



The Spirits Sector in Greece: Problems and Prospects

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The present study was prepared by:

Grigoris Pavlou

Giorgos Maniatis

Svetoslav Danchev

Grantor

Association of Alcoholic Drinks Distributors



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Foundation for Economic and Industrial Research (IOBE)

11 Tsami Karatassou, 117 42 Athens

Tel.: (210 9211200-10), Fax: (210 9228130 & 210 9233977)

E-mail: iobe@iobe.gr - URL: <http://www.iobe.gr>

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Summary

The spirits sector, a part of the broader sector of alcoholic beverages, has a significant contribution to the Greek economy, especially in terms of tax revenues. Moreover, it has important connections with other sectors of the Greek economy (wholesale and retail trade, food & beverage / entertainment, advertising etc.), a fact that makes its wider impact considerable, both in terms of GDP and employment.

Being one of the sectors with imposed excise duty, it has suffered from successive hikes of the Excise Duty and VAT on beverages during 2009-2010 and the recession of the Greek economy. The sales of spirits have declined more than -20% in 2010, while estimates show that the decline continues with the same tension in 2011.

The present study depicts the existing status of the spirit sectors, analyzes the distortions of the market, assesses the sector's prospects and formulates proposals towards the viability of the sector and the alleviation of the negative impacts on employment resulting from the recession of the economy and the existing taxation policy on spirits.

The impact of the spirits market on the Greek economy

The total contribution of the spirits market to the Greek economy is particularly important. The domestic value added generated by all types of effects (direct, indirect, induced¹) reaches €1.5 bil. The income of the persons employed with the suppliers (production, wholesale trade) and customers (bars, restaurants, hotels, supermarkets, mini markets, etc.) of the sector, as well as the revenues resulting from activities generated by all these links through their consumption (induced effect) are estimated at €437 mil., yielding the respective taxes. The corporate taxes paid by the total interconnected activities reach €51 mil. A particularly important effect concerns the employment «owed» to the spirits sector, reaching 41 thousand employees. Finally, tax revenues from the Excise Duty on Alcoholic Beverages (EFKOP) are calculated at €322 mil. for 2010 and VAT revenues at €382 mil.

Table 1. Total effect of the spirits sector on the Greek economy (2010)

in € mil.	Direct Effect	Indirect Effect	Induced Effect	Total Effect
Spirits final distribution markets				
Domestic Value Added	647	281	635	1,564
Income from Labor	138	100	200	437
Corporate taxes	23	8	19	51
Employment (persons)	18,200	7,590	15,373	41,162

Main trends and developments in the spirits sector

2010 was a benchmark year for the Greek spirits market, which experienced dramatically and directly the recession of the Greek economy and the measures for the restriction of the fiscal deficit. The sales volume of spirits dropped to 72.1 mil. bottles in 2010, while for the period 2005-2008 it was no smaller than 92 mil. bottles. The sales continue to decline in 2011, at an accelerating rate, since, according to the data of the 1st fourth-month period, the sales of spirits declined by 21.7% year-on-year. The extent of the sales volume fall is significantly differentiated among the partial spirits categories and alcoholic beverages in general. The result

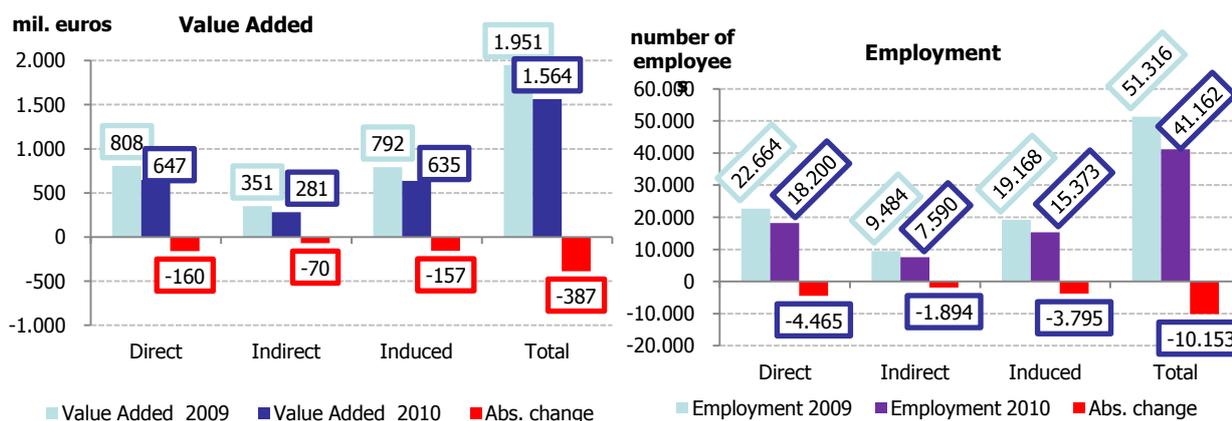
¹ The direct effects concern the product, the added value, the revenues from income taxes and the employment in off trade (retail trade) and on trade (hotels - restaurants) channels. The consumption expenditure for spirits causes a second round of effects (indirect effects), concerning the corresponding economic aggregates of the suppliers of the final distribution channels (production and wholesale trade), the suppliers' suppliers etc. Finally, the induced effects are the effects on the economy from the increased expenditure as a result of the income generated from the sector.

of these developments is that the relevant share of spirits versus alcoholic beverages fell from about 7% in 2005-2008, to 5% in 2010, while a further fall is expected in 2011.

The main financial forces behind the current negative developments in the spirits market are: a) the **persistent recession** of the Greek economy, which has led to a huge increase of unemployment, decrease of salaries, dramatic shrinking of the available income and the drastic increase of direct and indirect tax rates and b) **the increased prices of the spirits**, as a result of the successive **increases of the Excise Duty** imposed on alcoholic beverages (EFKOP) (by 125% from the beginning of 2009), as well as the increase in the VAT rate from 19% to 23% in July 2010. Within this adverse financial environment, consumers have decreased both their nights out for entertainment and the consumption of drinks per night out, while they have turned to cheaper drinks (eg. beer, wine, ouzo, tsipouro, RTD's) and other forms of entertainment (home, from music halls and clubs to smaller entertainment venues such as tsipouro taverns, bar-restaurants etc.).

The sharp decrease of spirits sales in 2009-2010 had wider negative effects on the Greek economy. The decrease of the consumption expenditure for spirits affected Value Added, income from labor and corporate taxes, as well as employment. According to our estimates, the decrease of the consumption expenditure for spirits in 2010 has led to a decrease of the Value Added in the Greek economy by €387 mil. and the loss of approximately 10.000 jobs.

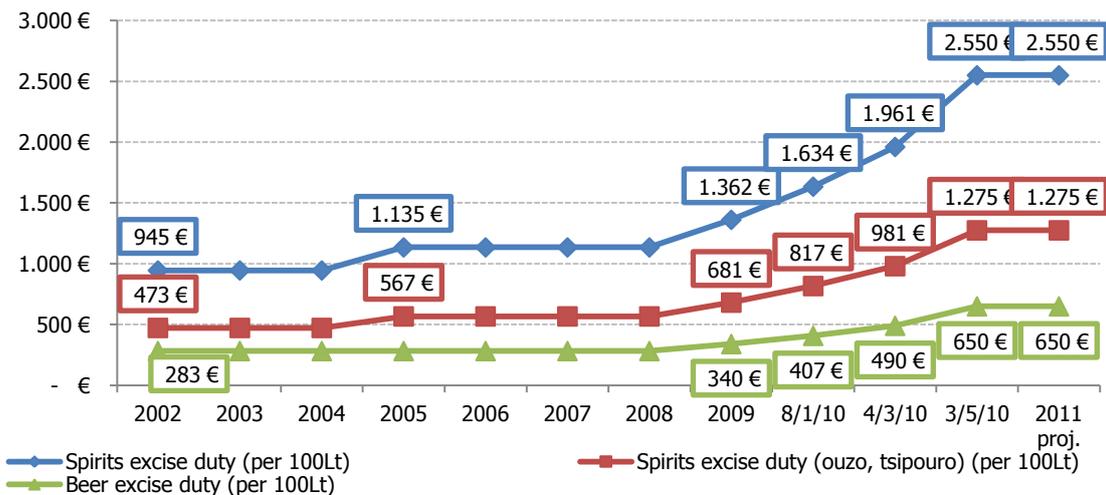
Figure 1. Added value and employment of the Sector



Taxation policy on spirits in Greece

In Greece, the various categories of alcoholic beverages are dealt differently in terms of taxation. The highest EFKOP rate, calculated on 100 liters of ethyl alcohol per product, is imposed on spirits (whiskey, vodka, gin etc.). For local spirits, the EFKOP is calculated to half the tax of spirits, while the tsipouro and the two-day distillers' tsipouro (for personal use) are taxed definitively on a flat-rate basis 0,59 Eurocents per kilogram. Beer is taxed in a different way, in a significantly lower level than the first two categories, approximately to 1/4 of the spirits tax, while the wine has no tax.

Figure 2. Course of the Excise Duty



An indicative example of the effects from the successive hikes of the excise duty is that the retail price of a typical spirit was raised by 38% within a year but the nominal price before taxes has not increased within the same period.

The different taxation and the disproportionate increase of the excise rate on certain categories of alcoholic beverages have changed the relevant prices and generated further distortions in the market's operation, since they enhanced the incentives to substitute spirits with other categories of alcoholic beverages.

Apart from exacerbating the distortions in the market of alcoholic beverages caused by the disproportionate increase of the excise rate, the increase of taxes and prices has additional negative effects. Particularly, it aggravates the competitiveness of the domestic tourist product in comparison with competitive tourist destinations and increases the incentives for cross-border purchases of spirits from neighboring countries with lower excise rates. Other contiguous negative effects concern the elevation of smuggling and adulteration, the enhancement of tax evasion incentives, and the implications in human health due to the increase of alteration in drinks.

Tax revenues from spirits

The spirits sector has a significant contribution to tax revenues, both through the excise duty and the VAT, as well as through income taxes and social security contributions. Indicatively, the revenues from the excise duty on spirits (including local spirits) reached €351 mil. in 2010, while the revenues from the excise duty on beer amounted to €117 mil. Totally, in 2010 €468 mil. were collected from the excise duty on spirits, having a noticeable increase by 31% in relation to 2009, while the total revenues were €357 mil. Over time, important deviations are noticed in revenues collected from drinks in relation to the budget's targets. Thus, even if tax revenues collected in 2010 are higher than the respective revenues in 2009, approximately by €111 mil., they are obviously lower than the targets based on the increases of the excise rate. The biggest deviations are recorded in periods with increased tax rates.

Scenarios for redefining the taxation policy on spirits

We have reviewed the sector's prospects and the corresponding effects on the total economy and the tax revenues, under two scenarios: a) a main scenario of reference, in which we assume that the existing tax regime in spirits remains and b) an alternative scenario in which we assume there is a gradual de-escalation of the excise duty by 2014.

In the scenario where the existing taxation remains, the consumption of spirits is expected to fall, reaching 56 mil. bottles in 2014. Such a development implies that the level of sales in 2014 will reach 58% of the level in 2005 and 63% of the level in 2009, and this will definitely have particularly negative effects for the viability of the companies associated with the sector, the employment and the public revenues from all sources. In 2014, it is estimated that the revenues from the excise duty will be lower by €21,6 mil. compared to (the estimate for) 2011, while a further decline is expected for revenues from VAT (- €30,3 mil.). At the same time, due to the reduced sales, a further loss of 2.470 jobs is estimated over the next three years. The reduced employment causes reduced income and consequently less revenue from income taxes by -€10,2 mil. Losses will be also caused to the employers' contributions which are calculated to be €10 mil. lower in 2014 compared to 2011. Finally, the reduction of employment will lead to expenses for unemployment benefits, reaching €13,7 mil. for the entire period of projection.

In total, public revenue is estimated to be €34 mil. less in 2014, compared to 2011 and 2,500 jobs are estimated to be lost for the period 2012-2014. These losses should be added to those already estimated for 2010 and 2011.

Scenario for the gradual de-escalation of the excise duty

In an effort to reverse the negative course of the sector, a key element could be the gradual reduction of the excise rate. In particular, the alternative scenario examines the possibility to reduce the rate by 250€/100 litres of ethyl alcohol annually until 2014, starting in 2012. In the scenario of gradual reduction of the tax, the spirits consumption is expected to reverse its declining course and show a gradual increase until 2014, without exceeding, however, the level of consumption in 2010. This development will improve the prospects for the viability of the sector's companies, as well as the total net public revenues compared to the scenario of reference.

In particular, it is estimated that the reduction of the tax will lead to:

- Increase of revenues from the VAT, compared to the main scenario.
- Retention of employment, increase of employers' contribution and reduction of the unemployment benefits.
- Increase of revenues in every stage of the value chain that will feed the economy with more consumption and taxes.
- Reduction of revenues from the excise duty, which, however, will be outweighed by the increase of revenues from the other sources.

In particular, in comparison to the reference scenario, the increase of revenues from the VAT reaches €13,8 mil. for the period 2012-2014. Due to the increase of sales, a benefit of 13,200 jobs is expected for the total economy. The increase of employment and the retention of several companies in the economy are estimated to bring another €40,5 mil. from taxation, while the employers' contributions will increase by €53,4 mil. in relation to the main scenario. Meanwhile, the significant restriction of the loss of jobs will save expenses from the unemployment benefits calculated in the main scenario, which amount to €13,7 mil. minimum, since apart from its retention, the employment is expected to be enhanced compared to the reference scenario. Thus, the total further benefit is €37,7 mil. during 2012-2014, while employment is enhanced by 13,2 thousand jobs compared to the scenario where the existing taxation remains unchanged.

Table 2. Difference compared to the main scenario

Revenue saving (in € mil.)	2012	2013	2014	Total benefit 12/14
Difference in revenue from Excise duty	-12,4	-26,9	-44,3	-83,7
Difference in revenue from VAT	2,9	4,8	6,1	13,8
Difference in revenue from income tax	6,6	13,3	20,7	40,5
Difference in revenue from Employers' social security contributions	8,6	17,5	27,4	53,4
Saving of unemployment benefits	-9,8*	-3,6	-0,2	-13,7
Total	15,5	12,3	10,1	37,7
Additional employees	2.126	4.334	6.793	13.252

* The negative sign indicates expenses saving, so -€13,7 mil. of unemployment benefits in the main scenario are added to the resulting saving.

The above results from the tax reduction do not include the following effects:

- In on trade market (bars, restaurants) the lack of controls as well as the motivation for tax evasion due to high taxes, has led to the phenomenon of partial issue of receipts and VAT payment (collection rate), approximately to 70% according to conservative estimates.
 - It is estimated that the improvement of tax collection in those premises by 5 percentage points (to 75%) may yield about **43 mil. euros additional revenues from VAT over the next three years**
- **Gradual shrinkage of the illegal trade**, as well as the reduction of the tax burden, discourage the motivation to trade illegal quantities of spirits, while the motivation to adulteration is reduced. For 2010, the loss of tax revenues due to the non-payment of excise duty from illegally traded spirits is estimated to reach **50 mil euros (without including the two-day produced tsipouro)**
 - This problem takes on massive proportions especially in touristic regions resulting in the downgrading of the touristic product, while the impact of adulteration on the public health is even more significant
 - The shrinkage, even by 10%, of illegal trade is estimated to yield about 21.7 mil euros for the period 2012-2014

The production of two-day distillers' tsipouro is subjected to a tax of 0.59€/kilo, as it is not intended for trade but for personal use. According to the market's estimates, a large part of this production is illegally directed to the distribution channels (trade) creating negative implications:

- **On the operation of the market:** Unfair competition against distillers who standardize the product that is under normal taxation and continuous controls both during production and bottling.
- **On tax revenues:** Loss of revenues from the foregone excise and VAT revenues. The financial impact from the illegal trade of two-day produced tsipouro is estimated to take on massive proportions as, according to market operators, the quantity of illegal tsipouro reaches about 13 thousand tons (9 mil. bottles). If that is the case, the loss of revenues from uncollected excise duty is estimated at **26 mil euros** annually without including losses from uncollected VAT.
- **On public health** regarding the part of the production where:
 - Uncontrolled substances have been added during distillation (high levels of methyl alcohol-wood alcohol) and
 - The trade is made in plastic package, which is not appropriate for storing drinks that contain alcohol.

Proposals for the viability and the development of the spirits sector

There is a possibility for improvement that will address the unprecedented crisis in the Greek economy, as well as in the spirits sector. A main principle in this effort should be the idea that **the relation between the sector's companies and the state** relies on mutual understanding and co-operation for the benefit of the society and the national economy. For instance, in terms of spirits taxation, the determination of non-realistic

targets for revenues collection by the state induces greater loss. The co-operation of companies – state could contribute to the determination of **actual possibilities of the sector's contribution** to public revenues, taking into account a) the negative impact of high taxes on the formation of GDP, b) the real outcome in terms of public revenues from the distortion of incentives and the total financial impact of the adopted tax modifications and c) incentives for adulteration, illegal trade and cross-border purchases of spirits.

The necessity of the fiscal consolidation cannot be questioned and the imposition of the excise duty is an important policy tool within this context, on the condition that the wider effects from the use of similar revenue collection tools are assessed. Once the normalization of public finances is achieved within a reasonable period, there could be a binding schedule for the convergence of tax rates to the average European rates and/or the competitive tourist destinations (adulteration is intense in the islands). This will help the planning of the companies thus reducing the uncertainty caused by the ad hoc increase of excise duty without previously examining the wider impacts. Together with the gradual decrease of the excise duty, additional administrative and supervisory measures should be applied to ensure the smooth operation of the spirits market, while the corporate social responsibility against malpractices should be enhanced. In this context, some proposals worth examining, about the taxation regime on spirits, are the following:

- At a later time, **review of the targets of the taxation policy** concerning the imposition of the excise duty on alcoholic beverages and determination of priorities based on the theoretical base of imposing excise duties (incorporation of external impacts from excessive consumption – consumers' health).
- **Intensification of controls**, along the borders as well as on the spot in the domestic market in order to compress illegal trade
- **Co-ordination of the control mechanisms** for better effectiveness
- **Creation of a Task Group** with the participation of competent services and companies of the sector in order to fight adulteration / smuggling of alcoholic beverages that results at the expense of public revenues and creates conditions for unfair competition against the sector companies. The Task Group will aim at the drafting of an Action Plan with specific interventions towards the fight of the phenomenon.
- Assessment of the companies' possibilities to contribute in the context of **the corporate social responsibility** (eg. by granting special equipment to the controlling authorities for the detection of the illegally traded product loads).

1 Introduction

The extremely adverse fiscal position of the country and the inflating uncertainty regarding the future of the Greek economy have created a stifling frame for the business activity which permeates almost all sectors of the economy. The increase of taxes, the imposition of new taxes, the reduction of the available income and the resulting restriction of expenses, as well as the intense credit limitations, have led to a drastic reduction of the total demand and the sinking of the expectations, formulating conditions of persistent recession in the Greek economy.

The use of indirect taxation, through the increase of the VAT rates in goods and services, as well as the excise duty (in drinks, tobacco, gas, electric power and, recently, natural gas), has been, to a disproportionate extent, one of the main components of an effort to reduce the fiscal deficit, since it was deemed that it could bring direct results to the public revenues. The effort to reform and the reorientation of the economy towards a viable course of growth, which is more strenuous and requires more time to show its results, has not yet been implemented with the same intensity and speed, although it is underway.

It seems that during the planning of the indirect taxation policy, the effects from the increase of the products' prices, caused by the increase in the tax rates, in parameters such as demand, employment, investments, the viability of the companies, other budgetary revenues, inflation, as well as second round effects in fiscal activities associated with sectors where the excise duty is imposed, have been ignored. That means that the increase of the tax revenues, even if it is accomplished, is temporary in many cases. Especially in sectors offering products with increased price elasticity of demand, the imposition of additional taxes in consumption does not ensure the increase in tax revenues. Meanwhile, the viability of the companies is at risk, the recession gets deeper, while the negative results are intense in terms of employment and social cohesion.

The spirits sector, a part of the broader sector of alcoholic beverages, has a significant contribution to the Greek economy, especially in terms of tax revenues. Moreover, it has important connections with other sectors of the Greek economy (wholesale and retail trade, food & beverage / entertainment, advertising etc.), a fact that makes its wider impact considerable in terms of GDP and employment. As one of the sectors with imposed excise duty, it has suffered from the successive hikes of the Excise Duty and VAT on beverages during 2009-2010 and the recession of the Greek economy. The sales of spirits have declined more than -20% in 2010, while estimates show that the decline continues with the same intensity in 2011.

The shrinking of the spirits sales has a direct effect on the tax revenues and the employment of the sector as well as of the associated financial activities. The huge uncertainty from the external financial environment renders the expectations of the sector's companies particularly negative for the future, leading to cuts in operating and investment expenses and, finally, to the decrease of the value added the sector is offering to the economy. At the same time, the increase of the taxes causes additional negative effects, since in combination with the inadequacy of controls, it pushes towards the expansion of smuggling and adulteration in drinks with very negative effects on the tax revenues and more importantly on public health.

In this context, the present study depicts the existing status of the spirit sectors, analyzes the distortions of the market, assesses the sector's prospects and formulates proposals towards the viability of the sector and the alleviation of the negative impacts on employment resulting from the recession of the economy and the existing taxation policy on spirits.

The structure of the present study, apart from the first introductory section, is the following: In the **second section** of the study, the spirits sector is defined and the sector's «footprint», that is, its effect on the Greek economy, is recorded. In the **third section** the evolution of spirits sales over the last six years is recorded, while the effects of the sales decline in the financial data of the sector's companies is also presented. Meanwhile, the most important factors of spirits demand are analysed, based on which the demand model for the sector's products is formed. The taxation policy is described in the **fourth section** of the study, where the course of tax rates on spirits and annual public revenues, as well as the effects from the significant increase of taxes during the last two years, are presented. In the **fifth section**, the sales, tax revenues and employment of the sector are reviewed under two different hypotheses: retention of the tax rates in the current levels or their gradual reduction over the next three years. Finally, in the **last section**, measures that enhance the standing of the sector are proposed.

2 Basic facts and figures of the spirits sector

2.1 Definition of the products and the sector of spirits

Spirits include whiskies, white drinks (Vodka, Gin, Rum, Tequila), liqueurs, Cognac / Brandy and RTD'S (Ready-to-Drink Cocktails). Spirits are incorporated in the broader sector of alcoholic beverages, which includes all categories that contain ethyl alcohol, such as wine, beer and local spirits (ouzo, tsipouro etc.) In the present study, we consider that the local spirits and the spirits belong to the same category of products, since they are substitutes with similar, if not unified, taxation.

The wider sector of spirits include the following sectors/groups of companies:

- Domestic producers of spirits
- Importers / representatives of international spirits production houses
- Wholesale trade of spirits
- Large and medium chains and food and beverages retail stores
- Specialized spirits retail stores (eg. Liquor stores)
- Firms with activity in the wider sector of Hotels-Restaurants (restaurants, bars, clubs, live stages, café-bars etc.) that provide spirits to end consumers for on trade consumption.

This classification is different from the traditional «narrower» definition of the sector, according to which the sector includes directly only the first two sectors / groups of companies, as the major suppliers of spirits in the market². However, this differentiation was deemed meaningful, since one of the main goals of this study is to analyze the total impact of the spirits sector on the Greek economy and the effects caused by the existing taxation system for spirits. For this reason, the present analysis includes also the sectors mediated between the production and the distribution of products to end customers.

According to the above, the spirits sector is divided in three basic levels (Figure 2.1). The first level concerns the domestic production and the imports of spirits produced abroad. The second level includes the intermediate distribution channels (wholesale trade), while the third level includes the final points of retail sale of spirits for household or on trade consumption (Supermarkets, Liquor stores, Bars, Restaurants, Hotels etc.). This distinction is not absolute, since the points of retail sales such as large supermarket chains, are often suppliers of final points of sales for on trade consumption. It is worth noticing that on the levels of wholesale and retail sales, spirits sales are only a part of the total sales of companies operating at these levels. For this part, we consider that their activity is included in the spirits sector.

² Our approach regarding the definition of the sector is also different from the official statistical classification (Nace Rev. 2) used by the Hellenic Statistical Authority (EL.STAT.), according to which the spirits production is a different sector from the imports sector, which is included in the spirits wholesale trade.

Figure 2.1. The three levels of the spirits sector

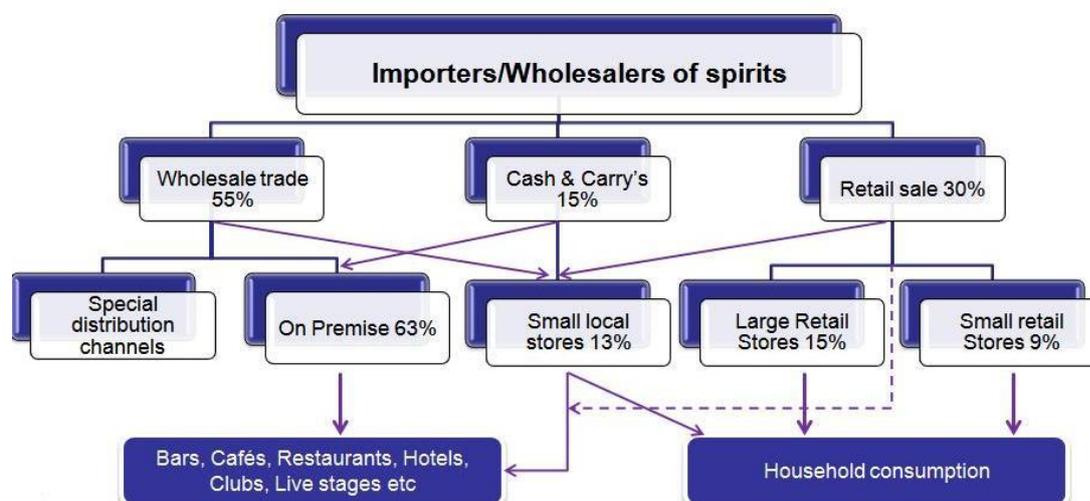


2.2 The value chain of the spirits sector

Figure 2.2 presents more analytically the structure of the sector and provides estimates regarding the allocation of sales in every level of the value chain (supply). At the first level, which includes companies which import / represent spirits produced abroad and producers that produce local spirits, liqueurs and cognac intended for the local market, the subsidiaries of large multinational companies prevail. They import, produce and distribute spirits with strong trademarks, which they support through advertising and promotion and distribute to the market by developing well-organized distribution networks (traditional wholesale trade, Cash & Carry stores, large retail stores).

The traditional wholesale trade and Cash & Carry stores have a crucial role in the spirits supply chain, since they supply a large part of the retail market and the biggest part of on trade points of consumption. It is estimated that the import companies and the local producers trade about 55% of their sales volume through wholesalers, while they sell 15% to Cash & Carry stores which supply spirits to a part of retail stores and on trade points of consumption. The remaining 30% of their sales volume is distributed directly to large retail stores, which supply spirits to the smaller retailers, the traditional retail shops (kiosks, small local stores) and part of the on trade points of consumption.

Figure 2.2. The value chain in the spirits sector



The spirits market includes two sections:

- i. **off trade** market/channel, ie. the market where spirits are distributed mainly for household consumption (through Mini & Super Markets, traditional retail sale etc.) and
- ii. **on trade** market/channel, where spirits are distributed for on trade consumption (Restaurants, Bars, Hotels etc.).

The off trade market is estimated to absorb about 35% of the total volume of spirits sales, and the remaining 65% concerns the on trade consumption.

2.2.1 Basic financial results of the spirits sector

An initial picture about the size of every part of the spirits sector's value chain in Greece is shown in Table 2.1. Although the latest available data concern the year 2006, a fact that renders them outdated since the crisis in the Greek economy has drastically changed them, it is worth noticing the large number of firms operating in retail trade and the sectors associated with the on trade consumption of spirits.

Table 2.1. Basic figures in the supply chain of the spirits sector

Sector	Number of firms	Turnover (in mil. €)
Spirits production	250	127
Production of alcohol	19	32
Wholesale trade of beverages¹	2.440	2.146
<i>Importers / Representatives²</i>	5	479,3
Retail trade in non-specialized stores³	28.216	13.971
Retail trade of food, beverages or tobacco in specialized stores	31.332	4.709
Hotels	7.650	3.458
Restaurants	43.428	3.939
Bars	23.377	1.438
Canteens and catering	5.139	385

Source: EL.STAT³, Registrar of Companies, IOBE Estimates (importers / representatives)

¹ Includes all firms operating in beverages wholesale trade. The number of firms operating mainly in the wholesale trade of spirits is estimated at 110.

² Importers / representatives are included in the wholesale trade of spirits.

³ Non-specialized retail trade includes kiosks, groceries, general sales stores.

³ EL.STAT: Hellenic Statistical Authority

This entails that the sectors of spirits production / import, where a considerably smaller number of firms is activated, are interconnected with a considerable part of the economy. Consequently, the developments in the spirits market affect also the sectors of the intermediate and the final stages of the supply chain. The extent of the impact depends on the weight of the sales of spirits in total economic activity and on employment of sectors interconnected to the production and import of spirits.

A special reference should be made to basic financial aggregates of spirits import firms, which form the core of the sector, given that they have the largest share of the local market in terms of spirits sales.

The employment in the import firms reached 700 persons in 2010, and their turnover amounted to €466 mil., yielding about €4,7 mil. from corporate income taxes (Table 2.2.). Meanwhile, it is estimated that from the employers' contributions and the natural persons' income taxes, the State collected about €5 mil. from the import firms.

The sector's contribution in terms of tax revenues (apart from the income taxes) is perhaps more important, since through the sale of spirits, Value Added Tax (VAT) and Excise Duty on Alcoholic Beverages (EFKOP) are collected. Revenues from the VAT and the EFKOP amounted to €464 mil. in 2010, approximately the same level with the turnover of the import firms. If the VAT collected in the next stages of distribution (on & off trade) is added, then the total revenues from VAT deriving from the sales of spirits reached €382 mil., and, together with the revenues from the EFKOP, amounted to €704 mil.

Table 2.2: Basic financial results of import firms

	2010
Employment	700 persons
Turnover	€466 mil.
Corporate Taxes	€4,7 mil.
Revenues from EFKOP	€322 mil.
Revenues from VAT*	€142 mil.
Employers' Social Security Contributions	€2,8 mil.
Income Taxes	€2 mil.

Source: IOBE

* VAT in off trade and on trade markets is not included

2.2.2 The impact of the spirits sector on the Greek economy

The total impact of the sector on the Greek economy was assessed using an input – output model for the Greek economy, which clearly recognizes the interconnections between the

sectors of the financial activity⁴. The analysis was based initially on the calculation of the total consumption expenditure for the purchase of spirits in on trade and off trade markets in 2010⁵ and subsequently, with the use of relevant multipliers resulting from the input – output model, on the assessment of the direct, indirect and induced contribution / effect of the consumers expenditure on the economy. In particular, in this model, it is estimated that the reduction of the domestic consumption and exports has a multiplicative effect on the economy. The sectors of the economy interact, since every sector uses products and services from other sectors as inflows to its productive procedure.

The direct effects, according to our analysis, concern the product, the added value, the revenues from income taxes and the employment in off trade (retail trade) and on trade (hotels - restaurants) channels. The demand for products and services from those two channels in order to satisfy the consumption expenditure for spirits causes a second round of effects (indirect effects), concerning the corresponding fiscal aggregates of suppliers of the final distribution channels (production and wholesale trade of spirits), of the suppliers' suppliers etc. Thus, the change in the final demand of a sector affects in the same way the demand for products of all sectors supplying this sector. In the case of spirits, the reduction of the demand in retail sale (bars etc.) leads to a reduction of the demand for spirits from the wholesale trade, while it simultaneously affects the demand for transportation services as well as the use of banking services.

Finally, induced effects are the effects on the economy caused by the increased expenditure as a result of the income generated by the sector. In addition, induced result occurs, as lower demand entails also lower economic activity, value added, salaries, tax revenues and employment, while lower employment and salaries lead to a further reduction of demand, burdening multiplicatively the result. Indicatively, the above effects are depicted in image 2.1. We assume that the result from those effects reflects the total economic impact of the sector on the Greek economy.

⁴ The model is based on assumptions (eg. stable economies of scale, stable relations of substitution among inputs). Additionally, it assumes that there is sufficient overcapacity to meet additional demand, while the analysis is static.

⁵ The assumptions on which the calculation of the consumption expenditure is based, are presented in a following section of the study.

Image 2.1. Effects of the spirits sector to the Greek economy

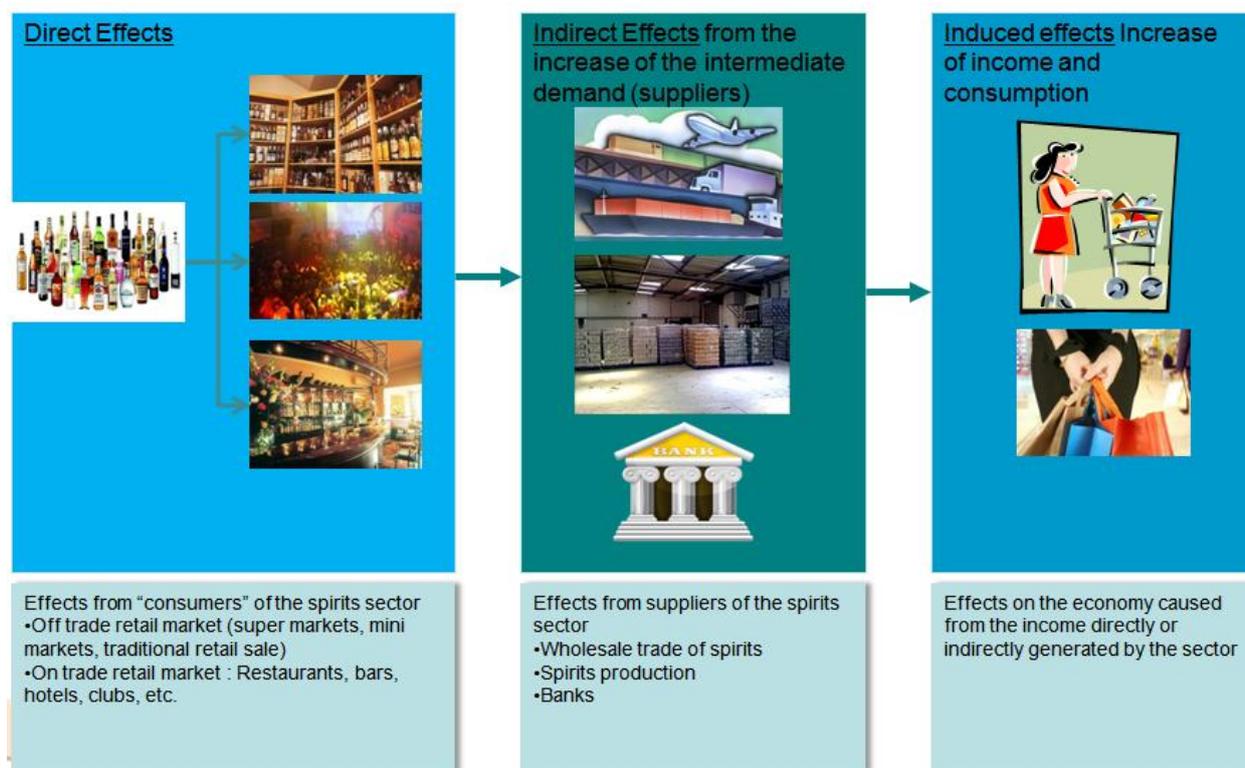


Table 2.3 depicts the total impact of the spirits sector on the economy, and apportions the effect in off and on trade markets. The contribution of the spirits sector is particularly important, in terms of value added and income, as well as in terms of employment. In particular, the total (direct, indirect and induced) impact on domestic value added reaches €1,5 bil., while the generated income stands at €437 mil., yielding the relevant taxes. This income concerns the employees' wages in suppliers (production, wholesale trade) and clients (bars, restaurants, hotels, supermarkets, mini markets, etc.) of the sector, as well as income resulting from the activities all those links generate through its consumption (induced effect). At the same time, corporate taxes, paid by the total interconnected activities reach €51 mil. Finally, a particularly important effect concern the employment «owed» to the spirits sector, reaching 41.000 workers.

Table 2.3. Total impact of the spirits sector on the Greek economy (2010)

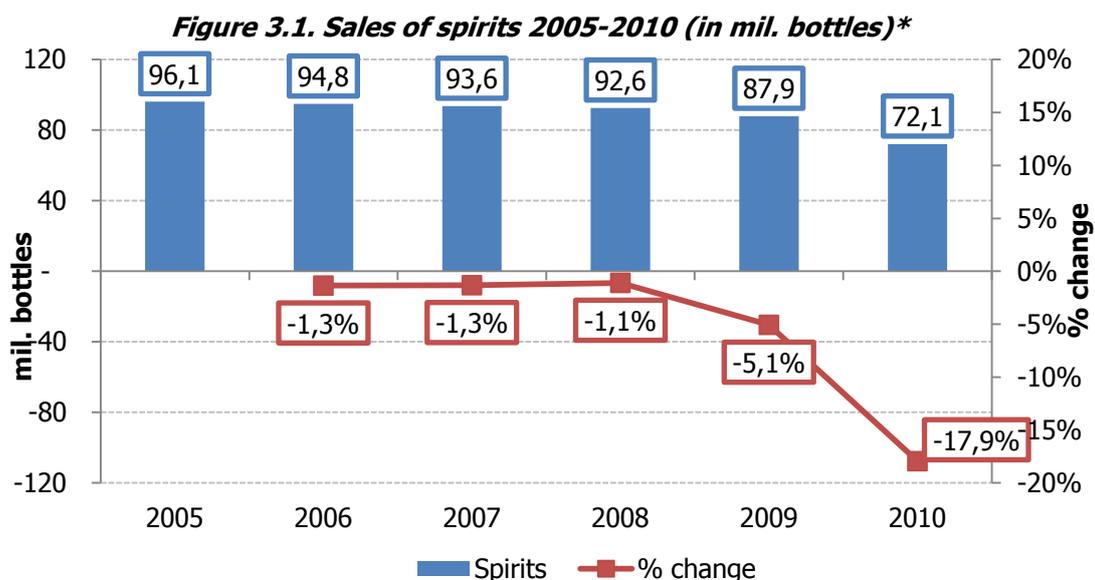
in mil. euros	Direct Effect	Indirect Effect	Induced Effect	Total Effect
Spirits final distribution markets				
Domestic Value-Added	647	281	635	1.564
GDP	669	291	656	1.616
Income from Labor	138	100	200	437
Corporate Taxes	23	8	19	51
Employment (persons)	18.200	7.590	15.373	41.162
Off trade market				
Domestic Value-Added	104	33	121	258
GDP	107	35	125	266
Income from Labor	34	11	38	83
Corporate Taxes	3	2	4	8
Employment (persons)	4.745	533	2.929	8.207
On trade market				
Domestic Value-Added	544	248	514	1.306
GDP	563	256	531	1.350
Income from Labor	104	89	162	354
Corporate Taxes	20	7	16	43
Employment (persons)	13.455	7.057	12.443	32.955

The on trade market has definitely a greater fiscal impact in relation to the off trade market, as it is the main market of spirits distribution, while the expenses of the consumers are significantly higher due to the higher gross margin with which the specific market is operating.

3 Main trends and developments in the spirits sector

3.1 Sales

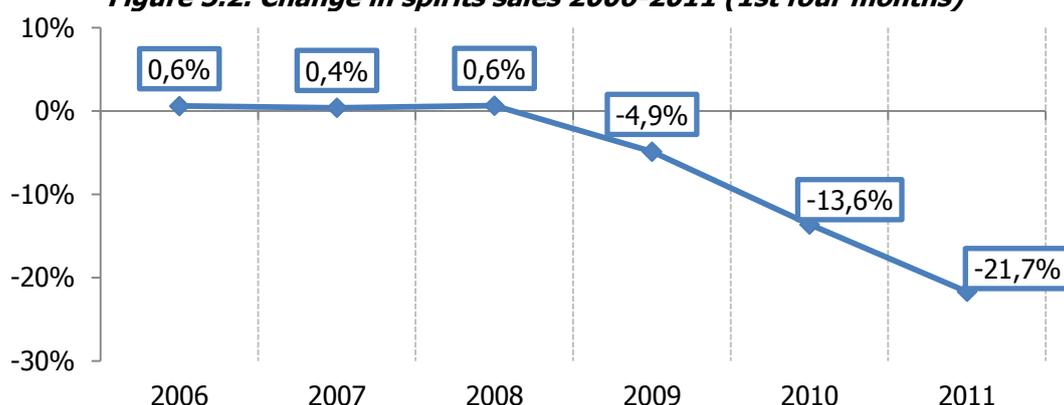
2010 was a benchmark year for the Greek spirits market, which experienced dramatically and directly the recession of the Greek economy and the measures for the restriction of the budgetary deficit. After a period of small but steady decline of the demand for spirits, which shows that the domestic spirits market had reached the limits of saturation, in which a change may derive only from the introduction of new products and/or the reallocation of the market shares among the categories of alcoholic beverages, in 2010 there was a sharp decline in the volume of sales by -18% (Figure 3.1). However, the first signs of this development were apparent in 2009, when sales fell by -5,1%. As a result, the sales volume of spirits dropped to 72,1 mil. bottles in 2010, while for the period 2005-2008 it was not falling below 92 mil. bottles.



Source: IWSR. **Data processing:** IOBE.

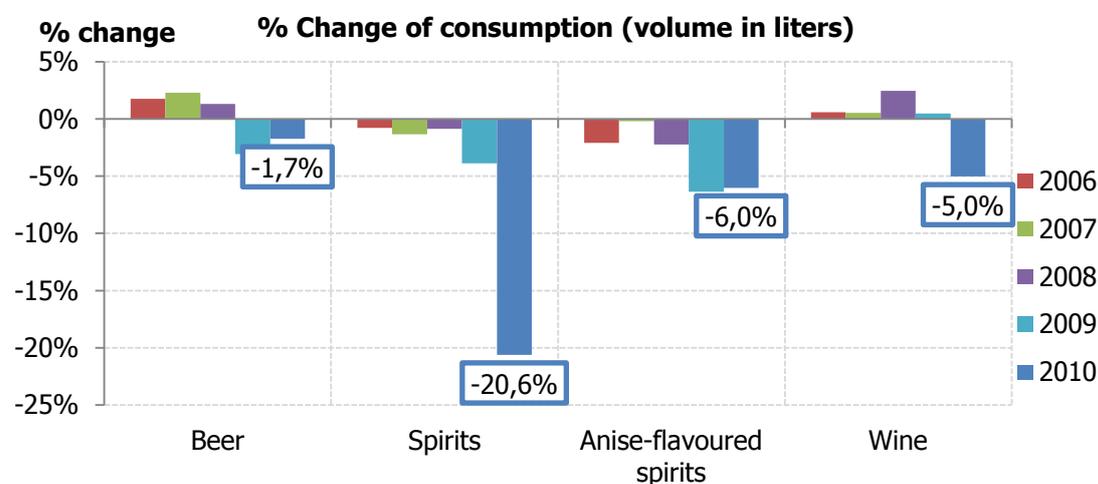
*local spirits are also included (ouzo, tsipouro)

The sales continue to decline in 2011, at an accelerating rate, since, according to the data from the first four months of the year, the sales of spirits declined by 21,7% year-on-year.

Figure 3.2. Change in spirits sales 2006-2011 (1st four months)

Source: Ac Nielsen, ScanTrack Plus, GfK. Data processing: IOBE

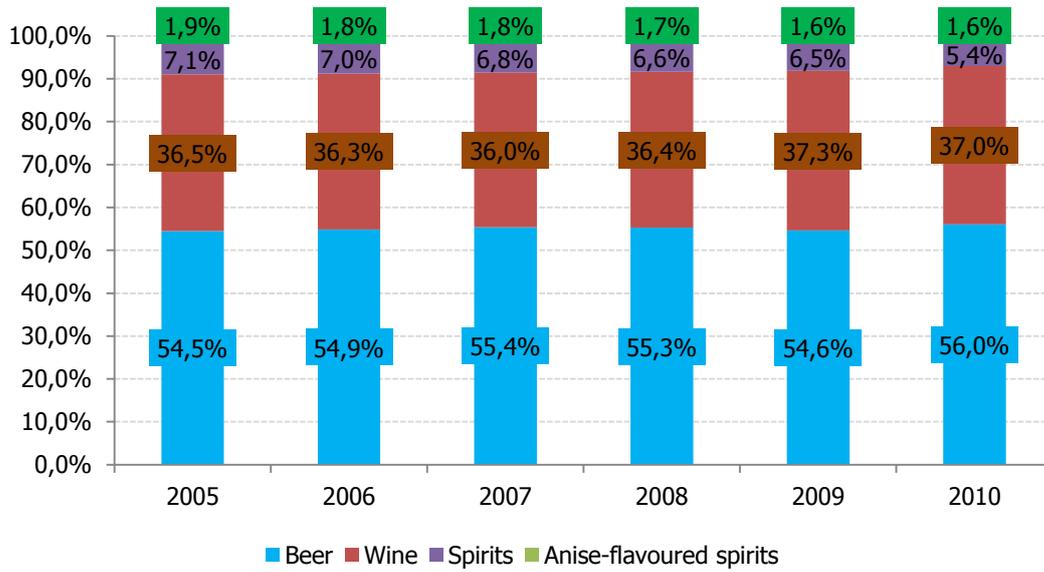
The extent of the fall of sales volume is significantly differentiated among the various spirits categories and alcoholic beverages in general (Figure 3.3). Separating the local spirits from the spirits, the decline of spirits by -20,6% in 2010 (whiskey, vodka, gin etc.) was the largest compared to all the remaining categories. In local spirits, the decline was weaker (-6%). The sales of beer fell by -1,7%, while the decline in wine reached -5%.

Figure 3.3. Rates of change in the volume of spirits sales

Source: IWSR. Data processing: IOBE.

As a result of these developments, the relevant share of spirits versus alcoholic beverages fell from about 7% in 2005-2008, to 5,4% in 2010, while a further fall is expected in 2011 (Figure 3.4). In contrast, the relevant share of beer increased to 56%, wine to 37%, and the share of local spirits had a slight decline.

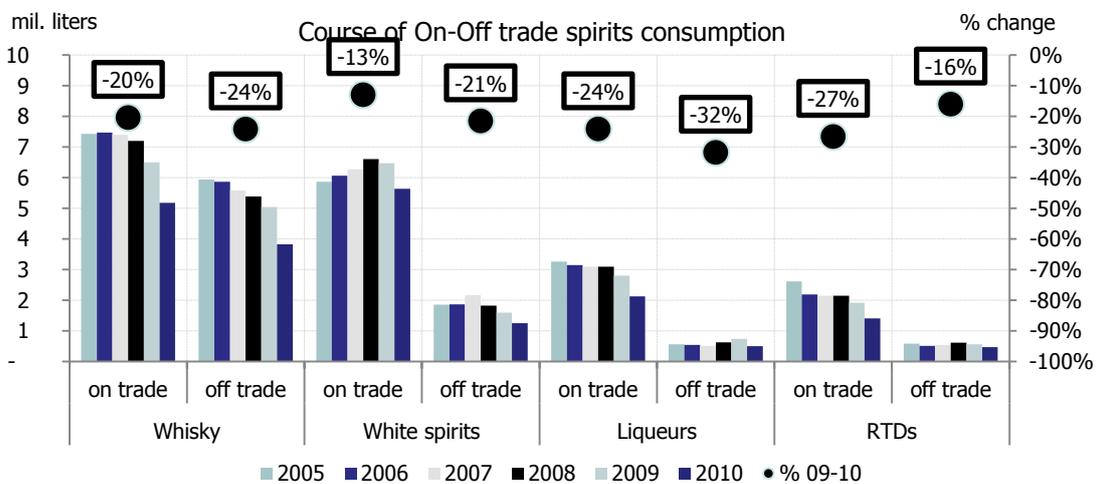
Figure 3.4. Composition of the consumption of alcoholic beverages



Source: IWSR. Data processing: IOBE.

The significant losses in spirits sales in 2010 pass through all the constituent categories of products and distribution channels, with some differentiations, however, as to the extent of the change (Figure 3.5). In absolute terms, the largest decline is recorded in whiskey, both in on trade and off trade distribution channels. For the remaining product categories, except RTD's, the rate of the sales decline is bigger in the off trade channel, but in absolute terms, the volume of sales was reduced more in the on trade channel, which distributes the largest portion of the volume of spirits sales.

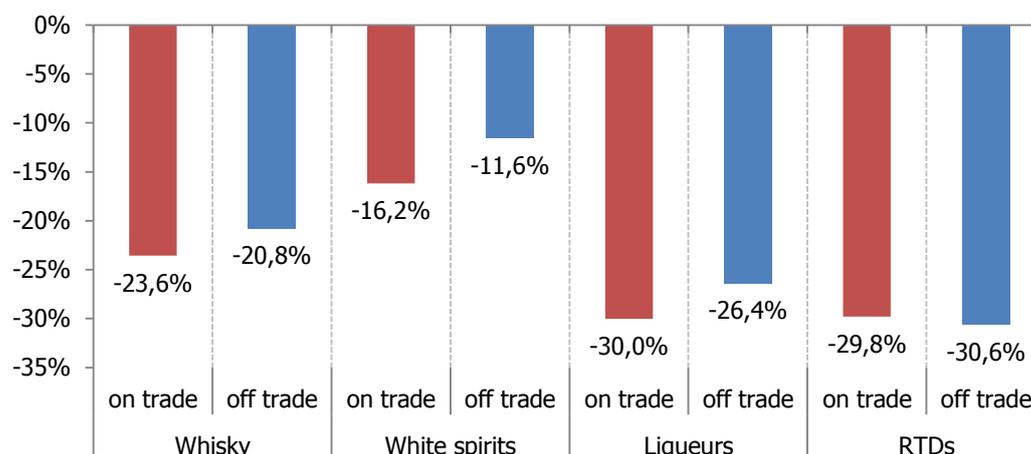
Figure 3.5. Course of spirits On - Off Trade consumption 2005-2010



Source: Ac Nielsen, ScanTrack Plus, GFK. Data processing: IOBE.

Data for the first months of 2011 show a reversal of the picture, with an acceleration of the sales decline in on trade market compared to the off trade market, in the categories of spirits products in total, except RTD's in which the decline in the off trade market is larger (Figure 3.6).

Figure 3.6. Course of the consumption in On and Off Trade channels of spirits distribution



Source: Ac Nielsen, ScanTrack Plus, GfK. Data processing: IOBE.

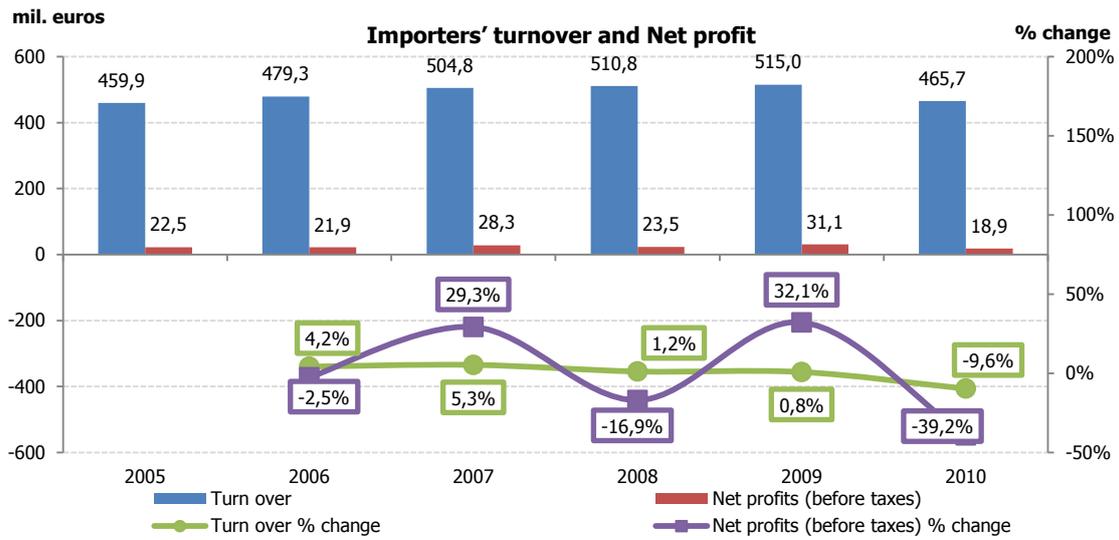
3.2 Financial results of spirits import and wholesale companies

The effects of the sharp decline in spirits consumption are also reflected in the published financial statements of the import companies and the companies operating in the wider spirits wholesale trade.

In the sector of import companies, a decline of the turnover (without EFKOP) by approximately -10% is recorded in 2010, while a further decline is estimated in 2011 due to the decline of the market, but also the switch to cheaper alcoholic beverages. At the same time, the total net profits of importers shrank by approximately 40% in 2010. It should be stressed that those results do not reflect the actual conditions in the sector, since for 2 of the 5 firms, the results concern only the 1st six-month period of 2010, ie. they do not contain the sharp decline in sales that followed in the 2nd six-month period of 2010.

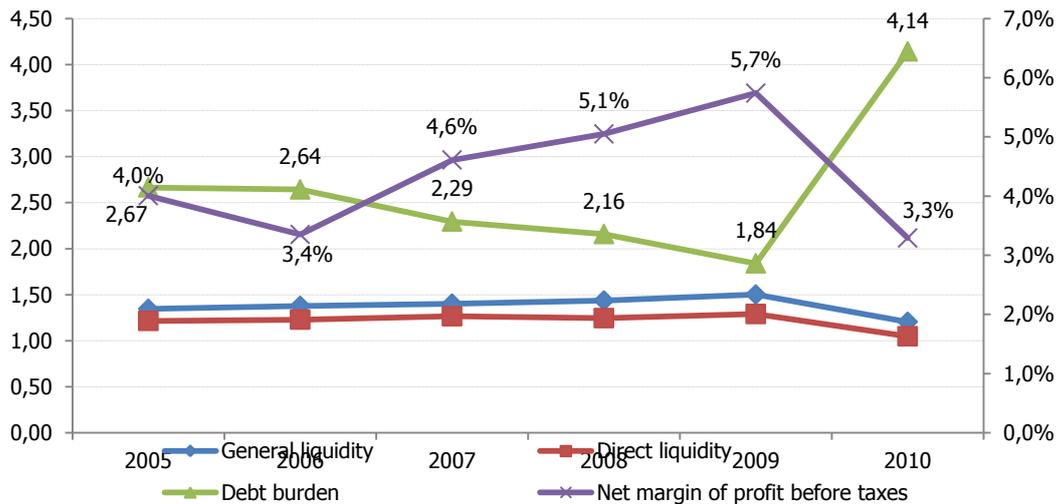
The net margin of profit of importers was significantly reduced in 2010, by 2.4 percentage points, returning to the levels of 2006, while the debt burden of the import companies deteriorated, as the liabilities increased with an average rate of 7% during the last six years. Meanwhile, the large time gap between the payment of the increased EFKOP and the collection of the receivables has led to aggravation of liquidity, increase of the financial expenses and the needs for additional working capitals for the import companies.

Figure 3.7. Turnover and Net Profits of Importers



Source: HellaStat. Data processing: IOBE.

Figure 3.8. Financial Ratios of Importers

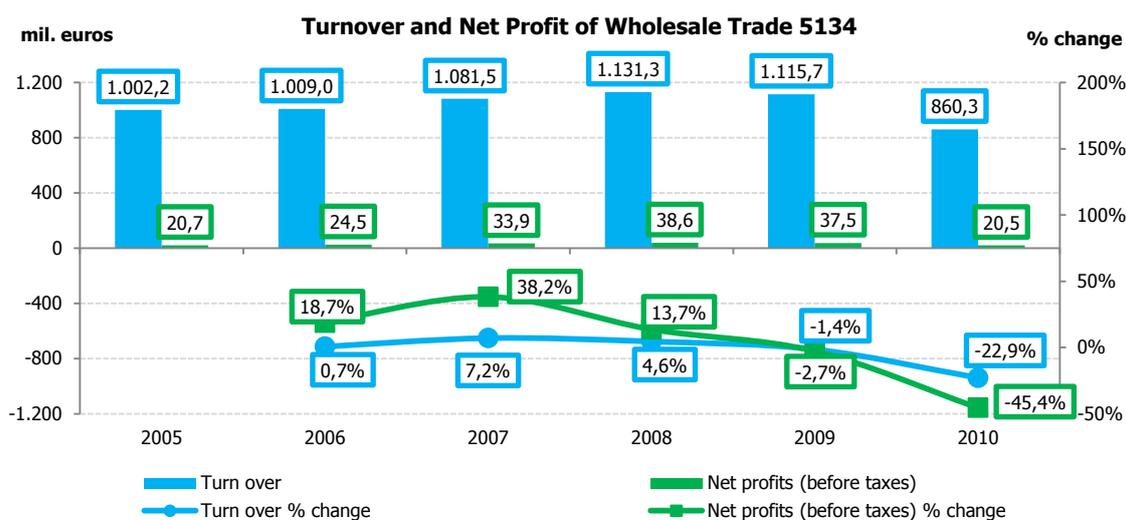


Source: HellaStat. Data processing: IOBE.

For the entire spirits wholesale trade, a significant decline of the turnover (without EFKOP) by -22,9% is recorded in 2010, while the decline of the profitability reaches -45,4%, ie. half the profits in relation to 2009. At the same time, it is noted that a large number of firms passes from a year with profit to a year of loss, and consequently the losses are expanded.

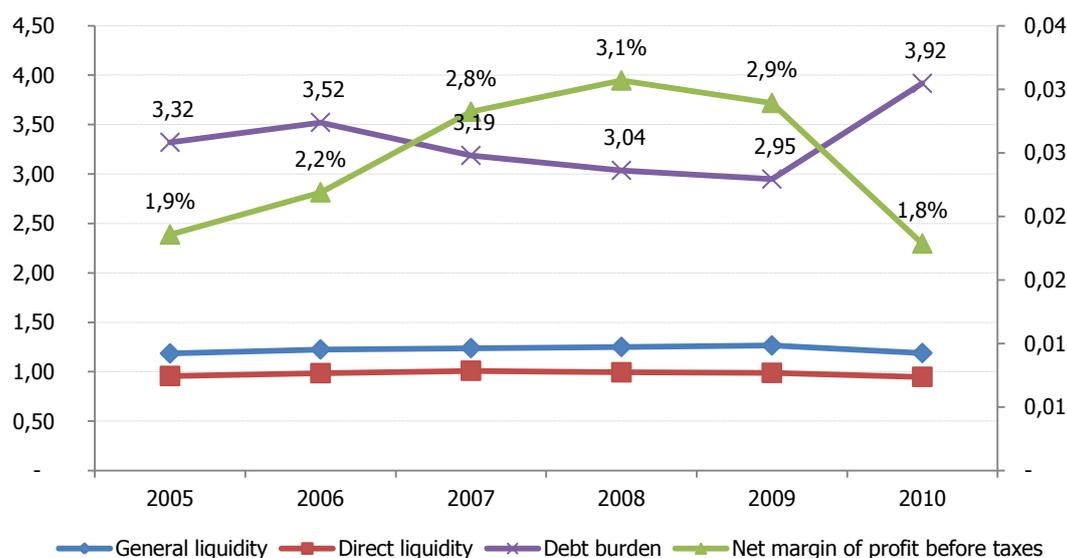
The net margin of profit in the wholesale trade is having a declining course, to 1,8% in 2010, from 2,9% in 2009, while an aggravation is recorded in the debt burden of the sector's firms.

Figure 3.9. Turnover and Net Profits in the Wholesale Trade



Source: HellaStat. Data processing: IOBE.

Figure 3.10. Financial Ratios of the Wholesale Trade



Source: HellaStat. Data processing: IOBE.

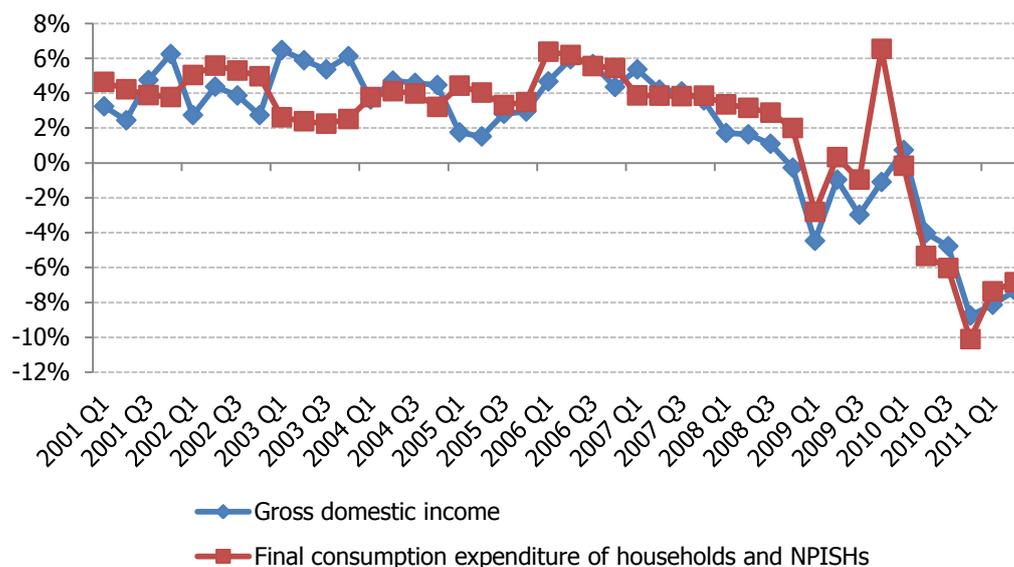
The annex shows detailed financial data and ratios for import companies and wholesale trade companies.

3.3 Main drivers of the developments in the spirits market

The main causes behind the current negative developments in the spirits market are: a) the persistent recession of the Greek economy, which has led to a huge increase of unemployment, decrease of salaries, dramatic shrinking of available income and the drastic increase of direct and indirect tax rates and b) the increased prices of the spirits, as a result of the successive increases of the Excise Duty imposed on alcoholic beverages (EFKOP) (by 125% from the beginning of 2009), as well as the increase in the VAT rate from 19% to 23% in July 2010.

The latest data show that the recession of the Greek economy has its starting point at the last quarters of 2008 (Figure 3.11). The following year ended with a decline of the GDP by -3,2%, while the decline of the GDP reached -3,5% in 2010. Since then, the conditions of the Greek economy are getting even worse, resulting to the estimate that the size of the recession in the Greek economy will range from -5,5% to -6% in 2010, and for 2012, in the optimistic scenario, the recession will be in the order of -2,8%.

Figure 3.11. Rates of change in the GDP and the Consumption Expenditure



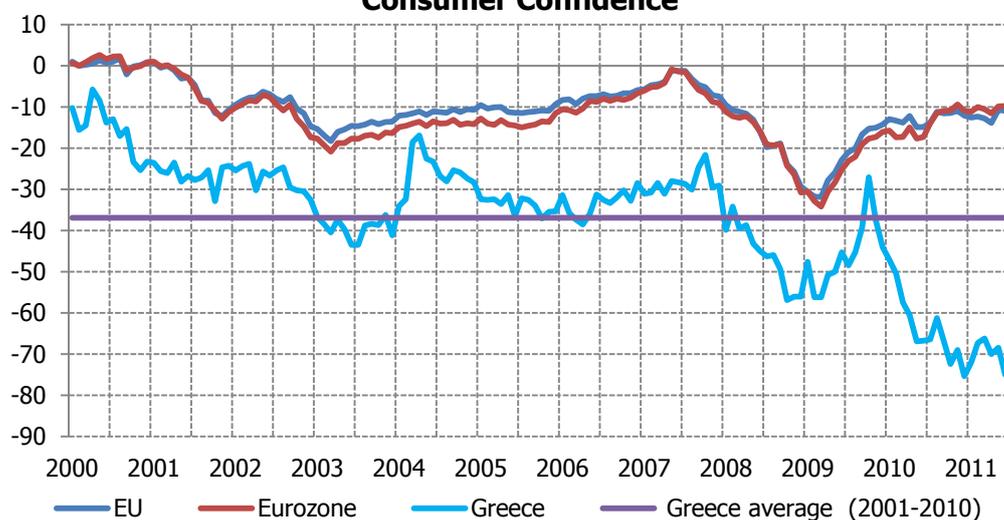
Source: EL.STAT.

Thus, after a long period (15 years) of continuous economic growth, the Greek economy is undergoing a persistent recession.

Those developments have caused a sharp decline of consumer confidence that follows, since the mid-2009, a continuously deviating course compared to the average of the EU countries, simultaneously deviating by far from the long-term average of the country. The decline of

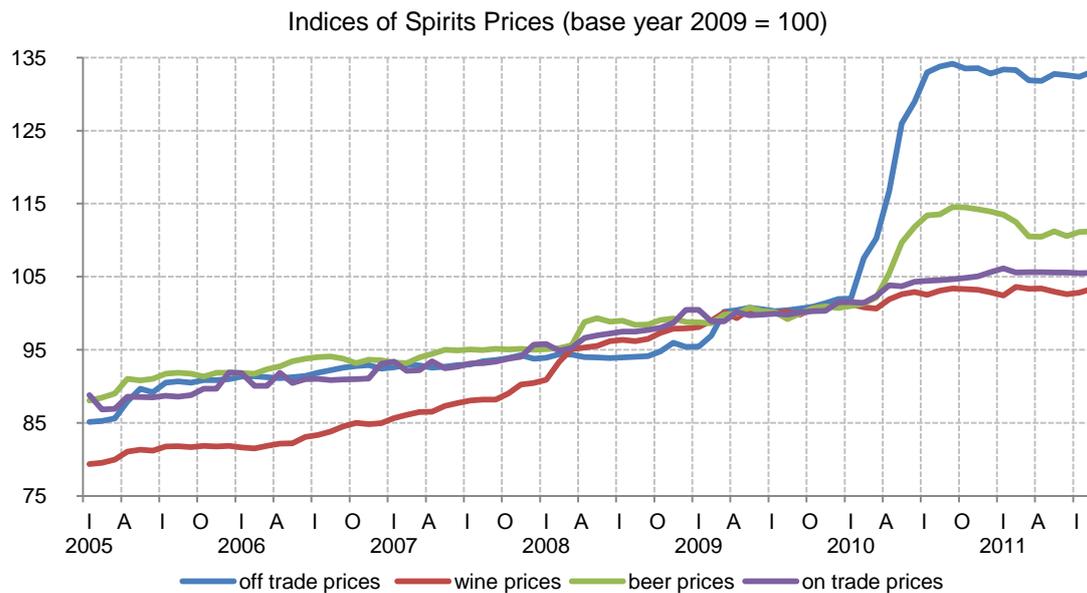
consumer confidence intensely reflects on the households expenses, as confirmed by the official data on the course of the public and private consumption.

Figure 3.12. Consumers Confidence Index
Consumer Confidence



Source: DG ECFIN

The second basic factor that determined the developments in the spirits market concerns the prices of the spirits, which had a steep increase in 2010 as a result of the successive increases in EFKOP and VAT rates. The course of the prices is reflected in the official data of EL.STAT, where the relevant spirits price index recorded an abrupt rise during 2010, in contrast to the price indices of substituent alcoholic beverages, which showed either a smoother rise (beer) due to a smaller effect from the increase of the excise duty, or a normal course (wine), according to the trend of the previous years, due to the non-imposition of excise duty. Thus, the increases of EFKOP and VAT boosted the spirit prices in the off-trade market by 30% in 2010, while in the on-trade market, the increase was partially absorbed by food / entertainment firms aiming to maintain consumption. In the remaining categories of beverages, the increase on prices was significantly lower.

Figure 3.13. Spirits Price Indices (Base Year: 2009=100)

Source: EL.STAT. **Data processing:** IOBE.

It should be also stressed that the spirits price index on served drinks (on trade) increased by 3,9% in 2010, while the respective index of non-served drinks (off trade) showed a rise of 24%. Thus, according to the corresponding weighing of the two categories for the formation of the General Consumer Price Index, those increases caused 2,5% of the total increase of prices, although their entire weighing reaches 1,5%.. Their impact on inflation is, therefore, considerable.

Within this adverse financial environment, the consumers have reduced their outings for entertainment as well as the consumption of drinks per night-out, while they have turned to drinks with lower prices (eg. beer, wine, ouzo, tsipouro, RTD's) and other forms of entertainment (gatherings at home, from music halls and clubs to smaller entertainment venues such as tsipouro taverns, bar-restaurants etc.).

3.3.1 Spirits demand model

The impact of the adverse financial environment (reduced incomes, unemployment, negative financial environment) and the increase of prices on spirits due to the increased excise duty, explains to a great extent the recent trends and developments in the domestic spirits market. Of course, the level of the spirits consumption depends also on other factors, apart from the income and prices, such as the prices of substitutes, advertising expenses, the prohibition to sell alcohol to minors, various social and demographic factors, concerns about the effects on

health, prices of supplementary products (eg. cigarettes) etc. Moreover, the contribution of tourism on the spirits market should be also stressed, since the demand generated by the touristic product is important due to the size of the consumption it causes. The demand factor is not calculated separately, as it is contained in the elements of consumption.

The reduction of the available income leads to a redefinition of the consumption expenses and the reduction of demand in nearly all product categories. On the other hand, the increase of the final price of spirits, resulting eg. from an increase of the Excise Duty, affects demand through two paths. First, it reduces the purchasing power of consumers (income effect). Moreover, depending on the development of prices of the substituent goods, the increase of prices may lead also to a switch of the consumers to competitive products, due to a change of the relative price (substitution effect).

For the purposes of the present study, the quantification of these effects is particularly useful, as it will give us the possibility to assess the future course of the market, the tax revenues and the wider consequences of the taxation policy on spirits in the Greek economy. In this context, a simple econometric model of the demand for spirits in Greece was assessed, which focuses on the assessment of price and income elasticity of demand for spirits, since it was not possible to gather sufficient data for the development of other variables affecting the demand for spirits. In these assessments, there was a distinction between off-trade and on-trade distribution channels in which the pricing policy of companies and the behavior of consumers towards the changes of prices are differentiated.

- **Off trade market**

In the off-trade market, a model of the following form:

$$\ln q = a \cdot \ln p + b \cdot \ln y + c$$

was estimated, where:

- **q: Consumption** (in bottles): Data from Ac Nielsen, ScanTrack Plus, monthly data 01/2005-05/2011, seasonally adjusted
- **p: Prices:** Price Index of non-served drinks (2009=100), EL.STAT, seasonally adjusted
- **y: Income:** GDP in current prices (2009=100), seasonally adjusted

The model was estimated in logarithms, thus the coefficients resulting from this logarithmic transformation of the initial variables are the price and income elasticity respectively. The results from the model for the off-trade market are the following⁶:

$$\ln q = -1,15 \cdot \ln p + 0,35 \cdot \ln y + c$$

⁶ Detailed results are cited in the annex, Table 7.6.

The coefficient -1,15 is an estimate of the price elasticity of demand, while the factor 0,35 is an estimate of the income elasticity. The price elasticity shows that an increase of the price by 10% will cause a reduction of the consumption of spirits by 11,5%. The income elasticity coefficient implies that an increase of the income by 10% will cause an increase in the spirits consumption by 3,5%.

- **On-trade market**

In on-trade market, apart from the price, income as well as the general financial status of the households have a significant role, since they affect to a great extent the inclination to go out to such kind of stores. Additionally, the financial status of the households reflects on the current changes in the standard of living, which greatly affect the inclination to consume. The model of the following form:

$$\ln q = a \cdot \ln p + b_1 \cdot \ln y + b_2 \cdot \ln(hs) + c$$

was estimated, where:

- q: **Consumption** (in bottles): Data from GFK, data in two-month basis 01/2005-04/2011, seasonally adjusted
- p: **Prices**: Price Index of served drinks (2009=100), EL.STAT, seasonally adjusted
- y: **Income**: GDP in current prices (2009=100), seasonally adjusted
- hs: **Household Status**: Quantitative rendering of answers to the question "What is the financial situation of your household?" Monthly Research of DG ECFIN, seasonally adjusted

The results from the model for the off trade market are the following⁷:

$$\ln q = -1,91 \cdot \ln p + 0,76 \cdot \ln y + 1,02 \cdot \ln hs + c$$

The coefficient -1,91 is the estimate for the price elasticity of demand in on-trade market, the coefficient 0,76 is the income elasticity, while the coefficient 1,02 shows the sensitivity of consumption resulting from a change in the households' financial situation, as perceived by consumers who participate in the relevant survey. Thus, in the model of the on-trade market,

⁷Detailed results are presented in the annex, Table 7.7.

an increase of the price by 10% will cause a reduction of the spirits consumption by 19,1%, while an increase of income by 10% will cause an increase of spirits consumption by 7,6%. Finally, the change in the perceived financial status of the household by 10% changes almost equally the consumption of spirits (10,2%).

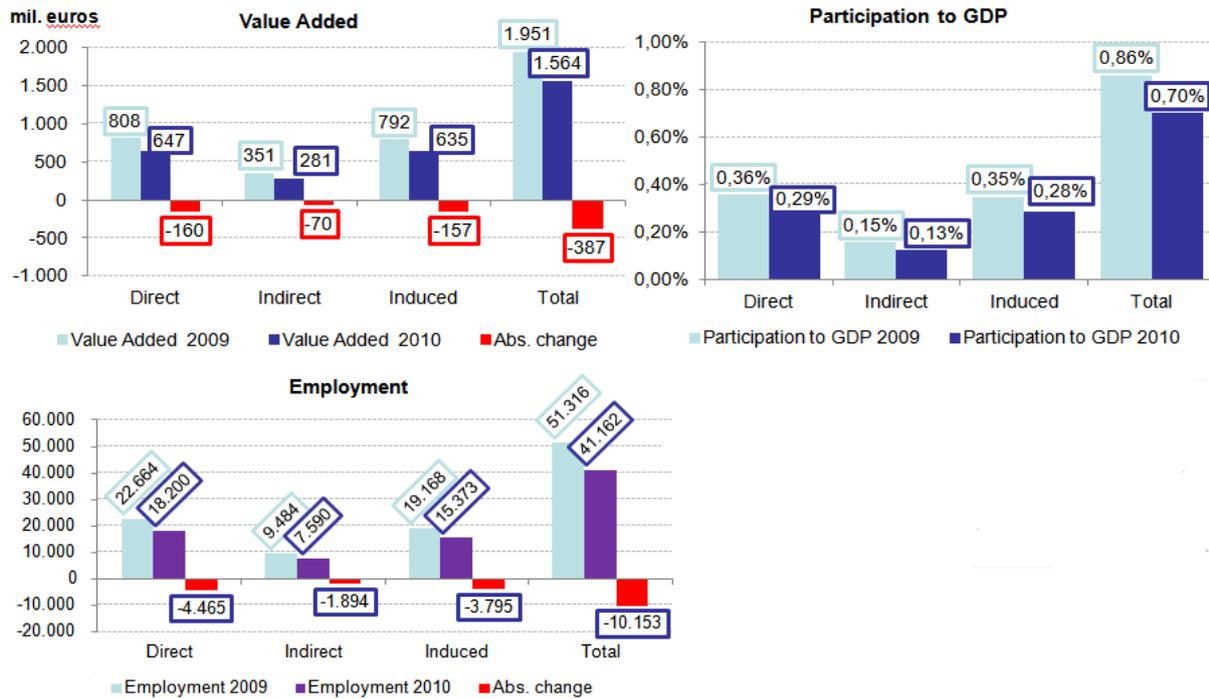
It should be noted that the expected effect of the independent on the dependent variables (off and on trade consumption) have different magnitude in every market. The income is expected to have a proportionally larger effect in the on-trade market, compared to the off-trade market, since the on-trade consumption is tighter connected to economic activity and less to the price, which, however, affects the consumption but to a lesser extent. Respectively, in the household consumption, the price is the most important consumption driver. These hypotheses are confirmed also in the estimates of the demand model in both markets.

3.4 Effects from the decline of the spirits market

The sharp decline of spirits sales during 2009-2010 had wider negative effects on the economy in total. The evaluation of the effects is performed by the use of the input – output model presented previously.

The reduction of the consumption expenditure for spirits affected value added, income from labor and employment, as well as employment in the entire economy. According to our estimates, the reduction of the consumption expenditure for spirits in 2010 led to the reduction of the value added in the Greek economy by €387 mil. and to the loss of approximately 10.000 jobs (Figure 3.14).

Figure 3.14. Estimates on the changes of the economy's sizes due to the decline of the spirits market in 2010



The allocation of the effects from the reduction of the consumption expenditure for spirits in the off-trade and on-trade final distribution channels leads to useful conclusions regarding the way in which the crisis affected the entire economy through the reduction of the economic activity in both markets.

The reduction of the added value in the off-trade channel is smaller (€59 mil. versus €328 in on trade channel), due to the small relevant magnitude of expenditure for purchases of spirits from the specific final distribution channel. A big difference between the two final distribution channels of spirits is also observed in employment, where the reduction of the expenditure in the on-trade channel «is responsible» for the loss of 8,200 jobs in the economy, versus 1,900 caused by the reduction of activities in the off-trade channel.

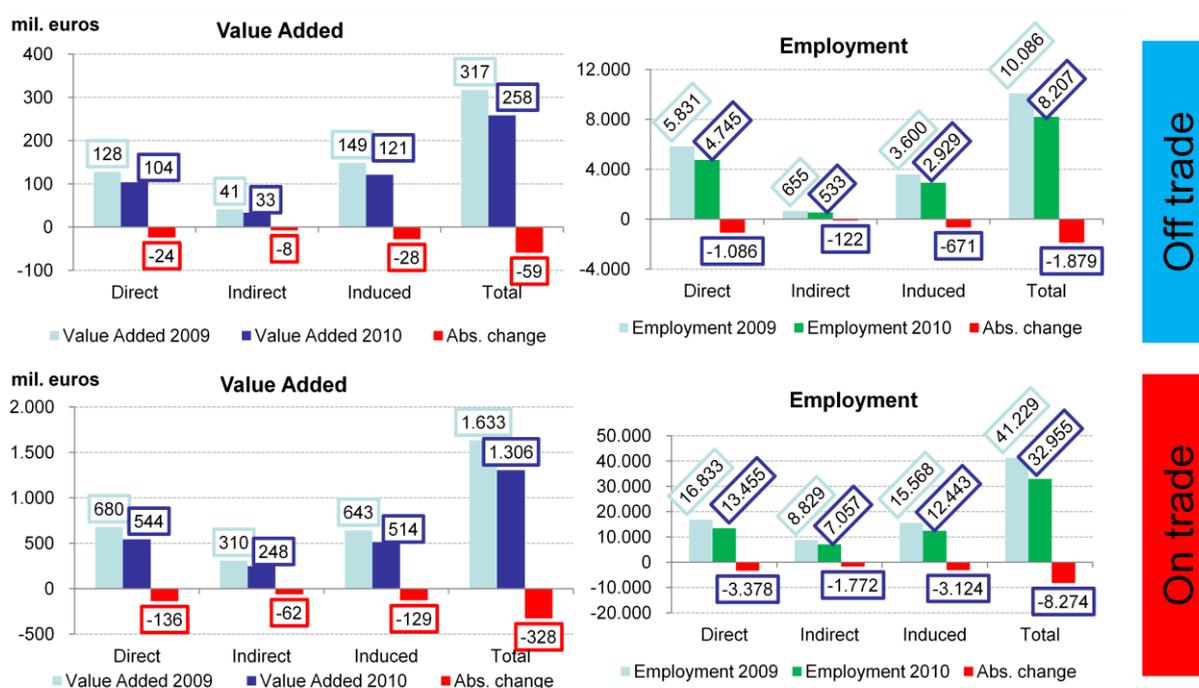
Figure 3.15. Change of Added Value, off trade and on trade 2009-2010

Table 3.1 shows a summary of the results of the economic impact of the spirits sector on the Greek economy, as well as the change made in 2010, due to the decline of the consumption expenditure in all variables.

Table 3.1. Change of the impact of the spirits sector in the Greek economy 2009-2010

In mil. euros	Year	Direct Effect	Indirect Effect	Induced Effect	Total Effects	Change 09/10
Added Value	2009	808	351	792	1.951	-387
	2010	647	281	635	1.564	
GDP	2009	835	363	818	2.016	-400
	2010	669	291	656	1.616	
Income from labor	2009	172	125	249	545	-108
	2010	138	100	200	437	
Tax revenues	2009	29	10	24	63	-12
	2010	23	8	19	51	
Employment (number)	2009	22.664	9.484	19.168	51.316	-10.154
	2010	18.200	7.590	15.373	41.162	

4 Taxation policy in the spirits sector: Distortions and fiscal result

4.1 Taxation policy on spirits

Internationally, the taxation of the alcoholic beverages is a significant source of public revenues. The imposition of the excise duty on alcoholic beverages is justified by the effort of the State to discourage their consumption because of the negative effects that the exceeding consumption may have on people's health, as well as the negative externality that their consumption causes to third parties (eg. increased medical expenses).

According to the Greek legislation, an excise duty of consumption (EFKOP) is imposed on alcoholic beverages. The tax policy applied in Greece should be aligned with the provisions of the relevant European directives which have introduced regulations concerning the form and the level of the excise duty imposed by the member states on alcoholic beverages in order to ensure the proper functioning of the internal market and the fair competition among the different categories of alcoholic beverages.

Specifically, the Directive 92/83/EEC defines the categories of alcohol and alcoholic beverages subjected to the excise duty, as well as the basis of its calculation. The categories defined by the Directive are: beer, wine, fermented beverages, ethyl alcohol (for use in distilleries) and intermediate products. It also includes special provisions that give the opportunity to impose a reduced excise duty in small breweries and distilleries, specific beverages and geographic areas.

Furthermore, the Directive 92/84/EOK defined the minimum excise rates imposed on alcohol, spirits, beer and wine. Keeping the minimum rates gives the members-countries the discretion to define the final level of the duty. The minimum excise rate for alcohol and alcohol contained in drinks was fixed to 550 Ecu per hectoliter of ethyl alcohol. For intermediate products, the minimum rate was fixed to 45 Ecu per hectoliter of products; zero rate was fixed for wine and for beer 0,748 Ecu per hectoliter/ degree Plato, or 1,87 Ecu per hectoliter/ degree of alcohol of the final product.

In Greece, the various categories of alcoholic beverages have different taxation. The highest EFKOP rate, calculated on 100 liters of the product's ethyl alcohol, is imposed on spirits (whiskey, vodka, gin etc.). For local spirits, the EFKOP is calculated to half the duty of spirits, while the tsipouro and the two-day produced tsikoudia (for personal use) are taxed on a flat-rate basis of 0,59 Eurocents per kilo. Beer is taxed in a different way, at a clearly lower level than the first two categories, approximately at ¼ of spirits tax, while wine has no tax.

The taxation policy on alcoholic beverages in Greece was stable until 2009, with periodical readjustments in order to incorporate the changes to the general level and to enhance the public revenues (Table 4.1). The last increase on the spirits excise duty, before the successive increases from 2009, was made in 2005, by 20%, except for beer. Spirits have been

subjected to 8 tax increases since 1998; 4 of them have taken place within 18 months during 2009-2010 and led the spirits excise duty to more than double from €1,135 per 100 liters of ethyl alcohol in 2008, to €2,550 with the latest increase that occurred in July 2010. The total increase of the EFKOP in 2010 was 87% in relation to 2009 and 125% in relation to the tax policy of 2005-2008. For beer, the excise duty had a proportional percentage increase but it is much lower, at ¼ of the excise duty imposed on spirits (Figure 4.1).

Apart from the increase of the EFKOP, in 2010 there was also a VAT increase by 4 percentage points (to 23% from 19%). The VAT increase caused further pressure to the consumption of spirits, since, in combination with the increased EFKOP, the final prices of spirits increased significantly.

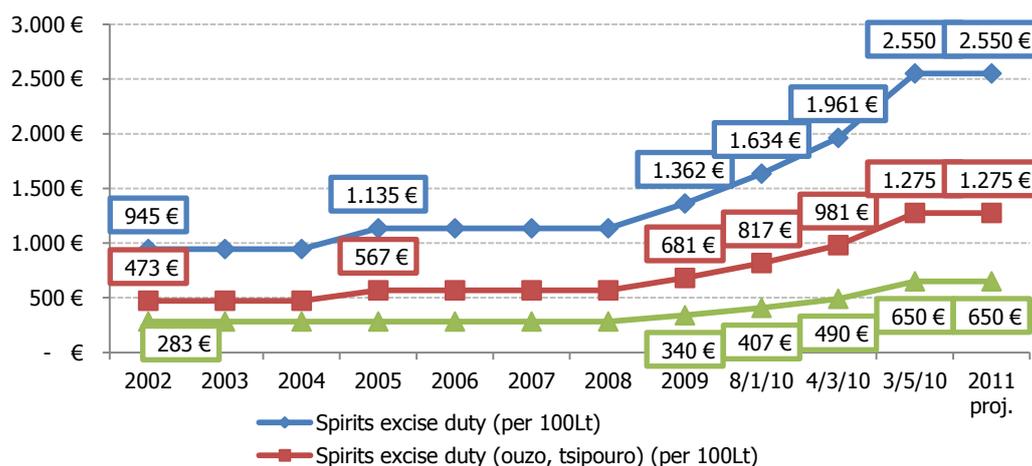
Table 4.1. Timeline of tax changes on spirits

Year / month	Change of EFKOP	Change of EFKOP on beer	Change on the VAT
1998	+1,50%		
1999	+8,70%		
2000	+3%	+3%	
2001		+3%	
2005	+20%		19% from 18%
2009	+20%	+20,4%	
Jan. 2010	+20%	+19,9%	
Mar. 2010	+20%	+20,2%	
May. 2010	+30%	+32,7%	
Jul. 2010			23% from 21%

Source: Government Gazette

* the increase of 2000 was withdrawn in 2001

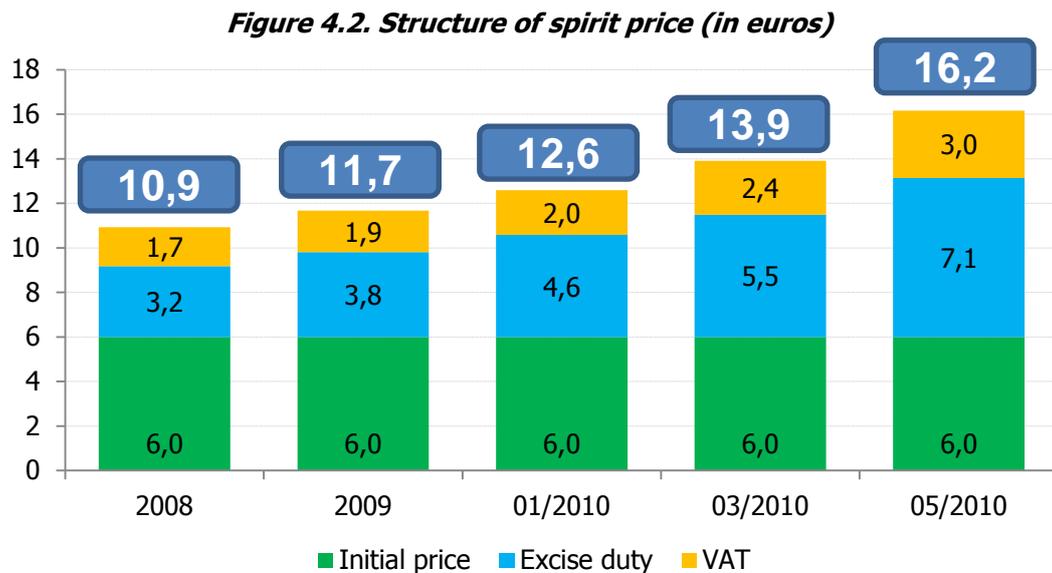
Figure 4.1. EFKOP course 2002-2011



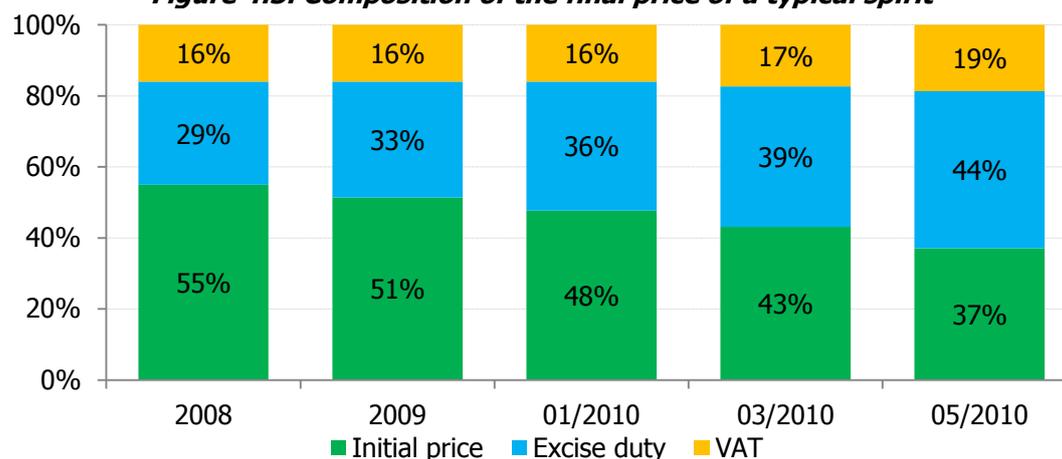
Source: IOBE

4.2 Taxation of spirits and retail prices

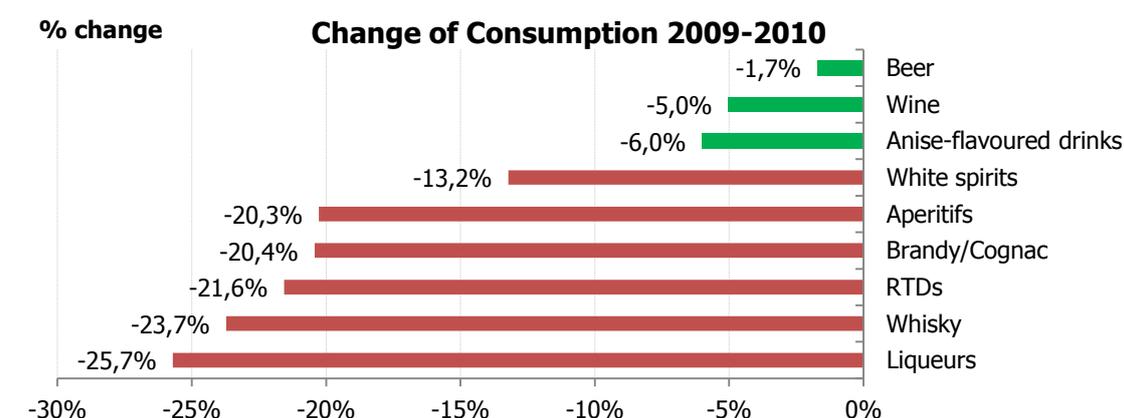
An indicative example of the effects from the successive increases of the excise duty is that the retail price of a typical spirit **was raised by 38%** within a year but the nominal price before taxes has not increased within the same period. On the contrary, in real terms, prices declined because of inflation, while in some cases, spirits importers have proceeded also to the reduction of the nominal prices before taxes.



In particular, for a typical drink, with a price before taxes of €6, the surcharge from taxes reached €4,9 in 2008, while now the tax surcharge reaches €10,1, ie. the share of taxes exceeds 60% of the final price. Thus, from €10,9 in 2008, the final price now reaches €16,2, while as it is depicted in Figure 4.3, the share of taxes increased significantly during the last two years. Thus, the participation of the EFKOP in the final price of the specific typical product amounted to **44%**, from 29% in 2008. The price before taxes from the suppliers reflect almost 1/3 of the final price (more than 1/2 in 2008), while the participation of the total taxes reaches 2/3 of the final price.

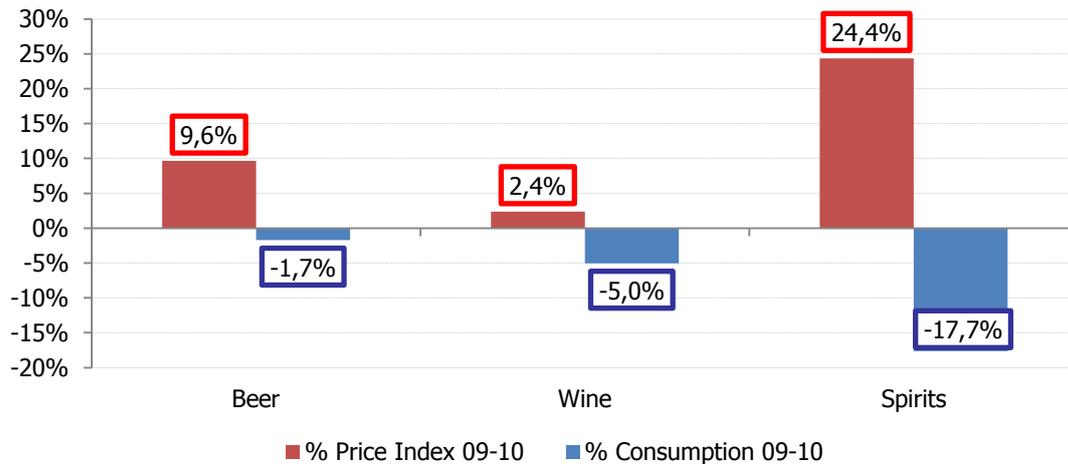
Figure 4.3. Composition of the final price of a typical spirit

As mentioned in the previous section, the changes in taxes affected in a particularly negative way the consumption of spirits. Moreover, the sales data show that the decline was larger in categories of alcoholic beverages, such as spirits, in which the excise duty increased significantly. Thus, the sales volume in beverages with low or no EFKOP, such as beer and wine, had a weaker decline in 2010. In the case of beer, despite the high percentage increase of the excise rate, the final tax surcharge remains significantly lower than that of the spirits. The different taxation policies and the disproportionate increases of the excise rates in the constituent categories of alcoholic beverages have changed the relevant prices and generated further distortions in the operation of the market, as they enhanced the motivation to substitute the consumption of spirits with other categories of alcoholic beverages.

Figure 4.4. Change of the Consumption 2009-2010

Source: IWSR, Data processing IOBE

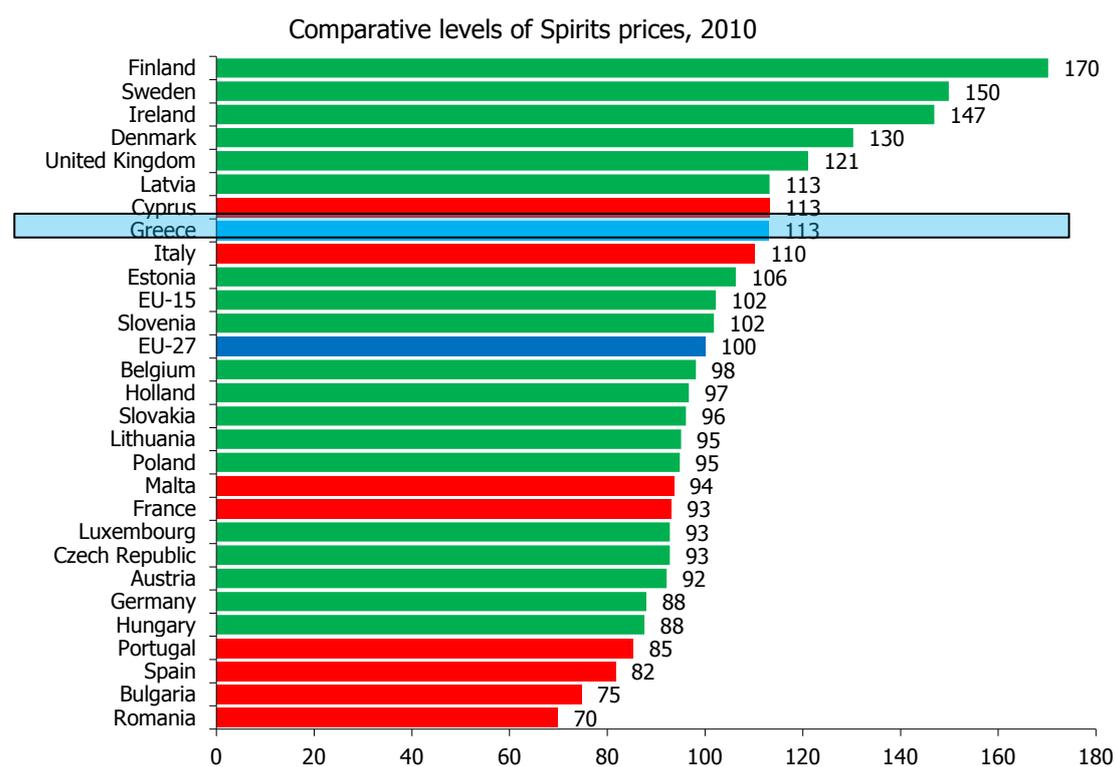
A representative example is the correlation of the change in prices with the corresponding changes of the consumption, where the largest increase of prices in spirits was accompanied by a respectively large reduction of the consumption.

Figure 4.5. Changes in prices and consumption

Source: IWSR, EL.STAT. **Data processing:** IOBE

4.3 Other implications from the increase of the Excise rate on spirits

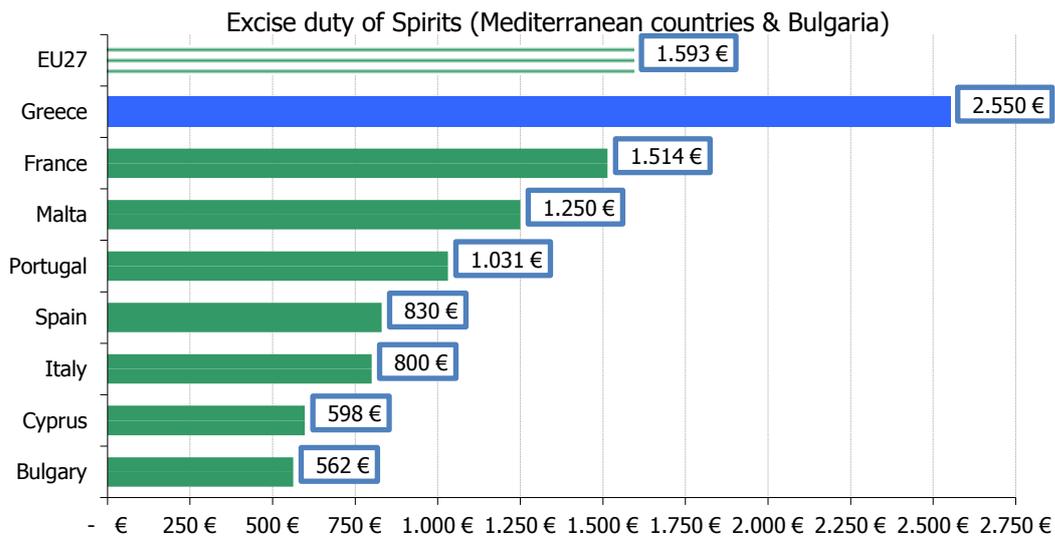
Apart from exacerbating the distortions in the market of alcoholic beverages caused by the disproportionate increase of the excise rate, the increase of taxes and prices has additional negative effects. Particularly, it aggravates the competitiveness of the domestic touristic product in comparison with competitive touristic destinations and increases motivation for cross-border purchases of spirits from neighboring countries with lower excise rates. It is characteristic that the increased prices on spirits enhanced the inflation and the motivation for cross-border purchases from neighboring countries, since the retail prices of spirits in Greece are higher than the EE-27 average by 13%, but also significantly higher compared to neighboring countries and competitive touristic destinations (Figure 4.6).

Figure 4.6. Comparative levels of spirits prices, 2010

Source: Eurostat

The basic cause of differentiation of the price levels is the clearly larger EFKOP rate imposed in Greece (Figure 4.7). In particular, the EFKOP per 100 liters of ethyl alcohol in Greece exceeds by approximately €1.000 the respective average tax in the EU, while a similar and/or even larger deviation is noted in comparison to the neighboring as well as touristically competitive countries (Spain, France, Portugal, Malta). Greece has the highest EFKOP rate among the neighboring and competitive touristic countries, which favors the cross-border trade and smuggling.

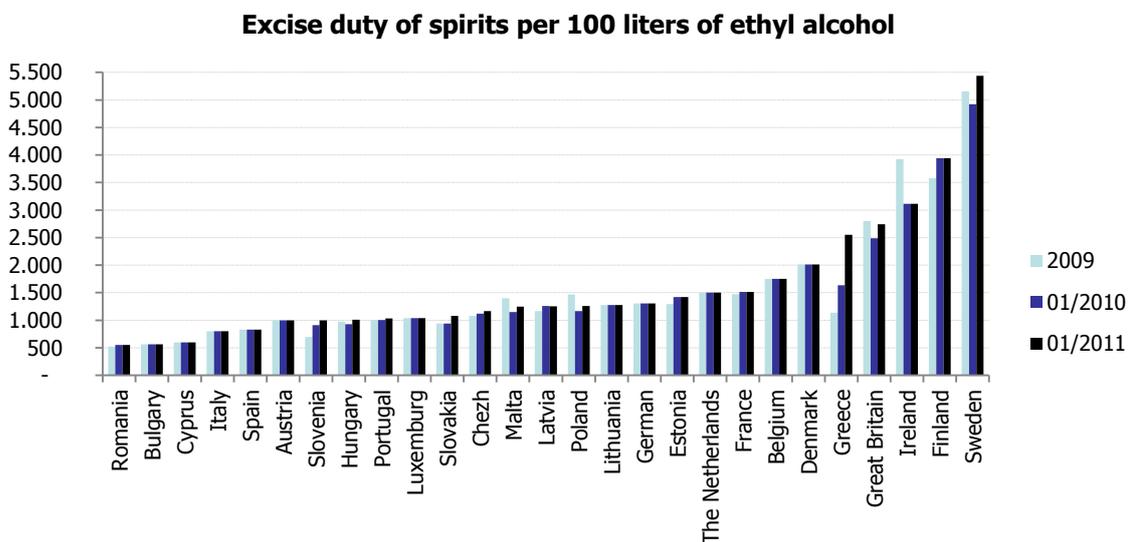
Figure 4.7. Excise Duty on Spirits (Mediterranean countries & Bulgaria)



Source: CEPS.

At the same time, apart from the tax levels in the remaining countries, a significant increase of the rate has been observed only in Greece over the last period, changing dramatically the conditions of the market.

Figure 4.8. Excise Duty on spirits per 100 liters of ethyl alcohol in the EU state - members



Source: CEPS.

Finally, apart from the losses arising from the increase of the cross-border purchases and the decrease of the domestic touristic product, the increased taxes cause other contiguous negative impacts such as:

- Boost of smuggling and adulteration
- Incentives for tax evasion
- Effects on human health due to the increased adulteration of drinks

Specifically, the increase of the excise duty by 1,416€/100 liters of ethyl alcohol during 2009-2010 not only generates losses in the total economy (reduced jobs, income tax revenues, indirect taxes and employers' contributions, unemployment benefits, aggravation of smuggling), but it is not socially effective as well. It is internationally observed [1] that the increase of taxes on spirits already burdened with high taxes:

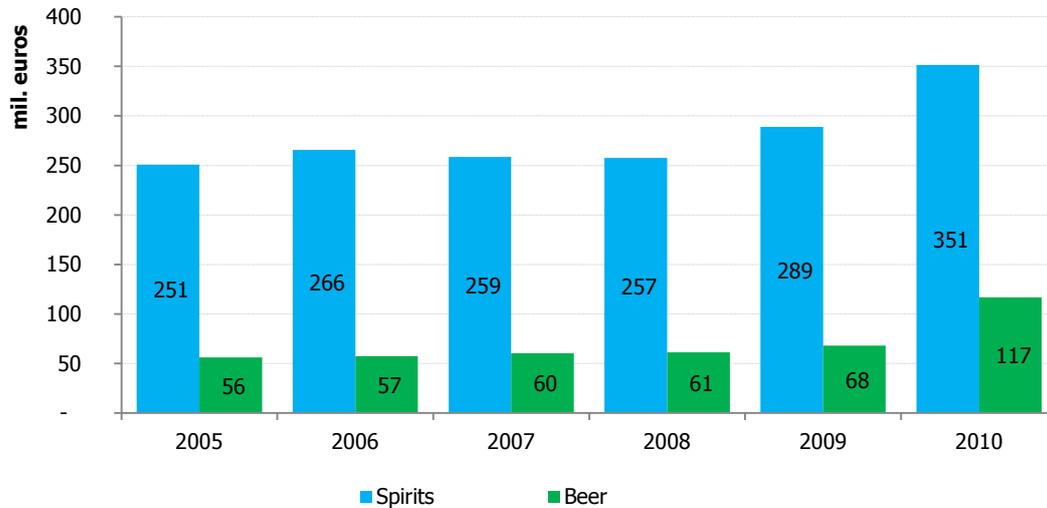
- affects the consumption from people not addicted to drinking (and not from those addicted to drinking) resulting in decreased tax revenues, and at the same time the problem of alcoholism is not seriously addressed
- generates significant substitution to:
 - Cheaper drinks (tax-free wine or semi tax free beer)
 - Legal non-standardized drinks (e.g. unbottled tsipouro, tsikoudia, wine)
 - Illegal drinks (illegal trade of similar drinks e.g. spirits)

Consequently, the increased tax does not reduce the per capita consumption of spirits but shifts the consumption to cheaper or illegal products with negative effects on the public health.

4.4 Tax revenues from spirits

The spirits sector significantly contributes to tax revenues through EFKOP and VAT as well as through income taxes and employers' social security contributions. Indicatively, the EFKOP revenues from spirits (local spirits included) reached €351 mil. in 2010, while the excise revenues from beer amounted to €117 mil. (Figure 4.9). In total, €468 mil. were collected from EFKOP on spirits in 2010, recording a noticeable increase by 31% in relation to 2009, when the total revenues were €357 mil.

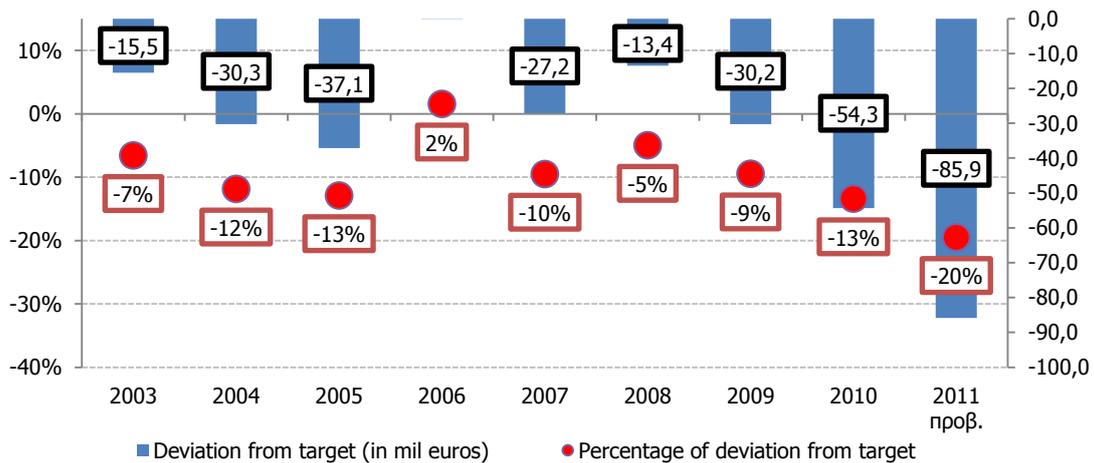
Figure 4.9. Tax revenues from spirits
Tax revenues from Alcoholic Beverages



Source: Ministry of Finance.

Over time, deviations are observed in collected taxes in relation to the targets set in the budget (Figure 4.10). Thus, even if the tax revenues collected in 2010 are higher in relation to 2009, approximately by €111 mil., they are obviously lower than the targets set based on the increases on EFKOP rates. The largest deviations are recorded in periods of tax rates increase.

Figure 4.10. Deviations of tax revenues from the targets of the budget

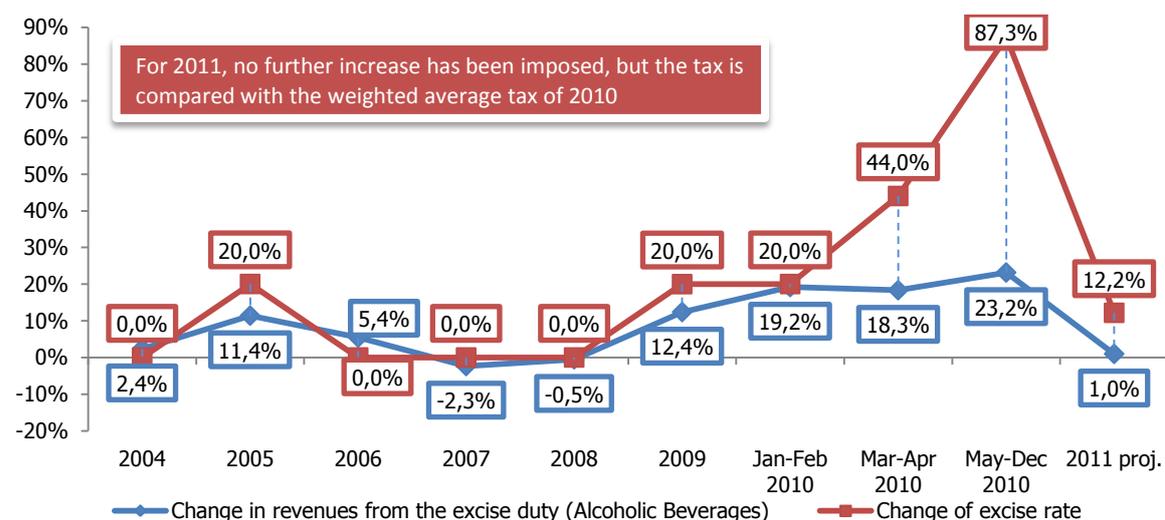


Source: State Budgets. Data processing: IOBE.

In 2005 an increase of the EFKOP by 20% was imposed and the revenues deviated from the updated, based on the increase, target by €37 mil., while the increase by 20% in 2009 was again accompanied by a similar deviation, by €30 mil. In 2010, the successive increases of

the excise duty had led to €54 mil. less revenue from the EFKOP compared to the targets. According to our estimates, in 2011 the deviation from the initial target of the budget will reach €86 mil. Moreover, no increase in the excise duty has increased the tax revenues proportionately (Figure 4.11). For instance, the excise duty had a weighted average increase by 67% in 2010, and the revenues increased only by 21,6%.

Figure 4.11. Change of excise rate and tax revenues

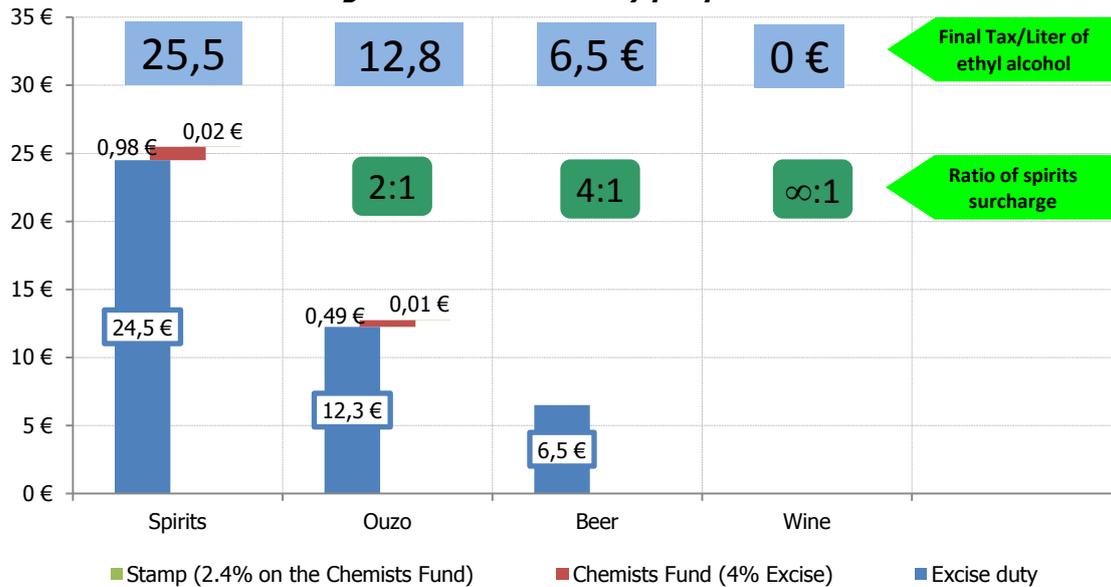


Source: State Budgets, Data processing: IOBE

4.4.1 The implication of the tax in categories of alcoholic beverages

The taxation policy applied on alcoholic beverages (spirits, local spirits and beer), generates distortions among products. Thus, apart from the insufficient coverage of the tax revenues targets in total, an unequal allocation is also observed in the tax burdens among the partial categories of beverages. As already mentioned, the excise duty imposed on spirits, is double in relation to the respective duty on local spirits and four times the duty on beer. Figure 4.12 depicts this unequal allocation of taxes, where the final Excise Duty, after the addition of a levy for the Chemists Fund, is €25,5 per 100 liters of ethyl alcohol on spirits, €12,8 on local spirits, €6,5 on beer and zero for wine.

Figure 4.12. Excise Duty per product



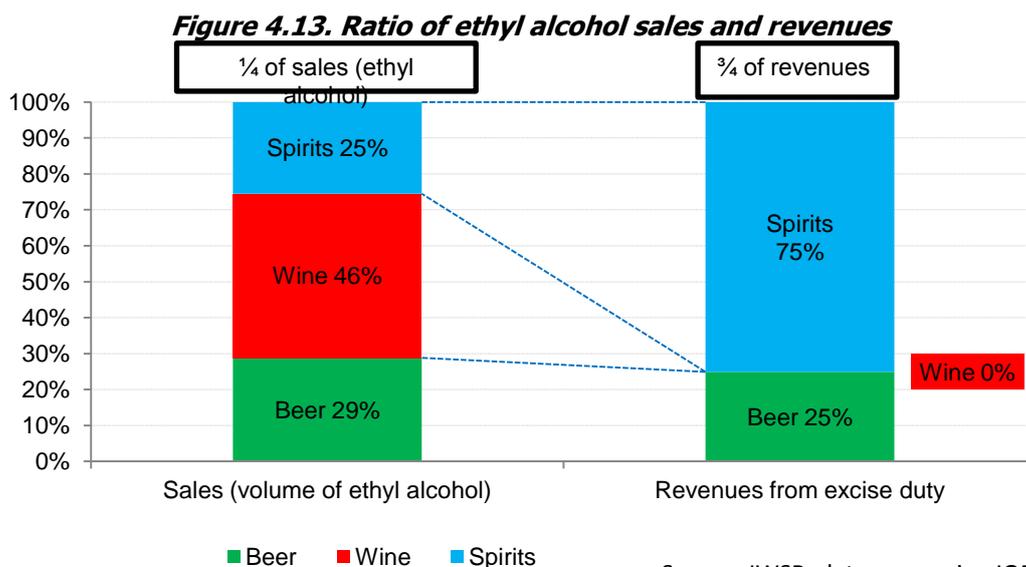
Source: CEPS. Data processing: IOBE

The disproportionate implication of tax on spirits is obvious also on serving quantities, eg. quantities served in the on-trade market, bars, restaurants, hotels etc. Indicatively, for average serving quantities presented in Table 4.2, the surcharge of spirits is much bigger versus the rest of the categories.

Table 4.2. Excise Duty per serving quantity

Product	Average serving quantity per product	Average quantity of alcohol per serving quantity	Excise Duty per serving quantity
Wine	120 ml glass 	14,4 ml	0,0 € cent
Beer	330 ml bottle 	16,5 ml	10,7 € cents
Local Spirits	50 ml glass 	19,5 ml	24,9 € cents
Spirits	50 ml glass 	20,0 ml	51,0 € cents

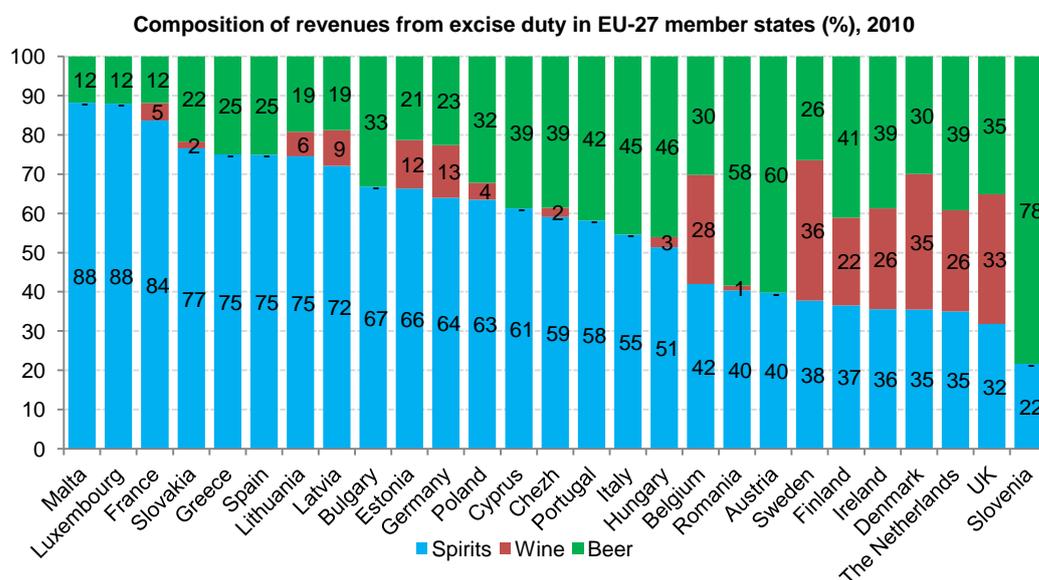
This disproportionate surcharge is also reflected on the tax revenues from alcoholic beverages, since, apart from wine which has zero tax, the ratio of tax revenues between spirits and beer is $\frac{3}{4}$ and $\frac{1}{4}$ respectively. Thus, the contribution of spirits in terms of tax revenues is significant, although they represent only $\frac{1}{4}$ of the sales in terms of ethyl alcohol.



Source: IWSR, Ministry of Finance, Data processing: IOBE

According to the official data of the European Union, in most EU member states, the contribution of spirits to the tax revenues is smaller than 70% of the alcoholic beverages contribution in total, while the revenues from EFKOP on beer is significantly higher in relation to Greece.

Figure 4.14. Composition of Revenues from the Excise Duty in EE-27, 2010



Source: European Commission, Taxation And Customs Union, Indirect Taxation and Tax administration, Environment and other indirect taxes .

5 Scenarios for redefining the taxation policy on spirits

The applied taxation policy on spirits and the recession of the Greek economy have affected in a particularly negative way the entire spirits market and the associated economic activities. Changing taxation, combined with additional measures that will enhance the harmonious functioning of the market, could put a break on the decline in the sector and perhaps contribute to its revival, with positive effects both on the Greek economy, by enhancing employment, and on the State, by increasing total public revenues. In contrast, the retention of the existing tax regime, combined with the aggravation of the economy, is expected to have negative results on the sector, the total economy and the public revenues.

5.1 Analysis of the scenarios

We are examining the sector's prospects and the corresponding effects on the total economy and the tax revenues under two scenarios: a) a main scenario of reference, in which we assume that the existing tax regime in spirits remains unchanged and b) an alternative scenario in which we assume there is a gradual de-escalation of the excise duty by 2014.

To analyze the sectors prospects, in each scenario, we assess the estimates of elasticities resulted from the model of demand for on trade and off trade markets, we combine them with forecasts about the development in prices of spirits, GDP and consumer confidence, in order to agree upon a projection of the sales volume and the consumption expenditure for spirits, tax revenues etc. per market (on trade and off trade) for the forecasted period 2011-2014. The de-escalation of the tax provided in the alternative scenario is introduced to the model through the prices of spirits and leads to a price reduction and an increase of consumption. Then, we use the consumption expenditure for spirits as an exogenous variable in the input-output model of the Greek economy in order to calculate the wider effects from amending the taxation on spirits on employment in the overall economy.

The division of the market into two sections, off trade and on trade market, is essential since these sections show different features regarding the effect of prices and income on final consumption. However, the results from each market are added for the calculation of the total spirits market.

The calculation of the results in every market and scenario is based on certain additional assumptions regarding the market shares between off and on trade market, the profit margins in every stage of trade, the level of income taxes of natural and legal entities, as well as the level of the employers' contribution. These assumptions are presented in Table 5.1.

Table 5.1. Main Assumptions

	2011
Unit of measurement for sales volume	Bottles
Market share of domestic products (mainly local spirits)	21,5%
Market share of imported products	78,5%
Off trade market share (Retail Supermarkets)	34,9%
On trade market share (Retail Bar-Restaurants)	65,1%
Gross Profit Margin* of Importers	4,0%
Wholesale Gross Profit Margin	8,0%
Retail Gross Profit Margin Supermarkets	15,0%
Retail Gross Profit Margin Bar-Restaurants of Imported spirits	400,0%
Retail Gross Profit Margin Bar-Restaurants of Domestic spirits	50,0%
VAT	23,0%
Percentage of VAT collection in on-trade market (Collection rate)	70,0%
Income tax for Legal Entities	20,0%
Income tax for Physical Entities	20,0%
Wholesale Profit Margin	3,0%
Retail Profit Margin	3,0%
Retail Profit Margin Bar-Restaurants of Imported spirits	15,0%
Retail Profit Margin Bar-Restaurants of Domestic spirits	10,0%
Average monthly employers' contributions	283 €

*In every stage, the gross margin is calculated as mark up on the cost of purchase.

5.2 Reference scenario results

In the reference scenario, the main hypothesis is the retention of the Excise Duty at €25,5 per liter of ethyl alcohol (Table 5.2). Despite the retention of the Excise Duty at the same level, prices increase also in 2011, as the increases of 2010 were introduced partially, and as a result, the price index incorporates in 2011 part of the increase of the previous year. For the following years, it is estimated that the prices will be adjusted at a rate which is lower than the expected inflation. Moreover, we assume that prices in the on-trade market, based on the current practice, change less than in the off-trade market, since marginal changes of the pricelist in bars, restaurants etc. is not the dominating practice.

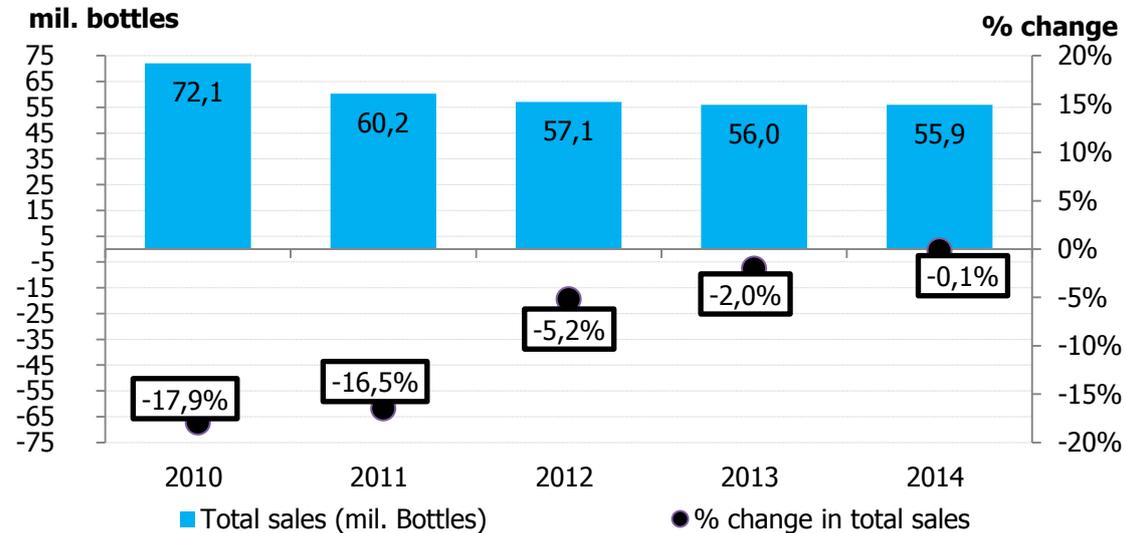
We assume that the change of GDP, which affects consumption, will be negative in 2012 and will show an anemic recovery in 2013 and 2014. We assume that the financial situation of the households will be negatively perceived up to 2013, and will stabilize at low levels in 2014.

Table 5.2. Assumptions of the Main Scenario (Retention of Tax)

	2011	2012	2013	2014
Change of price in off trade market	9,0%	1,0%	1,0%	1,0%
Change of price in on trade market	3,0%	0,5%	0,5%	0,5%
Change of GDP	-5,5%	-2,5%	0,5%	1,5%
Change of household status	-8,6%	-4,0%	-2,0%	0,0%
Spirits Excise (per 100Lt)	2.550 €	2.550 €	2.550 €	2.550 €
Spirits Excise (ouzo, tsipouro) (per 100Lt)	1.275 €	1.275 €	1.275 €	1.275 €

The estimate on the course of consumption, based on the assumptions of the analysis, is presented in Figure 5.1. The spirits consumption is expected to decline in the scenario where the existing taxation remains unchanged, reaching 56 mil. bottles in 2014.

Figure 5.1. Sales of Spirits (Main scenario)



Such a development implies that the level of sales in 2014 will reach 58% of the level in 2005 and 63% of the level in 2009, and this will definitely have particularly negative effects for the viability of the companies associated with the sector, employment and public revenues from all sources.

In 2014 it is estimated that revenue from the excise duty will be €21.6 mil. less compared to (the estimate for) 2011, while a further decline is expected for VAT revenues (-30.3€ mil.). At the same time, due to the reduced sales, a further loss of 2,470 jobs is estimated over the next three years. The reduced employment causes reduced incomes and consequently less revenues from income taxes, by -€10.2 mil. Losses will be also caused to the employers' contributions which are calculated to be €10 mil. less in 2014 compared to 2011. Finally, the reduction of employment will lead to expenses for unemployment benefits, reaching €13.7 mil. for the entire period of projection.

In total, public revenues are estimated to be €62.2 mil. less in 2012, compared to 2011, while the losses of 2013 in relation to 2012 will be €22.9 mil. For 2014, it is estimated that the fall in the market will weaken and the market will stabilize at very low levels. The loss of jobs for the same period is calculated at 2,500 as presented in a previous section of the study.

Table 5.3. Implications to the public revenues and employment

Tax revenues (€ mil.)	Revenues				Annual change of revenues			
	2011	2012	2013	2014	Δ 11/12	Δ 12/13	Δ 13/14	
Tax Revenues from EFKOP	301,5	286	280,2	279,9	-15,5	-5,8	-0,3	
Tax Revenues from VAT	364,6	342,1	334,1	334,3	-22,5	-8	0,2	
Tax Revenues from Incomes	140,8	133,5	130,7	130,6	-7,3	-2,8	-0,1	
Employers' Contributions	138,5	131,4	128,7	128,6	-7,1	-2,7	-0,1	
Total Revenues	945,4	893	873,7	873,4	-52,4	-19,3	-0,3	
	Number of employees				Annual change of employment			
Employment	34.382	32.604	31.950	31.912	-1.778	-654	-38	
					Loss from unemployment benefits *			
					Unemployment Benefits	-9,8	-3,6	-0,2
					Loss of Revenues*	-62,2	-22,9	-0,5

* The negative sign indicates that it concerns expenses

**The loss of revenues every year are calculated from the losses from annual tax revenues and employers' contributions by adding also the expenses arising from the increased unemployment benefits

5.3 Scenario of gradual de-escalation of the Excise Duty

Although the need for fiscal consolidation cannot be questioned, the wider implications on the economy and on the net revenues that the State collects through the taxation policy it exerts should not be ignored in any case. As the demand for spirits strongly depends on prices, the de-escalation of the Excise rate may boost demand, as it will allow the immediate reduction of prices in spirits.

Such a development combined with measures that will allow a better operation of the market (eg. more controls to limit illegal trade and tax evasion), will have positive effects on public revenues from VAT, corporate profits, employees incomes and employers' contributions as well as on public expenditure by saving unemployment benefits due to the retention of jobs. At the same time, they will improve the conditions of the sector and stimulate the prospects of viability for the companies operating in it.

In an effort to reverse the negative course of the sector, a key element could be the gradual reduction of the excise rate. In particular, the alternative scenario examines the possibility of a gradual reduction of the net excise rate by 250€/100 liters of ethyl alcohol annually until 2014, starting in 2012. This measure will boost public revenues and if it is accompanied by a general review of the taxation policy, which will reinstate the trust of the companies and will emphasize on mechanisms for the restriction of tax evasion, the benefits will be large.

In the alternative scenario, it is proposed that the Excise duty (together with the extra charges) be changed from €2,550 / 100 liters of ethyl alcohol today to:

- **€ 2,290** in 2012 (-10,2%)
- **€ 2,030** in 2013 (-11,4%)
- **€ 1,770** in 2014 (-12,8%)

Thus, in 2014, the tax will end up at higher levels than in January 2010 (€1,634), which is capable of retaining and/or enhancing the levels of the public revenues that could be collected from the sector. Besides, the successive increases of the Excise duty within 2010 (March & May) as data showed, did not yield the expected revenues, and they have caused a huge cost in the total market with negative implications in revenues and employment.

The gradual reduction of the rate may act positively on the economy, without causing problems to the net fiscal revenues. The reduction of the excise rate is expected to generate a decline of prices in the off and on-trade markets.

Prices in the off-trade market, as assessed also in the main scenario, show a high response to the changes of the duty and therefore it is estimated that they will fall by 5.4% on average until 2014.

In on-trade market, it is estimated that prices do not respond in the same extent to the changes of the duty. We assume that the premises of the market (hotels, bars, restaurants etc.) are equally divided in three categories:

- Premises that fully incorporate the change in duty (duty is fully passed on to prices)
- Premises that partially incorporate the change in duty (duty is partially passed on to prices)
- Premises that do not adjust their pricelists according to the change in duty (duty is not passed on to prices)

The weighted average reduction of the price resulting from the specific taxation policy in every category of stores, is approximately half the reduction of prices in the off-trade market (-2.7% on average until 2014). The assumptions about GDP growth and consumer confidence do not change in relation to the main scenario.

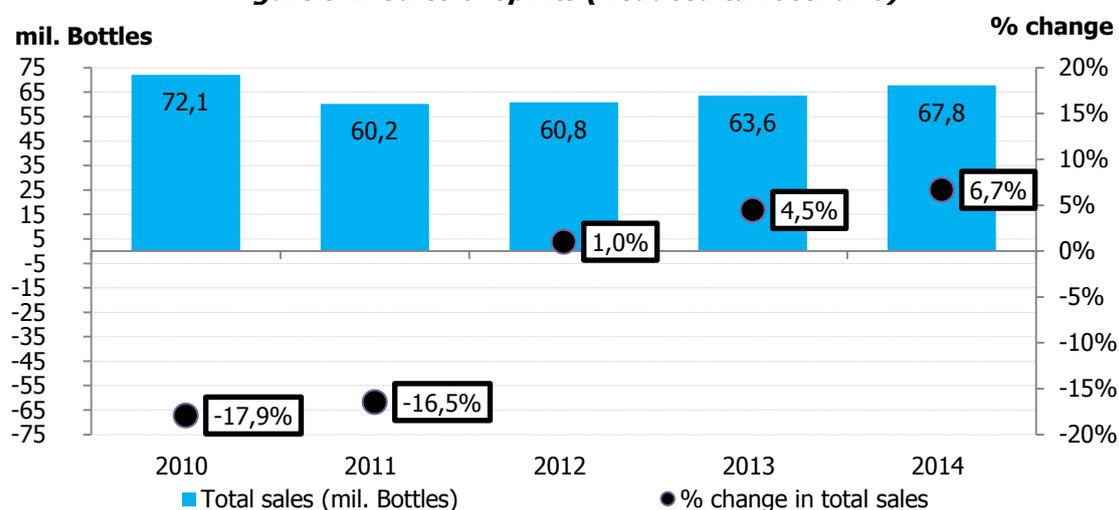
Table 5.4. Assumptions of the 2nd Scenario (Reduction of Taxes)

	2011	2012	2013	2014
Change of price in the off-trade market	9,0%	-5,0%	-5,3%	-5,6%
Change of price in the on-trade market	3,0%	-2,5%	-2,7%	-2,8%
GDP growth	-5,5%	-2,5%	0,5%	1,5%
Change of consumer confidence index	-8,6%	-4,0%	-2,0%	0,0%
Spirits Excise Duty (per 100Lt)	2.550 €	2.290 €	2.030 €	1.770 €
Spirits Excise Duty (ouzo, tsipouro) (per 100Lt)	1.275 €	1.145 €	1.015 €	885 €

The estimate on the course of consumption based on the above assumptions is presented in Figure 5.2. In the gradually reduced tax scenario, the spirits consumption is expected to

reverse its declining course and show a gradual increase until 2014, without exceeding, however, the consumption levels of 2010. This development will improve the prospects of viability for companies of the sector, as well as the total net public revenues compared to the reference scenario.

Figure 5.2. Sales of spirits (Reduced tax scenario)



In particular, it is estimated that the reduction of the tax will lead to:

- Increase of VAT revenues, compared to the main scenario.
- Retention of employment, increase of employers' contribution and reduction of unemployment benefits.
- Increase of revenues in every stage of the value chain that will feed the economy with more consumption and taxes.
- Reduction of revenues from the excise duty, which, however, will be outweighed by an increase of revenues from the other sources.

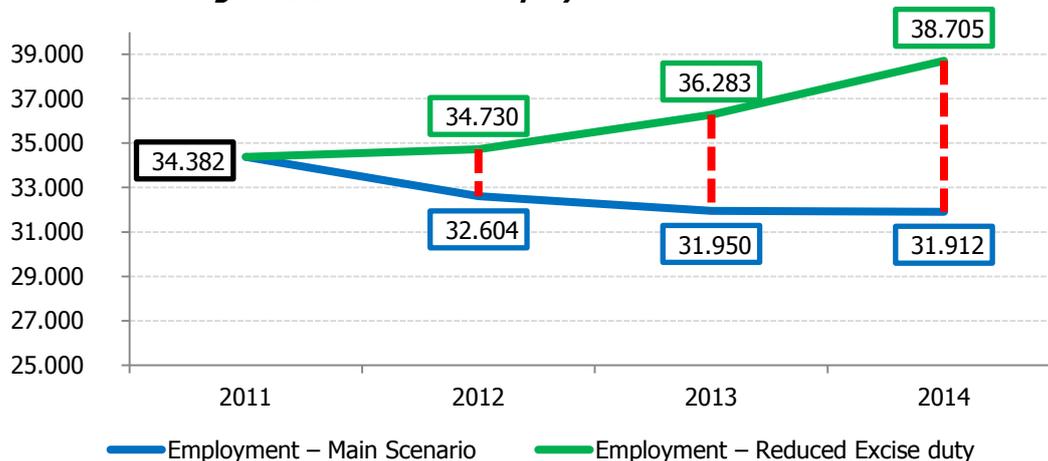
In particular, in comparison to the reference scenario, the increase of VAT revenues reaches €13,8 mil. for the period 2012-2014. Due to the increase of sales, a benefit of 13,200 jobs is expected in the total economy. The increase of employment and the retention of several companies in the economy are estimated to bring another €40,5 mil. from their taxation, while the employers' contributions will be increased by €53,4 mil. in relation to the main scenario. Meanwhile, the significant restriction of the loss of jobs will save expenses from unemployment benefits calculated in the main scenario, which amount to €13,7 mil. minimum, since apart from its retention, the employment is expected to be enhanced compared to the main scenario. Thus, the total further benefit is €37,7 mil. during 2012-2014, while the employment is enhanced by 13,2 thousand jobs compared to the scenario where the existing taxation remains.

Table 5.5. Difference of revenues compared to the main scenario

Revenue Saving (in € mil.)	2012	2013	2014	Total benefit 2012-2014
Difference in revenue from Excise duty	-12,4	-26,9	-44,3	-83,7
Difference in revenue from VAT	2,9	4,8	6,1	13,8
Difference in revenue from income tax	6,6	13,3	20,7	40,5
Difference in revenue from Employers' social security contributions	8,6	17,5	27,4	53,4
Unemployment benefits	-9,8*	-3,6	-0,2	-13,7
Total	15,5	12,3	10,1	37,7
Additional employees	2.126	4.334	6.793	13.252

* The negative sign indicates the saving of expenses; thus, -€13,7 mil. of the unemployment benefits, that would be generated in the main scenario, are added to the resulting saving.

The following figure shows cumulatively the benefit arising from the reduction of the Excise Duty in terms of employment.

Figure 5.3. Course of Employment in both scenarios

The revenues occurring in the reduced tax scenario are higher than the revenues in the high taxation scenario each year, without co-calculating the wider positive effects (social etc.), from the retention of unemployment. The above results from the tax reduction do not include the following effects:

- In the on-trade market (bars, restaurants) the lack of controls as well as the motivation for tax evasion due to high taxes, has fed the phenomenon of partial issue of receipts and VAT payment (collection rate), approximately to 70% according to conservative estimates.
 - It is estimated that the improvement of tax collection in those premises by 5 percentage points (to 75%) may yield about **€43 mil. additional revenue from VAT over the next three years.**
- **Gradual shrinkage of the illegal trade**, as well as reduction of the tax burden, discourage the incentives to trade illegal quantities of spirits, while the motivation to

adulteration is reduced. For 2010, the loss of tax revenues due to the non-payment of excise duty from illegally traded spirits is estimated to reach **50 mil euros** (**without including the two-day produced tsipouro**)

- This problem takes on massive proportions especially in touristic regions resulting in the downgrading of the touristic product, while the impact of adulteration on public health is even more significant
- The shrinkage, even by 10%, of illegal trade is estimated to yield about €21.7 mil for the period 2012-2014

The production of two-day distillers tsipouro is subjected to a tax of 0.59€/kilo, as it is not intended for trade but for personal use. According to the market's estimates, a large part of this production is illegally directed to the distribution channels (trade) creating negative implications:

- **On the operation of the market:** Unfair competition against distillers who standardize the product, which is taxed normally and its production and bottling is continuously checked.
- **On tax revenues:** Loss of revenues from foregone excise and VAT revenues. The financial impacts from illegal trade of two-day produced tsipouro is estimated to take on massive proportions as, according to market operators, the quantity of illegal tsipouro reaches about 13 thousand tons (9 mil. bottles). If that is the case, the loss of revenues from uncollected excise duty is estimated at **€26 mil.** annually without including losses from uncollected VAT.
- **On public health** regarding the part of the production where:
 - Uncontrolled substances have been added during distillation (high levels of methyl alcohol-wood alcohol) and
 - The trade is made in plastic package, which is not appropriate for storing drinks that contain alcohol.

6 Proposals for the viability and the development of the spirits sector

The successive hikes in the Excise Duty during 2009/2010 combined with the recession of the Greek economy have significantly affected the spirits sector. The sales of spirits are recording unprecedented rates of reduction, causing significant losses in sectors which compose the supplying chain of spirits as well as in the economy overall, in terms of value added, employments and public revenues.

The increase of the Excise Duty on spirits has intensified the distortion of the market and significantly enhanced the incentives to substitute spirits with other categories of alcoholic beverages. At the same time, the high level of taxation generates significant incentives for cross-border purchases and adulteration of spirits, strengthens the incentives for cross-border purchases from neighboring countries that impose significantly lower taxes, reduces the competitiveness of the domestic touristic product, while its effectiveness as a measure for the reduction of alcohol consumption is doubted, since several substituted products with a much lower price are distributed in the market. In this context, EFKOP revenues had an important decline in 2010 in relation to the budget targets, and it is estimated that also in 2011 the distance between realized revenues and forecasted targets will be even larger. This happens without taking also into account the losses of public revenue from other sources (VAT, income taxes, employers' social security contributions etc.) due to the reduction of activity in the sector, which lead to even larger deviations from the revenue targets.

The retention of the existing taxation regime for spirits, combined with the officially available estimates about the course of the Greek economy, is estimated to retain the decline of the market for the whole forecasted period (2011-2014). If the specific assessment is confirmed, the State should expect significantly lower revenues from the Excise Duty as well as from the rest of the revenue sources related to the economic activity in the wider spirits sector.

The gradual reduction of the excise rate may boost the economy, without causing problems to net public revenues. The reduction of the excise rate is expected to cause an immediate decline of prices in off and on-trade markets. As a result, the consumption of spirits is expected to reverse its declining course and show a gradual rise until 2014, without exceeding, however, the consumption levels of 2010. This development will improve the viability prospects for the companies of the sector, as well as the total net public revenues in comparison to the scenario where the existing taxation regime remains unchanged.

These findings lead us to the conclusion that there is a possibility for corrective actions that will positively address the unprecedented crisis of the Greek economy and the spirits sector. A key principle in this effort should be the idea that **the relation between the sector's companies and the state** should rely on mutual understanding and co-operation for the

benefit of the society and the national economy. For instance, in terms of spirits taxation, the determination of non-realistic targets for revenues collection by the state induces greater loss. The co-operation between the companies and the state could contribute to the determination of the **actual possibilities of the sector's contribution** to public revenues, taking into account a) the negative impact of high taxes on the formation of GDP, b) the real outcome in tax revenues from the distortion of incentives and the total economic impact of the adopted tax modifications and c) the incentives for adulteration, illegal trade and cross-border purchases of spirits.

The necessity of the fiscal consolidation cannot be questioned and the imposition of the excise duty is an important policy tool within this context, on the condition that the wider effects from the use of similar revenues collection tools should be assessed. Once the normalization of public finances is achieved within a reasonable timeframe, there could be a binding schedule for the convergence of tax rates to the average European rates and/or the competitive touristic destinations (adulteration is intense in the islands). This will help the planning of the companies thus reducing the uncertainty caused by the ad hoc increase of the excise duty without previously examining the wider impacts.

Together with the gradual decrease of the excise duty, additional administrative and supervisory measures should be applied that will ensure the smooth operation of the spirits market, while the corporate social responsibility against the created distortions should be enhanced. In this context, some proposals worth examining, about the taxation regime on spirits, are the following:

- At a later time, review of the targets of the taxation policy concerning the imposition of the excise duty on spirits and determination of priorities based on the theoretical base of imposing excise duties (incorporation of external impacts from excessive consumption-consumers' health).
- **Intensification of controls**, along the borders as well as on the spot in the domestic market in order to compress illegal trade.
- **Co-ordination of the control mechanisms** for better effectiveness.
- **Creation of a Task Force** with the participation of competent services and companies of the sector in order to fight adulteration/smuggling of alcoholic beverages that hampers public revenues and creates conditions for unfair competition against the sector's companies. The Task Force will aim at the drafting of an Action Plan with specific interventions to fight this phenomenon.
- Assessment of the companies' possibilities to contribute in the context **of corporate social responsibility** (e.g. by granting special equipment to the controlling authorities for the detection of the illegally traded loads of products).

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7 Annex

Table 7.1. Structure of sectors in the value chain of spirits

	Sector (Statistical Classification Nace 1)	Number of Firms	Turnover
Production	15: Manufacture of food products and beverages	16.804	12.577 mil. euros
	159: Manufacture of beverages	902	2.001 mil. euros
	159.1: Manufacture of distilled potable alcoholic beverages	250	127 mil. euros
	159.2: Production of ethyl alcohol from fermented materials	19	32 mil. euros
Wholesale trade	51: Wholesale trade and commission trade	77.141	69.750 mil. euros
	513: Wholesale of food, beverages and tobacco	14.628	17.110 mil. euros
	513.4: Wholesale of alcoholic and other beverages	2.440	2.146 mil. euros
	Import Companies	5	479,3 mil. euros
Retail trade	52: Retail trade	199.433	40.608 mil. euros
	521: retail trade in non-specialized stores Large stores of general sales where food, beverages or tobacco predominating. Groceries, Kiosks, General sales stores	28.216	13.971 mil. euros
	522: Retail trade of food, beverages and tobacco in specialized stores Alcoholic and other beverages. Food, beverages, tobacco in specialized stores	31.332	4.709 mil. euros
	55: Hotels - Restaurants	104.888	10.055 mil. euros
	551: Hotels, Hotels and motels, with or without restaurants	7.650	3.458 mil. euros
	553: Restaurants, Restaurants, Pastry shops	43.428	3.939 mil. euros
	554: Bars	23.377	1.438 mil. euros
555: Canteens, catering	5.139	385 mil. euros	

Source: EL.STAT

Table 7.2. Financial Data of Import Companies

Aggregates (in mil. euros)	2005	2006	2007	2008	2009	2010	CAGR	% Change
Number of companies*	5	5	5	5	5	5	2005-2010	2009-2010
Balance sheet Accounts								
Net Value of Fixed assets	19,2	18,1	25,8	26,0	33,9	33,7	11,9%	-0,6%
Inventory	26,4	34,9	31,5	41,2	46,2	43,8	10,6%	-5,2%
Receivables	230,1	267,6	267,1	254,7	256,3	255,6	2,1%	-0,3%
Cash	11,6	16,7	21,0	9,7	21,2	32,8	23,2%	54,5%
Total Assets	292,2	342,3	350,7	336,7	363,0	371,4	4,9%	2,3%
Equity	75,9	88,7	100,7	99,9	120,8	68,1	-2,1%	-43,6%
Short-term liabilities	202,2	234,6	230,9	215,7	218,3	279,2	6,7%	27,9%
Long-term liabilities	0,2	0,0	0,2	0,0	4,0	3,1	77,9%	-22,7%
Income Statement Accounts								
Turnover	459,9	479,3	504,8	510,8	515,0	465,7	0,3%	-9,6%
Cost of sales	290,6	308,0	324,5	317,8	313,2	279,6	-0,8%	-10,7%
Gross Profit	169,2	171,3	180,3	192,9	201,8	186,0	1,9%	-7,8%
Net profit before taxes	18,4	16,1	23,3	25,8	29,6	15,3	-3,6%	-48,2%

Source: HellaStat, Data processing: IOBE

Table 7.3. Financial ratios of Import Companies

Financial Ratios	2005	2006	2007	2008	2009	2010	AVER. 2005-2010
Profitability							
EBITDA Margin (%)	5,4%	5,0%	6,0%	5,1%	6,7%	4,7%	5,5%
Net Profit Margin Pre-tax (%)	4,0%	3,4%	4,6%	5,1%	5,7%	3,3%	4,3%
Return on Assets (%)	6,3%	4,7%	6,6%	7,7%	8,1%	4,1%	6,3%
Return on Equity (%)	24,3%	18,1%	23,1%	25,8%	24,5%	22,5%	23,0%
Activity							
Cash Conversion Cycle (1)+(2)-(3)	-50	-48	-44	-36	-40	-130	-58
Average Collection Period (days) (1)	183	204	193	182	182	200	191
Inventory Turnover Ratio (days) (2)	21	27	23	29	33	34	28
Average Short-term Liabilities Period (days) (3)	254	278	260	248	254	364	276
Liquidity							
Current ratio (:1)	1,35	1,38	1,40	1,44	1,50	1,20	1,38
Quick Ratio (:1)	1,22	1,23	1,27	1,24	1,29	1,05	1,22
Capital structure and solvency							
Debt to assets (:1)	2,67	2,64	2,29	2,16	1,84	4,14	2,62
Debt to equity (%)	72,7%	72,6%	69,6%	68,3%	64,8%	80,6%	71,4%
Short-term liabilities to sales (:1)	0,44	0,49	0,46	0,42	0,42	0,60	0,47
Short-term bank debt to sales (:1)	0,12	0,11	0,10	0,11	0,09	0,12	0,11
Interests to sales (%)	0,5%	0,7%	0,7%	0,7%	0,6%	0,6%	0,7%
Times interest earned (:1)	10,36	6,89	8,19	7,30	10,93	7,53	8,53

Table 7.4. Financial Data of Spirits Wholesale Companies

Aggregates (in mil. euros)	2005	2006	2007	2008	2009	2010	CAGR	% Change
Number of companies*	162	156	161	165	145	120	2005-2010	2009-2010
Balance Sheet								
Net value of Fixed Assets	108,3	118,2	137,1	149,5	159,3	141,9	5,6%	-10,9%
Inventory	136,4	149,6	140,9	160,3	178,3	149,9	1,9%	-15,9%
Receivables	511,2	551,5	552,1	565,7	569,3	520,9	0,4%	-8,5%
Cash	53,9	56,5	61,7	48,3	59,0	63,0	3,2%	6,7%
Total Assets	830,3	895,8	914,5	947,1	986,4	895,2	1,5%	-9,3%
Equity	188,2	193,2	213,1	228,5	244,5	177,2	-1,2%	-27,5%
Short-term liabilities	597,1	624,2	615,3	623,8	642,6	622,5	0,8%	-3,1%
Long-term liabilities	27,6	56,3	63,9	70,1	78,1	71,6	21,0%	-8,3%
Income Statement								
Turnover	1.002,2	1.009,0	1.081,5	1.131,3	1.115,7	860,3	-3,0%	-22,9%
Cost of sales	747,7	758,5	805,3	829,2	820,5	631,1	-3,3%	-23,1%
Gross Profits	254,5	250,5	276,1	302,1	295,2	229,2	-2,1%	-22,3%
Net profits before taxes	20,7	24,5	33,9	38,6	37,5	20,5	-0,2%	-45,4%

* PERNOD RICARD HELLAS SA. is not included (sector 159.1)

Source: HellaStat, Data processing: IOBE

Table 7.5. Financial Ratios of Spirits Wholesale companies

Financial ratios	2005	2006	2007	2008	2009	2010	AVER. 2005-2010
Activity							
Cash Conversion Cycle (1)+(2)-(3)	-56	-47	-45	-40	-41	-75	-51
Average Collection Period (days) (1)	186	199	186	183	186	221	194
Inventory Turnover Ratio (days) (2)	50	54	48	52	58	64	54
Average Short-term Liabilities Period (days) (3)	291	300	279	275	286	360	299
Liquidity							
Current ratio (:1)	1,18	1,22	1,24	1,25	1,26	1,19	1,23
Quick Ratio (:1)	0,96	0,98	1,01	0,99	0,99	0,95	0,98
Capital structure and solvency							
Debt to assets (:1)	3,32	3,52	3,19	3,04	2,95	3,92	3,32
Debt to equity (%)	76,9%	77,9%	76,1%	75,2%	74,7%	79,7%	76,7%
Short-term liabilities to sales (:1)	0,60	0,62	0,57	0,55	0,58	0,72	0,61
Short-term bank debt to sales (:1)	0,18	0,17	0,16	0,18	0,16	0,19	0,17
Interests to sales (%)	1,3%	1,6%	1,7%	1,8%	1,8%	1,8%	1,7%
Times interest earned (:1)	3,25	3,16	3,51	3,16	3,56	3,48	3,35
Altman's Z' score*	1,45	1,66	1,88	1,88	1,86	1,19	1,65

* PERNOD RICARD HELLAS S.A. is not included (sector 159.1)

Source: HellaStat, Data processing: IOBE

Table 7.6. Results of the off-trade market demand model

Dependent Variable: LNQ_OFF_TRADE				
Method: Least Squares				
Sample (adjusted): 2005M02 2011M04				
Included observations: 75 after adjustments				
Convergence achieved after 4 iterations				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNQ_OFF_TRADE	-1.158481	0.072753	-15.92355	0.0000
LNGDP	0.357875	0.178185	2.008443	0.0484
C	15.16987	1.884672	8.049076	0.0000
AR(1)	-0.010157	0.119689	-0.084860	0.9326
R-squared	0.808407	Mean dependent var		13.36221
Adjusted R-squared	0.800312	S.D. dependent var		0.180240
S.E. of regression	0.080543	Akaike info criterion		-2.148191
Sum squared resid	0.460590	Schwarz criterion		-2.024592
Log likelihood	84.55716	F-statistic		99.85925
Durbin-Watson stat	1.977622	Prob(F-statistic)		0.000000
Inverted AR Roots	-0.01			

LNQ_OFF_TRADE: Consumption in off trade market, in logarithms

LNP_OFF_TRADE: Prices of products in off trade market, in logarithms

LNGDP: Income in logarithms

Table 7.7. Results of the on-trade market demand model

Dependent Variable: LNQ_ON_TRADE				
Method: Least Squares				
Sample (adjusted): 2005M02 2011M04				
Included observations: 75 after adjustments				
Convergence achieved after 7 iterations				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNP_ON_TRADE	-1.911304	0.175748	-10.87526	0.0000
LNGDP	0.764256	0.198394	3.852214	0.0003
LNHOUSE_SITUATION	1.028184	0.374944	2.742233	0.0077
C	10.65045	2.173333	4.900515	0.0000
AR(1)	0.072850	0.123941	0.587774	0.5586
R-squared	0.728184	Mean dependent var		14.17711
Adjusted R-squared	0.712652	S.D. dependent var		0.151357
S.E. of regression	0.081135	Akaike info criterion		-2.121073
Sum squared resid	0.460798	Schwarz criterion		-1.966574
Log likelihood	84.54025	F-statistic		46.88182
Durbin-Watson stat	1.971792	Prob(F-statistic)		0.000000
Inverted AR Roots	.07			

LNQ_ON_TRADE: Consumption in on trade market, in logarithms

LNP_ON_TRADE: Prices of products in on trade market, in logarithms

LNGDP: Income in logarithms

LNHOUSE_SITUATION: Household financial status in logarithms