

THE CONTRIBUTION MADE BY BEER TO THE EUROPEAN ECONOMY

Employment, value added and tax

-Full report, European & country chapters-

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PREFACE

The Brewers of Europe commissioned a study on the economic impact of the brewing sector. Ernst & Young have conducted this study in the period of April to December 2005 and we are proud to present herewith the main results. The economic impact of the brewing sector has been analysed and described at both the level of Europe as a whole and at the level of individual countries. The study has focused on the 25 member states of the enlarged European Union (EU-25) and also on Norway, Switzerland, Croatia, Bulgaria, Romania and Turkey.

In this, the full report, we present the results at both the European and the national level; for a summary of the main results at the European level we refer to the summary report on Europe.

The economic impact of the brewing sector has been described in terms of employment due to the production and sale of beer, the contribution to the European economy in terms of value added and in terms of tax revenues collected by national governments. In the study we have distinguished between the direct and indirect impacts of the brewing sector, with the latter describing both the impact on supply sectors to the brewing sector and the impact of the sale of beer on the retail and hospitality sectors. The report therefore gives some measure of the contribution that the brewing sector is making to the EU's aims, within the Lisbon Strategy, of ensuring a more dynamic and stronger EU economy in the future.

Conducting this study at the scale of Europe has only been possible with the help of the national associations for the brewing sector. Individual brewing companies have been an important source of information as well and we would like to thank both national associations and brewing companies for their commitment to this study. Professor Carl Koopmans from the University of Amsterdam, Faculty of Economics, has also commented on the methodology used and we would like to thank him for sharing his knowledge on economic impact analysis with us.

The study has been conducted by a team of economic researchers from Regioplan Policy Research, subsidiary of Ernst & Young Netherlands, consisting of Marco Mosselman, Remco Meijer and Herbert ter Beek.

Amsterdam, January 2006

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KEY MESSAGES ON THE ECONOMIC IMPACT OF BEER

Europe's brewing sector contributes substantially to productivity, employment and the European economy's competitiveness. The direct economic impact of the breweries constitutes only a small fraction of their total economic impact. The following are some key messages to illustrate the **employment** effect:

- European breweries provide jobs for 164,000 employees, while 2.6 million jobs can be attributed to the brewing sector.
- Each brewery job is matched by two jobs in the supplying sectors. Some 342,000 supply-sector employees owe their jobs to beer.
- Sale of beer in the hospitality sector and through retailers generates considerable employment: a total of 2.1 million jobs in pubs, restaurants and shops. Of these more than 1.9 million are in the hospitality sector.

For the European Union (EU-25) it is estimated that of all those employed (194.4 million in 2004) around 1.2 percent owe their jobs directly or indirectly to the production and consumption of beer. The total employment effect of the brewing sector is then comparable to the total employment of countries such as Slovakia, Finland or Denmark (2.2 to 2.6 million jobs).

In terms of **productivity** and the **value added** impact of breweries:

- The total contribution of the brewing sector to the European economy in terms of value added is 57.5 billion euros.
- Some 21 percent of this is generated directly by the brewing sector (12 billion euros). Supply sectors (20 percent), hospitality sector (56 percent) and retail (3 percent) account for the rest.
- The total production value of European breweries is 34 billion euros, generating an economic impulse of 22 billion euros for the supplying sectors.
- The largest fraction of these euros spent on supplied goods and services concerns purchases made in the services sector (including marketing and media). The 9.8 billion euros spent on services generates some 100,000 jobs in the services sector.
- The indirect economic impact of the brewing sector on agriculture is very significant; the 3.9 billion euros spent on agricultural products generate around 147,000 jobs in this sector.
- Consumers spend an estimated 125 billion euros on beer annually, of which some 72 percent is spent in the hospitality sector.
- European breweries produce 416 million hectolitres beer, of which 23 million hectolitres is exported to outside Europe.

A total contribution to the European economy of 57.5 billion euros in terms of value added can be compared to the gross domestic product of the Polish or Austrian economy in the last quarter of 2004. The total gross domestic product (GDP) of the European Union (EU-25) is some 10,354 billion euros in 2004, meaning that the contribution made to the European economy by the brewing sector is around 0.55 percent of total GDP.

National governments receive a total of 39 billion euros in **tax revenues** from the production and sale of beer. VAT revenues paid by consumers are the most important revenue source at around 19 billion euros. Excise revenues equal 10.5 billion euros and corporate taxes are estimated at almost 900 million euros. Direct personal taxes paid by workers are estimated at 8.4 billion euros.

A total of 39 billion euros in tax revenues is comparable to the total government consumption expenditure of Spain in the first quarter of 2005 (defined as the value of goods and services produced by the Spanish government and all goods and services purchased by the Spanish government from market producers). It represents more than the total annual government expenditure of countries such as Finland or Poland (estimated at around 34 billion euros).

In addition to employment, value added and tax revenues for governments, the brewing sector also generates **other benefits** to the European economy. Brewing companies are very active in sponsoring all kinds of cultural and sports events. Brewing companies are concerned about the well-being of the local communities in which they work, also investing in working conditions of their employees. Furthermore in many countries in Europe, salaries in the brewing sector are high when compared to most other sectors. Investigating these other benefits to the European economy, some of which are difficult to quantify, has not been part of the Ernst & Young study.

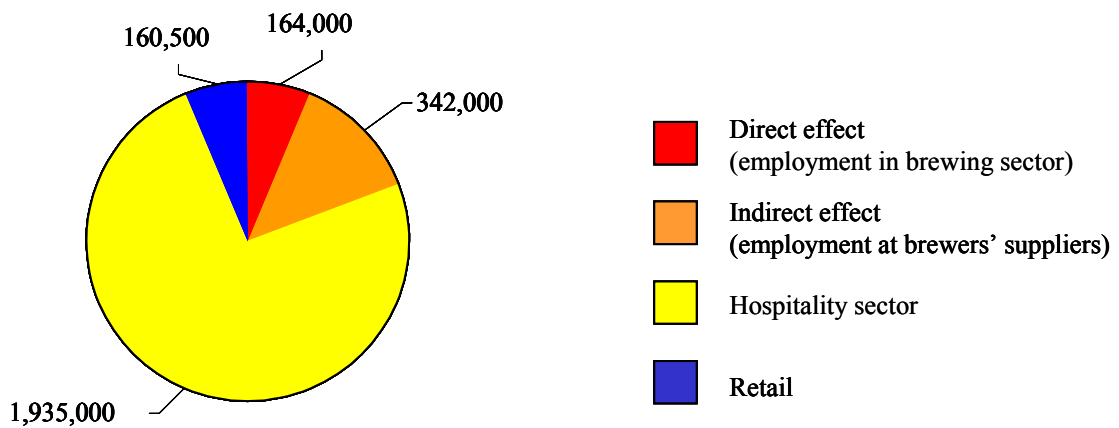
This economic impact study covers 30 countries in Europe. Included are the 25 member states of the European Union¹ and also Norway, Switzerland, Croatia, Bulgaria, Romania and Turkey.

¹ Malta has not been included because of difficulties in obtaining data.

1 HIGH SPIN-OFF EFFECTS ON EMPLOYMENT

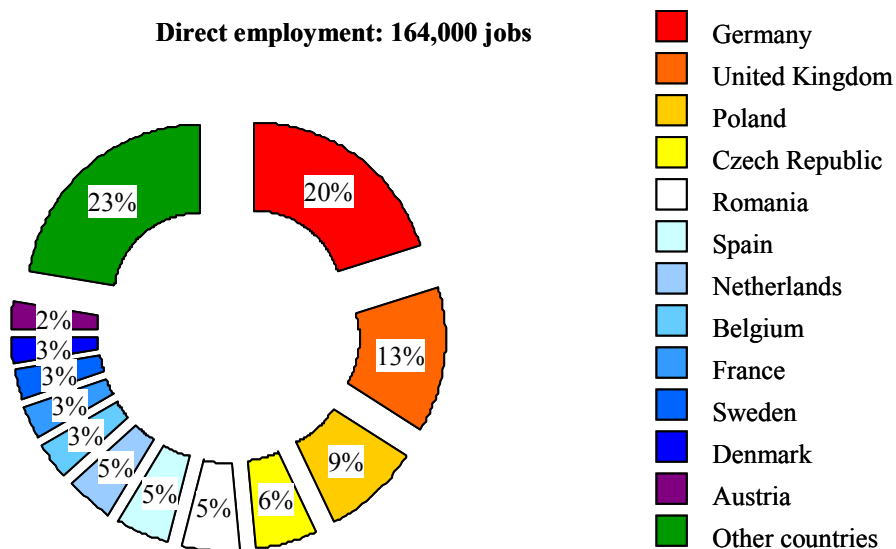
European breweries provide jobs for around 164,000 workers. However, this direct employment represents only a slight fraction of the total employment impact of 2.6 million jobs. For each job offered in the brewing sector, one job is generated in retail, two in the supplying sectors and almost twelve in the hospitality sector.

Total employment impact due to production and sale of beer: 2.6 million jobs



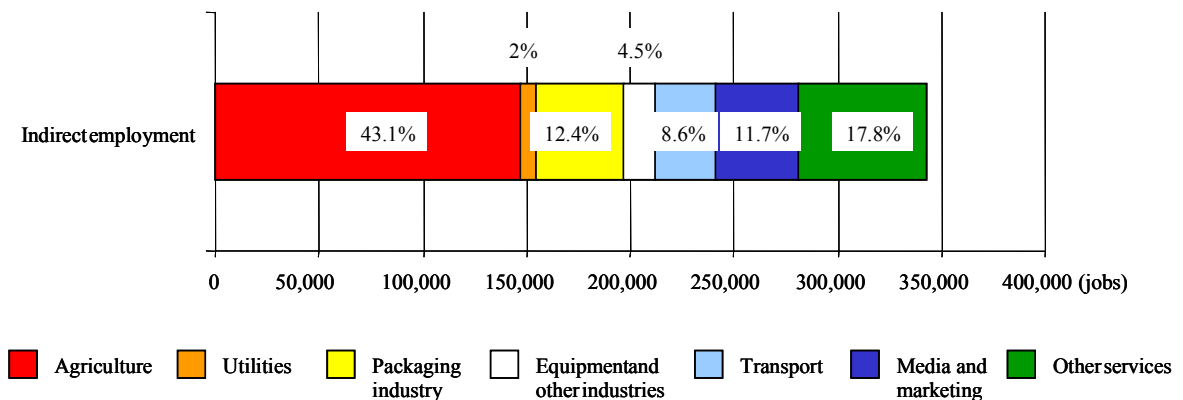
Jobs in the brewing sector are spread across Europe, with concentrations of direct employment to be found in Germany and the United Kingdom, followed by a number of Central and Eastern European countries such as Poland, the Czech Republic and Romania.

Direct employment: 164,000 jobs

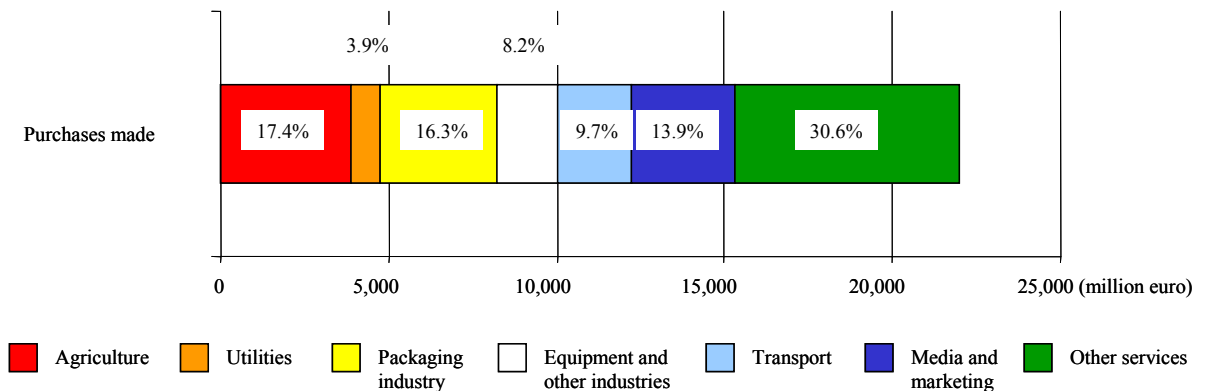


The production of beer by breweries is only possible because various sectors provide the necessary goods and services, ranging from barley, hops and malt to energy and transportation capacity, and including a variety of industrial products and services.

Some 342,000 jobs in these supplying sectors can be attributed to the production of beer:



The brewing sector purchases goods and services from supplying sectors worth 22 billion euros. Almost 45 percent of the total purchases made by European breweries involve the services sectors (including marketing and media):

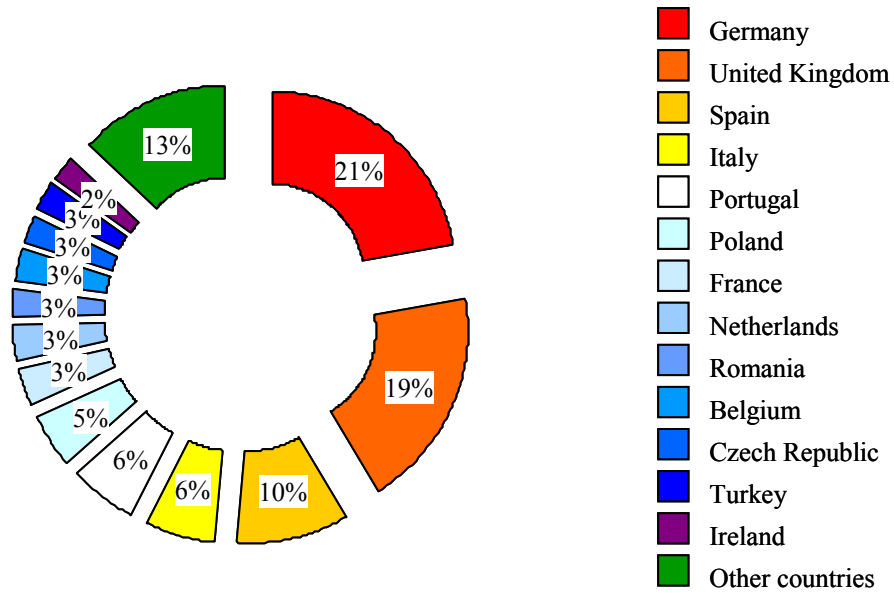


The charts above show that the agricultural sector receives some 18 percent of the breweries' total expenditures on supplies. Agriculture also generates 43 percent of the indirect employment. The explanation is that turnover and labour costs per worker are relatively low in the agricultural sector. A one million euro impulse in the agricultural sector generates around 38 jobs, whereas the same impulse into marketing and media or other services generates 10 jobs.

In addition to the direct and indirect impact of the brewing sector, the number of jobs created by the sale of beer in the hospitality and retail sectors exhibits a far greater effect. More than 1.9 million jobs in the hospitality sector can be attributed to the sale of beer, with another

160,500 jobs in retail. For countries where the on-trade segment of the beer market is relatively important, employment in the hospitality sector tends to be relatively high. Examples are Ireland, Spain, Portugal, the United Kingdom and Slovenia with over 60 percent of beer being sold in pubs and restaurants. The largest fraction of total jobs in the hospitality sector related to beer sales is however found in Germany:

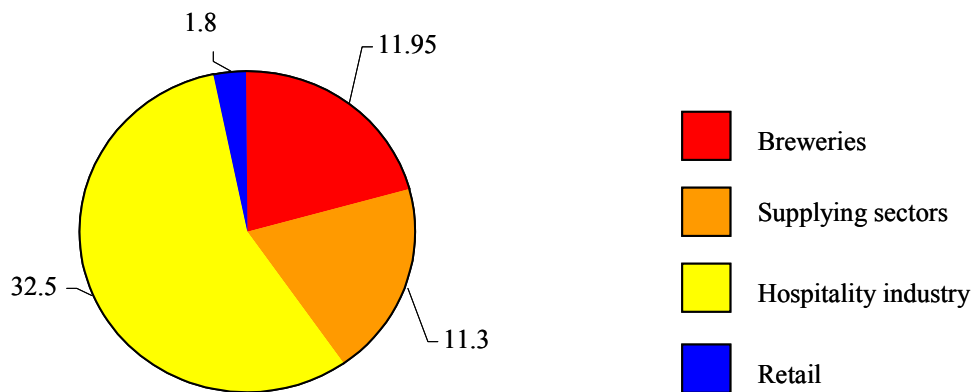
Employment in the hospitality sector: 1,935,000 jobs



2 PRODUCTIVITY AND VALUE ADDED

The direct, indirect and induced contribution of the brewing sector to the European economy is considerable. The total economic contribution from the production and sale of beer in Europe is around 57.5 billion euros:

Value added due to production and sale of beer: 57.5 billion euro

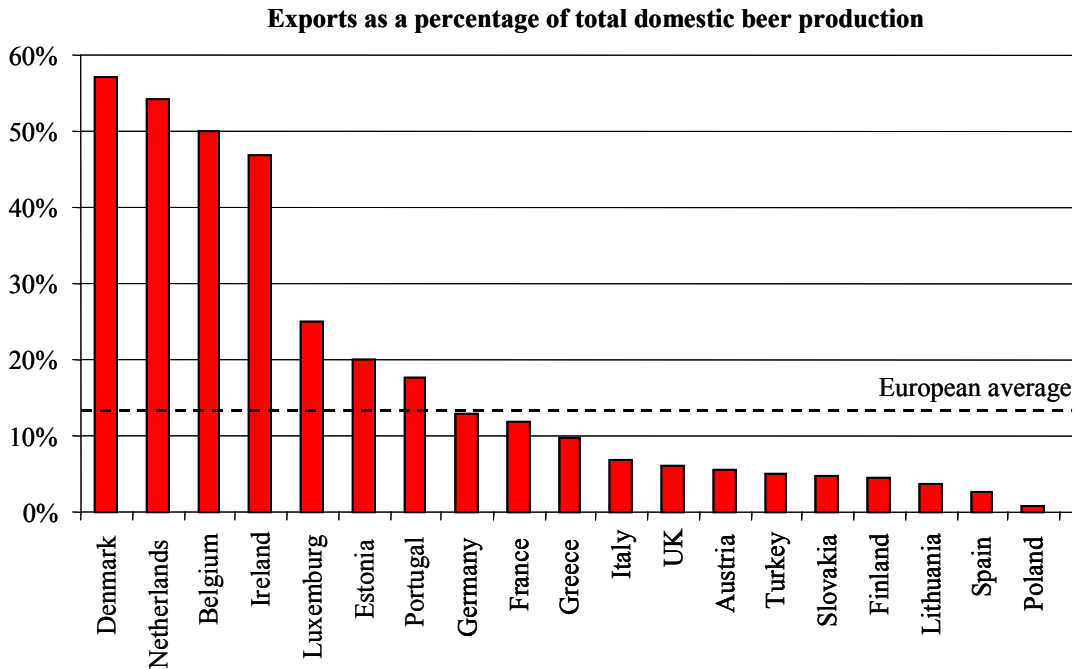


This total of 57.5 billion euros value added is generated by 2.6 million employees working for the breweries, in supplying sectors and in the hospitality and retail sectors. Average value added per employee is therefore some 22,000 euros a year. Value added per European brewery employee is far higher, averaging some 73,000 euros a year, illustrating European breweries' high productivity. The average brewery productivity in terms of value added per employee is also much higher than the average productivity in other industrial sectors such as packaging and equipment.

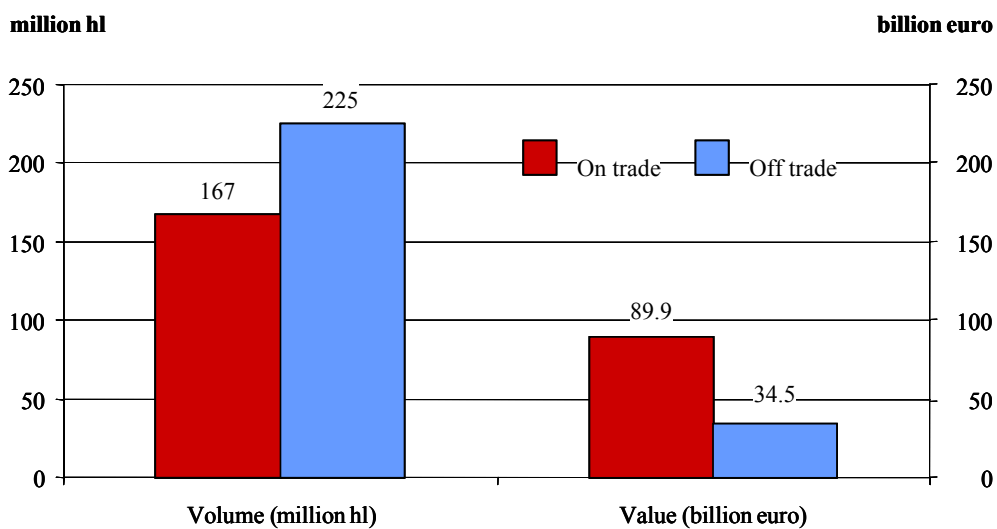
European breweries together produce almost 416 million hectolitres of beer. Some 55 million hectolitres are exported (around 13 percent of total beer production), illustrating the fact that the beer market is very much an international one. However consumers in many countries also prefer to drink domestically, and locally, brewed beers. European beer is appreciated worldwide, which explains why almost 23 million hectolitres are exported to countries outside Europe with the United States the most important target market.

Exports are especially important for countries such as Denmark, the Netherlands, Belgium and Ireland where the percentage of exports compared to total domestic beer production lies between 47 and 57 percent. The strong export position of these countries is partly explained by the fact that these are home to some of the world's largest brewing companies. Beer ex-

ports however involve not only the larger brewing companies. To illustrate: of all 48 professional breweries in the Czech Republic only 5 do not export:



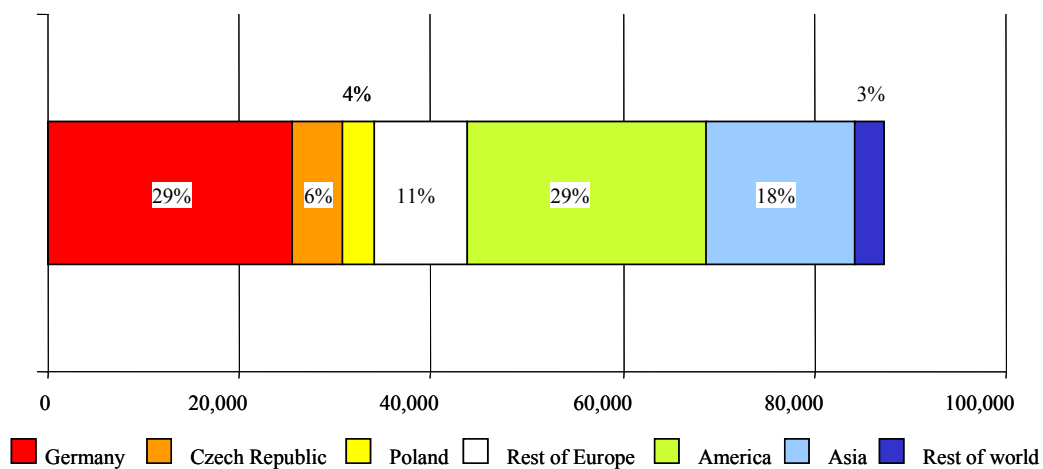
The size of the European market is estimated at around 124 billion euros (including VAT). Almost three-quarters of the market is covered by beer consumption in pubs and restaurants. In terms of volume the retail channel is however more important (off-trade market). Of total European consumption of around 392 million hectolitres, it is estimated that over 57 percent is purchased in supermarkets and other retail outlets.



With a total production volume of 392 million hectolitres, Europe is the world's most important beer producer, followed by China and the United States (around 250 and 230 million hectolitres respectively).

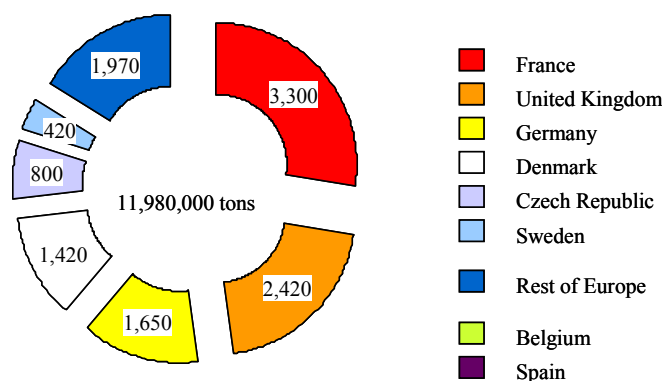
Europe is also the number one producer of malting barley, malt and hops. Around 50 percent of global hops production is of European origin. Germany is by far the most important hops producing country, followed by Poland and the Czech Republic. The United States accounts for some 29 percent of global hops production²:

hop production (mton)

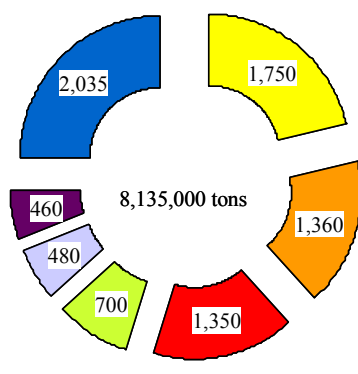


Europe also leads the world in malting barley production, with some 55 percent of the global output being produced in Europe. France, the United Kingdom and Germany are major producers of the barley malt and malt in Europe³:

malting barley (tons)



malt (tons)



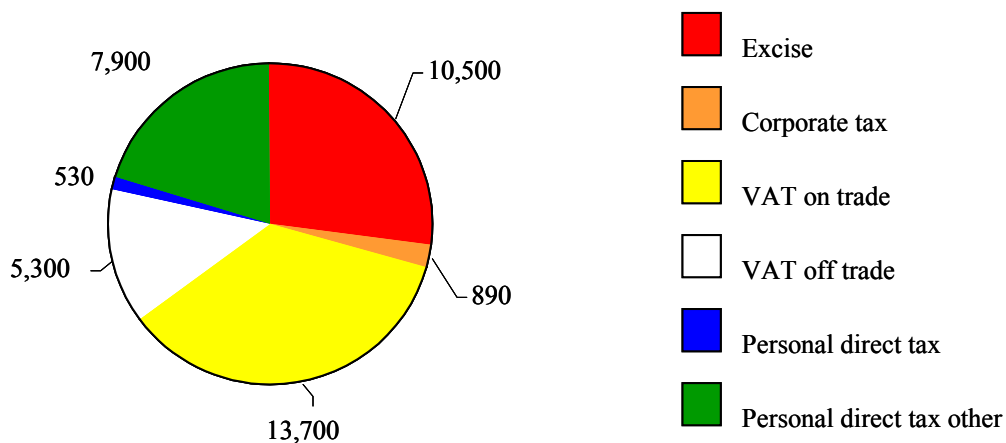
² Joh. Barth & Sohn, *The Barth Report: Hops*, June 2004.

³ According to statistics of Euromalt (November 2005).

3 TAX AND EXCISE REVENUES IMPORTANT TO STATE FINANCE

The financial revenues for European governments arising from the production and sale of beer are extremely substantial. Taxes paid by breweries, beer consumers and employees together total around 39 billion euros a year.

Total tax and excise revenues: 38.8 billion euros



The most important source of European government revenues is VAT. European consumers pay an average 18 percent Value Added Tax (VAT) on their beer consumption. VAT revenues are therefore estimated at 19 billion euros a year for home and hospitality sector consumption put together. Excise revenues also contribute significantly to national treasuries with around 10.5 billion euros being collected annually in excise duties.

Due to relatively high excise duties per hectolitre of beer produced, countries such as the United Kingdom, Ireland, Norway, Finland and Sweden are amongst the top ranked in Europe in terms of excise revenues.

Another source of government revenue is the personal direct taxes paid by brewery employees and those people in the supplying sectors, in retail and in the hospitality sector whose jobs can be attributed to beer. These personal direct employees' taxes total over 8.3 billion euros.

4 WORLD MARKET LEADERS, SMEs AND MICROBREWERIES

The brewing sector is one of the few in which several European-based companies are amongst the leading companies in the world. European beer brands are sold worldwide, either produced in Europe and exported, or manufactured abroad under licence or by subsidiaries of European brewing companies.

There are also many very dynamic and innovative small and medium sized companies (SMEs) and microbreweries. Germany alone has over 1,250 breweries, while in countries such as Belgium, the United Kingdom, the Czech Republic, Poland, Austria, the Netherlands, France, Lithuania and Romania the brewing sector landscape is highly diverse with 45 or more breweries per country. The number of European breweries can be estimated at more than 2,800, but this figure is constantly changing as microbreweries spring up across the European landscape. In many countries the number of breweries is growing fast; in Austria for example the figure has soared 60 breweries in 1980 to over 140 today.

In the brewing sector many companies combine traditions that are often centuries old with modern technology and innovative market approaches and consumers appreciate this combination of innovative technology and tradition. Beer brands are among the most popular brands in many European countries, with many consumers having strong loyalty towards local, regional or national brands. Employees also value the brewing sector, as one with relatively high productivity per employee and therefore good conditions in terms of wages and other labour conditions. Brewing companies are also very active in local communities, supporting many clubs and events, and on a national and global level through the sponsorship of major sports competitions and clubs. Brewers also take their social responsibility very seriously, contributing, through financing and other support, to campaigns to tackle drink driving and other forms of misuse of their products.

5 AUSTRIA: ECONOMIC IMPACT OF BEER

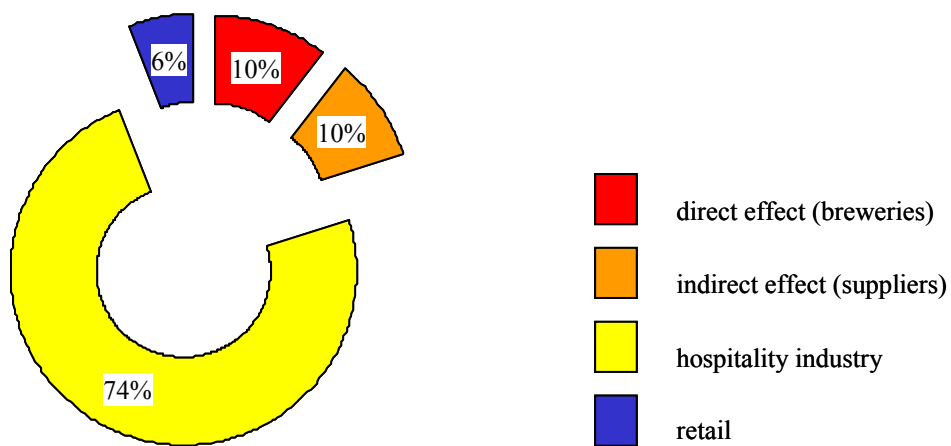
5.1 Highlights on economic impact

The economic impact of the brewing sector on the Austrian economy is substantial:

- Direct employment connected to the Austrian breweries is estimated to be 4,100 jobs.
- Employment in supplying sectors is very important with a total number employed in these sectors because of the brewing sector of around 4,060.
- The impact on the hospitality sector is also huge, with around 30,000 people earning a living in this sector due to beer sales.
- In retail another 2,500 jobs can be attributed to beer sales.
- Government also benefits from the production and sale of beer. Excise revenues, VAT revenues and personal direct taxes paid by brewery employees and workers in other sectors whose jobs can be attributed to ‘beer’ (especially the hospitality sector, retail and the supplying sectors) together amount to some 825 million euros a year.

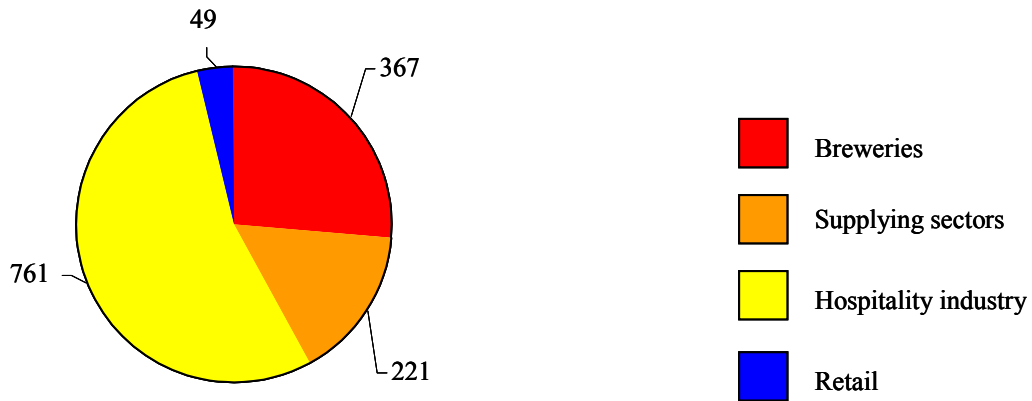
The total employment effect is thus estimated to be 41,000 jobs.

Total employment because of beer: 41,000 jobs



All these jobs generated through the production and sale of beer contribute substantially to the Austrian economy in terms of value added. Total value added generated by the brewing sector in Austria and all economic activities within the supply, hospitality and retail sectors generated due to the production and sale of beer is estimated at 1.4 billion euros:

Value added due to production and sale of beer: 1,400 million euros



The share of the brewing sector in overall value added due to production and sale of beer equals 27 percent, which is much higher than the share of the brewing sector in total employment due to beer. An important explanation for this is the high productivity of employees in the brewing sector compared to sectors such as retail and hospitality in terms of value added.

5.2 Market and industry structure, trends and developments

The production of beer in Austria, measured in hectolitres, has not changed significantly in recent years. In 2000 total production amounted to 8.75 million hl, in 2003 it was slightly higher with a volume of 8.89 million hl, and the first estimate for 2004 shows production falling to 8.67 million hl. Beer exports and beer imports show a different pattern, with exports currently 0.58 million hl, where it has been as high as 1 million hl in 1994. Imports show a steady increase and now amount to more than 0.555 million hl⁴:

| Key variables | Millions hectolitres ⁵ | Illustration |
|--------------------|-----------------------------------|--|
| • Production | 8.89 | Level of production is stable in recent years |
| • Exports | 0.46 | Around 32 percent is exported to Italy (in 2001) |
| • Imports | 0.55 | |
| • Consumption | 8.98 | Constant level, as with production |
| • Draught | | |
| • Home consumption | 65% | The percentage of beer sold on-trade has slightly fallen since 1994 (from 36 to 35 percent) ⁶ |

The number of breweries has increased since 1980, from 59 breweries then to 143 today. Many are small ('microbreweries'). If the smallest breweries are not counted, there are 61 breweries in Austria⁷:

| Category | Number of production units | Estimated market share |
|--------------------------------|----------------------------|------------------------|
| < 50,000 hl per year | 112 < 20,000 hl | 1.8% |
| | 9 with 20-50,000 hl | 3.5% |
| 50,000 – 100,000 per year | 6 | 3.8% |
| 100,000 – 500,000 per year | 9 | 21.7% |
| 500,000 – 1,000,000 per year | 7 with 500-1,500,000 hl | 69.2% |
| 1,000,000 – 2,500,000 per year | | |
| 2,500,000 – 5,000,000 per year | | |
| > 5,000,000 per year | | |

The market share of the larger breweries, measured in the volume of beer sold in hl, has increased significantly, from 43.5 percent in 1980 to 69.2 percent at the moment. The brewing company with the largest market share has a market share of 53 percent. This brewing company is part of one of the major European brewing companies since 2003. There are two runners up, both with a market share of around 9 percent (750-800,000 hl a year).

⁴ Verband der Brauereien Österreichs, *Statistische Daten über die österreichische Brauwirtschaft: 1980-2004*, 2004.

⁵ Data shown is for 2003.

⁶ In 2001 the market share of casks was 31 percent.

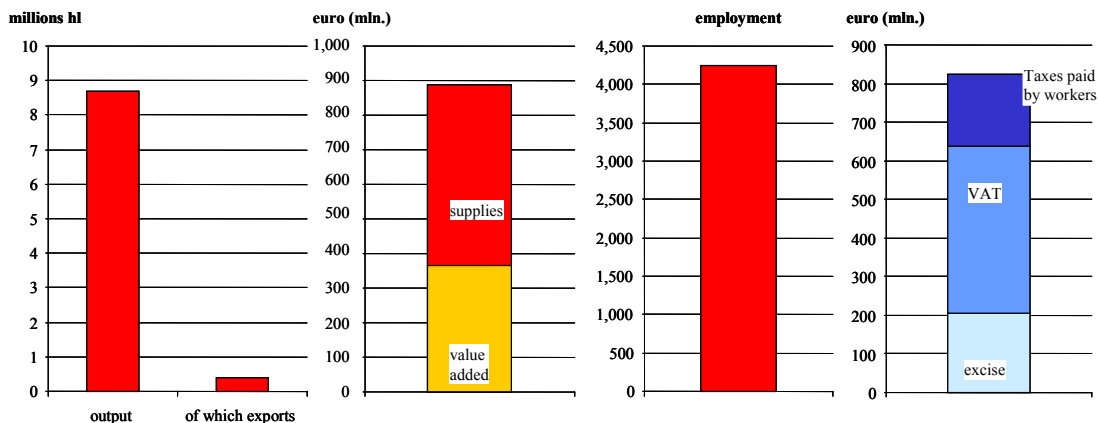
⁷ Verband der Brauereien Österreichs.

The economic impact of the brewing sector is influenced by the following trends, developments and characteristics of the Austrian economy:

| Brewing sector internal characteristics | Context in which the brewing sector operates |
|---|--|
| <ul style="list-style-type: none"> • Consumers are loyal to their local beer (brand and type of beer) • Beer consumption per capita is high (109 litres) from a European perspective (only in the Czech Republic and in Germany is average consumption per head higher) • Average production of the professional breweries (excluding the microbreweries) amounts to 142,000 hl a year | <ul style="list-style-type: none"> • Austria has a well developed cluster of supplying sectors to the brewing sector, so that even though the country is relatively small, a large proportion of purchases by breweries are made domestically |

5.3 Direct effect of brewing sector

Brewing sector turnover for 2004 was € 880 million⁸. The industry employs some 4,250 workers (of whom 4,100 work for the 61 'professional' breweries).



The sector generated € 367 million of added value, plus an additional € 206 million in excise duties (in 2003).

Tax revenues from the production and consumption of beer are estimated at around 825 million euros. At around 450 million euros, VAT revenues are the largest fraction of these tax revenues for the Austrian government (around 300 million euros arises from the on-trade sale of beer). Excise revenues are estimated at 206 million euros and the remaining fraction of tax revenues (187 million euros) consists of personal direct taxes paid by employees of the

⁸ Estimate based on Ottakringer Brauerei: € 73.5 million euros turnover in 2004 with 751.3 million hl sold. For 2002 Eurostat presents a production value for Austrian breweries of 886 million and a value added of 367 million euros.

brewing sector and workers in other sectors whose jobs can be attributed to the production and consumption of beer (i.e. in supplying sectors and in the hospitality sector and in retail).

With total production value of 880 million euros, around 58.6 percent is spent on goods and services delivered by supplying sectors, so that these supplying sectors benefit from the brewing sector (the indirect effect of the brewing sector).

5.4 Economic impact of breweries on suppliers of goods and services

In 2003 Austrian brewers spent an estimated € 515 million on purchased goods and services⁹. Based on data from one of the Austrian breweries and input-output data from Statistik Austria), it is estimated that the largest fraction of purchases made by the Austrian breweries in sectors such as utilities, transport, packaging industry and services is made domestically. For agricultural products and other industrial products the fraction of imports from abroad is higher.

The largest proportion of total employment generated by the brewing sector in the supplying sectors consists of employment in the agricultural sector, followed closely by the services sectors (including media and marketing). The impact on agriculture is estimated using the ratio between total turnover and the total labour force in this sector (respectively 4.8 billion euros and 161,000 workers), so that with a domestic stimulus of 30 million in agriculture, it can be estimated that the brewing sector generates around 1,000 jobs in agriculture.

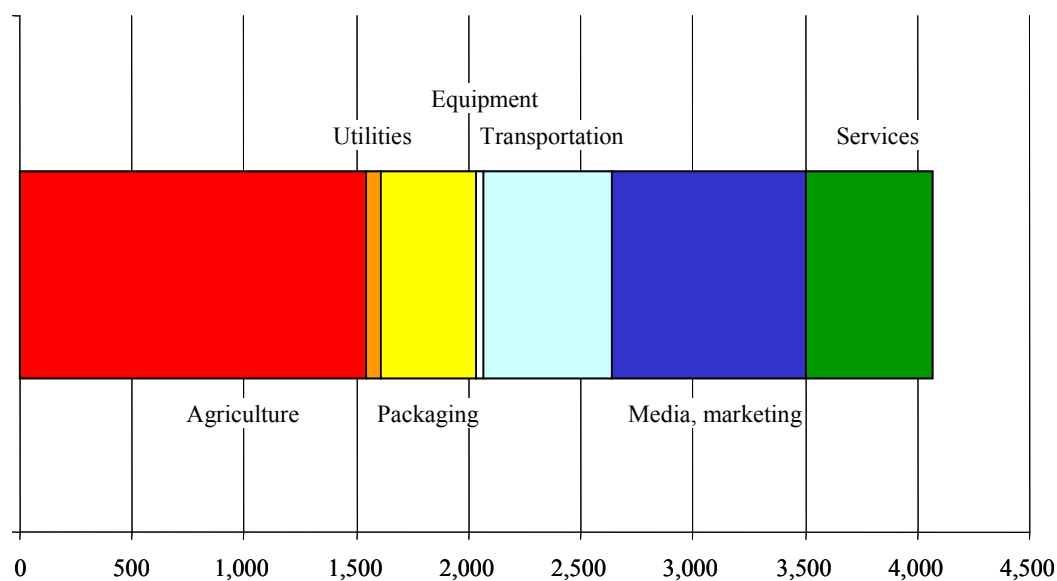
The following table depicts the indirect employment effect of the brewing sector on supply sectors. The table shows that the brewing sector induces around 4,060 jobs in the supply sectors.

⁹ Source: Eurostat.

| Sectors | Stimu- lus | Stimulus for the Austrian economy | | Personnel costs ¹⁰ | | Labour costs per employee | Number of em- ployees |
|--|---------------|---|------------|-------------------------------|----------|---------------------------------|-----------------------------|
| | (mln. €) | % | (mln. €) | % of stimu- lus | (mln. €) | (in €) | |
| • Agriculture | 67 | 45% | 30 | | | | 1,001 |
| • Utilities | 18 | 100% | 18 | 16% | 3 | 64,452 | 46 |
| • Packaging industry | 74 | 75% | 56 | 21% | 12 | 42,408 | 276 |
| • Equipment +other | 12 | 30% | 4 | 21% | 1 | 42,408 | 18 |
| • Transport | 62 | 95% | 58 | 25% | 15 | 39,132 | 374 |
| • Media, marketing | 177 | 75% | 133 | 25% | 33 | 59,376 | 561 |
| • Services + other | 103 | 85% | 87 | 25% | 22 | 59,376 | 367 |
| Total | 513 | | 387 | | | | 2,641 |
| Primary impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 4,064 |

Total employment generated in the supplying sectors is estimated at around 4,060 jobs. The indirect employment effect is split up as follows:

Indirect employment



¹⁰ Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

5.5 Retail and hospitality sectors

In 2004, around 35 percent of the total beer volume was sold through on-trade outlets. The remaining 65 percent was sold off-trade.

Hospitality sector

Estimating the proportion of total employment in the hospitality sector attributable to the brewing sector:

- Around 35 percent of beer consumption in Austria occurs in the hospitality sector.
- This means 3 million hl are sold by Austrian pubs, restaurants and the like.
- The average consumer price of beer sold on-trade in Austria is estimated at around 6 euros per litre (including VAT), so that total consumer spending on beer (including VAT) is estimated at 1.8 billion euros.
- With a VAT tariff of 20 percent, this results in total consumer spending on beer of around 1.5 billion euros (excluding VAT).
- With an average turnover per employee in the hospitality sector (excluding VAT) of € 50,900, this means some 29,950 people are employed in the hospitality sector due to beer sales.

Retail

The employment impact of beer sales on retail can be similarly assessed:

- Around 65 percent of total beer sales in Austria is beer sold off-trade in supermarkets and other retail outlets.
- This means 5.8 million hl of beer are sold off-trade in Austria.
- The average consumer price of beer sold off-trade in Austria is estimated at 1.36 euros per litre (including VAT), so that total consumer spending on beer (including VAT) is estimated at around 800 million euros.
- With a VAT tariff of 20 percent, this results in total consumer spending on beer of around 660 million euros (excluding VAT).
- With an average turnover per employee in the hospitality sector (excluding VAT) of € 261,200, this means some 2,520 people are employed in the hospitality sector through beer sales.

6 BELGIUM: ECONOMIC IMPACT OF BEER

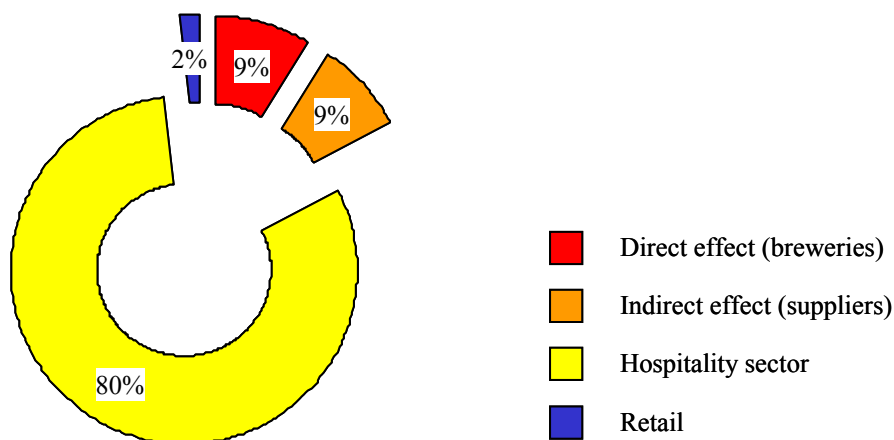
6.1 Highlights of economic impact

The economic impact of the Belgian brewing sector can be expressed as follows:

- Belgium is an important beer country containing many breweries of various sizes producing a wide range of beer types.
- Belgian breweries also export a substantial volume; with 50 percent of its beer exported. Belgium ranks third in Europe, just behind Denmark and the Netherlands.
- The direct employment in Belgian breweries is estimated at 6,025 jobs.
- Although Belgium is a relatively small European country, because there is a well-developed cluster of brewing sector suppliers a large proportion of brewers' goods and services purchases are made in Belgium, benefiting Belgian suppliers in a range of sectors and creating around 5,425 jobs.
- Because more than half of the beer consumed in Belgium is sold on-trade (in pubs), the brewing sector generates important effects for the hospitality sector, where it generates 50,875 jobs. Beer sold in supermarkets generates another 1,250 jobs.
- Belgium's government also benefits from beer, with excise revenues amounting to 207 million euros and a total of 700 million euros in VAT collected on beer sales (in the hospitality sector and retail). The employment generated raises another 375 million euros for the Belgian government in direct personal taxes.

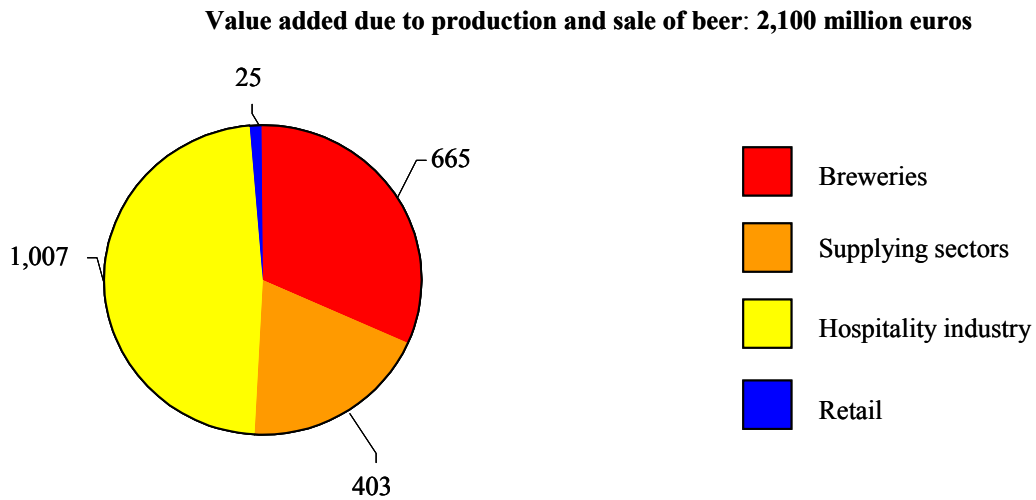
Overall, the production and consumption of beer in Belgium generates some 63,575 jobs:

Total employment due to production and sale of beer: 63,575 jobs



All these jobs that are generated through the production and sale of beer contribute substantially to the Belgian economy in terms of value added. Total value added generated by the

Belgian brewing sector, and all economic activities within the supply sectors and in the hospitality sector and retail generated through the production and sale of beer, is estimated at 2.1 billion euros:



Because value added per employee in the Belgian brewing sector is relatively high (around 115,000 euros a year), the share of the brewing sector in total value added generated through the production and sale of beer is larger than its share in total employment arising from beer.

6.2 Industry and market structure, trends and developments

Belgian Brewers have a long tradition in brewing a range of beer types. A specific characteristic of the Belgian beer landscape is its diversity. Although lager forms the largest proportion of total beer consumption (with 71 percent), also other unique beer styles such as Amber, Abbey, Trappist, White, Gueuze, Fruit beer or Strong Blond beer and several other regional specialities are popular. Belgian brewers export increasing volumes, mainly within Europe, with France and the Netherlands as their largest export markets. Beer exports are important to the Belgian brewing sector, given that some 50 percent of total production is exported¹¹, so that exports have become a significant economic factor for the brewing sector:

| Key variables | Millions hectolitres | Illustration |
|--------------------|----------------------|--|
| • Production | 17.4 | Production has increased by 18 percent since 2000 (in 2000 total production was 14.7 million hl) |
| • Exports | 8.7 | Exports have increased by more than 50 percent since 2000 (with exports in 2000 of 5.5 million hl) |
| • Imports | 1.0 | Imports of German beers are rising. |
| • Consumption | 9.7 | |
| • Home consumption | 44.1% | Home consumption is increasing, on-trade decreasing (as a percentage of total consumption) |

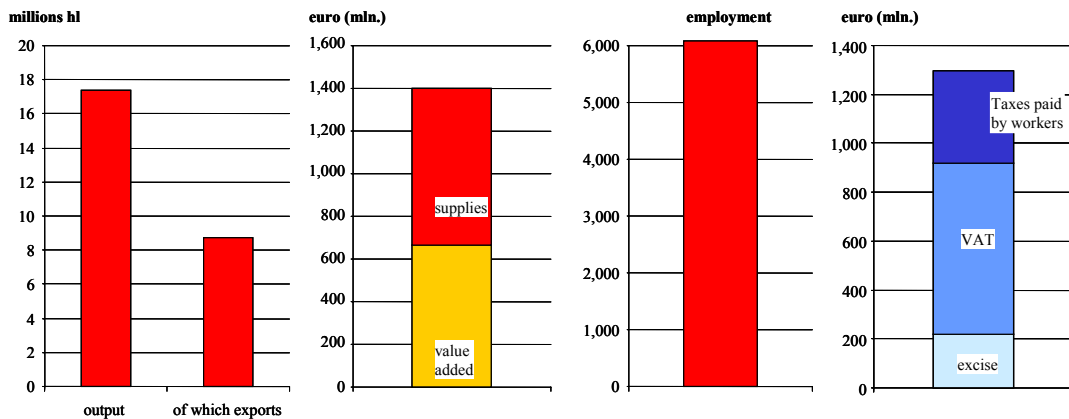
The economic impact of the brewing sector is influenced by the following trends, developments and characteristics of the Belgian economy:

| Brewing sector internal characteristics | Context of the brewing sector |
|---|---|
| <ul style="list-style-type: none"> • Beer consumption is decreasing in Belgium • Exports are rising and around 50 percent of all beer produced is now exported (exports are more than compensating for the decreasing domestic consumption) • The Belgian brewing sector is both fragmented and concentrated, with over a hundred active breweries. Apart from a few larger brewing companies an important number of medium sized and small breweries remains. Complementarity between large and small is a key word for the Belgian brewing sector. | <ul style="list-style-type: none"> • Per capita consumption is still relatively high from a European perspective |

¹¹ In the rest of Europe only countries such as Denmark, the Netherlands and Ireland exhibit such a high ratio of exports to total production.

6.3 Direct effect of the brewing sector

Total direct employment in Belgian breweries is around 6,025 employees. The value of total beer production can be estimated at 1.4 billion euros and value added generated by the Belgian breweries at 665 million euros (around 45 percent of total production value)¹².



Tax revenues are also important, with total excise revenues on beer generating 200 million euros. Beer sold in pubs and cafes means VAT revenues of 585 million euros are generated. Beer sales in supermarkets and other off-trade outlets generate another 115 million euros in VAT. It is also estimated that Belgian brewery employees pay some 34 million euros in personal and direct tax and that workers in the supply sectors, in the hospitality sector and in retail holding jobs attributable to beer sales pay another 340 million euros in personal direct tax. Total tax revenues arising from beer are thus estimated at 1.82 billion euros.

The fraction of total production value that remains within the breweries as value added is relatively high in Belgium. One explanation is that there are many small Belgian breweries, and in general the ratio of value added to total production value tends to be higher for smaller breweries.

¹² See also Federaal Planbureau, *Een economische analyse van de productie en distributie van alcoholische dranken*, working paper 20-03, November 2003 (An economic impact analysis of the production and distribution of alcoholic beverages).

6.4 Economic impact of breweries on suppliers of goods and services

With around 52.5 per cent of Belgian breweries' total production value spent on suppliers, these suppliers benefit from the brewing sector:

| Sectors | Stimu- lus ¹³ | Stimulus for Belgium | | Personnel costs ¹⁴ | | Labour costs per employee (in €) | Number of em- ployees |
|--|-----------------------------|-------------------------|------------|-------------------------------|----------|---|-----------------------------|
| | (mln. €) | % | (mln. €) | % of stimu- lus | (mln. €) | | |
| • Agriculture ¹⁵ | 110 | 85% | 94 | | | | 1,083 |
| • Utilities | 37 | 100% | 37 | 6.8% | 3 | 45,600 | 54 |
| • Packaging industry | 92 | 60% | 55 | 14.7% | 8 | 38,940 | 213 |
| • Equipment | 92 | 60% | 55 | 14.7% | 8 | 38,940 | 213 |
| • Transport | 74 | 95% | 70 | 24.0% | 17 | 34,800 | 476 |
| • Media, marketing | 74 | 80% | 59 | 25.8% | 15 | 52,800 | 288 |
| • Services | 257 | 95% | 244 | 25.8% | 64 | 52,800 | 1,197 |
| Total | 735 | | 614 | | | | 3,526 |
| First round impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 5,424 |

The largest proportion of supplies is purchased from the services sector, along with significant spending on industrial products, agricultural produce and transport. Because the proportion of imports in Belgian brewers' purchases is higher for industrial products than for services, this further stimulates the relative economic impact of the brewing sector on the Belgian services sector.

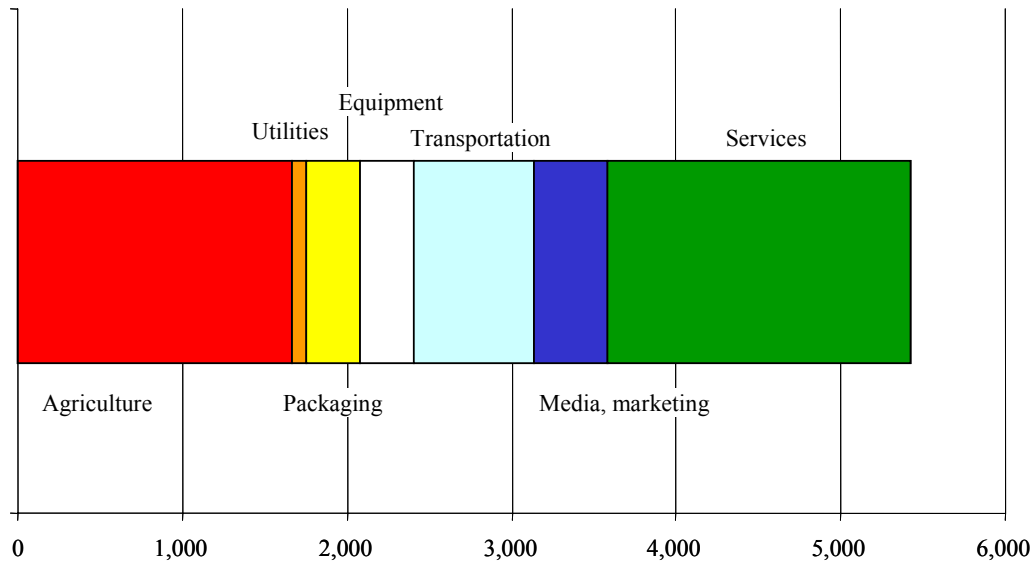
It is estimated that around 5,425 employees in the Belgian supply sectors owe their jobs to the brewing sector:

¹³ Split of total purchases made by Belgian breweries based on a combination of data sources: one questionnaire from a Belgian brewery, Input-Output food and beverage data for Belgium and insights into European patterns of purchases made by breweries.

¹⁴ Personnel costs as a percentage of total output of industries and labour costs per employee obtained from Eurostat data.

¹⁵ For the impact of the brewing sector on agriculture we have used the industry ratio of total turnover to total employment in FTEs (i.e. 6.3 billion euros with 72,000 FTEs) to go from the stimulus in agriculture because of 'beer' (i.e. 94 million euros) to resulting employment (about 1,080 FTEs after one round).

Indirect employment



6.5 Retail and hospitality sectors

More than half of all beer consumed is sold by the hospitality sector¹⁶: 55.9 percent is sold by pubs and restaurants and the other 44.1 percent is bought by consumers via retail. Belgium has some 45,660 firms in the hospitality sector, providing jobs to 144,700 employees^{17 18}. Around 18,900 of these firms are pubs and cafes, with the number of pubs decreasing in recent years (from 21,800 in 2000 to 18,900 in 2003).

Hospitality sector

Our approach to estimate employment in the hospitality sector attributable to the brewing sector, takes the volume of beer sold in the hospitality sector as a percentage of total beer consumption in Belgium as its starting point:

- Around 56 percent of beer consumption in Belgium occurs in the hospitality sector.
- This means 5.34 million hl are sold by Belgian pubs, restaurants and the like.

¹⁶ Source: Belgian Brewers, www.beerparadise.be, 23 June 2004.

¹⁷ Source: Belgian Brewers, *Accijnzen op bier (Excise on beer)*, May 2005. Figures are based on De Tijd, 19 February 2005, data for 2002).

¹⁸ Another report indicates there are 55.000 firms in the hospitality sector in Belgium, with 145,000 employees. Some 86 percent of this employment is connected to restaurants. Source: Federaal Planbureau, *Analyse du secteur Horeca*, Decembre 2004. This study explains that total restaurant production value is 25 per cent dependent on the sales of drinks (while 56 percent of restaurant production value is created by selling food).

- Around 70.9 percent of consumption is lager, with an average pub consumer price of 1.42 euros per 25 cl. Per litre this means that consumers pay around 5.68 euros, so that total consumer spending on lager is 2.15 billion euros.
- Around 29.1 percent of consumption is of special beers (e.g. Trappist, Abbey, Amber, Gueuze, White, Strong Blond or Fruit beer), with an average pub consumer price of 2.52 euros per 33 cl. Per litre this means consumers pay 7.56 euros, so that total consumer spending on special beers is 1.17 billion euros.
- Total turnover arising from beer sales in the Belgian hospitality sector can thus be estimated at some 3.3 billion euros (2.8 billion euros excluding VAT).
- Turnover in the Belgian hospitality sector per employee, excluding VAT, is 54,700 euros a year¹⁹.
- Total employment in the Belgian hospitality sector arising from beer sales is 50,875 jobs.

Retail

This approach can also be used to estimate employment arising from retail beer sales:

- Around 44 percent of beer consumption in Belgium is of beer sold by retail outlets.
- Around 4.3 million hl are thus bought in Belgian supermarkets at an average price of 1.55 euros per litre. Total consumer spending on beer in Belgian supermarkets is thus estimated at 665 million euros (including VAT; 549 million euros excluding VAT).
- Average turnover per employee in Belgian retail is estimated at 435,800 euros a year (excluding VAT), so that some 1,260 employees in retail owe their jobs to the sales of beer.

¹⁹ Eurostat, statistics on turnover per persons employed in services ('hospitality sector').

7 CYPRUS: ECONOMIC IMPACT OF BEER

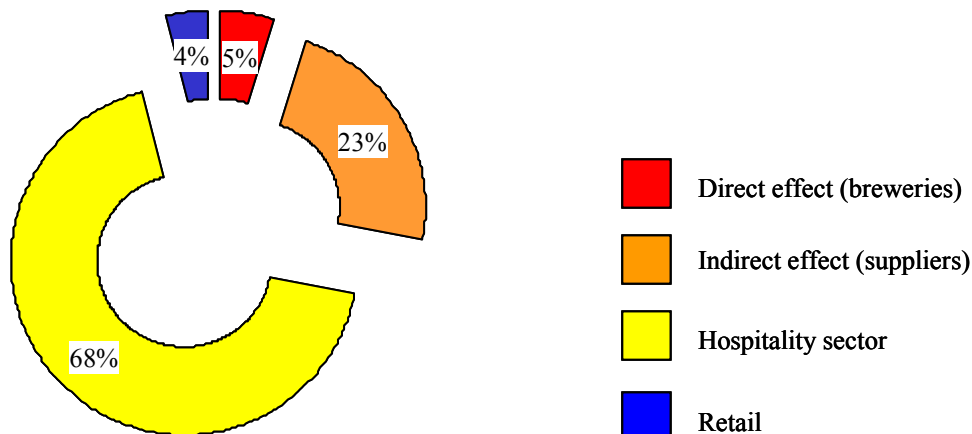
7.1 Highlights of the economic impact

The most important characteristics of the Cypriot beer market are:

- A consolidated market with two breweries.
- Tourism accounts for a major part of all beer consumption as more tourists come to Cyprus than the entire Cypriot population.
- Cypriot breweries employ 770 people (FTE).
- Because of goods and services bought in supplying sectors, additional indirect employment is generated of around 149 employees. In the hospitality sector 2,241 people owe their jobs to the brewing sector. In retail this figure is 143 people. The Cypriot brewing sector generates a total indirect employment of 3,303 jobs.
- Tax revenues for the Cypriot government from the beer sector are approximately 8.4 million euros in excise, 18 million euros in VAT and 4 million euros in direct personal taxes paid by workers. Total tax revenues amount to approximately 30.4 million euros.

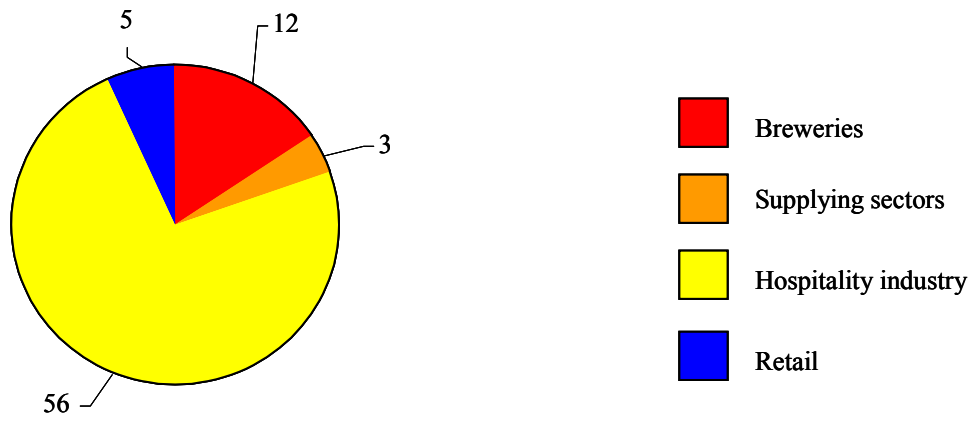
Total employment due to the production and sale of beer is depicted below:

Total employment due to production and sale of beer: 3,300 jobs



The economic contribution of the brewing sector in terms of value added is estimated at some 75 million euros. The largest contribution comes from the hospitality sector, where many jobs can be attributed to the sale of beer. Tourism plays a vital role in this. Almost 75 percent of total value added generated due to the production and sale of beer originates from the hospitality sector:

Value added due to production and sale of beer: 75 million euros



7.2 The brewing sector: market structure, trends and developments

Cyprus is one of Europe’s smallest beer markets, having just two breweries. Beer consumption was around 47 litres per capita in 1997, although this figure is distorted significantly due to the high influx of tourists, which assumes a market volume of approximately 0.35 million hectolitres.²⁰ In 2004 the market grew to a consumption of around 0.39 million hectolitres. About 2 million litres beer were imported and 1 million litres were exported. Local production in 2004 was around 38 million litres.

Because of its geographical situation as an island, many resources used for brewing have to be imported. Only utilities (e.g. water, electricity), transport, storage and pallets are purchased on the island²¹. Almost all other resources are bought from the European mainland.

The economic impact of the brewing sector is influenced by the following trends, developments and characteristics of the Cypriot economy:

| Brewing sector internal characteristics | Context in which the brewing sector operates |
|---|--|
| <ul style="list-style-type: none"> • Two industrial breweries. • Imported beer brands as well as locally brewed beers on the market. • Exports to Greece among others. | <ul style="list-style-type: none"> • Tourism generates an important quantity of consumers in the local beer market. |

7.3 The direct effect of the brewing sector

The brewing companies had approximately 770 direct job positions in 2004.²²

The indirect employment impact of the Cypriot brewing sector on suppliers of goods and services domestically is estimated at 149 jobs.

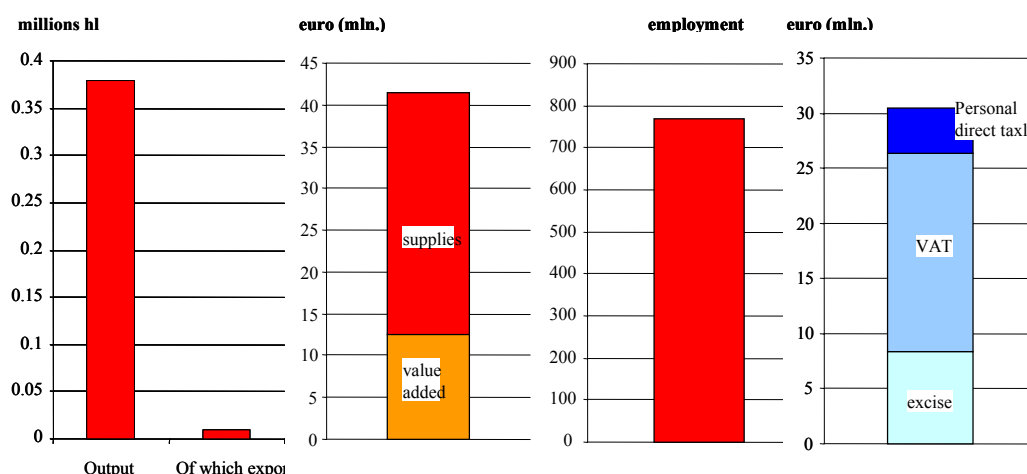
The realised production value of both breweries together is estimated at 41.4 million euros, of which approximately 29 million euros is spent on supplying sectors, mainly abroad.²³ This means that the Cypriot breweries together realise about 12 million euros value added:

²⁰ Source: Carlsberg Annual report 1997-1998

²¹ Information obtained from the questionnaire survey.

²² Source: expert interviews.

²³ Based on country comparison data analysis.



7.4 Economic impact of brewing sector on suppliers of goods and services

Because around 70 percent of total Cypriot brewery production value is estimated to be spent on suppliers, breweries have an important economic impact on supplying sectors:

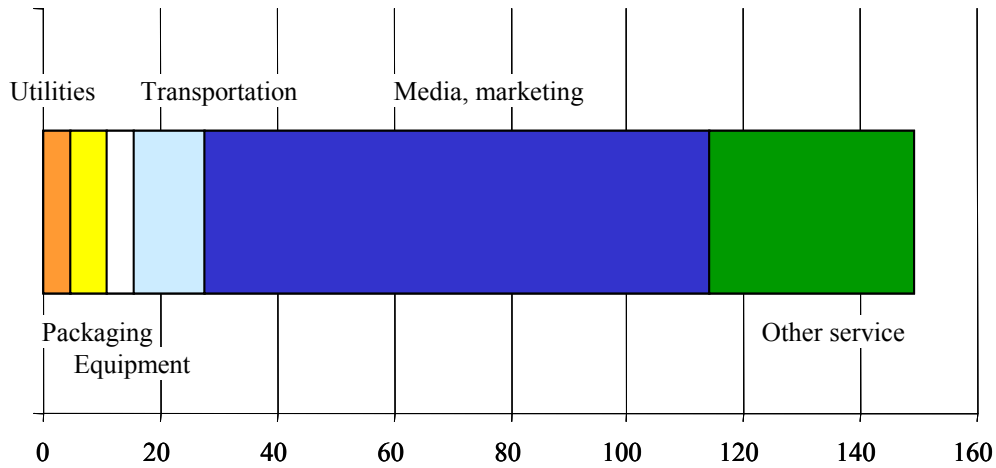
| Sectors | Stimulus (mln. €) | Stimulus for the Cypriot economy | | Personnel costs ²⁴ | | Labour costs per employee (in €) | Number of employees |
|--|----------------------|----------------------------------|----------|-------------------------------|----------|-------------------------------------|---------------------|
| | | % | (mln. €) | % of stimulus | (mln. €) | | |
| • Agriculture | 6 | 0% | 0 | 8% | 0.09 | 31,200 | 0 |
| • Utilities | 1 | 100% | 1 | 16% | 0.07 | 16,824 | 3 |
| • Packaging industry | 9 | 5% | 0 | 16% | 0.05 | 16,824 | 4 |
| • Equipment +other | 3 | 10% | 0 | 22% | 0.19 | 23,892 | 3 |
| • Transport | 1 | 100% | 1 | 25% | 1.51 | 26,856 | 8 |
| • Media, marketing | 6 | 95% | 6 | 25% | 0.61 | 26,856 | 56 |
| • Services + other | 3 | 70% | 2 | 8% | 0.09 | 31,200 | 23 |
| Total | 29 | | | | | | 97 |
| First round impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 149 |

Note: For the impact of the brewing sector on agriculture, we have used the industry ratio of total turnover to total employment in FTE to go from the stimulus in agriculture because of ‘beer’ to resulting employment.

²⁴ Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

Total indirect employment due to the production of beer is depicted below:

Indirect employment



7.5 Retail and hospitality sectors

In Cyprus 60 percent of beer sales occur through the hospitality sector. The other 40% is in the retail market.

Hospitality sector

Estimating employment in the retail sector due to the sale of beer:

- About 40 percent of the total Cyprus beer consumption is beer sold by supermarkets and other retail companies.
- With an average consumer price of 1.58 euros (incl. VAT) per litre²⁵, total consumer spending on retail beer is estimated at 24.6 million euros.
- Because the annual turnover per employee is estimated at 150,300 euros, this means that around 143 people owe their jobs to the sale of retail beer.

Retail

Employment in the hospitality sector due to the sale of beer can be similarly assessed:

- Around 60 percent of beer consumption in Cyprus occurs in the hospitality sector.
- This means that 0.23 million hl are sold by Cypriot pubs, restaurants and the like.

²⁵ Estimated beer price by EY, as real prices fluctuate and beer in different price ranges is available.

- The average consumer price of beer is around 2.50 euros per consumption (of 50 cl.).²⁶ This leads to an estimate of about 101.7 million euros (excl. VAT) spent by consumers on beer in pubs and restaurants.
- The turnover per employee in the Cypriot hospitality sector is 45,400 euros annually.²⁷
- Total employment in the Cypriot hospitality sector because of beer sold thus equals some 2,241 employees.

²⁶ Estimated beer price by EY, as real prices fluctuate and beer in different price ranges is available.

²⁷ Source: Country comparison analysis based on Eurostat, Turnover per persons employed in services (2001).

8 CZECH REPUBLIC: ECONOMIC IMPACT OF BEER

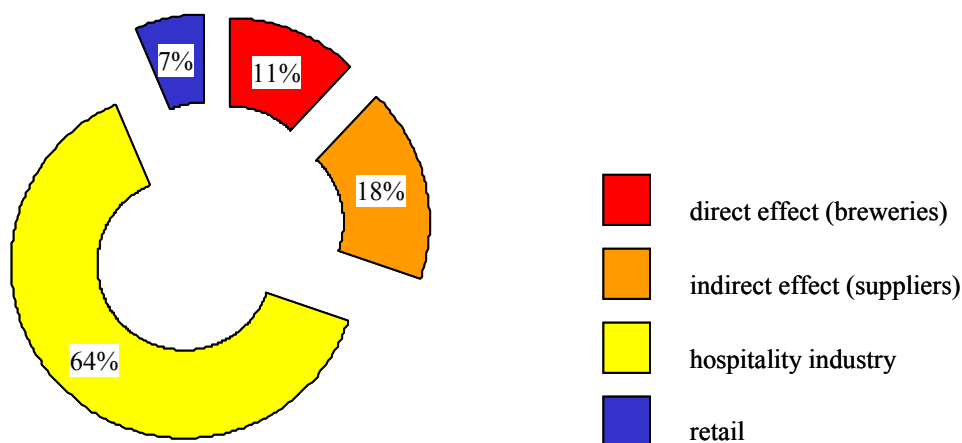
8.1 Highlights on economic impact

The economic impact of the brewing sector on the Czech economy is substantial:

- The direct economic impact of the Czech breweries on employment is estimated to be 8,600 jobs.
- More jobs are created because of goods and supplies purchased by breweries in supplying sectors (almost 13,900 jobs).
- In the hospitality sector some 49,000 jobs can be attributed to the brewing sector and in retail around 5,000 employees hold jobs related to beer sales.
- The total employment effect of Czech breweries on the national economy is around 76,000 jobs.
- The Czech government benefits from taxes received due to the production and consumption of beer. Total VAT revenues are estimated at 240 million euros and personal direct taxes paid by employees of the Czech breweries and of workers in the supplying sectors and the hospitality and retail sectors whose jobs can be attributed to beer are estimated at 66 million euros.

The employment effect of the Czech brewing sector on the national economy is depicted as follows:

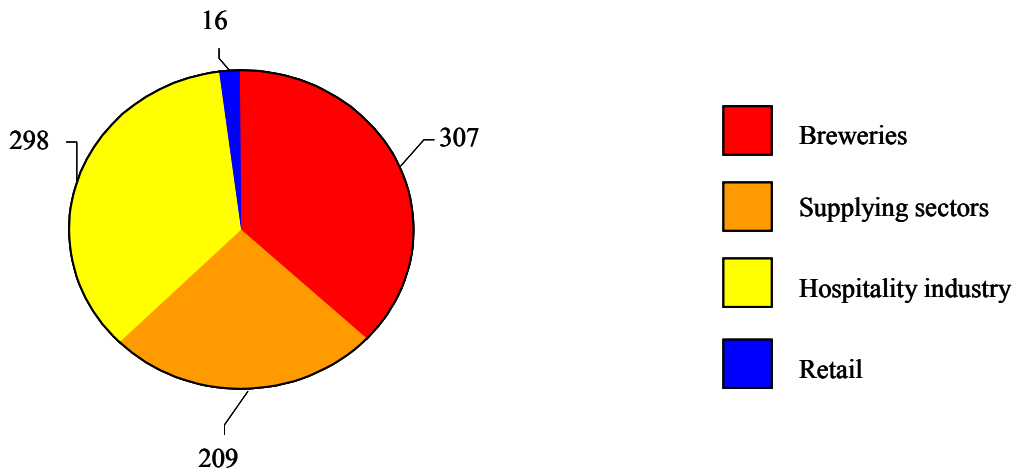
Total employment due to production and sale of beer: 76,000 jobs



The total contribution to the Czech economy in terms of value added due to the production and sale of beer is estimated at 830 million euros. The hospitality sector and the brewing

sector themselves are responsible for around 35 percent of total value added due to the production and consumption of beer.

Value added due to production and sale of beer: 830 million euros



8.2 Market and industry structure, trends and developments

The Czech Republic can call itself the ‘home of beer’, especially where lager (‘pilsen’, beer brewed according to the Bohemian tradition) is concerned. Beer has been produced for centuries in Pilsen, Budejovice (Budvar) and other towns. An important moment in history for the Czech brewing sector was the fall of communism in 1988. Since then many Czech breweries have been privatised and/or bought by foreign brewing companies. Thanks to the globally renowned Czech beer tradition and reputation, some of these breweries have increased production substantially. Some Czech breweries operate at a large scale, also exporting a large fraction of their production.

| Key variables | Millions hectolitres | Illustration |
|--------------------|----------------------|--|
| • Production | 18.8 | |
| • Exports | 2.7 | Czech breweries are exporting to many countries (for example: Budvar brewery exports 45 percent of its production) |
| • Imports | 0.2 | |
| • Consumption | 17.9 | |
| • Draught | 47% | |
| • Home consumption | <53% | Bottled beer and canned beer account for 46% and 4% respectively ²⁸ . Some of these beers are also sold on-trade, so home consumption will be less than 53 percent. |

The Czech Republic market leader is one of the major brewing companies in Europe and the owner of the largest Czech brewing company which consists of three breweries, in Plzen, Nosovice and Velke Popovice. The market share of this company is estimated to be at least 45 percent²⁹. This group produced over 9 million hectolitres in 2003 (in 2000: 7.7 million hl), of which some 1.5 million hectolitres are exported (exports have tripled since 2000). Their main brand is also produced in other neighbouring countries, such as Poland.

The number two in the Czech beer market, also part of one of the major European brewing companies, possesses an estimated market share of 14.2 percent³⁰ (with the largest brewery of this group producing around 1.2 million hl). One state-owned brewery has an annual production of around 1.1 million hectolitres of which over 500,000 hectolitres are exported (45 percent).

²⁸ Source Český svaz pivovaru a sladoven.

²⁹ Alan Clark and Gary D. Leibowitz (SABMiller), *SABMiller Europe: Overview and prospects*, October 26, 2004.

³⁰ Interbrew, *2003 Annual Report*.

| Category | Number of production units | Breweries |
|--------------------------------|----------------------------|--|
| < 50,000 hl per year | Numerous | |
| 50,000 – 100,000 per year | | Pivovar Cerná Hora (founded in 1530), |
| 100,000 – 500,000 per year | 24 | Bernard Pivo ³¹ , Havlíckuv Brod, Pivovar Holba, Pivovar Hostan, Krakonos, Krásné Brezno, Pivovar Litovel, Louny, Budejovický Mest anský Pivovar, Náchod, Nymburk, Platan, Strakonice, Svijany. |
| 500,000 – 1,000,000 per year | 3 | Pivovar Branik, Krusovice, Starobrnno |
| 1,000,000 – 2,500,000 per year | 4 | Budejovický Budvar, Radegast Staropramen, Pivovar Velké Popovice. |
| 2,500,000 – 5,000,000 per year | | |
| > 5,000,000 per year | 1 | Plzenský Prazdroj-Gambrinus |

The economic impact of the brewing sector is influenced by the following trends, developments and characteristics of the Czech economy:

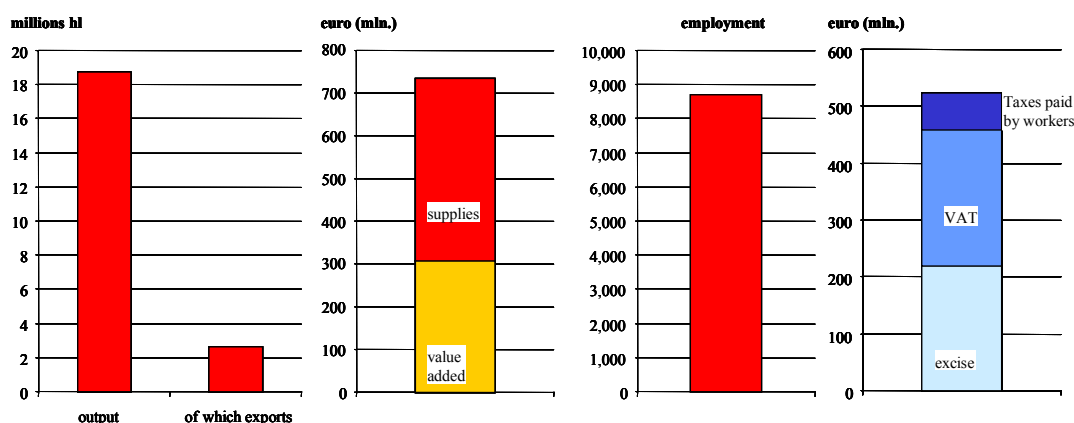
| Brewing sector internal characteristics | Context in which the brewing sector operates |
|---|--|
| <ul style="list-style-type: none"> • Large number of large, medium scale and small (brewing pub) breweries, creating a very diverse beer landscape • Some very modern and large scale breweries together with smaller not yet modernised breweries • Medium scale regional breweries face difficult times with declining production and overcapacity • Some 20 breweries have closed since the fall of communism, but more smaller breweries (brewing pubs and microbreweries) have opened since • SABMiller, InBev and Heineken have invested in Czech beer market shares • Many Czech breweries have still their own malting facilities | <ul style="list-style-type: none"> • Czech Republic leads in per capita beer consumption (160 litres per person) • Because of the good reputation of Czech beer, some breweries have good opportunities for exporting (all large scale breweries and many medium scale breweries currently export) |

8.3 Direct effect of the brewing sector

Total direct employment connected to the Czech breweries is estimated at 8,600 jobs³².

³¹ Belgian brewer Duvel-Moortgat is a strategic partner owning fifty percent of the shares.

³² Source: Český svaz pivovaru a sladoven.



Total production value of Czech breweries is estimated at 734 million euros. 42 percent of total production value is value added for breweries; the remaining 58 percent benefits suppliers. The VAT revenues for the Czech treasury are estimated at 240 million euros (around 150 million euros due to the sales of beer on-trade in pubs and restaurants). Another 64 million euros is received by the Czech government in personal direct taxes paid by employees of breweries and other workers whose jobs can be attributed to the production and sale of beer (i.e. in supplying sectors and in the hospitality and retail sectors).

8.4 Economic impact of breweries on suppliers of goods and services

Because the Czech breweries spend 425 million euros on supplied goods and services, supplying sectors benefit substantially from the brewing sector.

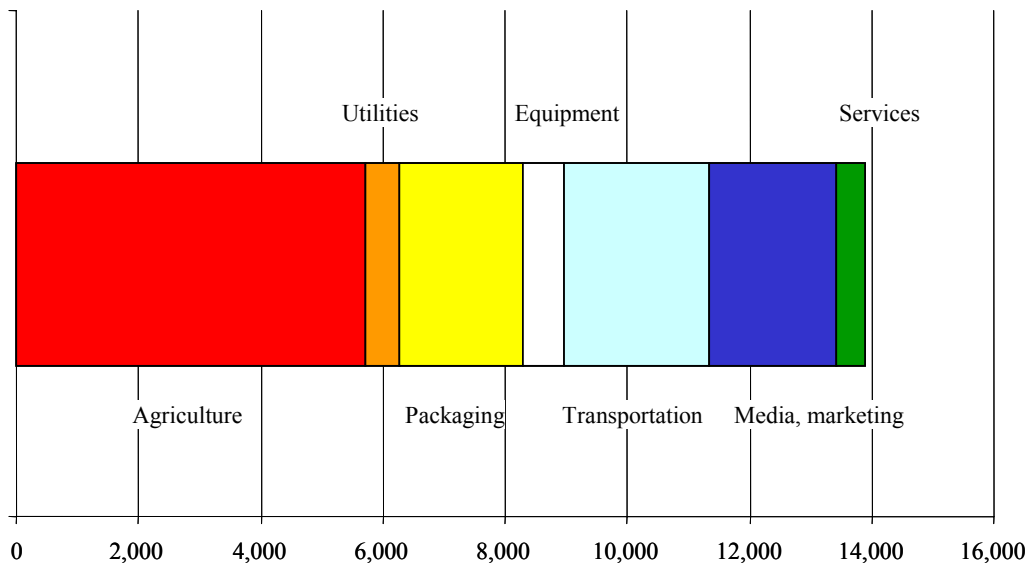
| Sectors | Stimulus (mln. €) | Stimulus for the Czech economy | | Personnel costs ³³ | | Labour costs per employee (in €) | Number of employees |
|--|----------------------|--------------------------------|------------|-------------------------------|----------|-------------------------------------|---------------------|
| | | % | (mln. €) | % of stimulus | (mln. €) | | |
| • Agriculture | 98 | 95% | 93 | | | | 3,713 |
| • Utilities | 38 | 100% | 38 | 8% | 3 | 8,532 | 356 |
| • Packaging industry | 90 | 70% | 63 | 13% | 8 | 6,384 | 1,316 |
| • Equipment +other | 21 | 98% | 21 | 13% | 3 | 6,384 | 439 |
| • Transport | 64 | 100% | 64 | 16% | 10 | 6,468 | 1,553 |
| • Media, marketing | 94 | 95% | 89 | 18% | 16 | 12,132 | 1,345 |
| • Services + other | 21 | 95% | 20 | 18% | 4 | 12,132 | 306 |
| Total | 427 | | 389 | | | | 9,027 |
| Primary impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 13,888 |

³³ Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

Note: Turnover per work unit in the agricultural industry is 25,100 euros, so that with a stimulus of 93 million euros into Czech agriculture companies, the employment effect on this industry can be estimated at more than 3,710 jobs (the primary impact).

Total employment generated in supplying sectors is almost 13,900 jobs. Generated indirect employment is split up as follows:

Indirect employment



8.5 Retail and hospitality sector

The most important economic impact of the brewing sector involves the benefits to the hospitality sector through beer.

Hospitality sector

Estimating the economic impact of the brewing sector on the hospitality sector:

- Around 50 percent of total beer consumption in the Czech Republic is beer sold on-trade in pubs and restaurants.
- With an average consumer price of 1.07 euros per litre (including VAT), this means that around 960 million euros is spent in the Czech Republic on beer in the hospitality sector (including VAT). Total spending excluding VAT is thus around 805 million euros (using a VAT tariff of 19 percent).
- Average turnover excluding VAT of employees working for the hospitality sector is 16,500 euros.

- Almost 48,800 employees in the hospitality sector can thus be attributed to the brewing sector.

Retail

The economic impact of the brewing sector on retail is estimated using the same methodology:

- Around 50 percent of total beer consumption in the Czech Republic is beer sold off-trade in supermarkets and other retail outlets.
- With an average consumer price of 0.61 euros per litre (including VAT), this means that almost 550 million euros is spent in the Czech Republic on beer in the hospitality sector (including VAT). Total spending excluding VAT is thus around 460 million euros (using a VAT tariff of 19 percent).
- Average turnover excluding VAT of employees working for the hospitality sector is 92,000 euros.
- Therefore almost 5,000 retail employees can be attributed to the brewing sector.

9 DENMARK: ECONOMIC IMPACT OF BEER³⁴

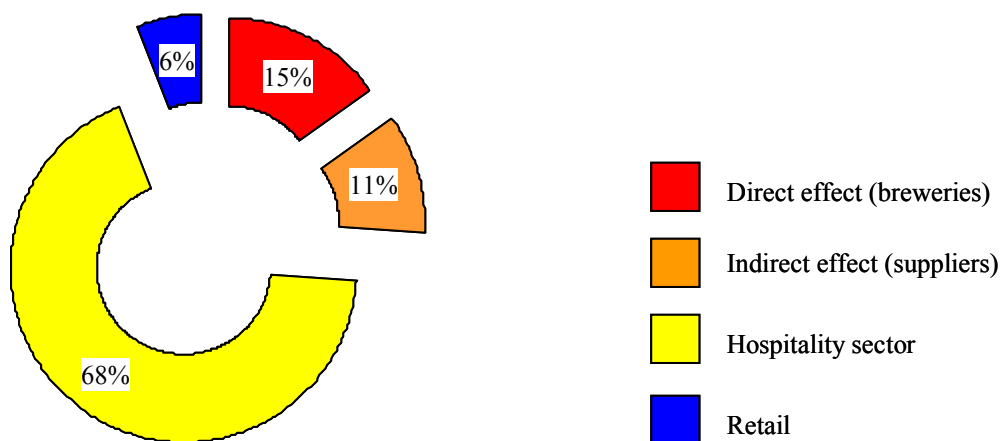
9.1 Highlights of economic impact

The economic impact of the brewing sector can be expressed as follows:

- On a global scale, Danish brewers produce 96.9 million hectolitres of beer annually. Domestic production is 8.5 million hectolitres. Domestic beer sales are 4.9 million hectolitres annually.
- The world's fifth-largest brewery is a Danish company.
- The Danish brewing sector is an intensive export sector. Exports are almost as high as domestic consumption and exceed half of the domestic production.
- Denmark has relatively high private imports from Germany
- The market consists of few large breweries, a number of medium sized breweries and a large and increasing number of micro- and pub breweries.
- The beer sector creates some 28,500 full-time jobs of which 4,150 are in the breweries, 3,200 with suppliers and 22,200 jobs in the retail and hospitality sectors.
- Beer-related VAT, excise and income tax revenues amount to some 800 million euros.

The employment effects of the brewing sector are depicted below:

Total employment due to production and sale of beer: 28,500 jobs

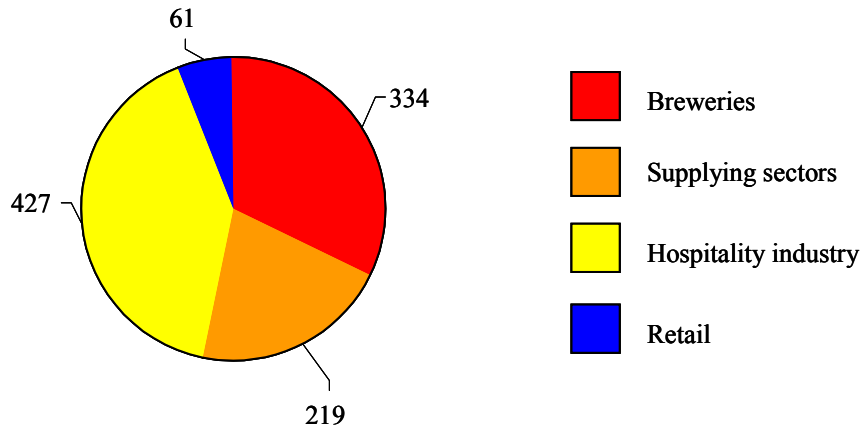


The contribution of the brewing sector to the Danish economy can also be expressed in terms of value added. Total value added of the Danish brewing sector and value added generated by

³⁴ Values were calculated using a conversion rate of € 1 = 7.45 Danish kroner.

firms in the supply, hospitality and retail sectors due to the production and sale of beer amounts to around 1.0 billion euros:

Value added due to production and sale of beer: 1,040 million euro



The share of the brewing sector in overall value added arising from the production and sale of beer is estimated at 32 percent. This is far more than the share of direct employment connected to breweries as a fraction of total employment arising from the production and sale of beer (15 percent). An important explanation is that productivity in terms of value added per employee in the Danish brewing sector is relatively high compared to other sectors.

9.2 The brewing sector: market structure, trends and developments

Danish brewers produced 96.9 million hectolitres of beer in 2004, of which 8.5 million hectolitres were brewed inside Denmark³⁵. According to official statistics, domestic consumption is some 96 litres per person per year. However substantial private imports and exports influence this figure.

| Key variables | Million hectolitres | Illustration |
|--------------------|---------------------|--|
| • Production | > 8.5 | This figure includes only the domestic production by the members of the Danish Bryggeriforeningen. The total figure is higher. |
| • Exports | 4.9 | 4.2 official exports plus an estimated 0.7 private exports |
| • Imports | 1.9 | 0.4 official imports plus an estimated 1.5 private imports |
| • Consumption | 5.6 | 4.9 official sales plus some 0.8 net private imports. |
| • Draught | 13% | 13% of 4.8 million hectolitres official sales. This excludes private imports and exports. |
| • Home consumption | 75% | 75% of 4.9 million hectolitres official sales. This excludes private imports and exports |

Source: The Brewers of Europe, Bryggeriforeningen, Danish National Statistics Agency and own calculations

There are 42 breweries in Denmark, including 3 national brewers, 5 middle size brewers and a substantial number of traditional, micro- and pub-breweries. The larger brewers are also particularly active in the soft drinks and mineral water markets. Some brewing companies also own their own malting plants. The number of micro- and pub-breweries is growing annually.

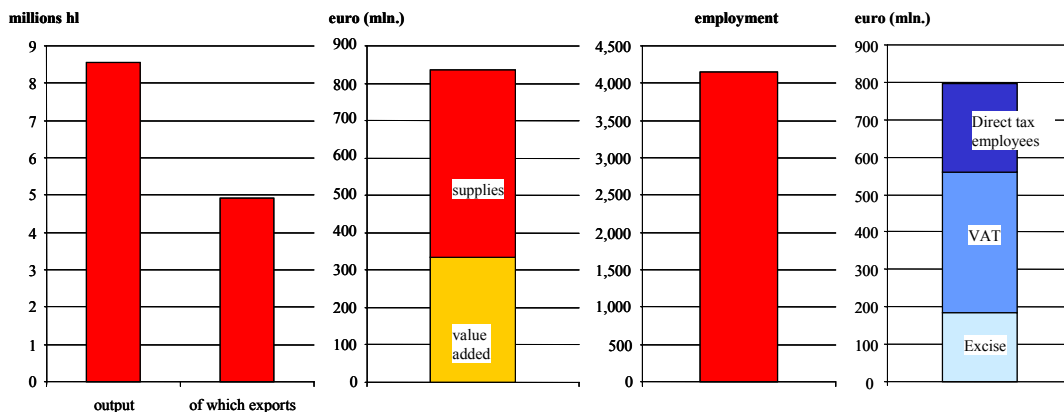
The total volume of beer bought inside Denmark is declining, following the general Western European trend. One explanation is that domestic beer sales are under high pressure from private imports. Another reason is the shift from beer to spirits, following a substantial lowering of the spirits excise duties in 2003. Private alcoholic beverage imports and exports play an important role throughout Scandinavia due to relatively large consumer price differences, largely because of lower VAT and excise rates in Germany³⁶. Estimates of the volume of private imports from Germany to Denmark vary from one-fifth to one-third of the total beer consumption.

³⁵ Source: Danish Brewers' Association (Bryggeriforeningen) and Danish National Statistics Agency.

³⁶ Source: Konkurrencestyrelse (2001), *Priser og avancer i grænsehandelen med øl og sodavand*

9.3 The direct effect of the brewing sector

When considering direct effects, two issues are generally important: employment and value added. Danish breweries employ some 5,000 personnel, 4,150 of them performing beer-related activities. The middle sized breweries each employ around 50 workers. These numbers are relatively low because many processes have been automated and services have been outsourced (benefiting supplying sectors and thus contributing to the indirect effect of the brewing sector). Value added generated by Danish brewing companies inside Denmark and due to the production of beer is estimated at € 334 million³⁷. This figure is lower than total value added generated by Danish brewing companies with brewing activities (estimated at some € 590 million), because of international activities and non beer activities such as soft drinks production and distribution (value added generated with non beer activities is estimated at some € 300 million).



Another direct effect is tax revenue. There are several types of taxes, including excises and VAT. The applicable VAT rate is 25%. In the European Union there are no member states with higher VAT rates for beer; the Danish VAT rate is much higher than the applicable VAT rate in neighbouring Germany. Danish annual VAT revenues from beer sales are estimated at € 375 million.

Although excise levels were lowered by 12.7% in January 2005, Danish excise levels are still higher than the EU average (€ 34.09 per hectolitre of beer at 5% ABV. This compares to € 29.17 in the EU). Especially, excise rates are much higher than in the neighbouring Germany (€ 9.45). Total 2004 excise revenues from beer were an estimated 1,363 million Danish kroner³⁸ (€ 184 million).

³⁷ Source: Estimate by Ernst & Young on the basis of the questionnaire used for this study and publicly available sources such as Eurostat statistics using country comparisons to extrapolate.

³⁸ Source: Danish Ministry of Taxation.

Denmark also has an excise on beer containers. Danish breweries pay a packaging tax for each bottle they fill for the Danish market. The packaging tax is a flat rate tax dependent on the size of the container. The most common container sizes are 25 cl. and 33 cl. For these containers, the tax is DKK 0.10 per container. Given that Danish brewers sell around 3.8 million hectolitres of beer packaged in bottles or cans in their home market, the revenues from this excise on beer containers can be estimated at an additional € 20 million.

Environmental taxes, including energy and water taxes and corporate taxes from beer companies, are difficult to determine. Corporate taxes are especially difficult to measure since the three dominant brewers also have other activities and profits cannot always be directly assigned to single activities. In 2004 the three largest brewers – together holding a market share of some 90% – paid a total sum of 647 million Danish kroner (€ 87 million, source: annual reports) on corporate tax. As noted, this includes taxed profits from other activities (such as soft drinks or food products), exported products and consolidated activities in other countries.

A third direct effect is of great importance, namely the brewers' contributions to culture, charity and social activities. It is worth mentioning here the Carlsberg and Tuborg Foundations as solid contributors to cultural and social activities. 51% of Carlsberg shares are held by the Carlsberg Foundation. The foundation is governed by a board, appointed by the Danish Science Board. The Carlsberg Foundation has substantial annual revenues from dividends, which it invests in art, science, sports and other projects benefiting society.

Another direct effect of the Danish brewing sector is on the return logistics sector. Dansk Retursystem A/S handles return logistics of beer and soft drinks in Denmark. The company employs some 100 workers and has a net turnover of DKK 223 million.

9.4 The economic impact of breweries on suppliers of goods and services

The major proportion of goods and services is sourced domestically. All major brewers have their own water wells and most of the malt is purchased from Danish malters.

Besides the economic impact of the domestic beer production on suppliers, it is worth mentioning that Denmark is one of the world's largest malt and malting barley exporters. In 2003, Danish companies exported some 1 million tonnes of malting barley and 151.5 thousand tonnes of malt³⁹. The economic impact of this industry is enormous. Though malt pro-

³⁹ Source: e-malt.

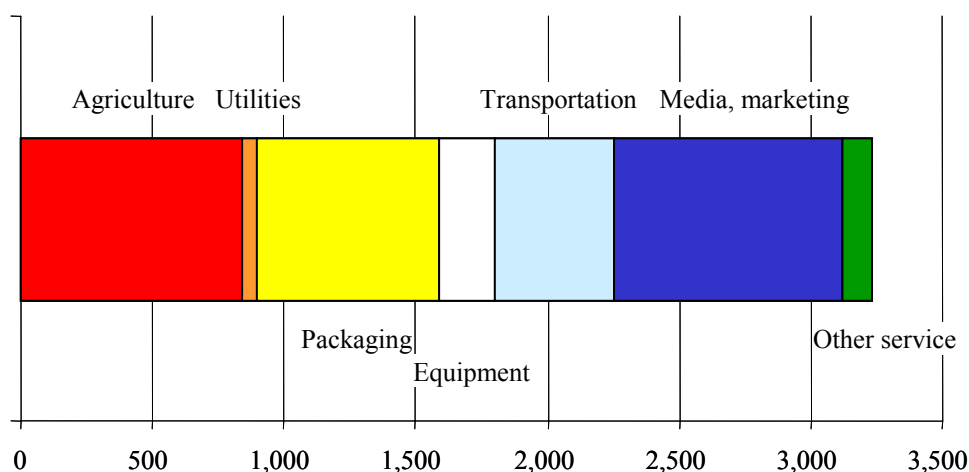
ducers themselves employ no more than 300 personnel, many more Danish farmers produce malting barley that is transformed into brewing malt.

| Sectors | Stimu- lus | Stimulus for the Danish economy | | Personnel costs ⁴⁰ | | Labour costs per employee | Number of em- ployees |
|--|---------------|------------------------------------|----------|-------------------------------|----------|---------------------------------|-----------------------------|
| | (mln. €) | % | (mln. €) | % of stimu- lus | (mln. €) | (in €) | |
| • Agriculture | 81 | 75% | 61 | | | | 545 |
| • Utilities | 39 | 100% | 39 | 5% | 2 | 53,088 | 40 |
| • Packaging industry | 121 | 70% | 85 | 23% | 19 | 42,960 | 445 |
| • Equipment | 66 | 40% | 26 | 23% | 6 | 42,960 | 140 |
| • Transport | 76 | 100% | 76 | 18% | 14 | 47,340 | 295 |
| • Media, marketing | 105 | 100% | 105 | 30% | 32 | 55,764 | 565 |
| • Services | 13 | 100% | 13 | 30% | 4 | 55,764 | 70 |
| Total | 501 | | | | | | 2,100 |
| Primary impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 3,200 |

Source: Own calculations on the basis of National Statistics and Eurostat

Total indirect employment connected to the supplying sectors is depicted below:

Indirect employment



⁴⁰ Source: Eurostat (also for labour costs per employee).

9.5 Retail and hospitality sectors

Danish breweries do business directly with the retailers. There are few beer wholesalers; only customers with special requirements are serviced through wholesalers. Other retailers are supplied directly by the breweries, who also distribute other brands than their own. Some 75 percent of Danish beer⁴¹ is distributed through the off-trade sector (supermarkets, shops and convenience stores). The remaining 25% is distributed through the on-trade channel. The off-trade sector is dominated by a few large supermarket chains and is characterised by increasing price competition. The average price thus differs substantially between the retailing and on-trade channels. Where the average price in the off-trade channel lies somewhere around 10 Danish kroner per litre (€ 1.62, including VAT), the average price in the on-trade channel is around 70 kroner per litre (€ 9.68, including VAT).⁴² According to the Danish competition authorities, average beer price lies at 97% of a comparison group of 9 EU-countries⁴³.

Hospitality sector

Employment arising from beer sales in the hospitality sector is estimated at 19,600 jobs:

- 25 percent of registered beer consumption takes place in the hospitality sector.
- This means that some 1.22 million hl are sold by Danish pubs, restaurants and the like.
- For the purpose of this calculation, we have estimated the average consumer price of a litre of beer in the hospitality sector at 7.75 euros per litre (excl. VAT). This means that consumers spend 945 million euros (excl. VAT) on beer in pubs and restaurants.
- Turnover per employee in the Danish hospitality sector is 48,000 euros a year.
- Total employment in the Danish hospitality sector can be calculated by dividing the turnover of beer by the average turnover per employee. The employment in the hospitality sector attributable to beer thus equals 19,600 employees.

Retail

The importance of the brewing sector for retail can be similarly assessed:

- About 75 percent of total beer consumption is home consumption.
- With an average consumer price of 1.30 euros per litre (excluding VAT), total consumer expenditure on retail beer is estimated at 570 million euros.

⁴¹ Source: AC Nielsen.

⁴² These prices are estimates of the average prices in the on-trade and the off-trade channels. In reality, prices vary considerably depending on many different factors including the size of the container or glass, the type of establishment and the location. Prices are based on ACNielsen figures and are in line with our own observations and the publication by Konkurssestyrelsen (2001), *Priser og avancer i grænsehandelen med øl og sodavand*.

⁴³ Source: www.ks.dk/publikationer/konkurrenceredegoerelsen/kr2005/kap02.htm, table 2.5

- Because turnover per employee is estimated at 347,500 euros, this means 1,600 people owe their jobs to the sale of retail beer.

10 ESTONIA: ECONOMIC IMPACT OF BEER

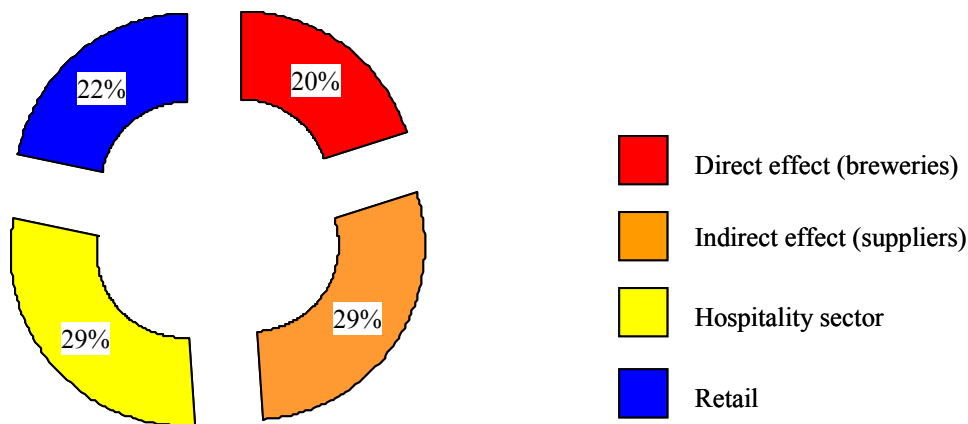
10.1 Highlights of economic impact

The economic impact of the brewing sector can be expressed as follows:

- Domestic production of beer within Estonia amounted to some 1 million hectolitres in 2004. Domestic consumption is also around 1 million hectolitres.
- 94 percent of the beer volume is sold through shops.
- Extensive private exports to Sweden and Finland are included in these retail sales.
- Though a small economy, Estonia retains the majority of the stimulus from the brewing sector.
- Direct employment in breweries amounts to some 760 FTEs.
- In addition, some 1,120 full-time jobs at suppliers, 1,100 jobs in the hospitality sector and 840 jobs in retail are directly dependent on beer.
- Excise and VAT revenues are estimated at 19 and 18 million euros per year respectively.

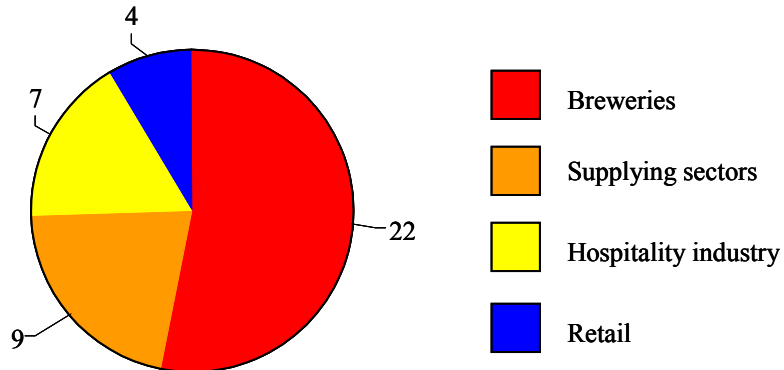
The employment effects of the brewing sector are depicted below:

Total employment due to production and sale of beer: 3,800 jobs



The contribution of the brewing sector to the Estonian economy can also be expressed in terms of value added. Total value added of the brewing sector in Estonia and value added generated by firms in the supply, hospitality and retail sectors arising from the production and sale of beer amounts to around 41 million euros:

Value added due to production and sale of beer: 41 million euro



The share of the brewing sector in overall value added arising from the production and sale of beer is estimated at 53 percent. This is far more than the share of direct employment connected to breweries as a fraction of total employment arising from the production and sale of beer (26 percent). An important explanation is that productivity in terms of value added per employee in the Estonian brewing sector is very high compared to other sectors.

10.2 The brewing sector: market structure, trends and developments

Estonian brewers produced 1.044 million hectolitres of beer in 2004. An additional 60 thousand hectolitres were imported, mainly from Finland (60% of all imports), Ukraine and Russia. 160 thousand hectolitres of beer were exported, mainly to Finland, Latvia and Lithuania. Statistics on private exports to Finland and Sweden are not available but may account for hundreds of thousands of hectolitres. Since privately exported beer is bought within the country, this volume appears in statistics as domestic ‘consumption’.

| Key variables | Million hectolitres | Illustration |
|--------------------|---------------------|---|
| • Production | 1.0 | 7 breweries |
| • Exports | 0.2 | Estonia is not a major beer exporting country, as growth can still be realised domestically |
| • Imports | 0.06 | Heineken accounts for about 50 percent of imported beer |
| • Consumption | c. 1.0 | |
| • Home consumption | 6% | This is relatively low |

Source: Association of Estonian Breweries, own estimates

The Estonian brewing sector is highly concentrated. 92.4% of total domestic production is produced by the three larger brewers. The leader has a market share of 41.6%. Beside these three biggest players, there are four smaller (local) breweries producing the remaining 7.6% of domestic beer. There is also a small number of brewery-pubs, whose figures are not included in the official statistics but are estimated to be insignificant. With an average sales value of approximately € 60 per hectolitre, the value of domestic production totals € 63 million (ex-brewery sales value).

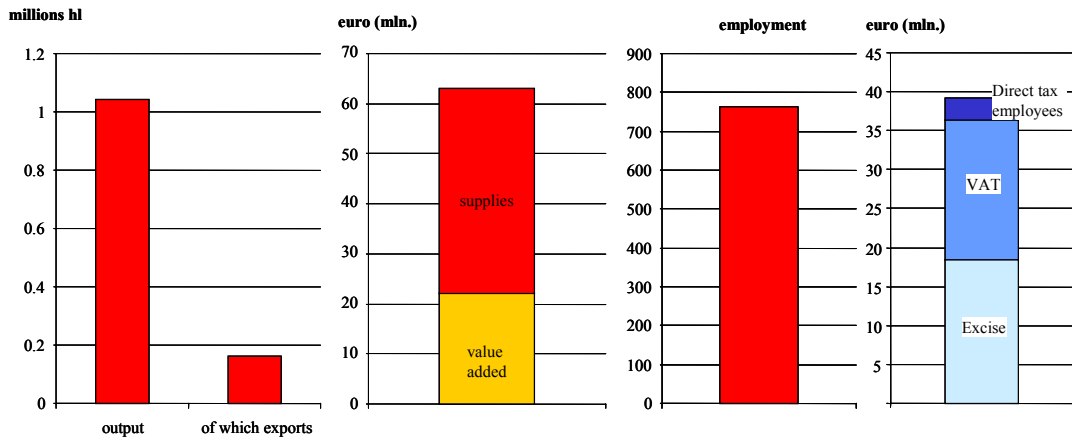
Factors that influence the impact of the brewing sector on the Estonian economy are:

| Brewing sector internal characteristics | Context in which the brewing sector operates |
|--|--|
| • Introduction of a packaging refund system will lead to additional jobs and possibly an increase in the value added by the brewing sector | • Estonia’s recent membership of the European Union induced a sharp rise in private exports to Finland |

10.3 The direct effect of the brewing sector

The Estonian brewing sector employs 764 personnel, of which some 500 jobs are directly related to the brewing of beer. The rest of the employment is linked to other beverages, such as soft drinks.

The 2004 turnover of the Estonian brewing sector from sales of products and services was some € 63 million (ex-brewery sales value). Of this, 14% (€ 9 million) went to raw materials, 19% (€ 12 million) was additional materials purchased and 24% (€ 15 million) was outsourced services. Total value added by the brewing sector was around € 22 million⁴⁴:



Another substantial direct effect of the brewing sector involves taxes and excises paid. Excise levels in Estonia are € 0.037 per alcohol degree per litre. At an estimated average strength of 5% per litre, the total Estonian excise revenues amount to some € 18.5 million per year.

VAT is 18%. Considering that the total turnover (including VAT) equals € 117.5 million, we can calculate the Estonian VAT revenues from beer sales at € 17.9 million.

10.4 The economic impact of breweries on suppliers of goods and services

Estonian breweries spend some € 41 million annually on purchased goods and services. Due to the small and open economy, only € 26 million of this expenditure is made domestically. In particular, it is agricultural raw materials which are imported. The domestic expenditures of the Estonian breweries induce some 1,121 jobs in various sectors. The agricultural sector, the manufacturing industry and the service sector all profit from the expenditures of the brewing sector.

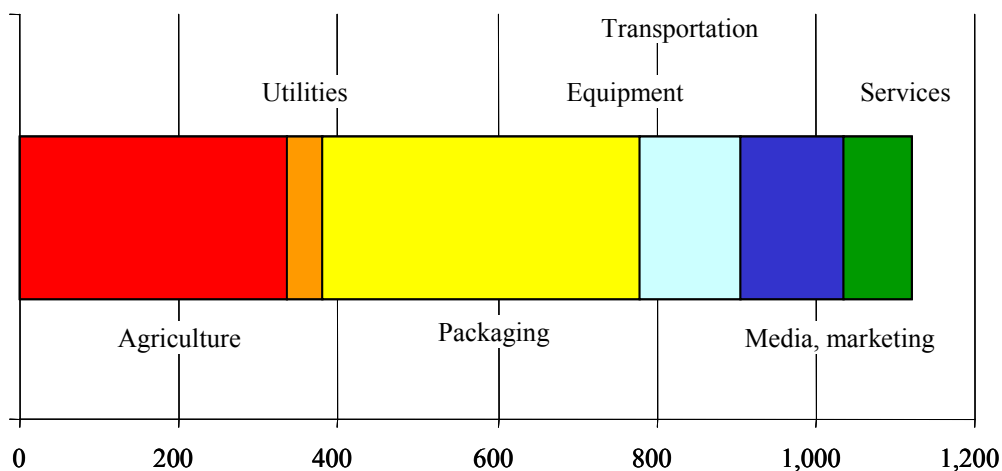
⁴⁴ Source: Eurostat.

| Sectors | Stimu- lus | Stimulus for the Estonian economy | | Personnel costs ⁴⁵ | | Labour costs per employee | Number of em- ployees |
|--|---------------|---|-----------|-------------------------------|----------|---------------------------------|-----------------------------|
| | (mln. €) | % | (mln. €) | % of stimu- lus | (mln. €) | (in €) | |
| • Agriculture | 8 | 30% | 2 | | | | 219 |
| • Utilities | 2 | 100% | 2 | 9% | 0 | 6,360 | 28 |
| • Packaging industry | 16 | 50% | 8 | 16% | 1 | 4,980 | 259 |
| • Equipment +other | 0 | 20% | 0 | 16% | 0 | 4,980 | 0 |
| • Transport | 6 | 80% | 5 | 11% | 1 | 6,468 | 82 |
| • Media, marketing | 5 | 95% | 5 | 21% | 1 | 12,132 | 84 |
| • Services + other | 3 | 95% | 3 | 21% | 1 | 12,132 | 56 |
| Total | 41 | | 26 | | | | 728 |
| Primary impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 1,120 |

Source: Own calculations on the basis of National Statistics and Eurostat

The indirect employment impact of the brewing sector is depicted below:

Indirect employment



⁴⁵ Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

10.5 Retail and hospitality sectors

Hospitality sector

The economic impact of the breweries on the hospitality sector is estimated at some 1,100 jobs:

- Around 6 percent of beer consumption in Estonia takes place in the hospitality sector. This means that 60,000 hectolitres are sold by Estonian pubs, restaurants and the like.
- The consumer price of beer is about 2.91 euros per litre (excl. VAT)⁴⁶, so that consumers are estimated to spend 17.4 million euros (excl. VAT) on beer in pubs and restaurants.
- Turnover per employee in the Estonian hospitality sector is 15,900 euros a year.
- Total employment in the Estonian hospitality sector arising from beer sold thus equals 1,100 full-time employees.

Retail

The importance of the brewing sector for retail can be similarly assessed:

- About 94 percent of total beer consumption is beer sold by supermarkets and other retail companies.⁴⁷ This equals an amount of 940,000 hectolitres.
- With an average consumer price of 0.87 euros per litre (excl. VAT), total consumer expenditure on retail beer is estimated at 82 million euros (excl. VAT).
- Because turnover per employee is estimated at 97,000 euros, this means 840 employees in retail outlets owe their jobs to beer sales.

⁴⁶ The prices in this paragraph are estimates of the average prices in the on-trade and off-trade channels. In reality, prices vary considerably, depending on many different factors including the size of the container or glass, the type of establishment and the location.

⁴⁷ Though the majority of beer (94%) sold in Estonia is through shops, this may not be representative of the consumption pattern of the average Estonian. A lot of the beer sold through shops is private exports to Finland and Sweden.

11 FINLAND: ECONOMIC IMPACT OF BEER

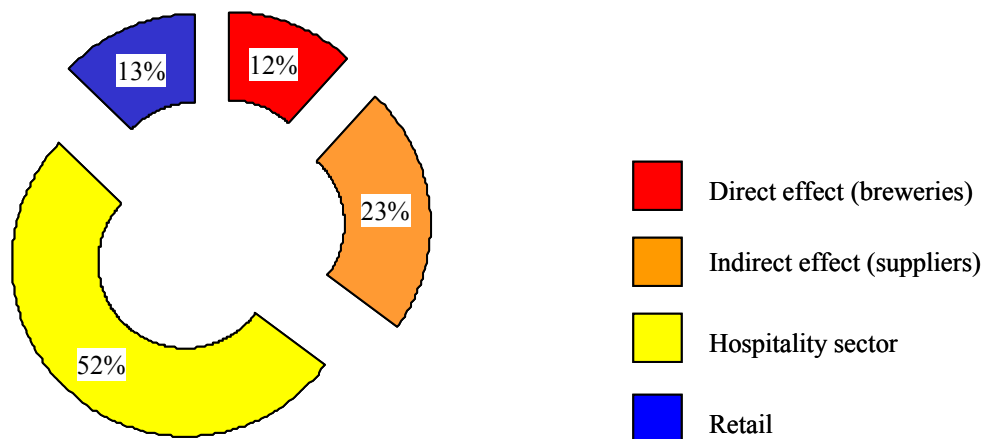
11.1 Highlights of economic impact

The economic impact of the brewing sector can be expressed as follows:

- Total annual production of beer in Finland in 2004 was 4.6 million hectolitres.
- The Finnish beer market is rather consolidated with three of Finland's fifteen breweries controlling around 95 percent of the market.
- In 2003, Finnish breweries employed 2,904 personnel, of which 2,300 jobs were related to beer activities.
- Suppliers of the beer sector employ another 4,500 full-time jobs, while the retail and hospitality sectors employ 2,600 and 10,100 full-time jobs respectively.
- In 2004, excise revenues from beer were € 410 million, and VAT revenues from beer were around € 380 million.

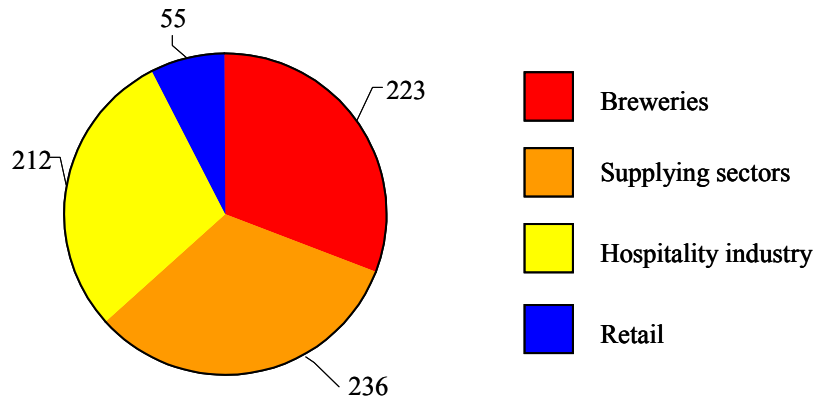
The employment effects of the brewing sector are depicted below:

Total employment due to production and sale of beer: 19,500 jobs



The contribution of the brewing sector to the Finnish economy can also be expressed in terms of value added. Total value added of the brewing sector in Finland and value added generated by firms in the supply, hospitality and retail sectors arising from the production and sale of beer amounts to around 726 million euros:

Value added due to production and sale of beer: 726 million euro



The share of the brewing sector in overall value added arising from the production and sale of beer is estimated at 31 percent. This is far more than the share of direct employment connected to breweries as a fraction of total employment arising from the production and sale of beer (14 percent) and a reason for this is that the productivity in the brewing sector, expressed in value added per employee, is relatively high.

11.2 The brewing sector: market structure, trends and developments

The Finnish alcoholic drinks sector is highly regulated. One of the most important characteristics of the Finnish beer market is the high level of excise duties. For beers over 2.8% alcohol by volume, the excise rate is € 19.45 per %-point per hectolitre. The rate was lowered 32% after accession of the new member states to the European Union. Despite the relatively high taxes, Finns consume approximately 84 litres of beer per person, which is above the EU average. This is partly due to substantial private imports from (tax-free) ferries and from Estonia. Private imports are estimated to be as large as 10% of the total beer consumption in Finland⁴⁸. In 2004, the total annual production of beer in Finland amounted to 4.6 million hectolitres. Consumption was slightly higher at 4.9 million hectolitres.

| Key variables | Million hectolitres | Illustration |
|--------------------|---------------------|---|
| • Production | 4.6 | |
| • Exports | 0.2 | |
| • Imports | 0.7 | 318 thousand hl registered imports and an estimated 385 thousand hl private imports |
| • Consumption | 4.9 | 208 thousand hectolitres are tax-free sales on ferries and aircraft |
| • Home consumption | 77.6% | 73.8% is sold through retail, 3.8% is sold through Alko shops and 22.4% is sold through hospitality ⁴⁹ |

Source: The Brewers of Europe, Panimoliitto, STTV and own calculations

Though Finland has 15 breweries (including micro breweries), the market is dominated by two large companies that produce over 40% of the total production volume. The third-largest brewery has a 12.0% market share. With the four members of the national brewery association (Panimoliitto) producing 96% of the national beer sales, the supply side of the market is highly concentrated. The largest Finnish brewers also produce soft drinks, long drinks, cider and mineral water.

The alcoholic drinks sector is highly regulated. Many restrictions are applied to manufacturing, distribution and advertising. Alcohol, except for low-alcohol beer, is sold only through state-owned Alko outlets. Although taxes on alcohol are high, the 2004 budget lowered them by about one-third.

⁴⁸ 6.6% is purchased in the Baltic states; 3.5% is purchased on board ferries and taken back to Finland. Source: The Brewers of Europe.

⁴⁹ Source: National Product Control Agency for Welfare and Health (STTV).

11.3 The direct effect of the brewing sector

Direct effects are not easily available since Finnish brewers also produce mineral water and soft drinks. In 2003, the total Finnish ‘beer, mineral waters and soft drinks’ sector:

- had a gross production value of € 728 million
- of which 18.2% (€ 133 million) was spent on raw materials
- 35.9% (€ 262 million) was value added (of which € 223 million from the production of beer, source: Eurostat)
- 13.3% (€ 97 million) was spent on salaries
- employed 2,904 employees, of which 1,634 were ‘workers’, and 1,270 ‘office jobs’⁵⁰

Beer constitutes roughly 48% of the volume produced by the members of the Finnish Federation of the Brewing and Soft Drinks Industry (Panimoliitto). Other products are cider, soft drinks, long drinks and mineral water. Beer also constitutes roughly half of the ‘beer, mineral waters and soft drinks’ volume consumed. We thus estimate that roughly half of the employees and half of the value added of the total sector comes from beer.

The Finnish brewing sector employs an estimated 2,904 employees, of which 2,300 are related to beer activities.



Finland has relatively high excise and VAT rates. In 2004 excise rates on beer were lowered to € 19.45 per %-point for alcoholic beverages with over 2.8% alcohol. In 2005, the beer excise tax rate is € 0.97 per litre of beer (at 5% ABV). In 2004, excise revenues from beer amounted to € 410 million⁵¹.

⁵⁰ Source: Finnish Food and Drink Industries’ Federation.

⁵¹ Source: Panimoliitto.

The VAT rate for beer is 22%. Based on the total sales of beer, the market shares of the retail and hospitality sectors, and their average consumer prices, we estimate VAT revenues from beer accounted for some € 380 million.

On average, excise and VAT account for 52% of the retail price of a regular beer. For promotions, this could be as much as 90-100% of the retail price. Data on the amount of corporate taxes paid by Finnish brewers is not available.

11.4 Economic impact of breweries on suppliers of goods and services

The Finnish beer sector spends € 335 million on goods and services annually. The main part of this amount is spent in the agricultural sector and the manufacturing sectors. In total, the Finnish brewing sector induces some 4,500 jobs with suppliers of goods and services. This number is the lower boundary for the indirect employment from the brewing sector⁵².

| Sectors | Stimu- lus | Stimulus for the Finnish economy | | Personnel costs ⁵³ | | Labour costs per employee | Number of em- ployees |
|--|---------------|-------------------------------------|----|-------------------------------|-----------------------|---------------------------------|-----------------------------|
| | | (mln. €) | % | (mln. €) | % of stimu- lus | | |
| • Agriculture | 54 | 89% | 48 | | | | 1,625 |
| • Utilities | 26 | 98% | 26 | 9% | 2 | 41,196 | 55 |
| • Packaging industry | 81 | 83% | 67 | 16% | 10 | 35,832 | 290 |
| • Equipment | 44 | 83% | 37 | 16% | 6 | 35,832 | 160 |
| • Transport | 51 | 98% | 50 | 22% | 11 | 36,420 | 305 |
| • Media, marketing | 70 | 86% | 60 | 32% | 19 | 45,000 | 425 |
| • Services | 9 | 86% | 7 | 32% | 2 | 45,000 | 55 |
| Total | 335 | | | | | | 2,920 |
| Primary impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 4,500 |

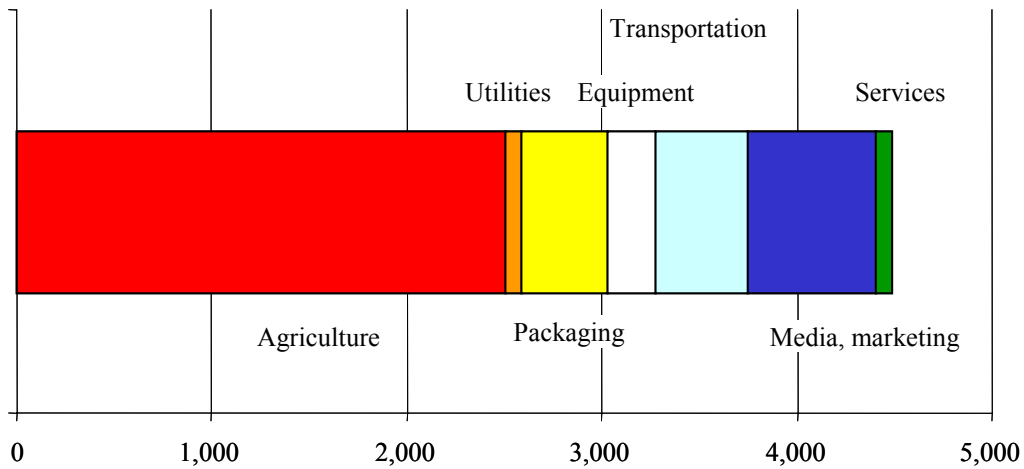
Source: Own calculations on the basis of National Statistics and Eurostat

The indirect impact of the brewing sector on supply sectors is depicted below:

⁵² The Finnish brewers' association Panimoliitto has estimated that 5,000 to 6,000 jobs in the agricultural sector alone depend on the brewing sector. They also estimate that 1,000 to 1,500 jobs in transportation are linked to breweries.

⁵³ Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

Indirect employment



11.5 Retail and hospitality sectors

The Finnish beer market is growing, with total consumption and per capita consumption rising steadily. Growth was quite substantial in 2004. This was a result of fierce price competition in the retail sector, but a lowering of the excise duties may also have reduced the need for Finns to buy their beer abroad. Finnish breweries have recently invested in their breweries and R&D facilities, resulting in modern production assets. The Finnish state has a monopoly on retail sales of wine, spirits and beer with more than 4.7% alcohol. High excise duties, combined with a price war in the retail channel result in a high competitive pressure on beer sales through the hospitality channel.

Finland has 9,021 licensed restaurants, 6,996 retail outlets, and 443 government monopoly Alko shops (the only place where drinks with 4.7% or more alcohol may be sold). The hospitality sector sells 22.4% of the domestic beer sales volume, retail outlets sell 73.8%, and Alko shops sell the remaining 3.8% (mainly strong beers). After the excise duty rate reduction, beer in a bar costs somewhere between € 8.75 and € 11.25 per litre (including VAT), whereas the average price of a beer in the retail channel lies around € 2.85 per litre⁵⁴. In the hospitality sector, VAT and excise make up some 28% of the price of beer. In the retail channel this fraction is around 52% of the consumer price⁵⁵.

The relatively low market share of the hospitality sector is due to the large difference in price between the sales channels. Supermarkets sell beer at prices only a fraction higher than the

⁵⁴ These figures are estimates. In reality prices may vary considerably. We have used these average prices only for calculating some effects of the brewing sector on the economy.

⁵⁵ Source: Own calculations, based amongst others on Office of the Revenue Commissioners, *Statistics Report 2003*.

excise tariffs. Hence, a recent excise reduction (March 2004) led to lower retail prices, whereas beer prices in the hospitality sector remained stable.

The low market share of the hospitality sector is also reflected in the packaging: only 18.3% of the domestic beer volume is sold as draught beer, whereas 73.5% is sold in bottles and 8.3% is sold in cans.

Hospitality sector

Employment arising from the sales of beer in the hospitality sector is estimated at just over 10,000 jobs:

- Around 22.4 percent of beer consumption in Finland takes place in the hospitality channel.
- This means that 979,000 hl are sold by Finnish pubs, restaurants and the like.
- The consumer price of beer is about 8.20 euros per litre (excl. VAT), so that consumers are estimated to spend 820 million euros (excl. VAT) on beer in pubs and restaurants.
- Average turnover per employee in the Finnish hospitality sector equals 80,800 euros a year.
- From this we can deduce that total employment in the Finnish hospitality sector because of beer sales is 10,100 employees.

Retail

The importance of the brewing sector for retail can be similarly assessed:

- About 77.6 percent of total beer consumption is of beer sold by supermarkets and other retail companies.
- With an average consumer price of 2.34 euros per litre, total consumer expenditure on retail beer is estimated at 920 million euros.
- Because turnover per employee is estimated at 355,800 euros, this means 2,600 people owe their jobs to the sales of retail beer.

12 FRANCE: ECONOMIC IMPACT OF BEER

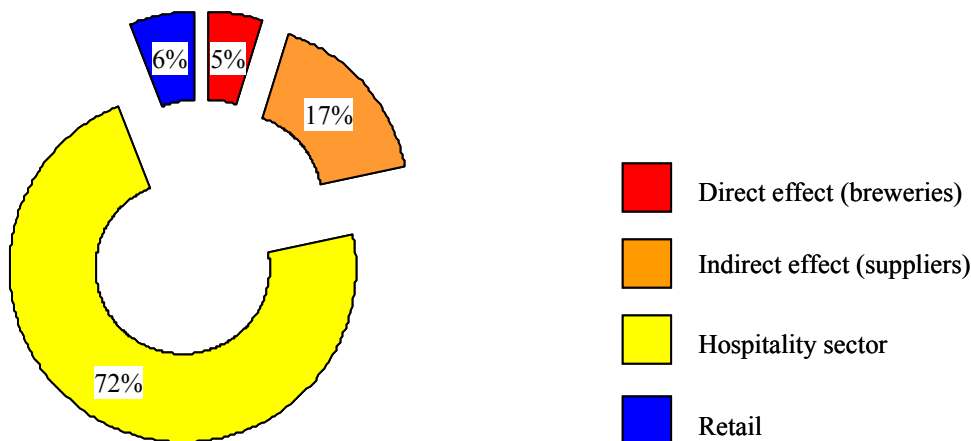
12.1 Highlights of the economic impact

The most important characteristics of the French beer market are:

- France has a consolidated beer market with three large brewers and many medium sized and small breweries.
- France is the world's main malt exporter.
- French breweries employ 5,000 personnel (FTEs).
- Because of goods and services bought in supplying sectors, additional indirect employment of around 15,220 employees is generated. In the hospitality sector 65,960 personnel owe their jobs to the brewing sector. In retail this is 5,475 staff. The French brewing sector generates total indirect employment of 91,650 jobs.
- Tax revenues for the French government arising from the production and sale of beer is estimated at around 1,800 million euros (292 million euros excise, 1,176 million euros VAT and 326 million euros on direct personal taxes paid by workers).

The employment impact of the brewing sector is depicted below:

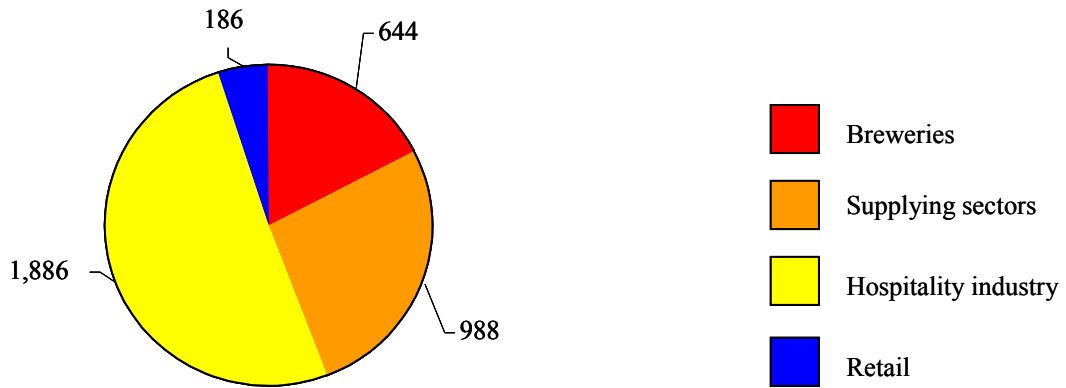
Total employment due to production and sale of beer: 91,650 jobs



The total contribution to the French economy in terms of value added due to production and sale of beer is estimated at 3.7 billion euros. The hospitality sector is responsible for around 50 percent of total value added because of beer. Value added per employee, however, is very high in the French brewing sector, reflecting its high productivity.

Therefore the share of the brewing sector in total value added generated due to production and sale of beer is higher than its share in total employment due to production and sale of beer:

Value added due to production and sale of beer: 3,700 million euros



12.2 The brewing sector: market structure, trends and developments

The production of beer in France was 16.8 million hectolitres in 2004. Total consumption was 20.2 million hectolitres.⁵⁶ Beer consumption in France per capita is relatively low compared with other European countries. As a producer of beer France is fifth in Europe.

In 2004 French breweries exported 1,973 million hectolitres. Around 5,395 million hectolitres were imported.

There are 13 industrial production units for beer in France. Some 150 small producers of artisanal beers are also established across France. Their production volumes vary from 300 to 30,000 hl per year.⁵⁷

| Key variables | Millions hectolitres | Illustration |
|-------------------------|----------------------|---|
| • Production | 16.8 | 13 (industrial) breweries and around 150 producers of artisanal beers. |
| • Exports | 1.97 | |
| • Imports | 5.39 | |
| • Consumption | 20.2 | |
| • Draught ⁵⁸ | 4 | |
| • Home consumption | 72% | 23.9% of production in France is in kegs, 63.7% bottles among which 4.7% returnable small bottles, and 12.2% cans |

Source: Brasseurs de France

French production of beer decreased by 7.3% in 2004, while imports of beer grew by 6.2%. Exports declined by 3.5% in the same year. The gross consumption decreased by 4.5% in 2004. Reasons given for the declining market are the lack of good weather (sun hours) in spring and summer, severe competition from producers of mineral waters and soft drinks, and the shift in preferences of young people towards sweeter mixed drinks.

The French beer market is concentrated. Two brewing companies, both belonging to one of the major five brewing companies in Europe, together represent around three-quarters of the French beer market. A third brewing company, also part of one of the major brewing companies in Europe, has a market share of 9% and ranks third.⁵⁹

⁵⁶ Source: Brasseurs de France.

⁵⁷ Source: Brasseurs de France.

⁵⁸ Production delivered in kegs.

⁵⁹ Sources: Annual report 2004 of this brewing company.

Some large brewing companies have their own distribution systems with strong positions in the wholesale beer market.

The economic impact of the brewing sector is influenced by the following trends, developments and characteristics of the French economy:

| Brewing sector internal characteristics | Context in which the brewing sector operates |
|--|--|
| <ul style="list-style-type: none"> Market is dominated by two brewers who together have a market share of approx. 75%. The three largest brewers represent almost 85% of the market. France has a large group of artisanal producers of beer in small quantities. Retail is by far the largest sales channel for beer (72% of total sales volume). Several large and small brewers have their own distribution system. | <ul style="list-style-type: none"> Closed economy. Many resources are available (and bought) in France. Increasing imports of beer. France is the world's main malt exporter. |

The large average size of French breweries is illustrated below:⁶⁰

| Production units in hectolitres | Number of production units |
|---------------------------------|---|
| < 50,000 hl per year | 1 professional and 150 small producers of artisanal beers |
| 50,000 – 100,000 per year | 1 |
| 100,000 – 500,000 per year | 3 |
| 500,000 – 1,000,000 per year | 1 |
| 1,000,000 – 2,500,000 per year | 6 |
| 2,500,000 – 5,000,000 per year | - |
| > 5,000,000 per year | 1 |

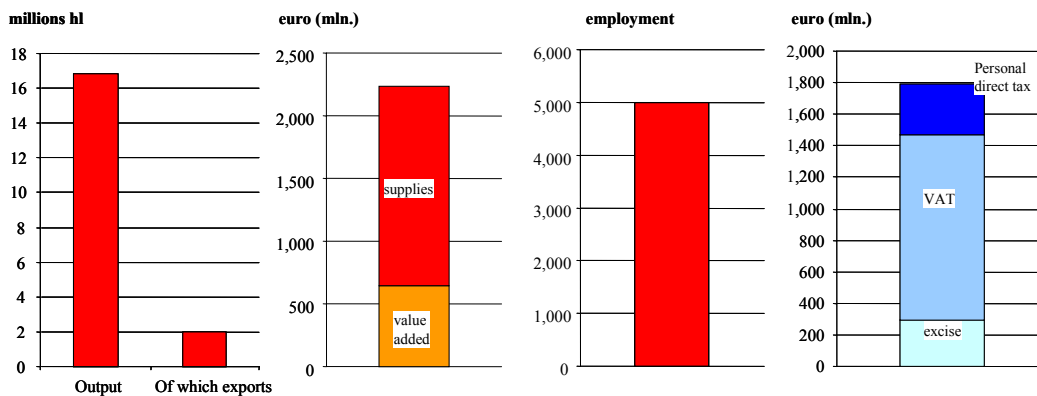
12.3 The direct effect of the brewing sector

The brewing companies had approximately 5,000 direct job positions in 2004.⁶¹ French breweries together realise a production value of 2.2 billion euros, of which approximately 1.59 billion euros is spent on the supplying sectors.⁶² This means the French breweries together realise 0.643 billion euros value added:

⁶⁰ Source: Brasseurs de France.

⁶¹ Source: Brasseurs de France.

⁶² Analysis of gathered data from Brasseurs de France, questionnaires and Eurostat.



The stimulus of 1.59 billion euros on the supply sectors generates important economic benefits for these sectors. France is an important producer of raw materials for the worldwide brewing sector. The French barley sector provides some 60,000 job positions (i.e. 52,000 barley producers and 8,000 employees)⁶³. For the barley sector 17% of their turnover is earned through sales to brewers⁶⁴. A rough calculation indicates that at least 10,200 jobs (17% of 60,000) are directly related to the worldwide brewing sector. 105 farmers also produce hops of which an important part is for the brewing sector⁶⁵. The malt industry employs another 659 personnel. Almost 72% of their production was exported in 2003, including to breweries world wide⁶⁶.

12.4 The economic impact of breweries on suppliers of goods and services

French breweries spend around 71.2 percent of total production value generated on suppliers, thus exercising an important economic impact on these supplying sectors:

⁶³ Source: Brasseurs de France

⁶⁴ Source: AGPB, Céréaliers de France, lettre d'information de l'AGPB no. 127 octobre 2000.

⁶⁵ Source: Brasseurs de France/Oniflor

⁶⁶ Source: Brasseurs de France/Ministère de l'Agriculture EAE Agreste SCEES.

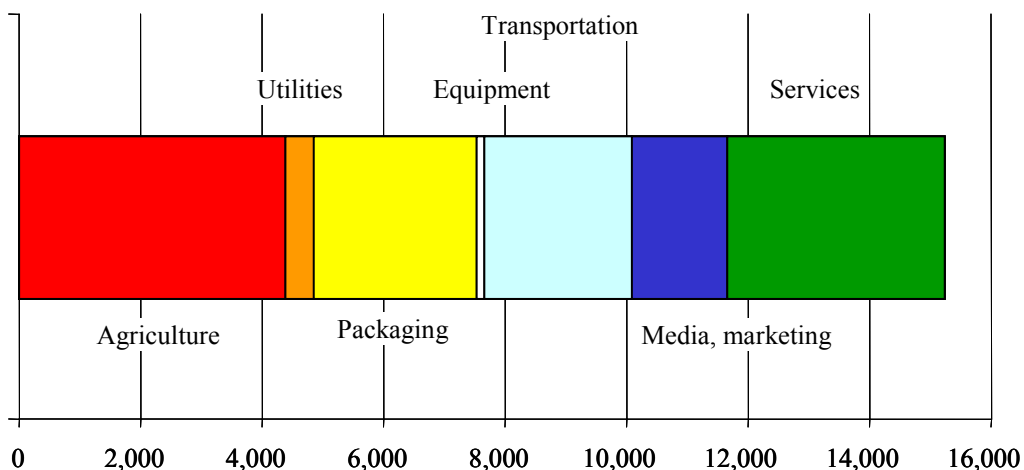
| Sectors | Stimu- lus | Stimulus for the French economy | | Personnel costs ⁶⁷ | | Labour costs per employee | Number of em- ployees |
|--|---------------|------------------------------------|----------|-------------------------------|----------|---------------------------------|-----------------------------|
| | (mln. €) | % | (mln. €) | % of stimu- lus | (mln. €) | (in €) | |
| • Agriculture ⁶⁸ | 177 | 95% | 168 | | 0 | | 2,839 |
| • Utilities | 69 | 100% | 69 | 19% | 13 | 40,980 | 314 |
| • Packaging industry | 557 | 80% | 446 | 15% | 67 | 38,568 | 1,733 |
| • Equipment +other | 36 | 65% | 23 | 15% | 4 | 38,568 | 91 |
| • Transport | 175 | 100% | 175 | 28% | 49 | 31,152 | 1,573 |
| • Media, marketing | 177 | 98% | 174 | 32% | 56 | 53,940 | 1,030 |
| • Services + other | 398 | 98% | 390 | 32% | 125 | 53,940 | 2,315 |
| Total | 1,589 | | | | | | 9,894 |
| Primary impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 15,222 |

Source: Own calculations on the basis of National Statistics and Eurostat

The largest proportion of supplies is purchased from the packaging industry, with further significant spending on services, transport, media and marketing and agricultural products.

Accumulating all generated indirect employment within the different sectors the total indirect primary effect is 15,222 job positions.

Indirect employment



⁶⁷ Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

⁶⁸ For the impact of the brewing sector on agriculture, we have used the industry ratio of total turnover to total employment in FTE (i.e. 56.5 billion euros with 953,129 FTE) to go from the stimulus in agriculture because of 'beer' (i.e. 168 million euros) to resulting employment (2,839 FTE after one round).

12.5 Retail and hospitality sectors

In France 72 percent of beer sales are through the retail market. The other 28 percent occur in the hospitality sector.

Hospitality sector

Retail employment arising from beer sales is estimated at almost 5,500 jobs:

- About 72 percent of the total beer consumption in France is beer sold by supermarkets and other retail companies.
- This means that 14.5 million hl is sold by supermarkets and other retail companies.
- With an average consumer price of 1.40 euros (incl. VAT) per litre⁶⁹, total consumer spending on beer in retail is estimated at 1.7 billion euros (excl. VAT).
- Because the annual turnover per employee is estimated at 311,000 euros, this means that 5,475 people owe their jobs to retail beer sales.

Retail

Employment in the hospitality sector arising from beer can be similarly assessed:

- Around 28 percent of French beer consumption occurs in the hospitality sector.
- This means 5.7 million hl are sold by French pubs, restaurants and the like.
- The average consumer price of beer is around 9.08 euros per litre (including VAT).⁷⁰ This leads to an estimate of 4.3 billion euros (VAT not included) spent by consumers on beer in pubs and restaurants.
- The turnover per employee in the French hospitality sector is 65,100 euros a year.⁷¹
- Total employment in the French hospitality sector arising from beer sales is thus around 65,960 employees.

⁶⁹ Source: Institut National de la Statistique.

⁷⁰ Source: Institut National de la Statistique.

⁷¹ Source: Eurostat, Turnover per person employed in services (2001).

13 GERMANY: ECONOMIC IMPACT OF BEER

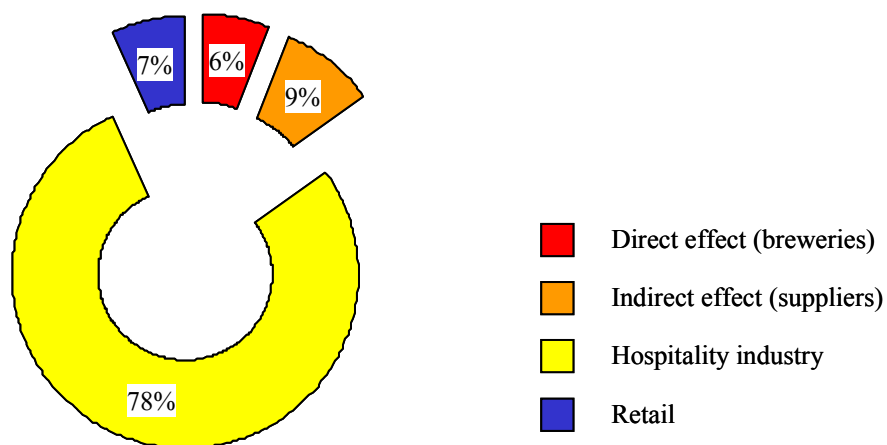
13.1 Highlights of the economic impact

The economic impact of the brewing sector in Germany can be expressed as follows:

- Germany is the leading country in Europe for the production and consumption of beer (with a total production of 106 million hl and consumption of 95.5 million hl).
- The direct employment in German breweries is 33,400 FTEs.
- The brewing sector generates important indirect effects on the supply sectors; it is estimated that 49,000 jobs in these sectors can be attributed to the brewing sector (the sales of beer), with the services sectors and agriculture benefiting most.
- In addition to these direct and indirect effects, the hospitality sector and retail also benefit from beer sales. In the hospitality sector 429,000 jobs can be attributed to beer sales and in retail 38,000 people owe their jobs to beer sales.
- The government also benefits from the brewing sector, with excise revenues amounting to 787 million euros, total VAT revenues from German beer consumption estimated at 4.1 billion euros (2.6 billion on-trade and 1.5 billion off-trade) and personal direct taxes paid by people whose jobs are attributable to beer estimated at 2.6 billion euros. Total tax revenues for the German government are therefore estimated at 7.5 billion euros.

The employment effect of the brewing sector can be depicted as follows:

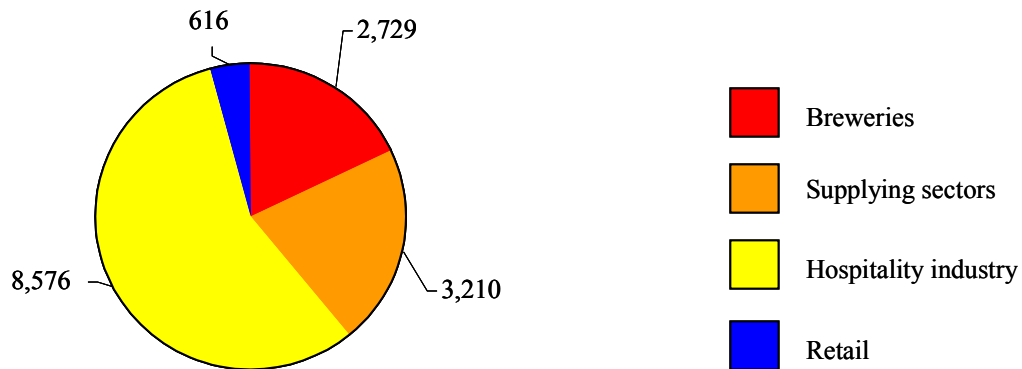
Total employment due to production and sale of beer: 549,600 jobs



The contribution of the brewing sector to the German economy can also be expressed in terms of value added. Total value added of the German brewing sector and value added ge-

nerated by firms in supplying sectors and in the hospitality and retail sectors due to the production and sale of beer amounts to around 15.1 billion euros:

Value added due to production and sale of beer: 15,100 million euro



The share of the brewing sector in overall value added arising from the production and sale of beer is estimated at 18 percent. This is far more than the share of direct employment connected to breweries as a fraction of total employment arising from the production and sale of beer (6 percent). An important explanation for this is the fact that productivity in terms of value added per employee in the German brewing sector is relatively high when compared to other sectors.

13.2 Industry and market structure, trends and developments

Germany produces by far the highest volume of beer of all European countries. With around 106.2 million hectolitres brewed annually, Germany accounts for about 26 percent of all European beer production (EU-25 and Norway, Switzerland, Bulgaria, Romania, Croatia and Turkey). Germany also has the largest number of breweries in Europe, with the majority producing less than 50,000 hl a year⁷². At the moment there are 1,274 breweries, with 1,076 producing less than 50,000 hl and 50 producing more than 500,000 hl. Also Germany has the highest export volume of all European countries:

| Key variables | Millions hectolitres | Illustration |
|--------------------|----------------------|---|
| • Production | 106.2 | In 1995 production volume was 116,9 million hl and since then production volume has decreased steadily. |
| • Exports | 13.7 | More than 75 percent of total exports is exported to other European countries |
| • Imports | 3.1 | About 45 percent of this is imported from Denmark |
| • Consumption | 95.5 | 69 percent lager ('pils') |
| • Home consumption | < 76.9 | 19.5 percent of German beer is draught (64.9 percent returnable bottles and 15.6 percent non-returnable bottles and cans) |

Characteristic of the German beer market is that 'Germans drink German beer', predominantly beer produced in their home region. Only 3.1 million hectolitres is imported. Exports of German beer account for 13.7 million hl, making Germany the largest beer exporting country in Europe, followed closely by the Netherlands. Germany is also by far the largest beer market with a consumption of 95.5 million hl (triple the size of the Spanish beer market, which ranks third within the European Union, and about 60 percent bigger than the UK beer market). German per capita consumption is relatively high in a European perspective with around 116 litres of beer consumed (only per capita consumption in the Czech Republic and Ireland are higher).

The German beer market is relatively fragmented, with many local breweries operating on a small scale (1,076 breweries produce less than 50,000 hl a year). The largest brewing companies produce up to 10 million hl and some are meanwhile part of larger international groups. Roughly fifty percent of all breweries in Germany are in Bavaria, with more than a hundred breweries in Baden-Württemberg and Nordrhein-Westfalen. The average size of breweries, particularly in Bavaria, is therefore relatively small.

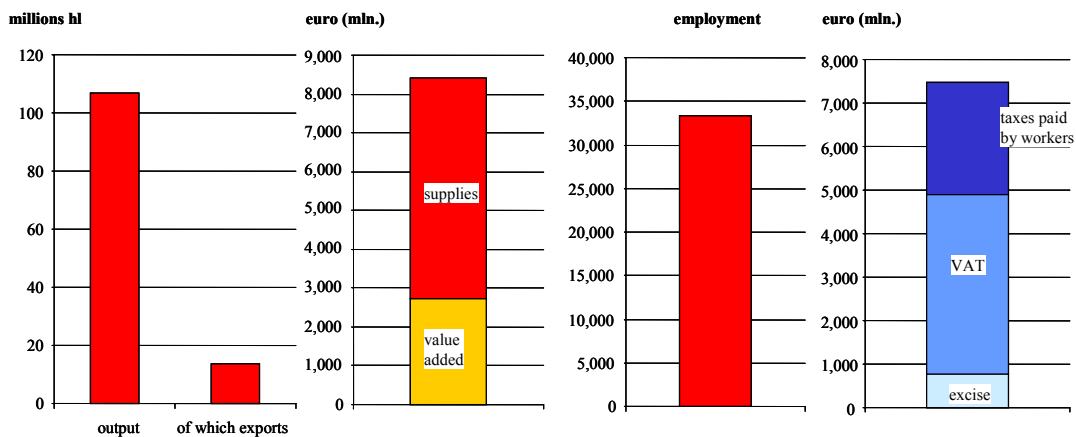
⁷² Source of data: Deutscher Brauer-Bund, 24. *Statistischer Bericht 2003*, November 2003.

Factors influencing the impact of the brewing sector on the German economy are⁷³:

| Brewing sector internal characteristics | Context in which the brewing sector operates |
|---|--|
| <ul style="list-style-type: none"> Majority of breweries are relatively small Some strong international brands, resulting in sizable exports Strong competition for market share Premium brands losing ground to lower-price brands | <ul style="list-style-type: none"> German beer market is stagnating with declining domestic consumption Beer pubs under pressure, trendy lifestyle pubs and restaurants with lower beer sales rising German breweries spend relatively large part of purchases on supplies in their own country Labour costs are relatively high in comparison with breweries in other countries |

13.3 Direct effect of the brewing sector

The direct economic impact of the brewing sector is substantial, with 33,400 employees. The total German brewery production value is 8.4 billion euros, of which 5.7 billion euros is spent on suppliers (67.5 percent). German breweries generate a total value added of about 2.7 billion euros:



Taxes paid are also substantial, with excise ('Biersteuer') amounting to 787 million euros in 2004 and VAT on beer consumption estimated at around 4.1 billion euros (an estimated 2.6 billion euros through sales of beer on-trade, the remaining 1.5 billion euros in VAT revenues through beer sales via supermarkets and other retail firms). Brewery employees pay another 156 million euros in personal direct tax and other workers involved in the production and sale of beer generate another 2.4 billion in tax revenues. Total tax revenues are thus estimated at 7.5 billion euros.

⁷³ See also Ernst & Young Germany, *Breweries 2015: ways out of the crisis, the future of brewing in Germany – a scenario*, May 2003.

13.4 Economic impact of breweries on suppliers of goods and services

The total spending by breweries on supplied goods and services is 5.7 billion euros. This spending generates important economic activities in sectors such as the services sector, agriculture, transport, equipment and the packaging industry.

| Sectors | Stimu- lus ⁷⁴ | Stimulus for Germany ⁷⁵ | | Personnel costs ⁷⁶ | | Labour costs per employee | Number of em- ployees |
|--|-----------------------------|---------------------------------------|--------------|-------------------------------|----------|---------------------------------|-----------------------------|
| | (mln. €) | % | (mln. €) | % of stimu- lus | (mln. €) | (in €) | |
| • Agriculture ⁷⁷ | 992 | 78.3% | 774 | | | | 11,796 |
| • Utilities ⁷⁸ | 170 | 98.5% | 168 | 10% | 17 | 57,780 | 290 |
| • Packaging industry | 425 | 85% | 361 | 21% | 76 | 45,228 | 1,678 |
| • Equipment | 567 | 85% | 482 | 21% | 101 | 56,976 | 2,238 |
| • Transport | 618 | 87% | 538 | 26% | 140 | 42,672 | 3,276 |
| • Media, marketing ⁷⁹ | 522 | 90% | 469 | 28% | 131 | 45,228 | 2,307 |
| • Services | 2,376 | 90% | 2.138 | 28% | 599 | 56,976 | 10,508 |
| Total | 5,670 | | 4.930 | | | | 32,094 |
| First round impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 49,376 |

Indirect employment generated by the German breweries reaches almost 50,000 employees. Of total indirect employment of around 49,400 jobs, some 19,715 are working in the services sector⁸⁰ (including media and marketing). Indirect employment effects on agriculture are also high (with beer providing around 18,150 jobs⁸¹):

⁷⁴ The split of total spending by breweries in supplying sectors is based on data from German breweries, collected by the Deutsche Brauer-Bund, and interpreted by Ernst & Young.

⁷⁵ Percentages based on an Input-Output table for Germany, especially data for the food and beverage industry

⁷⁶ Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

⁷⁷ For estimating the (primary) employment effect on agriculture, Eurostat data has been used. In Germany 592,000 agricultural 'work units' together produce over 38 billion euros of production value; the stimulus into the domestic agriculture sector of 774 million euros thus has an estimated impact of almost 12,000 agricultural 'work units'.

⁷⁸ German breweries paid 180 million euros in 2001 for energy (energy use is declining).

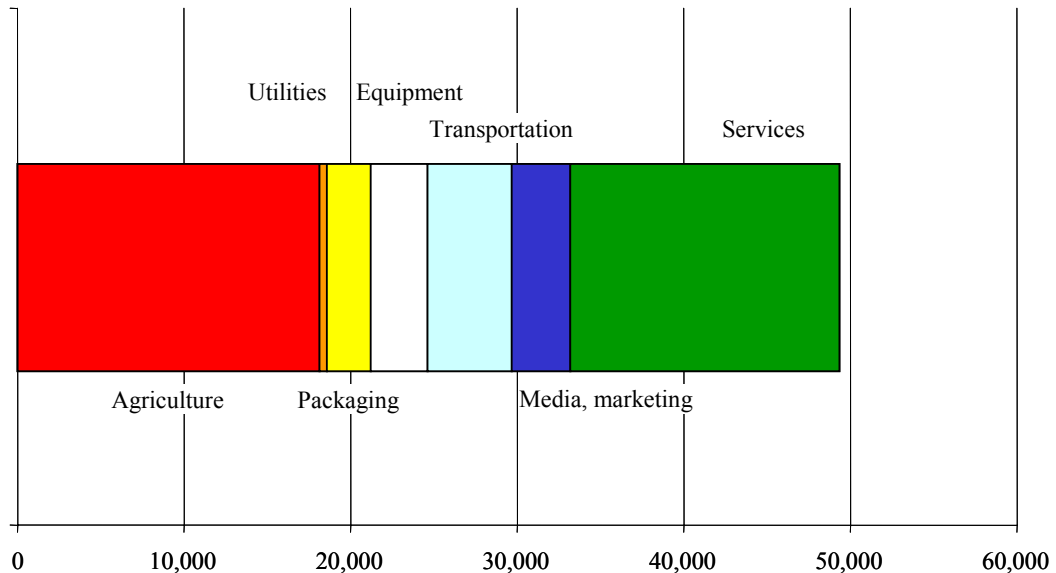
⁷⁹ In 2002 the total media expenditure of German breweries (beer brands) ('Werbeinvestitionen') amounted to 347 million euros. Including other types of marketing expenditure, the total German brewery media and marketing expenditure is estimated at 522 million euros.

⁸⁰ If 65 percent equals 10,508 plus 2,307, then 100 percent equals 19,715.

⁸¹ If 65 percent equals 11,796, then 100 percent equals 18,150.

Indirect employment effects are illustrated below:

Indirect employment



13.5 Retail and hospitality sectors

The German hospitality sector comprises 245,000 firms, of which around 47,000 are hotels and the like, 133,000 are restaurants and 56,000 are pubs (‘getränkeorientierte Gaststätten’)⁸². The hospitality sector provides jobs to 1 million employees, with 321,000 working for hotels, 83,000 in catering firms and 598,000 in restaurants or pubs. Total spending of consumers in restaurants and pubs (including fast food restaurants) amounts to 41 billion euros⁸³.

Hospitality sector

For this study the employment arising from beer sales in the hospitality sector is estimated as follows:

- Of total beer consumption in Germany an estimated 23.9 million hl are sold by the hospitality sector (assuming 25 percent of total beer consumption in Germany is through the hospitality sector).
- The consumer price of one litre of beer sold in the hospitality sector is around 8 euros.

⁸² Source: DeHoGa Bundesverband und Statistisches Bundesamt.

⁸³ Source: CMA and Foodservice, 2003 (equivalent to Eurostat estimate).

- Total turnover in the hospitality sector because of the sales of beer can be estimated at 19.1 billion euros (including VAT) and 16.5 billion euros (excl. VAT, using a VAT tariff of 16 percent).
- Turnover per employee in the German hospitality sector is 38,400 euros (excl. VAT)⁸⁴.
- Thus total employment in the hospitality sector arising from beer sales can be estimated as 429,000 jobs.

Retail

Using the same approach to employment arising from beer sales in supermarkets and other retail firms produces the following:

- Assuming that 75 percent of German beer consumption is of beer sold by retail, this means that 71.6 million hl of beer are sold off-trade.
- With an average consumer price of beer in supermarkets and other retail stores at 1.5 euros per litre, this means German consumers spend 10.7 billion euros on retail beer (9.3 excl. VAT).
- Eurostat statistics show that the average turnover excluding VAT per retail and wholesale employee is 243,500 euros a year, so that the estimated employment arising from German retail beer sales is 38,000 jobs.

⁸⁴ Source: Eurostat.

14 GREECE: ECONOMIC IMPACT OF BEER

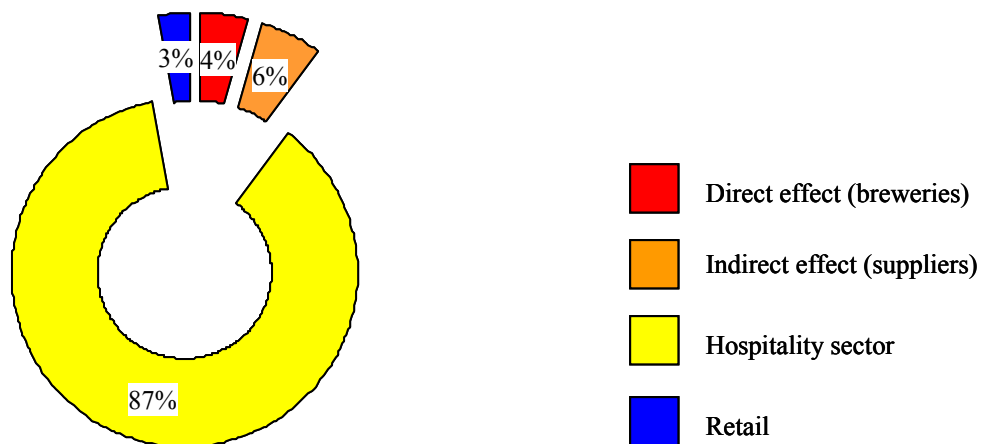
14.1 Highlights of the economic impact

The economic impact of the brewing sector can be expressed as follows:

- The beer market in Greece is consolidated with a production volume of about 4 million hectolitres. The market leader has an 80% market share.
- Consumption by tourists accounts for approximately 16% of all beer consumption.
- Greek breweries provide 1,800 job positions directly.
- Because of goods and services bought in the supplying sectors, additional indirect employment of around 2,400 employees is generated.
- In the Greek hospitality sector some 35,550 jobs can be attributed to the sale of beer and in the retail sector this figure is around 1,275.
- The total impact of the brewing sector in terms of direct and indirect employment can be estimated as high as approximately 41,030 employees.
- Tax revenues for the Greek government from the beer sector are approximately 50 million euros in excise, 239 million euros in VAT and 66 million euros in direct personal taxes paid by workers. The total tax revenues amount to around 355 million euros.

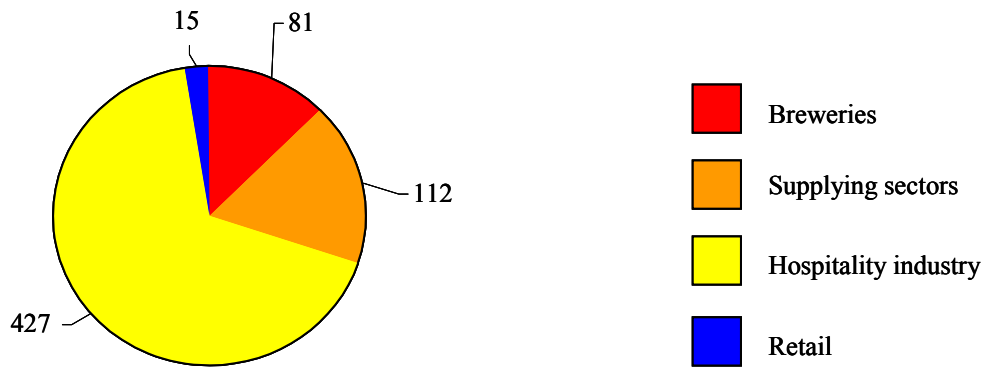
Total employment due to the production and sale of beer is depicted below:

Total employment due to production and sale of beer: 41,030 jobs



The total contribution to the Greek economy in terms of value added due to the production and sale of beer is estimated at 635 million euros. The hospitality sector is responsible for some two-thirds of total value added because of beer, reflecting the economic importance of this sector for both the brewing sector and for the Greek economy as a whole.

Value added due to production and sale of beer: 635 million euros



14.2 The brewing sector: market structure, trends and developments

Greece is one of Europe's smaller beer markets and has a slightly declining market. Total production is around 4 million hl. and beer sales are 3.9 million hl. (non-alcoholic beer and beer containing < 0.5% by volume of alcohol represent a very small volume).

Consumption per capita is around 36 litres a year⁸⁵. The beer consumption by approximately 12 million foreign tourists per year is estimated at 16% of the total and any fluctuation in the number and/or duration of their visit influences the volumes of beer consumed in Greece each year (in a population of 11 million inhabitants).

| Key variables | Millions hectolitres | Illustration |
|--------------------|----------------------|---|
| • Production | 4.08 | 5 breweries. |
| • Exports | 0.364 | |
| • Imports | 0.189 | |
| • Consumption | 3.905 | |
| • Draught | 8% | |
| • Home consumption | 35% | 65% of beer sales is on-trade (via 75,000 outlets). |

For many years one of the major European brewing companies, with its Athenian Brewery, has been the leader in Greece with a market share of 80 percent. Other market players are Mythos Brewery which ranks number two with an estimated market share of 10%, Hellenic Breweries of Atalanti with an estimated market share of 4% and the microbrewery Macedonian Thrace Brewery S.A..⁸⁶

The economic impact of the brewing sector is influenced by the following trends, developments and characteristics of the Greek economy:

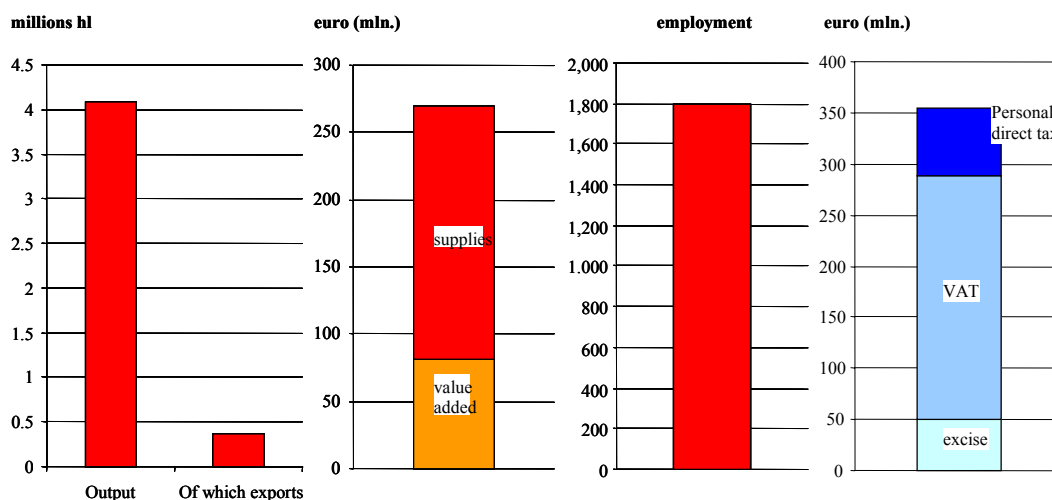
| Brewing sector internal characteristics | Context in which the brewing sector operates |
|---|--|
| <ul style="list-style-type: none"> • Consolidated market with a market leader having 80 percent of the market. • Declining market. • New market entries occurred at the end of the nineties, stimulating competition. • Several imported brands (6 percent market share). | <ul style="list-style-type: none"> • Growing economy in Greece. • Since the euro's introduction (2004) the on-trade beer price has increased substantially which probably caused decreasing market volume. |

⁸⁵ Source: Scottish & Newcastle press release 2002 (2002-03-05).

⁸⁶ Source: Greek Brewers Association.

14.3 The direct effect of the brewing sector

The brewing companies provided employment to 1,800 personnel in 2004.⁸⁷ The breweries together realise an estimated turnover of 270 million euros, of which approximately 189 million euros is spent in the supplying sectors. This means that the Greek breweries together realise 81 million euros value added:



The tax revenues are also important, with total excise revenues on beer of 50 million euros. With beer sold in pubs and cafes, VAT revenues are generated amounting to about 203 million euros. Beer sales in supermarkets and other off-trade outlets generate another 36 million euros in VAT revenues. It can also be estimated that employees working for the Greek breweries together pay some 3 million euros in personal and direct tax and that workers in supplying sectors, in the hospitality sector and in retail who hold a job attributable to the sales of beer, pay another 63 million euros in personal direct tax. The total tax revenues arising from beer are thus estimated at 355 million euros.

14.4 The economic impact of breweries on suppliers of goods and services

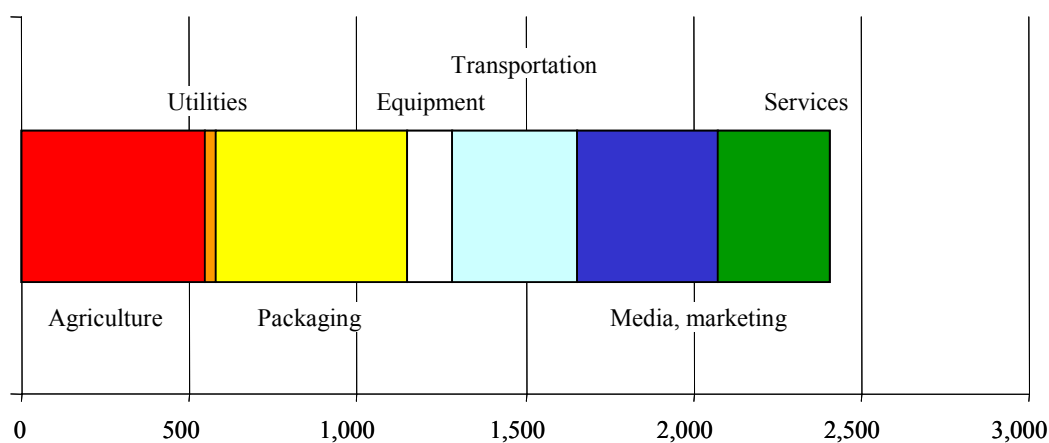
Because 70 percent of the total production value of Greek breweries is spent on suppliers, breweries have an important economic impact on supplying sectors:

⁸⁷ Source: The Brewers of Europe.

| Sectors | Stimu- lus ⁸⁸ | Stimulus for the Greek economy | | Personnel costs ⁸⁹ | | Labour costs per employee | Number of em- ployees |
|--|-----------------------------|-----------------------------------|----------|-------------------------------|----------|---------------------------------|-----------------------------|
| | (mln. €) | % | (mln. €) | % of stimu- lus | (mln. €) | (in €) | |
| • Agriculture ⁹⁰ | 18 | 35% | 6 | | | | 357 |
| • Utilities | 7 | 100% | 7 | 8% | 1 | 30,228 | 18 |
| • Packaging industry | 62 | 65% | 40 | 16% | 6 | 17,196 | 373 |
| • Equipment +other | 14 | 65% | 9 | 16% | 1 | 17,196 | 87 |
| • Transport | 27 | 100% | 27 | 22% | 6 | 24,648 | 238 |
| • Media, marketing | 34 | 95% | 33 | 25% | 8 | 29,880 | 273 |
| • Services + other | 27 | 95% | 26 | 25% | 7 | 29,880 | 218 |
| Total | 189 | | | | | | 1,563 |
| Primary impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 2,405 |

The largest proportion of supplies is purchased from the packaging industry, with further significant spending on media and marketing, transport and services.

Indirect employment



⁸⁸ Percentages-based country comparison analysis.

⁸⁹ Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

⁹⁰ For the impact of the brewing sector on agriculture, we have used the industry ratio of total turnover to total employment in FTE (i.e. 9.1 billion euros with 518,500 FTE) to go from the stimulus in agriculture because of 'beer' (i.e. 6 million euros) to resulting employment (357 FTE after one round).

14.5 Retail and hospitality sectors

In Greece 35 percent of beer sales occur through the retail channel. Another 65 percent finds its way to the consumer through the hospitality sector.⁹¹

Hospitality sector

Estimating employment in the retail sector attributable to the brewing sector:

- About 35 percent of the total Greek beer consumption is beer sold by supermarkets and other retail companies.
- With an average consumer price of 1.67 euros (incl. VAT) per litre⁹², total consumer spending on retail beer is estimated at 191.8 million euros (excl. VAT).
- Because the annual turnover per employee is estimated at 150,300 euros, this means that 1,276 people owe their jobs to the sales of retail beer.

Retail

Employment in the hospitality sector generated by the brewing sector can be similarly assessed:

- Around 65 percent of Greek beer consumption occurs in the hospitality sector.
- This means that 2.5 million hl are sold by Greek pubs, restaurants and the like.
- The estimated consumer price of beer is about 5 euros per litre, so that consumers are estimated to spend 1.06 billion euros (excluding VAT) on beer in pubs and restaurants.
- Turnover per employee in the Greek hospitality sector is 30,000 euros a year.
- Total employment in the Greek hospitality sector because of beer sales is thus 35,550 employees.⁹³

⁹¹ Retail channel consists of supermarkets, hypermarkets and cash & carry shops.

⁹² Estimated beer price by EY, as real prices fluctuate and beer in different price ranges is available.

⁹³ In 2004 1,028,100 people were employed in the trade, restaurants and hotels sector. Source: National Statistical Services of Greece, *Greece in figures*, 2005

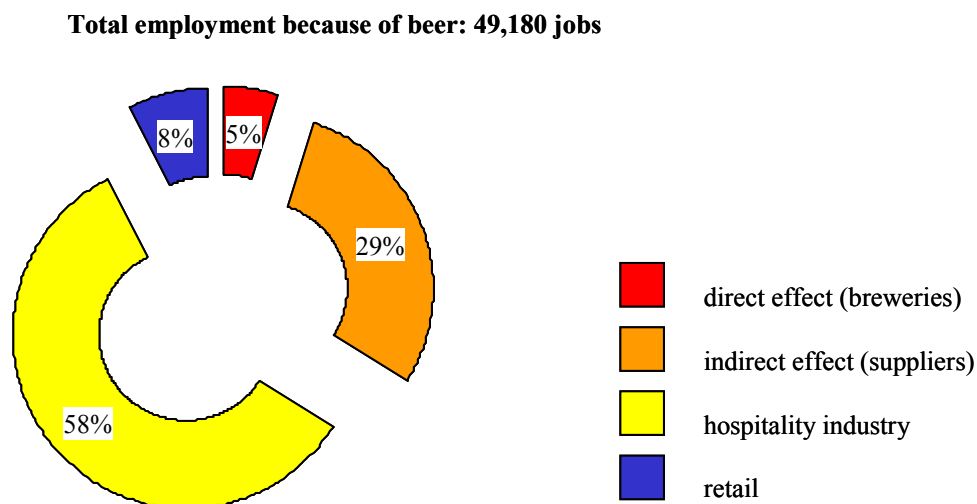
15 HUNGARY: ECONOMIC IMPACT OF BEER

15.1 Highlights on economic impact

The economic impact of the brewing sector on the Hungarian economy is substantial:

- The direct effect of the brewing sector on employment is 2,460 jobs.
- Because Hungarian brewers purchase goods and services from other sectors, 14,155 more jobs are created in these sectors.
- In the Hungarian hospitality sector some 29,000 jobs can be attributed to beer sales and in retail another 3,720 employees owe their jobs to beer sales.
- The total economic impact of the brewing sector on employment is estimated to be 49,200 jobs.
- The Hungarian government also benefits from the brewing sector and receives an estimated 374 million euros from the production and sale of beer. Excises amount to 110 million euros and VAT revenues are estimated at 207 million euros (this covers the whole beer production process, not only the breweries). Workers contribute another 57 million euros in personal direct taxes (this covers employees of breweries and other workers in the hospitality sector, retail and supplying sectors whose jobs can be attributed to ‘beer’).

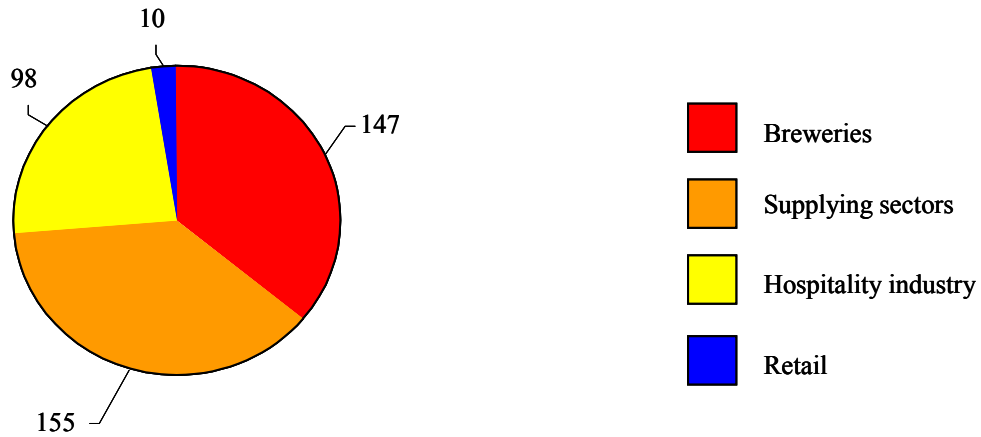
The employment effect of the Hungarian brewing sector on the national economy is depicted as follows:



In Hungary the productivity in terms of value added per employee is relatively high in the brewing sector. The high productivity reflects the fact that in recent years the brewing sector has invested heavily in modernising breweries, also because of international companies entering the Hungarian brewing sector. This is the main explanation for the fact that the

brewing sector accounts for only a small fraction of the total number of jobs attributable to the production and sale of beer, but is generating more than 35 percent of total value added due to the production and sale of beer. The total contribution of the brewing sector to the Hungarian economy (directly and indirectly), is estimated at around 410 million euros:

Value added due to production and sale of beer: 410 million euros



15.2 Market and industry structure, trends and developments

Hungary is a traditional beer-producing country, although wine is also another traditional alcoholic beverage. The first commercial brewery in Hungary was established in 1845 (by Peter Schmidt), followed shortly by other breweries, some of which are still active today. In 2004 total beer consumption was 7.8 million hectolitres:

| Key variables | Millions hectolitres | Illustration |
|--------------------|----------------------|---|
| • Production | 7.0 | |
| • Exports | 0.06 | Exports are increasing slightly, but not yet significant |
| • Imports | 0.96 | Imports have increased sharply in recent years (in 2002 total imports were 210,000 hl), because German breweries used their overcapacity in canning lines to increase exports to Central and Eastern Europe |
| • Consumption | 7.0 | |
| • Draught | 14% | 14% of total beer sales is beer in kegs (draught), 50% is returnable bottles and some 35% is canned beer ⁹⁴ |
| • Home consumption | | |

In Hungary three brewing companies are engaged in fierce competition to become market leader⁹⁵. These companies are all part of major European brewing companies.

Total sales of the leading three brewing companies in Hungary are estimated at between 2.0 and 2.3 million hl, so that the market shares of these groups amount to 30 to 33 percent.

The number four position in the Hungarian beer market is (founded in 1848) is majority-owned by an Austrian brewing company.

The economic impact of the brewing sector is influenced by the following trends, developments and characteristics of the Hungarian economy:

| Brewing sector internal characteristics | Context in which the brewing sector operates |
|---|---|
| <ul style="list-style-type: none"> • Strong competition in recent years, also because of cheap imports of beer from Germany.⁹⁶ • Perceptible decline of cheap beer imports in 2005. • Many of the larger Hungarian breweries are owned by international brewing companies. • International brewing companies have invested heavily in modernising the Hungarian breweries, thereby improving productivity. | <ul style="list-style-type: none"> • Hungarian beer consumers drink an average volume from a European perspective (around 70 litres per capita annually). • Price sensitivity of consumers; consumer beer quality consciousness is still low priority. • In 2004 the consumer price in off-trade shops declined. In 2005 the average price of half a litre of beer has remained practically the same for bottles (130-140 HUF⁹⁷) while the average price of canned products has increased slightly to approximately 145 HUF per half litre. |

⁹⁴ Association of Hungarian Brewers (AHB), *Annual Report 2004*.

⁹⁵ Business Hungary.Com, Kester Eddy, *Beer trouble: local brewers hope product fee will slash the flood of cheap imports*, January 2005.

⁹⁶ Because of a change in German environmental policy, introducing a deposit fee on cans to stimulate the reduction of rubbish, German breweries were facing underused canning lines when consumers switched from cans to bottles. The German breweries then decided to increase the export of canned beer, especially to countries in Central and Eastern Europe, affecting local breweries in these countries.

⁹⁷ Exchange rate used: 1 euro = 253 HUF.

15.3 Direct effect of the brewing sector

Total direct employment at Hungarian breweries has dropped in recent years and now stands at around 2,850 jobs⁹⁸. In the first half of 2004, for example, one of the major breweries announced a 17 percent cut in its workforce (124 redundancies, employment decreasing to 634 personnel) and another brewing company also announced a jobs cut of 48 staff (total employment was 650 jobs).

The total production value of Hungarian breweries is estimated at 517 million euros⁹⁹ and about 28.4 percent (i.e. 152 million euros) of it stays within the Hungarian brewing companies as value added, while the remaining 71.6 percent (370 million euros¹⁰⁰) benefits supplying firms:



Total tax revenues for the Hungarian government are substantial, with excise revenues in 2004 of 110 million euros, total VAT revenues from beer estimated at 207 million euros¹⁰¹ and direct personal taxes paid by workers whose jobs can be attributed to beer totalling 57 million euros (this covers not only employees of the Hungarian breweries, but also workers in the hospitality, retail and supplying sectors).

The Association of Hungarian Brewers also states in its Annual Report that the breweries pay some 5.7 million euros in corporate taxes at the national level and 4.6 million euros at the local level. Other wage-related taxes paid by the breweries are estimated at 14.4 million euros and import duties at 0.22 million euros.

⁹⁸ According to the Annual Report of the Association of Hungarian Brewers.

⁹⁹ Eurostat data.

¹⁰⁰ This value, originating from Eurostat, does not correspond with the Annual Report 2004 of the Association of Hungarian Brewers because of different definitions of total purchases made by breweries.

¹⁰¹ These VAT revenues cover the entire chain of production, from agricultural products to pubs and restaurants selling beer to consumers. Therefore this estimate does not correspond with the reported € 65 million VAT paid by the breweries in Hungary (Annual Report 2004), as this only covers 'non-reclaimable taxes only', to be paid by the breweries).

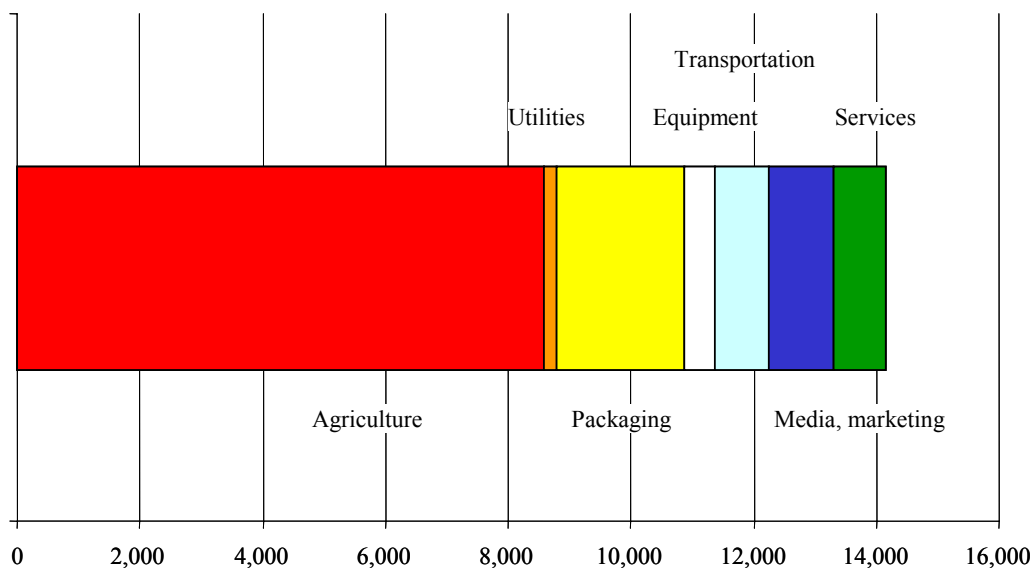
15.4 Economic impact of breweries on suppliers of goods and services

Because the Hungarian breweries spend € 370 million on supplied goods and services, supplying sectors benefit substantially from the brewing sector.

| Sectors | Stimulus (mln. €) | Stimulus for the Hungarian economy | | Personnel costs ¹⁰² | | Labour costs per employee (in €) | Number of employees |
|--|----------------------|------------------------------------|------------|--------------------------------|----------|-------------------------------------|---------------------|
| | | % | (mln. €) | % of stimulus | (mln. €) | | |
| • Agriculture ¹⁰³ | 65 | 90% | 60 | | | | 5,573 |
| • Utilities | 13 | 100% | 13 | 8% | 1 | 9,132 | 133 |
| • Packaging industry | 121 | 50% | 78 | 11.5% | 9 | 6,432 | 1,365 |
| • Equipment +other | 28 | 50% | 18 | 11.5% | 2 | 6,432 | 318 |
| • Transport | 23 | 90% | 23 | 22.1% | 4 | 7,488 | 576 |
| • Media, marketing | 67 | 100% | 67 | 18.2% | 10 | 13,908 | 688 |
| • Services + other | 54 | 100% | 54 | 18.2% | 8 | 13,908 | 548 |
| Total | 370 | | 313 | | | | 9,201 |
| Primary impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 14,155 |

Total employment generated in supplying sectors is split up as follows:

Indirect employment



¹⁰² Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

¹⁰³ Turnover per work unit in the agricultural sector is low at € 10,724 a year. Because the brewing sector generates a stimulus of 60 million euros into agriculture, this results in 5,573 jobs in the agricultural sector.

15.5 Retail and hospitality sector

The most important economic impact of the brewing sector concerns the benefits to the hospitality sector from beer sales.

Hospitality sector

Estimating the economic impact of the brewing sector on the hospitality sector:

- It is assumed that 47.5 percent of total beer consumption in Hungary is beer sold by the hospitality sector.
- With an average price per litre of € 1.80, this means that consumer spending on beer in the hospitality sector is € 599 million (including VAT; excluding VAT consumers spending amounts to € 479 million, using a 25 percent VAT tariff).
- With an average turnover of € 16,600 per employee excluding VAT, this means 28,850 employees in the Hungarian hospitality sector owe their jobs to the brewing sector.

Retail

Employment arising from the sale of retail beer can be similarly assessed:

- Assuming that 52.5 percent of total consumption is beer sold off-trade in retail, this means some 3.7 million hl of beer are sold via retail.
- With an estimated consumer price of € 1.19 a litre (including VAT) and a VAT tariff of 25 percent, total consumer spending on beer in supermarkets and other retail firms amounts to € 350 million (ex VAT).
- Because average turnover (ex VAT) of employees in retail in Hungary is € 94,000, this results in 3,720 jobs in retail that may be attributed to beer sales.

16 IRELAND: ECONOMIC IMPACT OF BEER

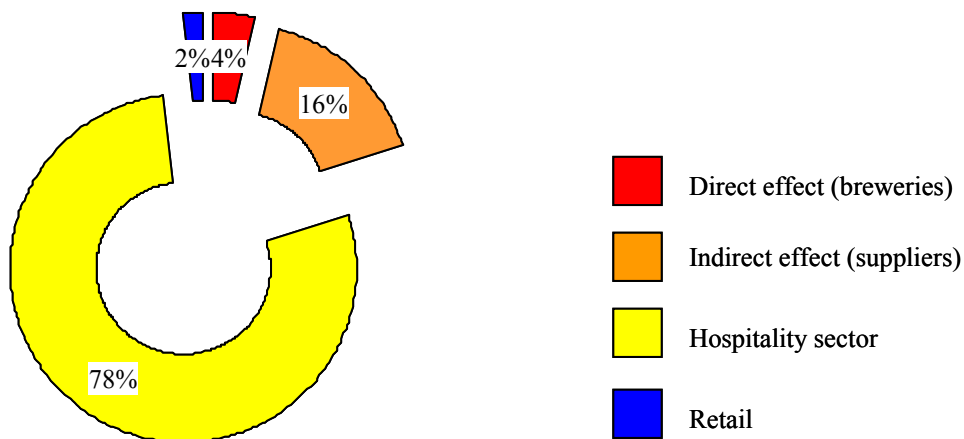
16.1 Highlights of the economic impact

The economic impact of the brewing sector can be expressed as follows:

- In 2004, Irish brewers produced 8.1 million hectolitres of beer. 47% of this was exported.
- Irish brewers employ 2,020 personnel.
- With suppliers, 8,300 fulltime jobs depend on beer; retail and hospitality outlets employ 42,300 due to the sale of beer.
- The bulk is still consumed in pubs. However, the smoking ban in public places has accelerated the previously apparent trend from on-trade towards off-trade channels.
- A shift in consumer preferences from stout to lager.
- Private consumption is shifting increasingly from beer to wine.
- Government revenues from VAT and excise amount to 990 million euros.

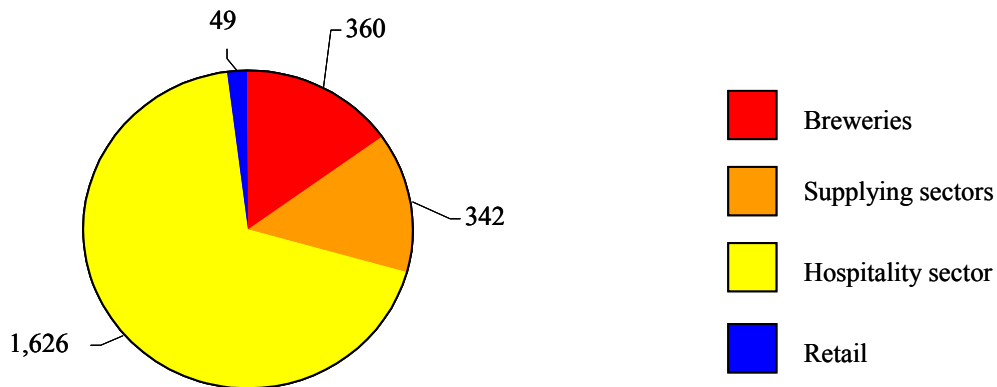
The employment effects of the brewing sector are depicted below:

Total employment due to production and sale of beer: 52,500 jobs



The contribution of the brewing sector to the Irish economy can also be expressed in terms of value added. Total value added of the brewing sector in Ireland and value added generated by firms in supplying sectors and in hospitality and retail sectors arising from the production and sale of beer amounts to around 2.4 billion euros:

Value added due to production and sale of beer: 2.4 billion euros



The share of the brewing sector in overall value added arising from the production and sale of beer is estimated at 15 percent. This is far more than the share of direct employment connected to breweries as a fraction of total employment due to the production and sale of beer (4 percent). An important explanation for this is the fact that productivity in terms of value added per employee in the Irish brewing sector is relatively high compared to other sectors.

16.2 The brewing sector: market structure, trends and developments

There are 3 major brewing groups in Ireland, which together have 7 plants. These 3 groups hold a combined market share of 99%. The other 1% is divided amongst a number of micro breweries¹⁰⁴. In total, Irish brewers produce some 8.1 million hectolitres of beer, of which 3.4 million hectolitres are exported. The market leader holds a 74% market share. On the basis of an estimated average sales value of € 110 per hectolitre of beer, we estimate the total market value of the Irish production of beer at some € 900 million.

| Key variables | Million hectolitres | Illustration |
|--------------------|---------------------|--------------|
| • Production | 8.1 | |
| • Exports | c. 3.8 | Estimate |
| • Imports | c. 0.8 | Estimate |
| • Consumption | 5.2 | |
| • Draught | 75% | |
| • Home consumption | 19% | |

Source: Irish Brewers Association (IBA), Office of the Revenue Commissioners, own calculations

The Irish beer market is mature and highly competitive. Beer is the most popular alcoholic beverage, but in recent years market growth has slowed. In its annual report over the year 2004, Heineken described a market decline of 3% for that year. The IBA detects a 2% decline. This decline can (at least partly) be attributed to the shift from drinking beer in pubs, to drinking wine at home.

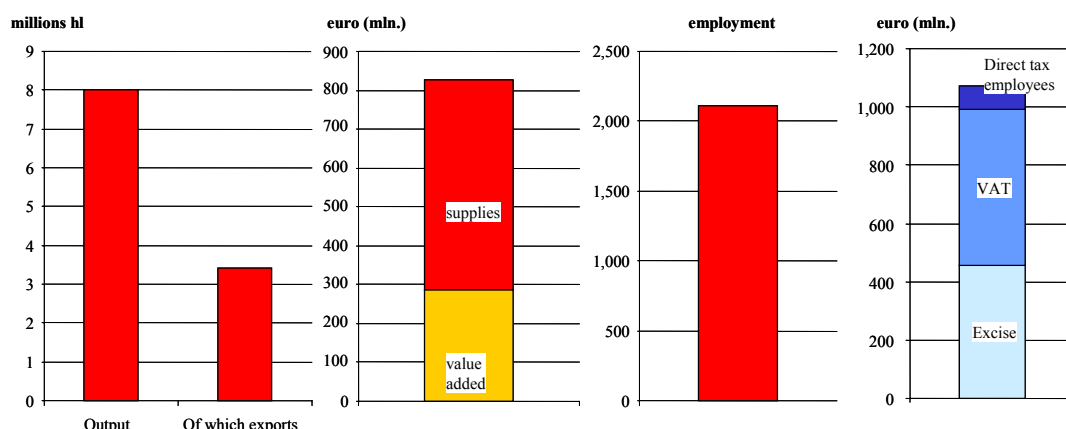
The main trend within the declining beer market is the shift from stout (and ale) to lager. In the year 2004, lager accounted for 53% of total beer volume in Ireland, with 39% for stout and 8% for ale (source: Interbrew market report 2004).

The most important political development of recent years was the smoking ban in public places, including bars and restaurants. As of 2005, domestic production and exports are expected to rise as a result of a major relocation to Ireland of brewing capacity for the UK market.

16.3 The direct effect of the brewing sector

In 2004 Irish brewers employed 2,020 people. This personnel relates entirely to activities involving the brewing of beer. From Eurostat we know that the brewing sector adds 360 million euros of value to the Irish economy. Unfortunately national statistics about the Irish brewing sector are unavailable because of confidentiality issues.

¹⁰⁴ Source: The Irish Brewers' Association (IBA).



The main excise duty rate for beer in 2004 is € 19.87 per hectolitre percent of alcohol (50% refunding for small producers). In 2004, total excise revenues on beer (domestic production and imports) amounted to € 458 million. VAT on beer sales totalled € 533 million.

16.4 The economic impact of breweries on suppliers of goods and services

Based on the total value of Irish brewers' production of € 1,200 million, and average purchasing expenses of 45% of the total market value (which is a conservative estimate), we arrive at a total estimated 'stimulus' of the Irish brewing sector of € 540 million.

| Sectors | Stimulus (mln. €) | Stimulus for Ireland | | Personnel costs ¹⁰⁵ | | Labour costs per employee (in €) | Number of employees |
|--|----------------------|----------------------|------------|--------------------------------|-----------|-------------------------------------|---------------------|
| | | % | (mln. €) | % of stimulus | (mln. €) | | |
| • Agriculture ¹⁰⁶ | 162 | 92% | 149 | | | | 4,540 |
| • Utilities | 14 | 100% | 14 | 15% | 2 | 51,612 | 40 |
| • Packaging industry | 54 | 30% | 16 | 8% | 1 | 32,628 | 40 |
| • Equipment | 32 | 30% | 10 | 8% | 1 | 32,628 | 25 |
| • Transport | 81 | 88% | 71 | 17% | 12 | 36,096 | 335 |
| • Media, marketing | 108 | 40% | 43 | 21% | 9 | 39,312 | 230 |
| • Services | 89 | 40% | 36 | 21% | 7 | 39,312 | 190 |
| Total | 540 | | 339 | | 33 | | 5,400 |
| Primary impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 8,300 |

¹⁰⁵ Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

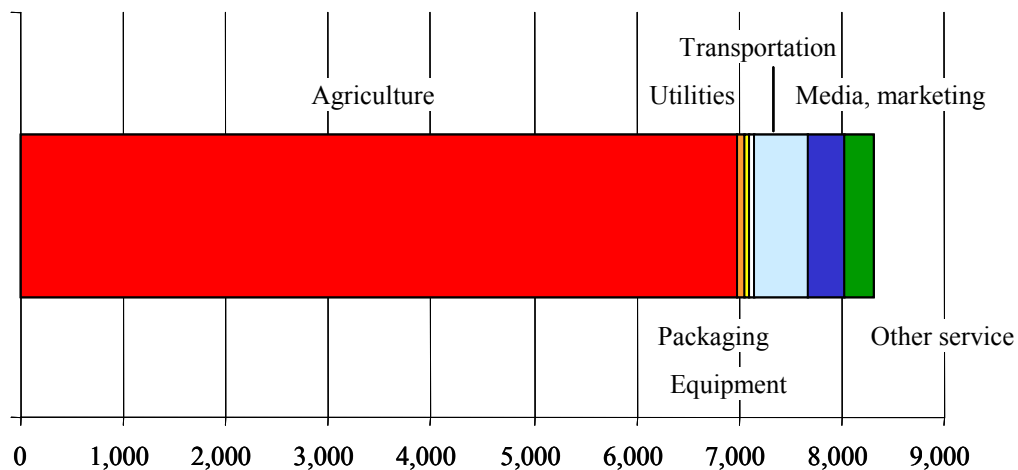
¹⁰⁶ Spending on agricultural raw materials is relatively high in Ireland. This is due to the fact that traditional Irish beers require more malt per hectolitre than lagers.

As the table above shows, almost 85 percent of the economic impact of the brewing sector on suppliers in terms of jobs is concentrated in the agricultural sector. There are three important explanations for this:

- It is estimated that around 30 percent of the total amount spent by brewing companies on goods and services from supplying sectors is spent in the agricultural sector, whereas for most of the Western European countries this percentage normally lies around 15 percent.
- According to the IBA, almost all the malt used in the Irish brewing sector is produced inside Ireland. For other supplies due to the open character of the Irish economy, a much higher fraction of the amount of money spent by brewing companies is spent abroad.
- Average labour productivity in Irish agriculture is relatively low compared to other Western European countries. A million euros spent by brewing companies in the Irish agricultural sector therefore generates more agricultural jobs than a million euros spent on agricultural products in most other Western European countries.

Indirect employment effects are illustrated below:

Indirect employment



16.5 Retail and hospitality sectors

Pubs are the dominant outlet channel for beer in Ireland. 74.5% of beer is sold on draught, 4.6% in returnable bottles, 4.1% in non-returnable bottles and 16.8% in cans. In the packaged trade, supermarkets account for the majority of the volume sold. The on-trade channel accounts for as much as 81% of the total beer volume consumed, which equals some 4.2 million hectolitres. The take-home market accounts for the other 19% (approx. 1 million hectolitres), but this share has been growing over a number of years as a result of expanding UK supermarket chains. On the basis of an average beer price of € 3.60 – 3.90 per litre, the IBA

values the Irish beer market at € 3.5 billion. Though the share of pubs is large, consumption of beer in pubs is down some 7% this year. This fall is due to the ban on smoking in public places including pubs and restaurants (favouring home consumption over pub consumption) and due to the shift away from beer towards wine.

According to the Office of the Revenue Commissioners, Ireland had 9,731 licensed pubs, plus 796 specialised on-trade beer retailers in 2003. However, the number of on-trade outlets is falling, with more pubs closing than opening. In 2003 licences of these establishments generated some € 7.6 million of government revenues.

Price differences of beer are huge, ranging from € 3.43 per litre of lager in the off-trade channel, to as much as € 11.80 for bottled lager on-trade (2004 prices)¹⁰⁷. According to the Office of the Revenue Commissioners, bar prices of stout and lager have increased between 5 and 7% a year since 2000. The table below shows these increasing prices for 2003 and 2004. Note the declining price for off-trade lager. This results from competitive actions by supermarket chains to attract consumers. A logical result of the increasing price gap between lager and stout will be a further shift towards lager beers.

| Average consumer price | | | per litre | | |
|------------------------|------|-------|-----------|--|-------|
| | 2003 | | 2004 | | |
| • Off-trade | | | | | |
| Stout | € | 4.32 | € | | 4.36 |
| Lager | € | 3.53 | € | | 3.43 |
| • On-trade | | | | | |
| Draught Stout | € | 5.95 | € | | 6.14 |
| Draught Lager | € | 6.61 | € | | 6.80 |
| Draught Ale | € | 6.04 | € | | 6.24 |
| Bottled Lager | € | 11.52 | € | | 11.80 |

Source: Central Statistics Office Ireland (CSO)

Hospitality sector

Employment arising from beer sales in the hospitality sector is estimated at 41,100 jobs:

- Around 81 percent of beer consumption in Ireland takes place in the hospitality sector.
- This means 4.2 million hl are sold by Irish pubs, restaurants and the like.
- The consumer price of beer is about 5.25 euros per litre (excl. VAT), so that consumers are estimated to spend 2.2 billion euros (excl. VAT) on beer in pubs and restaurants.

¹⁰⁷ The prices in this paragraph are estimates of the average prices in the on-trade and off-trade channels. In reality, prices vary considerably, depending on many different factors including the size of the container or glass, the type of establishment and the location.

- Turnover per employee in the Irish hospitality sector is 53,900 euros a year.
- Total employment in this sector arising from the sale of beer is 41,100 employees¹⁰⁸.

Retail

The importance of the brewing sector for retail can be similarly assessed:

- About 19 percent of total beer consumption is beer sold by retail outlets.
- With an average consumer price of 3.30 euros per litre (excluding VAT), total consumer spending on beer in retail is estimated at 330 million euros.
- Because turnover per employee is estimated at 265,000 euros, this means 1,200 people working in the retail sector owe their jobs to the brewing sector.

¹⁰⁸ These figures are likely to decrease as the smoking ban leads to declining beer sales in the on-trade channel, and the closing down of pubs

17 ITALY: ECONOMIC IMPACT OF BEER

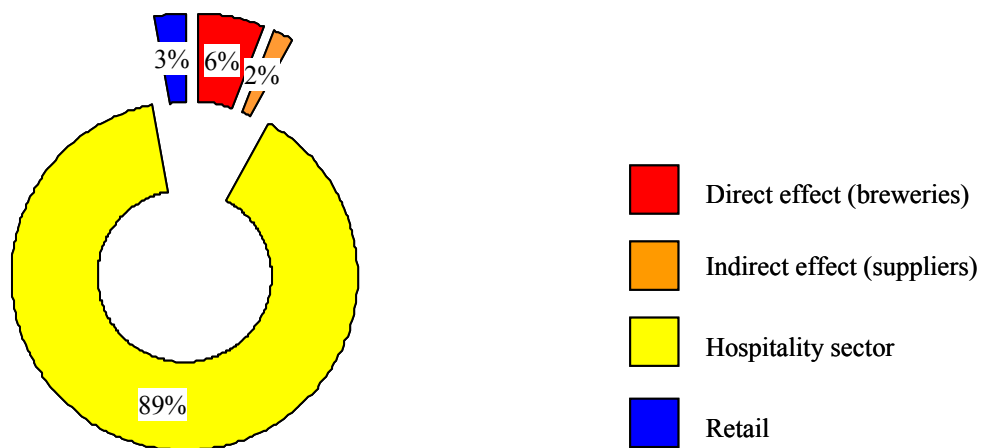
17.1 Highlights of the economic impact

The most important characteristics of the Italian beer market are:

- The volume of the Italian beer market is around 17.2 million hectolitres. Italian brewers produced 13.35 million hectolitres. There are 16 production units within Italy. 27 percent of the beer consumed is imported.
- Consumption has declined in recent years, while since 2000 the market growth has been around 5%.
- The Italian breweries employ 2,700 personnel directly.
- The estimated indirect employment generated is relatively large with 7,550 jobs in supplying sectors, 119,150 jobs in the hospitality sector and 4,490 jobs in retail. The total indirect employment is 133,900 job positions in Italy.
- Italian government tax revenues from the beer sector are approximately 274 million euros in excise, 1,487 million euros in VAT and 606 million euros in direct personal taxes paid by workers. Total tax revenues are approximately 2,367 million euros.

The total employment impact of beer is depicted below:

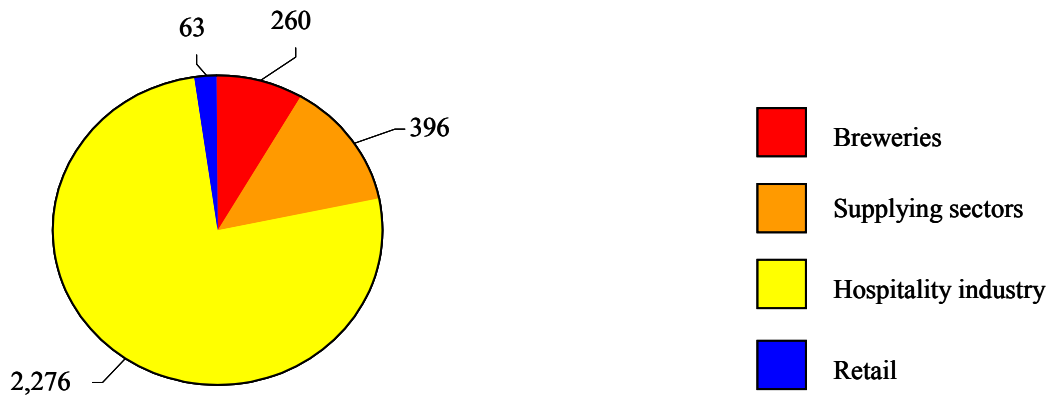
Total employment due to production and sale of beer: 133,900 jobs



The total contribution to the Italian economy in terms of value added arising from the production and sale of beer is estimated at 3 billion euros. The hospitality sector is responsible for around 75 percent of total value added because of beer. The share of the brewing sector in total value added that can be attributed to the production and sale of beer is estimated at almost 9 percent. This is much higher than the share of the brewing sector in total employment

arising from the production and sale of beer, reflecting the relatively high productivity of the Italian brewing sector and its employees.

Value added due to production and sale of beer: 3,000 million euros



17.2 The brewing sector: market structure, trends and developments

The Italian breweries together produced 13.35 million hectolitres of beer in 2004, which is slightly less than in 2003 (production of 13.6 million hectolitres).¹⁰⁹ Consumption also declined slightly, from 17.4 to 17.2 million hectolitres, mainly because of an increase in excise (rising by 14 percent) and weather conditions. From a more long-term perspective the Italian beer market is growing, with a rise in production of 5 percent since 2000. Italian breweries exported 850,000 hectolitres in 2004 and 4.8 million hectolitres were imported.

| Key variables | Millions hectolitres | Illustration |
|--------------------|----------------------|--|
| • Production | 13.35 | Increase of 5 percent compared to 2000. |
| • Exports | 0.85 | Relatively few exports (6.4 percent of production) |
| • Imports | 4.8 | 27% of the beer consumed in Italy is imported |
| • Consumption | 17.2 | |
| • Home consumption | 49% | |

According to the 2004 annual report of the Italian Brewers Association, Italy operated 16 domestic production units in 2004 of which eleven were operated by three of the major five brewing companies in Europe. Meanwhile, in 2005 14 production units and one bottling unit remain.

| Category | Number of production units |
|--------------------------------|----------------------------|
| < 50,000 hl per year | 1 |
| 50,000 – 100,000 per year | - |
| 100,000 – 500,000 per year | 2 |
| 500,000 – 1,000,000 per year | 4 |
| 1,000,000 – 2,500,000 per year | 5 |
| 2,500,000 – 5,000,000 per year | 2 |
| > 5,000,000 per year | - |

Source: AssoBirra.

The largest brewing company in Italy has a market share of 34 percent. The runner up follows with approximately 25 percent¹¹⁰. The other five brewers have market shares varying from 0.1 percent to 8.4 percent. In 2003 the three largest brewers together held a 67 percent market share.

The economic impact of the brewing sector is influenced by the following trends, developments and characteristics of the Italian economy:

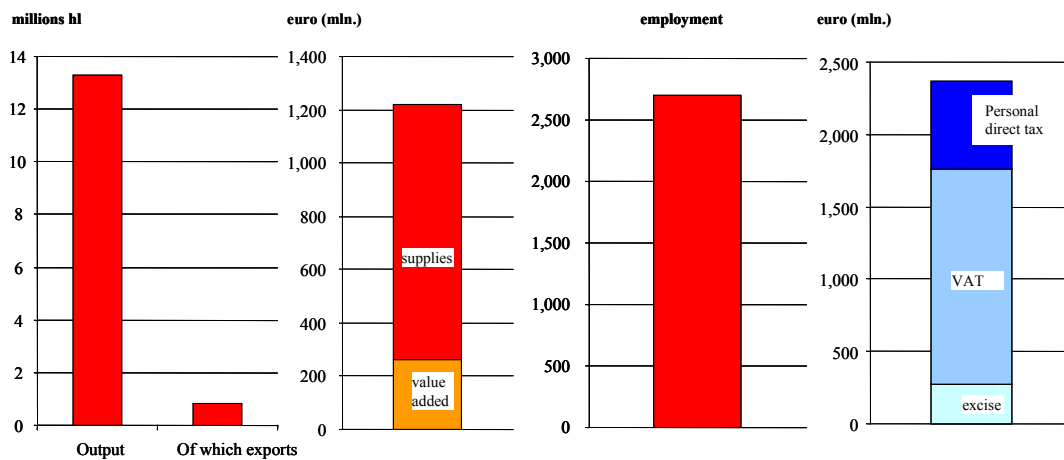
¹⁰⁹ Source: Associazione degli Industriali della Birra e del Malto (AssoBirra), *Annual Report 2004*.

¹¹⁰ Source: SABMiller, press release 23rd February 2005.

| Brewing sector internal characteristics | Context in which the brewing sector operates |
|--|--|
| <ul style="list-style-type: none"> Per capita beer consumption is low in Italy (29 litres per inhabitant in 2004) Scale of breweries is large with average production of 835,000 hl per location in 2004 (although not as high as in countries such as Spain) Italian breweries are among the most efficient in Europe, with an average production of 4,900 hl a year per employee (only exceeded by Portugal and Ireland). | <ul style="list-style-type: none"> Excise tax rates were increased in 2004 by 13.6%, resulting in a drop in consumption, and again in 2005 by 23.9% generating a further decrease in consumption.¹¹¹ |

17.3 The direct effect of the brewing sector

Total direct employment by Italian breweries lies around 2,700 employees. The value of total beer production can be estimated at 1.2 billion euros and value added generated by the Italian breweries at 260 million euros (approximately 21 percent of total production value). This means that supplying sectors benefit from purchased goods and services to a value of 960 million euros.



¹¹¹ Source: Associazione degli Industriali della Birra e del Malto (AssoBirra).

17.4 The economic impact of breweries on suppliers of goods and services

Of the total production value of Italian breweries, around 79 percent is spent on suppliers, so that breweries exercise an important economic impact on supplying sectors:

| Sectors | Stimu- lus ¹¹² | Stimulus for the Italian economy | | Personnel costs ¹¹³ | | Labour costs per employee | Number of em- ployees |
|--|------------------------------|-------------------------------------|----------|--------------------------------|----------|---------------------------------|-----------------------------|
| | (mln. €) | % | (mln. €) | % of stimu- lus | (mln. €) | (in €) | |
| • Agriculture ¹¹⁴ | 92 | 60% | 55 | | | | 1,494 |
| • Utilities | 24 | 100% | 24 | 9% | 2 | 44,028 | 49 |
| • Packaging industry | 241 | 96% | 231 | 14% | 32 | 31,776 | 1,018 |
| • Equipment +other | 96 | 90% | 87 | 14% | 12 | 31,776 | 381 |
| • Transport | 103 | 99% | 102 | 21% | 21 | 35,208 | 608 |
| • Media, marketing | 170 | 94% | 160 | 19% | 30 | 53,412 | 568 |
| • Services + other | 236 | 94% | 221 | 19% | 42 | 53,412 | 786 |
| Total | 963 | | | | | | 4,906 |
| Primary impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 7,548 |

The largest proportion of supplies is purchased from the packaging industry, with further significant spending on services, media and marketing and transport. Based on the combination of data from the brewing sector in Italy itself and data available from the most recent Italian Input-Output table¹¹⁵, it is estimated that indirect employment arising from the supplied goods and services purchased by Italian breweries is around 7,548 employees in the supplying sectors.

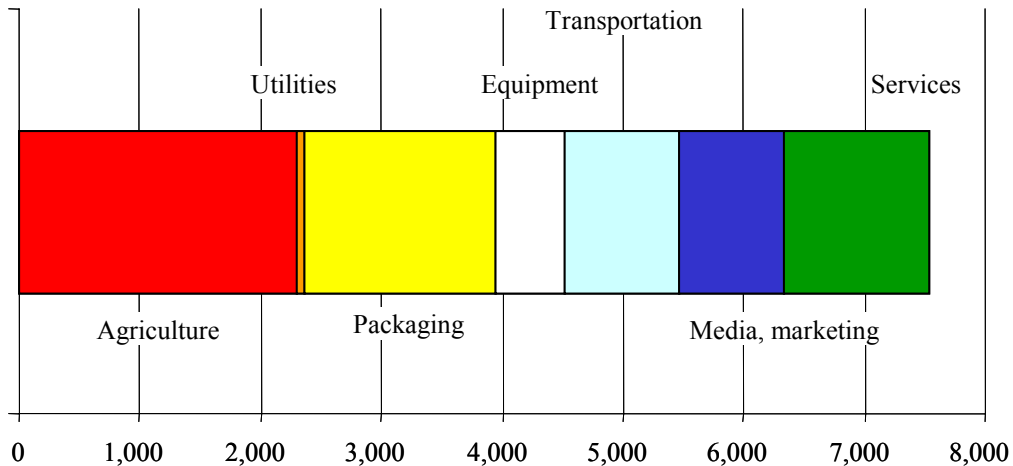
¹¹² Percentages based on data obtained from Italian breweries and checked with Input/Output data (food and beverage).

¹¹³ Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

¹¹⁴ For the impact of the brewing sector on agriculture, we have used the industry ratio of total turnover to total employment in FTE (i.e. 41.8 billion euros with 1,128,000 FTE) to go from the stimulus in agriculture because of 'beer' (i.e. 55 million euros) to resulting employment (1,494 FTE after primary round).

¹¹⁵ Source: Istat (I/O table for 1992).

Indirect employment



The analysis shows that agriculture, the packaging industry and the services sector benefit most from the indirect impact of Italian breweries. The impact is relatively substantial because a high percentage of goods and services purchased by the breweries is purchased in Italy itself.^{116 117}

17.5 Retail and hospitality sectors

Markets for the retail and catering industry in Italy are more balanced than those in other Southern European countries, as around 51 percent is sold by the catering industry and another 49 percent via the retail channel.¹¹⁸

Hospitality sector

Many jobs in the Italian hospitality sector can be attributed to the sale of beer:

- 51 percent of beer consumption in Italy occurs in the hospitality sector.
- This means 8.8 million hl are sold by Italian pubs, restaurants and the like.
- The consumer price of beer is about 3.50 euros a ‘pinta’ (a pint is 0.473 litres)¹¹⁹, so that consumers pay around 8.75 per litre of beer (incl. VAT) in the hospitality sector.

¹¹⁶ For all supplying sectors it is estimated that more than 80 percent of supplies sourced by breweries are bought in Italy. Only for agriculture is the percentage lower, also because some of the five major European breweries are operating in Italy, and for agricultural products these firms exercise an international perspective. The impact of the brewing sector on agricultural employment in Italy is therefore relatively low from an international perspective.

¹¹⁷ The Italian Input Output table for 1992 shows that for the food and beverage industry, 24 percent of supplies was bought outside Italy (import).

¹¹⁸ Source: Associazione degli Industriali della Birra e del Malto 2004

¹¹⁹ Concern estimated beer price by EY, as real prices fluctuate and beer in different price ranges is available.

- Total turnover in the Italian hospitality sector arising from beer sales is thus estimated at 6.4 billion euros (excl. VAT).
- Turnover per employee in the Italian hospitality sector is 54,000 euros a year.¹²⁰
- Total employment in the Italian hospitality sector because of beer sales thus equals 119,146 personnel.

Retail

Employment in retail arising from beer sales can be similarly assessed:

- About 49 percent of total Italian beer consumption is beer sold by supermarkets and other retail companies.
- With an average consumer price of 1.43 euros (incl. VAT) per litre¹²¹, total consumer spending on retail beer is estimated at 1.2 billion euros (excl. VAT).
- Because the annual turnover per employee is estimated at 222,300 euros, this means that 4,490 personnel owe their jobs to the sale of retail beer.

¹²⁰ Eurostat, statistics on turnover per persons employed in services ('hospitality sector').

¹²¹ Concern estimated beer price by EY, as real prices fluctuate and beer in different price ranges is available.

18 LATVIA: ECONOMIC IMPACT OF BEER

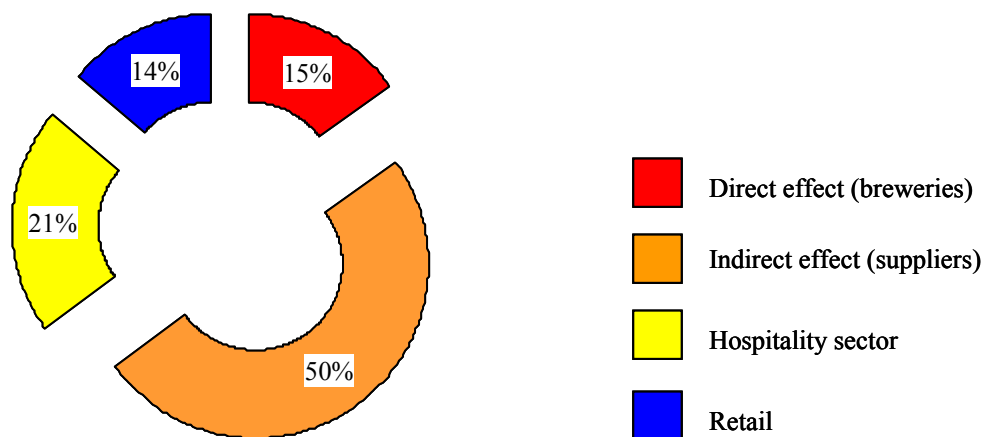
18.1 Highlights of economic impact

The economic impact of the brewing sector can be expressed as follows:

- Latvian beer production totalled 1,343,000 hectolitres. Consumption was 1,332,000 hectolitres, of which 80% was sold through shops.
- A significant share of the retail sales is private exports to Sweden and Finland.
- Latvian brewers employ some 1,500 personnel, with another 5,000 in supplying sectors; 3,500 full-time jobs depend on beer sales in the retail and hospitality sectors.
- VAT, excise revenues and direct taxes paid by workers whose jobs are generated due to the production and sale of beer amount to some 40 million euros annually, VAT being the most important source of revenues for government (almost 20 million euros annually).

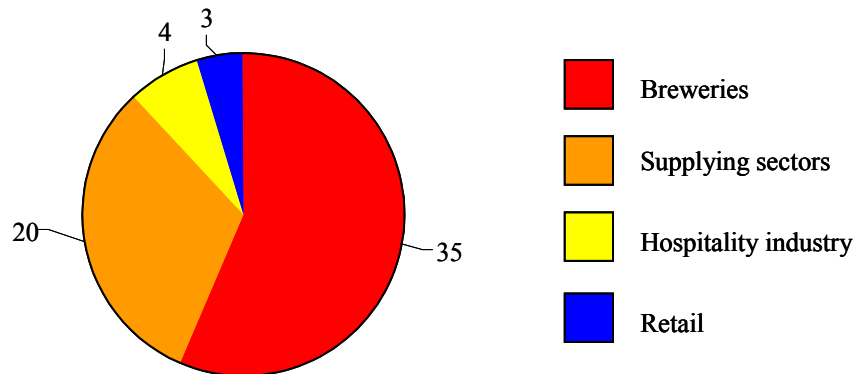
The total employment effects of the brewing sector are depicted below:

Total employment due to production and sale of beer: 10,000 jobs



The contribution of the brewing sector to the Latvian economy can also be expressed in terms of value added. Total value added of the brewing sector in Latvia and value added generated by firms in the supply, hospitality and retail sectors arising from the production and sale of beer amounts to around 62 million euros:

Value added due to production and sale of beer: 62 million euro



The share of the brewing sector in overall value added arising from the production and sale of beer is estimated at 56 percent. This is far more than the share of direct employment connected to breweries as a fraction of total employment arising from the production and sale of beer (17 percent). The relatively high productivity in the Latvian brewing sector in terms of value added per employee is an important explanation for this.

18.2 The brewing sector: market structure, trends and developments

Latvian beer production totalled 1,343,000 hectolitres in 2004. Beer is still brewed in a very traditional way in Latvia. The average value of a hectolitre of beer is approximately € 71. Hence, the total ex-brewery value of the products amounted to some € 95 million. Domestic producers held a combined market share of 91% in 2004, according to the State Revenue Service (although part of this domestic ‘production’ is imported from abroad and only bottled in the country). The four largest breweries have a combined market share of some 70 percent, more than half of which (36%) is for the market leader.

| Key variables | Million hectolitres | Illustration |
|------------------------------|---------------------|---|
| • Production | 1.3 | Beer production for 2005 is expected to be lower due to increasing imports of cheap Russian and Ukrainian beer. |
| • Exports | 0.1 | |
| • Imports ¹²² | 0.1 | |
| • Consumption ¹²³ | 1.3 | |
| • Home consumption | 80% | Estimate |

Source: State Revenue Service Excise Goods Board

Economic development is expected to have a large impact on the beer and soft drinks sectors. Latvia is still one of the poorest EU countries, but its economy is also one of the fastest growing. Both the beer sector and the hospitality sector are likely to profit from the economic growth.

An important trend within the Latvian market is the increasing market share of cheap imported beers. The Latvian Brewers’ Association forecasts that domestic Latvian brewers will lose further market share to imports from Russia and Ukraine.

18.3 The direct effect of the brewing sector

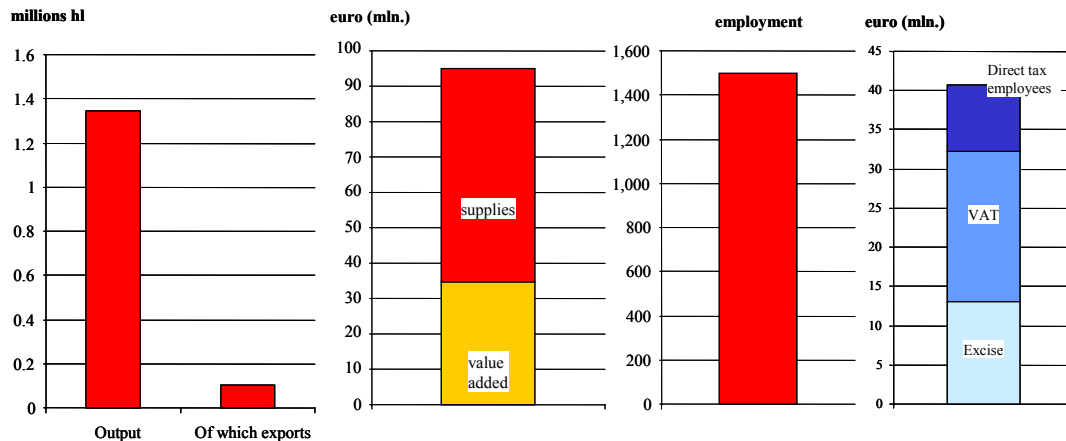
The Latvian brewing sector employs some 1,500 personnel, the majority associated with brewing beer. Other activities performed by the brewers include the production of other beverages, transportation and wholesaling.

The brewing sector achieves a value added of some € 35 million¹²⁴.

¹²² Source: State Revenue Service Excise Goods Board.

¹²³ Source: State Revenue Service Excise Goods Board.

¹²⁴ Source: Eurostat



Important other economic effects are the tax revenues. VAT revenues from beer are estimated at € 19 million annually. Excise revenues amount to some € 13 million at an average rate of € 9.10 per hectolitre.

18.4 The economic impact of breweries on suppliers of goods and services

We estimate that Latvian breweries spend some € 60 million annually on raw materials, goods and services. This stimulus leads to 5,010 jobs in various sectors. This employment stimulus trickles down, mainly to the agricultural sector.

Latvia has a population of only 2.3 million which makes some packaging types not economically feasible, e.g. metal cans. One thus will not find local beer or beverages in cans. PET bottles are the most important liquid packaging for the beverage industry. The main suppliers are in Estonia, Lithuania and some other EU countries. The beer and beverages industry currently imports all glass bottles from abroad, mainly from Sweden¹²⁵.

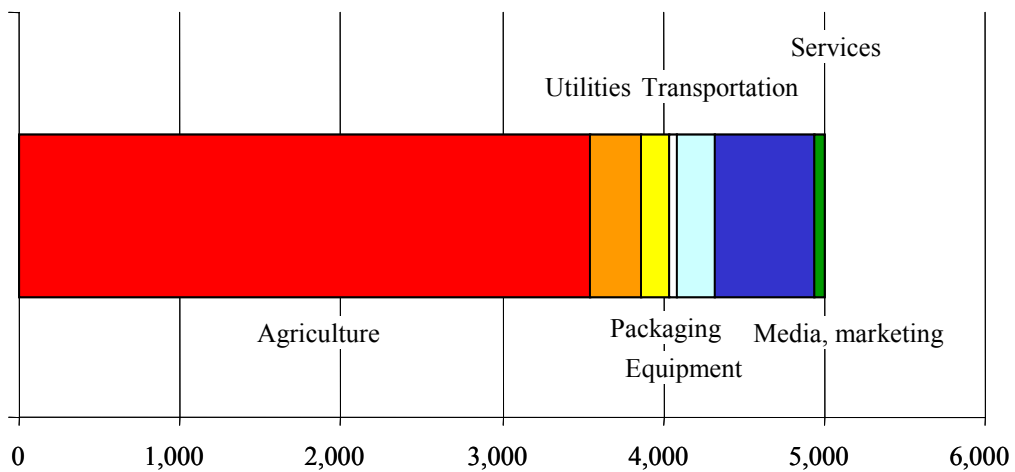
¹²⁵ Source: Strategis.

| Sectors | Stimu- lus | Stimulus for the Latvian economy | | Personnel costs ¹²⁶ | | Labour costs per employee | Number of em- ployees |
|--|---------------|-------------------------------------|----------|--------------------------------|----------|---------------------------------|-----------------------------|
| | (mln. €) | % | (mln. €) | % of stimu- lus | (mln. €) | (in €) | |
| • Agriculture | 20 | 40 | 8 | | | | 2,305 |
| • Utilities | 7 | 100 | 7 | 20 | 1 | 6,540 | 210 |
| • Packaging industry | 7 | 0 | 0 | 0 | 0 | 3,936 | 110 |
| • Equipment +other | 2 | 50 | 1 | 16 | 0 | 3,936 | 35 |
| • Transport | 5 | 100 | 5 | 16 | 1 | 5,784 | 145 |
| • Media, marketing | 17 | 100 | 17 | 22 | 4 | 9,276 | 405 |
| • Services + other | 2 | 100 | 2 | 22 | 0 | 9,276 | 40 |
| Total | 60 | | | | | | 3,255 |
| Primary impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 5,000 |

Source: Own calculations on the basis of National Statistics and Eurostat

Indirect employment effects are illustrated below:

Indirect employment



¹²⁶ Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

18.5 Retail and hospitality sectors

Hospitality sector

The approach to estimate employment in the hospitality sector dependent on beer takes turnover of beer in pubs and restaurants as a starting point:

- We estimate that around 20 percent of beer consumption in Latvia occurs in the hospitality sector.
- This means 260,000 hectolitres are sold by Latvian pubs, restaurants and the like.
- The consumer price of beer is about 0.92 euros per litre (excl. VAT)¹²⁷, so that consumers are estimated to spend 23 million euros (excl. VAT) on beer in pubs and restaurants.
- Turnover per employee in the Latvian hospitality sector is 11,100 euros a year.
- Total employment in the Latvian hospitality sector attributable to beer thus equals 2,100 employees.

Retail

Similarly, the approach for the retail sector is as follows:

- We estimate that 80% of beer consumed is sold through shops.
- At an average retail price (excluding VAT) of 0.85 euros, the estimated sales value equals 90 million euros (excluding VAT).
- The average annual turnover per employee in the retail sector is 63,000 euros. Hence beer sales through retail outlets provides 1,400 full-time jobs.

¹²⁷ The prices in this paragraph are estimates of the average prices in the on-trade and off-trade channels. In reality, prices vary considerably, depending on many different factors including the size of the container or glass, the type of establishment and the location.

19 LITHUANIA: ECONOMIC IMPACT OF BEER¹²⁸

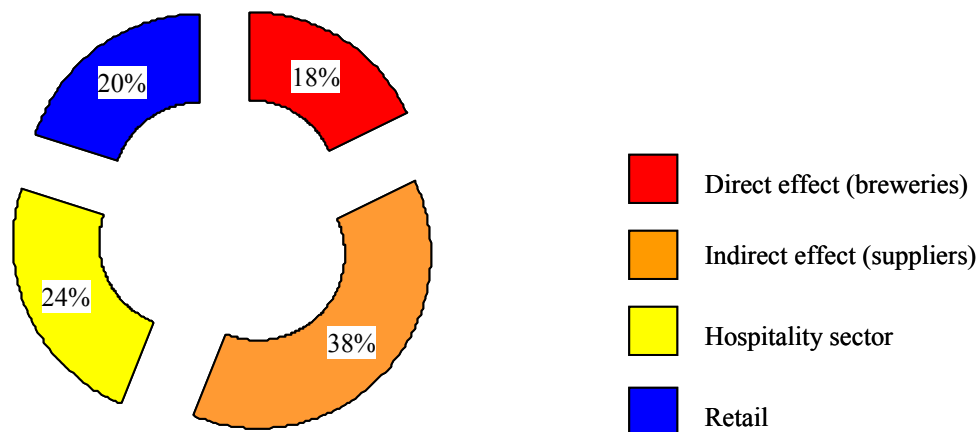
19.1 Highlights of the economic impact

The economic impact of the brewing sector can be expressed as follows:

- Lithuanian brewers brewed 2.8 million hectolitres of beer in 2004, of which 3.7% was exported.
- Direct employment at Lithuanian breweries is 2,750 employees.
- Indirect employment through beer production amounts to 5,900 full-time jobs with suppliers, 3,750 jobs in the hospitality sector and 3,200 jobs in retail outlets.
- The Lithuanian government has substantial revenues from beer, amounting to 70 million euros.

The employment effects of the brewing sector are depicted below:

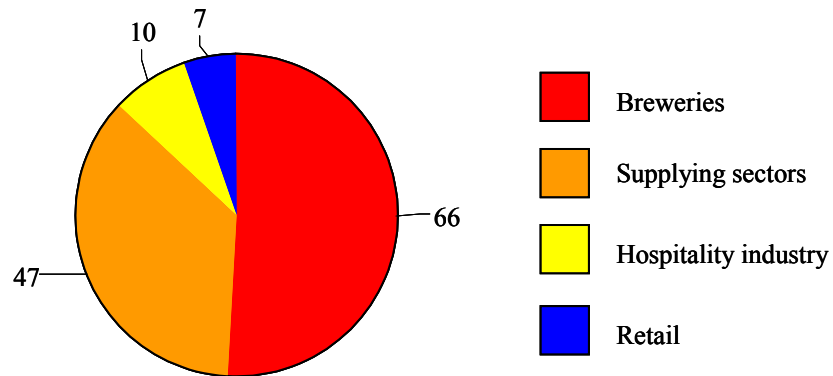
Total employment due to production and sale of beer: 15,600 jobs



The contribution of the brewing sector to the Lithuanian economy can also be expressed in terms of value added. Total value added of the brewing sector in Lithuania and value added generated by firms in the supply, hospitality and retail sectors arising from the production and sale of beer amounts to around 129 million euros:

¹²⁸ Where applicable, an exchange rate was applied of € 1 = 3.45 litai

Value added due to production and sale of beer: 129 million euro



The share of the brewing sector in overall value added arising from the production and sale of beer is estimated at 51 percent. This is far more than the share of direct employment connected to breweries as a fraction of total employment arising from the production and sale of beer (22 percent). An important explanation is that productivity in terms of value added per employee in the Lithuanian brewing sector is very high compared to other sectors.

19.2 The brewing sector: market structure, trends and developments

Lithuanian brewers produced 2.8 million hectolitres in 2004. Of this 3.7 percent is exported. In the same year, per capita beer consumption was 81.2 litres. Some 88 percent of beer is consumed at home.

| Key variables | Million hectolitres | Illustration |
|--------------------|---------------------|---|
| • Production | 2.8 | Lithuania has 87 licensed breweries. |
| • Exports | 0.1 | Imports are rising fast. In 2004, 105% more beer was imported than in 2003. |
| • Imports | 0.2 | In 2004, exports were up 43% from 2003. |
| • Consumption | 2.8 | Per capita beer consumption is 81.2 litres. |
| • Home consumption | 88% | |

There are 87 licensed breweries in Lithuania, but only six of these produce more than 50,000 hectolitres per year. The nine largest breweries, sharing 90% of the market, have formed the Lithuanian Breweries Association.

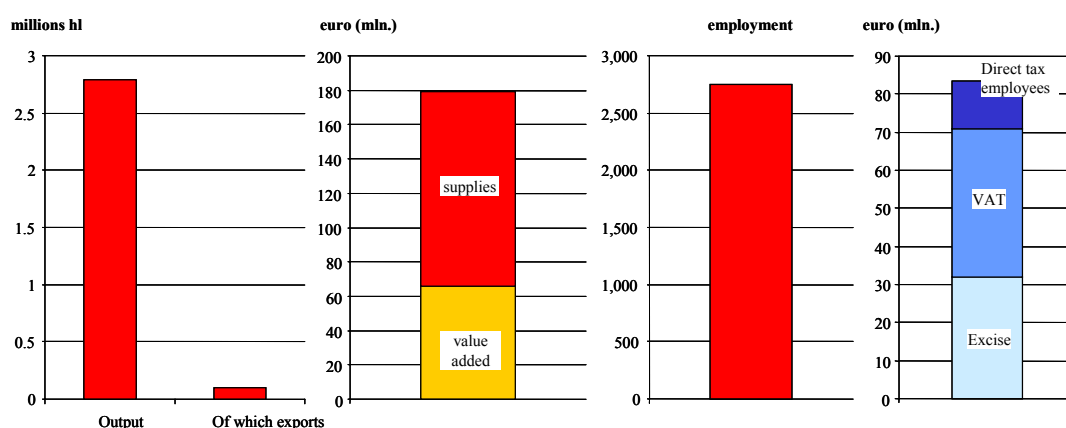
| Brewing sector internal characteristics | Context in which the brewing sector operates |
|--|--|
| <ul style="list-style-type: none"> • Relatively small companies • Home consumption is the dominant way of consuming beer | <ul style="list-style-type: none"> • Accession to EU in 2004 • High growth of both imports and exports • Premium segments starting to develop |

19.3 The direct effect of the brewing sector

According to Eurostat data, Lithuanian breweries have an annual turnover of some € 180 million. Of this € 66 million is value added at factor cost and € 113 million is expenditures on goods and services. According to Eurostat, the brewing sector employs some 2,750 beer brewing personnel. 400 workers are also associated with other beverages.

Excise revenues make up € 32 million¹²⁹. VAT revenues from beer amount to € 38 million and personal direct taxes paid by employees whose jobs can be attributed to the production and sale of beer are estimated at around 12 million euros annually.

¹²⁹ Source: The Brewers of Europe



19.4 Economic impact of breweries on suppliers of goods and services

The agriculture, media and services sectors benefit most from the expenditures of the brewing sector. However, of the € 113 million spent only € 16 million turns into personnel costs within the country.

| Sectors | Stimulus (mln. €) | Stimulus for the Lithuanian economy | | Personnel costs ¹³⁰ | | Labour costs per employee (in €) | Number of employees |
|--|----------------------|-------------------------------------|-----------|--------------------------------|-----------|-------------------------------------|---------------------|
| | | % | (mln. €) | % of stimulus | (mln. €) | | |
| • Agriculture | 23 | 50 | 11.5 | | | | 1,825 |
| • Utilities | 5 | 100 | 5 | 10 | 0.5 | 6,060 | 80 |
| • Packaging industry | 5 | 50 | 2.5 | 15 | 0.375 | 4,536 | 85 |
| • Equipment +other | 13 | 100 | 13 | 17 | 2.21 | 5,592 | 85 |
| • Transport | 4 | 50 | 2 | 15 | 0.3 | 4,536 | 380 |
| • Media, marketing | 23 | 100 | 23 | 20 | 4.6 | 9,012 | 510 |
| • Services + other | 40 | 100 | 40 | 20 | 8 | 9,012 | 880 |
| Total | 113 | | 97 | | 16 | | 3,840 |
| Primary impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 5,900 |

Source: Own calculations on the basis of National Statistics and Eurostat

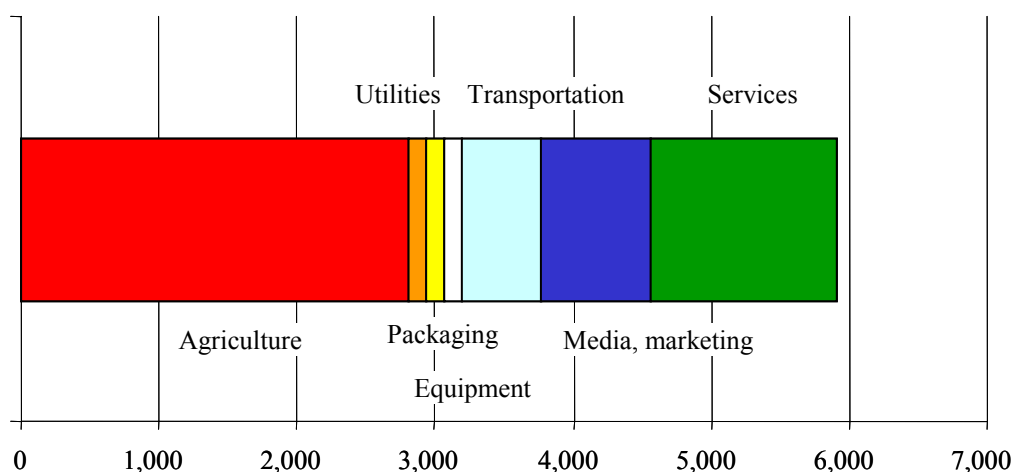
As the above table shows, 3,840 jobs at suppliers to the brewing sector depend on the brewing sector. This is called the first round or primary indirect effect. Normally, the primary effect is only 65% of the total indirect effect, since suppliers also purchase goods and out-

¹³⁰ Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

source services. Hence the total indirect employment effect of the Lithuanian brewing sector is estimated at 5,900 jobs.

Indirect employment effects are illustrated below:

Indirect employment



19.5 Retail and hospitality sectors

88 percent of the beer volume (2.5 million hectolitres) is sold through shops. The remaining 12 percent (340,000 hectolitres) finds its way to the consumer through pubs, bars and restaurants. The average price of a litre of beer in the off-trade channel varies from 2.50 litai (€ 0.72) for beer in plastic bottles, to 3.40 litai (€ 0.99) for beer in glass bottles. The average price for a litre of beer in the on-trade channel is around 4.00 litai (€ 1.16).¹³¹

Hospitality sector

The approach to estimate employment in the hospitality sector attributable to the brewing sector, takes the beer sales turnover of pubs and restaurants as a starting point:

- Around 12 percent of beer consumption occurs in the hospitality sector.
- This means that 340,000 hl are sold by pubs, restaurants and the like.
- The consumer price of beer is about 0.98 euros per litre (excl. VAT), so that consumers are estimated to spend 33 million euros on beer in pubs and restaurants.
- Turnover per employee in the Lithuanian hospitality sector is 9,000 euros a year.

¹³¹ The prices in this paragraph are estimates of the average prices in the on-trade and off-trade channels. In reality, prices vary considerably, depending on many different factors including the size of the container or glass, the type of establishment and the location.

- Total employment in the Lithuanian hospitality sector because of beer sales is thus 3,750 employees.

Retail

The importance of the brewing sector for retail in terms of jobs can be similarly assessed:

- 2.5 million hectolitres of beer are sold by supermarkets and other retail companies.
- With an average consumer price of 0.72 euros per litre (excluding VAT), total consumer spending on retail beer is estimated at 215 million euros.
- Because turnover per employee is estimated at 57,400 euros, this means 3,200 people owe their jobs to the sale of retail beer.

20 LUXEMBOURG: ECONOMIC IMPACT OF BEER

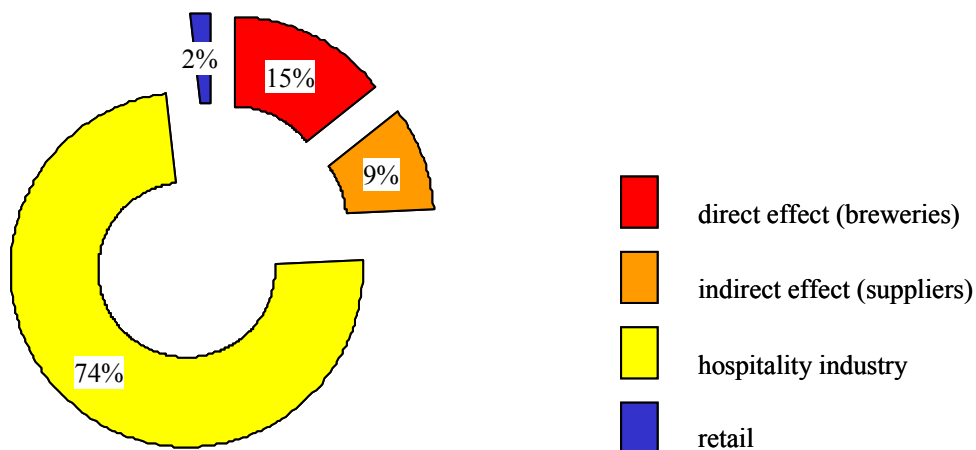
20.1 Highlights of economic impact

The economic impact of the brewing sector on the Luxembourg economy is substantial:

- Direct employment connected to Luxembourg’s breweries is 350 jobs.
- Luxembourg’s supply sectors benefit because of brewery purchases and this results in 220 jobs with Luxembourg suppliers.
- The hospitality sector also benefits from beer sales. It is estimated that 1,765 jobs can be attributed to beer sales.
- Another 45 retail jobs are attributable to beer sales.
- In total this means 2,380 Luxembourg jobs can be attributed to the brewing sector and beer sales.
- The Luxembourg government also benefits from the brewing sector, as it receives some 22 million euros because of VAT (most of it through beer consumed in pubs and restaurants: 18 million euros), an additional 3.6 million euros through excise and an estimated 8 million euros through personal direct taxes paid by employees of the Luxembourg breweries and workers in the hospitality sector, retail and supplying sectors who owe their job to beer production and consumption.

The total employment effect of the Luxembourg breweries is summarised below:

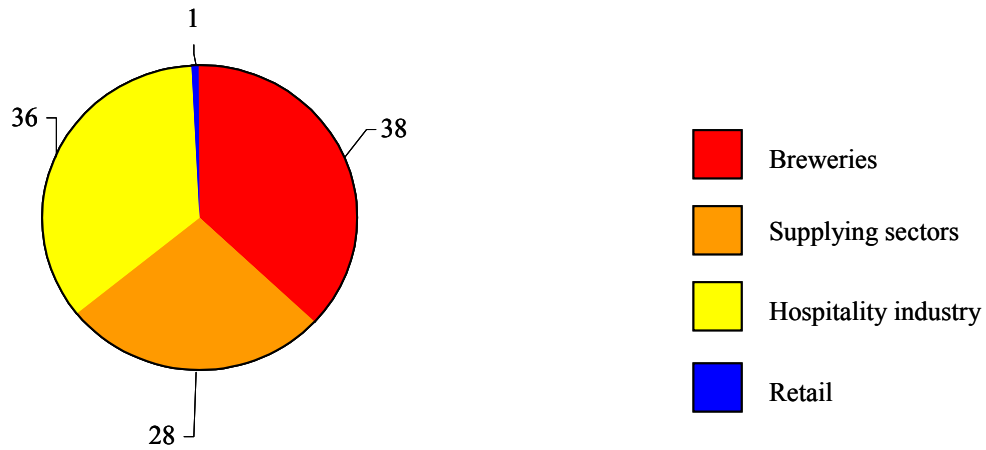
Total employment due to production and sale of beer: 2,380 jobs



The 2,380 jobs attributable to the production and sale of beer contribute substantially to the Luxembourg economy. In terms of value added the economic contribution arising from the

production and sale of beer is estimated at around 100 million euros, with almost equal contributions from the brewing sector itself directly and from the hospitality sector:

Value added due to production and sale of beer: 102 million euros



20.2 Market and industry structure, trends and developments

Luxembourg is one of Western Europe's smallest countries and beer markets, but it is home to a reasonable number of breweries given its size. Luxembourg hosts six breweries, some of them small scale. Together these breweries produce almost 400,000 hl a year:

| Key variables | Millions hectolitres | Illustration |
|--------------------|----------------------|--|
| • Production | 0.39 | Production has decreased from 0.44 mln hl in 2000 (production peaked at 0.8 mln hl in 1976) |
| • Exports | 0.08 | |
| • Imports | 0.18 | |
| • Consumption | 0.37 | |
| • Draught | 55.1% | In 2002 total consumption of 383,327 hl was divided between draught (211,000 hl), bottles (142,000, 38%) and cans (29,930, 7.6%) |
| • Home consumption | <44.9% | |

Main source: Statistics provided by the Fédération des Brasseurs Luxembourgeois to The Brewers of Europe

The largest brewing company and Luxembourg's market leader is part of an international brewing company. This Luxembourg subsidiary has a production volume of 250,000 hl and a market share of around 41.4 percent (the rest of its production is exported). The runner-up in the Luxembourg beer market has an annual production of 168,000 hl:

| Category | Number of production units |
|--------------------------------|----------------------------|
| < 50,000 hl per year | 4 |
| 50,000 – 100,000 per year | 1 |
| 100,000 – 500,000 per year | 2 |
| 500,000 – 1,000,000 per year | |
| 1,000,000 – 2,500,000 per year | |
| 2,500,000 – 5,000,000 per year | |
| > 5,000,000 per year | |

The economic impact of the brewing sector is influenced by the following trends, developments and characteristics of the Luxembourg economy:

| Brewing sector internal characteristics | Context in which the brewing sector operates |
|---|---|
| <ul style="list-style-type: none"> • For a relatively small country there are quite a few breweries • Two breweries dominate the Luxembourg beer market in terms of production volume • In 2000 two of the largest brewing companies merged and the level of consolidation in the Luxembourg beer market increased substantially | <ul style="list-style-type: none"> • Beer consumption is stagnating, although per capita consumption is relatively high and comparable to that in countries such as Belgium and Denmark • Per capita consumption has decreased from 109 litres in 1999 to less than 98 litres |

20.3 Direct effect of the brewing sector

The brewing sector provides jobs to some 350 employees. Total production value of the Luxembourg breweries is estimated at 90 million euros, of which 38 million euros remains within the brewing companies as value added:



Tax revenues arising from the production and consumption of beer is also important. Excise revenues amount to 3.6 million euros, VAT revenues of beer sold in pubs (on-trade) is estimated at 18 million euros and VAT on beer sold in supermarkets (off-trade) at 4 million euros. The government also benefits through personal direct taxes paid by brewery employees and those who owe their jobs to the production or sale of beer in the supplying sectors and in hospitality and retail. The government receives another 8 million euros in personal direct taxes.

The breweries exercise a substantial effect on the supply sectors through the 53 million euros spent by breweries on a range of goods and services necessary for brewing. Given the size of Luxembourg, a high proportion of these purchases comes from abroad.

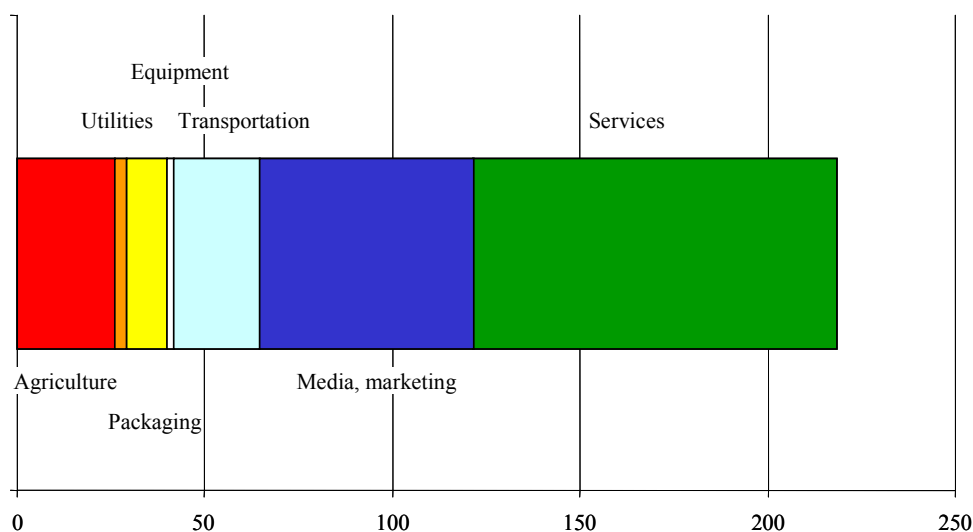
20.4 Economic impact of breweries on suppliers of goods and services

This 53 million euros generates economic activity in various sectors, with the service sectors benefiting most:

| Sectors | Stimu- lus | Stimulus for Luxembourg | | Personnel costs ¹³² | | Labour costs per employee | Number of em- ployees |
|--|---------------|----------------------------|-----------|--------------------------------|----------|---------------------------------|-----------------------------|
| | (mln. €) | % | (mln. €) | % of stimulu s | (mln. €) | (in €) | |
| • Agriculture ¹³³ | 7 | 15% | 1 | | | | 17 |
| • Utilities | 2 | 75% | 1 | 10% | 0,1 | 62,052 | 2 |
| • Packaging industry | 8 | 20% | 2 | 18% | 0,3 | 37,380 | 7 |
| • Equipment | 1 | 20% | 0 | 18% | 0,0 | 37,380 | 1 |
| • Transport | 6 | 50% | 3 | 21% | 0,7 | 43,248 | 15 |
| • Media, marketing | 11 | 70% | 7 | 35% | 2,6 | 70,968 | 37 |
| • Services | 18 | 70% | 13 | 35% | 4,5 | 70,968 | 63 |
| Total | 53 | | 27 | | | | 143 |
| First round impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 220 |

Total employment generated in supplying sectors is divided as follows:

Indirect employment



20.5 Retail and hospitality sectors

Hospitality sector

The economic impact of the brewing sector on the hospitality sector is estimated as follows:

¹³² Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

¹³³ The average turnover per agricultural work unit in Luxembourg is 61,662 euros. With a impulse arising from the production of beer of 1.0 million euros, this means that 17 people are working in the agricultural sector whose jobs can be attributed to the brewing sector (primary effect).

- On-trade beer sales make up 55 percent of total beer sales and therefore equal 205,100 hl.
- With an average consumer price of 6.66 euros per litre (including VAT), this means consumers spend 136 million euros on beer in the hospitality sector (including VAT). Excluding VAT, consumers spend an estimated 118 million euros.
- Average turnover per employee in the Luxembourg hospitality sector is 67,300 euros, so that 1,755 jobs in the hospitality sector can be attributed to the brewing sector.

Retail

Employment in retail attributable to beer sales can be similarly estimated:

- Because the percentage of off-trade in total beer consumption is 45 percent in Luxembourg, this means that off-trade beer consumption amounts to about 169,000 hl.
- With an average retail beer price of 1.64 euros per litre it is estimated that total retail beer consumption is 27.5 million euros including VAT (excluding VAT, using a 15 percent tariff, consumer spending on beer amounts to 23.9 million euros).
- Average turnover (ex VAT) in the Luxembourg wholesale and retail sector is estimated by Eurostat at 526,400 euros. Using this average turnover provides an estimate of employment in retail arising from beer sales: 45 jobs.

21 THE NETHERLANDS: ECONOMIC IMPACT OF BEER

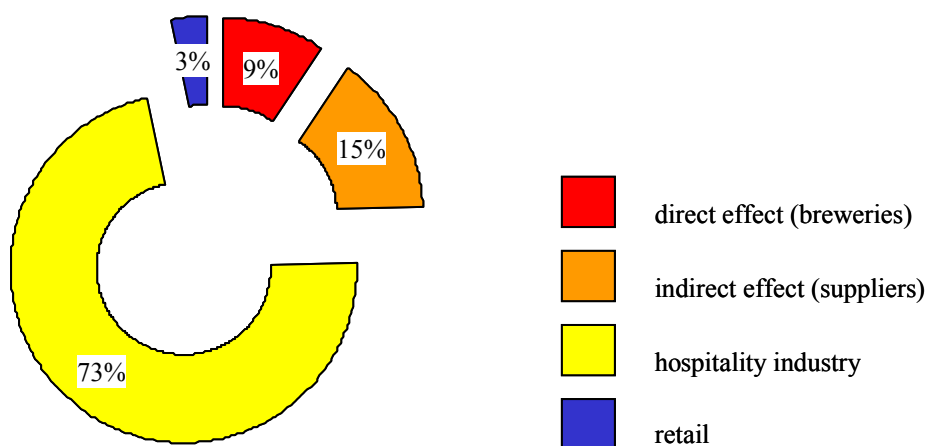
21.1 Highlights of the economic impact

The economic impact of the brewing sector can be expressed as follows:

- The Netherlands is the number one beer-exporting country in Europe (about 54 percent of total 23.8 million hl beer production is exported).
- Partly as a result, direct employment by Dutch breweries is 7,500 jobs.
- The brewing sector generates important indirect effects within supply sectors. It is estimated that 12,035 supply industry jobs can be attributed to the brewing sector (beer sales), with the services sectors benefiting most.
- Alongside these direct and indirect effects, the hospitality sector and retailers benefit through beer sales. More than 57,000 jobs in the hospitality sector can be attributed to beer, while in retail some 2,700 people owe their jobs to beer sales.
- The total employment impact is thus 79,475 jobs.
- The government also benefits from the brewing sector, receiving some 1.3 billion euros in taxes and excises. Excise revenues amount to 325 million euros, VAT collected on beer (sold in the hospitality sector and through retailers) is estimated at almost 665 million euros, while revenues from direct personal taxes paid by Dutch brewery employees, their suppliers and in hospitality and retail add up to some 310 million euros.

The employment impact of the brewing sector is depicted below:

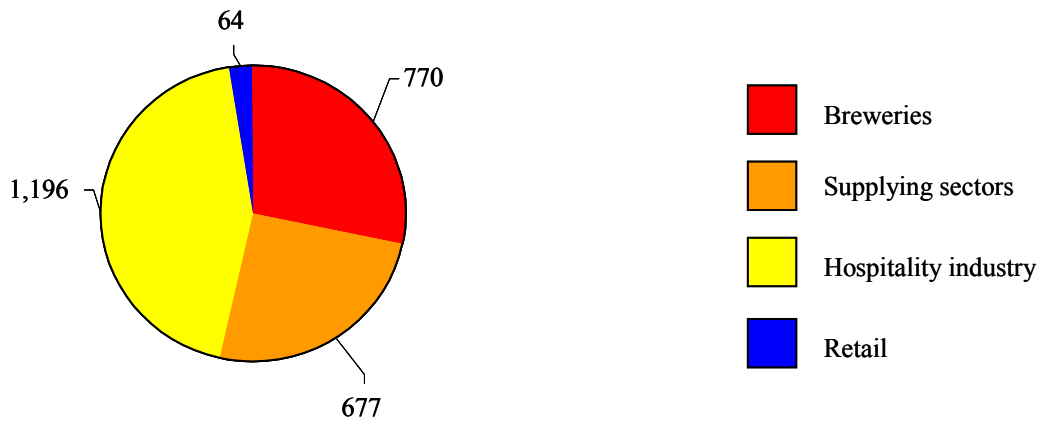
Total employment due to production and sale of beer: 76,475 jobs



All these jobs generated through the production and sale of beer contribute substantially to the Dutch economy in value added terms. The total value added generated by the Dutch

brewing sector and all economic activities within supplying sectors and in the hospitality sector and retail arising from the production and sale of beer is estimated at 2.7 billion euros:

Value added due to production and sale of beer: 2,710 million euros



The brewing sector share in overall value added arising from the production and sale of beer is 28 percent, which is far higher than the brewing sector share in total employment arising from beer. A significant explanation for this is the high productivity of brewing sector employees.

21.2 Industry and market structure, trends and developments

The Dutch brewing sector produces 23.8 million hectolitres of beer annually (in 2004), of which 54 percent is exported (12.9 million hectolitres).

| Key variables | Millions hectolitres | Illustration |
|--------------------|----------------------|---|
| • Production | 23.8 | 14 breweries with a production > 10,000 hl annually (11 with a production over 50,000 hl) |
| • Exports | 12.9 | United States by far most important export country |
| • Imports | 1.3 | |
| • Consumption | 12.1 | Mainly lager (93 percent in 2004) |
| • Home consumption | 67% | |

Together with Germany, the Netherlands is Europe's (and the world's) largest beer exporting country, and ranks fourth in production (only behind Germany, the United Kingdom and Spain). The Dutch brewing sector is well established and encompasses several international players. The Netherlands is home to one of the world's largest brewing companies (Heineken). The largest brewery in the Netherlands, belonging to this brewing company, produces 10 million hectolitres a year of which 60 percent is exported. In addition to this there are three other brewing companies with an important market share. One of these companies has an annual production of 2.0 million hectolitres for the domestic market, while also exporting 2.7 million hectolitres. Another company has recently built a new brewery (investing 227 million euros, resulting in a brewery with a capacity of 3.2 million hectolitres a year). The third biggest operator on the Dutch market is one of the major five European brewing companies and produces some strong local brands whilst also selling lager and special beers produced in Belgium.

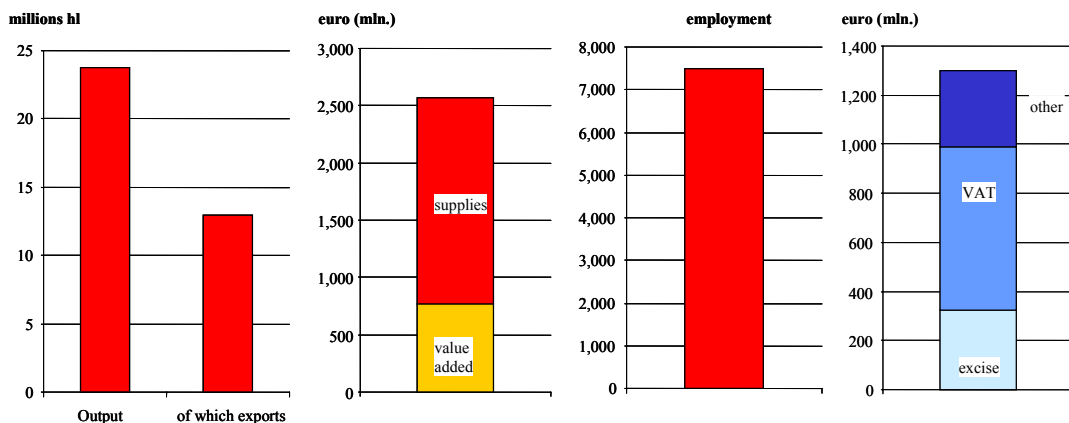
Although the largest Dutch beer manufacturers operate internationally, some medium and smaller breweries possess a strong regional consumer base. An example being an independent brewery in the south of the Netherlands, with a company policy of buying ingredients within the home region. Such breweries have a relatively large economic impact on their home areas.

Factors that influence the impact of the brewing sector on the Dutch economy are:

| Brewing sector internal characteristics | Context in which the brewing sector operates |
|---|---|
| <ul style="list-style-type: none"> • Typical market structure with one market leader with 50 percent of the market and three other strong players each with up to 15 percent of the market • These larger breweries have a strong international orientation • Larger breweries are among the most efficient in Europe • Low-price segment is growing at the expense of the premium segment • Outsourcing non-core activities (such as transport) | <ul style="list-style-type: none"> • Dutch beer market is stagnating • Netherlands is a relatively small and open country, thus importing a substantial proportion of supplies • Strong pressure on supermarket beer pricing, because supermarkets are subject to strong competition |

21.3 Direct effect of the brewing sector

The direct brewing sector economic impact covers more than 7,500 employees who together produce beer worth over 2.5 billion euros, so it is fair to say that the direct economic benefit of the brewing sector on the Dutch economy is significant.



Another substantial direct effect of the brewing sector concerns taxes and excises paid by beer brewers and consumers. In 2004 excises reached 325 million euros and total VAT income for the Dutch government was estimated at 665 million euros. Personal direct taxes paid by employees of the brewing sector and by others whose jobs can be attributed to ‘beer’ (in retail and hospitality sectors and in the sectors supplying goods and services to the breweries) add up to another 310 million euros.

The Dutch breweries together achieved an estimated 2.5 billion euros in turnover. About 30 percent of total turnover stays within these firms as value added (770 million euros). Value added equals total reward for production factors used: labour costs, interest paid and profits made.

21.4 Economic impact of breweries on goods and services suppliers

With 30 percent of the value of the output produced staying within the firm as value added, the other 70 percent of 2.5 billion euros in total turnover accrues to a number of suppliers. This stimulus of 1.8 billion euros has significant economic impact on sectors outside the brewing sector, most substantially on the services sector:

| Sectors | Stimulus (mln. €) | Stimulus for the Netherlands ¹³⁴ | | Personnel costs ¹³⁵ | | Labour costs per employee (in €) | Number of em- ployees |
|--|----------------------|---|--------------|--------------------------------|----------|---|-----------------------------|
| | | % | (mln. €) | % of stimu- lus | (mln. €) | | |
| • Agriculture ¹³⁶ | 261 | 50% ¹³⁷ | 131 | | | | 1,378 |
| • Utilities | 108 | 97.5% | 105 | 11% | 12 | 53,556 | 216 |
| • Packaging industry | 108 | 58% | 63 | 26% | 16 | 38,940 | 418 |
| • Equipment | 108 | 44% | 48 | 26% | 12 | 38,940 | 317 |
| • Transport | 153 | 61% | 93 | 36% | 34 | 39,204 | 857 |
| • Media, marketing ¹³⁸ | 207 | 80% | 166 | 30% | 50 | 52,212 | 952 |
| • Services | 855 | 75% | 641 | 30% | 192 | 52,212 | 3,684 |
| Total | 1,800 | | 1,246 | | | | 7,072 |
| First round impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 12,035 |

Half of all the indirect employment generated by the brewing sector is within the services sector. Other substantial effects are seen in media and marketing, transport and agriculture. The total first round employment effect of the brewing sector on supplying sectors is over 7,000 employees. As this primary effect can be estimated at about 65 percent of the total impact, the total impact will be about 12,035 jobs.

¹³⁴ Percentages based on Input-Output tables for the Netherlands and data obtained from two Dutch breweries.

¹³⁵ Personnel costs as a percentage of total industry output and labour costs per employee are obtained from Eurostat data.

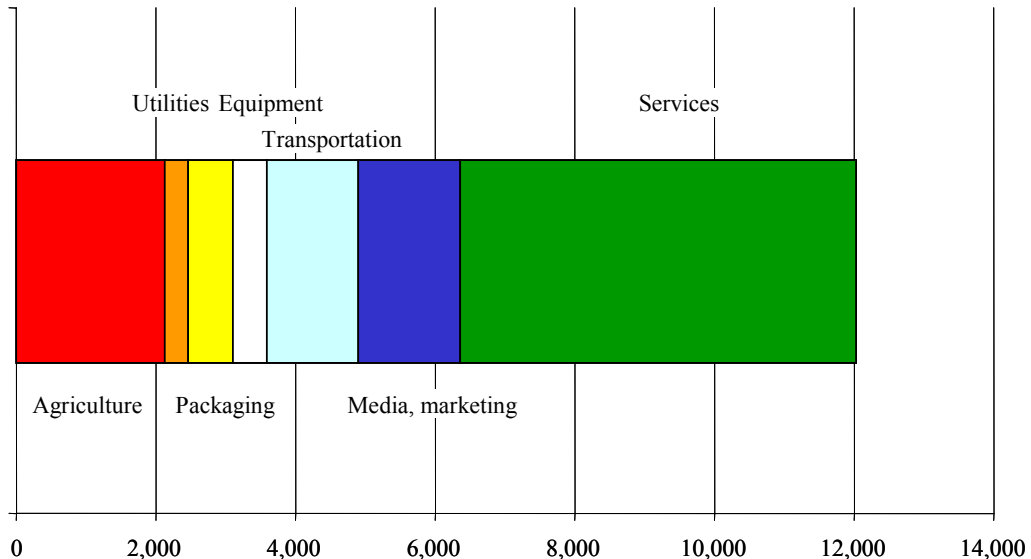
¹³⁶ Average turnover per agricultural worker is estimated at some 95,000 euros a year (based on a total agricultural labour force of 200,100 and a total net turnover of 18.9 billion euros a year), so that with a domestic agricultural stimulus of 131 million euros some 1,375 jobs are generated in this sector.

¹³⁷ The largest brewing company in the Netherlands, for one, imports much of its malt from Belgium.

¹³⁸ Media and marketing expenditure of the total Dutch alcohol production industry was estimated at 273 million euros in 2003 (HCM Communications). Some 75 percent of this is spent by producers of low-alcohol drinks (beer and premixed drinks). Media and marketing expenditure is rising steadily.

Indirect employment effects are illustrated below:

Indirect employment



21.5 Retail and hospitality sectors

Hospitality sector

The economic impact of the breweries on the hospitality sector is assessed as follows:

- About 33 percent of all beer consumed in the Netherlands is sold by the hospitality sector (on-trade), which means almost 4 million hl is sold on-trade.
- The average consumer price of beer in Dutch pubs and restaurants is estimated at 8 euros a litre (including VAT), so that total consumer spending on beer in the hospitality sector is 3.2 billion euros (including VAT).
- Net consumer spending on beer is thus estimated at 2.7 billion euros (using a 19 percent VAT tariff).
- With an average hospitality turnover of 46,900 euros (excluding VAT) per person, this results in 57,240 hospitality sector jobs attributable to beer sales.

Retail

The importance of the brewing sector for retail can be similarly assessed:

- Around 67 percent of total beer consumption (8.1 million hl) in the Netherlands is beer sold by supermarkets and other retail outlets.

- With an average consumer price of 1.20 euros per litre (including VAT), total retail consumer spending on beer is estimated at 970 million euros. Total consumer spending excluding VAT is thus 817 million euros.
- With turnover per employee estimated at 302,000 euros (excluding VAT), this means 2,707 people owe their jobs to retail beer sales.

22 POLAND: ECONOMIC IMPACT OF BEER¹³⁹

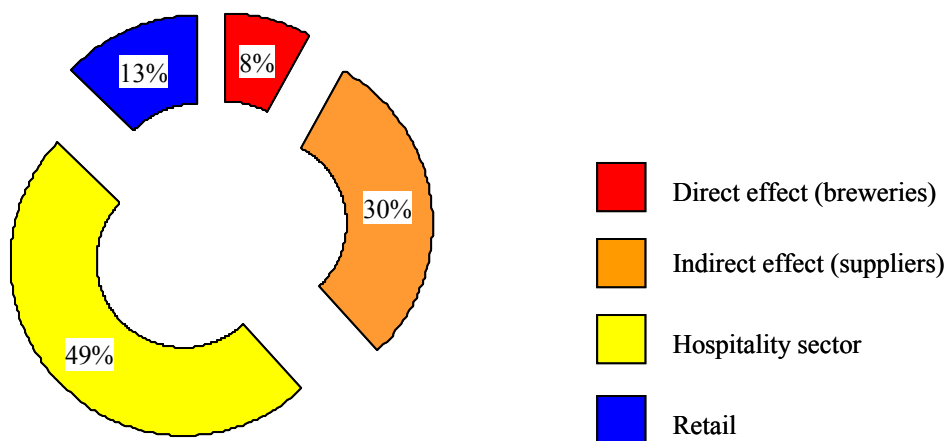
22.1 Highlights of the economic impact

The economic impact of the brewing sector can be expressed as follows:

- Direct employment connected to the Polish breweries is estimated at 15,000 jobs.
- Employment in the supplying sectors is important with a total number of full-time jobs arising from the brewing sector of around 56,200.
- The impact on the hospitality sector is also huge, with around 91,200 people (full-time jobs) earning a living in this sector because of beer sales. In the retail sector, 23,700 full-time jobs depend on beer sales.
- The total employment effect is thus estimated to be 186,000 FTEs.
- There is a high degree of concentration: 3 companies hold a combined market share of around 85 percent.
- Some significant limitations on beer advertising.
- Beer prices substantially higher than in neighbouring countries.
- Annual government revenues from excise and VAT on beer amount to € 1.2 billion.

The employment effects of the brewing sector are depicted below:

Total employment due to production and sale of beer: 186,000 jobs

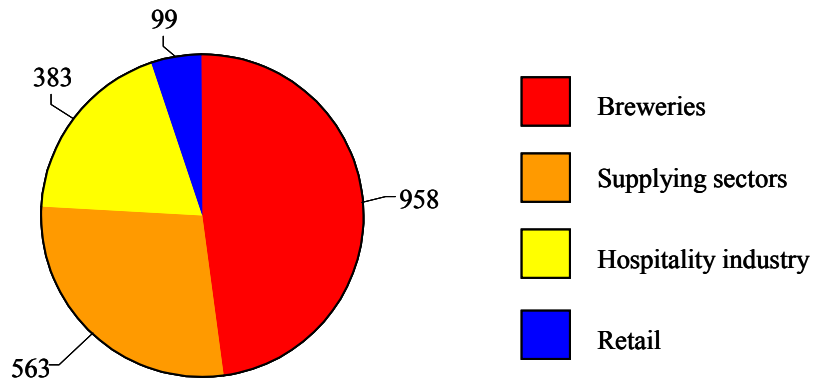


The contribution of the brewing sector to the Polish economy can also be expressed in terms of value added. Total value added of the brewing sector in Poland and value added generated

¹³⁹ In this chapter values have been converted from zlotys to euros, using a conversion rate of € 1 = 4.52 zloty.

by firms in the supply, hospitality and retail sectors due to the production and sale of beer amounts to around 2.0 billion euros:

Value added due to production and sale of beer: 2.0 billion euro



The share of the brewing sector in overall value added arising from the production and sale of beer is estimated at 48 percent. This is far more than the share of direct employment connected to breweries as a fraction of total employment arising from the production and sale of beer (9 percent). An important explanation is that productivity in terms of value added per employee in the Polish brewing sector is relatively high compared to other sectors.

22.2 The brewing sector: market structure, trends and developments

The Polish beer sector is a highly dynamic one, with a rapid growth in beer production over the past 15 years. This growth is the result of a consumer preference shift away from vodka and towards beer. In 1990 Polish brewers brewed 11.4 million hectolitres of beer. In the 1990s production volume grew by 6 to 14 % per year. Production thus almost tripled to 29.2 million hectolitres of beer in 2004. The current growth is mainly in the low-priced segments of the beer market, but the premium segment is also growing, though at a slower pace.

The consumption of beer, measured in litres per capita, is now more or less in line with the EU average, but is still below the average of the neighbouring countries. Growth is thus expected to continue. Different patterns of imports and exports have emerged since EU accession, according to the official GUS¹⁴⁰ statistics. Formal imports have increased by 4 percent since accession, while exports have surged by around 250 percent to over 600 thousand hectolitres (May 2004-May 2005)¹⁴¹ and growing:

| Key variables | Million hectolitres | Illustration |
|--------------------|---------------------|--|
| • Production | 29.2 | Production volume has tripled since 1990 |
| • Exports | 0.6 | In 2004 Polish breweries exported 609 thousand hectolitre (in 2003: 198 thousand hectolitres). |
| • Imports | 0.2 | In 2004 total official imports amounted 182 thousand hectolitres (in 2003: 190 thousand hectolitres). |
| • Consumption | 28.8 | Slight increase compared to 2003 (28,4 million hl). |
| • Draught | 10-12% | Around 54 percent of total consumption in the second quarter of 2005 concerned bottled beer, 36 percent cans and the remaining 10 percent (in 2003: 11%) was kegs. |
| • Home consumption | 73% | |

Though the sales volume is divided among 65 brewing companies, the market is highly consolidated. After certain foreign investors decided to abandon the Polish beer market because of insufficient profitability, it is now dominated by three companies. These have a combined market share of almost 85 percent. Smaller producers often hold a strong position in their own local or regional markets, although this strong position is not reflected in their national market shares.¹⁴²

The economic impact of the brewing sector is influenced by the following trends, developments and characteristics of the Polish economy:

¹⁴⁰ The Central Statistical Office of Poland.

¹⁴¹ Source: Browary Polskie (Polish Brewers Association), *Statystyka Branżowa*, 2005.

¹⁴² Source: Electronic Journal of Polish Agricultural Universities, volume 7, no. 2 (data for 2003).

| Brewing sector internal characteristics | Context in which the brewing sector operates |
|--|---|
| <ul style="list-style-type: none"> • Production has tripled since 1990 • Consumer preferences shifting from vodka to beer (despite cut in vodka excise) • Foreign brewing companies have invested in Polish breweries and now control a large share of the total beer market • Production per employee in the brewing sector is increasing because of modernisation of breweries, but still relatively low (with around 1,950 hl per employee a year) • The government promised to reduce excise on beer by 25 percent prior to Poland's accession to the EU, but this promise has not yet been realised.¹⁴³ | <ul style="list-style-type: none"> • Polish incomes are gradually increasing, stimulating spending behaviour • Despite rising wages, Polish labour costs are still (very) low compared by Western European standards • Imports and exports especially have risen since Poland became a member of the European Union. |

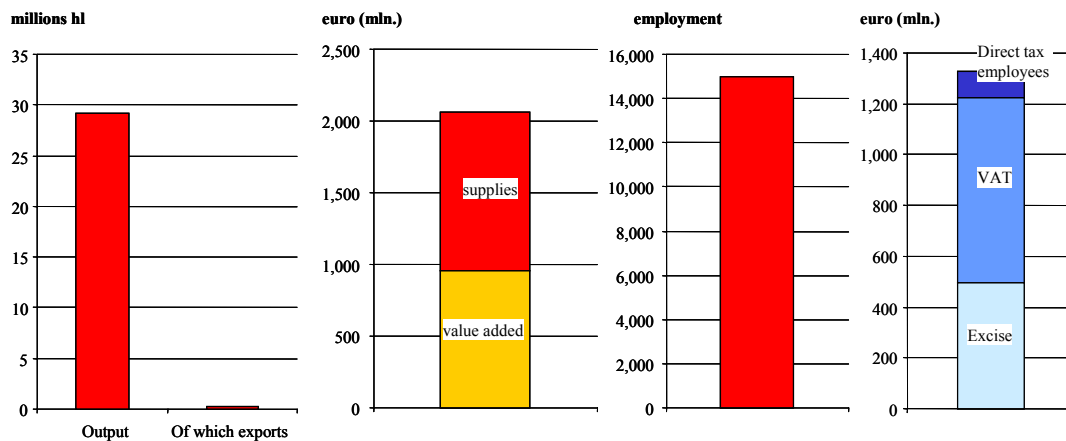
22.3 The direct effect of the brewing sector

The brewing sector turnover for 2002 was € 2.1 billion. The industry employs some 15,000 workers (of whom nearly 10,000 are at the three largest companies). The sector generated € 958 million of added value.

Direct effects in terms of profits are dominated by the three main players. Together the three major brewers have a combined profit of 769 million zlotys (€ 170 million), which represents 75 percent of the total profits in the Polish brewing sector¹⁴⁴. The larger companies are particularly profitable as many smaller brewers face financial problems.

¹⁴³ Excise tax reduction was negotiated with the government prior to Poland's accession. As result the Ministry of Finance increased the preferential rates on beer produced by small breweries (with production up to 200,000 hl per year) by 25%. It was also recommended to monitor any negative consequences of excise tax differences with neighbouring countries. These might trigger a substantial increase in private import and cross-border purchasing. (Source: Browary Polskie).

¹⁴⁴ Source: Polish Brewers Association.



Another substantial direct effect of the brewing sector involves taxes and excises paid by the breweries and beer consumers. In 2004 excise duties were 495 million euros and total VAT income for the government is estimated at 727 million euros.

22.4 The economic impact of breweries on suppliers of goods and services

In 2002 Polish brewers spent a total of € 1,084 million on purchased goods and services¹⁴⁵. As breweries' output volumes have increased more than 10% since then, this amount is likely to have risen. Since Poland is a very large country, the majority of the required products and services are produced within the country's borders. On average, 92 cents of each euro spent on goods and services, is spent domestically. The indirect effect of the brewing sector on other sectors in the country is thus considerable¹⁴⁶.

The following tables present the outcome of the input/output analysis. The tables show that the brewing sector induces 56,200 jobs in supplying sectors:

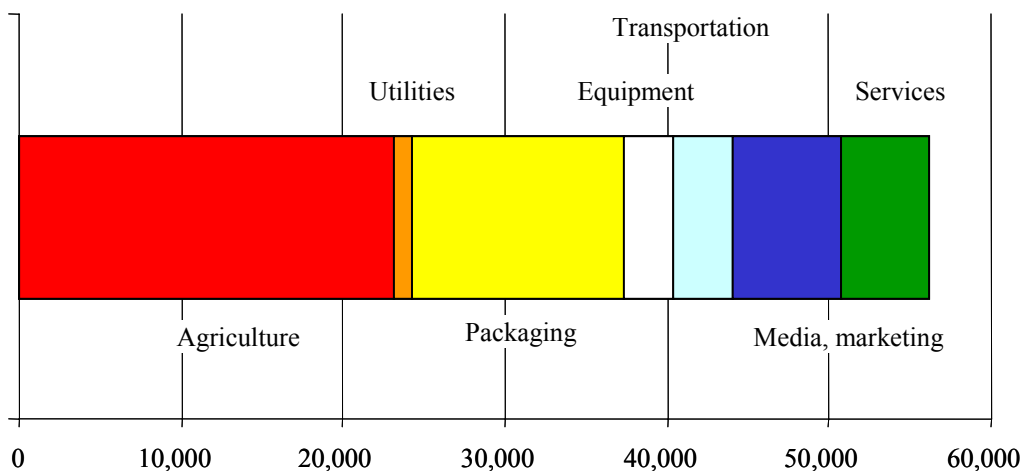
¹⁴⁵ Source: Eurostat.

¹⁴⁶ In fact, economic research by Kompania Piwowarska indicates that each job at a brewery supports approximately 20 jobs with suppliers.

| Sectors | Stimu- lus | Stimulus for the Polish economy | | Personnel costs ¹⁴⁷ | | Labour costs per employee | Number of em- ployees |
|--|---------------|------------------------------------|------------|--------------------------------|------------|---------------------------------|-----------------------------|
| | (mln. €) | % | (mln. €) | % of stimu- lus | (mln. €) | (in €) | |
| • Agriculture | 190 | 40% | 76 | | 0 | | 15,035 |
| • Utilities | 37 | 99% | 38 | 20% | 8 | 10,068 | 765 |
| • Packaging industry | 354 | 77% | 274 | 22% | 60 | 7,188 | 8,500 |
| • Equipment +other | 82 | 77% | 64 | 22% | 14 | 7,188 | 1,980 |
| • Transport | 66 | 94% | 63 | 32% | 20 | 8,688 | 2,345 |
| • Media, marketing | 197 | 92% | 182 | 28% | 51 | 11,748 | 4,400 |
| • Services + other | 155 | 92% | 143 | 28% | 40 | 11,748 | 3,500 |
| Total | 1084 | | 838 | | 193 | | 36,515 |
| Primary impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 56,200 |

Total employment generated in supplying sectors is split up as follows:

Indirect employment



22.5 Retail and hospitality sectors

In 2004, 50 percent of the beer sales was sold in glass bottles, 37 percent in cans, and 12 percent in kegs. In the first quarter of 2005 a shift was visible from kegs to cans, indicating a shift from on-trade to off-trade. In 2004, 27 percent of the total beer volume was sold

¹⁴⁷ Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

through some 50,000 on-trade outlets¹⁴⁸. The remaining 73 percent was sold through the off-trade channel, mainly independent retailers.

| Distribution channels (2004) | Average retail price per litre (incl. VAT)¹⁴⁹ | Market share (volume) | Turnover on beer (incl. VAT) |
|-------------------------------------|---|------------------------------|-------------------------------------|
| On-trade | € 2.07 | 27% | 40% |
| Off-trade | € 1.15 | 73% | 60% |
| Total | | 28.8 million hl | € 4.024 billion |

Hospitality sector

Estimating the share of total employment in the hospitality sector attributable to the brewing sector:

- Around 27 percent of beer consumption in Poland occurs in the hospitality sector.
- This means 7.8 million hectolitres are sold through Polish pubs, restaurants and the like.
- According to the Polish Brewers the average consumer price for beer in the hospitality sector is € 1.70 per litre (excl. VAT) and this leads to a total on-trade beer turnover in the hospitality sector of € 1.3 billion (excl. VAT).
- With average turnover per person employed at € 14,500, this means that some 91,200 people are employed in the hospitality sector because of beer sales.

Retail

The importance of the brewing sector for retail can be similarly assessed:

- About 73 percent of total beer consumption is beer sold by supermarkets and other retail companies.
- With an average consumer price of € 0.94 per litre (excl. VAT), total consumer expenditure on retail beer is estimated at € 1,980 million.
- Because turnover per employee is estimated at € 83,700, this means that 23,700 people owe their jobs to the sale of retail beer.

¹⁴⁸ Source: Polish Brewers.

¹⁴⁹ The prices in this paragraph are estimates of the average prices in the on-trade and off-trade channels. In reality, prices vary considerably, depending on many different factors including the size of the container or glass, the type of establishment and the location.

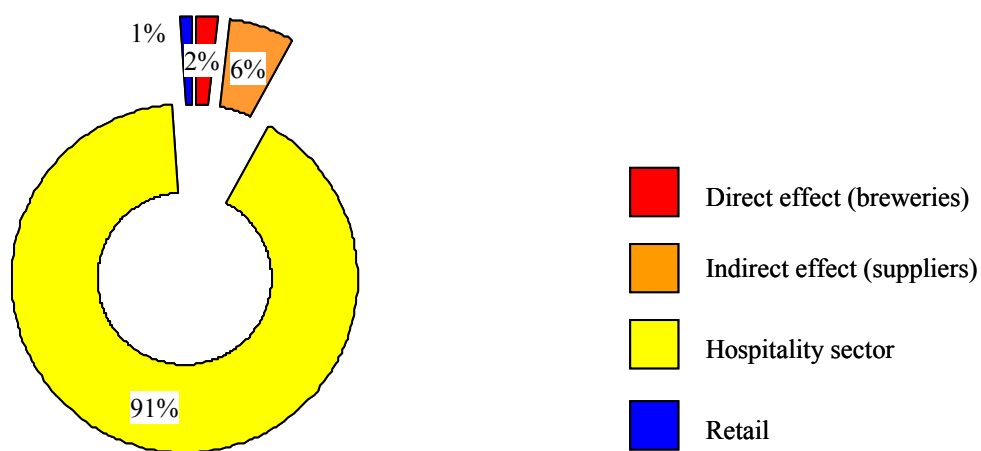
23 PORTUGAL: ECONOMIC IMPACT OF BEER

23.1 Highlights of the economic impact

The economic impact of the brewing sector can be expressed as follows:

- Portuguese breweries employ about 2,206 staff (FTE).
- Because of goods and services bought in supplying sectors, additional indirect employment is generated of around 7,193 employees.
- In the Portuguese on-trade some 111,083 employees can be attributed to the sales of beer. In off-trade around 1,809 individuals owe their jobs to beer sales.
- The total impact of the brewing sector in terms of employment can thus be estimated to be up to 122,291 employees.
- Portuguese tax revenues from the beer sector are approximately 84 million euros in excise, 626 million euros in VAT and 164 million euros in direct personal taxes paid by workers. The total tax revenues are around 874 million euros.

Total employment due to production and sale of beer: 122,300 jobs

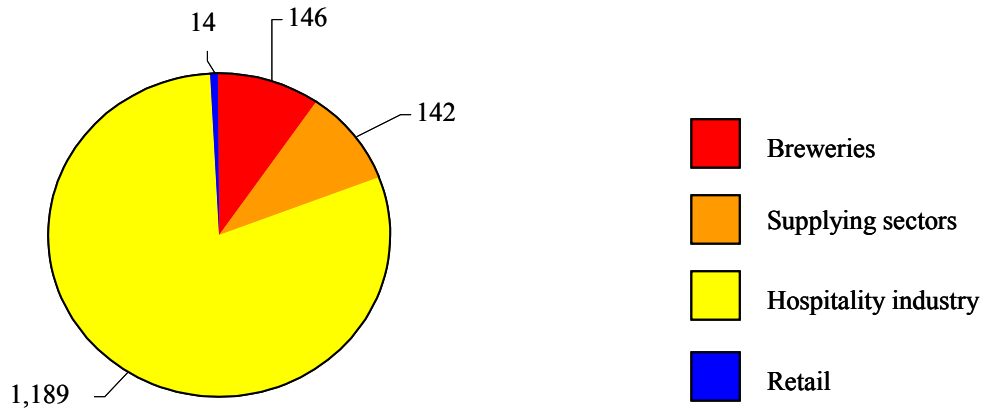


The total contribution to the Portuguese economy in terms of value added arising from the production and sale of beer is estimated at 1.5 billion euros. The hospitality sector is responsible for more than 75 percent of total value added because of beer, reflecting the economic importance of this sector for both the brewing sector and the Portuguese economy as a whole.

Value added per employee is relatively high in the Portuguese brewing sector compared to others (only in the utilities sector is value added per employee higher than in the brewing sector), reflecting its high productivity, so that the share of the breweries in total value added

generated is greater than the previously-presented share for total employment due to the production and sale of beer:

Value added due to production and sale of beer: 1,490 million euros



23.2 The brewing sector: market structure, trends and developments

Total beer production in Portugal was 7.4 million hectolitres in 2004. Total consumption is 6.3 million hectolitres (which is 61.7 litres per inhabitant).¹⁵⁰ Portuguese breweries exported 1.3 million hl in 2004, while importing 1.189 million hectolitres. Production is increasing due to the rising export of Portuguese brands, mainly to countries with significant groups of Portuguese immigrants and Portuguese-speaking countries in Africa, along with Spain.

| Key variables | Millions hectolitres | Illustration |
|--------------------|----------------------|--|
| • Production | 7.4 | Total production has been rising from 6.4 million hl in 2000 to 7.4 million hl today (14% increase) |
| • Exports | 1.3 | Most important countries importing Portuguese beer are the Portuguese-speaking countries in Africa and other countries with sizable communities of Portuguese immigrants, and Spain. |
| • Imports | 0.1 | |
| • Consumption | 6.3 | |
| • Draught | 20% | |
| • Home consumption | 34% | |

With six brewing companies in the country (two large companies and another four smaller firms) the Portuguese beer market is somewhat concentrated. Within the Portuguese borders there are 8 production units. The largest brewer has three plants. The others each have one production unit. There is fierce competition between the two largest brewers for market share, partly through competition on prices. This has forced them to develop an efficient production process to achieve the lowest possible cost price. According to the Portuguese Brewers' Association (APCV) the production units are technically up-to-date while some brewers are still in the process of further modernisation.

The Portuguese beer market is a closed one which is difficult to enter although no regulatory entry barriers exist. The main reason is Portuguese beer consumers' loyalty to their own national brands. According to the APCV several foreign brewers have attempted to enter the local market in recent years by introducing their own brands, but none has succeeded in gaining an important market share.

The economic impact of the brewing sector is influenced by the following trends, developments and characteristics of the Portuguese economy:

¹⁵⁰ 10,148,259 inhabitants (censos de INE, 2001), source: APCV

| Brewing sector internal characteristics | Context in which the brewing sector operates |
|---|---|
| <ul style="list-style-type: none"> Highly concentrated market, with the two largest companies holding a 95 percent market share. Volume of beer produced per employee averages 3,354 hl a year. Fierce competition between two major brewing companies, also resulting in price competition. Efficient production facilities (modern breweries, relatively large scale). Most of the beer consumed in Portugal is from the on-trade market (66 percent). | <ul style="list-style-type: none"> Labour costs in Portugal are relatively low from a (Western) European perspective. Because Portugal is a relatively small country, one expects that a relatively large fraction of supplies purchased by breweries would be imported; however for the food and beverage industry as a whole more than 75 percent of purchased supplies are bought in Portugal.¹⁵¹ |

The large average size of Portuguese breweries is illustrated below¹⁵²:

| Production units in hectolitres | Number of production units |
|---------------------------------|----------------------------|
| < 50,000 hl per year | 1 |
| 50,000 – 100,000 per year | 1 |
| 100,000 – 500,000 per year | 3 |
| 500,000 – 1,000,000 per year | |
| 1,000,000 – 2,500,000 per year | 2 |
| 2,500,000 – 5,000,000 per year | 1 |
| > 5,000,000 per year | |

23.3 The direct effect of the brewing sector

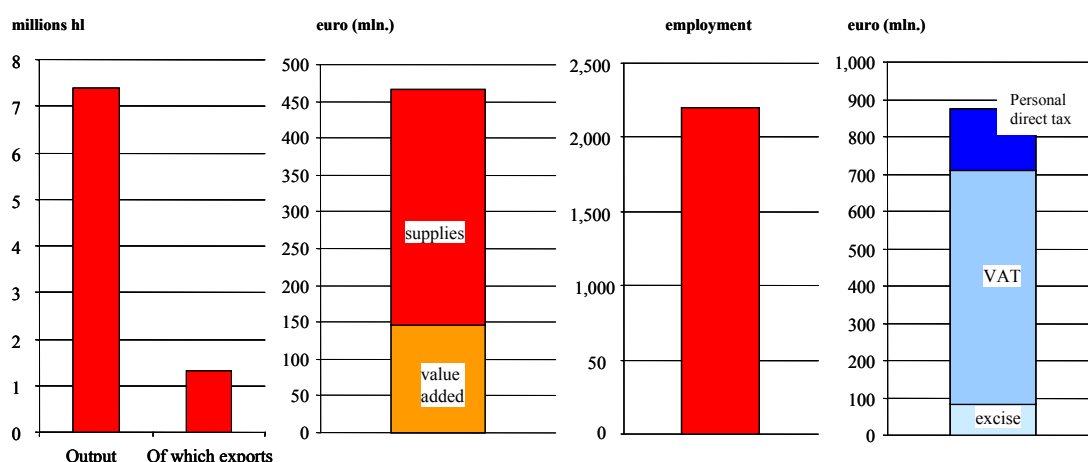
The brewing companies offered employment to 2,206 personnel in 2004.¹⁵³ The production value of Portuguese breweries in 2004 can be estimated at 466 million euros (in 2002 production value was 410 million euros).

Around 30 percent of production value stays within the breweries as value added, which means that 70 percent of total value produced is transferred to supplying firms in various sectors, approximately 320 million euros. This means that the Portuguese breweries together realise 146 million euros value added:

¹⁵¹ Source: Departamento de Prospectiva e Planeamento, *Sistema integrado de matrizes de Input-Output para Portugal de 1995, a preços correntes e a preços de 1999*, Lisboa, 2004.

¹⁵² Source: APCV (Portuguese Brewers' Association).

¹⁵³ Source: APCV (Portuguese Brewers' Association)



23.4 The economic impact of breweries on suppliers of goods and services

Of the total production value of Portuguese breweries around 70 percent is spent on suppliers, so that breweries exercise an important economic impact on supplying sectors:

| Sectors | Stimu- lus ¹⁵⁴ | Stimulus for the Portuguese economy | | Personnel costs ¹⁵⁵ | | Labour costs per employee (in €) | Number of em- ployees |
|--|------------------------------|---|------------|--------------------------------|----------|---|-----------------------------|
| | (mln. €) | % | (mln. €) | % of stimu- lus | (mln. €) | | |
| • Agriculture | 29 | 92% | 27 | | | | 2,350 |
| • Utilities | 6 | 100% | 6 | 8% | 1 | 22,212 | 22 |
| • Packaging industry | 62 | 84% | 52 | 16% | 8 | 11,880 | 706 |
| • Equipment +other | 22 | 64% | 14 | 16% | 2 | 11,880 | 188 |
| • Transport | 27 | 100% | 27 | 22% | 6 | 20,796 | 284 |
| • Media, marketing | 40 | 75% | 30 | 25% | 8 | 28,944 | 261 |
| • Services + other | 133 | 75% | 100 | 25% | 25 | 28,944 | 864 |
| Total | 320 | | 247 | | | | 4,675 |
| Primary impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 7,193 |

Source: Own calculations on the basis of National Statistics and Eurostat

¹⁵⁴ Percentages based on country data comparison analysis and checked with Input/Output data for food and beverage.

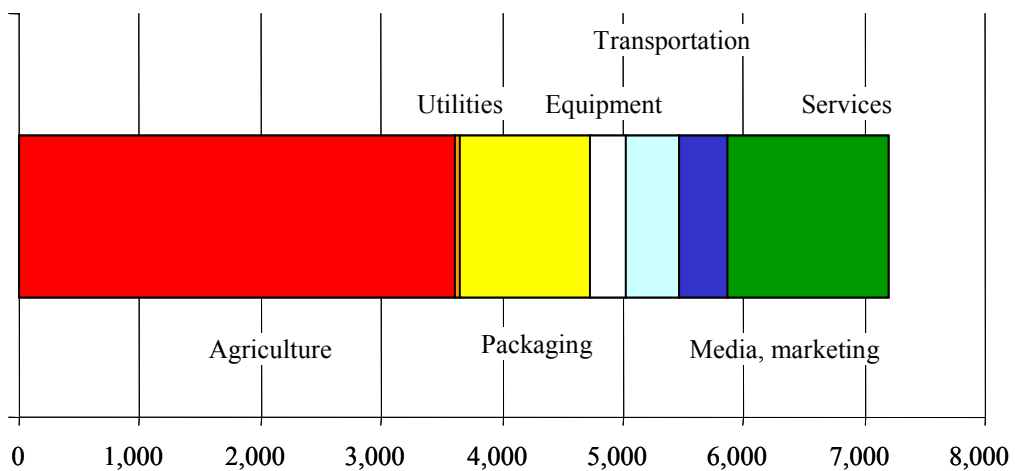
¹⁵⁵ Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

The largest proportion of supplies is purchased from the services sector, while there is also significant spending on packaging, media and marketing and agricultural produce.

For the impact of the brewing sector on agriculture, we have used the industry ratio of total turnover to total employment in FTE (i.e. 5.8 billion euros with 508,000 FTE) to go from the stimulus in agriculture because of ‘beer’ (i.e. 27 million euros) to resulting employment (2,350 FTE after primary round).

Total indirect impact of the brewing sector is estimated to be 7,200 employees:

Indirect employment



23.5 Retail and hospitality sectors

34 percent of Portugal’s beer sales occur through the off-trade channel. Another 66 percent finds its way to the consumer through the on-trade channel.

Hospitality sector

The employment due to the sale of beer in the Portuguese hospitality sector is estimated at over 110,000 jobs:

- Around 66 percent of beer consumption in Portugal occurs on-trade.
- This means 4.16 million hl are sold by Portuguese pubs, restaurants and the like.
- The average consumer price of beer is about 9.76 euros per litre (local brands, including VAT)¹⁵⁶, so that consumers are estimated to spend 3.4 billion euros on beer in pubs and restaurants.

¹⁵⁶ Estimated by EY, as beer prices fluctuate and beer in different price ranges is available.

- Turnover per employee in the Portuguese on-trade is 30,700 euros annually.
- Total employment in the Portuguese on-trade arising from beer sales thus equals approximately 111,083 employees.

Retail

Retail also benefits from the sale of beer, although to a much lesser extent than the hospitality sector:

- About 34 percent of total Portuguese beer consumption is beer sold by supermarkets and other retail companies.
- With an average consumer price of 1.48 euros (incl. VAT) per litre¹⁵⁷, total consumer spending on retail beer is estimated at 271 million euros (excl. VAT).
- Because the annual turnover per employee is estimated at 149,800 euros, this means 1,809 individuals owe their jobs to the sales of retail beer.

¹⁵⁷ Estimated by EY, as beer prices fluctuate and beer in different price ranges is available.

24 SLOVAKIA: ECONOMIC IMPACT OF BEER

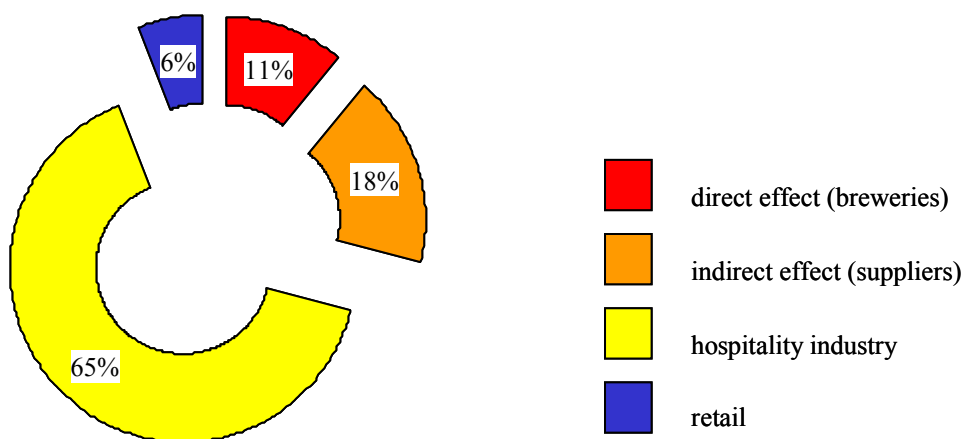
24.1 Highlights on economic impact

The economic impact of the brewing sector on the Slovak economy is substantial:

- Direct employment in the Slovak brewing sector is 2,720 employees.
- Indirect employment generated by the brewing sector in the supplying sectors consists of 4,534 jobs.
- In the hospitality sector, around 16,750 jobs can be attributed to the brewing sector. Likewise in retail around 1,400 employees owe their jobs to beer sales.
- The total employment effect of the brewing sector on the Slovak economy can be estimated at around 25,400 jobs.
- The government in Slovakia also benefits from the production and consumption of beer. Excise revenues are 54.4 million euros a year and total VAT revenues are estimated at 81 million euros. Another 11 million euros in tax revenues are generated through the personal direct taxes paid by employees of the breweries and other employees whose jobs can be attributed to beer in sectors such as hospitality and the retail and supplying sectors.

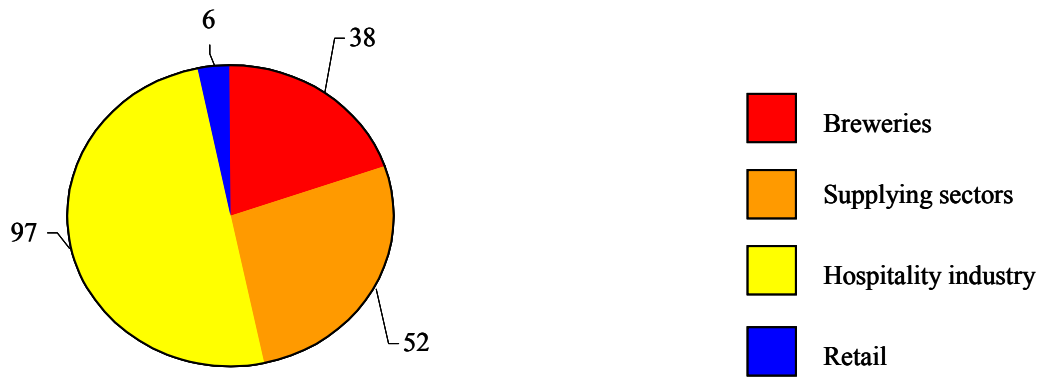
In total the production and consumption of beer in Slovakia generates some 25,400 jobs:

Total employment due to production and sale of beer: 25,400 jobs



The total contribution to the Slovak economy in terms of value added due to production and the sale of beer is estimated at 195 million euros. The hospitality sector accounts for around 50 percent of total value added due to the production and consumption of beer.

Value added due to production and sale of beer: 195 million euros



24.2 Market and industry structure, trends and developments

Just like the neighbouring Czech Republic, Slovakia has a long-standing reputation in brewing beer. Beer production dates back to the 11th century.

| Key variables | Millions hectolitres ¹⁵⁸ | Illustration |
|--------------------|-------------------------------------|--|
| • Production | 4.2 | Slovak beer production is decreasing, among other things because excise taxes were raised ¹⁵⁹ |
| • Exports | 0.18 | |
| • Imports | 0.4 | Beer is imported, especially from the Czech Republic |
| • Consumption | 4.4 | Around 65 percent of the Slovak beer market is occupied by two major European brewing companies |
| • Draught | | |
| • Home consumption | | |

Last year beer consumption dropped by more than 10 percent, reflecting the major increase in excise duties from 2003, increasing energy prices and weak consumer purchasing power. These developments also affected the production volume of Slovak brewers. The market leader's beer sales dropped from 2.1 million hectolitres to 1.8 million in 2004, but it still maintained its leading role in the Slovak beer market with a market share stabilising at 42 percent. This market leader entered the Slovak market in 1995 with some major acquisitions over the subsequent years.

Another one of the major European brewing companies also plays an important role in the Slovak beer market, holding a market share of around 23 percent and owning the largest brewery in Slovakia¹⁶⁰. Independent brewing companies also still play an important role in Slovakia, with a total market share of around 30 percent.

The Slovak brewing sector consists of 9 breweries producing more than 100,000 hectolitres and a large number of smaller breweries and brewing pubs¹⁶¹:

¹⁵⁸ Data shown is for 2003.

¹⁵⁹ Between August 2003 and August 2004, Slovak breweries sold 4.2 million hectolitres of beer, where in the previous year they sold 4.9 million hectolitres (the 700,000 hectolitre difference represents a 15 percent drop). Source: The Slovak Spectator, November 1-7, 2004.

¹⁶⁰ Production of Pivovar Saris was 1.1 million hectolitres in 2002.

¹⁶¹ Slovak Beer and Malt Association.

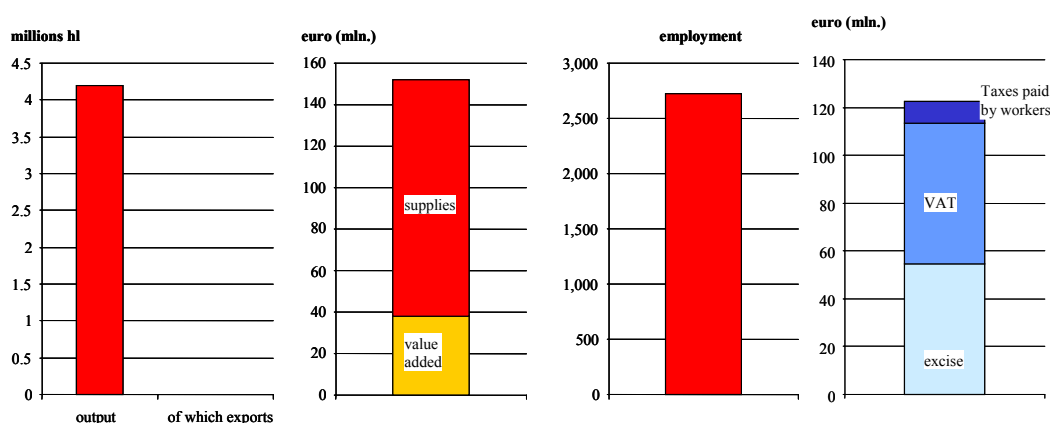
| Category | Number of production units | Breweries |
|--------------------------------|----------------------------|---|
| < 50,000 hl per year | | |
| 50,000 – 100,000 per year | 1 | Brewery in Banska Bystrica |
| 100,000 – 500,000 per year | 5 | Breweries in Rimavská Sobota, Vyhne, Bratislava, Bytca and Poprad |
| 500,000 – 1,000,000 per year | 1 | Brewery in Topolcany |
| 1,000,000 – 2,500,000 per year | 2 | Breweries in Hurbanovo and in Velky Saris |
| 2,500,000 – 5,000,000 per year | | |
| > 5,000,000 per year | | |

Important trends in the Slovak brewing sector are summarised below:

| Brewing sector internal characteristics | Context in which the brewing sector operates |
|---|---|
| <ul style="list-style-type: none"> Consolidation of the Slovak beer market, also due to takeovers by two major European brewing companies in particular Modernisation of breweries and closure of least efficient and/or redundant breweries (for example the Pivovar Corgon brewery in October 2004 and the Martiner brewery in 2003) Slovak breweries also export beer, especially to other Central and Eastern European countries | <ul style="list-style-type: none"> Increase in excise duties in 2003 Purchasing power of consumers is weak Per capita consumption of beer in Slovakia is around 81 litres a year (compared to around 160 litres in the Czech Republic) |

24.3 Direct effect of brewing sector

Direct employment at Slovak breweries is estimated at around 2,720 employees¹⁶².



¹⁶² Eurostat provides an employment figure of 3,200 employees in 2002. We believe that total employment since then has decreased (an estimated decrease of 15 percent).

The breweries together generate a value added of approximately 38 million euros, with total supplies purchased amounting to 114 million euros¹⁶³

Total excise revenues for the Slovak government amounted to 54.4 million euros in 2004. Another important source of revenues for the government is VAT, estimated at 59 million euros (38 million euros from on-trade sales and another 21 million euros from beer sold in supermarkets and other retail outlets). Personal direct taxes paid by workers whose jobs can be attributed to the brewing sector are estimated at 9 million euros.

24.4 Economic impact of breweries on suppliers of goods and services

Slovakia is one of the countries in Europe with a long tradition in barley and malts. For example, at the end of the nineteenth century, when Slovakia was part of Greater Hungary, Slovakia produced more than a third of Greater Hungary's barley yield.

Today too Slovakia is an important producer of barley malt. Heineken, for example, produces most of its malted barley for the entire Central Europe region in Hurbanovo¹⁶⁴.

| Sectors | Stimu- lus | Stimulus for the Slovak economy | | Personnel costs ¹⁶⁵ | | Labour costs per employee | Number of em- ployees |
|--|---------------|------------------------------------|-----------|--------------------------------|-----------------------|---------------------------------|-----------------------------|
| | | (mln. €) | % | (mln. €) | % of stimu- lus | | |
| • Agriculture | 20 | 90% | 18 | | | | 1,414 |
| • Utilities | 4 | 100% | 4 | 8% | 0.32 | 4,836 | 66 |
| • Packaging industry | 37 | 50% | 19 | 11.5% | 2.13 | 5,136 | 415 |
| • Equipment +other | 9 | 50% | 4 | 11.5% | 0.50 | 5,136 | 97 |
| • Transport | 7 | 90% | 6 | 22.1% | 1.38 | 5,928 | 233 |
| • Media, marketing | 21 | 85% | 18 | 18.2% | 3.20 | 7,968 | 402 |
| • Services + other | 17 | 85% | 14 | 18.2% | 2.55 | 7,968 | 320 |
| Total | 114 | | 83 | | 10.8 | | 2,947 |
| Primary impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 4,534 |

¹⁶³ Source: Eurostat.

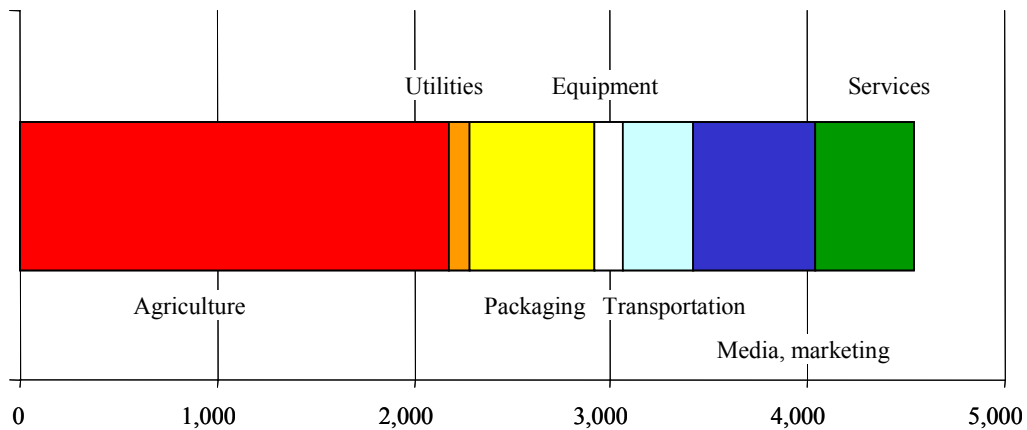
¹⁶⁴ Tom Philpott in Spectacular Slovakia ('A thousand years of beer'), 2003.

¹⁶⁵ Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

Note: Because the Slovak agricultural sector benefits from a stimulus of 18 million euros, and turnover per agricultural work unit equals 12,700 euros, this means that this stimulus generates work for around 1,400 employees in the agricultural sector (primary effect).

Total employment generated in supplying sectors is split up as follows:

Indirect employment



24.5 Retail and hospitality sector

Hospitality sector

Estimating the fraction of total employment in the hospitality sector attributable to the brewing sector¹⁶⁶:

- Around 50 percent of all beer consumed in Slovakia is sold in the hospitality sector, meaning that 2.26 million hl of beer are sold in the hospitality sector.
- Average consumer price for beer in pubs is around 1.5 euros per litre, so that total consumer spending on beer in the hospitality sector can be estimated at 330 million euros (including VAT; 278 million euros ex VAT).
- Average turnover per employee in the Slovak hospitality sector is 16,600 euros (ex VAT).
- Therefore around 16,750 people are employed in the Slovak hospitality sector because of beer sold.

¹⁶⁶ Percentage on-trade/off-trade, consumer price of beer and other data must be checked.

Retail

The number of jobs in retail attributable to beer can similarly be assessed:

- Around 50 percent of all beer consumed in Slovakia is sold in the hospitality sector, meaning that the hospitality sector sells 2.26 million hl of beer.
- Average consumer price for beer in pubs is around 0.80 euros per litre, so that total spending of consumers on beer in the hospitality sector can be estimated to be 176 million euros (including VAT; 148 million euros ex VAT).
- Average turnover per employee in the Slovak hospitality sector is 106,200 euros.
- Thus some 1,400 people are employed in the Slovak hospitality sector through beer sales.

25 SLOVENIA: ECONOMIC IMPACT OF BEER

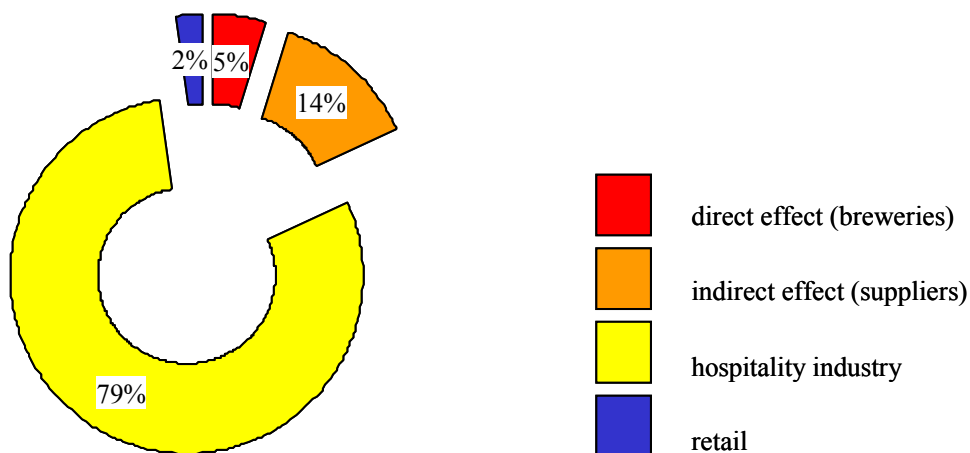
25.1 Highlights on economic impact

The economic impact of the brewing sector on the Slovenian economy can be summarised as follows:

- Slovenian breweries provide jobs to 1,100 employees.
- Supplying sectors benefit from the brewing sector and an estimated 3,290 jobs in these sectors are generated by the brewing sector.
- 18,930 jobs are also generated in the hospitality sector by the sale of beer and in retail some 595 jobs can be attributed to the sale of beer.
- The total impact of the brewing sector on the Slovenian economy in terms of jobs is thus estimated at 23,900 jobs.
- Apart from supplying sectors and the hospitality and retail sectors, the Slovenian government also benefits from beer sales. Total tax revenues are estimated at around 215 million euros. These revenues consist mainly of VAT revenues (128 million euros) while there is also a contribution from direct personal taxes paid by employees of breweries and other workers in the sectors supplying the brewing sector, and those in the hospitality and retail sectors who owe their jobs to beer.

The impact of the brewing sector on Slovenian employment is depicted below:

Total employment because of beer: 23,900 jobs

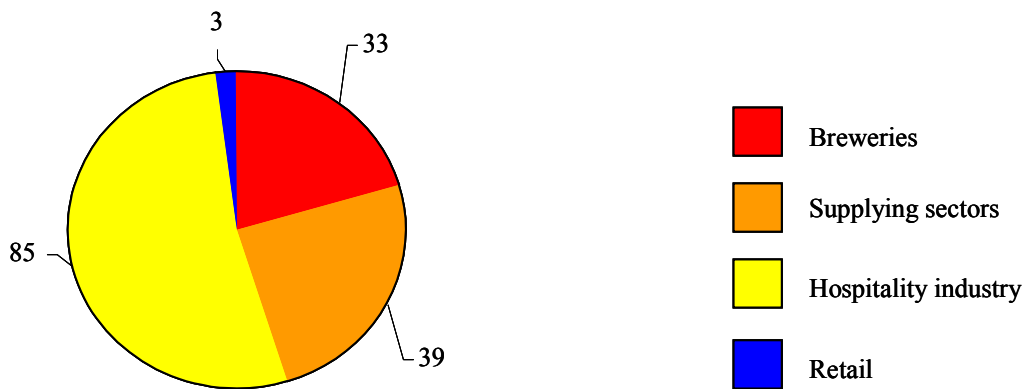


The total contribution to the Slovenian economy in terms of value added due to the production and sale of beer is estimated at 160 million euros. The hospitality sector is responsible

for more than 50 percent of total value added because of beer, reflecting the economic importance of this sector for both the brewing sector and for the Slovenian economy as a whole.

Value added per employee is relatively high in the Slovenian brewing sector compared to other sectors, reflecting its high productivity, so that the share of the breweries in total value added generated is higher than the previously-presented share in total employment due to the production and sale of beer:

Value added due to production and sale of beer: 160 million euros



25.2 Market and industry structure, trends and developments

Slovenia is one of the countries in Central and Eastern Europe with a long tradition of brewing beer. In 2003 total production was 2.4 million hl and about 35 percent of this is exported:

| Key variables | Millions hectolitres | Illustration |
|--------------------|----------------------|---|
| • Production | 2.4 | |
| • Exports | 0.84 | Slovenian beer is sold to neighbouring countries, especially Bosnia-Herzegovina, Serbia-Montenegro and Croatia (export as a fraction of total production is estimated to be 35 percent, based on data from Pivovar Lasko) |
| • Imports | | |
| • Consumption | 2.4 | |
| • Draught | | |
| • Home consumption | 39% | According to the 2003 Annual Report of Pivovar Lasko, 39% of domestically-sold beer is via the retail channel (and the remaining 61 percent on-trade via wholesalers) |

The Slovenian beer market is dominated by two brewing companies. One, with a 180-year-old history, currently has a market share of 56 percent. The company is independent and owned by 10,000 Slovenian shareholders¹⁶⁷. Total production of this company is 1.36 million hectolitres of beer, 35 percent of which is exported (an important export market is Bosnia-Herzegovina). The company produces not only beer, but also mineral water, soft drinks and syrups. Of all domestic beer sales of this company, 61 percent is through wholesalers (520,000 hl) and the remaining 39 percent (335,000 hl) is sold by the retail channel. The average size of the workforce is 423 employees.

The second major company offers employment to almost 500 people and currently has a market share of 39.8 percent.

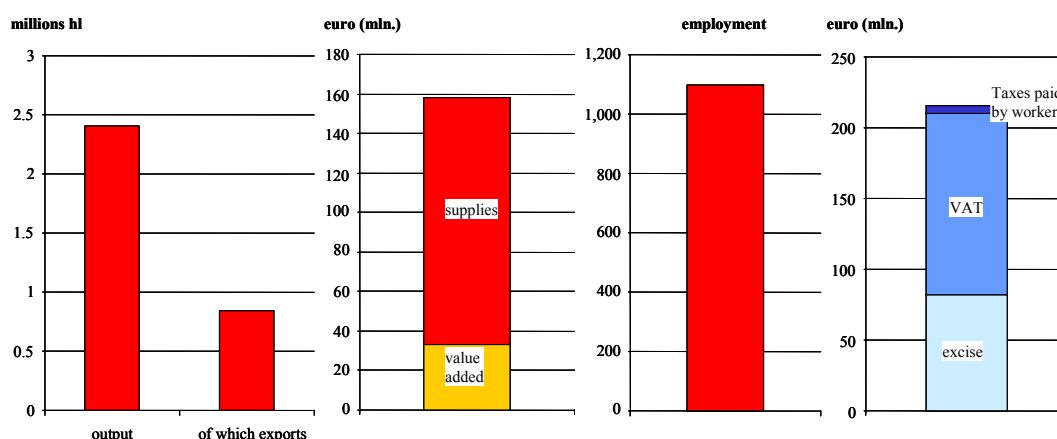
The economic impact of the brewing sector is influenced by the following trends, developments and characteristics of the Slovenian economy:

¹⁶⁷ Pivovarna Lasko, Annual Report for 2003.

| Brewing sector internal characteristics | Context in which the brewing sector operates |
|---|--|
| <ul style="list-style-type: none"> • Two players serve a large proportion of the beer market, leaving just 4 percent for other companies • Fierce competition between the two largest breweries • Domestic beer sales are stagnating, following a European trend | <ul style="list-style-type: none"> • Increasing competition in the most important export market (Bosnia-Herzegovina), resulting in decreasing exports |

25.3 Direct effect of the brewing sector

The brewing sector provides jobs to 1,100 employees. Total production value of the Slovenian breweries is up to 158 million euros, of which 33 million euros is value added:



Total tax revenues for the government from the production and consumption of beer is estimated at around 215 million euros. The largest part of these revenues is VAT, totalling an estimated 128 million euros. The other part is direct personal taxes paid by employees of the Slovenian breweries and other workers who owe their jobs to the production and consumption of beer (employees in supplying sectors and in the hospitality and retail sectors) and excise duties (which total 82 million euros).

25.4 Economic impact of breweries on suppliers of goods and services

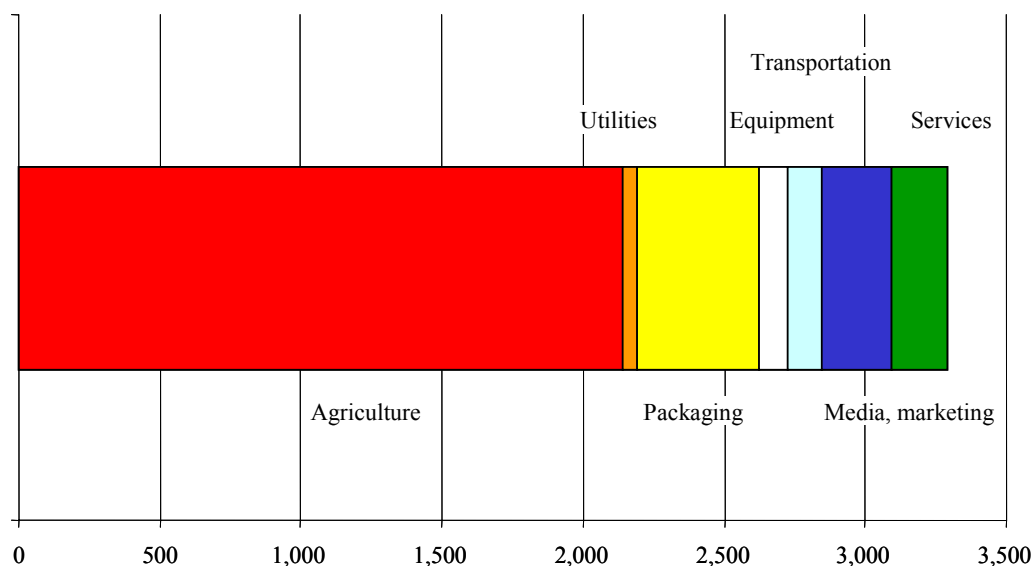
From a total Slovenian brewery production value of 158 million euros, an estimated 125 million euros are spent on supplies, benefiting the sector's suppliers.

| Sectors | Stimu- lus | Stimulus for the Slovenian economy | | Personnel costs ¹⁶⁸ | | Labour costs per employee | Number of em- ployees |
|--|---------------|--|-----------|--------------------------------|----------|---------------------------------|-----------------------------|
| | (mln. €) | % | (mln. €) | % of stimu- lus | (mln. €) | (in €) | |
| • Agriculture | 22 | 65% | 14 | | | | 1,391 |
| • Utilities | 4 | 100% | 4 | 14.6% | 1 | 18,648 | 34 |
| • Packaging industry | 41 | 50% | 20 | 19.4% | 4 | 14,064 | 282 |
| • Equipment +other | 10 | 50% | 5 | 19.4% | 1 | 14,064 | 66 |
| • Transport | 8 | 75% | 6 | 23.5% | 1 | 17,436 | 77 |
| • Media, marketing | 23 | 80% | 18 | 20.9% | 4 | 23,808 | 160 |
| • Services + other | 18 | 80% | 16 | 20.9% | 3 | 23,808 | 128 |
| Total | 125 | | 82 | | | | 2,138 |
| Primary impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 3,289 |

Note: Average turnover per agricultural work unit is 10,244 euros, based on Eurostat data covering the total turnover and total work force in the Slovenian agricultural sector, so that with a stimulus of 14 million euros in this sector through the purchases made by the brewing sector, this results in a primary employment effect of 1,319 jobs.

Total employment generated in supplying sectors is split up as follows:

Indirect employment



¹⁶⁸ Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

25.5 Retail and hospitality sector

Hospitality sector

The impact of the brewing sector on the hospitality sector is estimated as follows:

- Around 61 percent of total domestic beer sold in Slovenia is on-trade.
- This means that on-trade sales amount to 1.46 million hl and with an average on-trade consumer price of 4.50 euros (including VAT) per litre, total consumer expenditure on beer in the hospitality sector is 659 million euros (including VAT) and 540 million euros (excluding VAT, using a 20% VAT rate).
- Average turnover per employee (ex VAT) in the Slovenian hospitality sector is up to 29,000 euros a year.
- It can thus be calculated that 18,930 jobs in the Slovenian hospitality sector can be attributed to the brewing sector.

Retail

Employment in the retail sector through the sale of beer can be similarly assessed:

- Based on the 39 percent of total domestic consumption of beer sold via the retail channel, this results in a total off-trade volume of 0.94 million hl.
- With an average consumer price for beer off-trade of 1.12 per litre (including VAT) and 0.93 per litre (ex VAT), this leads to total consumer spending on beer in supermarkets and other retail shops of about 88 million euros.
- With average turnover per employee in the Slovenian wholesale and retail sector at 147,500 euros a year, some 595 jobs in retail can be attributed to the sale of beer.

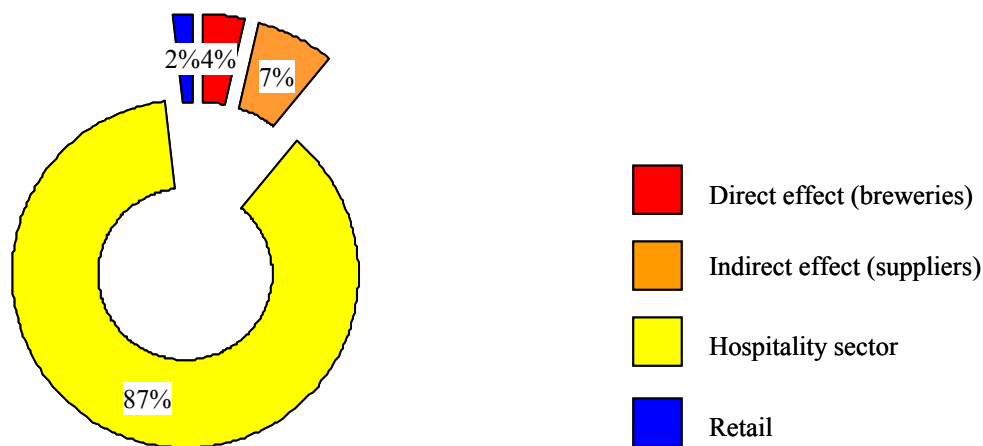
26 SPAIN: ECONOMIC IMPACT OF BEER

26.1 Highlights of the economic impact

The economic impact of the brewing sector can be expressed as follows:

- Spain is one of Europe's largest beer markets.
- Spanish breweries directly employ 8,180 personnel.
- Because of goods and services bought in the supplying sectors, additional indirect employment of around 15,960 employees is generated.
- In the Spanish hospitality sector some 192,440 employees can be attributed to the sales of beer and in the retail sector some 4,350 employees.
- The total impact of the brewing sector in terms of direct and indirect employment can be estimated to be as high as 220,925 employees.
- Spanish government tax revenues from beer are around 250 million euros in excise, around 1.43 billion euros in VAT and an estimated 890 million euros in direct personal taxes paid by workers. The total tax revenues amount to some 2.57 billion euros.

Total employment due to production and sale of beer: 220,925 jobs

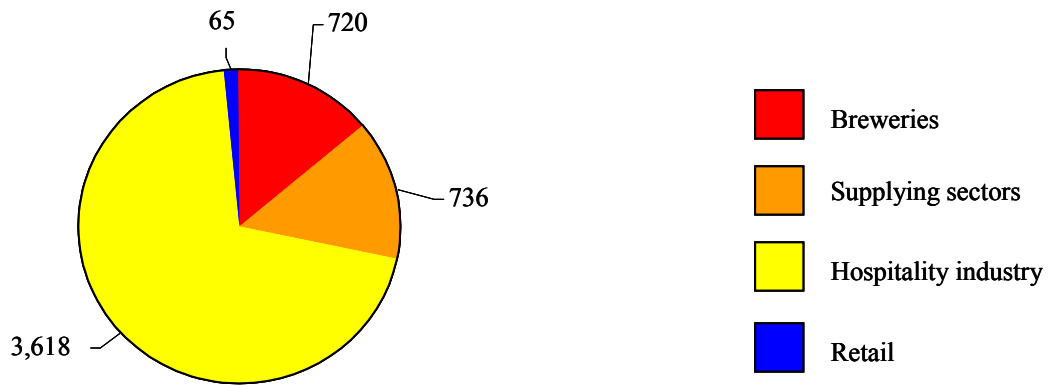


The total contribution to the Spanish economy in terms of value added arising from the production and sale of beer is estimated at 5.1 billion euros. The hospitality sector is responsible for around 70 percent of total value added because of beer, reflecting the economic importance of this sector for both the brewing sector and for the Spanish economy as a whole.

Value added per employee, however, is relatively high in the Spanish brewing sector compared to other sectors, reflecting its high productivity, so that the share of the breweries in total

value added generated is higher than the share of total employment due to the production and sale of beer as just presented:

Value added due to production and sale of beer: 5,140 million euros



26.2 The brewing sector: market structure, trends and developments

Total beer production in Spain was 30.7 million hl in 2003, which is 16 percent higher than production in 2000. Consumption is also rising: from 29.2 million hectolitres in 2000 to 33.5 million hectolitres in 2003 (a 15 percent increase)¹⁶⁹. Spain is one of the booming beer markets in Europe, with tourism as one explanation together with increasing beer consumption by the Spanish themselves. Spanish breweries exported 845,500 hl in 2003 and 3.6 million hectolitres were imported.

| Key variables | Millions hectolitres | Illustration |
|------------------------------|----------------------|--|
| • Production | 30.7 | 21 breweries |
| • Exports | 0.8 | Spain is not a major beer exporting country, as growth can still be realised domestically |
| • Imports | 3.6 | |
| • Consumption ¹⁷⁰ | 33.5 | |
| • Draught | 9.1 | 30.6% of consumption in Spain is draught, 26.6% returnable bottles and 42.7% non-returnable bottles and cans |
| • Home consumption | 26% | |

A particular feature of the Spanish beer market is its regional fragmentation. Consumers have a strong loyalty towards their regional brands although the market position of brewers who operate on a national level is strong. Only three brewing companies operate throughout Spain

The economic impact of the brewing sector is influenced by the following trends, developments and characteristics of the Spanish economy:

| Brewing sector internal characteristics | Context in which the brewing sector operates |
|---|---|
| <ul style="list-style-type: none"> Spanish beer market is fragmented, with three companies operating throughout Spain and the others focusing on some regions within Spain. Spanish breweries are investing in modernising production facilities. Average size of Spanish breweries is large, with an average production volume of 1.4 million hectolitres, so they can operate efficiently. Production per employee lies around 3,600 hl a year (which in Western Europe is only exceeded by Italy, Portugal and Ireland). Market share of 'white labels' (low-cost brands) is rising (33 percent in retail channel). | <ul style="list-style-type: none"> One of the few fast-growing beer markets in Europe. Tourism is of great importance to (growth of) the Spanish beer market and it also explains partly the high percentage of beer consumed in the hospitality sector. Labour costs are relatively low compared to labour costs in countries in Northwest Europe. The Spanish economy is relatively closed, with the share of imported supplies in the brewing sector being relatively low compared to smaller countries. |

¹⁶⁹ Source: Cerveceros de España.

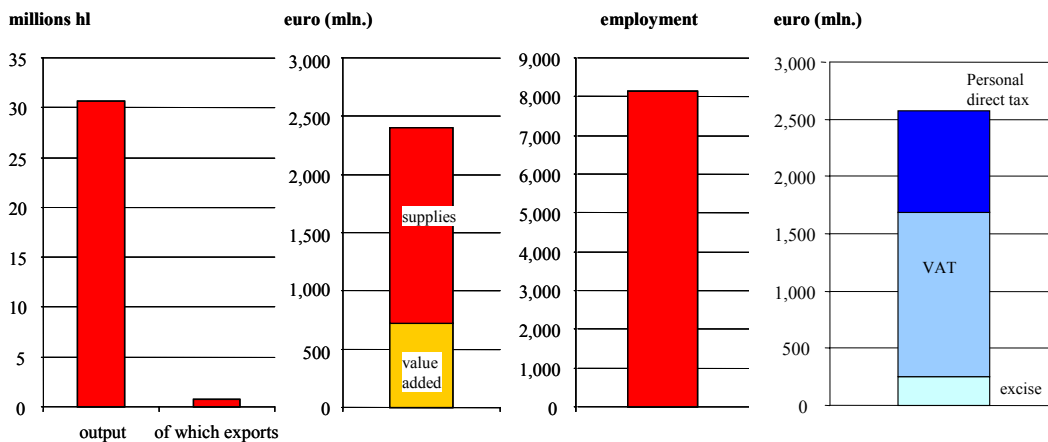
¹⁷⁰ 25 million hectolitres are consumed by Spanish consumers (Spanish Ministry of Agriculture, Fishery and Food).

The large average size of Spanish breweries is illustrated below:¹⁷¹

| Production units in hectolitres | Number of production units |
|---------------------------------|----------------------------|
| < 50,000 hl per year | - |
| 50,000 – 100,000 per year | 1 |
| 100,000 – 500,000 per year | 3 |
| 500,000 – 1,000,000 per year | 8 |
| 1,000,000 – 2,500,000 per year | 5 |
| 2,500,000 – 5,000,000 per year | 4 |
| > 5,000,000 per year | - |

26.3 The direct effect of the brewing sector

The brewing companies provided employment to 8,182 personnel in 2004.¹⁷² Together the breweries achieved a turnover of 2.4 billion euros (note: turnover of brewing activities only may be lower as the given figure may include some wholesale activities), of which around 1.7 billion euros is spent on the supplying sectors. This means that the Spanish breweries together realise 0.7 billion euros value added:



The tax revenues are also important, with total excise revenues on beer of 250 million euros. VAT revenues are generated from beer sold in pubs and cafes amounting to about 1.3 billion euros. Beer sales in supermarkets and other off-trade outlets generates another 132 million euros in VAT revenues. It can also be estimated that the employees working for the Spanish breweries together pay some 33 million euros in personal and direct tax and that workers in supplying sectors, in the hospitality sector and in retail who hold jobs attributable to the sales

¹⁷¹ Source: Cerveceros de España.

¹⁷² Source: Mapa, based on the figures of yearly business enquiry of the Spanish Statistical office (INE).

of beer, pay another 856 million euros in personal direct tax. The total tax revenues arising from beer are thus estimated at 2.57 billion euros.

26.4 The economic impact of breweries on suppliers of goods and services

Because some 70 per cent of the total production value of Spanish breweries is spent on suppliers, breweries exercise an important economic impact on supplying sectors.

The largest proportion of supplies is purchased from the services sector, with further significant spending on packaging, media and marketing and agricultural produce:

| Sectors | Stimu- lus ¹⁷³ (mln. €) | Stimulus for the Spanish economy | | Personnel costs ¹⁷⁴ (mln. €) | | Labour costs per employee (in €) | Number of em- ployees |
|--|--|--|----------|--|----------|---|-----------------------------|
| | | % | (mln. €) | % of stimu- lus | (mln. €) | | |
| • Agriculture ¹⁷⁵ | 151 | 92% | 139 | | | | 3,417 |
| • Utilities | 35 | 100% | 35 | 8% | 3 | 42,084 | 67 |
| • Packaging industry | 326 | 84% | 274 | 16% | 44 | 25,896 | 1,692 |
| • Equipment +other | 114 | 64% | 73 | 16% | 12 | 25,896 | 452 |
| • Transport | 141 | 100% | 141 | 19% | 27 | 29,340 | 914 |
| • Media, marketing | 212 | 90% | 191 | 22% | 42 | 43,116 | 972 |
| • Services + other | 701 | 80% | 560 | 22% | 123 | 43,116 | 2,860 |
| Total | 1,680 | | | | | | 10,373 |
| Primary impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 15,958 |

Source: Own calculations on the basis of National Statistics and Eurostat

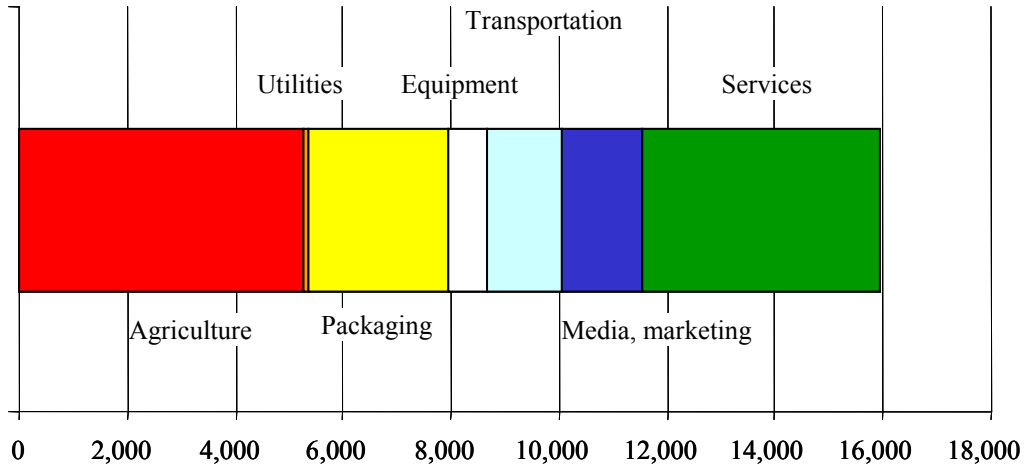
¹⁷³ Percentages based on data obtained from Spanish breweries and checked with Input/Output data for food and beverage.

¹⁷⁴ Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

¹⁷⁵ For the impact of the brewing sector on agriculture, we have used the industry ratio of total turnover to total employment in FTE (i.e. 38 billion euros with 937,900 FTE) to go from the stimulus in agriculture because of 'beer' (i.e. 139 million euros) to resulting employment (3,417 FTE after one round).

The indirect employment generated in supply sectors due to the production of beer is depicted below:

Indirect employment



26.5 Retail and hospitality sectors

In Spain 26 percent of the beer sales takes place through the retail channel. Another 74 percent is sold to the consumer through the hospitality sector.^{176 177}

Hospitality sector

Employment in the hospitality sector due to the sale of beer is estimated at over 190,000 jobs:

- Around 74 percent of beer consumption in Spain takes place in the hospitality sector.
- This means that 24.8 million hl are sold by Spanish pubs, restaurants and the like.
- The consumer price of beer is about 3.80 euros a litre (inc VAT)¹⁷⁸, so that consumers are estimated to spend 8.1 billion euros (excl. VAT) on beer in pubs and restaurants.
- Turnover per employee in the Spanish hospitality sector equals 42,200 euros a year.
- Total employment in the Spanish hospitality sector because of beer sales thus equals 192,437 employees.

¹⁷⁶ Retail channel consists of supermarkets, hypermarkets and cash&carry shops.

¹⁷⁷ Source: Alimarket, 2004

¹⁷⁸ Estimated by EY, as beer prices fluctuate and beer in different price ranges is available.

Retail

Employment due to the sale of retail beer can be similarly assessed:

- About 26 percent of the total beer consumption in Spain is beer sold by supermarkets and other retail companies.
- With an average consumer price of 1.10 euros (incl. VAT) per litre¹⁷⁹, total consumer spending on retail beer is estimated at 826 million euros (excl. VAT).
- Because the annual turnover per employee is estimated at 190,000 euros, this means that 4,347 people owe their jobs to the sales of retail beer.

¹⁷⁹ Estimated by EY, as beer prices fluctuate and beer in different price ranges is available.

27 SWEDEN: ECONOMIC IMPACT OF BEER¹⁸⁰

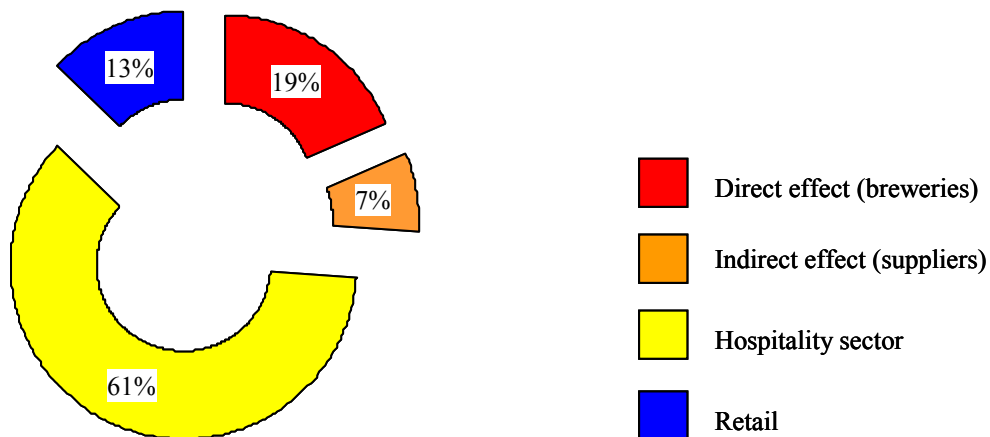
27.1 Highlights of economic impact

The economic impact of the brewing sector can be expressed as follows:

- Swedish brewers produce 3.8 million hectolitres of beer annually.
- The brewing sector employs some 4,215 employees.
- Another 1,500 full-time jobs in supplying companies are due to beer.
- In the hospitality and retail sectors, 16,000 full-time jobs depend on beer sales.
- According to the Swedish Brewers' Association, 26% of total Swedish beer consumption in 2004 was smuggled or privately imported into Sweden. Most of the private imports and smuggling comes from Germany. Private imports have increased since the Baltic states joined the EU.
- VAT and excise revenues amount to 840 million euros each year.

The employment effects of the brewing sector are depicted below:

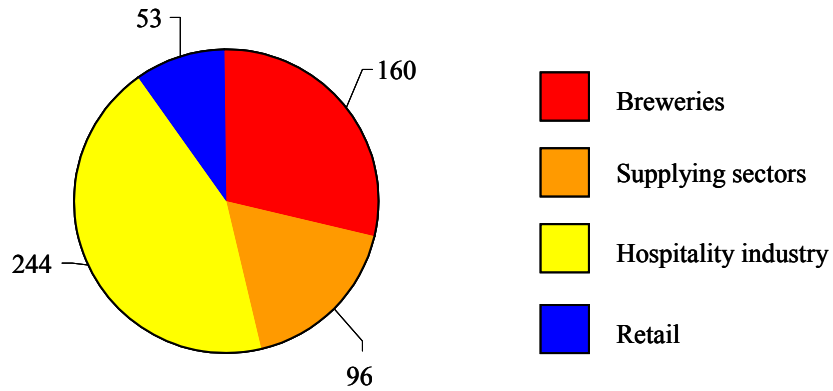
Total employment due to production and sale of beer: 21,750 jobs



The contribution of the brewing sector to the Swedish economy can also be expressed in terms of value added. Total value added of the brewing sector in Sweden and value added generated by firms in the supply, hospitality and retail sectors arising from the production and sale of beer amounts to around 554 million euros:

¹⁸⁰ When applicable, Swedish kroner were converted into euros using an exchange rate of € 1 = 9.125 kroner.

Value added due to production and sale of beer: 554 million euro



The share of the brewing sector in overall value added arising from the production and sale of beer is estimated at 29 percent. This is far greater than the share of direct employment connected to breweries as a fraction of total employment arising from the production and sale of beer (22 percent). The relatively high productivity in terms of value added per employee in the brewing sector is an important explanation for this.

27.2 The brewing sector: market structure, trends and developments

According to figures from the Swedish Brewers' Association, Swedes consumed 51.4 litres of beer per capita in 2004. This corresponds to a total recorded consumption of 4.64 million hectolitres. Of this volume, 0.85 million hectolitres are imported officially. As beer is more expensive in Sweden than in Denmark¹⁸¹, Germany or Estonia, there are also substantial unregistered private consumer imports and smuggling. Various developments led to a substantial recent increase in private imports and smuggling. Among these are the opening of the Oresund bridge to Denmark, the substantial loosening of the limits for personal imports in 2003, lowering of excise tariffs in Denmark and Finland, and – last but not least – the accession of the Baltic states to the European Union. In 2004, private imports and smuggling into Sweden were estimated at 1.64 million hectolitres, though some sources claim that private imports are higher still (up to 33% of the total volume of normal beer consumed)¹⁸². It is a fact that private imports and smuggling into Sweden are on the rise, causing closures of breweries and the loss of many jobs. There are no statistics available on exports. Registered exports are expected to be insubstantial.

| Key variables | Million hectolitres | Illustration |
|--------------------------|---------------------|--|
| • Production | 3.8 | Production value is approximately € 350-400 million. |
| • Exports | n.a. | |
| • Registered imports | 0.8 | These are only registered imports. In 2003, an additional 1.64 million hectolitres of beer were imported privately or smuggled from Denmark, Germany and Estonia where beer is much cheaper. |
| • Registered consumption | 4.6 | 2.558 million hectolitres of strong beer (> 3.6% ABV), 2.007 million hectolitres of regular beer (2.25-3.6%) 441 thousand litres of low-alcohol beer (< 2.25%) |
| • Total consumption | 6.3 | |
| • Home consumption | 78.3% | |

Source: Swedish Brewers' Association

Sweden currently has around 50 producers of beer, malt, bottled water and soft drinks. The above figures were provided by the Swedish Brewers Association, whose 13 members have a 90 percent market share.

¹⁸¹ In 1999, a comparative 'basket' of beer was 27% cheaper in Denmark than it was in Sweden.

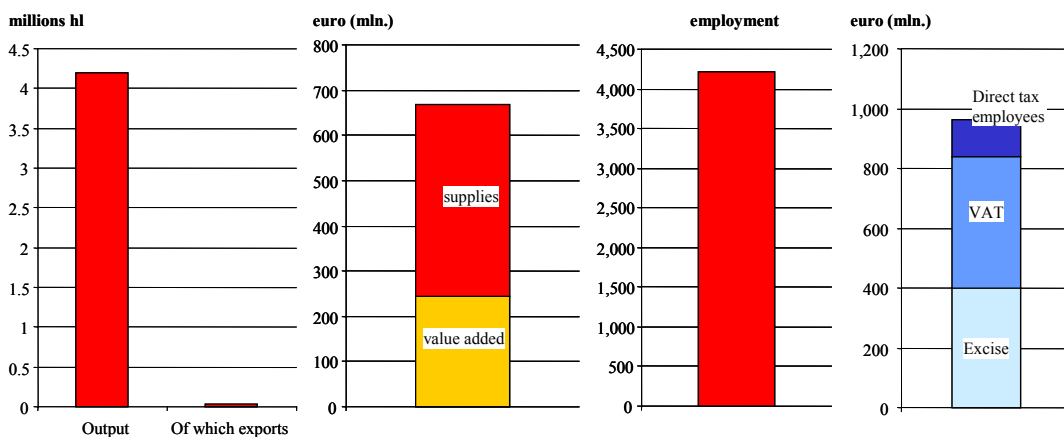
¹⁸² Source: The Brewers of Europe.

27.3 The direct effect of the brewing sector

According to Swedish Statistics, the Swedish brewing sector consists of 32 enterprises¹⁸³ employing 3,133 personnel¹⁸⁴. These employees are partly active in the production of other beverages, such as cider, soft drinks and bottled water. Another important brewing sector direct effect is tax revenue. Sweden has a relatively high level of alcohol excise for beer. Beer above 2.8 percent ABV is taxed at 147 Swedish kronor per hectolitre per degree of alcohol. There is no tax on beer at or below 2.8 percent ABV.

To combat the extensive private imports from Denmark, Germany and Estonia, the current administration has announced plans to reduce the alcohol taxes on spirits by 40% in 2006.

The best estimate of the brewing sector's value added comes from Eurostat data. Eurostat estimated value added at € 245 million in 2002. However, a large part of this value added may be realised from the production of other beverages, such as soft drinks and bottled waters. Value added arising from the production of beer amounted to some 160 million euros¹⁸⁵.



Another substantial direct effect of the brewing sector covers taxes and excises paid by the breweries and beer consumers. In 2004 excises were 398 million euros and total VAT income for the government estimated at 443 million euros.

¹⁸³ 16 of the recorded breweries operate without employees, 6 have between 1 and 4 employees and 2 have over 500 employees.

¹⁸⁴ Eurostat annual labour surveys showed employment of 4,215 in the year 2002. Some of these employees may also be associated with the production of other beverages.

¹⁸⁵ Source: Eurostat.

27.4 The economic impact of breweries on suppliers of goods and services

Eurostat provides figures on the expenditure of the beer brewing sector. These figures show that Swedish brewers spent € 482 million on purchased goods and services in 2002. However, a (large) part of these costs is due to the production, bottling and distribution of other beverages, such as soft drinks and bottled waters. We estimate that the stimulus associated with the brewing of beer amounts to € 240 million.

This stimulus for the sectors that supply goods and services to the brewing sector results in an estimated 1,500 jobs in these supply sectors:

| Sectors | Stimu- lus | Stimulus for the Swedish economy | | Personnel costs ¹⁸⁶ | | Labour costs per employee | Number of em- ployees |
|--|---------------|--|------------|--------------------------------|----------|---------------------------------|-----------------------------|
| | (mln. €) | % | (mln. €) | % of stimu- lus | (mln. €) | (in €) | |
| • Agriculture | 39 | 50% | 19 | | | | 350 |
| • Utilities | 19 | 99% | 19 | 6% | 1 | 55,320 | 20 |
| • Packaging industry | 58 | 60% | 35 | 21% | 7 | 48,084 | 150 |
| • Equipment | 32 | 60% | 19 | 21% | 4 | 48,084 | 85 |
| • Transport | 36 | 95% | 35 | 23% | 8 | 47,892 | 165 |
| • Media, marketing | 50 | 90% | 45 | 30% | 13 | 69,324 | 195 |
| • Services | 6 | 90% | 6 | 30% | 2 | 69,324 | 25 |
| Total | 240 | | 177 | | | | 990 |
| Primary impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 1,500 |

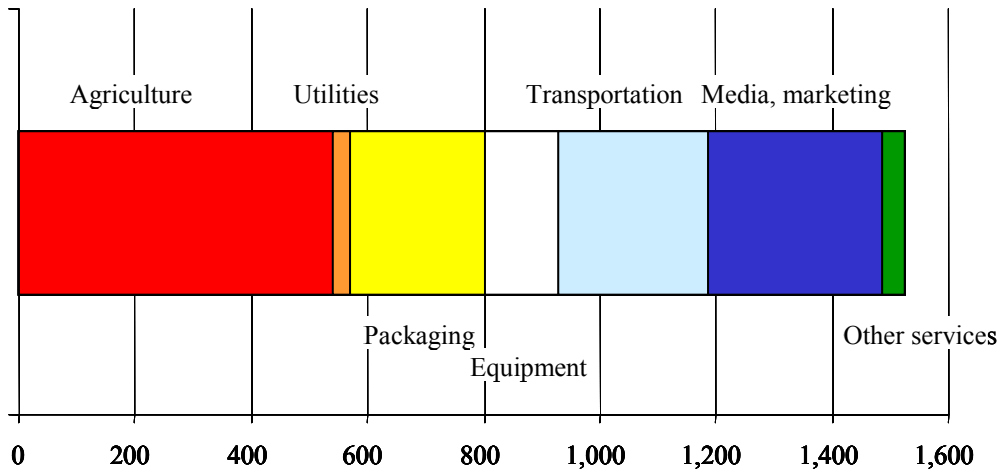
Source: Own calculations on the basis of National Statistics and Eurostat

The agricultural sector profits substantially from the stimulus of the Swedish breweries. The main impact of the stimulus goes to barley farmers. Sweden is a net malt exporter. One malting company already has an annual capacity to produce 208,000 tonnes (which is more than is needed for domestic beer production). According to Statistics Sweden's malting companies employ 44 personnel.

Indirect employment effects are illustrated below:

¹⁸⁶ Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

Indirect employment



27.5 Retail and hospitality sectors

The Swedish retail system for beer is complicated. Beer is divided into three categories.

| Category | Alcohol content (ABV) |
|-------------|-----------------------|
| I | 0-2.25% |
| II 2.8 | 2.25-2.8% |
| Special 3.5 | 2.8-3.5% |
| III | above 3.5% |

Class I is regarded legally as non-alcoholic and there are virtually no sale restrictions. Class II (known colloquially as folk beer) can be sold in supermarkets but only to those over 18. Class III is only available in Systembolaget shops, pubs and restaurants. The drinking age for full strength beer is 18, though many pubs impose a higher age limit (e.g. 23 or 24). In the Systembolaget shops, alcohol can only be bought by those aged 20 and above. Note that the (state-owned) Systembolaget has a monopoly on sales of beer with more than 3.5 percent alcohol. Systembolaget stocks some 300 beers, and has a minimum volume threshold. Add to this the strict regulations regarding advertising, and you have a system that favours the large established brewers over small start-ups.

In 2004, 73.9 percent (almost 3 million hectolitres) of the *registered* beer produced and sold, was sold through shops. An additional 1.64 million hectolitres is privately imported by consumers or smuggled into Sweden. The market share of the on-trade sector (hospitality) is increasing. 65 percent of the *registered* produced and sold beer volume is packaged in cans, 20 percent is in refillable glass bottles and 13% is draught beer. Excise and VAT make up 46 percent of the consumer beer price in the retail sector.

Hospitality sector

The approach to estimate employment in the hospitality sector attributable to beer takes the beer turnover of pubs and restaurants as a starting point:

- 21.7 percent of beer consumption in Sweden occurs in the hospitality sector.
- This means approximately 1 million hectolitres are sold by pubs, restaurants and the like.
- The consumer price of beer is about 8.77 euros per litre (excl. VAT)¹⁸⁷, so that consumers are estimated to spend 882 million euros (excl. VAT) on beer in pubs and restaurants.
- Turnover per employee in the hospitality sector is 67,100 euros a year.
- Total employment in the Swedish hospitality sector arising from beer sales then equals 13,100 employees.

Retail

The importance of the brewing sector for retail can be similarly assessed:

- 78.3 percent of registered beer consumption is beer sold by supermarkets and other retail companies. This equals 3.6 million hectolitres.
- With an average retail price of 2.46 euros per litre, excluding VAT, total consumer expenditure on retail beer is estimated at 890 million euros.
- Because turnover per employee is estimated at 310,000 euros, this means 2,900 people owe their jobs to the sale of retail beer.

¹⁸⁷ The prices in this paragraph are estimates of the average prices in the on-trade and off-trade channels. In reality, prices vary considerably, depending on many different factors including the size of the container or glass, the type of establishment and the location.

28 UNITED KINGDOM: ECONOMIC IMPACT OF BEER¹⁸⁸

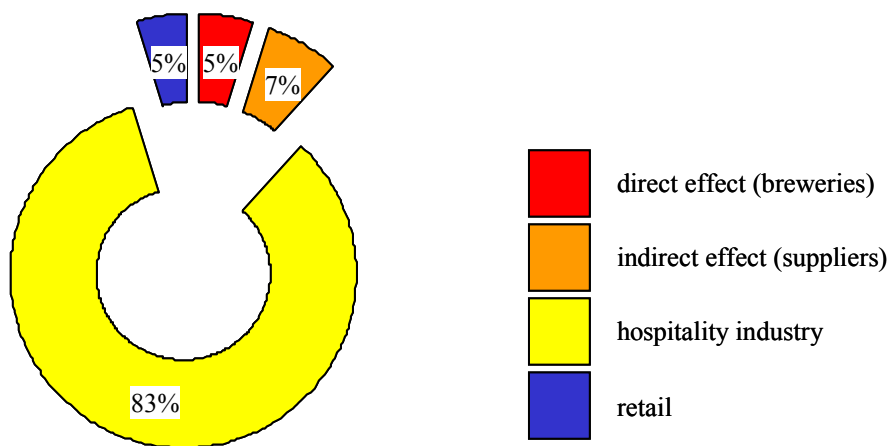
28.1 Highlights of the economic impact

The economic impact of the brewing sector can be expressed as follows:

- Between them the 400 to 500 UK breweries produce some 58 million hectolitres of beer, 6% of which (3.5 million hectolitres) is exported.
- With a direct economic impact of 22,000 jobs, the breweries are important to the British economy.
- Goods and services bought from supplying sectors produce another 32,000 full-time jobs in these sectors attributable to the brewing sector.
- The brewing sector induces another 395,000 full-time jobs in the hospitality and retail sectors.
- The government also benefits from the brewing sector, since VAT and excise revenues amount to 4.1 and 4.4 billion euros respectively.

The employment effects of the brewing sector are depicted below:

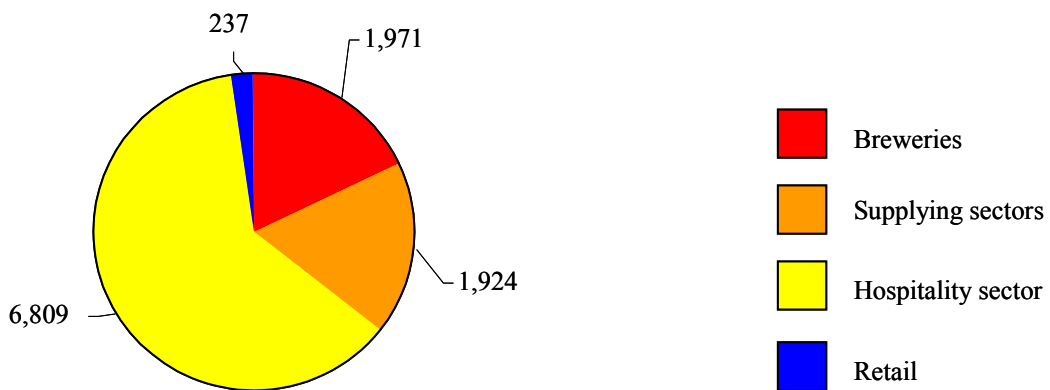
Total employment due to production and sale of beer: 450,000 jobs



The contribution of the brewing sector to the British economy can also be expressed in terms of value added. Total value added of the UK brewing sector and value added generated by firms in the supply sectors and in the hospitality and retail sectors arising from the production and sale of beer amounts to around 10.9 billion euros:

¹⁸⁸ All values have been calculated using an average conversion rate of € 1 = £ 0.6919.

Value added due to production and sale of beer: 10,900 million euros



The share of the brewing sector in overall value added arising from the production and sale of beer is estimated at 18 percent. This is far more than the share of direct employment connected to breweries as a proportion of total employment arising from the production and sale of beer (5 percent). An important explanation for this is the fact that productivity in terms of value added per employee in the British brewing sector is relatively high compared to other sectors.

28.2 The brewing sector: market structure, trends and developments

In 2003 British breweries produced 58.2 million hectolitres of beer, worth € 10.1 billion (ex-brewery). In the same year 60.3 million hectolitres of beer was consumed within the United Kingdom¹⁸⁹.

| Key variables | Million hectolitres | Illustration |
|-----------------------------|---------------------|--|
| • Production ¹⁹⁰ | 58.2 | Highest volume in Europe, only exceeded by Germany |
| • Exports | 3.5 | |
| • Imports ¹⁹¹ | 6.4 | |
| • Consumption | 60.3 | Total spending of consumers is € 27,254 million ¹⁹² |
| • Draught | 56.8% | |
| • Home consumption | 38.6% | |

The British beer market is highly concentrated and consolidated. In 2003 six national brewers controlled some 85 percent of the market volume. The largest national brewing company has a 27 percent market share.

The UK beer market also has a large number of small breweries producing less than 60,000 litres a year (pub breweries and other local breweries). The total market share of these local breweries is 1.7 percent, leaving an estimated 13.3 percent market share for the middle-sized regional breweries¹⁹³. Under pressure of competition and beer consumption which is not growing rapidly, British beer companies are consolidating and closing less efficient and redundant production sites. Since 1997, the large brewing companies have closed some 25 – 30 large breweries to take spare capacity out of the market.

Important trends and developments influencing the impact of the brewing sector in the British economy are:

¹⁸⁹ For 2004, these figures are: production 57,549; released for consumption: 59,195.

¹⁹⁰ The BBPA believes that HMRC figures overestimate the size of the UK beer market by up to 2 million hectolitres and estimates total UK beer sales at nearer 58 million hectolitres.

¹⁹¹ A further 1.7 million hectolitres of beer was imported by private consumers to avoid high UK duties in 2003 (1.0 million hl in 2004) and an estimated one million hectolitres entered the UK market via smuggling in large freight consignments/diversion fraud.

¹⁹² Households' final consumption expenditures at current prices

¹⁹³ Source: BBPA, SIBA and HMRC.

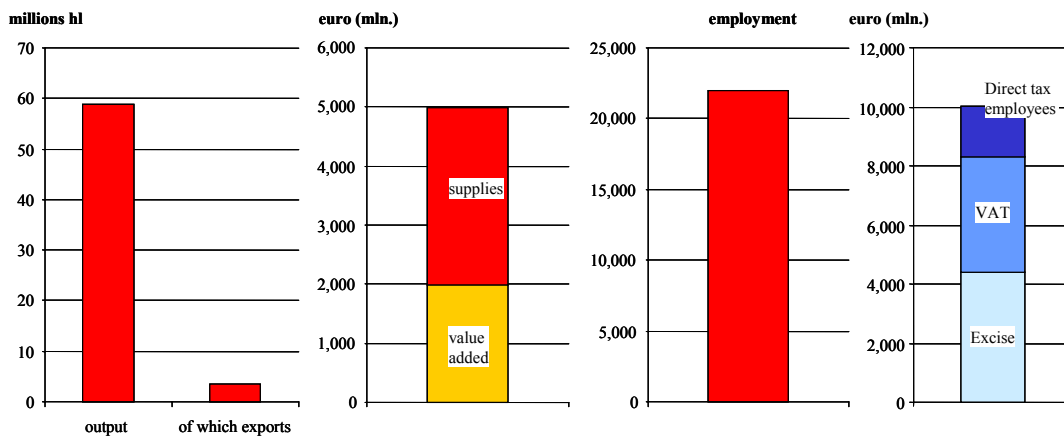
| Brewing sector internal characteristics | Context in which the brewing sector operates |
|---|---|
| <ul style="list-style-type: none"> • Historically the UK had strong regional variation in beer tastes, with many small regional breweries serving local pubs and clubs • Most beer was sold through pubs (90.4% of total beer volume was sold through the on-trade in 1970) and brewers owned a number of pubs, serving as a retail channel for their products • Since the 1970's lager has become increasingly popular¹⁹⁴, also attracting competition from foreign multinational brewing companies. • As five out of six national brewers focus increasingly on lager, the ale volumes of the national brewers are declining whereas the ale volumes of many local and regional brewers are growing • Consolidation of breweries and closing of less efficient breweries is a trend | <ul style="list-style-type: none"> • Competition regulation forced brewing companies to sell many pubs they originally owned. • Shifting consumer preferences (from beer to wine, RTDs, non alcoholic drinks) |

28.3 The direct effect of the brewing sector

The UK brewing companies employ 22,000 people, of whom 20,000 are full-time and 2,000 part-time. Total turnover of the brewing companies is 10.1 billion euros (in 2003), of which 7.9 billion arises from brewing activities and 2.9 billion is in taxes, duties and levies paid. The total value added by brewing companies is € 2,360 million, of which some 84 percent (1,971 million euros, source: Eurostat) comes from beer brewing activities, with the remaining 16 percent coming from wholesale activities. Another important activity is the operation of pubs and pub holdings. Wholesaling concentrates on selling other brands and other alcoholic beverages (wine and spirits) to the brewery's own pubs and other customers. Some brewing companies also package beverages for other producers. British brewers do not usually produce products other than beer but many do contract brewing and packaging for other brewers.

The direct impact of the brewing sector can be depicted as follows:

¹⁹⁴ Where 7% of the beer sold in 1970 was lager and 93% was ale, lager now accounts for 70% of UK beer volumes.



An important impact of the brewing sector is the revenues generated for government through excise, VAT and other (corporate) taxes. In 2003, excise revenues totalled 4,399 million euros and income from VAT is estimated to be 4,059 million euros.

28.4 The economic impact of breweries on suppliers of goods and services

The majority of the goods and services purchased by British breweries originate in the UK. The agricultural sector and the packaging industry benefit most from the UK brewing sector. The UK brewing sector requires 661,000 tonnes of malt annually. Almost all malt (> 98 per cent) comes from domestic suppliers. Some of the brewers have their own malting plants. Brewer-malters provide 25 percent of the beer sector's total malt requirements. In 2003, UK farmers produced 1,923 tonnes of hops, worth € 8.3 million at ex-farm prices. The UK hops sector has declined rapidly. Hops, which constitute only a small percentage of the total production costs, are increasingly imported.

Packaging is an important aspect of the beer sector's costs. Beer is mainly packaged in glass bottles, cans, kegs (pressurised tanks) and casks (non-pressurised tanks). Packaging for beer (kegs, bottles and cans) is sourced both from within the UK and abroad. It is unknown how much money is involved in the total purchases of containers, or of their imports.

Many brewers provide their own logistics, although one or two national brewers have outsourced their distribution activities, at least partially. Other services, such as asset management and control, cellar technical services, pay-rolling and invoicing have also been outsourced by some brewers as has (to a lesser extent) the running of boiler plants.

The effects of the economic impact on suppliers of goods and services is quantified in the table below. The table is built up as follows. The 'stimulus' column shows the brewing sec-

tor's expenditures on goods and services, specified for various types of suppliers. For example: the brewing sector buys goods and services from the packaging industry, worth some € 200 million. (The total expenditures on raw materials, other goods and services by the British brewing sector is some € 3,000 million.) Of the € 200 million spent on packaging, 72% (€ 144 million) is spent on purchases from British companies. The rest is imported from abroad. From national and European statistics we know that on average in the packaging industry, 19% of the turnover is spent on personnel costs (including wages and social security). This means that workers in the packaging industry earn a total amount of (19 percent of € 144 million) € 27 million due to purchases made by breweries. As the average personnel cost per employee in this sector is € 43,968, the brewing sector induces 620 jobs in the packaging industry. Following this approach for the various sectors, we arrive at a total indirect employment of 20,750.

However the companies from which brewers purchase goods and services also purchase raw materials. Hence the previously calculated indirect employment is only a fraction of the total employment induced. On average this 'primary effect' or first round effect, as it is called, is 65 percent of the total indirect employment induced. Hence we estimate the total indirect employment induced by the British brewing sector to be 32,000 employees:

| Sectors | Stimu- lus ¹⁹⁵ | Stimulus for the UK economy | | Personnel costs ¹⁹⁶ | | Labour costs per employee (in €) | Number of em- ployees |
|--|------------------------------|--------------------------------|--------------|--------------------------------|----------|---|-----------------------------|
| | (mln. €) | % | (mln. €) | % of stimu- lus | (mln. €) | | |
| • Agriculture ¹⁹⁷ | 950 | 76% | 722 | | | | 10,300 |
| • Utilities | 100 | 99% | 99 | 8% | 8 | 57,132 | 140 |
| • Packaging industry | 200 | 72% | 144 | 19% | 27 | 43,968 | 620 |
| • Equipment | 250 | 72% | 180 | 19% | 34 | 43,968 | 780 |
| • Transport | 250 | 100% | 250 | 20% | 50 | 44,220 | 1,130 |
| • Media, marketing | 300 | 95% | 285 | 32% | 91 | 65,772 | 1,860 |
| • Services | 950 | 95% | 903 | 32% | 289 | 65,772 | 5,900 |
| Total | 3,000 | | 2,583 | | | | 20,750 |
| Primary impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 32,000 |

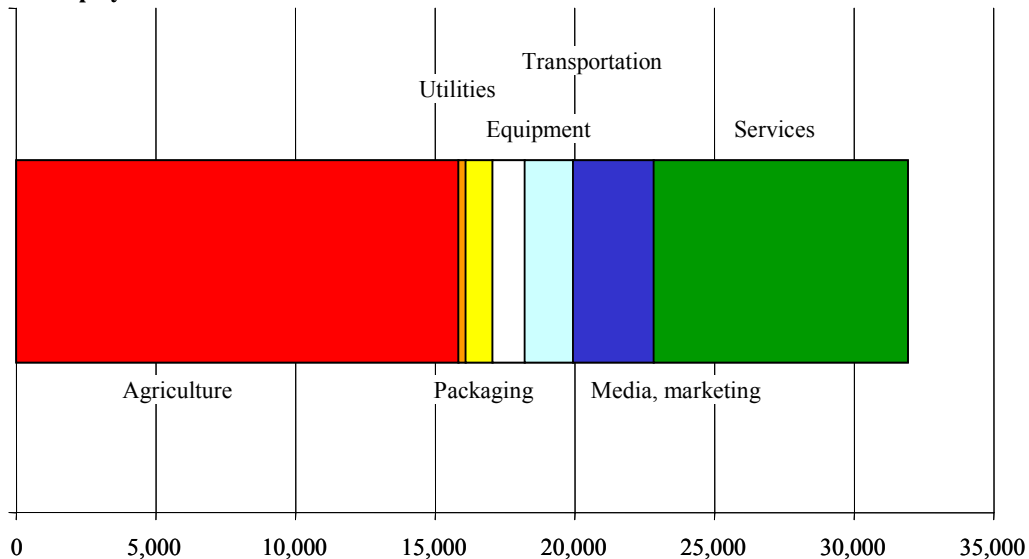
¹⁹⁵ Percentages based on data from National Statistics and Eurostat.

¹⁹⁶ Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

¹⁹⁷ For the impact of the brewing sector on agriculture, we have used the sector ratio of total turnover to total employment in FTE (i.e. 20.6 billion euros with 295,000 FTE) to arrive at the stimulus in agriculture because of 'beer' (i.e. 722 million euros) against resulting employment (10,300 FTE after one round)

Expenditures on agricultural raw materials are relatively high in the United Kingdom. This is due to the fact that traditional British beers require more malt per hectolitre than lagers.

Indirect employment



The indirect impact of the brewing sector is influenced positively by the fact that some 85 percent of the brewing sector's expenditure on goods and services is spent domestically.

28.5 Retail and hospitality sectors

In 2003, 62 percent of the UK beer sales volume was sold through the on-trade channel (consisting of pubs, wine-bars, restaurants, hotels and clubs). The remaining 38% was sold through the off-trade channel (shops, including off-licence specialists)¹⁹⁸.

| Distribution channels (2004) | Average retail price per litre (incl. VAT) ¹⁹⁹ | Market shares (volume) | Turnover on beer (incl. VAT) |
|------------------------------|---|------------------------|------------------------------|
| On-trade | ± € 5.35 | 61.9% | 76.5% |
| Off-trade | ± € 2.67 | 38.1% | 23.5% |
| Total | | 58.2 million hl | € 27.250 billion |

¹⁹⁸ BBPA.

¹⁹⁹ The prices in this paragraph are estimates of the average prices in the on-trade and the off-trade channels. In reality, prices vary considerably, depending on many different factors including the size of the container or glass, the type of establishment and the location.

The British hospitality sector is a very important part of the UK economy, with total turnover of € 83,268 million, and total employment of 1,830,500 jobs. Up to the 1980s brewing companies owned large numbers of pubs. National and regional brewers distributed most of their produce through their own pubs. In 1989, the Beer Order legislation led to large brewers selling large parts of their pub holdings. Over the next decade national brewers either specialised only in brewing or ceased brewing and large pub chains were established. Following revocation of the Beer Orders, today only 8,900 of the UK's 59,000 pubs are owned by brewing companies. Independent pub chains own another 31,700 pubs. Pubs and licensed clubs offer jobs to 80,000 self-employed persons plus 537,000 employees.

Hospitality sector

The approach to estimating employment in the hospitality sector attributable to the brewing sector takes beer turnover by pubs and restaurants as a starting point:

- Around 62 percent of beer consumption in the UK is distributed through the on-trade channel.
- This means that 37.4 million hl are sold by British pubs, restaurants and the like.
- The average pub price of beer is 5.35 euros per litre (4.56 euros excluding VAT), so that consumers are estimated to spend 17 billion euros (excl. VAT) on beer in pubs and restaurants.
- Turnover per employee in the UK hospitality sector equals 45,500 euros a year.
- Total employment in the UK hospitality sector because of beer sold is then 374,000 employees.

Retail

The importance of the brewing sector for retail can be similarly assessed:

- 38 percent of total beer consumption is beer sold by supermarkets and other retail companies. This equals 22.9 million hectolitres.
- With an average retail price of 2.27 euros per litre, excluding VAT, total consumer expenditure on beer in retail is estimated at 5.2 billion euros.
- Because turnover per employee is estimated at 243,700 euros, this means 21,400 people owe their jobs to the sale of retail beer.

29 BULGARIA: ECONOMIC IMPACT OF BEER

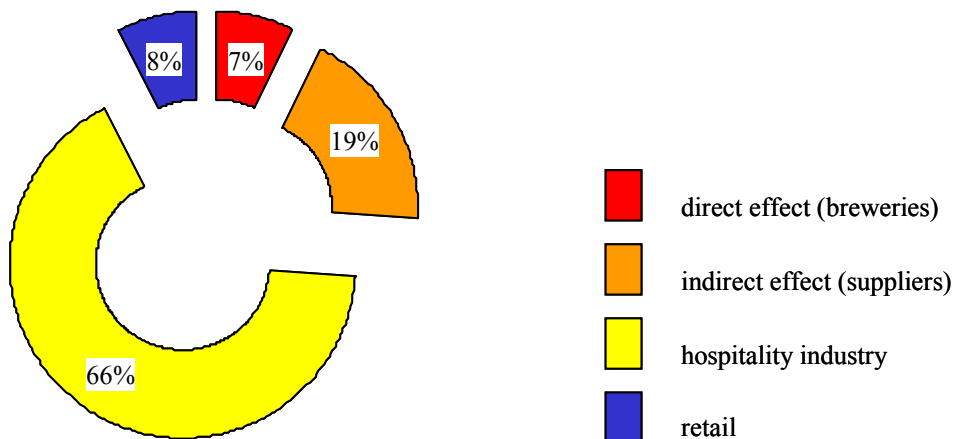
29.1 Highlights of economic impact

The economic impact of the brewing sector on the Bulgarian economy is substantial:

- Direct employment at Bulgarian breweries is estimated at 2,755 jobs.
- Because of goods and services purchased by Bulgarian brewers within their own country, an additional 7,250 jobs in these supplying sectors can be attributed to the beer sector.
- Many jobs can also be attributed to beer sales in retail and especially in the hospitality sector. In the hospitality sector this is about 25,450 jobs and in retail another 2,900 jobs.
- Total tax revenue for the Bulgarian government from the production and consumption of beer is estimated at around 93 million euros a year. Of this some 23.9 million euros is excise revenues. Further total VAT revenues are estimated at 59 million euros (33 million euros on beer sold on-trade) and workers whose job can be attributed to the production and consumption of beer pay a total direct personal tax of around 10 million euros (employees of breweries contribute to this, but also workers in the hospitality sector and in retail and employees in sectors supplying goods and services to the breweries).

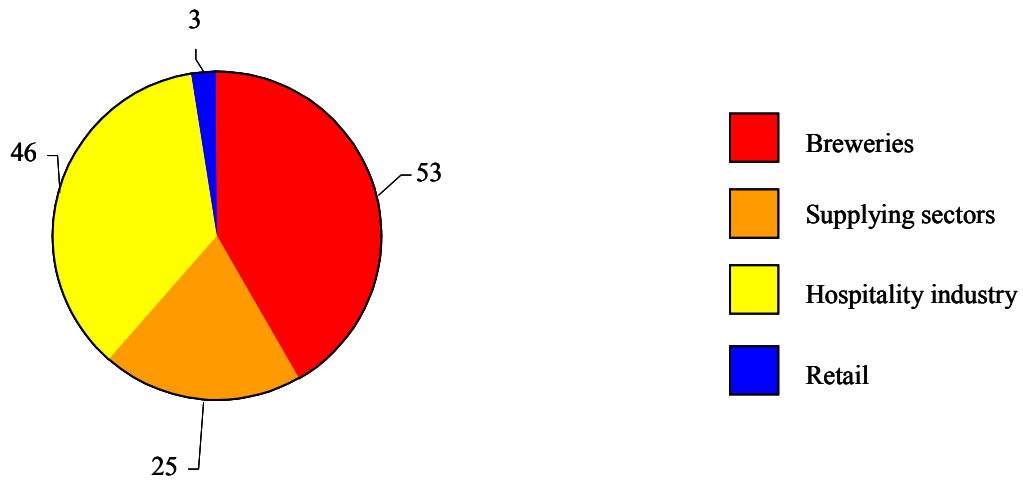
The employment effect of the brewing sector can be depicted as follows:

Total employment due to production and sale of beer: 38,380 jobs



The Bulgarian brewing sector has been modernised rapidly in recent years. To a large extent this explains the high productivity of this sector and its employees. With only a 6 percent share in total employment from the production and sale of beer, the brewing sector accounts for just over 40 percent of total value added generated due to the production and sale of beer. The total contribution of the brewing sector to the Bulgarian economy (directly and indirectly), is estimated at around 127 million euros:

Value added due to production and sale of beer: 127 million euros



29.2 Market and industry structure, trends and developments

The Bulgarian beer market is one of the smallest in Eastern Europe, but has shown increasing volumes in recent years. In 2004, for example, the Bulgarian beer market performed well with a growth of 7.5 percent²⁰⁰ while future perspectives are promising²⁰¹. Total market volume is estimated to be 4.7 million hectolitres:

| Key variables | Millions hectolitres | Illustration |
|--------------------|----------------------|---|
| • Production | 4.9 | Total production of Bulgarian brewers over the first eight months of 2005 was 3.295 billion hl. |
| • Exports | 0 | Exports are currently minimal (some 1 percent of total production) |
| • Imports | 0.2 | Around 5 percent of beer consumption is imports |
| • Consumption | 4.7 | |
| • Home consumption | 68% | |

Market leaders in Bulgaria are the Zagorka brewery and Kamenitza, both part of one of the major European brewing companies. With beer sales at 1.5 million hectolitres (in 2003: 1.3 million), the market share of Zagorka is higher than 30 percent. Kamenitza also has a market share of more than 30 percent (in 2003: 26.9 percent), producing 326,000 in the first quarter of 2005 (total production in 2005 is estimated to be 1.3 million hl)²⁰². After the fall of communism, the brewing sector privatised rapidly.

The first foreign investor in the Bulgarian brewing sector acquired the Zagorka brewery in 1994. In 1995 Kamenitza was privatised and acquired by another international brewing company. A third international brewing company operates also several brands in Bulgaria, selling 220,000 hl in the first quarter of 2005 (expected production volume for 2005: 880,000 hl). Apart from the brewing companies forming part of international brewing groups, there are a limited number of independent breweries. Two of these are now part of Bulbrew. Other independent breweries are Bolyarka, Lomsko Pivo and Sofia.

There are currently 13 breweries in Bulgaria, operated by 7 brewing companies. One brewing group operates 4 breweries, three other companies each 2 breweries²⁰³.

²⁰⁰ Heineken N.V., *Annual Report 2004*.

²⁰¹ The Association of Brewers in Bulgaria expects a growth rate of 5 to 8 percent (Member of the Board Dimitar Alexiev on Radio Bulgaria, May 28, 2004).

²⁰² Source: www.see-news.com, May 26, 2005.

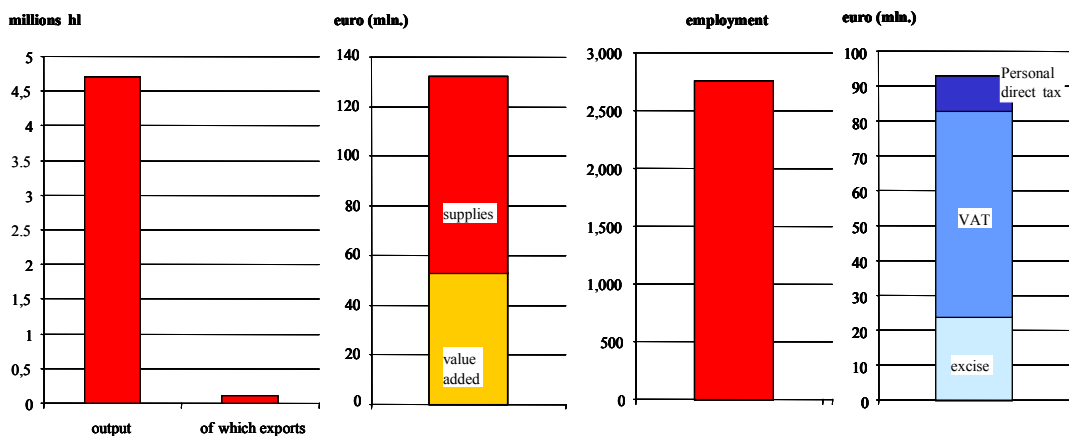
²⁰³ IBA (InvestBulgaria Agency), *Bulgaria Factsheet 2004: Food & Beverage*, November 2004.

The economic impact of the brewing sector is influenced by the following trends, developments and characteristics of the Bulgarian economy:

| Brewing sector internal characteristics | Context in which the brewing sector operates |
|---|---|
| <ul style="list-style-type: none"> Excise duties have been increased significantly in recent years (100 percent increase in 2003 and another 50 percent increase in 2004) International brewing companies have entered the Bulgarian beer market Bulgarian breweries invest large amounts in modernising breweries²⁰⁴ | <ul style="list-style-type: none"> Beer consumption per capita is low with 57 litres a year in 2004²⁰⁵ Beer consumption per capita is however gradually increasing (from 51 litres per capita in 2002 to an estimated 61 litres in 2005) |

29.3 Direct effect of the brewing sector

The direct employment connected to Bulgarian breweries is estimated at 2,755 jobs²⁰⁶.



The sector generated € 53 million value added. Of total production value of € 132 million, an estimated 60 percent (i.e. € 79 million) is spent on goods and services produced by supplying sectors.

²⁰⁴ In 2004 around 25 million euros were invested by members of the Union of Brewers in Bulgaria and 22 million euros so far in the first six months of 2005.

²⁰⁵ SABMiller (Alan Clark), *Building brand portfolios in Europe*, April 26, 2005.

²⁰⁶ Because no data about direct employment could be found, direct employment is estimated on the basis of a comparison with the Romanian brewing sector (using an identical ratio of employment to beer produced).

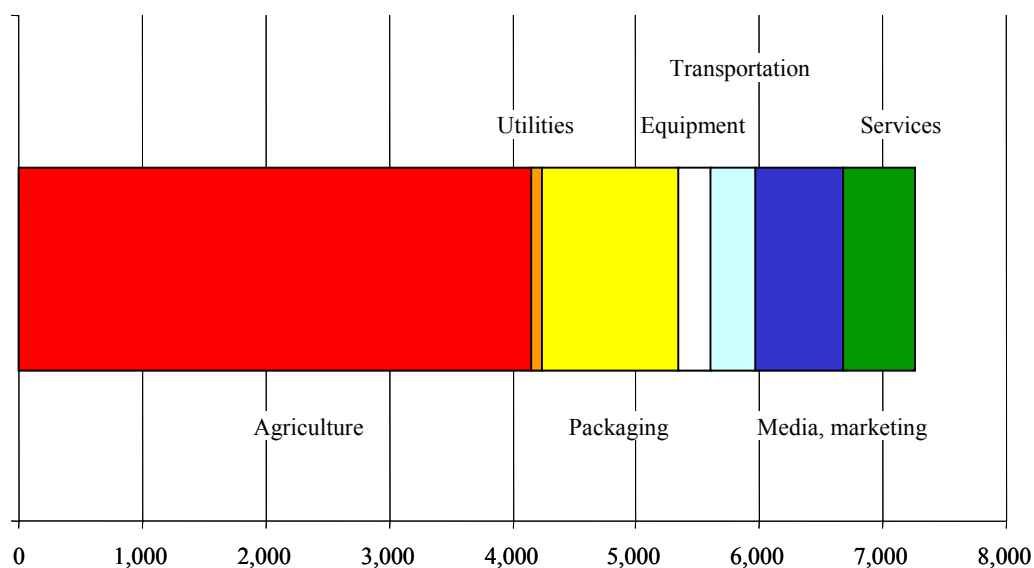
29.4 Economic impact of breweries on suppliers of goods and services

In 2003 Bulgarian brewers spent some € 79 million in supplying sectors, generating jobs in these sectors:

| Sectors | Stimulus (mln. €) | Stimulus for the Bulgarian economy | | Personnel costs ²⁰⁷ | | Labour costs per employee (in €) | Number of employees |
|--|----------------------|------------------------------------|-----------|--------------------------------|----------|-------------------------------------|---------------------|
| | | % | (mln. €) | % of stimulus | (mln. €) | | |
| • Agriculture ²⁰⁸ | 14 | 70% | 10 | | | | 2,702 |
| • Utilities | 3 | 100% | 3 | 7.8% | 0 | 4,116 | 53 |
| • Packaging industry | 26 | 50% | 13 | 11.6% | 1 | 2,076 | 721 |
| • Equipment +other | 6 | 50% | 3 | 11.6% | 0 | 2,076 | 168 |
| • Transport | 5 | 100% | 5 | 13.8% | 1 | 2,856 | 233 |
| • Media, marketing | 14 | 90% | 13 | 15.8% | 2 | 4,329 | 467 |
| • Services + other | 11 | 90% | 10 | 15.8% | 2 | 4,329 | 327 |
| Total | 79 | | 57 | | 6 | | 4,716 |
| Primary impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 7,255 |

Total employment generated in supplying sectors is split up as follows:

Indirect employment



²⁰⁷ Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

²⁰⁸ The indirect impact on agriculture is estimated using the fact that average turnover per work unit in this sector is 3,591 euros a year²⁰⁸. A stimulus of 10 million euros in the Bulgarian agricultural sector therefore generates (primary) employment effects of 2,700 jobs.

29.5 Retail and hospitality sector

Hospitality sector

Estimating the impact of the brewing sector and the sales of beer on the hospitality sector:

- According to the Union of Brewers in Bulgaria (UBB) it can be estimated that 33 percent of total beer consumption is on-trade (in pubs and other segments of the hospitality sector).
- This means beer sales in the hospitality sector amount to 1.5 million hl.
- With an average consumer price in the hospitality sector of 1.3 euros a litre (including VAT), this means the hospitality sector enjoys a turnover stimulus of almost 200 million euros (including VAT).
- With a VAT tariff of 20 percent on beer consumption, total on-trade expenditure on beer is 165 million euros (excluding VAT).
- With average turnover per employee in the Bulgarian hospitality sector at € 6,500²⁰⁹ (ex VAT), it is estimated that 25,450 jobs in the Bulgarian hospitality sector can be attributed to the brewing sector.

Retail

The employment in retail from the sale of beer can be similarly assessed:

- Because it is estimated that around 67 percent of total beer consumption in Bulgaria is off-trade, the off-trade consumption is estimated at 3.2 million hl.
- With an average consumer price of 0.50 euros a litre, this means consumers spend about 159 million euros on beer in retail (including VAT), which translates to about 132 million euros (ex VAT).
- Because average turnover in retail is estimated at 45,400 euros a year²¹⁰, this means that in retail around 2,910 jobs can be attributed to the sale of beer.

²⁰⁹ Source: Eurostat.

²¹⁰ Source: Eurostat.

30 CROATIA: ECONOMIC IMPACT OF BEER

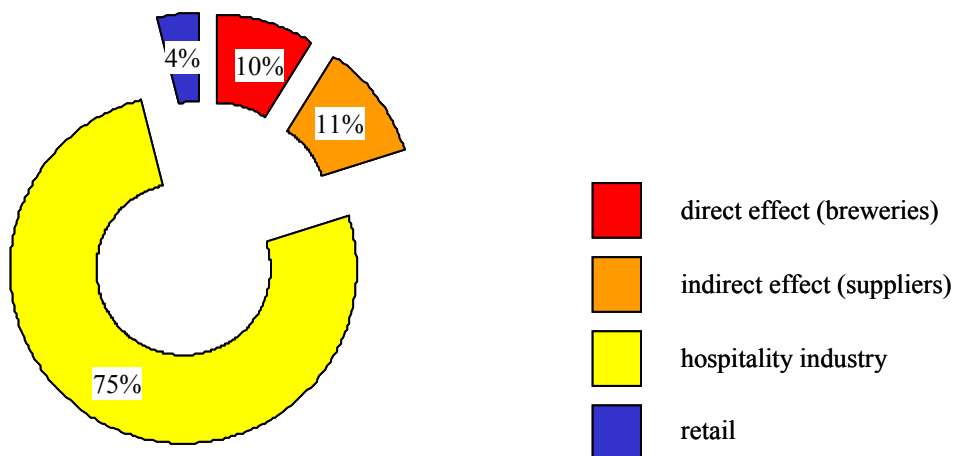
30.1 Highlights on the economic impact

The economic impact of the brewing sector in Croatia can be expressed as follows:

- Direct employment at Croatian breweries is estimated at 2,300 jobs.
- Another 2,700 jobs are generated through goods and services purchased by Croatian breweries within their own country.
- Further jobs are generated in the hospitality sector and in retail because of the sales of beer: an estimated 17,840 jobs in the hospitality sector and some 875 in retail.
- The Croatian government also benefits from the brewing sector and the sale of beer. Total tax revenues are estimated at just over 250 million euros, mainly in VAT revenues (about 114 million because of beer sold on-trade and another 28 million euros through on-trade sales of beer). Employees of breweries and other workers whose jobs can be attributed to beer production and sales also pay personal direct taxes amounting to an estimated 14 million euros. Excise duties are estimated at almost 100 million euros.

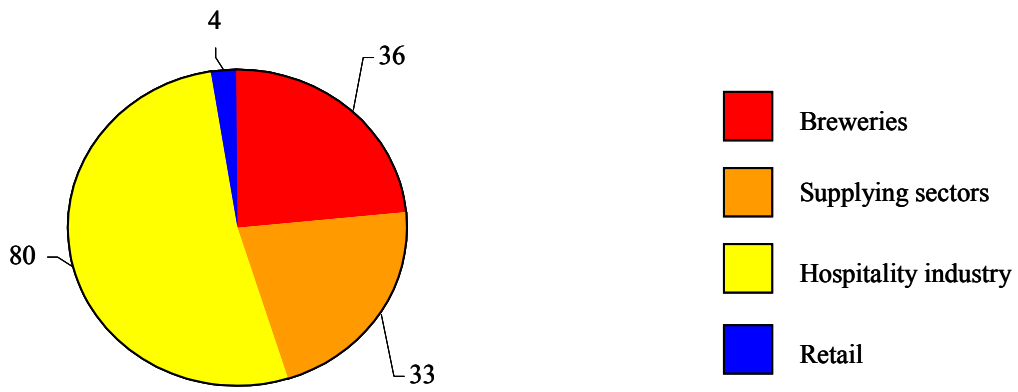
The total employment effect of Croatian breweries can be depicted as follows:

Total employment because of beer: 23,700 jobs



The total contribution to the Croatian economy in terms of value added due to the production and sale of beer is estimated at 155 million euros. The hospitality sector is responsible for more than 50 percent of total value added because of beer, reflecting the economic importance of this sector for both the brewing sector and the Croatian economy as a whole.

Value added due to production and sale of beer: 155 million euros



30.2 Market and industry structure, trends and developments

The Croatian beer market is dominated by two large breweries, while there are also 15 smaller breweries and microbreweries. Of these breweries seven have a production of more than 100,000 hl a year. The breweries together produce around 3.8 million hl a year of which a small fraction is exported:

| Key variables | Millions hectolitres | Illustration |
|--------------------|----------------------|--|
| • Production | 3.8 | Beer production has been fairly stable in recent years (but has risen significantly compared to the production level of around 3 million hl in 1994/1995) ²¹¹ |
| • Exports | 0.2 | The most important export markets were Bosnia and Herzegovina, but exports have dropped in recent years because of high levels of taxation and duty on the exports of beer |
| • Imports | 0.16 | Slovenia, the Netherlands, Germany, Italy and Austria are the most important countries of origin. |
| • Consumption | 3.8 | |
| • Home consumption | 50% | Estimate by Ernst & Young |

The breweries with the highest production volume in Croatia are Zagrebacka Pivovara and Karlovačka Pivovara. The former brewery is owned by one of the major European brewing companies and is Croatia's leading brewery in production volume terms. With 1.7 million hl the company has gained a 44.9 percent market share (this brewery also produces the number one brand in Croatia). The latter brewing company was acquired by another major European brewing company in 2003 and is currently number two in Croatia in production volume (number one in export volume)²¹². Karlovačka brewery has a capacity of 1.3 million hectolitres; in 2002 its market share was 19.2 percent, resulting in a sales volume of 820,000 hl. In 2002 the brewery employed 595 people.

Other breweries include Buzet (production volume in 2001: 121,000 hl), Daruvarska (153,000 hl), Jadranska (332,000 hl), Osijek (327,000 hl) and Panonska brewery (396,000 hl)^{213 214}. Some of these breweries have a long history, with the Daruvarska brewery being the oldest (established in 1840). All breweries were nationalised after the Second World War. More recently, in the 1970s, three more breweries started (Jadranska, Panonska and Buzet).

²¹¹ Source: State Bureau of Statistics.

²¹² Heineken N.V., *Annual Report 2004*.

²¹³ One of the major European brewing companies has acquired a share in this brewery in 2002.

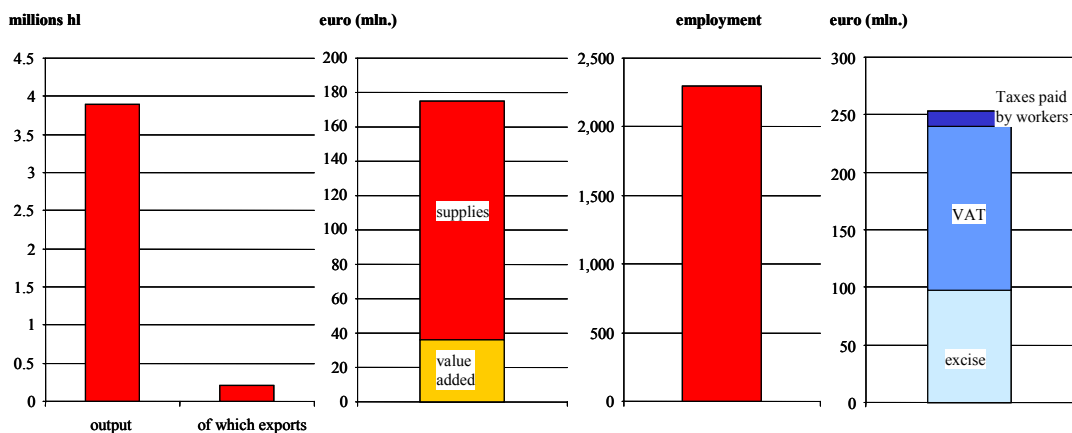
²¹⁴ Ksenija Dumčić, Sanda Renko and Natasa Renko, *A case study of the Croatian beer market structure and performances*, in: *British Food Journal*, Vol. 105, nr. 3, 2003.

The economic impact of the brewing sector is influenced by the following trends, developments and characteristics of the Croatian economy:

| Brewing sector internal characteristics | Context in which the brewing sector operates |
|--|--|
| <ul style="list-style-type: none"> International brewing companies have entered the Croatian brewing sector by taking over the two largest companies Smaller beer companies and microbreweries also exist, adding to competition between companies | <ul style="list-style-type: none"> Strict new anti-alcohol law reduces beer consumption High levels of taxation and duty on export of beer have a negative impact on exports Tourism provides an important stimulus for the Croatian beer market Beer consumption per capita is 88 litres a year²¹⁵ |

30.3 Direct effect of the brewing sector

The brewing sector in Croatia employs some 2,300 personnel. This estimate is based partly on data available from neighbouring Slovenia and on data from individual breweries such as Karlovacka Pivovara. The production value of the Croatian breweries and the generated value added are similarly estimated to be 139 and 36.4 million euros respectively.



Total tax revenues are estimated at more than 250 million euros, consisting mainly of VAT revenues (about 114 million from beer sold on-trade and another 28 million euros from on-trade beer sales). Employees of breweries and other workers whose jobs can be attributed to the production and sale of beer also pay direct personal taxes amounting to an estimated 14 million euros.

²¹⁵ Source: Presentation by Interbrew, *Strategic partnership with Apatinska Pivara* (Serbian brewing company), 11 September 2003 (this presentation also contains information on other former Yugoslav states).

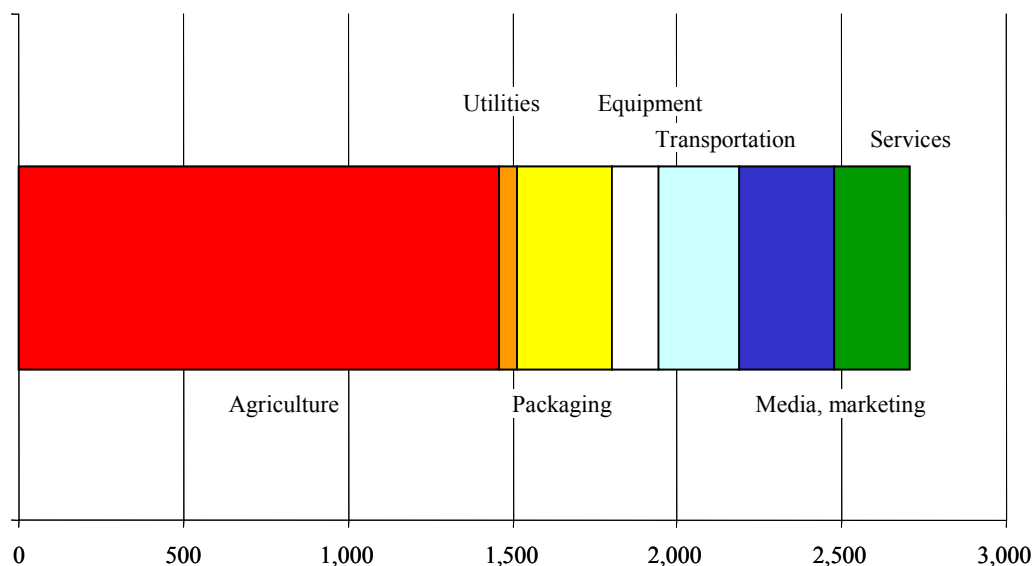
30.4 Economic impact of breweries on suppliers of goods and services

The Croatian breweries together spend 139 million euros on goods and supplies from other sectors. These purchases result in substantial employment effects:

| Sectors | Stimu- lus (mln. €) | Stimulus for the Croatian economy | | Personnel costs ²¹⁶ (mln. €) | | Labour costs per employee (in €) | Number of em- ployees |
|--|---------------------------|---|-----------|--|----------|---|-----------------------------|
| | | % | (mln. €) | % of stimu- lus | (mln. €) | | |
| • Agriculture ²¹⁷ | 24 | 40% | 10 | | | | 947 |
| • Utilities | 5 | 100% | 5 | 14.6% | 1 | 18,648 | 38 |
| • Packaging industry | 34 | 40% | 14 | 19.4% | 3 | 14,064 | 188 |
| • Equipment +other | 16 | 40% | 6 | 19.4% | 1 | 14,064 | 89 |
| • Transport | 14 | 85% | 12 | 23.5% | 3 | 17,436 | 160 |
| • Media, marketing | 20 | 85% | 17 | 20.9% | 4 | 23,808 | 149 |
| • Services + other | 25 | 85% | 21 | 20.9% | 4 | 23,808 | 187 |
| Total | 139 | | 85 | | | | 1,758 |
| Primary impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 2,705 |

Total employment generated in supplying sectors is split up as follows:

Indirect employment



²¹⁶ Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

²¹⁷ The effect on agriculture is estimated using data from neighbouring Slovenia (because Eurostat data is lacking). With an average turnover per agricultural worker of 10,244 and a stimulus of 10 million euros because of purchases made by the brewing sector, there is a primary effect of around 950 agricultural workers.

30.5 Retail and hospitality sector

Hospitality sector

The economic impact of the breweries on the hospitality sector depends on the share of on-trade consumption in total consumption, the average consumer price of beer and average turnover per employee in the hospitality sector:

- The share of on-trade beer consumption within total beer consumption is estimated to be 50 percent.
- With a total beer consumption of 3.6 million hl, on-trade beer consumption is 1.8 million hl.
- At an average consumer price of 3.50 euros per litre, this results in total consumer spending on beer amounting to 630 million euros (including VAT) or 520 million euros ex VAT (using a 22 percent VAT tariff).
- With an average turnover per employee of 29,000 euros (using Eurostat data from Slovenia²¹⁸), this results in almost 17,840 jobs in the hospitality sector.

Retail

Using the same approach also provides an estimate for the employment in retail because of beer sales:

- Assuming that 50 percent of the beer consumed in Croatia is sold by retail, this means that around 1.8 million hl is retail.
- With an average consumer price of 0.87 euros per litre in supermarkets, this leads to consumer spending of 158 million euros (including VAT) and 130 million euros (ex VAT).
- With an average turnover per employee of 147,500 euros (ex VAT) annually in wholesale and retail (using data covering Slovenia because Eurostat data on Croatia is lacking), this results in some 875 jobs in retail attributable to beer sales.

²¹⁸ Eurostat does not provide data on Croatia.

31 ROMANIA: ECONOMIC IMPACT OF BEER

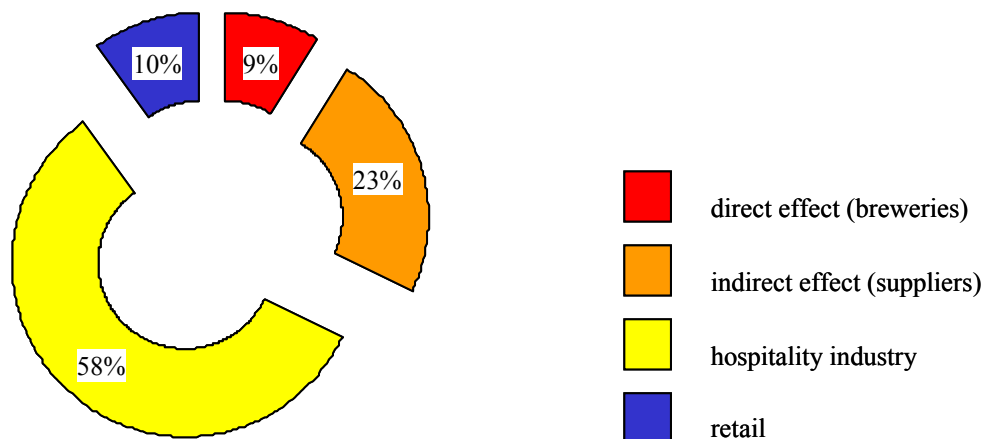
31.1 Highlights of the economic impact

The most important characteristics of the Romanian beer market are:

- Fast-growing market with average growth rates around 10% annually.
- Price competition between brewers and a preference for low-cost beers among certain consumer groups.
- Romanian breweries employ around 8,500 personnel (FTE).
- Because of goods and services bought in supplying sectors, additional indirect employment of around 20,950 employees is generated.
- In the Romanian on-trade some 51,031 employees can be attributed to the sale of beer. In off-trade some 9,440 personnel owe their jobs to beer sales.
- Total impact of the brewing sector in terms of employment can thus be estimated as high as 89,900 employees.
- Tax revenues for the Romanian government from the beer sector are approximately 7.25 million euros in excise, 145 million euros in VAT and 26 million euros in direct personal taxes paid by workers. Total tax revenues amount to some 178.25 million euros.

The total employment impact of the brewing sector is depicted below:

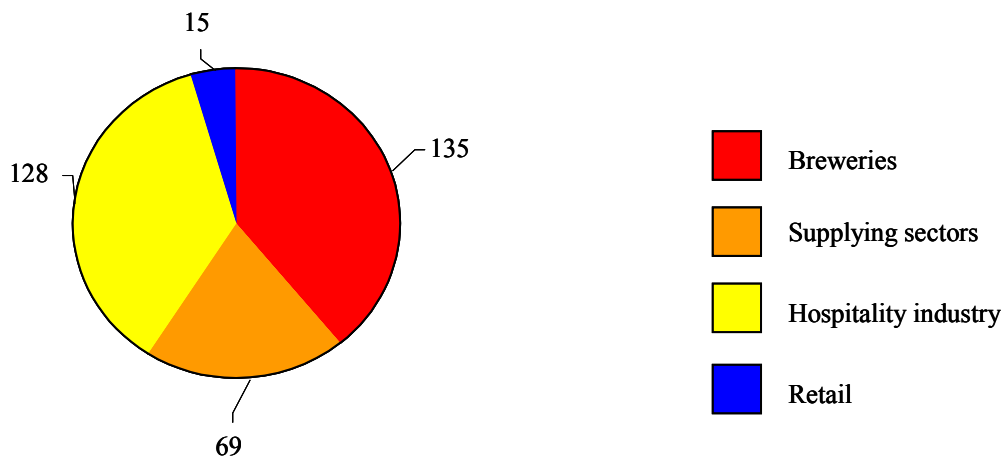
Total employment due to production and sale of beer: 89,900 jobs



In Romania the productivity in terms of value added per employee is relatively high in the brewing sector. This high productivity reflects the fact that in recent years the brewing sector has invested heavily in modernising breweries, also because of international companies entering the Romanian brewing sector. This is the main explanation for the fact that the brewing

sector accounts for only a small fraction of the total number of jobs attributable to the production and sale of beer, but is generating around 38 percent of total value added due to the production and sale of beer. The total contribution of the brewing sector to the Romanian economy (directly and indirectly), is estimated at around 350 million euros:

Value added due to production and sale of beer: 350 million euros



31.2 The brewing sector: market structure, trends and developments

The volume of the Romanian beer market was estimated at 14.5 million hectolitres in 2004.²¹⁹ This is a growth of 9.5% over 2003. Consumption per capita is around 61 litres. The market is fast-growing and stiff competition between breweries led to increasingly aggressive sales and marketing strategies. Less popular brands have thus disappeared in recent years and a relatively strong core sector of brands survived. Statistics on imports and exports could not be found. Nevertheless, it is known that foreign breweries import their beer brands brewed abroad. There were 29 breweries in Romania in 2004²²⁰. Among them are several small breweries operating regionally.

| Key variables | Millions hectolitres | Illustration |
|--------------------|----------------------|---|
| • Production | 14.5 | 29 breweries |
| • Exports | n.a. | |
| • Imports | n.a. | |
| • Consumption | 14.5 | |
| • Draught | n.a. | |
| • Home consumption | 55% | Around 28% of the beer sold is packed in PET-bottles. |

Most big multinational breweries have subsidiaries in Romania: Heineken with the Brau-Union brewery, Compania de Bere Romania is a SABMiller company, Interbrew Romania is related to Inbev and there is the Carlsberg brewery. Local breweries such as Bere Mure and Micula Brothers' group also operate in the market.²²¹

The economic impact of the brewing sector is influenced by the following trends, developments and characteristics of the Romanian economy:

| Brewing sector internal characteristics | Context in which the brewing sector operates |
|---|---|
| <ul style="list-style-type: none"> • Growing market (average 10-15% a year). • Increasing popularity of cheaper beers, including those packed in PET-bottles (accounting for 28% of total consumption)²²². • New market entries and competition on price. | <ul style="list-style-type: none"> • Reduction of excise for small brewers (capacity <200,000 hl.) from 0.50 to 0.38 euros per hectolitres. |

²¹⁹ Source: Efes Annual Report, using Canadian Global Beer Trends 2004. Confirmed by Institutul National de Statistica (INSSE; data 2004 is provisional).

²²⁰ Source: INSSE.

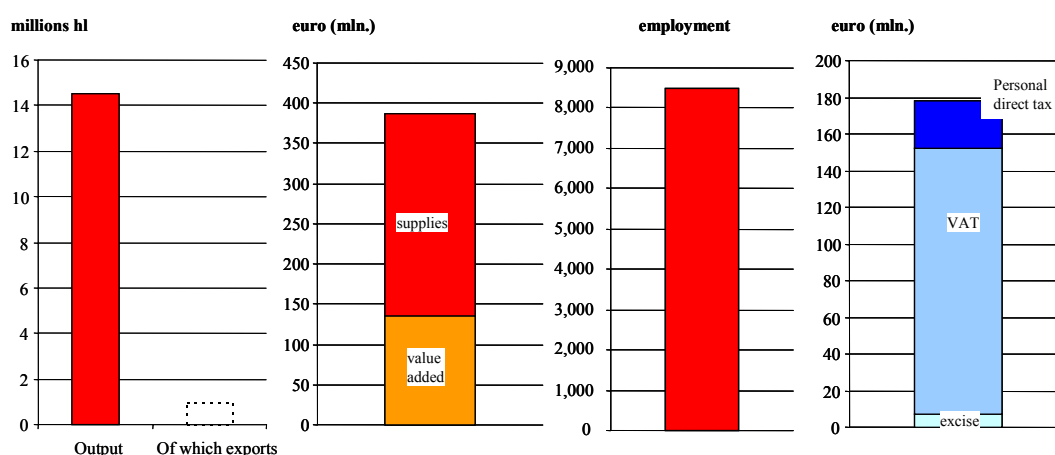
²²¹ Source: CEE-foodindustry.com

²²² Source: Romania – Economic Newsletter, Royal Netherlands Embassy in Bucharest, September 2004.

31.3 The direct effect of the brewing sector

The brewing companies had some 8,500 direct job positions in 2004.²²³ The indirect impact of the Romanian brewing sector on employment is based on survey research and national statistical data estimated at 20,948 job positions.

Together the breweries realise a turnover of 388 million euros, of which approximately 252 million is spent on supplying sectors. This means that the Romanian breweries together realise 135 million euros value added:



Note: Figures on exports were not available.

31.4 The economic impact of breweries on suppliers of goods and services

Given that around 35 percent of the total production value of Romanian breweries is spent on suppliers, breweries have an important economic impact on supplying sectors.

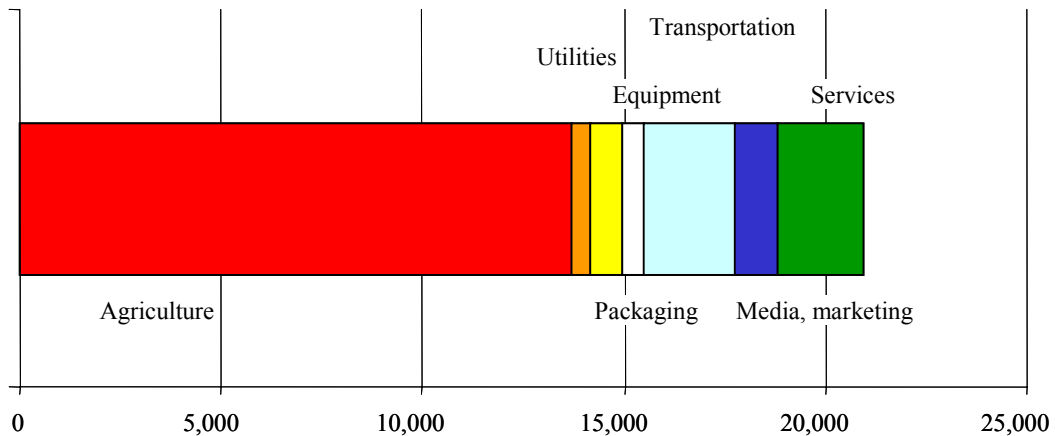
The largest proportion of supplies is purchased from the services sector, with further significant spending on agricultural products, media and marketing, transport and packaging.

²²³ Source: Eurostat.

| Sectors | Stimu- lus ²²⁴ | Stimulus for the Romanian economy | | Personnel costs ²²⁵ | | Labour costs per employee | Number of em- ployees |
|--|------------------------------|---|----------|--------------------------------|----------|---------------------------------|-----------------------------|
| | (mln. €) | % | (mln. €) | % of stimu- lus | (mln. €) | (in €) | |
| • Agriculture ²²⁶ | 47 | 75% | 35 | | | | 8,918 |
| • Utilities | 11 | 95% | 11 | 10% | 1 | 4,068 | 266 |
| • Packaging industry | 40 | 60% | 24 | 16% | 4 | 7,188 | 533 |
| • Equipment +other | 37 | 45% | 17 | 16% | 3 | 7,188 | 372 |
| • Transport | 26 | 100% | 26 | 21% | 5 | 3,708 | 1,446 |
| • Media, marketing | 30 | 85% | 26 | 20% | 5 | 7,476 | 690 |
| • Services + other | 61 | 85% | 52 | 20% | 10 | 7,476 | 1,391 |
| Total | 253 | | | | | | 13,616 |
| Primary impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 20,948 |

The indirect employment impact is depicted below:

Indirect employment



²²⁴ Percentages based on statistical data analysis and country comparison.

²²⁵ Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

²²⁶ For the impact of the brewing sector on agriculture, we have used the industry ratio of total turnover to total employment in FTE (i.e. 10.6 billion euros with 2.68 million FTE) to go from the stimulus in agriculture because of 'beer' (i.e. 35 million euros) to resulting employment (8,918 FTE after one round).

31.5 Retail and hospitality sectors

In Romania 45 percent of beer is sold through the hospitality sector. The other 55 percent of sales occur in the retail market.

Hospitality sector

Employment arising from the sale of beer in the hospitality sector is estimated as follows:

- Around 45 percent of beer consumption in Romania occurs in the hospitality sector.
- This means 6.5 million hl are sold by Romanian pubs, restaurants and the like.
- The estimated consumer price is about 0.88 euros per litre²²⁷, so that consumers are estimated to spend 574 million euros on beer in pubs and restaurants.
- Turnover per employee in the Romanian hospitality sector is 9,700 euros a year.²²⁸
- Total employment in the Romanian hospitality sector from beer sold thus equals 51,031 employees.

Retail

Employment in retail arising from beer sales can be similarly assessed:

- About 55 percent of the total beer consumption in Romania is beer sold by supermarkets and other retail companies.
- With an average consumer price of 0.60 euros (incl. VAT) per litre²²⁹, total consumer spending on retail beer is estimated at 478.5 million euros.
- Because the annual turnover per employee is estimated at 43,700 euros, this means 9,439 people owe their jobs to retail beer sales.

²²⁷ Estimated beer price by EY, as real prices fluctuate and beer in different price ranges is available.

²²⁸ Source: Eurostat, Turnover per persons employed in services (2001).

²²⁹ Estimated beer price by EY, as real prices fluctuate and beer in different price ranges is available.

32 TURKEY: ECONOMIC IMPACT OF BEER

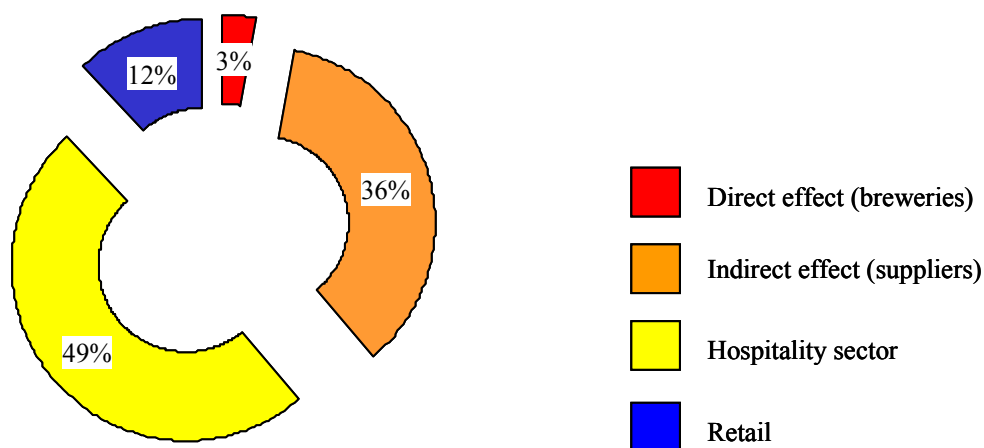
32.1 Highlights of the economic impact

The economic impact of the brewing sector can be expressed as follows:

- A very strong market position for one brewing company of Turkish origin with an 80% market share.
- Turkish breweries employ 2,850 people directly.
- Because of goods and services bought in the supplying sectors, additional indirect employment is generated of around 36,700 employees.
- In the Turkish hospitality sector some 48,200 employees can be attributed to the sale of beer and in the retail sector some 12,600 employees.
- The total impact of the brewing sector in terms of direct and indirect employment can be estimated as high as 100,500 employees.
- Turkish government tax revenues from the beer sector are approximately 600 million euros in excise, 275 million euros in VAT and 125 million euros in direct personal taxes paid by workers. The total tax revenues amount to approximately 1 billion euros.

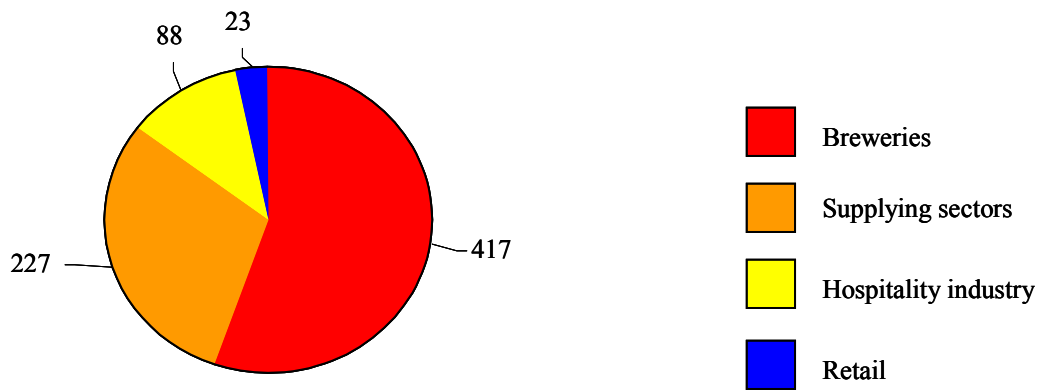
The economic impact of the brewing sector in terms of employment is depicted below:

Total employment due to production and sale of beer: 100,500 jobs



The total contribution of the brewing sector to the Turkish economy in terms of value added is estimated at some 755 million euros. The very high productivity per employee in the brewing sector in comparison to other sectors is the reason that the brewing sector itself contributes more than 50 percent to total value added generated due to production and sale of beer:

Value added due to production and sale of beer: 755 million euros



32.2 The brewing sector: market structure, trends and developments

The production of beer in 2004 in Turkey was approximately 8.8 million hectolitres.²³⁰ The consumption per capita is around 11.3 litres per year, which totals about 8.2 million hectolitres.²³¹ Compared with other European countries consumption per capita is relatively low. Nevertheless, the Turkish beer market has grown at an accumulated rate of 15% over the past five years. International brands have displayed higher growth rates.

The export of Turkish-originated beer is relatively low as only 0.625 mhl were exported in 2004 (of which 0.380 million hectolitres by the market leader, the rest by the runner up in the Turkish beer market with some 0.245 million hectolitres exported).²³²

| Key variables | Millions hectolitres | Illustration |
|--------------------|----------------------|---|
| • Production | 8.8 | 11 brewing facilities (7 breweries) |
| • Exports | 0.625 | Turkey is a minor beer exporter. Nevertheless, Turkish brewers have production facilities outside Turkey for local sales. |
| • Imports | 0.024 | |
| • Consumption | 8.2 | |
| • Draught | n.a. | |
| • Home consumption | 68% | 32% of the total beer sales in Turkey are via the hospitality sector. |

Sources: Turkish Brewers' Association, Turkey's Statistical Yearbook, press releases and calculations made by Ernst & Young.

A characteristic of the market is the strong position of one brewing company with a market share of approximately 80 percent, followed by another company with a 19 percent market share²³³. There are 11 production units for beer operating in Turkey. The total Turkish production capacity is 1,240,000 metric tons.²³⁴ Turkey has a total malting capacity of 131,000 tons with three malteries and one hops processing facility.

The economic impact of the brewing sector is influenced by the following trends, developments and characteristics of the Turkish economy:

²³⁰ Source: Turkish Brewers' Association: Beer and Malt Report prepared by Ad Hoc Committee of State Planning Organisation to be published in Jan. 2006.

²³¹ Turkey Statistical Yearbook 2004, population in 2000 was 67,803,927.

²³² Source: Anadolu Efes annual report 2004 and Türk Tuborg sources.

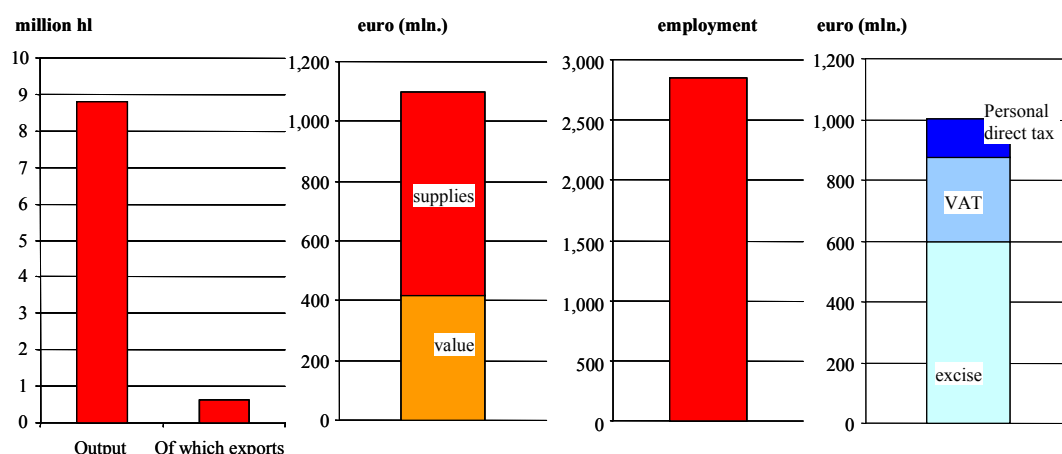
²³³ Source: press release Fosters / Efes Beverage Group, 4th of January 2005 and Türk Tuborg sources.

²³⁴ Beer and Malt Report by State Planning Organisation

| Brewing sector internal characteristics | Context in which the brewing sector operates |
|--|--|
| <ul style="list-style-type: none"> • The market has been growing fast over the past five years. • Turkish beer market is dominated by Efes Pilsner with a market share of almost 80%. • The local brands have strong market positions. • Consumption per capita of 11 litres/year is rather low by European standards. | <ul style="list-style-type: none"> • Increasing tourism is one of the accelerators of the Turkish beer market, especially for foreign brands. • Excise is rather high at 73.40 euros per hectolitre. In total Turkish breweries pay approximately 600 million euros in excise tax to the government. |

32.3 The direct effect of the brewing sector

The brewing companies provided employment to 2,850 people in 2004.²³⁵ The breweries together realise a turnover of 1.1 billion euros, of which approximately 683 million euros is spent on the supplying sectors. This means the Turkish breweries together realise 417 million euros value added:



The tax revenues are also important, with total excise revenues on beer of 600 million euros. With beer sold in pubs and cafes, VAT revenues are generated amounting to about 139 million euros. Beer sales in supermarkets and other off-trade outlets generate another 136 million euros in VAT revenues. It can also be estimated that employees working for the Turkish breweries together pay some 4 million euros in personal and direct tax and that workers in supplying sectors, in the hospitality sector and in retail who hold a job that can be attributed to the sale of beer, pay another 123 million euros in personal direct tax. Total tax revenues are therefore estimated at 1 billion euros.

²³⁵ Source: Turkish Brewers' Association.

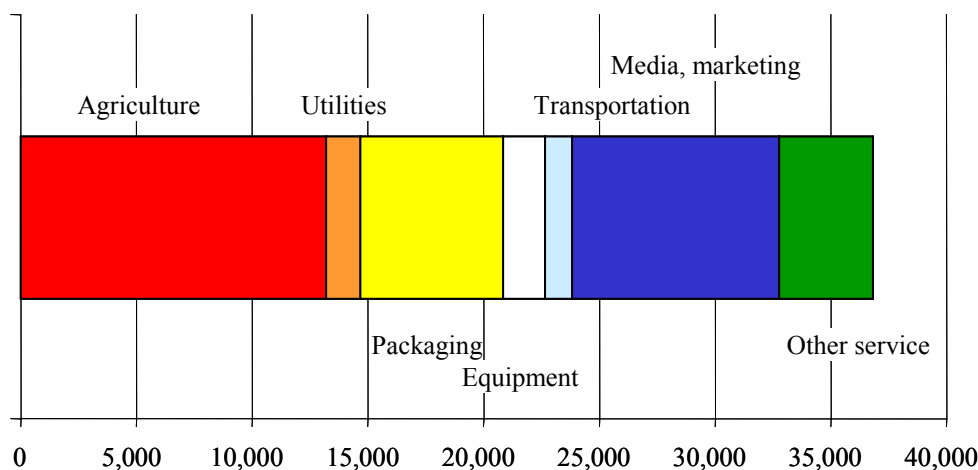
32.4 The economic impact of breweries on suppliers of goods and services

Because 62 percent of the total production value of Turkish breweries is spent on suppliers, breweries have an important economic impact on supplying sectors:

| Sectors | Stimu- lus ²³⁶ | Stimulus for the Turkish economy | | Personnel costs ²³⁷ | | Labour costs per employee | Number of em- ployees |
|--|------------------------------|--|----------|--------------------------------|----------|---------------------------------|-----------------------------|
| | (mln. €) | % | (mln. €) | % of stimu- lus | (mln. €) | (in €) | |
| • Agriculture ²³⁸ | 107 | 80% | 86 | | | | 8,580 |
| • Utilities | 56 | 100% | 56 | 11% | 6 | 6,600 | 910 |
| • Packaging industry | 176 | 75% | 132 | 22% | 29 | 7,200 | 4,025 |
| • Equipment +other | 78 | 50% | 39 | 22% | 9 | 7,200 | 1,250 |
| • Transport | 20 | 100% | 20 | 25% | 5 | 6,600 | 760 |
| • Media, marketing | 171 | 95% | 162 | 28% | 45 | 7,800 | 5,770 |
| • Services + other | 75 | 95% | 71 | 28% | 20 | 7,800 | 2,560 |
| Total | 683 | | | | | | 23,855 |
| Primary impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 36,700 |

Indirect employment impact is depicted below:

Indirect employment



²³⁶ Percentages based on data obtained from Turkish breweries and Turkish Brewers' Association.

²³⁷ Personnel costs as a percentage of total output and labour costs per employee are obtained from Eurostat.

²³⁸ For the impact of the brewing sector on agriculture, we have used the stimulus on the Turkish agriculture sector because of 'beer' (i.e. 86 million euros) and the estimated turnover per work unit per year (i.e. 10,000 euros).²³⁸ This results in an employment of 8,580 FTE after one round.

32.5 Retail and hospitality sectors

In Turkey 32 percent of beer sales occur through the hospitality sector. Another 68% finds its way to the consumer through the retail channel. The employment in retail that can be attributed to the brewing sector is estimated at some 12,600 jobs:

- About 68 percent of the total beer consumption in Turkey is beer sold by supermarkets and other retail companies.
- With an average consumer price of 1.60 euros (incl. VAT) per litre²³⁹, total consumer spending on retail beer is estimated at 756 million euros (excl. VAT).
- Because the annual turnover per employee is estimated at 60,000 euros, this means that 12,600 people owe their jobs to the sale of retail beer.

Employment due to the sale of beer in the hospitality sector can be similarly assessed:

- Around 32 percent of beer consumption in Turkey occurs in the hospitality sector.
- This means 2.6 million hl are sold by Turkish pubs, restaurants and the like.
- The consumer price of beer is about 3.50 euros (incl. VAT) per litre²⁴⁰, so that consumers are estimated to spend around 770 million euros (excluding VAT) on beer in pubs and restaurants.
- Turnover per employee in the Turkish hospitality sector is 16,000 euros a year.²⁴¹
- Total employment in the Turkish hospitality sector because of beer sold is thus 48,200 employees.

²³⁹ Estimated beer price by EY, as real prices fluctuate and beer in different price ranges is available.

²⁴⁰ Estimated beer price by EY, as real prices fluctuate and beer in different price ranges is available.

²⁴¹ Estimate made by Ernst & Young, extrapolating data from neighbouring countries.

33 NORWAY: ECONOMIC IMPACT OF BEER²⁴²

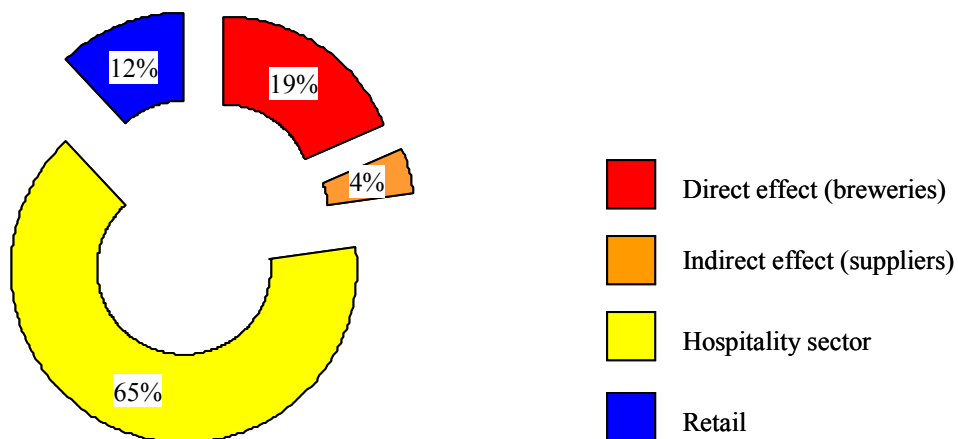
33.1 Highlights of economic impact

The economic impact of the brewing sector can be expressed as follows:

- In 2004 the five Norwegian breweries produced 2,230 thousand hectolitres of beer.
- Large and growing price differences stimulate private imports and smuggling.
- The breweries employ some 3,000 personnel.
- An open economy and trading climate result in relatively small indirect effects on raw materials suppliers. Indirect employment at suppliers thus amounts to a mere 680 full-time jobs.
- Employment in the hospitality sector and the retail sector total roughly 12,100 full-time jobs.
- Norway has Europe's highest excise on beer. Excise revenues from beer amounted to 449 million euros, where additional VAT revenues from beer sales are estimated at some 300 million euros. Total tax revenues (including corporate and environmental taxes) are around € 910 million.

The employment effects of the brewing sector are depicted below:

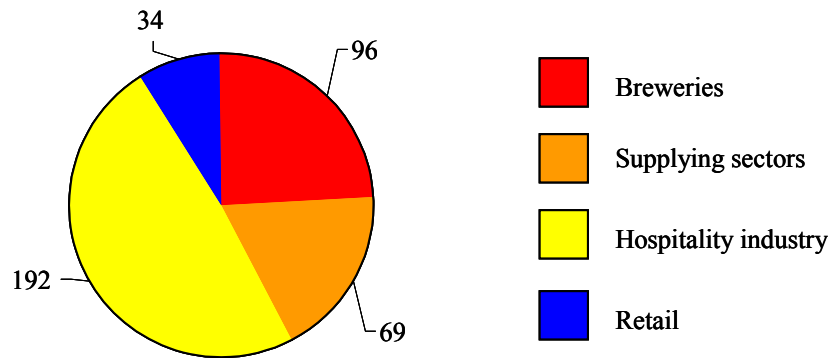
Total employment due to production and sale of beer: 15,800 jobs



The contribution of the brewing sector to the Norwegian economy can also be expressed in terms of value added. Total Norwegian brewing sector value added and value added generated by firms in the supply, hospitality and retail sectors arising from the production and sale of beer amounts to around 392 million euros:

²⁴² Currencies have been converted using a conversion rate of € 1 = 8.372 Norwegian kroner

Value added due to production and sale of beer: 392 million euro



The share of the brewing sector in overall value added arising from the production and sale of beer is estimated at almost 25 percent. The share of the hospitality sector in total value added due to production and sale of beer is estimated at 49 percent, which is considerably lower than the share of this sector in the total employment impact of beer. An explanation for this is that value added per employee in the hospitality sector is relatively low to the brewing sector and to most of the sectors that supply goods and services to the brewing sector.

33.2 The brewing sector: market structure, trends and developments

Norwegian breweries produced 2.2 million hectolitres of beer in 2004. Norwegians consumed 2.5 million hectolitres of beer. Three-quarters of this volume was bought in shops; one-quarter was bought in bars and other public places. The officially recorded consumption of 54 litres per capita is very low. This is explained by a substantial unregistered border trade: the privately imported beer (mainly from Sweden, Denmark and Finland) is not included in the official statistics. This private border trade was estimated at 300,000 hectolitres in 2004.

| Key variables | Million hectolitres | Illustration |
|--------------------------|---------------------|--|
| • Production | 2.2 | |
| • Exports | 0.03 | |
| • Imports | 0.2 | |
| • Registered consumption | 2.5 | This is a 9.7% increase over 2003. The most important explanation is the price war in the retail channel which convinced many to buy cheap beer at home instead of privately importing beer from Sweden, Denmark or Finland. |
| • Border trade | 0.3 | Estimate |
| • Total consumption | 2.8 | |
| • Home consumption | 75% | |

There are at the moment some 25 breweries in Norway. The brewing company with the largest market share (some 58 percent) is part of one of the major international brewing companies. This company is running four breweries in Norway. The number two in the Norwegian beer market exploits three breweries (including one microbrewery) and has also foreign brewing companies as stakeholders. Further there are four smaller breweries and about 15 brew-pubs and microbreweries.

33.3 Direct effect of the brewing sector

The number of jobs offered by Norwegian breweries is estimated at some 3,000. Together the Norwegian breweries create a total amount of value added worth 80 million euros²⁴³. Total consumers' spending on beer in retail is estimated at some € 715 million and on-trade in pubs and the like at some € 630 million (see also paragraph on retail and hospitality sectors). According to data provided by the Association of Norwegian Brewers and Soft Drink Producers (BROM), around 20 percent of the beer price to consumers in retail is earned by brewing companies and around 12 percent of the beer price to consumers in pubs and

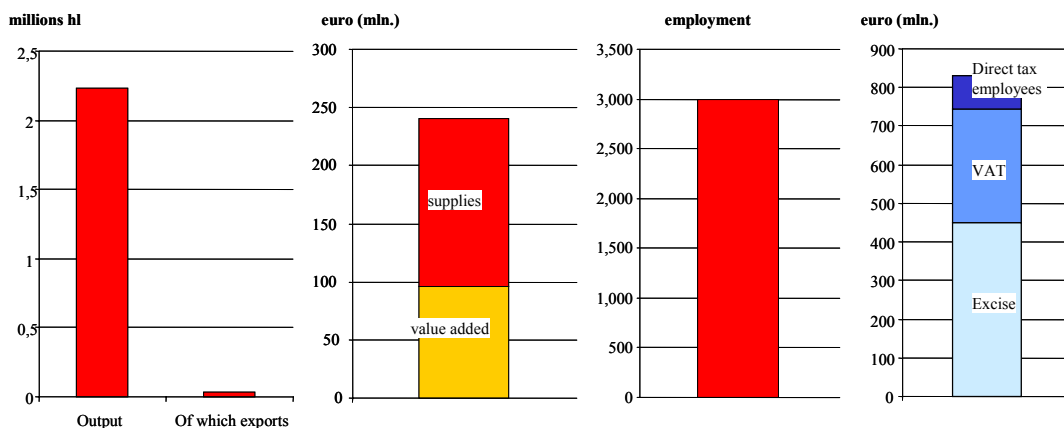
²⁴³ Estimate based on data from Eurostat and other publicly available statistics.

restaurants. This means that turnover of the Norwegian brewing companies due to the sale of beer in Norway is estimated at some € 220 million.

Other economic effects from the brewing sector include tax revenues. According to the Bryggeri- og mineralvannforeningen (BROM), the beer and soft drinks industry supplies the government with 7.6 billion Norwegian kroner (€ 908 million) on annual revenues from excises and taxes.

Norwegian alcohol excise duty tariffs are the highest in Europe. Excise duties on a hectolitre of beer are 1.618 kroner (€ 193.26). This means that the excise duty on a standard 0.33 cl. bottle of beer is 5.40 kroner (€ 0.64). This is more than twice the rate in Sweden, and five times the Danish tariff. In 2004 total alcohol excise revenues from beer amounted to 3,759 million kroner (€ 449 million). Beer excise was amongst the ten largest sources of tax revenues²⁴⁴. The large differences induce a substantial cross-border trade and black market.

In the first seven months of 2005 Norwegian customs authorities seized 160,000 litres of smuggled beer, which is probably just a small fraction of the total smuggled amount. According to official estimates, Norwegians' private imports amount to 300,000 hectolitres annually²⁴⁵. This amount is likely to continue rising as neighbouring EU members Finland and Sweden have announced tax reductions on beer, while Norway retains its high excise levels.



We estimate the total VAT revenues from beer at around € 300 million each year. Together with excise revenues and direct taxes paid by employees whose jobs can be attributed to the production and sale of beer these taxes sum up to some 830 million euros.

²⁴⁴ Source: Tollvesenet, *Annual report 2004*.

²⁴⁵ Source: Bryggeriforeningen and the National Institute for Consumer Research (SIFO).

33.4 Economic impact of breweries on suppliers of goods and services

The total turnover of the Norwegian brewing sector is estimated at € 220 million (including only the brewing activities). Though no specific details are available we may assume that roughly 60 to 65 percent (estimate) of this turnover is spent on raw materials and other goods and services. The majority of this amount is spent on agricultural raw materials. All brewing malt is imported²⁴⁶, for example from Sweden and Denmark.

| Sectors | Stimu- lus | Stimulus for the Norwegian economy | | Personnel costs ²⁴⁷ | | Labour costs per employee | Number of em- ployees |
|--|---------------|--|----------|--------------------------------|----------|---------------------------------|-----------------------------|
| | (mln. €) | % | (mln. €) | % of stimu- lus | (mln. €) | (in €) | |
| • Agriculture | 29 | 0% | 0 | | | | 0 |
| • Utilities | 6 | 100% | 6 | 15% | 1 | 54,000 | 15 |
| • Packaging industry | 24 | 40% | 10 | 20% | 2 | 45,000 | 40 |
| • Equipment | 11 | 50% | 5 | 20% | 1 | 45,000 | 25 |
| • Transport | 22 | 100% | 22 | 18% | 4 | 47,550 | 85 |
| • Media, marketing | 33 | 100% | 33 | 32% | 11 | 62,000 | 170 |
| • Services | 20 | 100% | 20 | 32% | 6 | 62,000 | 105 |
| Total | 144 | | | | | | 440 |
| Primary impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 680 |

Source: Own calculations on the basis of National Statistics and Eurostat

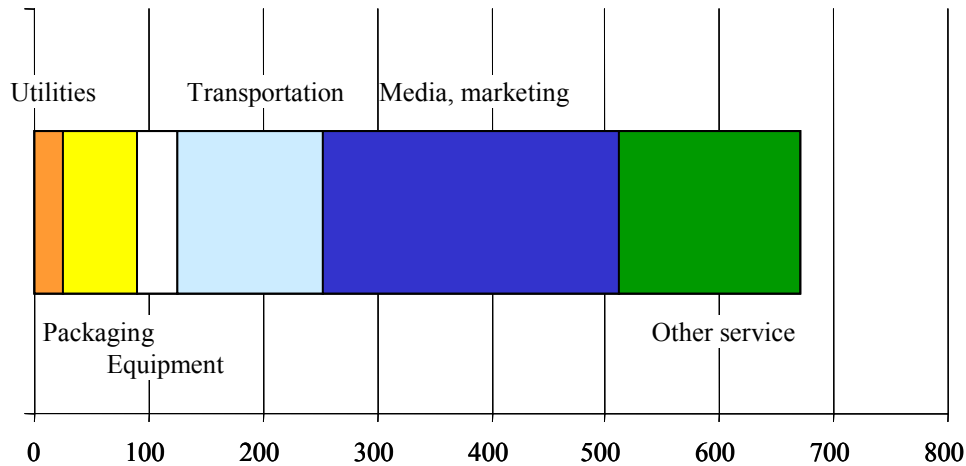
After the primary or first round, we estimate that the Norwegian brewing sector induces 440 indirect jobs. This is relatively low because of the extensive imports of raw materials. Total indirect employment effects are estimated at 680 jobs.

Indirect employment effects are illustrated below:

²⁴⁶ Source: Association of Norwegian Brewers and Soft Drink Producers (BROM).

²⁴⁷ Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

Indirect employment



33.5 Retail and hospitality sectors

Low-alcohol beer (< 4.75 percent alcohol) is sold through supermarkets and other shops. The state-owned Vinmonopolet has the exclusive monopoly on the retail distribution of beer with over 4.75 percent alcohol. Some 75 percent of the registered consumption is bought in Norwegian shops, whereas 25% is consumed in bars and other public places. This implies that 1,868 thousand hectolitres are sold through Norwegian shops (off-trade), and 623 thousand hectolitres are consumed in the hospitality sector (on-trade).

From national statistics we know that each Norwegian household spends 2,112 kroner on beer in the retail channel each year. Norway has 3.279 million households²⁴⁸. From this we can deduce that each year, Norwegians spend some 6.925 billion kroner (€ 827 million) on beer through the retail channel. Approximately 4.5 percent of this amount (€ 37 million) is the margin for trade and distribution.

Hospitality sector

The approach to estimate employment in the hospitality sector attributable to beer, takes the beer turnover of pubs and restaurants as a starting point:

- Around 25 percent of beer consumption in Norway takes place in the hospitality sector.
- This means that 623 thousand hl are sold by pubs, restaurants and the like.

²⁴⁸ Source: Statistics Norway, Survey of Consumer Expenditure.

- The consumer price of beer is about 9.56 euros per litre (excl. VAT, source: BROM)²⁴⁹, so that consumers are estimated to spend 596 million euros (excl. VAT) on beer in pubs and restaurants.
- Turnover per employee in the Norwegian hospitality sector is 58,000 euros a year.
- Total employment in the hospitality sector arising from the sale of beer thus equals 10,250 jobs.

Retail

The importance of the brewing sector for retail can be similarly assessed:

- About 75 percent of total beer consumption is beer sold by supermarkets and other retail companies. This represents 1.9 million hectolitres.
- With an average consumer price of 3.40 euros per litre (excluding VAT), total consumer spending on retail beer is estimated at 630 million euros.
- Because turnover per employee is estimated at 342,500 euros, this means 1,850 people owe their jobs to the retail beer brewing sector.

²⁴⁹ The prices in this paragraph are estimates of the average prices in the on-trade and off-trade channels at the beginning of 2004. Retail prices declined in 2004 due to a tough price war. We present average prices, but in reality prices vary considerably, depending on many different factors including the size of the container or glass, the type of establishment and the location.

34 SWITZERLAND: ECONOMIC IMPACT OF BEER²⁵⁰

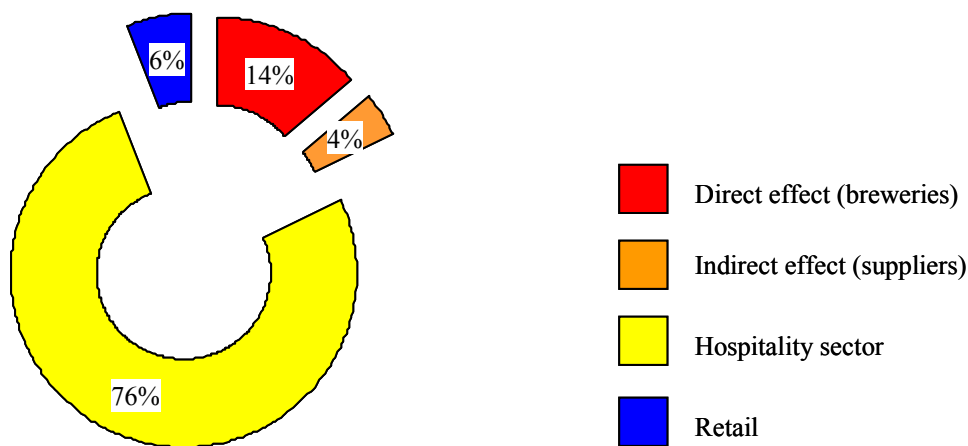
34.1 Highlights of the economic impact

The economic impact of the brewing sector can be expressed as follows:

- Swiss breweries produce some 3.56 million hectolitres of beer annually.
- The breweries employ over 3,000 personnel.
- Suppliers employ only 820 staff, as a large quantity of supplies is imported.
- The employment effect of the Swiss beer sector is largest in the hospitality sector. 75percent of the beer-related jobs are created here. This equals 17,000 full-time jobs.
- Total government revenues from beer (excise and VAT) are 200 million euros.

The employment effects of the brewing sector are depicted below:

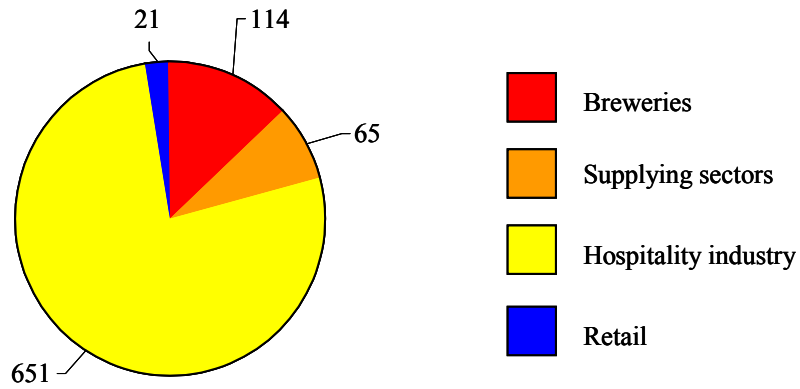
Total employment due to production and sale of beer: 22,000 jobs



The contribution of the brewing sector to the Swiss economy can also be expressed in terms of value added. Total value added of the brewing sector in Switzerland and value added generated by firms in the supply, hospitality and retail sectors arising from the production and sale of beer amounts to around 851 million euros:

²⁵⁰ When necessary, Swiss francs were converted into Euros using an exchange rate of € 1 = 1.544 Swiss francs

Value added due to production and sale of beer: 851 million euro



The share of the brewing sector in overall value added arising from the production and sale of beer is estimated at 13 percent. This almost equals the share of direct employment connected to breweries as a fraction of total employment arising from the production and sale of beer (14 percent).

34.2 The brewing sector: market structure, trends and developments

In 2004 the Swiss consumed 57.3 litres of beer per capita. This is around the EU average, but well below consumption in neighbouring France and Germany. Beer consumption has declined by more than 20 percent over the past 15 years, although pro capita consumption is fairly stable in recent years (around 57 to 59 litre of beer per capita²⁵¹). 83 percent of the total volume consumed was brewed domestically. Swiss beer exports are very small.

| Key variables | Million hectolitres | Illustration |
|--------------------|---------------------|---|
| • Production | 3.6 | Switzerland has some 24 breweries. Together Carlsberg (3 breweries) and Heineken (1 brewery) produce 60% of the total production. |
| • Exports | 0.02 | |
| • Imports | 0.7 | |
| • Consumption | 4.3 | The average Swiss consumed 57.3 litres of beer in 2004. |
| • Home consumption | 60% | Some 11% of beer consumption concerns cans, some 55% bottles and the rest is draught beer ²⁵² . |

The Swiss brewing sector is somewhat concentrated. The market leader has a share of 42 percent; the second largest has 17 percent. Then there are 20 independent breweries, most of them fairly small (< 50,000hl/year), servicing 24 percent of the market. There are also ± 80 micro breweries and ± 20 brewing pubs with a combined market share of some 1 percent²⁵³.

Factors influencing the impact of the brewing sector on the economy are:

| Brewing sector internal characteristics | Context in which the brewing sector operates |
|--|--|
| • Concentration: 2 players dominate the market | <ul style="list-style-type: none"> • Regional variation in tastes: German speaking part is oriented towards lager; French speaking cantons prefer special beers • Beer is taxed, wine and fruit wine are not |

34.3 The direct effect of the brewing sector

According to the international statistics of The Brewers of Europe, the Swiss brewing sector employs some 3,000 people in brewing activities, of which about 1,700 are employed by the market leader alone (including jobs in other activities, such as the production of non-alcohol-

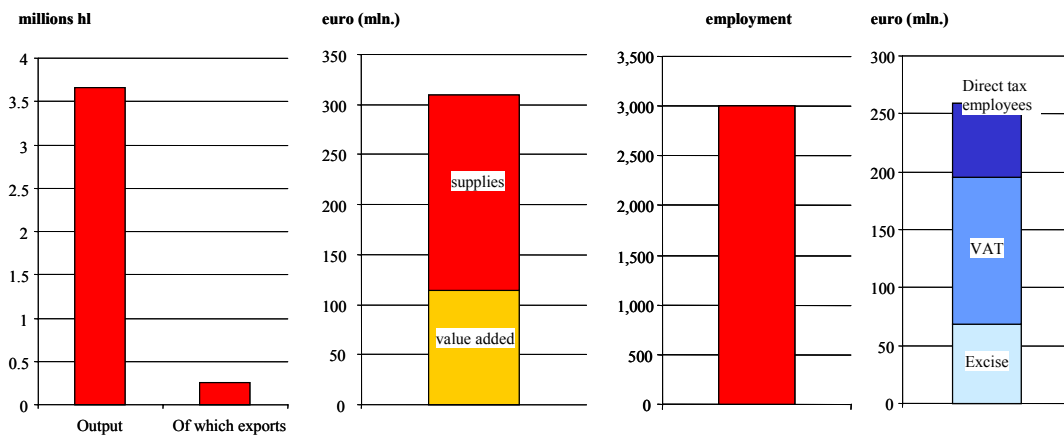
²⁵¹ Source: Schweizer Brauerei-Verband.

²⁵² Source: Schweizer Brauerei-Verband.

²⁵³ Source: The Brewers of Europe and Interessengemeinschaft unabhängiger Klein- und Mittelbrauereien

lic beverages). Together these employees realise 114 million euros of value added for the Swiss economy.

Another direct effect of the brewing sector on the national economy is tax revenues. Distilled alcohol taxation, at 29 Swiss francs (€ 18.78) per litre of pure alcohol is broadly in line with the EU average²⁵⁴. Wines are exempt from alcohol taxes. Beer has an excise tax of 24.75 Swiss francs per hectolitre (€ 16.03 per hectolitres). In 2004 beer tax revenues amounted to € 68 million²⁵⁵. The VAT revenues from beer sales amount to some 200 million francs (€ 127 million).



34.4 The economic impact of breweries on suppliers of goods and services

According to official statistics, there is no domestic production of brewing malt and only a small production of hops (8 hectares and an output of 48 metric tonnes in 2004²⁵⁶). Swiss brewers import all the malt they use. 77 percent of the hops used in 2004 was imported. In the table below, we assume that no more than 5 percent of the total expenditure on agricultural products remains within Switzerland.

²⁵⁴ Source: www.eav.admin.ch.

²⁵⁵ Source: The Brewers of Europe.

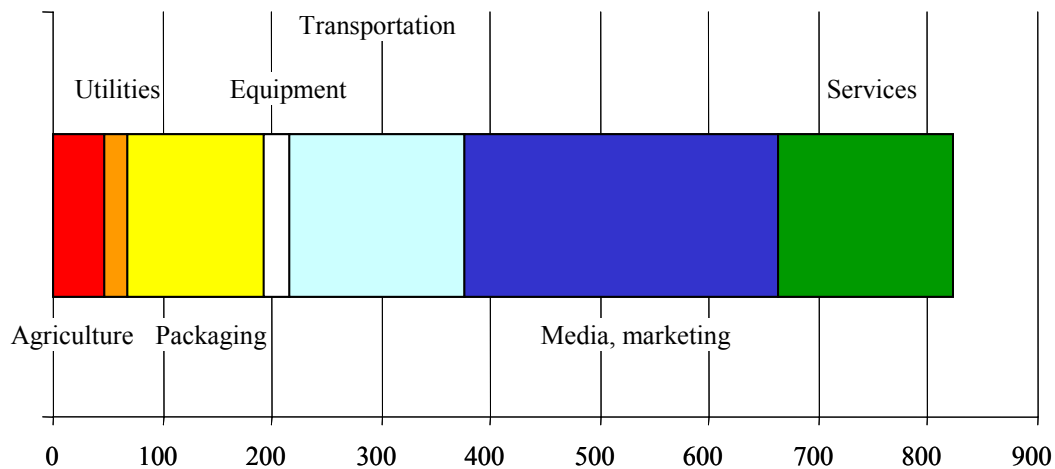
²⁵⁶ Source: The Barth Report 2004/2005

| Sectors | Stimu- lus | Stimulus for the Swiss economy | | Personnel costs ²⁵⁷ | | Labour costs per employee | Number of em- ployees |
|--|---------------|-----------------------------------|----------|--------------------------------|----------|---------------------------------|-----------------------------|
| | (mln. €) | % | (mln. €) | % of stimu- lus | (mln. €) | (in €) | |
| • Agriculture | 25 | 5% | 1 | | | | 30 |
| • Utilities | 7 | 90 | 6 | 16 | 1 | 74,120 | 15 |
| • Packaging industry | 28 | 65 | 18 | 21 | 4 | 48,769 | 80 |
| • Equipment +other | 4 | 70 | 3 | 21 | 1 | 48,769 | 15 |
| • Transport | 23 | 80 | 19 | 25 | 15 | 45,002 | 105 |
| • Media, marketing | 67 | 75 | 51 | 25 | 13 | 68,282 | 185 |
| • Services + other | 19 | 75 | 29 | 25 | 7 | 68,282 | 105 |
| Total | 195 | | | | | | 530 |
| Primary impact as % of total impact | | | | | | | 65% |
| Total indirect effect of brewing sector | | | | | | | 820 |

Note: Figures are estimates

Indirect employment effects produce another 820 jobs. This is illustrated below:

Indirect employment



34.5 Retail and hospitality sectors

Beer consumption is strongly linked to on-trade sales in hotels, pubs and restaurants, which have been affected in recent years by the global economic downturn. 34.5% of the beer output is packed in casks, 32.0% is bottled in returnable bottles and 22.9% comes in one-way

²⁵⁷ Personnel costs as a percentage of total output of industries and labour costs per employee are obtained from Eurostat data.

bottles. 10.6% of the beer output is sold in cans²⁵⁸. It is estimated that 60% of the beer sold is consumed at home, and the remaining 40% is consumed in the on-trade channel (catering industry).

Hospitality sector

Estimating employment in the hospitality sector attributable to beer takes pub and restaurant beer turnover as a starting point:

- Around 40 percent of beer consumption in Switzerland occurs in the hospitality sector.
- This means 1.7 million hl are sold by pubs, restaurants and the like.
- We estimate the consumer price of beer in a bar at about 7 euros per litre (excl. VAT).²⁵⁹ Consumers thus spend 1.2 billion euros (excl. VAT) on beer in pubs and restaurants.
- The average turnover per employee in the Swiss hospitality sector is approximately 70,000 euros per year.
- Total employment in the Swiss hospitality sector arising from beer sales is thus 17,000 employees.

Retail

The importance of the brewing sector for retail is consequently calculated as follows:

- About 60 percent of total beer consumption (i.e. 2.6 million hectolitres) is sold through supermarkets and other retail companies.
- With an average consumer price of 1.86 euros per litre, total consumer expenditure on retail beer is estimated at 475 million euros.
- With turnover per employee estimated at 390,800 euros, this means 1,200 people owe their jobs to the sale of retail beer.

²⁵⁸ Source: Schweizer Brauerei-Verband.

²⁵⁹ The prices in this paragraph are estimates of the average prices in the on-trade and off-trade channels. In reality, prices vary considerably, depending on many different factors including the size of the container or glass, the type of establishment and the location.

ANNEX I: VALIDATION OF RESULTS - METHODOLOGY & DATA USED

To present the economic impact of the brewing sector, three different effects may be distinguished:

- Direct impact.
- Indirect impact.
- Induced impact.

The **direct impact** is defined straightforwardly as jobs, value added and tax revenues generated directly by the brewing sector.

The **indirect impact** represents the impact of breweries on their suppliers. For producing beer, breweries need to purchase a highly diverse range of goods and services. To mention just a selection: barley malt, hops and water and many types of packaging material such as glass and aluminium. Breweries also hire engineers, marketers, communications agencies and many more 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 results presented on the economic impact of the brewing sector derive mainly from four data sources:

- Data obtained from national associations representing the brewing sector.
- Data collected directly from breweries across Europe through a detailed questionnaire.
- Input-output tables representing national economies.
- Data available through sources such as Eurostat and other national and sectoral statistics.

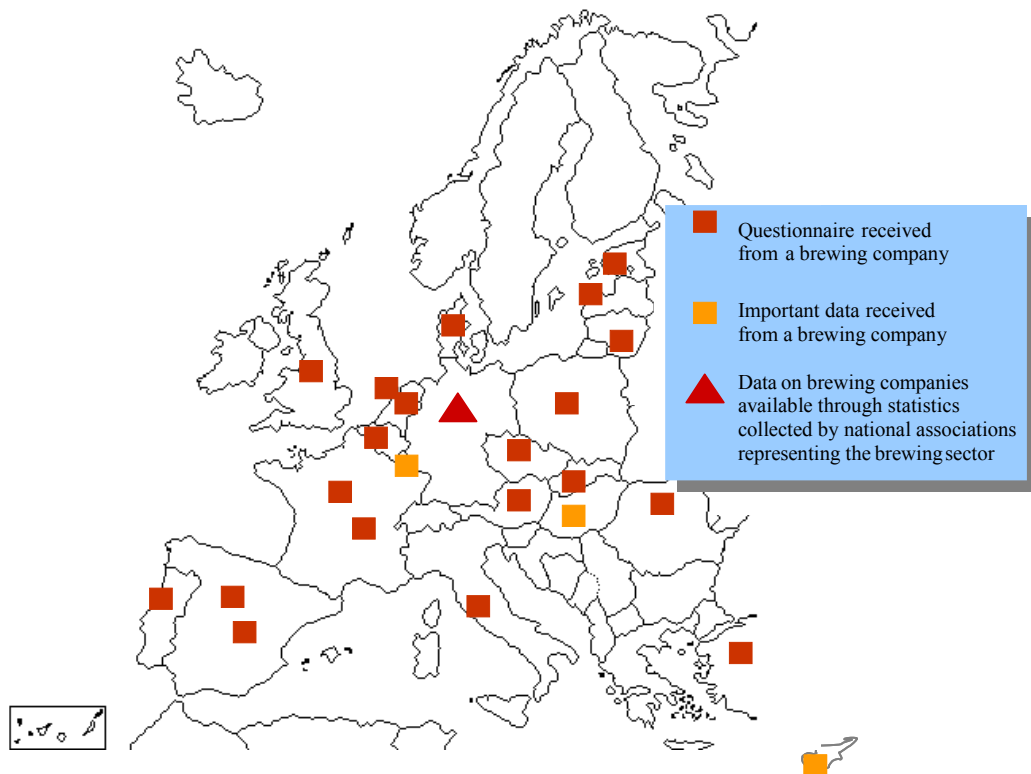
To strengthen the underlying database for this study, Ernst & Young has presented draft country reports on the economic impact of the brewing sector to all national associations representing the brewing sector. These validated reports provide necessary national checks on the European data series used.

Individual brewing companies have been another major source of valuable data. More than 20 brewing companies have completed a detailed questionnaire. Important elements of the questionnaire concerned were:

- Procurement and purchase management (amounts of money spent on a variety of goods and services needed to produce beer, and the proportion of purchases made domestically).

- Consumer prices on-trade and off-trade and a breakdown of consumer prices in distribution margins for the retail and hospitality sector, VAT and excise duties, value added for the brewing sector and goods and services purchased by the brewing sector.

Returned questionnaires provided good coverage of all European regions.



The final source of data concerns Eurostat statistics and other national and European data series. Eurostat statistics have provided useful data on labour costs, turnover and value added per employee and personal direct taxes paid by employees, generally covering all or most of the countries considered.

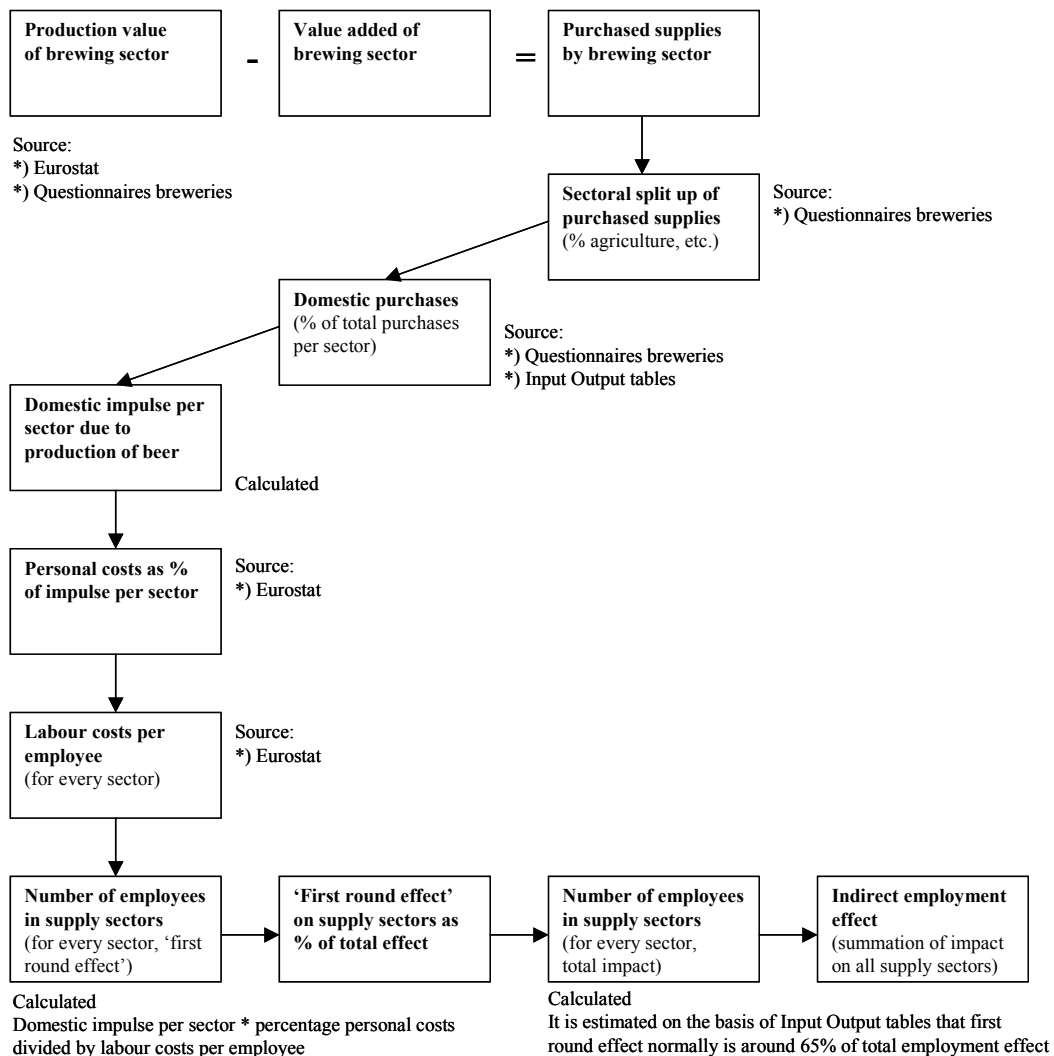
As a check on estimates made on the brewing sector's indirect impact, Ernst & Young has also used input-output tables representing the impact of the food and beverage sector on other sectors within a national economy. Input-output tables were available for 15 countries.

ANNEX II: HOW MOST IMPORTANT VARIABLES ARE ESTIMATED

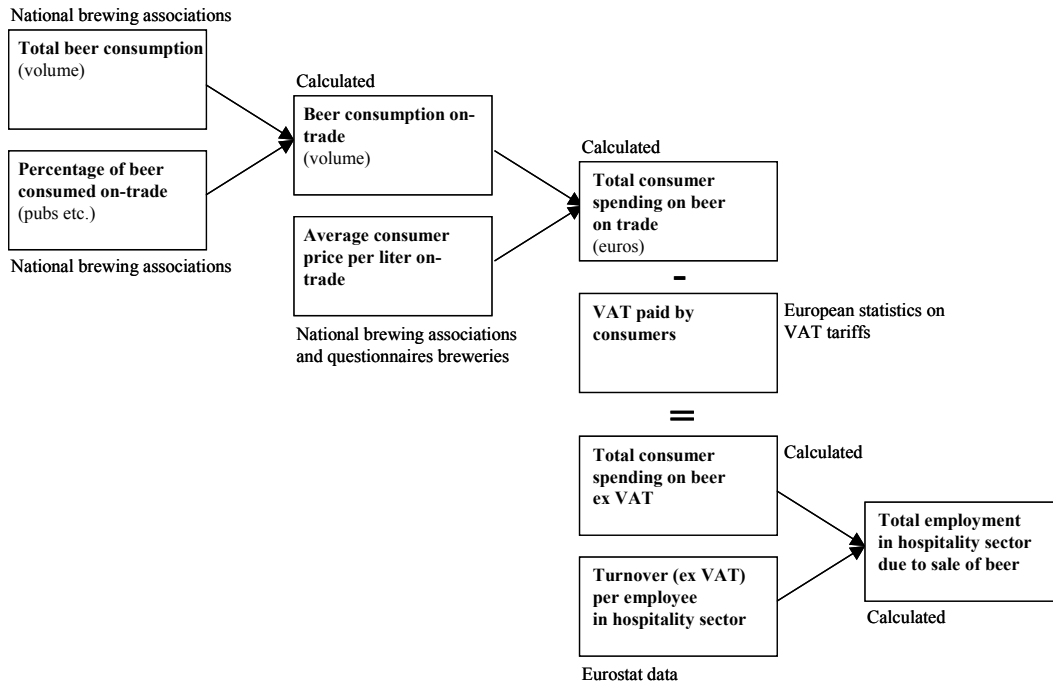
Some of the reported outcomes concerning the economic impact of the brewing sector are based on estimates by Ernst & Young. Hereafter we illustrate how these variables have been estimated, focusing on:

- Indirect employment due to the production of beer.
- Employment due to the sale of beer in the hospitality sector.
- Employment due to the sale of beer in shops, supermarkets and other retail outlets.

The indirect employment effect concerns the employment generated in supply sectors due to the production 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:



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



Depicted is the way the employment impact on the hospitality sector is estimated. Estimates for retail are made in a similar way.

ANNEX III: GLOSSARY

| | |
|----------------------------|---|
| Backward linkage | See indirect employment |
| Bottom up approach | Analysis of the direct, indirect and induced effects, taking a selection of brewing companies as a starting point. |
| Brewing sector | All the brewing companies that are located within a certain geographical area. These companies may also be involved in other activities than brewing beer, such as the production of soft drinks and bottled mineral water. |
| Direct employment | Employment, value added and tax revenues for governments generated directly by the brewing sector. |
| Europe | Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom |
| Excise | A taxation of 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. |
| FTEs | Full time equivalents |
| Forward linkage | See induced employment |
| Indirect employment | Impact of the brewing sector on supplying sectors in terms of employment or value added. For example: farmers selling hops or barley or manufacturing industry producing bottles, cans, kegs or brewing equipment. |
| Induced employment | 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. |

| | |
|---------------------------|--|
| Input output table | A detailed matrix containing data on how much one industry purchases from other industries. These tables were used to calculate the purchases of the brewing sector from supplying industries. |
| Multiplier | 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. |
| On-trade | Beer sales through (licensed) pubs, clubs, bars, restaurants and the like. |
| Off-trade | Beer sales through shops, supermarkets and other retail outlets. |
| Top down approach | Analysis of the direct, indirect and induced effects, taking existing statistics as a starting point. |
| Value added | 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). |
| VAT | Value Added Tax |
