases rapidly from the first quarter of 2012. The participation of the food and beverage industry in the formulation of employment in the manufacturing sector is crucial and has steadily increased. It should be noted that the contribution of the food and beverage industry in formation of total level of employment in the country is small. The highest percentage of labor force participation is observed in sub-sectors: a) Production of bakery and farinaceous products, b) Production of other food products, and c) Manufacture of dairy products. Finally, during the last two years there has been an increase in the number of workers in the subsectors of Processing and preserving of fruit and vegetables and that of Processing and conservation of fish.

External trade: The trade balance of the food and beverage industry presents imbalance and strong fluctuations during the examined period (see Figure 2). The development of exports in the sector are very encouraging, since there is a clear stable growth trend. As far as imports, they are seeing a downward trend variable, since 2008. The contribution of exports of food and drink to the increase in exports is very important. Specifically, the average annual share of exports of the food and beverage industry was 13.6% of total Greek exports, while the share of imports in the sector over the total Greek imports are smaller than the respective shares of exports. Based on the positive evolution of exports coverage we conclude that, from 2010 onwards, the industry is more export-oriented.

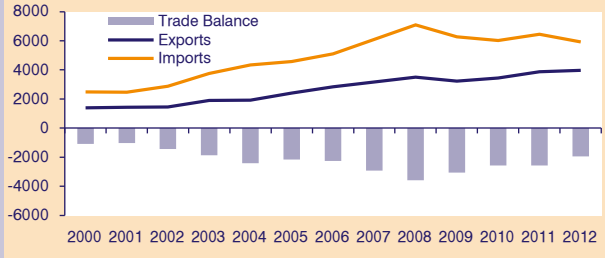
The dynamic export sectors of the Greek food and beverage industry are: *Prepared fruit and vegetables, juices, Processed and Preserved fish and fish products, and Beverages*, the sub-sectors, *Sugars and sugar confectionery and Various food products*. As regards the share structure of imports of the sub-sectors in total imports of the industry, we find that the *Meat products* by 25.2%, *Dairy products* by 18.9%, *Beverages and Processed and preserved fish and fish products* by 10.3%

FIGURE 1
Index of Industrial Production (2005=100), 2000-2012



Source: EL.STAT.

FIGURE 2
External balance, 2000-2012 (in million $)



Sources: Comtrade and KEPE.

have the largest shares of total imports of the sector for the period 2000-12.

3. Development policy on food and beverage sector

The food and beverage industry is expected to dominate in the global economic environment in the coming years. There is a growing demand for packaged products with specific characteristics and requirements in terms of quality and safety, which are seamlessly connected to the environment. Greece is evaluated as a country that has comparative advantages in emerging dynamic sectors of the food and beverage industry.

The policy changes should be aimed at improving competitiveness, consolidating and modernizing the legal and institutional framework to support research and innovation, strengthening organizational linkages that enhance the exploitation of economies of specialization, strengthening and promoting innovative skills, supporting and promoting exports, stablizing the fiscal framework oriented to attracting investment, removing restrictions and facilitating the creation of new businesses.

- The openness of the enterprise in dynamic markets is a condition for the continued growth of the industry. Dynamic markets are considered the traditional countries such as the United Kingdom, Italy, Germany, France, Austria and Australia, China, Russia and Turkey, and the countries of Central and Eastern Europe such as Serbia, Romania and Bulgaria. In the target countries are retailer networks which should be exploited to promote other complementary products. Moreover, emerging economies such as China and India, which have high growth rates of output are expected to increase rapidly their demand for higher value food products.
- Promotion of specific products based on the dynamic sectors of the Greek economy. Indexes of competitiveness (Revealed Symmetric Comparative Advantage, Comparative Advantage Index and Trade Specialization Index-Competitiveness), which originate from the theory of international trade, identify the dynamic sectors of the Greek food and beverage industry. Fish products, oils and fats of animal or vegetable origin, Fruits and vegetables and Tobacco have the strongest comparative advantage. In summary, we report the emerging dynamic sectors: In the category Food and live animals (0): Cheese and curd (SITC: 024), Fish, fresh or frozen (034) Fish, dried, salted, in brine or smoked (035), Crustaceans, mollusks and other aquatic invertebrates, fresh, chilled, frozen, dried (036) Fish, crustaceans, mollusks, etc. prepared and preserved (037), Rice (041), Corn (044), Wheat flour (046), Flours of other grains (047), Fresh vegetables, frozen (054), vegetables, prepared or preserved (056), Fruits and nuts, fresh or dried (057), Prepared or preserved fruits (058) and Margarines and cooking fats (091). In the category Beverages and Tobacco (1): Unmanufactured tobacco and tobacco refuse (121) Industrial tobacco products (122). In the category Oils and fats of animal or vegetable origin (4): Vegetable oils and fats, in fixed, “soft”, crude (421), Vegetable oils and fats, in fixed, rough, etc.., Other soft (422), Oil and animal or vegetable fats, processed, waxes and other non-edible preparations (431). It should be noted that, based on the analysis, we identified specific products for which Greece has either certified PDO (Protected Designation of Origin) or PGI (Protected Geographical Indication). The latter is an additional advantage of reinforcing the international markets.
- Competitiveness is the most critical variable in the development process. The pillars on which it is based are: technological progress, the possibility of applying differentiated and innovative products, investments in physical and human capital, the quality of human capital, economies of scale, organizational and operational innovations and linkages, the structure of markets, increased competition, the structure of trade and infrastructure.
  - Research and Development. Innovation is becoming a crucial factor in the development of the food sector. Creation of a strategic plan for research, which will help develop a long-term policy on research and technological development and innovation in the food industry. Enhancing of human resources, of knowledge and skills incorporated, but also training of human resources through employment in the production process (learning-by-doing) of dynamic export products.
  - Consolidation and modernization of the legal and institutional framework. Organization and coordination of inspecting bodies is needed to create a modern industrial framework for the operation and control of the food and beverage industry. Furthermore, there should be a system of checks on the whole spectrum of the industry, utilizing the business register of food and beverages, to ensure the quality of food. Finally, a stable and simplified tax system for companies is needed.
  - Dynamic sectors of the food and beverage industry are mainly based on the availability of raw materials. With the implementation of research and development in business, changes in the structure of production could be introduced to achieve economies of scale (through investment in R & D) in order to reduce production costs. Furthermore, it is necessary to create networks

promoting products in international markets to take advantage of business synergies across the production chain of the industry, so as to achieve high added value.

- One of the most important issues of the European industry of food and beverages is the safety of food. To this end, it is appropriate to integrate research results in the fields of food safety and quality in the Greek food products. Moreover, the development and improvement of systems for monitoring, control and certification of the quality and safety of food products in accordance with EU regulations is needed. This industry is judged daily by consumers who buy the products and thereby show their confidence in it. The safety and quality of products in the industry is a prerequisite for growth, since consumer protection is directly or indirectly associated with the operation of fair competition between businesses in the internal and external market.
- Ensuring a distinct identification of Greek food on international markets. Greece has ensured that several products are certified. We should continue this effort and certify several other products that have the necessary characteristics. An emphasis on quality and tradition, innovative production methods, and respect for the environment will ensure consumer confidence in the Greek branded products in international markets.

The potential of festivals and their contribution to culture and tourism

Sofoklis Skoultsos*

1. Evolution of Festivals

Starting from ancient times, each society has set specific dates and periods as milestones. During these dates, specific celebrations took place, usually based on local cultures, mores, religion and way of life (urban or rural). These celebrations formed the initial festivals which evolved into modern types of festivals. Also, the root of the word "festival" is "feast" ("fiesta"), which means celebration.

As the concept of festivals has been broadened, it is difficult to state a specific definition.[1] Festivals are a subcategory of special events. They can include local culture or not but they should definitely include celebration. Typology of festivals becomes difficult due to complexity of definition, although there are several basic categories according to theme: community festivals, music festivals, film festivals, art festivals and so on.

Nowadays, festivals are a continuously developing sector as many societies worldwide try to leverage their potential and take advantage of their positive impacts. Today, festivals constitute a research field where several researchers from various scientific backgrounds cooperate. Some of these fields are: economy, sociology, psychology, tourism, anthropology, etc.

2. Contribution of festivals to culture

There is a very close relationship between festivals and culture. Several researchers even include culture in the definition of "festival".[2] It has been stated that "Festival is a cultural event consisting of a series of performances of works in the fine arts, often devoted to a single artist or genre".[3] Social changes and globalization have been stated as the main causes for the rapid development of festivals during 20th century. These social, political, economic and demographic changes highlighted the need for redefinition and replacement of social identity to the social and cultural world map. Festivals were used as a means to this direction.[4]

The nature of festivals involves culture in their program in many different ways. Each element which is celebrated during a festival –regardless of its kind (music, film, art, etc.)– constitutes a part of the culture of a society, of an area or group of people. Hence, cultural impacts of festivals are notable and all elements interact with each other and offer a cultural experience.

Festival implementation can contribute to a revival and conservation of local culture.[5] It has been stated that local interest and willingness to participate in cultural experiences and local cultural activity (e.g. local artists) can be reinforced through festivals. Moreover, the introduction of new ideas leads to the expansion of the cultural prospects of a festivals' attendees.[6] So, festivals can be utilized as a tool for cultural development by local societies.

3. Contribution of festivals to tourism

The concept of "event tourism", which includes "festival tourism", came up for the first time during the 1980s.[7] Researchers understood the necessity of studying this sector and tried to define and describe specific characteristics of this form of tourism which is related to special events and festivals.

Relative literature states that the most important tourism impact of a festival is the increase in media interest about the area before, during and after the festival. Media coverage of the festival leads to positive promotion of the area at regional, national and even at global levels. This potential has been taken into account by tourism marketing authorities in many tourist areas worldwide. As a result, festivals are used as tools to construct (or reconstruct) destinations' image and to establish destination

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1. Indicative definitions: *"A festival is a public, themed celebration"* (Getz 2005, p. 21), *"A festival can be a number of events –which mainly refers to performing arts– and takes place with a certain frequency, or just once, at a certain time and place. Its goal is the public celebration of a cultural element that the festival organizer wants to promote"* (Skoultsos 2014).

2. Bladen et al. (2012).

3. Falassi (1987).

4. De Bres & Davis (2001), Picard & Robinson (2006).

5. Hall (1989), Mason & Beaumont-Kerridge (2004), Bowdin et al. (2011).

6. Bowdin et al. (2011).

7. Raj et al. (2009).

branding (or re-branding) to national and global tourism map.[8] In the long term, a recurrent and successful festival can be part of the local (or national) tourism product in order to attract visitor interest and to increase the number of tourists. Each festival –with the appropriate planning– has the potential to enrich and improve the offered tourism product and finally increase the competitiveness of the whole destination.[9]

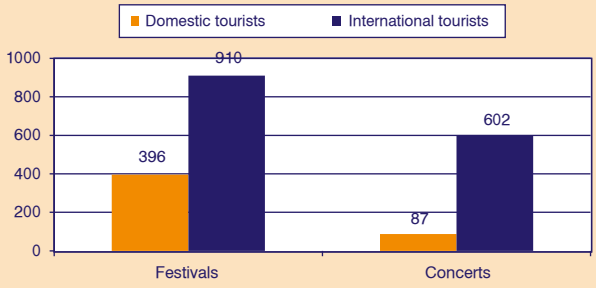
Additionally, it is well documented that one serious problem of tourism worldwide, with various negative impacts, is seasonality.[10] Festival implementation during periods with low levels of tourism demand[11] can extend "high-season" and offer tourists an important reason for extending their stay in the area[12] or switching the time of visiting.[13]

4. Festivals worldwide

According to the above, festivals gained a significant role in many communities which explains the vast number of festivals all over the world: International Festival & Events Association (IFEA)[14] estimates that more than 4.5 million festivals take place every year globally.[15] The United Kingdom is a very good example of a country that takes advantage of the positive impacts of festivals and events. It has been estimated that in the UK 670 events and 200 top festivals contribute about £450 million to the economy just from the tickets, transport costs, fare and accommodation costs.[16] Specifically, music festivals are one of the few sectors that has not been affected by the global financial crisis because the music industry and artists "have made more money from live performances than from record sales", especially after 2008.[17]

A different study about the UK estimated that inbound tourists spend more money than domestic tourists either for festivals or music concerts (Figure 1).[18] In detail, each inbound tourist who attended festivals spent £910 per trip and £602 those who attended music concerts and live performances. Respectively, domestic tourists spent £396 for festivals (per trip) and £87 for music concerts and live performances. As it has been stated, the difference in the amount of money came up not only from transport costs, but also from the willingness to attend festivals during a vacation. As a result, tourists extend the geographical area in which they spend their money. Totally, during 2012, domestic tourists who attended festivals spent £1.02 billion and inbound tourists approximately £248 million.

FIGURE 1
Spending per domestic and international tourist per trip in the UK (British pounds)



Source: Visit Britain, Oxford Economics & UK Music (2013).

According to data from the area of Adelaide (Australia)[19], in 2012 festival attendees reached 2.82 million and 590,000 tickets were sold, of which 63,950 were tourists and contributed more than 300,000 overnight stays to the area. Festival attendees' expenses have been estimated at over 58 million AUD (apart from festival tickets) and new income for the region was about 62.9 million AUD. Moreover, implementation of the top ten festivals of the area accounted for 790 full-time jobs.

8. Jago et al. (2003), Boo & Busser (2006).
9. Getz (2005), Raj et al. (2009), Bowdin et al. (2011).
10. Robinson (1979), Snepenger et al. (1990).
11. Allen et al. (2002), p. 36.
12. Getz (1989), Hall (1989), Bowdin et al. (2011).
13. "time –switchers" (Crompton et al. 2001).
14. www.ifea.com
15. IFEA (2009).
16. "The Guardian" (2010).
17. "The Guardian" (2010).
18. Data refer to 2012.
19. www.festivalsadelaide.com.au

Nowadays, many countries understand the significance of festivals as tools for attracting inbound tourism and sponsor them through local National Tourism Organizations.[20] In a research study to European citizens,[21] 44% declared that they prefer to attend festivals during their vacations. Furthermore, the majority of the audience is 16-30 years old. In detail, percentages for each age group are: 28% for ages 16-20, 27% for ages 21-24 and 23% for ages 25-30. The age groups 31-40 and 41-65 represent 14% and 7%, respectively.

In another survey which examined characteristics of festival goers from around the world,[22] the following trends in demand were identified: travel to a different country for attending a festival, increased spending for accommodation and increased demand for travel packages (including festival tickets). Thoroughly, 40% of participants in the survey declared that they had already attended a festival in a different country and 39% of them more than one festival. Seventy-five percent of the participants declared that they prefer to include festival attendance in their vacation and 60% prefer to extend their stay in order to get to know the surrounding area.[23] For 2013, the majority of the participants (55%) declared that had chosen to stay in a hotel and 8% in a luxury hotel. Additionally, for 2014, 80% of the participants declared that they are willing to spend more money on the accommodation.

In the same survey, it has been recorded that 60% of the participants booked their festival ticket, accommodation and transportation separately. Nevertheless, for 2014, 95% declared that they prefer to book the above in a single travel package. This fact highlights the increasing significance of travel packages for the festival market. Finally, it has been recorded that the participants in the survey (apart from UK citizens) spend, on average, £206 per festival attendance in their country and £578 per festival attendance in a different country.[24]

According to research, the utilization of festivals for supporting, enhancing and developing the local economy, culture and tourism is a reality.[25] This has been underlined either from data referring to festival demand but also from growing research interest which leads to the continuous development of the field at the academic and research level. Hence, query about the potential of the festival sector for Greece is derived.

5. The Greek festival market

The development of the festival sector in Greece started, mainly, after the beginning of 1980s. During this period, public authorities began to include festivals in their cultural plans. Although, in many cases, the increase in numbers did not conform to the quality of offered festival experiences.[26] Today, festivals being held in Greece differ either in the range of festival themes (music festivals, theatre festivals, art festivals, etc.) or in the type of festival management. Their exact number is difficult to estimate as there are no records. Nevertheless, it has been stated that there is a vast number of festivals in Greece, taking into account all the festivals which are organized by local public authorities.[27]

For various reasons, the scope of Greek festivals is mainly local and in some cases national. While festivals are held during the summer period and close to urban environments, they do not succeed in attracting tourists, apart from a few cases. The difficulty in attracting tourists (inbound and domestic) emerges –in most cases– from the lack of well-timed scheduling and ineffective promotion.[28] As a result, Greek festivals aim mainly at the local market and in a few cases they manage to attract domestic tourists.

Regarding the economic contribution of festivals, data collection (cost and benefit) is not a fact in Greece, taking into account the complexity of the current sector. After all, it has been stated that there are (many or few) leakages of income to urban environments from the implementation of regional and local festivals. This is caused by the fact that few areas have the potential to

20. The Festival Awards (2013a).

21. "European Festival Census 2013" survey was conducted with the participation of 8,026 European citizens/festival goers during their trip (The Festival Awards 2013b).

22. This survey was conducted at music festivals and 2,742 festival goers participated – all members of Festicket. Data refer to 2013 and was collected in cooperation with HPI Research (Festicket 2014).

23. Festicket (2014).

24. Festicket (2014).

25. Gibson & Connell (2012).

26. Konsola & Karachalis (2010).

27. Konsola & Karachalis (2010).

28. Skoultsos (2014).

support a festival's implementation in all its stages.[29] Furthermore, in a survey regarding the contribution of Greek film festivals,[30] it has been stated that the most positive economic impact is income inflation to the sector of fare, accommodation (restaurants, bars, hotels, etc.) and local commerce. Less contribution was estimated at the sector of investments. It has been noted that the contribution of festivals to the development of local culture and education is very important.

According to the above, the majority of Greek festivals face problems and unique characteristics which hamper their full utilization by local communities in order to benefit local culture and especially tourism. Nevertheless, there are some cases of the Greek market that highlight the essential contribution which a festival may have to a local economy and society. Typical examples are several regional festivals such as: the International Dance Festival of Kalamata,[31] the International Puppet-Mime Festival of Kilkis,[32] the River Party Festival of Nestorio.[33] These festivals contribute to the destination branding of the local area, attract visitors from all around Greece and also support the local economy and tourism.

6. Potential and Prospects

Tourism development at the global level makes it imperative to enrich the local tourism experience in order to offer a competitive tourism product with a comparative advantage. Nowadays, tourists seek a wide range of experiences during their stay at each destination. Based on this fact there has been an effort in recent years (at national, regional and local levels) to upgrade the Greek tourism product and replace it on the global tourism map. Special Interest Tourism (SIT) contributes notably to this effort and aims to take advantage of special characteristics of the country so as to offer an attractive and competitive tourism product. Equally important to this effort is culture either as a special form of tourism (cultural tourism) or as an element of the tourism product in general.

Regarding all the above, the potential and prospects of festivals are obvious. Celebration that stands at the core of festival planning sets the appropriate environment in which a special element of local culture can be promoted (e.g. activity, product, art, etc.). Furthermore, a festival can promote new ideas, new elements apart from local culture which in the long term may become a trademark for a local community. Such cases are not absent from Greek festival market.[34]

Festivals can not only contribute to the promotion of tourism of each destination but also can promote features of the local tourism product and culture to which authorities prefer to give prominence. Festivals can be the link between special activities, tourism and culture. Typical examples of such cases are music festivals, agricultural festivals, etc., which offer an attractive environment for local citizens and potential tourists.

Considering that a vast number of local/cultural festivals are held in Greece, further benefit from them is imperative. As previously mentioned, the majority of existing festivals aim at the local market because of difficulties in attracting inbound and domestic tourists and, as a result, a wide range of positive impacts remain underutilized. Festivals –especially recurring festivals– become cultural assets for local communities that remain underutilized in many cases. On the other hand, successful festivals highlight the potential and prospects of the current sector if best practices are implemented regarding the special characteristics of the Greek reality.

The economic crisis, as expected, caused serious problems to festivals and lack of sponsorships. However, it has been stated that the shortage in sponsorships forced festival managers to rethink them and enforce a more "professional" and effective approach based on best practices derived from national and international experience.[35] Simultaneously, new festivals, by following specific strategic planning, managed to develop and be established in the market, despite the fact that they began just before or during the economic crisis.

29. Konsola & Karachalis (2010).

30. Kostopoulou, Vagionis & Kourkouridis (2013). Research was conducted in 12 Greek film festivals.

31. It takes place for 20 years. International artists have participated and educational seminars are organized during the festival (www.kalamatadancefestival.gr).

32. It takes place for 16 years. International artists have participated and educational seminars are organized during the festival (www.kilkisfestival.gr).

33. This festival has been taking place for about 36 years. Greek and international music artists have been invited (www.riverparty.org).

34. Indicative cases are: the International Dance Festival of Kalamata, the International Puppet-Mime Festival of Kilkis and the Drama Film Festival.

35. This opinion has been stated by key informants - professionals who deal with festival management (Skoultsos 2014).

Apart from each case, festival management is also important for destination management. Festivals offer experiences to visitors who seek to satisfy various needs and motivations (escape, cultural motivations, socialization, etc.). According to these, festivals can contribute to "Net" tourism development,[36] where similar experiences –that satisfy a common core of motives– are combined in a single tourism product. For example, regarding cultural motives, the following special forms of tourism can compound together in a single tourism product: festival tourism, educational tourism, culinary tourism. Considering the above and the flexibility in designing and planning, festivals manage to satisfy a wide variety of motives and needs.

Existing festivals should constantly follow the trends in the global festival market and be part of local tourism products. Well-timed scheduling, effective promotion, appropriate staffing and the offer of travel, festival packages will –probably– support festival's utilization at regional, national and international levels. Festivals under tourism marketing plans, can appeal to visitor interest during periods with low levels of demand – especially in Greece where weather conditions are perfect for long periods each year. Furthermore, considering urban tourism, festival travel packages would enhance the attractiveness of each urban destination.

In conclusion, festivals are cultural assets for the local community. Existing festivals in Greece contribute –more or less– to local cultural development. However, potential can be far more effective especially regarding increasing of tourism demand. Today, it is imperative to take full advantage of local assets (cultural or not), in which festival experiences are included.

References

Allen, J., O'Toole, W., McDonnell, I. & Harris, R. (2002), *Festival and Special Event Management,* 2nd edition, John Wiley & Sons Australia Ltd, Milton.

Bladen, C., Kennel, J., Abson, E. & Wilde, N. (2012), *Events Management, An Introduction,* Routledge, New York.

Boo, S. & Busser, J. (2006), "Impact analysis of a tourism festival on tourists' destination images and satisfaction", *Event Management*, 9(4), 165-181.

Bowdin, G., Allen, J., O'Toole, W., Harris, R. & McDonnell, I. (2011), *Events Management,* 3rd edition, Elsevier Ltd, Oxford.

Crompton, J., Lee, S. & Shuster (2001), "A Guide for Undertaking Economic Impact Studies: The Springfest Example", *Journal of Travel Research*, 40, 79-87.

De Bres, K. and Davis, J. (2001), "Celebrating group and place identity: A case study of a new regional festival", *Tourism Geographies* 3 (3), 326-337.

Falassi, A. (Ed.) (1987), "Time out of time: Essays on the festival", Albuquerque: University of New Mexico Press in Getz, D. (2005), *Event Management & Event Tourism,* 2nd edition, Cognizant Communication Corporation, New York.

Festicket (2014), *Music Festivals: International Trends 2014,* in cooperation with HPI Research.

Getz, D. (1989), "Special Events Defining the Product", *Tourism Management*, 10 (2), 125-137.

Getz, D. (2005), *Event Management & Event Tourism,* 2nd edition, Cognizant Communication Corporation, New York.

Gibson, C., & Connell, J. (2012), *Music Festivals and Regional Development in Australia*, Ashgate, Burlington.

Hall, C. (1989), "The Definition and Analysis of Hallmark Tourist Events", *GeoJournal,* 19(3) 263-268.

Higham, J. & Hinch, T. (2002), "Tourism, sport and seasons: the challenges and potential of overcoming seasonality in the sport and tourism sectors", *Tourism Management*, 23, 175-185.

IFEA (2009), "The Power of Celebration" (online), Available at: http://www.ifea.com/joomla1_5/index.php?option=com_contentandview=articleandid=180andItemid=306. Accessed 10 May 2009 in Bladen, C., Kennel, J., Abson, E. & Wilde, N. (2012), *Events Management, An Introduction,* Routledge, New York.

Jago, L., Chalip, L., Brown, G., Mules, T., & Shameem, A. (2003), "Building events into destination branding: Insights from experts". *Event Management, 8 (1), 3-14.*

Kokkosis, Ch., Tsartas, P. (2001) (in Greek), *Sustainable Tourism Development and the Environment*, Kritiki Publications, Athens

Konsola, N. & Karachalis, N. (2010) (in Greek), "Cultural Activity and local development: Festivals in Greek regional cities". (https://www.academia.edu/2039582/_._._2010_).

Kostopoulou, S., Vagionis, N. & Kourkouridis, D. (2013), "Cultural Festivals and Regional Economic Development: Perceptions of Key Interest Groups", chapter in Matias, A., Nijkamp, P. & Sarmento, M. (Eds) (2013), *Quantitative Methods in Tourism Economics,* Springer – Verlag. Berlin Heidelberg.

Mason, P. & Beaumont-Kerridge, J. (2004), "Attitudes of visitors and residents to the impacts of the 2001 Sidmouth International Festival", chapter in Yeoman, I, Robertson, M, Ali-Knight, J, Drum-

36. Net development refers to supply intrastructure that satisfies different types of demand and contributes to sustainability's basic principle: re-development (Kokkosis, Tsartas, 2001: 84).

mond, S. & McMahon-Beattie, U. (ed.) 2004, *Festival and Events Management, An International arts and culture perspective,* Elsevier Butterworth-Heinemann, Oxford.

Picard, D. & Robinson M. (2006), *Remaking Worlds: Festivals, Tourism and Change*, Channel View, Clevedon.

Raj, R., Walters, P. & Rashid, T. (2009), *Events Management: An Integrated and Approach,* Sage Publication Ltd, London.

Robinson, H. (1979), "A geography of tourism". London: MacDonald and Evans in Higham, J. & Hinch, T. (2002), "Tourism, sport and seasons: the challenges and potential of overcoming seasonality in the sport and tourism sectors", *Tourism Management*, 23, 175-185.

Skoultsos, S. (2014) (in Greek), *Events as special interest tourism and as leisure time activity: market characteristics and event planning,* PhD Thesis, University of The Aegean.

Snepenger, D., Houser, B. & Snepenger, M. (1990), "Seasonality of demand", *Annals of Tourism Research,* 17, 628-630.

The Festival Awards (2013a), *Market Report 2013 (UK),* in cooperation with CGA Strategy.

The Festival Awards (2013b), *Market Report 2013 (Europe),* in cooperation with CGA Strategy.

The Guardian (2010), "How music festivals are singing the changes, Live music events have quickly become a key route to profitability for the record industry", http://www.theguardian.com/business/2010/aug/27/music-festivals-record-industry (26/08/2014).

Visit Britain, Oxford Economics & UK Music (2013), *Wish You Were Here: Music Tourism's Contribution to the UK Economy.*

Links:

http://www.festicket.com

www.festivalsadelaide.com.au

www.ifea.com

www.kalamatadancefestival.gr

www.kilkis-festival.gr

www.riverparty.org

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