

# Economic Impact of the Turkish Brewing Sector



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## **Economic Impact of the Turkish Brewing Sector**

Amsterdam / Istanbul, January 2014

A report commissioned by The Beer and Malt Producers' Association of Turkey and conducted by Ernst Young Kurumsal Finansman Danışmanlık A.Ş. and Regioplan Policy Research.

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A black and white photograph of a person wearing a white long-sleeved shirt, pouring a stream of small, light-colored grains (possibly wheat or barley) from their hands into a white sack. The background is a blurred field of similar grain under a cloudy sky.

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# Key Messages

## The economic impact of the Turkish brewing sector

In 2013, EY and Regioplan Policy Research joined forces for the second time to carry out a study focusing on the economic impact of the production and sale of beer in Turkey in 2011 and 2012. Our first report was published in 2011 and covered the years 2009 and 2010. Our key economic messages from the current study are:

### Beer volumes

- ▶ In 2012, total beer production in the Turkish brewing sector was **11,013,188 hectoliters** (hl) of beer, 7.1% (734,652 hl) more than in 2010.
- ▶ In 2012, the **domestic sales** (consumption) amount to **9,988,233 hl** of beer, which is 8.4% (773,230 hl) more than in 2010.
- ▶ Approximately 10% of the beer that is produced yearly in Turkey is exported. The main **export** markets are Germany, Lebanon, Iraq and Azerbaijan. In 2012, **1,056,792 hl** (1.9% less than in 2010) of beer has been exported representing a value of € 55,701,217.
- ▶ Compared to 2010, the 2012 Turkish **import** of beer have expanded by 130.7%. In 2012, **31,837hl** of beer was imported representing a value of € 2,839,821.

### Economic impact

- ▶ In 2012, the **total employment** effect of the brewing sector is estimated to be **61,780 jobs**, arising from the production and sale of beer. These are jobs at the breweries themselves, in the supply sectors and jobs in the on-trade and retail sectors. Compared to 2010, the number of jobs generated by the beer sector increased by 15.3% (8,210 jobs) in 2012.
- ▶ **The value-added** due to beer-related activities was approximately **€874 million** in 2012; an implied increase of 6.8% to 2010.

- ▶ Accordingly, total **revenues for the government** of Turkey were **€2.063 billion** in 2012 and €1.675 billion in 2011. These revenues include VAT, social security contributions, excise duties and corporate taxes. Compared to 2010 the government revenues in 2012 were 0.48 billion euro higher (a 30.2% increase). More than 90 percent (0.42 billion euro) of this significant increase is on due the increased excise revenues over the last two years.

### Increasing excise rate on beer

- ▶ In Turkey the excise rate on beer has been increased eleven times in the last decade. Most of the times the increase rates are higher than the inflation rates. Since January 2010 to the end of 2012, the excise rate on beer has been increased four times. At the end of 2012, the excise rate on beer was almost 77.15% higher than the beginning of 2010. The most recent excise tax increases made Turkey one of the high excise taxed countries with regard to beer in the continent of Europe.
- ▶ Since January 2013, the excise duties of alcoholic beverages and tobacco products will be changed automatically biannually (January, July), based on the change in the producer price index of 6 months period. This means that the excise rate will continuously increase in line with inflation.
- ▶ In 2013, the Turkish brewing sector is also confronted with new legal constraints on retail of beer and on new legal constraints on advertisement and merchandising.

# About The Study

## Purpose of the study

This study has been commissioned by the Turkish Beer and Malt Producers' Association (BMÜD) to quantify the economic impact of the brewing sector in Turkey.

## Economic impact

Three different impacts are distinguished to provide a complete picture of the economic effects of the beer sector: the direct impact, indirect impact and induced impact.

The **direct impact** is defined straightforwardly as the effect generated directly by beer-producing companies.

The **indirect impact** represents the effect of beer drinks producers on their suppliers. A diverse range of goods and services need to be purchased to be able to produce beer drinks. To mention just a selection: water, agricultural products, e.g. hops, malt and malting barley, and packaging materials such as bottles and cardboard. Beer-producing companies also hire engineers, marketers, communications agencies and many more services. This study distinguishes seven supply sectors: suppliers of raw materials; utilities (electricity, gas and water); packaging and bottling industry; transport and storage; media, marketing and communication; equipment, manufacturing and other industrial activities; and other services/activities such as business activities, community, social and personal services.

The **induced impact** is the economic contribution of firms in off-trade outlets and the on-trade sector resulting from the sale of beer. The sale of beer drinks by off-trade outlets and on-trade firms is an important source of economic benefits. The reported induced effects only concern the effects caused by sales of beer. For example effects caused by the sales of other drinks in on-trade (such as coffee, tea, juices, spirits, and wine) are not within the scope of this study and are thus not taken into account.

We measured the effects in three areas, which are mentioned and defined below:

**Employment** is the number of persons employed or the number of jobs.

Value-added is the amount of value that is added to a product or service by a company before the product is offered to customers. In other words, the difference between the production value and the value of purchased inputs (goods and services). In economic terminology value-added is also defined as the reward for all production factors (mainly labour, capital, entrepreneurship).

**Government revenues** include all amounts of money received from sources outside the government entity from taxation, fees, fines, and licenses. In the scope of this study it is in particular the income the government receives from excise duties, VAT, corporate taxes, social security contributions and income and payroll taxes.

## Data collection

Most of the reported outcomes are based on questionnaires received from the BMÜD or the two large brewing companies (i.e. Anadolu Efes Biracılık ve Malt Sanayi A.Ş. (Efes) and Türk Tuborg Bira ve Malt Sanayii A.Ş. (Tuborg)). In case data was not available, we used other existing data that have been derived from a variety of sources. The base years for the analysis are 2011 and 2012. If data was not available for these years, data from previous years was used. In hierarchical order of importance these sources are:

- ▶ data from the Tobacco and Alcohol Market Regulatory Authority in Turkey (TAPDK);
- ▶ data obtained from a questionnaire completed by the national association representing the beer sector (BMÜD);
- ▶ data collected directly from Efes and Tuborg through a detailed questionnaire;
- ▶ data from the Turkish Statistical Institute (Türkiye İstatistik Kurumu, TÜİK);
- ▶ data from additional (public) sources, such as the Brewers of Europe, the European Commission and Eurostat.

## Economic model

Some of the reported outcomes are estimated on the basis of a model constructed by Regioplan Policy Research. For this reason, these outcomes are not a direct representation and are dependent on methodological choices made by Regioplan. These choices are elucidated in Annex III. The methodology used for estimating the economic impact is described in Annexes I to III.

## Country comparisons

In this report, we make a number of comparisons between brewing sector of Turkey and of European Union members, which we analyzed as part of a study provided for brewers in Europe. We make comparisons with two different groups of countries. The first group consists of countries with a similar gross domestic product per capita in purchasing power standards (GDP PPS) as Turkey: Bulgaria, Romania, Latvia, Poland, Lithuania, and Hungary. For the second comparison group we selected the four EU Member States with the highest taxation on beer in the EU: The United Kingdom, Ireland, Sweden and Finland. Apart from these two comparison groups, we also make comparisons with the average of the EU Member States (EU28). The comparison study is based on data of 2012.

Comparisons with neighbouring countries were not possible due to the lack of comparable data or the reliability of the data from countries such as Iran, Iraq, Georgia, Syria and Armenia.

For further details on the methodology and scope of this study, please refer to Annex I, II, and III.

# 1 The Turkish Beer Market

## 1.1 Highlights

Figure 1.1: Key figures for beer sector in Turkey

Key figures	2009	2010	2011	2012
Production <sup>1</sup>	10,219,290 hl	10,278,536 hl	10,163,665 hl	11,013,188 hl
Exports	988,133 hl	1,077,333 hl	951,276 hl	1,056,792 hl
Imports	3,925 hl	13,800 hl	43,253 hl	31,837 hl
Consumption	9,235,081 hl	9,215,003 hl	9,149,101 hl	9,988,233 hl
Production value	€681 million	€752 million	€690 million	€836 million
Consumer spending on beer	€2.3 billion	€2.7 billion	€3.0 billion	€2.9 billion
Brewing companies	7	7	7	7
Breweries	11	11	11	11

Sources: TAPDK; BMUD and calculations EY/Regioplan.

## 1.2 Production

The Turkish brewing sector is dominated by two large players: Anadolu Efes Biracılık ve Malt Sanayi A.Ş. (Efes) and Türk Tuborg Bira ve Malt Sanayii A.Ş. (Tuborg). These two companies operate a total of six breweries in Turkey and their combined market share is 99%. Beside these breweries owned by Efes and Tuborg, there are five smaller companies active in the Turkish market, in some cases these are micro breweries.

The whole brewing sector produces 37 different brands of beer; most of them are produced by Efes and Tuborg. In 2012 the sector produced approximately 11,013,188 hectoliters (hl) of beer; this is 7.1% (734,652 hl) more than in 2010.

Besides the brewing, production and sales of beer, these brewing companies also carry out beer-related activities such as the cultivation of agricultural products needed for the production of beer, the transportation of beer, the wholesale of beer, the bottling and packaging of beer, and production and sales of malt. Some brewing firms also exploit pubs.

<sup>1</sup> Including the beer production for export purposes.

Figure 1.2: Beer producing companies in Turkey

Beer company	Number of breweries	Number of brands
Efes	5	17
Tuborg	1	8
Park Gıda	1	1
Süral Holding	1	1
Elif Turizm	1	4
Istanbul Gıda	1	3
Feza Turizm	1	3
<b>Total</b>	<b>11</b>	<b>37</b>

Sources: Questionnaires BMÜD

### 1.3 Exports and imports

#### Exports

In 2012, 1,056,792 hl of beer that was produced in Turkey was exported. This is 1.9% less than the amount that was exported in 2010. The main export markets for Turkish beer are Germany, Lebanon, Iraq and Azerbaijan. In 2012 the value of the beer exported was € 55,701,217. This is 8.4% more than the value of the beer exported in 2010.

Figure 1.3: Beer export of Turkey

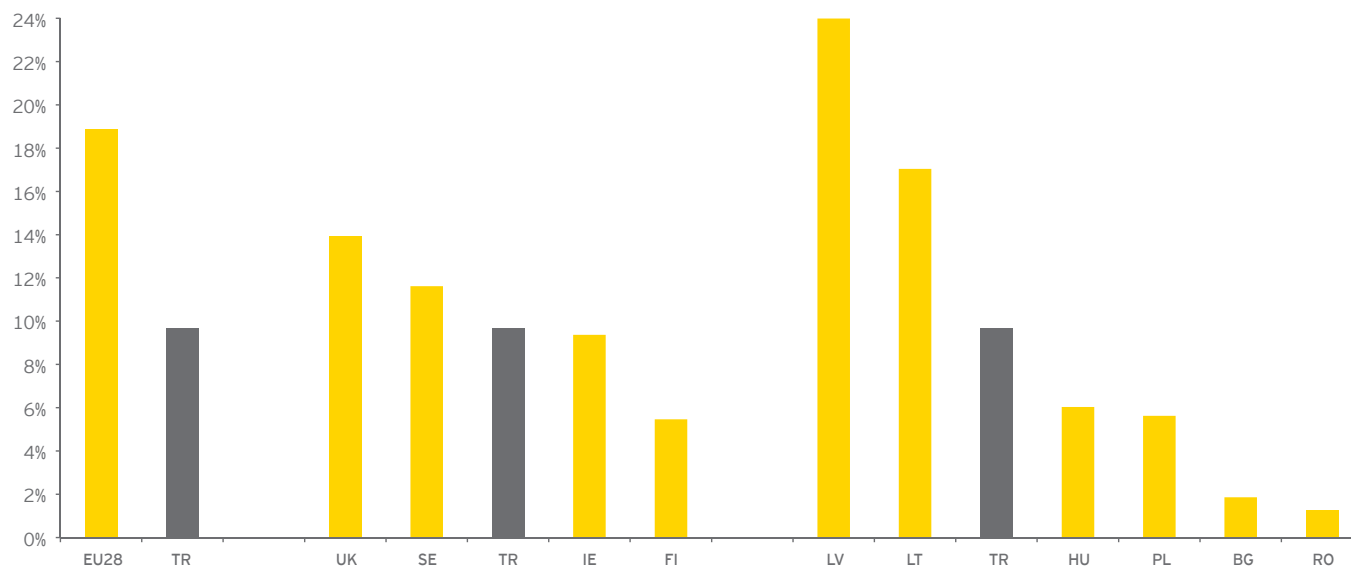
	2009	2010	2011	2012
Export in hl	988,133 hl	1,077,333 hl	951,276 hl	1,056,792 hl
Export in value €	€44,416,794	€51,617,521	€46,008,039	€55,701,217

Sources: TAPDK and the Turkish Undersecretaries of Foreign Trade

The next figure illustrates that the beer market is an open and global market. Although consumers in many countries prefer to drink beer brewed domestically and locally, European beers are appreciated worldwide. This is also the case for Turkish beer. Relatively speaking, Turkey exports more beer than Poland when the percentage of export to the total production figures of these two countries is considered. This is remarkable as Poland is an important beer producing country in Europe.

Compared to the average for the EU 28, Turkey exports less beer when the percentage of export in total production is considered. Based on the same parameters, compared to the countries with the highest excise duties levied on beer, Turkey has a similar export level with these countries, such as Ireland, and Sweden. On the other hand, compared to the countries with similar gross domestic product per capita in purchasing power standards (GDP PPS), Turkey exports more beer than some of these countries, such as Romania and Poland.

Figure 1.4: Exports as percentage of production per country in 2012 (comparison study)



Sources: calculations by EY and Regioplan (2013), data from Eurostat and the Brewers of Europe

## Imports

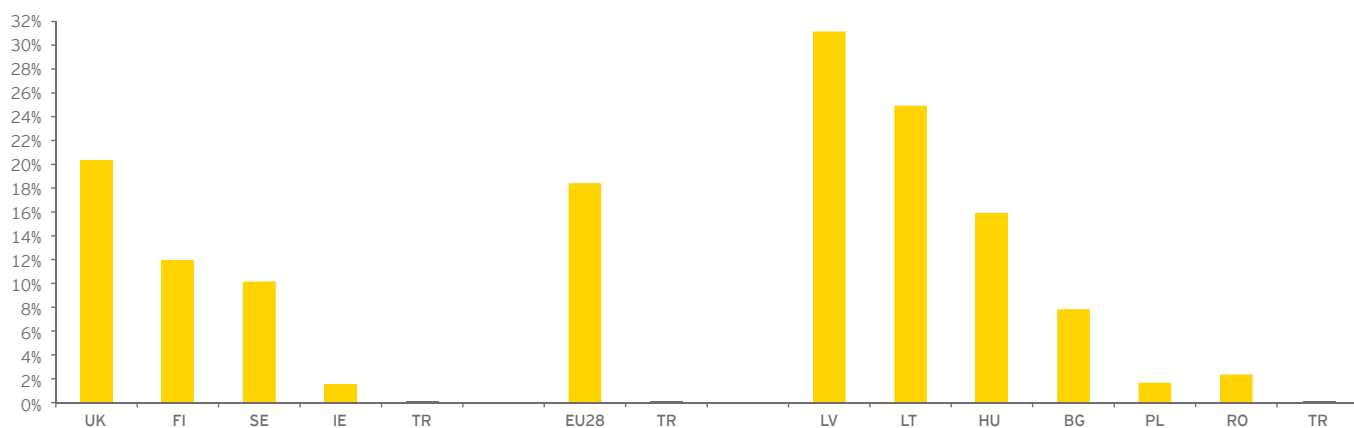
Approximately 1% of the beer sold in Turkey is imported. Compared to other countries the Turkish beer import is relatively small. In 2012, approximately, 31,837 hl of beer is imported. This is 130.7% more than in 2010. The value of the beer imported in 2012 was € 2,839,821, which is 181.2% more than in 2010.

Figure 1.5: Beer Import of Turkey

	2009	2010	2011	2012
Import in hl	3,925 hl	13,800 hl	43,253 hl	31,837 hl
Import in value €	€700,470	€1,009,991	€ 3,569,891	€ 2,839,821

Source: TAPDK and the Turkish Undersecretaries of Foreign Trade

**Figure 1.6: Imports as share of consumption per country in 2012**



Sources: calculations by EY and Regioplan (2013), data from Eurostat and the Brewers of Europe

## 1.4 Consumption

Approximately 10 million hectolitres of beer have been consumed in Turkey in 2012. Compared to 2010, the consumption of beer has increased by 773,230 hectolitre, an increase of 8.4%.

Compared to all of the EU Member States, the beer consumption per capita in Turkey is very low. In 2012, it amounted to 13.2 litres per capita while it was 72.2 litres for average EU 28.

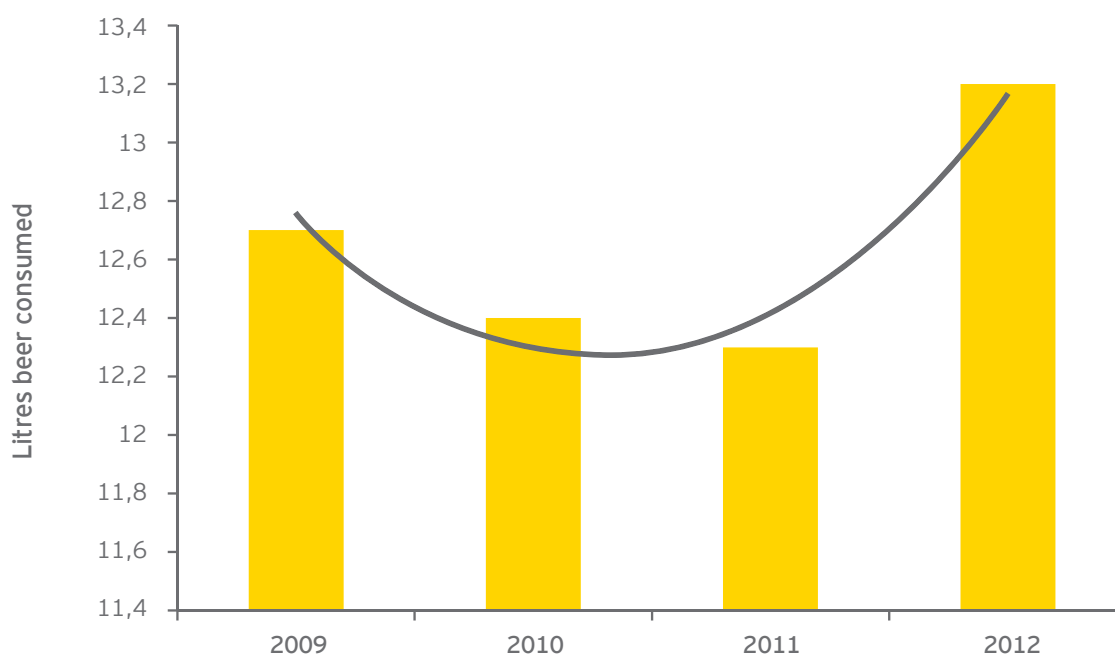
Figure 1.7: Beer consumption per capita in 2012 in litres

Country	Final product beer per person consumed
Czech Republic	148.0
Austria	108.1
Germany	105.0
Poland	98.0
Lithuania	95.8
Romania	90.0
Ireland	85.6
Finland	79.0
Latvia	76.0
Belgium	74.0
Bulgaria	73.0
<b>Average EU 28</b>	<b>72.2</b>
United Kingdom	71.0
Hungary	59.5
Norway	56.2
Sweden	49.5
<b>Turkey</b>	<b>13.2</b>

Sources: *The Contribution made by beer to the European Economy - Update 2013*, November 2013

If we look at the development of the per capita beer consumption in Turkey over the last four years (2009-2012), it turns out that the per capita consumption in 2012 is 6.5% higher than in 2010.

Figure 1.8: Beer consumption per capita in Turkey per year



Sources: Questionnaires BMÜD

Figure 1.9: Beer consumption per capita in Turkey per year

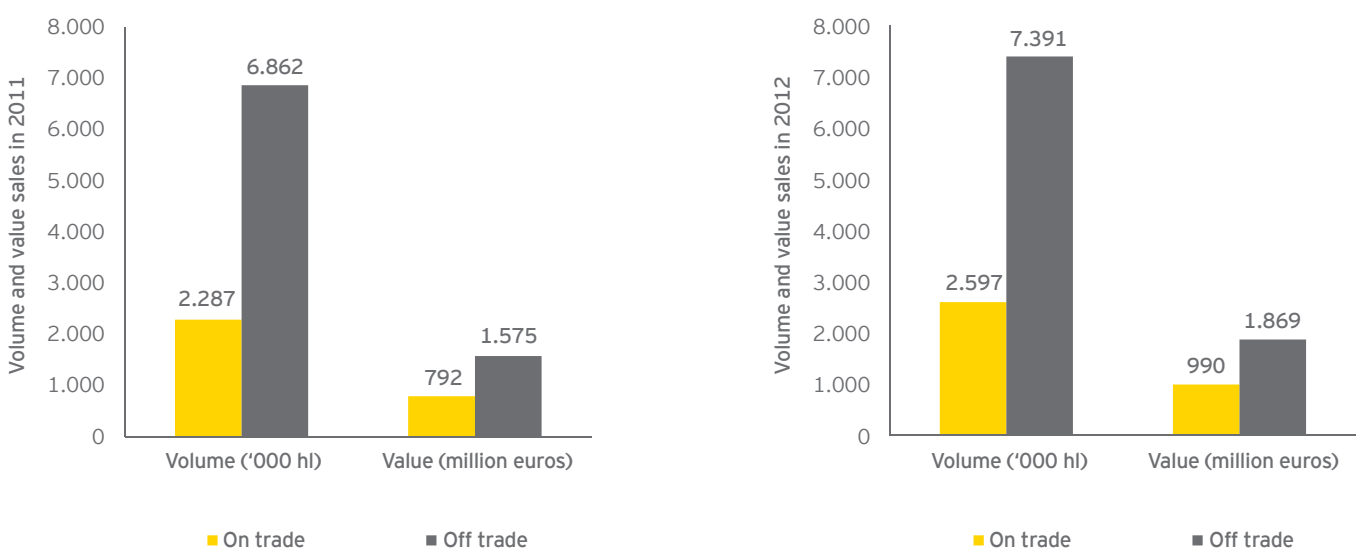
Turkey	2009	2010	2011	2012
Beer consumption per capita/l	12.7	12.4	12.3	13.2

Sources: Questionnaires BMÜD

## 1.5 Distribution channels

Of all the beer consumed in Turkey, about 74% is purchased in supermarkets and other retail outlets, referred to as the off-trade channel. The remaining 26% is purchased in the on-trade sector (bars, restaurants etc.). Compared to 2010, more beer is consumed in the on-trade sector. This is different from the EU trend of consuming more beer at home. This could be explained by the overall decrease in the number of (smaller) grocery stores and increase in supermarkets, in general, in Turkey.

Figure 1.10: Volume and value beer sales 2011 and 2012



Source: calculations by EY and Regioplan (2013)

## 2 Government Revenues

### 2.1 Highlights

Figure 2.1: Government revenues from beer

Government revenues	(mln €) 2009	(mln €) 2010	(mln €) 2011	(mln €) 2012
Excises	555	824	984	1,243
VAT - Hospitality sector	106	127	121	151
VAT - Retail sector	249	283	240	285
Social contributions	277	261	240	284
Corporate taxes	40	40	40	40
Other taxes	40	50	50	60
<b>Total</b>	<b>1,267</b>	<b>1,585</b>	<b>1,675</b>	<b>2,063</b>

Source: Questionnaires

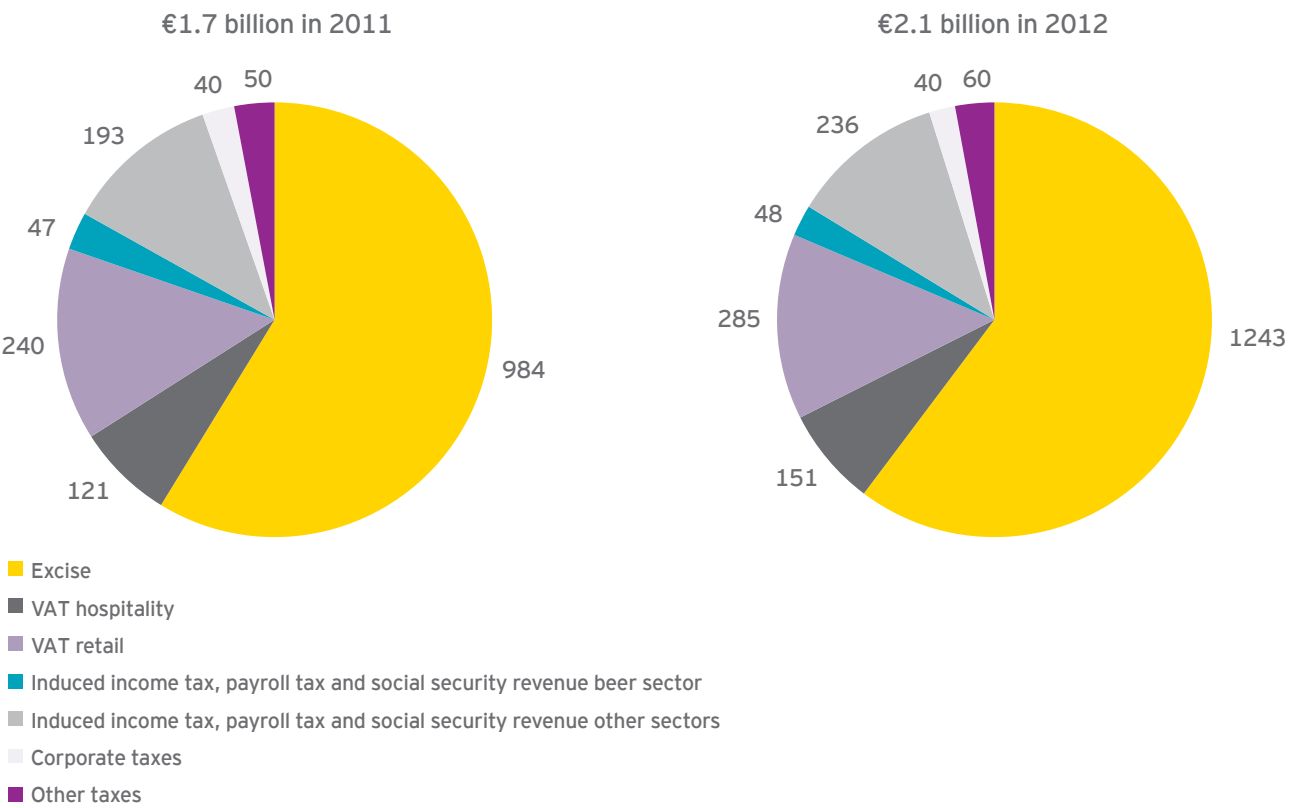
### 2.2 Government revenues

The Turkish government benefits substantially from the production and sale of beer by receiving revenues from excise duties levied on beer (ÖTV), VAT (18%), and income-related taxes and social security contributions paid by workers and their employers in the brewing sector and in other sectors whose jobs can be attributed to 'beer' (supply sectors, on-trade channels and retail sectors). Besides the aforementioned taxes, the Turkish government also benefits from other taxes, such as corporate taxes, property taxes (for example taxes on real estate), environmental taxes, announcement and advertising tax, Stamp Tax, TAPDK Product Monitoring Amount, TAPDK Sales Service Amount, fuel tax, packaging taxes, and vehicle excise duty.

Since 2002, the excises levied on beer have been raised 11 times. The last increase of the excise rate dated July 2013 (an increase by 1.59%). In addition to that the rates of other taxes, such as property taxes (for example taxes on real estate), some environmental taxes, announcement and advertising tax, Stamp Tax, TAPDK Product Monitoring Amount, TAPDK Sales Service Amount, packaging tax and the fuel tax have also been increased in the last years.

For the purpose of this study we have calculated the 2011 and 2012 revenues for the Turkish government arising from the beer trade. In 2012, these tax revenues amounted to €2.063 billion. The revenues from the taxes that have been taken into account were 30.2% higher than the estimates for 2010. Almost 90% (0.419 billion euro) of this increase is made up by the increased excise duty revenues over the last two years.

Figure 2.2: Government tax revenues from beer industry

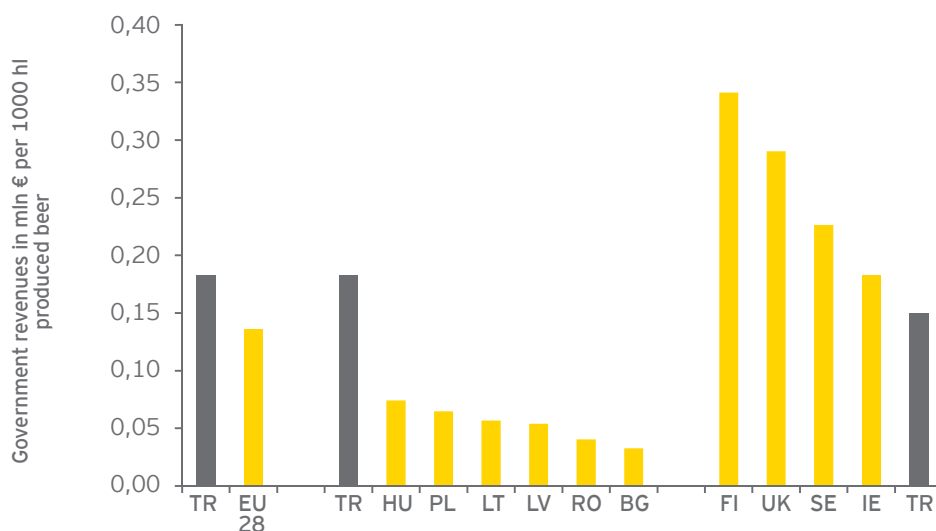


Source: Calculations by EY and Regioplan (2013)

Furthermore, a comparison of the revenues for the government arising from beer activities was conducted on country basis. In order to make a sound comparison, we have compared the countries based on their revenues per 1000 hectoliters of beer produced. For Turkey, the revenues on corporate taxes are excluded since this information is not available for the EU Member States. Accordingly, in the country comparisons (figure 2.3) only the government revenues on excises, VAT, income taxes and social security revenues have been taken into account.

For every 1000 hl beer produced in Turkey, the Turkish government has received €0.19 million. This is higher than the average for EU28 and more than the countries with similar GDP per capita in PPS as Turkey. In absolute figures, Turkey receives almost an equivalent amount of revenues from beer as Ireland and Sweden, which are the countries known for their high taxation on alcoholic beverages.

**Figure 2.3: Government revenues per 1000 hl beer produced in 2012**

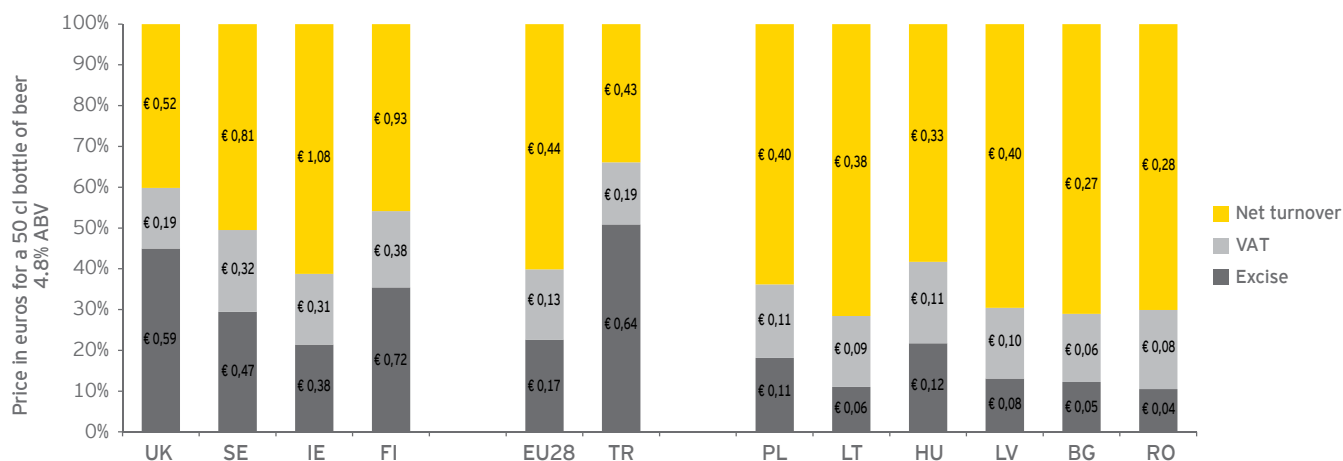


Source: calculations by EY and Regioplan (2013)

Of the four taxes mentioned before, only VAT and excise taxes are levied directly on the consumption of beer. Therefore, in order to capture the effect of these direct taxes, we have performed two other comparison analyses on country basis, including the government revenues on VAT and excises. Based on our calculations

in Turkey, for each bottle of beer sold off-trade, 83 cents go to the government in the form of VAT and excises. This ratio for Turkey is comparable to the United Kingdom and Finland, the countries which has the highest tax level within the EU Member States.

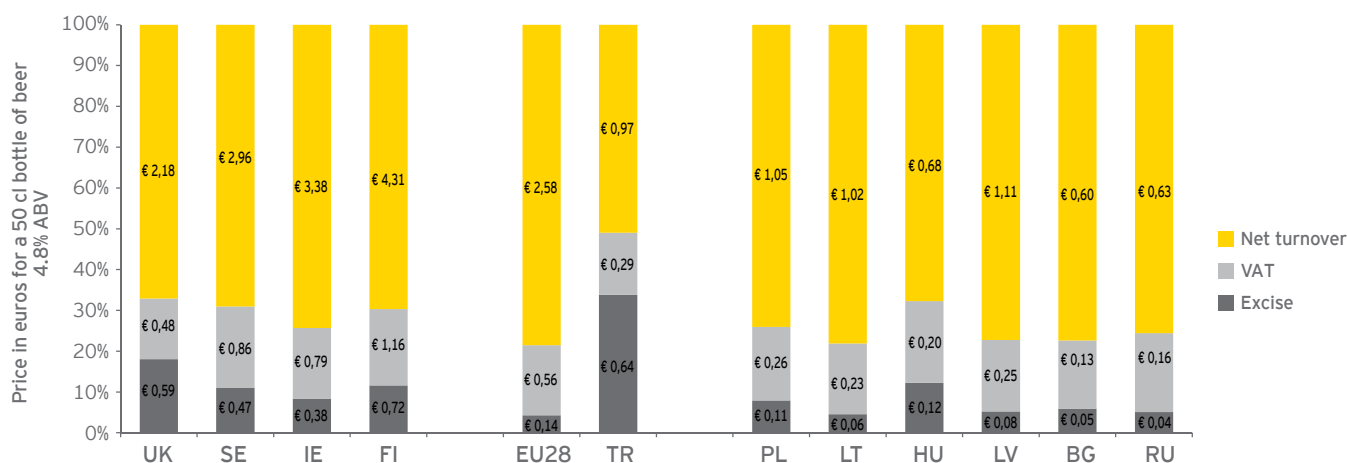
**Figure 2.4: VAT and excise revenues per 50 cl beer 4.8% ABV in the off-trade channel in 2012**



Source: Calculations by EY and Regioplan (2013)

If the same calculation is performed for the on-trade channel, it turns out that for each bottle of beer sold on trade Turkey, 93 cents go to the government in the form of VAT and excises. In EU Member States with a similar GDP PPS 18 to 37 cents go to the government, whereas the EU average is 70 cents.

**Figure 2.5: VAT and excise revenues per 50 cl beer 4.8% ABV in the on-trade channel in 2012**



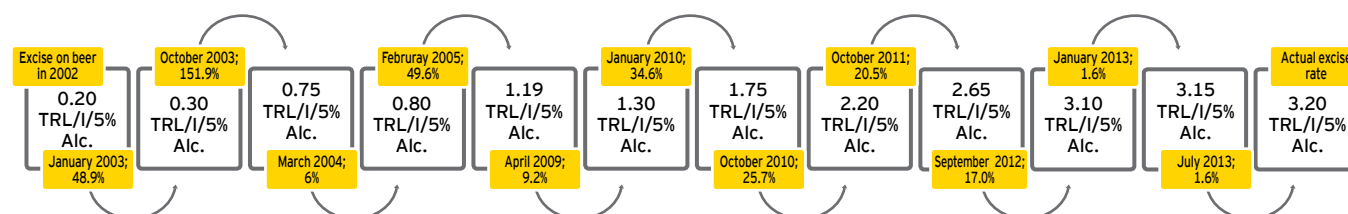
Source: Calculations by EY and Regioplan (2013)

## 2.3 Excises on alcohol beverages

As mentioned in the previous sections, the excise rate levied on beer has been raised 11 times since 2002. The figure below shows the exact timing and amount of the increases in TRL currency. Because of the new Law on Excise Duties, the excise duties of alcoholic beverages

and tobacco products will be changed twice per year (in January and July), based on the change in producer price index of 6 months period. In this respect, the excise duty of the alcoholic beverages was increased by 1.59% in July 2013.

**Figure 2.6: Beer excise increases since 2002 in Turkey**



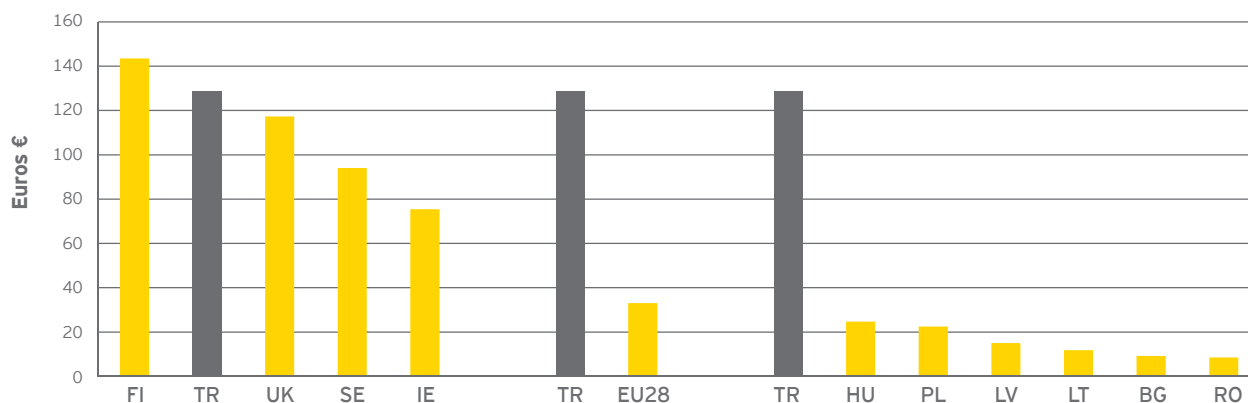
Source: BMÜD

## Comparison with EU Member States

When the current excise duty on beer is compared with excise duties in other countries, it turns out that the Turkish excise rate is one of the highest among all of the comparison countries, not only in comparison to EU Member States with a comparable GDP PPS per capita, but also compared to the countries with the highest excise rates in the EU, with the exception of Finland (which has the highest rate).

In Turkey, the excise tax imposed on beer is seven times higher than the average excise duties in countries with similar GDP PPS per capita as Turkey and three times higher than the average of the European Union Member States. It is also high compared to the Scandinavian EU member states, except for Finland where excise duties for 2012 are higher than in Turkey.

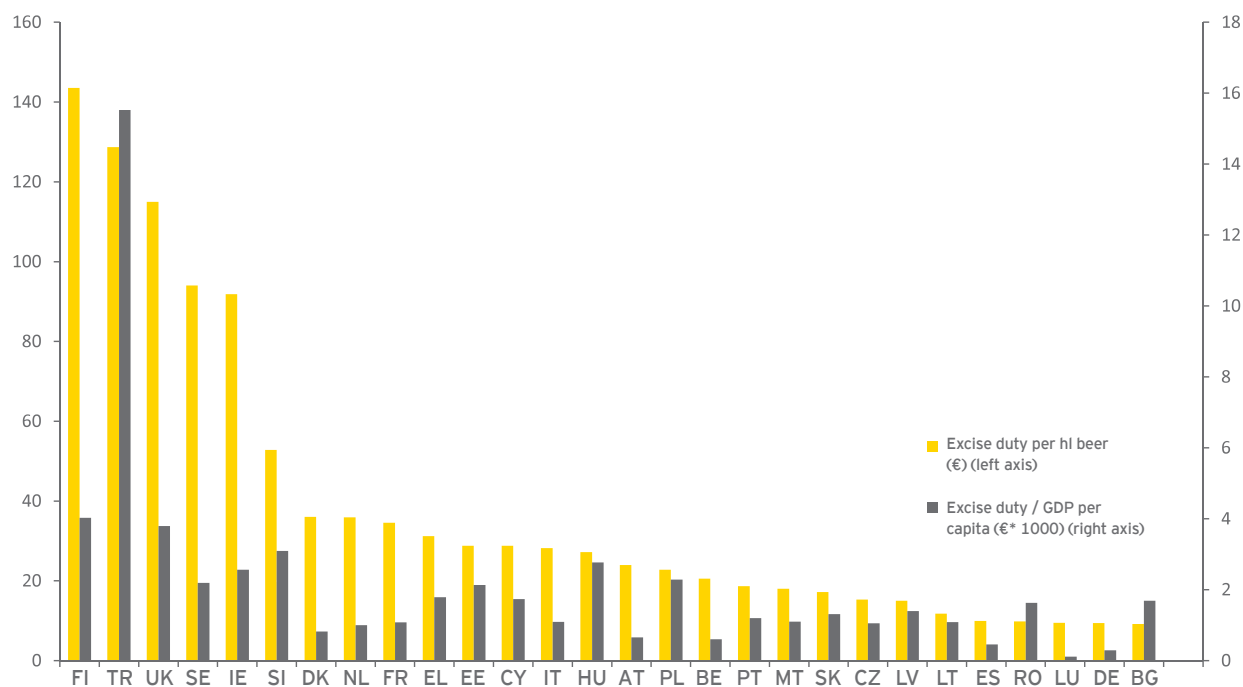
Figure 2.7: Excise duties on beer in 2012 (€/hl) 12°Plato or 4.8% Abv



Source: The Brewers of Europe Excise Duty Rates for beer 2012

Figure 2.8 shows the absolute excise duty per hectolitre beer divided by the GDP per capita values for each country. While Finland has the highest absolute excise duty per hectolitre beer, when GDP per capita values are taken into account, Turkey has the lead with the highest excise duty / GDP per capita ratio on beer. Turkey is separated in the graph below from all the countries that are used in this study.

Figure 2.8: Excise duty / GDP per capita in 2012



Source: The Brewers of Europe and Eurostat

## Comparisons with wine

In many European countries no or only few excise duties are levied on wine. This applies to Austria, Bulgaria, Czech Republic, Hungary, Italy, Malta, Romania, Slovenia, Slovakia and Spain. For the countries that levy excises on wine, the excise duty on wine is the highest in Finland, Ireland, United Kingdom, Sweden and Turkey.

In order to determine whether beer and wine are taxed similar in Turkey and in the comparison countries, we calculated for each country the wine/beer tax parity. If the tax burden is exactly the same for wine and beer, the wine/beer tax parity is calculated to be 1. For countries that do not levy excises on wine, this parity is zero.

For Turkey we calculated a wine/beer parity of 0.46, which implies that tax burden on beer is higher than that on wine. In the other countries with comparative GDP PPS per capita as Turkey, the tax burden on wine is relatively higher than that on beer (the tax parity is higher than 0.46). In the comparison countries with high taxation on alcoholic beverages, the wine/beer parity is around 1. This means that the tax burden on beer and wine is comparable in these countries.

Figure 2.9: Tax parity wine/beer in 2012<sup>2</sup>



Source: calculations by EY and Regioplan (2013)

## Comparisons with spirits

For spirits, the countries with the highest excises are Sweden, Finland, Ireland, Turkey and United Kingdom. It is also remarkable that Turkey has high excise duties for their alcoholic beverages compared with neighbouring countries.

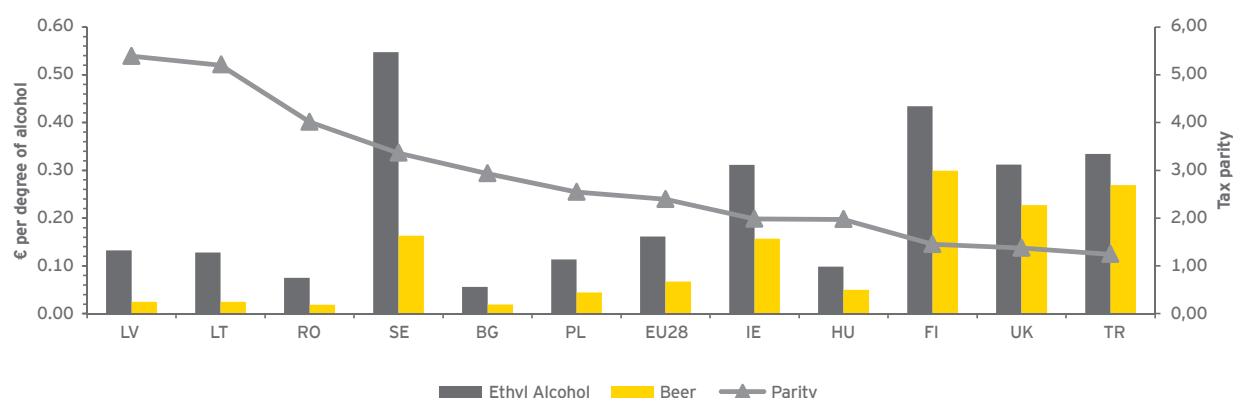
For spirits we have also calculated a tax parity to determine whether beer and spirits are taxed similar in Turkey and in the comparison countries. If the tax burden is exactly the same for spirits and beer, the spirits/beer tax parity is calculated to be 1.

The spirits (raki)/beer tax parity is 1.24 in Turkey. This means that beer is taxed almost equivalent as spirits in Turkey. In other words there are few or no distinctions made between the taxation on beer and spirits despite the alcohol content in final products.

<sup>2</sup> In figure 2.8 the average for EU28 is missing. Most European countries does not levy excises on wine. Besides the wine excises for some countries is not available.

In all of the comparison countries the spirits/beer tax parity is (much) higher than in Turkey, which means that in these countries the tax burden on spirits is relatively (much) higher than on beer when the excises are compared on the basis of litres of pure alcohol. On average, the spirits/beer tax parity for the EU is 2.43.

**Figure 2.10: Tax parity spirits/beer in 2012**



Sources: calculations by EY and Regioplan (2013)

## Final remarks

Compared to wine, the excise rate levied on beer in Turkey is relatively high based on the excise rate in Euro per litre of pure alcohol. On the other hand, the excise rate levied on spirits in Turkey is comparable to the excise tax on beer. Compared to the comparison countries, beer in Turkey is taxed more heavily than wine. When we look at the taxation for beer and spirits, the taxation in Turkey differs from countries with a similar GPD as Turkey. The beer taxation in Turkey is almost equivalent as the taxation on spirits, while in the other countries spirits are taxed more heavily than beer. In its taxation of beer and spirits, Turkey is more comparable with countries known by their with high alcohol taxation, such as Finland and the United Kingdom.

Having said that in most of the EU Member States taxes on spirits are usually higher than taxes on beer. However, in accordance with the related EC Council Directive, the minimum excise duty level of spirits, based on alcohol content, is more than 2.9 times of beer, whereas, this ratio is currently much lower in Turkey, which in turn, acts as discriminatory against beer products when compared with EU member states.

# 3 Value-added

## 3.1 Highlights

Figure 3.1: Value-added generated by sector due to beer sales

Value added	(mln €) 2009	(mln €) 2010	(mln €) 2011	(mln €) 2012
Beer sector	336	371	326	366
Supply sectors	146	165	154	188
On-trade channel	178	180	172	217
Off-trade channel	103	102	87	103
<b>Total</b>	<b>763</b>	<b>818</b>	<b>739</b>	<b>874</b>

Source: Calculations by EY and Regioplan

## 3.2 Value-added by sector

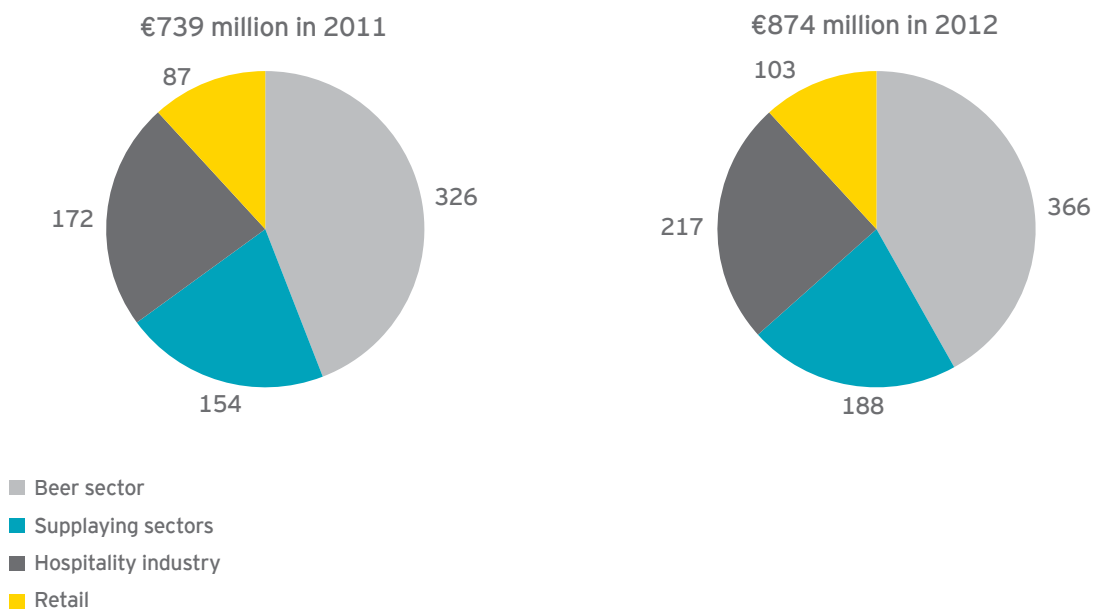
Another contribution of the beer industry is the value-added that it generates, and the value-added generated by the supply, the retail and the on-trade sectors. Value-added can be defined as the difference between the production value and the value of purchased inputs (goods and services). In economic terminology value-added is also defined as the reward for all production factors (mainly labour, capital, entrepreneurship). For the governments in Europe the value-added is important because they levy a tax on it, namely VAT.

In the year 2012, the employees in the beer sector and beer-related activities together (supply sectors, on-trade and retail sectors), generated €874 million of value-added. Of this value-added €366 million was generated

in the beer sector, €188 million in the supply sectors, €217 million in the on-trade sector and €103 million in the retail sector. Compared to 2010, the overall value-added achieved in 2012 due to the production and sales of beer increased by 6.8%.

The brewing sector's share in overall value-added arising from the production and sale of beer is 41.9%, which is much higher than the brewing sector's share in total employment arising from beer (3.9%). A significant explanation for this is the higher productivity of employees in the brewing sector in comparison with the productivity of employees in other sectors. In the figures below the value-added arising from beer-related activities in Turkey is presented.

Figure 3.2: Value added by beer sector



Source: Calculations by EY and Regioplan

# 4 Employment

## 4.1 Highlights

Figure 4.1: Number of persons employed due to beer production and sales

Jobs <sup>3</sup>	2009	2010	2011	2012
Direct employment at brewing companies	2,300	2,400	2,310	2,370
Employment due to beer in the supply sector	13,580	13,570	14,110	15,020
Employment due to beer in the on-trade sector	30,000	28,500	30,770	34,950
Employment due to beer in retail sector	9,800	9,100	8,770	9,440
<b>Total employment due to beer</b>	<b>55,680</b>	<b>53,570</b>	<b>55,960</b>	<b>61,780</b>

Source: Calculations by EY and Regioplan

## 4.2 Total employment due to beer

Total employment related to the production and sale of beer in 2012 is approximately 61,800 jobs in Turkey. This is a 15.3% increase compared to 2010. This employment consists of 2,370 jobs in the beer sector; 15,020 jobs in the supply sectors; 34,950 jobs in the on-trade sector and 9,440 jobs in the retail sector. In the figures below, the employment arising from beer-related activities is presented per sector.

<sup>3</sup> Presented figures are round numbers

Figure 4.2: Total employment due to beer



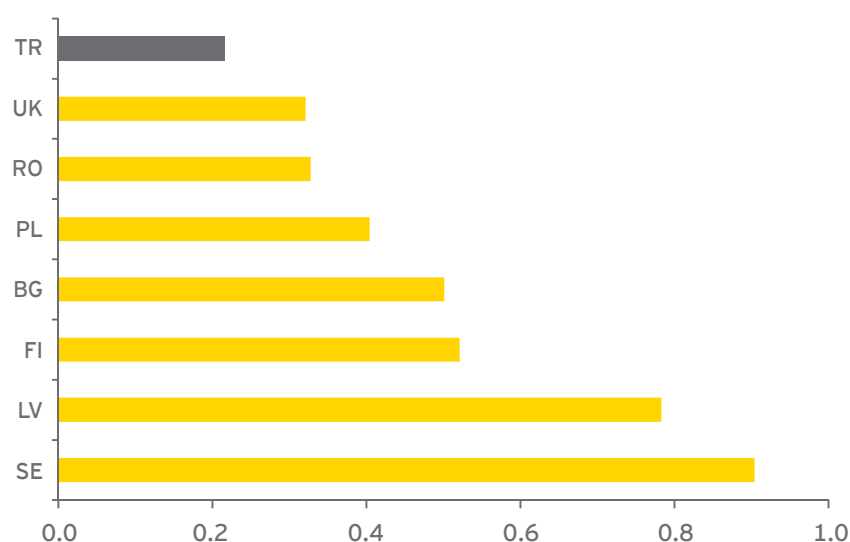
Source: Calculations by EY and Regioplan

### 4.3 Direct employment

Compared to 2010, the number of jobs in the Turkish brewing sector is almost the same as in 2012. Looking at the comparison countries, the number of persons directly employed by breweries is the lowest in Latvia (1,100 jobs), and the highest in the United Kingdom (13,500).

If the direct jobs created for every 1000 hectolitres produced are considered, the Turkish breweries create 0.22 jobs per 1000 hl. This figure is very low compared to Sweden where the breweries create 0.90 jobs per 1000 hl. However, this also means that the productivity in Turkey is much higher than in Sweden. In Finland and Bulgaria, breweries employ about the same amount of personnel as in Turkey. However, they create more direct jobs per 1000 hl of beer. In Finland breweries generate 0.52 jobs per 1000 hl and in Bulgaria 0.50 jobs per 1000 hl.

Figure 4.3: Direct jobs per 1000 hl produced by country in 2012



Source: Calculations by EY and Regioplan (2013)

## 4.4 Indirect employment

Figure 4.4: Indirect jobs in Turkey by year

Jobs <sup>4</sup>	2009	2010	2011	2012
Agricultural products	8,600	8,200	8,200	8,000
Utilities	80	70	80	90
Packaging and bottling industry	1,600	1,600	1,800	2,000
Equipment, manufacturing, and other industrial activities	200	200	100	100
Transport and storage	300	300	300	400
Media, marketing, and communications	1,900	2,200	2,400	3,300
Other services	900	1,000	1,300	1,200
<b>Total employment due to beer</b>	<b>13,580</b>	<b>13,570</b>	<b>14,110</b>	<b>15,020</b>

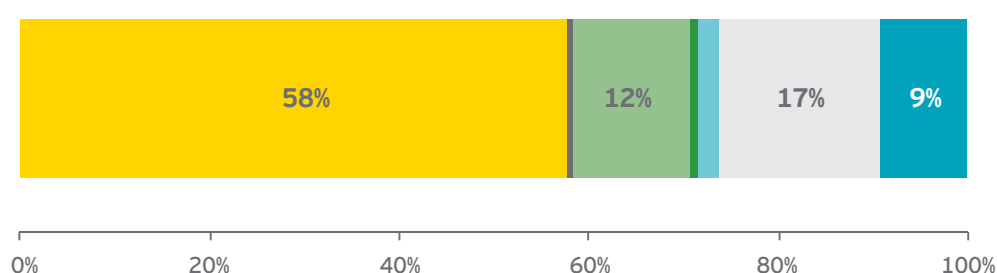
Source: Calculations by EY and Regioplan

The brewing sector also generates considerable indirect employment in the economy. The production and sale of beer by breweries is only possible since various sectors provide the necessary goods and services, ranging from malting barley to energy and transportation capacity, and a variety of industrial products and services. The indirect effect is 15,020 jobs in the supply sectors in 2012 (10.7% more than in 2010).

<sup>4</sup> Presented figures are round numbers.

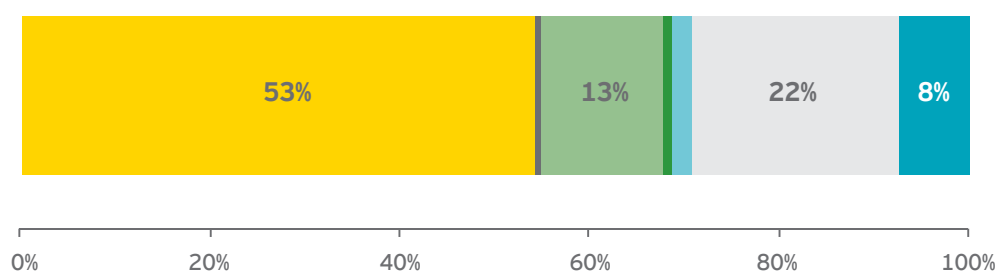
Relatively speaking, most additional jobs are generated in the agricultural sector and in the media, marketing and communications sectors. The indirect employment in 2012 was 8,000 jobs in the agricultural sector (2% less compared to 2010), 3,300 jobs in the media, marketing and communications (47% more compared to 2010), 2,000 jobs in the packaging and bottling industry (19% more than in 2010), 1,200 jobs in services (15% more than in 2010), 400 jobs in transport and storage (46% more than in 2010), 100 jobs in equipment and manufacturing (49% less), and 90 jobs in the utilities sector (29% more than in 2010). See annex VIII for further details concerning the indirect employment generated in the supply sector due to the purchases of the breweries.

**Figure 4.5: Indirect employment in 2011 in Turkey**



Source: Calculations by EY and Regioplan

**Figure 4.6: Indirect employment in 2012 in Turkey**

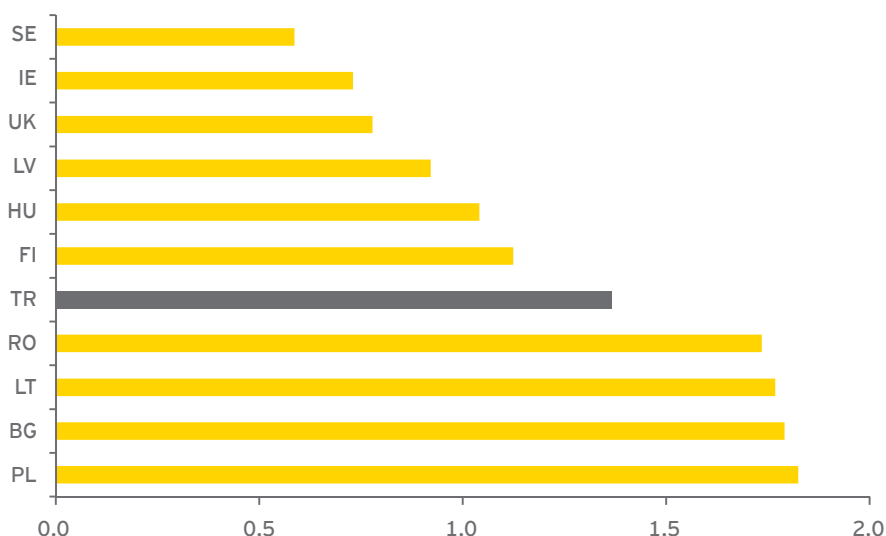


Source: Calculations by EY and Regioplan

- raw materials and agricultural products
- packaging industry
- transport and storage
- other services
- utilities
- equipment and manufacturing
- media, marketing and communications

Compared to the comparison countries, Turkey is an average country with regard to creating indirect jobs arising from beer-related activities. In Turkey, the production of 1000 hl of beer leads to 1.36 indirect jobs, compared to 1.8 jobs in Poland.

**Figur 4.7: Indirect jobs per 1000 hl beer produced in 2012 by country**



Source: Calculations by EY and Regioplan (2013)

## 4.5 Induced employment

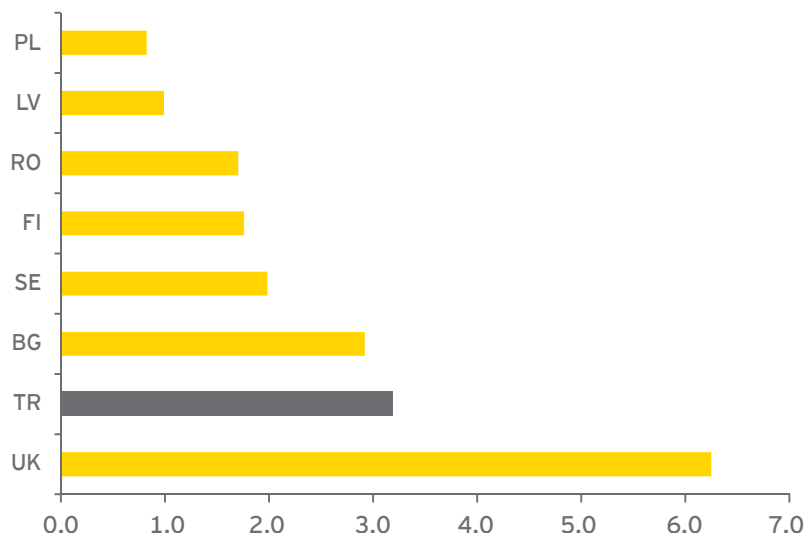
In addition to the direct and indirect impact of the brewing sector on employment, the number of jobs generated by beer sales in the on-trade and retail sectors even has a larger effect.

### On-trade sector

In 2012, around 34,950 of the total number of jobs in the on-trade sector can be attributed to the sales of beer. The other jobs in the on-trade sector can be attributed to the sale of other products such as food, wine, spirits, coffee, and tea. In 2010, around 28,500 jobs could be attributed to the sales of beer and accordingly, the employment effect of beer in the on-trade sector increased by 22.6%. This is due to the increased beer consumption.

In the UK, every 1000 hl of beer that is sold on-trade leads to 6 jobs generated in the on-trade sector compared with 3 jobs in Turkey. Among the comparison countries, the lowest number of jobs in the on-trade sector is generated in Poland. See figure 4.7.

**Figure 4.8: Jobs in on-trade sector per 1000 hl beer sold in 2012 by country**



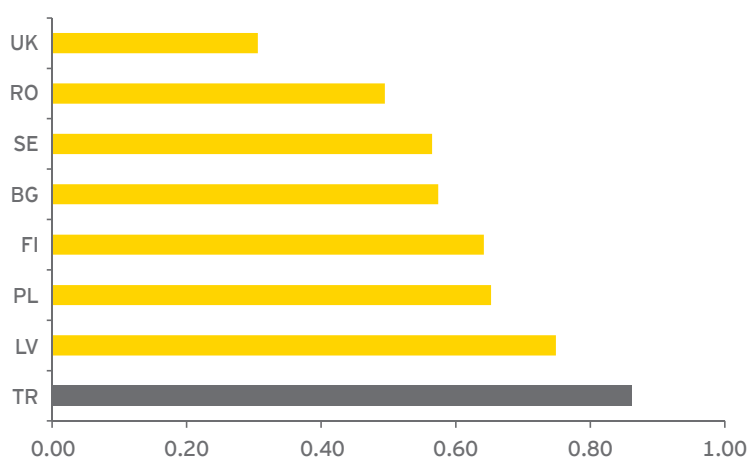
Source: Calculations by EY and Regioplan (2013)

## Retail sector

In 2012, in the Turkish retail sector 9,440 jobs can be attributed entirely to the sales of beer, which is a 3.7% rise compared to 2010. Hereby the rise in retail jobs over the last two years is much smaller than the rise in the hospitality jobs. This is mainly a result of the changing consumption pattern towards drinking in the hospitality sector.

Every 1,000 litres of beer sold leads to 0.86 jobs in the Turkish retail sector. This figure is high compared to other countries. In the United Kingdom 0.31 jobs result from every 1,000 litres that are sold.

**Figure 4.9: Jobs in retail per 1000 hl beer sold in 2012 by country**



Source: Calculations by EY and Regioplan (2013)

Nevertheless, the absolute amount of employment created in the retail sector arising from beer sales is rather high in Turkey. Turkey stands at the fourth position, following large beer producing countries such as Poland, Germany and the United Kingdom in the top ten.

**Figure 4.10: Number of persons employed in the retail due to beer sales in 2012 by country**

Country	Employment in the retail sector due to beer sales 2012
Poland	25,600
Germany	18,500
United Kingdom	12,900
Turkey	9,440
Romania	8,900
Spain	5,900
Italy	5,800
France	5,400

*Source: Calculations by EY and Regioplan (2013)*

# 5 Purchases Made By Breweries

## 5.1 Highlights

### Highlights of purchases made by breweries in Turkey

- ▶ In 2012, Turkish brewing companies spent €470 million on goods and services to be able to produce and sell their beer. In 2010, the value of their purchases was approximately € 381 million.
- ▶ Most of the expenses are made on agricultural products, media, marketing and communication, packaging and bottling.
- ▶ The majority of the purchases made by Turkish breweries are made in their own country.

Figure 5.1: Purchases made by breweries by sector (million Euros)

	(mln €) 2009	(mln €) 2010	(mln €) 2011	(mln €) 2012
Agricultural products	70	72	63	78
Utilities	21	20	19	25
Packaging and bottling industry	102	109	107	131
Equipment and manufacturing	18	20	13	13
Transport and storage	12	13	14	18
Media, marketing and communications	91	112	111	166
Other services	30	35	39	40
<b>Total</b>	<b>344</b>	<b>381</b>	<b>366</b>	<b>470</b>

Source: Calculations by EY and Regioplan (2013)

## 5.2 Purchase of goods and services

In 2011, the Turkish brewing companies spent a total amount of €366 million on goods and services to be able to produce and sell their beer in and outside Turkey. In 2012, they spent €470 million on goods and services. 91% of the purchases made by the brewing companies are spent inside Turkey, resulting in a significant stimulus for the Turkish economy (€335 million in 2011 and €427 million in 2012). The impact of this is rather substantial. See Annex VIII for more details about the economic impact on suppliers due to beer.

Figure 5.2: Impact on suppliers in 2011

Sectors	Total amount of purchases	Stimulus for Turkey	
	(mln €) 2011	% spent in Turkey	(mln €) 2011
Agriculture	63	81	51
Utilities	19	100	19
Packaging and bottling industry	107	92	98
Equipment and manufacturing	13	50	7
Transport and storage	14	100	14
Media, marketing and communication	111	97	107
Other services	39	100	39
<b>Total</b>	<b>366</b>	<b>-</b>	<b>335</b>

Source: Calculations by EY and Regioplan

Figure 5.3: Impact on suppliers in 2012

Sectors	Total amount of purchases	Stimulus for Turkey	
	(mln €) 2012	% spent in Turkey	(mln €) 2012
Agriculture	78	71	55
Utilities	25	100	25
Packaging and bottling industry	131	92	121
Equipment and manufacturing	13	55	7
Transport and storage	18	100	18
Media, marketing and communication	166	97	161
Other services	40	100	40
<b>Total</b>	<b>470</b>	<b>-</b>	<b>427</b>

Source: Calculations by EY and Regioplan

### 5.3 Impact on the agricultural sector

In value, the purchasing of raw materials and agricultural ingredients represents 19% of overall expenditure made by the Turkish beer producers. We estimate that in 2012, the value of the agricultural expenditures amount to €78 million, of which €71 million is spent in Turkey.

Compared to 2009-2011, in 2012 Turkish brewers buy a relatively smaller amount of Agricultural products in Turkey. This can be explained that, despite the fact that Turkey is one of the major barley producing countries in the world, there are some difficulties for Turkish farmers in providing the barley for beer. The Turkish beer sector is in need of importing high-quality barley, approximately 100.000 tons at a yearly basis.

The use of agricultural products is high because beer is a natural drink, made from a (malting) cereal source (mostly barley), hops, yeast and water. Of all agricultural inputs, malting barley is the most important ingredient of beer. More than 70% of the barley intended for industrial use, is used by the beer sector.

Figure 5.4: Impact on the agricultural sector in Turkey in 2012

Agricultural product	Volume used by beer sector	Total production in Turkey
Barley	193,200 tons	7.1 million tons
Malt	109,900 tons	Unknown
Hops	600 tons	Unknown
Sugar and syrup	22,000 tons	2.3 million tons
Yeast	140 tons	410 million tons
Rice	20,100 tons	434,600 tons
Water	35,119,700 hl	Unknown

Sources: Questionnaires; Summary of agricultural statistics, 2000-2009, TurkStat; and Euromalt

# 6 Regulations

In 2013, the Turkish government has implemented new regulations on the retailing and marketing of beer.

## Increasing excise rate on beer

- ▶ In Turkey, the excise rate on beer has been increased 11 times in the last 10 years. Generally, the increase rates are higher than the inflation rates. Between January 2010 and the end of 2012, the excise rate on beer has been increased four times. At the end of 2012, the excise rate on beer was 77.15% higher than in the beginning of 2010. The most recent excise tax increases made Turkey one of the highest excise taxed countries on beer in the continent of Europe.
- ▶ Since January 2013, the excise duties of alcoholic beverages and tobacco products will be changed biannually (January, July), based on the change in the producer price index of 6 months period. This means that the excise duty will continue to increase, but now the increases will be systematic and in line with inflation.

## Introducing new regulations

On 18 September 2013 a new set of regulations have been published and issued. These new regulations affect the principles and procedures concerning the sale and display of alcoholic beverages in Turkey. The main components of these new regulations are mentioned below.

- ▶ Alcoholic beverages may no longer be sold at student residences, sports clubs, all types of educational institutions, coffeehouses, coffee shops, pastry shops, bezique and bridge halls and businesses operating at gas stations.
- ▶ No new premises selling alcoholic beverages may be opened within 100 meters from formal educational institutions, private teaching institutions, dormitories, and sanctuaries. Existing premises in that radius may stay open, but can only transfer their business to relatives in first and second degree.
- ▶ Any kind of advertisement and promotions of alcoholic beverages targeting consumers are prohibited. Furthermore, producers are not allowed to operate a website with a domain/sub-domain name which includes name or brand of any alcoholic beverage for the online advertisement and promotion of these products to consumers.
- ▶ Also advertising inside shops is not allowed. No words, drawings, pictures, and letters containing brand, logo, emblem or marks of alcoholic beverages shall be displayed inside or outside of shops, on windows, signs, sales units, or coolers. Also, alcoholic beverages are not allowed to be seen outside the shop.

# Annex I: Methodology and Scope

This study focuses on the economic impact of the brewing sector in Turkey. Although the brewing sector is international in scope and many brewing companies are organizations operating as multinationals, the analyses were carried out at country level. In this manner, the impact on the individual national economy could be measured.

The base years for the analysis are 2011 and 2012. If data was not available for this year, data for 2010 was used.

Some of the reported outcomes are estimated on the basis of a model constructed by Regioplan Policy Research. For this reason these outcomes are not a direct representation and are dependent on decisions made by Regioplan Policy Research. These decisions are elucidated in Annex III.

To represent the economic impact of the brewing sector, three different effects can be distinguished:

- ▶ direct impact
- ▶ indirect impact
- ▶ induced impact

The **direct impact** is defined straightforwardly as the effect generated directly by the brewing sector.

The **indirect impact** represents the impact of breweries on their suppliers. To be able to produce beer, breweries need to purchase a highly diverse range of goods and services. To mention just a selection: barley malt, hops, water and many types of packaging materials such as glass and aluminium. Breweries also hire engineers, marketers, communications agencies and many more services. In this study, seven supply sectors are distinguished: agriculture (raw materials); utilities; packaging and bottling industry; transport and storage; media, marketing and communication; equipment, manufacturing and other industrial activities; and other services.

The sale of beer by retail outlets and hospitality firms is an important source of economic benefits. The economic contribution of firms in the retail and hospitality sectors arising from the sale of beer is labelled in this study as the brewing sector's **induced impact**.

The above-mentioned effects have been measured in three areas (**employment, value-added and government revenues**). It is important to stress that these are not additional effects, but rather three ways in which the same effects can be looked at. Together this results in nine dimensions:

Figure 6: Dimensions for measuring the economic impact

	Direct impact	Indirect impact	Induced impact
<b>Employment</b>	Total number of jobs in the brewing sector	Total number of jobs in supply sectors resulting from the production and sale of beer	Total number of jobs in the hospitality and retail sector resulting from the sale of beer
<b>Value-added</b>	Value-added by brewing companies	Value-added in supply sectors resulting from the production and sale of beer	Value-added in the hospitality and retail sector resulting from the sale of beer
<b>Government Revenues</b>	Excise revenues resulting from the production and sale of beer and income tax and social contributions from employers and employees in the brewing industry	Income tax and social contributions from employers and employees in supply sectors	VAT revenues, income tax and social contributions from employers and employees in the hospitality and retail sector resulting from the sale of beer and corporate and other taxes.

# Annex II: Data Sources

The results presented in this report derive from multiple data sources. In hierarchical order of importance these sources are:

- ▶ data from the tobacco and alcohol market regulatory authority in Turkey (TAPDK);
- ▶ data obtained from a questionnaire completed by the national association representing the beer sector (BMÜD);
- ▶ data collected directly from individual beer drinks producers in Turkey through a detailed questionnaire;
- ▶ data from the Turkish Statistical Institute (Türkiye İstatistik Kurumu, TÜİK);
- ▶ data from additional (public) sources, such as the Brewers of Europe, the European Commission, and Eurostat.

## **The Tobacco and alcohol market regulatory authority**

TAPDK provided key figures concerning production, export and import data from beer in Turkey.

For more details please consult <[www.tapdk.gov.tr/alkol/istatistik/alkollu\\_icki\\_piyasa\\_arz\\_2010.htm](http://www.tapdk.gov.tr/alkol/istatistik/alkollu_icki_piyasa_arz_2010.htm)> and <[http://www.tapdk.gov.tr/alkol/istatistik/alkollu\\_icki\\_piyasa\\_arz\\_2009.htm](http://www.tapdk.gov.tr/alkol/istatistik/alkollu_icki_piyasa_arz_2009.htm)>.

## **The Beer and Malt Producers' Association of Turkey (BMÜD)**

The national brewing association BMÜD has been a major source of valuable data and information. The elements of the questionnaire were some key figures of the beer sector, the consumer prices in the on-trade and off-trade sectors, distribution margins of production sold on-trade and off-trade, the most important developments and threats in the beer sector, and the alcohol and excise policy, in Turkey.

## **Two beer producers in Turkey**

The largest beer producers in Turkey, Efes and Tuborg, completed the detailed questionnaire. The elements of this questionnaire were some key figures of the company, the activities of the company, their expenditures, and purchased goods.

## **Turkish Statistical Institute**

Whereas specific data on the brewing sector was collected through questionnaires completed by national brewing association and beer producers, more general economic data was obtained from the Turkish Statistical Institute. They have provided us with data since 2007 such as statistical and economic indicators including turnovers and numbers of persons employed by sector in Turkey, and agricultural statistics.

## **The Brewers of Europe**

In addition to the information from the questionnaires, statistics provided by The Brewers of Europe have been used. These statistics consisted of general information on the beer industry in European countries, for example: data on production, consumption and direct employment in the brewing sector.

## **The European Commission**

The European Commission provides data on excise duties and government revenues from alcoholic drinks (i.e. beer, wine and spirit).

## **Eurostat**

Eurostat statistics provide useful data on labour costs, turnover and value-added per employee generally covering most of the countries of the comparison study. For the comparison study some data were used from "The contribution made by beer to the European Union Economy". (Please consult for more details) <[http://www.brewersofeurope.org/docs/flipping\\_books/ey\\_2011/index.html#/16/](http://www.brewersofeurope.org/docs/flipping_books/ey_2011/index.html#/16/)>.

# Annex III: Variables and Estimates

The presented results are reliable as the calculations are based on primary data from the largest beer producers in Turkey and statistics of Turkey. Some of the reported outcomes concerning the economic impact of the brewing sector are based on estimates. These estimates derived from a **model** constructed by Regioplan Policy Research. We illustrate here how these variables have been estimated, focusing on:

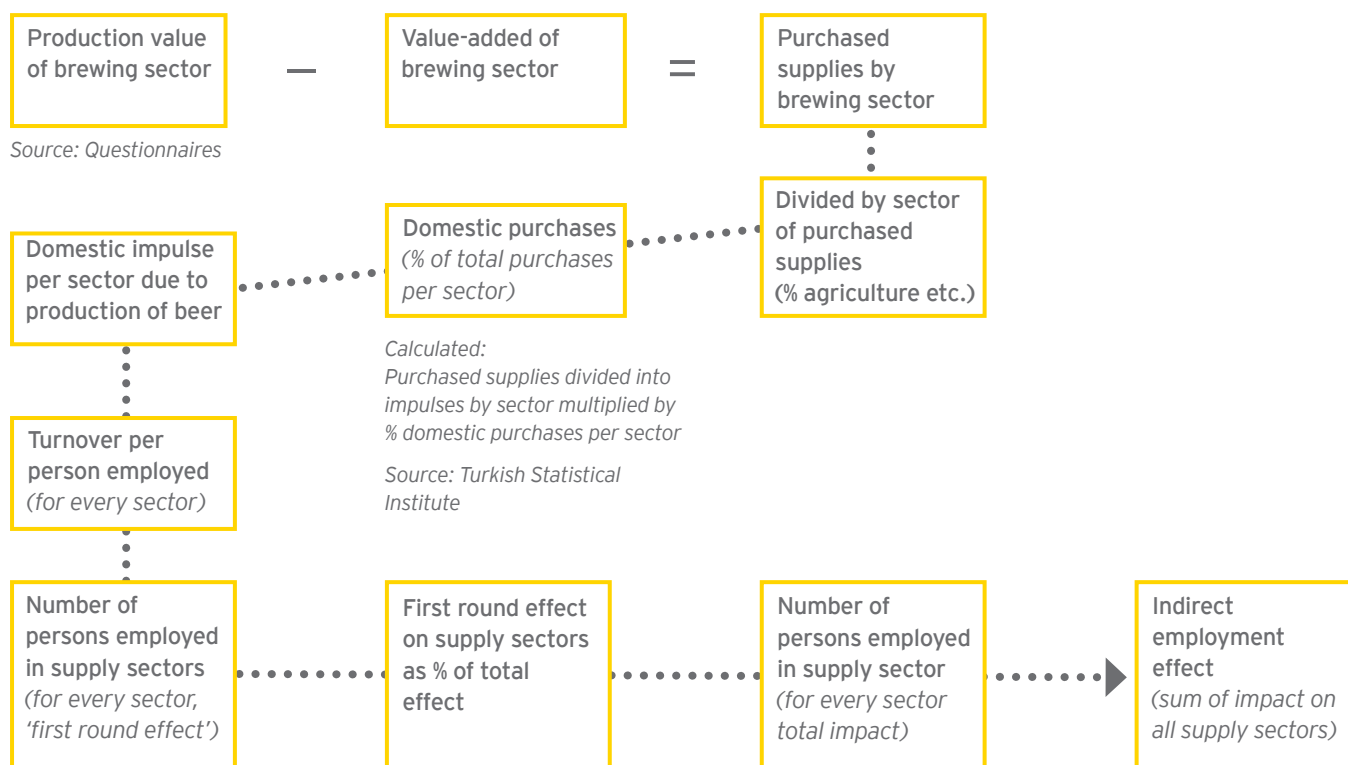
- ▶ employment effects;
- ▶ value-added due to the production and sale of beer;
- ▶ government revenues due to the production and sale of beer.

## Employment effects

The **direct employment** effect signifies the number of people employed in the brewing sector. The data on direct employment was obtained from the questionnaire for the beer producers.

The **indirect employment** effect concerns the employment generated in the supply sectors due to the production and sale of beer. The starting point of the estimates on indirect employment is the impulse in supply sectors resulting from purchases made by the brewing sector.

Figure 7: Model for measuring employment effect



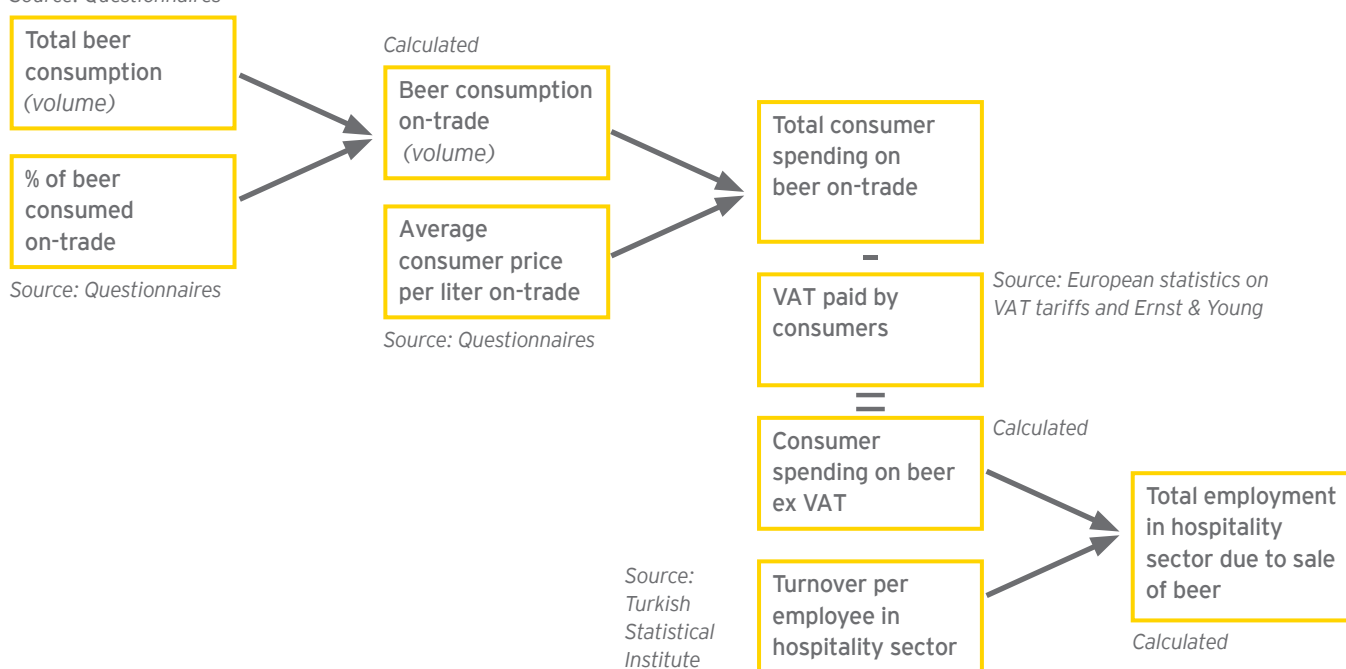
Calculated:  
Domestic impulse per sector divided by turnover per employee

Data on turnover and value-added per employee per sector was obtained from The Turkish Statistical Institute. For sector data NACE-codes (2002 rev.1.1, classification of economic activities by the European Union or equivalents by the Turkish Statistical Institute ) have been used: agriculture (code A agriculture, forestry and fishing); packaging industry and equipment (D manufacturing); utilities (E electricity, gas, and water supply); wholesale and retail<sup>5</sup> (G wholesale and retail trade; repair of motor vehicles and motorcycles); hospitality (H Hotels and restaurants); transport (I Transport storage, and communication); and other services (O other community, social and personal services activities, K real estate, renting and business activities).

The **induced employment** effect, resulting in employment due to the sale of beer in the hospitality sector and in retail, is estimated as follows:

**Figure 8: Model for measuring induced employment**

Source: Questionnaires



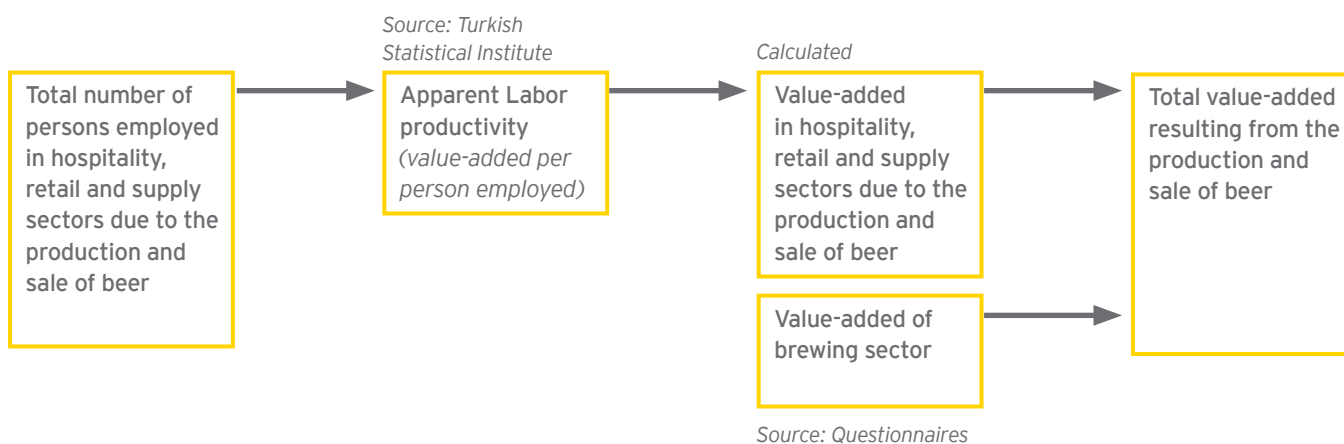
Depicted is the way the employment impact on the hospitality sector is estimated. Estimates for retail are made in a similar way. The turnover in the hospitality and retail sector is corrected for the increased beer price in both sectors instead of the general inflation rate for index. This is due to the fact that increase of the real price of beer is much higher than the average inflation rate.

### Value-added due to the production and sale of beer

The **direct value-added** in the brewing sector is obtained through the questionnaires completed by breweries, and The Turkish Statistical Institute. The value-added in other sectors resulting from the production and sale of beer (**indirect and induced value-added**) is estimated on the basis of the employment effects. The value-added in a particular sector is estimated by multiplying the employment effect by the apparent labour productivity (gross value-added per person employed) in the sector.

<sup>5</sup> The percentage of value-added on beer in the wholesale and retail sector differs significantly from other products. For this reason NACE code G5225 (retail sale of alcoholic and other beverages) has been used for the value-added per employee in wholesale and retail.

Figure 9: Model for measuring value-added



### Government revenues due to the production and sale of beer

The government revenues due to the brewing industry consist of five segments:

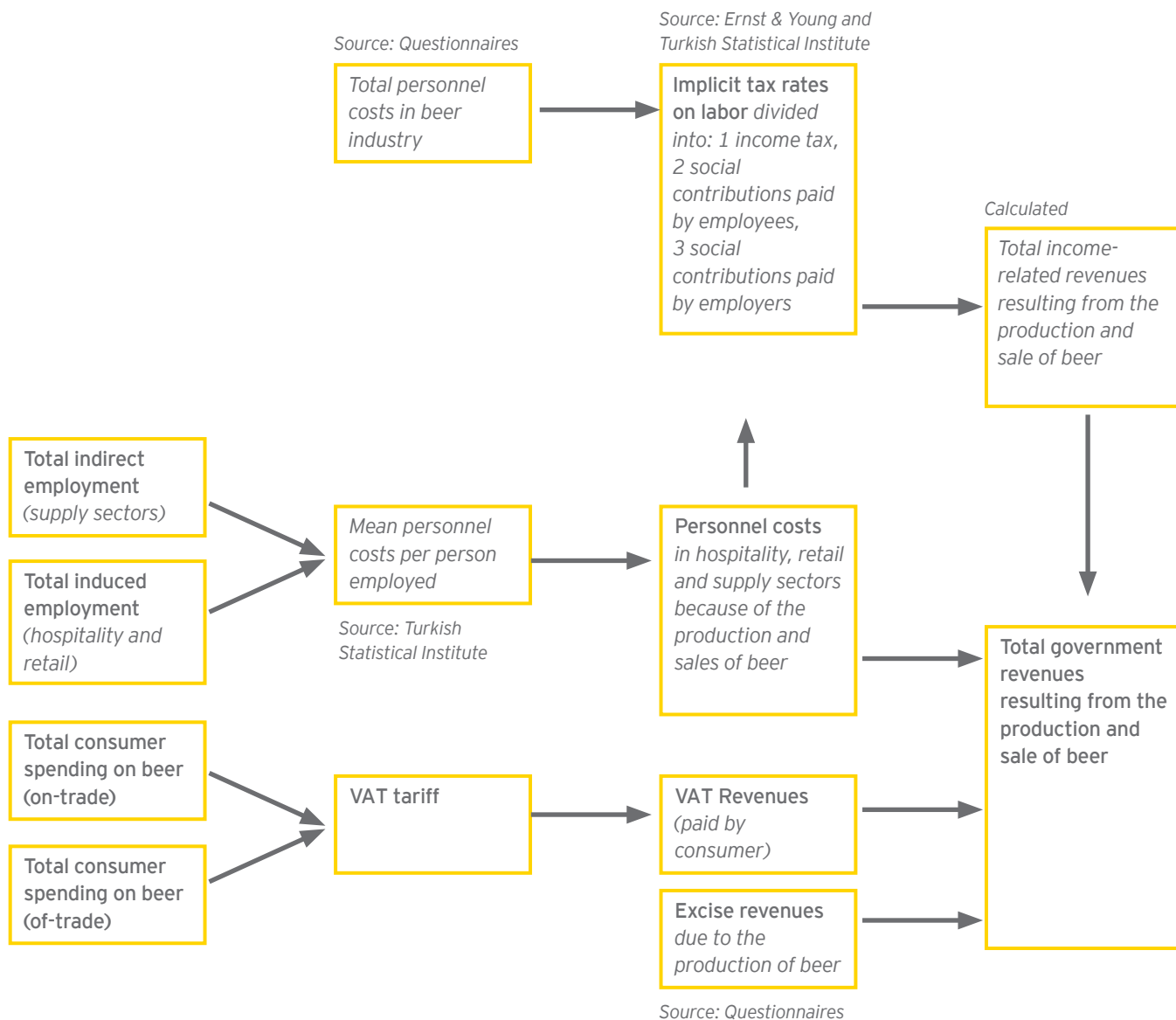
- ▶ excise revenues;
- ▶ VAT revenues;
- ▶ income-related revenues;
- ▶ corporate taxes;
- ▶ other taxes.

Data on **excise revenues** is obtained from the questionnaires, the European Commission, and statistics from The Brewers of Europe. **VAT revenues** resulting from the sale of beer are calculated by multiplying the total consumer spending on beer (on-trade and off-trade) with the applicable VAT rate in a particular country.

**Income-related revenues** have been estimated by multiplying personnel costs with implicit tax rates. The personnel costs in the brewing industry were obtained from Eurostat and the Turkish Statistical Institute. Personnel costs in supply sectors, hospitality and retail were calculated by multiplying indirect and induced employment by the mean personnel costs per person employed.

Implicit tax rates on labour were obtained from statistics from the European Commission and the Turkish Statistical Institute. The implicit tax rate is the percentage of personnel costs which consists of taxes and social contributions. It consists of three parts: mean ratio of 1) income tax, 2) social contributions paid by employees and 3) social contributions paid by employers. Using implicit tax rates made it possible to report separately on income tax revenues and social contributions.

Figure 10: Model for measuring government revenues



# Annex IV: Exchange Rates

Since most data sources used for the study apply to the years 2011 and 2012, the exchange rates of these two years have been used for the majority of data calculations.

**Figure 11: Exchange rates used in the report**

Currency	2007	2008	2009	2010	2011	2012
TRL/EUR	1.7865	1.9064	2.1631	1.9947	2.2152	2.3041
USD/EUR	1.3705	1.4708	1.3948	1.3257	1.3898	1.2874

Source: The European Central Bank, <http://www.ecb.int/stats/exchange/eurofxref/html/index.en.html>

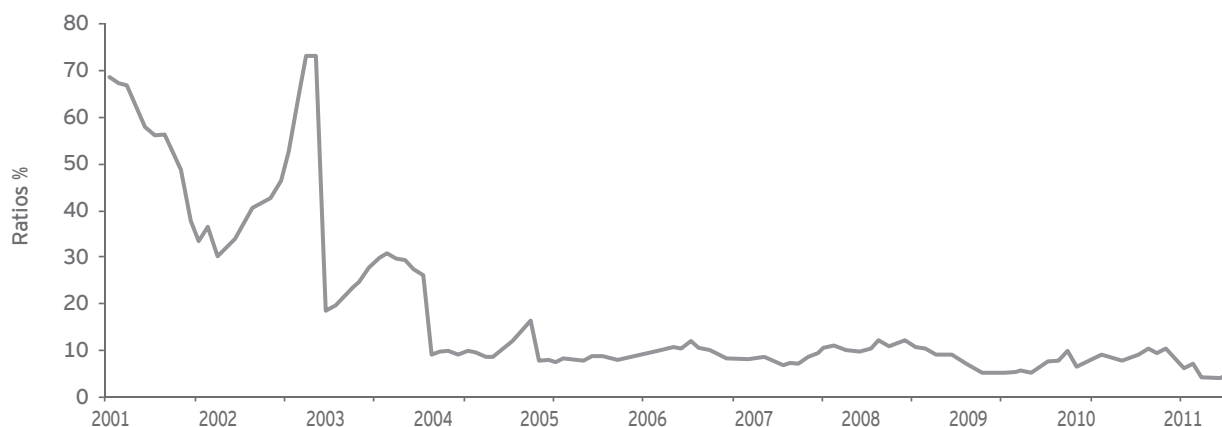
# Annex V: Inflation Rates

The turnovers by sector and value-added per employee by sector were not available for the years 2011 and 2012. The last data available was from 2010. We used this data and indexed it with the inflation rates in Turkey. Indexing is the value adjustment to general price developments and/or inflation.

**Figure 12: Inflation rates used in the report**

	2008	2009	2010	2011	2012
Inflation rate	10.10	6.50	6.40	6.50	6.60

Source: Central Bank of Republic of Turkey



# Annex VI: Glossary

<b>Alcohol by volume</b>	Indication of alcoholic strength expressed as percentage included in a beverage.
<b>Backward linkage</b>	See indirect employment
<b>Bottom-up approach</b>	Analysis of the direct, indirect and induced effects, taking a selection of brewing companies as a starting point.
<b>Brewing sector</b>	all the brewing companies located within a certain geographical area. These companies may also be involved in activities other than brewing beer, such as the production of soft drinks and bottled mineral water.
<b>Brewery</b>	A plant or an establishment for the manufacture of beer.
<b>Brewing company</b>	A company which produces and/or sells beer.
<b>Corporate tax</b>	<p>Corporate tax or company tax is the tax imposed on the income or capital of companies. For tax purposes, in Turkey companies are grouped as limited liability companies (corporations and limited companies) and personal companies (limited and ordinary partnerships). Corporate tax applies to limited liability companies. State economic enterprises and business entities owned by societies, foundations and local authorities are also subject to corporate tax. Whether a company is subject to full or limited tax liability depends on its status of residence. A company, whose statutory domicile or place of management are established in Turkey (resident company), will have full tax liability; in this case, worldwide income is taxable. If a non-resident company conducts business through a branch or a joint venture, it will have limited tax liability; i.e. fully subject to corporate tax on profits earned in Turkey on an annual basis. If there is no presence in Turkey, withholding tax will generally be charged on income earned; for example, for services provided in Turkey. However, if there is an avoidance of double taxation treaty, reduced rates of withholding tax may apply.</p> <p>The basic corporate income tax rate levied on business profits was 30% in Turkey. The 2011 tax rate applicable to corporations in Turkey is now 20%.</p>
<b>CPI</b>	Current inflation Turkey (CPI Turkey) - the inflation is based upon the Turkish consumer price index. The index is a measure of the average price which consumers spend on a market-based "basket" of goods and services. Inflation based upon the consumer price index (CPI) is the main inflation indicator in most countries.
<b>Direct impact</b>	Employment, value-added and tax revenues for governments generated directly by the brewing sector.
<b>Environmental tax</b>	Municipalities in Turkey are authorized to collect an environmental tax as a contribution towards the financing of certain services such as garbage collection. For the households, this tax is levied according to the water consumption of the household which is multiplied by a fixed amount that varies according to the location of the house. For the offices, this tax is levied in scheduled fixed amounts that are adjusted according to the location of the office. This tax is paid through the water bill of the property by the person who lives in or occupies the house or office in question.

<b>EU 28</b>	Average for the 28 European Union Member States or the 28 countries of the European Union: Austria, Belgium, Bulgaria, Cyprus, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom.
<b>Excise</b>	Taxation on the production volume, rather than the production value, of a certain good. In the case of beer it is often related to the amount of alcohol released for consumption.
<b>Exports</b>	The annual volume of beer sold and shipped to foreign countries.
<b>First round employment</b>	The amount of jobs that are directly generated in supply sectors by purchases of the brewing sector. The employment that is generated by purchases of these supply sectors is not included.
<b>Forward linkage</b>	See induced employment
<b>FTEs</b>	Full time equivalents
<b>GDP</b>	Gross domestic product
<b>GDP PPS</b>	Gross domestic product in purchasing power standards
<b>Government revenues</b>	Amount of money received by the government from outside the government entity. In this study these revenues include corporate tax, excise revenues on beer, VAT on beer sold in the hospitality and retail sector and all labour-income-related revenues from jobs in the brewing sector and jobs in other sectors generated by beer production and sales. These income-related revenues include personal income tax, social security contributions paid by employees and social security contributions and payroll taxes paid by employers.
<b>Hectolitre (hl)</b>	A metric unit of volume or capacity. One hectolitre equals 100 litres.
<b>Implicit tax rate on labour</b>	Ratio of taxes and social security contributions on employed labour income to total compensation of employees. It is the sum of all direct and indirect taxes and employees' and employers' social contributions levied on employed labour income divided by the total compensation of employees working in the economic territory increased by taxes on wage bills and payroll.
<b>Indirect employment</b>	Impact of the brewing sector on supply sectors in terms of employment or value-added. For example: farmers selling hops or barley or the manufacturing industry producing bottles, cans, and kegs or brewing equipment.
<b>Induced employment</b>	Employment at companies that distribute or sell beer, mainly in the wholesale, retail and hospitality sectors. For example: bartenders, waitresses and shopkeepers. For this study, the induced employment is confined to the retail and hospitality sectors.
<b>Inflation rate</b>	When we talk about the rate of inflation in Turkey, this refers to the rate of inflation based on the consumer price index (CPI). The Turkish CPI shows the change in prices of a standard package of goods and services which Turkish households purchase for consumption. In order to measure inflation, an assessment is made of how much the CPI has risen in percentage terms over a given period compared to the CPI in a preceding period. If prices have fallen this is called deflation or negative inflation.
<b>Imports</b>	The annual volume of beer bought and brought in from foreign countries.
<b>Multiplier</b>	The multiplier in this study is defined as indirect employment divided by direct employment. Multipliers can also be estimated for induced impact and they can be expressed in terms of employment and in terms of value-added.
<b>On-trade</b>	Beer sales through (licensed) pubs, clubs, bars, restaurants et cetera.

<b>Off-trade</b>	Beer sales through shops, supermarkets and other retail outlets.
<b>Personal income tax</b>	A tax levied on the personal income of people. In this study taxes on income from labour generated by beer production and sales are included in the figures.
<b>Personnel cost</b>	The total remuneration payable by an employer to an employee in return for work done by the latter during the reference period. Besides salary, personnel costs also include taxes and employees' social security contributions retained as well as the employer's social contributions.
<b>PET bottle</b>	A bottle made of polyester (polyethylene terephthalate).
<b>Plato degree</b>	A unit measuring sugar content of beer. For tax purposes it is assumed that one °P is equivalent to 0.4% alcohol. Plato degree expresses the weight of any substance in solution as a percentage of the weight of that solution, based upon sucrose dissolved in pure water. A density that measures one °P means that 1% of the weight of the measured liquid is dissolved sugar.
<b>Production value</b>	The amount actually produced by the company, based on sales, including changes in stocks and the resale of goods and services. The production value is defined as turnover, plus or minus the changes in stocks of finished products, work in progress and goods and services purchased for resale, minus the purchases of goods and services for resale, plus capitalized production, plus other operating income (excluding subsidies). Income and expenditure classified as financial or extraordinary in company accounts is excluded from production value.
<b>Purchases of goods</b>	The value of all goods and services purchased during the accounting period for resale or consumption in the production process, excluding capital goods. It refers to externally-bought products and services.
<b>Social security Contributions (SSC)</b>	Financial contributions paid by employees and their employers giving access to the social security system and entitlement to certain benefits in situations of unemployment, sickness, disability or old age.
<b>Stamp Tax</b>	Stamp duty applies to a wide range of documents, including contracts, agreements, notes payable, capital contributions, letters of credits, letters of guarantee, financial statements and payrolls. Stamp duty is levied as a percentage of the value of the document at rates ranging from 0.165% to 0.825%. Stamp Tax is payable by the parties who sign a document. Each and every signed copy of the agreement is separately subject to Stamp Tax.
<b>TAPDK</b>	Turkish Regulatory Committee for Tobacco, Tobacco products and Alcoholic Beverages Market.
<b>Tax parity</b>	Ratio between excises levied on beer and other alcoholic drinks such as spirits and wine (per litre of pure alcohol). Equality of prices of goods. The tendency to tax some drinks more than others.
<b>Top-down approach</b>	Analysis of the direct, indirect and induced effects, taking existing statistics as a starting point.
<b>Value-added</b>	Difference between the production value and the value of purchased inputs (goods and services). In economic terminology value-added is also defined as the reward for all production factors (mainly labour, capital, entrepreneurship).
<b>VAT</b>	A value added tax (VAT) is a form of consumption tax. From the perspective of the buyer, it is a tax on the purchase price. From that of the seller, it is a tax only on the "value added" to a product, material or service. The VAT is Katma Deger Vergisi (KDV) in Turkish and the rates vary between 1% and 18% but it's generally applied as 18%.

# Annex VII: Country Abbreviations

Figure 13: List of countries and abbreviations used in this report

Abbreviation	Country name
AT	Austria
BE	Belgium
BG	Bulgaria
CY	Cyprus
CZ	Czech Republic
DE	Germany
DK	Denmark
EE	Estonia
EL	Greece
ES	Spain
FI	Finland
FR	France
HR	Croatia
HU	Hungary
IE	Ireland
IT	Italy
LT	Lithuania
LU	Luxembourg
LV	Latvia
MT	Malta
NL	Netherlands
NO	Norway
PL	Poland
PT	Portugal
RO	Romania
SE	Sweden
SI	Slovenia
SK	Slovakia
TR	Turkey
UK	United Kingdom
EU28	European Union

# Annex VIII: Impact on Suppliers

Figure 14: Impact on suppliers in 2011<sup>6</sup>

Sectors	Total	Stimulus for Turkey		Turnover per <sup>7</sup> employee	Number of employees
	(mln €)	% spent in Turkey	(mln €)	(in €)	
Agriculture	63	81	51	9,600	5,300
Utilities	19	100	19	381,800	50
Packaging and bottling industry	107	92	98	86,200	1,100
Equipment and manufacturing	13	50	7	86,200	80
Transport and storage	14	100	14	68,600	200
Media, marketing and communication	111	97	107	68,600	1,600
Other services	39	100	39	46,800	800
Total	366	-	335	-	9,170
First-round impact as % of total impact					65
Total indirect effect of brewing sector					14,110

Figure 15: Impact on suppliers in 2012<sup>8</sup>

Sectors	Total	Stimulus for Turkey		Turnover per <sup>9</sup> employee	Number of employees
	(mln €)	% spent in Turkey	(mln €)	(in €)	
Agriculture	78	71	55	10,600	5,200
Utilities	25	100	25	420,500	60
Packaging and bottling industry	131	92	121	94,900	1,300
Equipment and manufacturing	13	55	7	94,900	80
Transport and storage	18	100	18	75,600	240
Media, marketing and communication	166	97	161	75,600	2,100
Other services	40	100	40	51,500	800
Total	470	-	427	-	9,760
First-round impact as % of total impact					65
Total indirect effect of brewing sector					15.020

<sup>6</sup> Presented figures are round numbers

<sup>7</sup> The original data concerning turnover are from 2008. These data were indexed for 2009 and 2010. See annex V. Source : Turkish Statistical institute

<sup>8</sup> Presented figures are round numbers

<sup>9</sup> The original data are from 2008. These data were indexed for 2009 and 2010. See annex V.

# Annex IX: Contact Information

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## The Beer and Malt Producers' Association of Turkey

The Beer and Malt Producers' Association is founded in 2003. The association has 26 members and his main activity is to defend their interests. The purpose of the association is to deal with the problems of the members which perform the beer and malt production or marketing and to develop some suggestions of solutions for these problems, to defend the rights and benefits of the members at the sector basis , to make contribution to the establishment of the competitive environment which will ensure the developments of the sector , to inform the consumers , to observe the international developments and to convey the new information concerning the sector to its members and to perform the duties which are directed at the development of quality.

Meanwhile, the Association is an active member of the European Brewers Confederation (The Brewers of Europe) which is headquartered in Brussels. It is participates in the General Board and Secretary General meetings of this Federation. For more information: [www.biramalt.com](http://www.biramalt.com).

For more information about this study, please contact us.



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