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"*Made in Italy*" in Beer Production: from Historical Family Business to Enthusiastic Microbrewers[1]

by

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Introduction

Historically, Italians have been producers and consumers of wine, rather than beer. Indeed, per capita consumption of beer is far lower in Italy than it is in many European countries. However, Italy's recent growth in per capita beer consumption has been among the highest in Europe, having increased by 26% between 1997 and 2007.

While most of the increase has been satisfied by imported beer, and by the entrance of four big multinational brewing companies, it has also in part been met by the direct and indirect consequences of a new phenomenon – the birth and growth of microbrewing. The first modern microbrewery appeared in 1993, and since then microbreweries have emerged all over the country, but with a higher share in the North. The number increased from 9 in 1996 to 47 in 2000, and to some 255 in 2009.

While, in the same period, multinational giant were leading the Italian beer market, some old family breweries founded at the end of the 18th century, were increasing their market penetration. In addition to that, new Italian medium size firms, were created by acquiring some of the historical Italian breweries.

Rapid market concentration has favored the founding rate of new enthusiastic Italian beer producers, or the "renovation" of former family brewers.

This paper aims at analyzing this apparent negligible segment of the Italian beer industry, and understanding the available strategies to increase market participation, and to maintain and/or promote a new style of "Made in Italy" in beer production.

To provide a very quick overview of the history of beer in Italy, it was first brewed by the Etruscans under the name of "pevakh". Then in 85 A.D. the Roman governor of Britain, Gnaeus Julius Agricola, brought three British brew masters to set up the first private brewery in an Italian villa. Fast forwarding to the 19th century, the Austro-Hungarian influence led to the establishment of the first Italian family brewers, such as Fuch, Peroni and Menabrea, and the Northern European beer culture continues to influence the Italian microbrewers of today.

The recent rapid expansion of microbrewing in Italy has several causes. Some advocate that brewers benefited from the large increase in the price of wine that followed the methanol scandal in the 1980s, with wine no longer a cheap, low-quality product but something sold in luxury wine bars and associated with high culture. Others think that a growing proportion of Eastern and Northern Europeans within the Italian population has expanded the beer culture within the country, while some maintain that cheaper air travel (first Low Cost emerged in the mid nineties) within Europe has allowed Italians to sample beers from around the continent.

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Having analyzed the emergence of microbrewing in Italy and considered its potential for further expansion, the paper will discuss the possibility of introducing a common labeling policy for microbreweries. Common labeling would act as a marketing tool and provide a guarantee of quality. Creating such common labeling is, however, quite a complex process, since it involves specifying the product, specifying the market, working out distribution, and setting up effective quality monitoring. To establish whether the time is right to create this labeling system, we make use of a specific survey submitted to more than 900 customers of microbreweries and brewpubs in northern Italy, asking them what they considered to be the most important qualities in a craft beer and whether or not they would be in favor of common labeling.

This paper is divided into four sections. The first briefly describes the history of beer making in Italy, from the time of the Roman Empire up to the rise and fall of the historical breweries. The second part looks at the market structure and recent evolution of consumption. The third section summarizes the reasons for the recent "Italian beer renaissance". And in the last section, given the rise of the Italian microbrewery, we investigate the potential options for ensuring their survival, by developing a common labeling system in order to improve the marketing of their products.

1. The history of Italian beer-making

The history of Italian beer-making can be divided into 3 eras. The first one is a long period of craft and artisan production that lasted till the eighteenth century, with beer produced and consumed by a restricted number of people, and considered a vulgar drink in comparison with wine. In the Late Middle Age, the emergence of merchants, in particular from Austria and Germany, helped to increase beer imports in Italy, boosting its consumption, and changing Italians' taste. While in other European countries the industrial revolution moved beer production from artisanal to industrial manufacture, Italy saw the emergence of a beer industry but on a relatively small scale. This coincides with the second era of Italian beer making, and lasted a just over a century, till the first half of the 70ies. Mergers and acquisitions happened during this period, and contributed to the creation of the "historical Italian beer industry" (Peroni, Moretti etc.). The third era is the history of the last thirty years. Most of the national beer industries have been acquired by multinational giants, and a new era of artisanal production, and small microbreweries appeared at the beginning of the nineties.

1.1. The first era of artisanal production: beer: a "barley wine" drink

As of today, the literature on the history of the Italian beer sector before the industrial era is extremely limited (Gambari, 2003) because beer has always been regarded as a common drink, and of far less importance to the Italian nation than wine (Arnold, 1911; Unger, 2004). This section aims at summarizing the existing information on the history of beer production in "the land of wine" from its first appearance to the second half of the 18th century.

Although beer is the most ancient of alcoholic drinks, produced in Egypt and Mesopotamia, it makes its first appearance in Italy only around 500 BC. This was a brew known as "barley wine" drunk by the Etruscans. A recent archeological discovery seems to corroborate its early existence: in Pombia (Piedmont), in the north of the peninsular, an urn, containing residuals from the fermentation of sugar, hops and cereals, was found in a necropolis.

Moving on to the Romans, we know that they learned about beer making from the Greeks. Both peoples drank lots of beer up until the time of Roman Republic, when wine production increased to satisfy a growing public thirst. For a long period beer was regarded as a vulgar and poor drink drunk by "barbarians", with Celtic and Germanic tribes drinking it in the absence of a climate fit for wine production. But as the Romans conquered ever more widely and got to know different varieties of beer, public opinion in Rome began to mature.

In 85 A.D. the Roman governor of Britain, *Gnaeus Julius Agricola*, brought three British brew masters (from Gleven and Camulodunum, ancient Gloucester and Colchester respectively) to set up the first private brewery called Domus Cerevisiae in an Italian villa.

The geographer Strabone, at the beginning of the first century, reported how the Iberian peoples preferred their barley and oat beer to wine and that this drink, also produced by the Celts in the Roman province of Gall, led to the Roman legionaries in the first century BC getting to know and appreciate a good beer. At the time beer was still called by many *vinum hordaceum*, or "barley wine".

Following the fall of the Roman Empire, and throughout the middle ages, beer was produced in Italy exclusively by artisans for a small number of enthusiasts, with production being both patchy and sporadic. Consumption increased following the invasion of the Lombards in the 6th century AD, a population of Germans and Scandinavians with a tradition of beer making. King Alboino made Pavia, the Lombard capital, the centre of brewing (Montanari and Sabban, 2004) in order to replenish their stock of beer.

Then in 774 the Lombard dominion fell to the French King Charles, who, in 800, as Emperor Charlemagne, introduced legislation on agricultural farms, the Capitulare de Villis Imperialibus, with some chapters dedicated to the production, hygiene and quality of beer.

The arrival of Federico Barbarossa in Italy in 1152 signaled the start of widespread consumption of beer, produced by the Germans, Flemish and English, by all social classes, but its production was mostly aimed at satisfying the demand of the Nordic invaders. Beer was considered an exhilarating drink, with a low cost, and easy to produce.

At around this time, monasteries began to mass produce beer and perfect brewing techniques. The Church, with Pope Clement V (of French and German origin), in 1307, was particularly supportive of these efforts when wine was scarce or expensive (Unger, 2004). Although the monastic brewing tradition in Italy was less developed than in other European countries, there were a number of monasteries in the centre of the country noted for their beer production, including the abbeys of San Gallo, Montecassino, Casamari, Bobbio, Chiaravalle, dei Santi Pietro ed Andrea a Novalesa, di Novacella, San Scolastica (in Subiaco), Vallombrosa, Fossanova, Farfa, Monteoliveto Maggiore and Monreale. The most important was the monastery of S. Gallo, where three different types of beer were produced, one for the pilgrims, one for the monks, and the very good one for prestigious guests (Spath, 1999).

A century later, beer was drunk habitually, being regarded as a refined drink in the court of Lawrence the Magnificent. It was consumed primarily by men, while women could only drink it for medical purposes.

It was in Northern Italy, between the tenth and thirteenth centuries, that the first corporations of beer merchants from Northern Europe started to emerge, testimony to the importance of the production and trading of the drink. Beer was imported in the North of Italy. If in Hamburg, the main exporter, there were 457 beer masters, Italian beer master did not merged into corporations, and produced beer in taverns or minor places

The production and importing of beer in Italy then grew in the following centuries, due to the increasing importance of the international merchant class, with trade taking place primarily with Austria and Germany.

1.2. The era of modern beer production

Modern beer production in Italy started in 1789, when the first small brewery was built by Giovanni Baldassarre Setter in Nizza Monferrato, in Piedmont (North East of Italy). The business then passed into the hands of Giovanni De Bernardi, who started to distribute beer throughout Piedmont.

Beer brewers were mostly entrepreneurs (Wuhrer, Dreher, Paskowski, Metzger, Caratch, and Von Wunster) from the North of the Alps who saw in Italy an interesting market to expand their business. Hot on the heels of these industrialists followed Italian businessmen, particularly ice makers who recognized that beer production was a natural partner to their activities, which they carried out exclusively in the summer. The number and type of brewery then increased throughout the nineteenth century, and as the century drew to a close, Italy, mainly in the North, was home to some 150 breweries. In 1890 national production reached some 160,000 hl and imported beer amounted to some 50,000 hl. Brewers started to grow their own barley, and the first malting plant was opened in Avezzano, Abruzzo, in the Plain of Fucino (centre of Italy).

The second era refers to the development of the first Italian Beer Industry with the emergence of the so-called “Historical Italian Breweries” (Airoldi, 2007). The sector developed in the Northern part of Italy under the influence of Germany and Austria. Starting with the Lombard’s Kingdom of Northern Italy and Tuscany during the early Middle Age2, the German influence has favored the development of the craft production in the early Middle Age, and later the development of the National beer industry in the eighteen century. The capital of the Lombard Kingdom was Pavia (in 620), which remained the capital of the North until the 11th century, other major centers were Verona, Milan, Turin (Torino), and Cividale, the capital of the duchy of Friuli. Pavia, and Turin gave birth later in the 18th century to Menabrea and Metzger, respectively in 1846 and 1848 (both in the area of Turin), Peroni in 1848 in Pavia. Besides the Lombard’s invasion, the proximity with Austria, and the Autro-Hungarian Empire in Italy in the regions of Trentino-Alto Adige, Friuli and Trieste, influenced the development of “historical” Italian Breweries, such as Dreher, later incorporated into Pedavena, founded in Trieste in 1865, Theresianer in Trieste3, and Moretti in 1859 in Udine.

In 1890 there were 140 Italian Breweries, in 1894, the year of the highest peak, there were 151 breweries of both small and medium size, mostly located in the North of Italy (Table 1). Moving into the early years of the twentieth century, a natural rationalization of the industry saw the closure or takeover of many of the smaller brewers. However, many of the companies that remain saw increasing sales in line with growing and widening consumption, which was due to the low cost of beer. In fact, production quadrupled to reach 598,000 hl in 1910. Imports also increased, although more slowly, reaching 86,000 hl, equal to 13% of national consumption.

Table 1: Number of Italian Breweries

Years	Number of Italian Breweries
1890	140
1894	151
1900	95
1910	86
1920	59
1930	35
1960	3 groups account for 60% of total beer production

Source: Colli 1998; and Airoldi, 2007

During the first decade of the 1900s, and during the interwar period, the increase in production cost, and the crisis post World War I, accelerated the process of acquisition and only 86 breweries survived in 1910, and only 59 in 1920.

Beer production then virtually ground to a halt throughout the First World War due to a lack of malt, which needed to be imported owing to the limited and poor quality malt available nationally. Following this, during the Fascist period, Italian brewing was limited by two major problems, arising out of the financial crisis of 1929. One was the increasing importance of wine to the Italian economy,

[2] The invasion resulted in the Lombard kingdom of northern Italy and Tuscany. By the 620s its capital was at Pavia which remained the capital of the north until the 11th century, other major centres were Verona, Milan, Turin (Torino), Lucca, and Cividale, the capital of the duchy of Friuli

[3] The story of Trieste's beer began over two hundred years ago at the time of Maria Theresa, empress of Austria, when the city, dynamic offshoot of transalpine trade and culture, was given a new important district, Borgo Theresiano. Austrian merchants and businessmen soon moved in, bringing with them the customs of their homeland including their predilection for fine beer. In 1766 one of these enterprising gentlemen, W. Lenz, obtained a licence for the town's first Austrian brewery

with production stimulated by Government incentives, and the other was the need to import hops and malt from abroad, which went against the Government's emphasis on national products.

However, the Government was then faced with the unwelcome import of foreign, particularly German, beer. This led to it introducing a new import duty on foreign beer and to looking at domestic production more favorably. The national production of malt increased, reaching 20% of the total needed by the industry.

At the end of the thirties, there were 35 Italian medium size breweries, employing 2856 workers, and almost 75% of them employed less than 100 workers.

Consumption of beer stood at about 3 liters per head, compared to the 90 of wine. Beer continued to be seen as a summer drink and attempts to give it year-round appeal came to nothing. So producers looked for opportunities in hot countries, and the Government encouraged brewers to export to Africa. After the Ethiopian war exports to Africa were made mainly to Italian colonies and territories, especially to Libya, Ethiopia, Somalia, as well as to Albania and Rhodes.

However, consumption was slow to take off again and, in 1940, production stood at 814,000 hl. Meanwhile, imports collapsed, owing to the protectionist tariffs imposed by the Government to assist national production. Per head consumption fell to 1.6 liters a year, partly because of an increase in the country's population.

Again conflict slowed production, and towards the end of the Second World War all breweries were forced to shut down owing to a lack of primary materials. Once hostilities ceased, the brewers licked their wounds and tried to start up again. However, it was not until 1950 that production returned to the levels of 1925, reaching 1,549,000 hl. Imports then stood at 15,000 hl and per head consumption at about three and a quarter liters a year.

During the 1950s and through to the 1980s, the Italian beer industry experienced a period of consolidation as the large national brewers increased their size through acquisition and concentration, and numerous traditional regional breweries disappeared. The main explanations for this common trend, experienced also by the rest of the world, were technological improvements, scale economies, advertising expenditure, and price wars (Keithahn, 1978; Scherer et al., 1975; Greer, 2002; Porter, 1976; Adams, 2006).

Up till 1959 consumption oscillated, with increases only during the summer season, from 1,5m to 2m hl, with imports up to 2% of total consumption and per head consumption remaining between 3 and 4 liters per year. It was said that up till this point beer was drunk between March and September, and was thought of as a common thirst-quenching drink, like fizzy soft drinks, being consumed exclusively at the bar. And it was popularly believed that beer was made with some mysterious syrup, just like orange- or lemonade. As such, the breweries shut down in the winter months, when they concentrated on maintenance and restructuring.

Finally, from 1960 beer was much more accessible to families, with the result that within a decade annual beer production reached six million hectoliters, with per capita consumption exceeding 11.5 liters. Growth continued until 1975, reaching 8m hl of production, 570,000 hl of imports and 16 l of per capita consumption, but then the economic slump wiped 20% off production, returning it to 1970 levels. Strangely, however, imports grow by 40%. In addition, the Government decided to increase tax on beer production by 50%, leading to a similar rise in the cost of beer and considerably slowing the uptake in consumption.

During the second half of the sixties, the Italian beer market was largely dominated by three groups who accounted more than 60% of the total production: Peroni in Rome, Wuhrer in Brescia, Pedavena-Dreher in the North-, Friuli and Piedmont. Those three main companies started a process of mergers and acquisitions, or simply enlarged the size of their plant both locally and geographically, already from the first quarter of 1900.

Peroni acquired la "Birra di Perugia, in 1926, than "Birra d'Abruzzo from Castel di Sangro", in 1930, Birra di Livorno in 1938. In 1938 and 1955 Peroni opened two new plants in Naples (South) and Dormisch in Udine (North) respectively, and Faramia di Savigliano in 1960. In 1963 Peroni launched its famous “Nastro Azzurro” brand.

Wuhrer implemented a number of mergers, acquiring smaller beer production units all over Italy: from the first quarter of the 1900, “Birreria Blumau” from Prato (Tuscany), Isarco in Bolzano, Spiess from Rimini (Emilia Romagna), Paszkowski from Firenze, who acquired earlier in 1920 the plant in Rome “Birra Roma”. Later during the ‘50ies, Wuhrer acquired “Birra Ronzani di Casalecchio del Reno” (in the area of Bologna – Emilia Romagna), then the “Birra L.E.O.N.E (Lavorazione estratti orzi nazionali ed esteri), and in 1963 the plant in San Cipriano Po (Pavia – Lombardy). In 1969, Wuhrer expanded its operation by opening a new production plant in the South, in Battipaglia.

Dreher started its operation in 1865 but was acquired by Pedavena early in 1928, becoming the plant Pedavena-Dreher. The new structure was among the first Italian breweries to expand in Africa, and in Albania, -opening a plant in Korca-, after the War and during the colonialism, and later started a process of acquisition by incorporating the following breweries: “Birra di Venezia”, then Bosio e Caratsch breweries from Turin, Cervisia in Genoa, Metzger from Turin, and opened a new production plant in the province of Taranto (Puglia - South of Italy)

During this period, there was still an Italian Homemade tradition of beer production, regardless of the size of the breweries, and despite the economic operations that were taking place in the sector.

1.3. The rise and fall of the Historical Italian Breweries

The third era encompasses the last three decades. Although the sector has been characterized by mergers and acquisitions, those were taking place among the Italian Breweries. Beer imports represented throughout the sixties and the seventies, less than 10% of total beer consumption (FAO statistics).

From the 1980s onwards consumption increased consistently year on year, reaching 27 liters per head in 1995. This involved an increase in national production, but above all an increase in imports, which rose from 652,000 hl in 1975 to 3,154,000 hl in 1994. In this same year national production stood at just over 12 m hl. This is the period of the rise of multinational acquisition.

The situation changed in the eighties, and the beginning of the nineties, and in the most recent years. In 1979, after 145 years in the hand of the family Wuhrer, the factory is sold to BSN Gervais by means of Brasseries Kronenburg, and in 1988, it is under the total control of BSN Gervais, even if the brand Wurhrer remained. Zimmerman Brewery, “The Beer of Aosta”, founded in 1837, is first sold to Heinninger Brau from Frankfurt, and later passed into Heineken. In the first half of the nineties, Peroni starts agreements with BSN Gervais Danone, followed by a merger with Wurher, and finally, looses completely the Italian property under the control of SabMiller from Johannesburg. The Beer Moretti, closed its historical plant in Udine in 1992, and is sold partially to Canadian John Labbat, and later to Heineken in 1998. Dreher Brewery, funded in 1865, by a family who traded with Austria, become part of Heinneken in early 1974, who later closed the famous plant in Trieste. Porretti Brewery, founded in 1877, is first incorporated into United Breweries from Copenaghen for the production and distribution of the brands Tuborg an Carlsberg, and in 1998, is completely controlled by Carlsberg. Wunster brewery, founded in 1879 in Bergamo (Lombardy), is first bought by Peroni, and later by Heinneken. Birra Italia Pilsen, is bought by Peroni in 1980, and later enters into the Heinneken Group. The Birreria Pedavena (in the Province of Biella – North West of Milan), one of the most famous Italian breweries, is entirely bought by Heineken in 1974, who later decides, in 2005 to close the famous plant in Pedavena.

From the second half of the nineties, the “Made in Italy” in beer production has completely disappeared. Four main multinational brewing companies have entered the Italian market, by acquiring (Heineken and SABMiller) Italian plants or favouring the commercialisation of less known beers for Italian (Inbev).

The Italian beer sector is completely dominated by those multinationals (SABMiller, Inbev, Anheuser-Busch, and Heineken). The country has completely lost its national identity in industrial beer production. There are some forms of the government interventions in order to save some famous brand, such as the “Birra d’Aosta”, former Zimmerman Brewery: in this case the Region of the Valle D’Aosta, gave some funds in order to protect the employment and renew the territorial identity. It is also worth mentioning the effort of the Castello Brewery, which recently bought the famous Birreria Pedavena, which was sold by Heineken, in order to protect an Italian prestigious brewery.

2. Market Structure and recent evolution of consumption

At the beginning of the XXI century, unique Italian beers and breweries had almost disappeared, and the beer industry was made up of 4 main international brewing companies, with few local brewers.

2.1. Coexistence in the beer sector: oligopoly and microbreweries

At the beginning of the nineties, the Italian beer industry was composed of a limited number of brewing firms, indicating an open-and-shut case of industry concentration., an oligopoly form of market dominated by a limited number of players, 4 multinationals (Heineken, SABMiller, Inbev, and Carlbersg) that had consolidated the majority of Italian beer market, accounting, in 2007, for 65% of total beer produced in the country (Figure 1). The big firms have been expanding their market shares by introducing new brands and absorbing domestic and international competitors.

Figure 1. Beer Market Structure

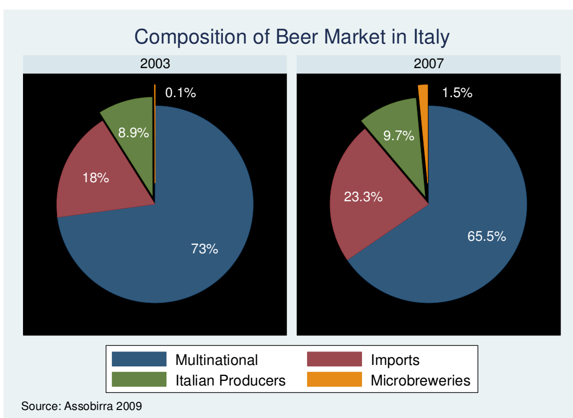


Table 2 summarizes the players in the Italian beer market. Heineken Italy owns the Italian brand of Birra Moretti, Birra Ichnusa, Birra Messina and Dreher; SABMiller, controls Peroni, and produces Nastro Azzurro, Wurher and Raffo Carlsberg, owns the brand of former Poretti breweries.

National producers are Forst, the most important and the oldest Italian family producers, funded in 1863, by Josef Fuchs, and still, after 150 years, under the family property. In 1991, Forst acquired historical Menabrea from Biella, and became the most important national producers with 4% of the supply of beer in the national market.

Birra Castello from Udine (Friuli Venerzia Giulia), born recently in 1997 after buying the production plant that used to belong to Moretti. In 2006, it bought from Heineken, the production plant that use to belong to Pedavena Breweries, and the right to distribute the Pedavena brand.

An additional 2% of beer production comes from Tarricone Morena and Theresianer, the beer of Trieste.

Table 2: Composition of Beer Market in Italy in 2007 (‘ 000 Hl)

Supply of beer	2007	%
Heineken Italia	5676	30.7%
Peroni SABMiller	3946	21.3%
Inbev It (only import)	1330	7.2%
Carlsberg Italia	1160	6.3%
Total Multinational	***12112***	*65.4%*
Forst & Menabrea	766	4.1%
Birra Castello UD	715	3.9%
Tarricone Morena	300	1.6%
Theresianer	21	0.1%
Total National producers	***1802***	*9.7%*
Imports	4319	23.3%
Microbreweries	280	1.5%
TOTAL	**18513**	100.0%

Source: Assobirra 2009

The evolution of the market structure during the recent years is indicative of Italian consumer preferences. Although the market is dominated by those 4 multinationals, the share of their market has decreased by some 5% from 2003 to 2007. It is also interesting to note the differences in share between the four beer giants. The share of the market for Heineken and SABMiller decreased by 4% and 9% respectively, while InBev increased its by some 7%. This reflects the fact that InBEV is only an importer of beer, helping the Italian consumers to satisfy their demand for international, higher quality beers (such as Beck’s, Stella Artois, Leffe and Bass, Lowenbrau), whereas the former Heineken, and SABMiller represent the actual response of the ancient “foreign invasions” destroying the “Made in Italy for Beer”. Consumers’ preference towards traditional national beers can also be understood in the increase of the share of independent national producers such as Forst-Menabrea, Birra Castello, and few more. Menabrea has stabilized its production over the period 2003 and 2007, but Birra Castello, born in 1997, has increased its market penetration by about 33%. Birra Castello was born in order to protect some Italian Brands such as Moretti and Pedavena (at least to save their production plants).

This process of internationalization of foreign competitors, together with mergers and acquisitions strategies, has strongly contributed to growing the competition in the beer sector instead of reducing it. The trend clearly shows that very big brewing groups, on the one hand, and newly founded microbreweries, on the other, are the winners of the ongoing changes in the industry

2.2. Evolution of consumption and production

Being a country with a strong tradition in wine production and consumption, Italian beer per capita consumption has always been very low. In particular, in the last decade, Italy has the lowest per capita beer consumption among European countries. Table 3 summarizes the pattern of Italian beer consumption. With a per capita consumption of only 31.1 liters/person in 2007, the highest value ever reached in the country, Italy is less than halfway from the European average. (79 liters per capita). In particular, the country has doubled its per capita consumption in less than 20 years, from a level of 16 liters per head in 1980 to 31.1 in 2007. Notwithstanding, while consumption figures of most of its European counterparts have continued to decline since 1997, Italian per capita consumption has steadily enlarged, increasing by some 5.7 liters per capita compared to 1997. Over the same period, the top 10 beer consumer countries have largely decreased (-16 liter per persons, -12, and -13 liters per person respectively in Germany, the UK, and Belgium) or stabilize their per capita consumption (Czech Republic and Ireland). The volume of beer consumption in Italy, however, has increased gradually in the last decade, reinforcing an upward trend that was evident in the second half of the eighties. From 1997, Italy has increased its total beer consumption by about 27% (from 14535 ‘000 hl in 1997 to 18513 ‘000 hl in 2007).

Table 3: Italian Beer Consumptions

Year	Beer Per capita Consumption
1890	0.8
1910	1.9
1930	2.2
1950	3.2
1970	11.7
1990	23
1997	25.4
1998	26.9
1999	27.1
2000	28.1
2001	28.9
2002	28.2
2003	30.1
2004	29.6
2005	29.7
2006	30.3
2007	31.1

Source: Assobirra 2009, and Colli, 1998

Table 4 summarizes the patterns of trade and overall beer production. National production satisfies almost than three quarter of the overall demand (73% in 1997). This share has decreased since 1997, whereas the importance of imports has increased, from 23% in 1997 to 33% in 2007 as contribution to overall consumption. The value of exports and imports has constantly increased in the last two decades (cfr. Figure 2). Italy is net importer of beer from the rest of the world. In fact, Italy has the highest ratio of imports to domestic production among European countries, which is partly due to the presence of multinational companies brewing beer in Italy under licence (such as Heineken, Budweiser, Henninger, Amstel, Fischer, Tuborg, Carslberg, and Kronenbourg). Exports, meanwhile, first exceeded 1 million hl in 2007, some 36.7% more than 2006, and compared to only 261000 hl in 1997. More than half of exports went to the United Kingdom, South Africa, and the USA, while 15% went to Malta, the Czech Republic and The Netherlands (Assobirra, 2009). These numbers testify to the importance of multinational companies distributing beer all over the world.

Figure 2: Trade Pattern

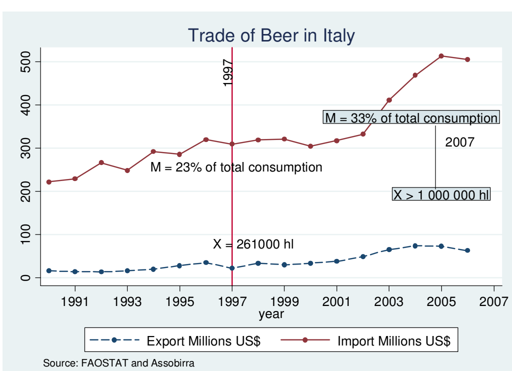


Table 4 Patterns of beer trade and overall production

Year	Production '000 hl	Import '000 hl	Export '000 hl	Consumption '000 hl
1997	11455	3341	261	14535
1998	12193	3681	373	15501
1999	12179	3875	379	15675
2000	12575	4142	428	16289
2001	12782	4414	502	16694
2002	12592	4437	689	16340
2003	13673	4664	884	17453
2004	13170	4873	849	17194
2005	12798	5258	716	17340
2006	12818	5814	781	17851
2007	13462	6119	1068	18513

Source: Assobirra, 2009

3. New Italian Microbreweries: the return of a flourishing sector

3.1. Characteristics of the market

An important feature of the Italian beer industry in recent years has been a rapid increase in the activity of small specialty brewers, even if the market has became increasingly dominated by mass-production brewing companies. So while microbreweries represented just 1.5% of total beer production in 2007, their contribution stood at only 0.1% in 2003.

"Homebrewing" or "craft brewing" first appeared in Italy during the second half of the nineties, some 25 years later than in the UK, with the first microbrewery emerging in Sardinia in 1993 - Birra Montevecchio, with a German and Bavarian influence (as stated on their website). The second, the "Mastro Birraio", started up in 1994, in the province of Udine in Friuli Venezia Giulia, two years after Beer Moretti closed its historical plant in Udine, and this produces beer in the German and Austrian tradition. Then two more microbreweries opened up in 1995, one in Piemont and the other in central Lazio. Then 1996 saw the emergence of five additional microbreweries in the North of the country, and the first in the South, in Calabria. Table 5 contains the stock of small breweries per year and by region. By the end of the nineties, there were 36 units, 75% of which opened between 1997 and 1999.

From 47 firms in 2000, the number of small breweries operating in the country rose to more than 255 in May 2009. Looking more deeply into their evolution, in 2001, there were 56 small breweries, and the number has doubled in less then three years. By 2004, Italy counted 103 small artisanal breweries, out of which, 68% are located in the North, 20% in the South (and islands), and the remaining 12% in the Center.

Table 5: Number of Small Breweries by Region per Year

	North	Center	South-Islands	Total
1993	0	0	1	1
1994	1	0	1	2
1995	2	1	1	4
1996	6	1	2	9
1997	10	1	4	15
1998	14	3	5	22
1999	25	5	6	36
2000	32	7	8	47
2001	40	8	8	56
2002	49	8	11	68
2003	59	11	16	86
2004	70	12	21	103
2005	84	17	25	126
2006	100	23	33	156
2007	124	25	41	190
2008	154	37	53	244
2009	160	39	56	255

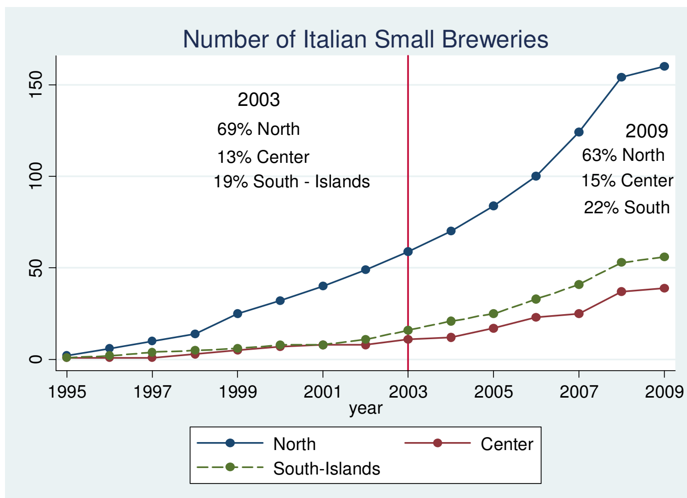
Source: Authors' computation from www.microbirrifici.org, and Unionbirrai

Whereas in centuries past winemakers would put laurel leaves on their front door to announce a newly made wine, microbrewers advertise their wares on the web. Whether it is via the site of the first brewers union, Unionbirrai, founded in 1998, or on sites of small private breweries, the Internet is creating a new virtual community of home brewers and beers lovers. Indeed, the power of the web should not be underestimated. The rapid and continuing development of the Internet and the World Wide Web (Web), has already been mentioned in a number of academic papers (Aldridge et al, 1997; Cockburn and Wilson, 1996). The Internet has allowed small breweries to overcome the monopolistic power distribution channels, and marketing tools of the multinationals giants.

Using the information available on www.microbirrifici.org, we are able to give some numbers on the sector of small breweries. As of May 2009 Italy has 255 small breweries, with 53% of these being microbreweries and the rest brewpubs (the website provides information on individual breweries' date of creation, type, location, etc, but does not provide a formal definition of small breweries). We have also taken information from Assobirra (Association of beer and malt industrialist), and Unionbirrai (Association of small breweries).

As figure 3 shows, portrays behavioral regional disparities are found in the brewing sector. Northern Regions are the innovator entrepreneurs. Those disparities are rooted to the Northern influence that has characterized the history of beer in Italy. Nonetheless, the South is catching up quickly. In 2007, the Center and the South accounted for 13 and 19% respectively, while the northern regions the remaining 65%. Afterwards, there is a steady increase for the South, and an upward trend in the Center. In 2009, out of the 250 microbreweries in our country, 63% of them are located in the North, with 15 and 22% respectively located in the Center and the South.

Figure 3



The division between microbreweries and brewpubs varies across the country. In the North and Center numbers are roughly equal (47% are microbreweries while 53% are brewpubs). Northern entrepreneurs of the first generation saw in home made beer production a way to decrease their production costs while opening a pub, most of whom probably acquired their knowledge overseas. In the South, on the other hand, some 75% of small breweries are microbreweries; there are very few brewpubs. Here, the Regions saw microbreweries as a promising source of profit and invested directly in the production and distribution of beer.

Figure 4

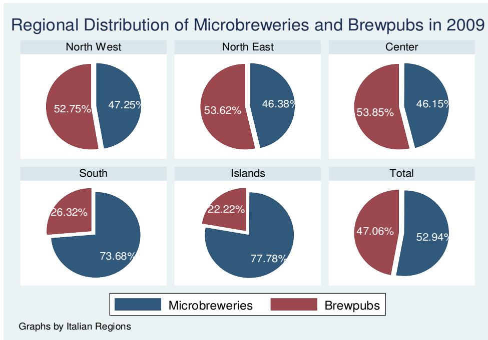
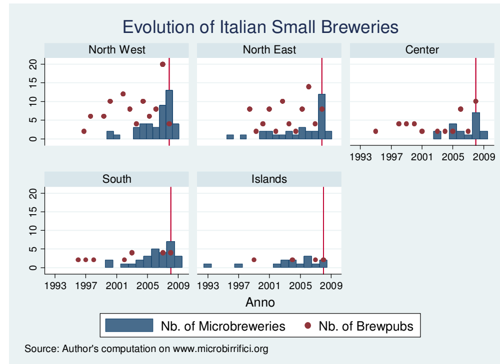


Figure 5



Starting up a microbrewery in a country with such a low per capita consumption, is an investment strategy that supposed to be profitable. It requires an existing upward trend in demand, as well as marketing skills, and has higher production costs than brewpubs. The artisanal sector is actually composed of passionate and enthusiastic home brewers, but also of free-riders because the product is good, and the investment seems profitable.

An important turnaround occurred in 2008. Since then 13 new microbreweries have opened in the Northwest and 12 in the Northeast, meaning that for the first time since microbreweries originally appeared in 1995, there were more microbreweries than brewpubs opening up in the North (with only 6 of the latter). In the Centre some 7 new microbreweries opened up while there were 5 new brewpubs, and in the South the figures were 8 and 3 respectively. It would be interesting to investigate whether this reverse was due to the launch of the Rural Regional Development Plan financed by the European Union[4].

As far as production is concerned, we have limited information on 132 small breweries. This information is taken from producers when they register their website, or is information requested by Unionbirrai, when they request membership. It should be interpreted carefully and may underestimate the true figures. The statistics confirm the relative small scale of new microbrewers.

Table 6. Composition of Small Breweries from the restricted sample

Regions	BP	MB	Total
North West	32	21	53
North East	24	14	38
Center	9	10	19
South	2	11	13
Islands	2	7	9
Total	69	63	132

Out of the 132 small breweries,, 69% (equivalent to 91 small breweries) are located in the Northern regions, while the remaining 14% and 17%, respectively in the center and Southern regions.

[4] The plan has two different priorities that could encompass the market for beer. Both “Measure 1.2.1, Modernization of agricultural farm, and Measure 3.1.1 for the Diversification of non agricultural activities”, investigate the possibility of funding activities, and agriculture capital for the transformation, commercialization, and sales of agriculture and non agriculture products: beer production is included.

The production figures reveal the relative "infant" nature of Italian microbrewers. They most probably are beers lovers that saw in artisanal beer a good investment strategy, but they perform on a local and small scale. Small breweries produce, on average, 759 hl of beer per year, with production varying from 22 to 5000 hl. The lower quartile is mainly composed of small home brewers, who produce less than 200 hl/per year, while the median production is 475 hl, and the upper quartile declare produce an average of 2000 hl in 2009.

The following table summarizes regional differences in beer production, with the South concentrating more heavily on microbreweries, while the North divides production equally between brewpubs and microbreweries.

Table 7: Average Production by breweries Type and Region

(hl of beer declared by producers)

	North	Center	South	*Average per Type*
Brewpubs	765	614	287	*717*
Microbreweries	760	778	909	*805*
Average per Region	*763*	*700*	*796*	

Source:Authors' computation from Assobirra and Unionbirrai, 2009

The limited information available indicates that there are 1180 different beers produced by small breweries. A detailed classification can be found in table 8

Table 8: Type of beer produced

Type of beers	**Numero Birre**	**Share**
European Pale Lager	154	13.05%
Chestnut & experimental	**142**	**12.03%**
Ale Belghe & Francesi	124	10.51%
Birre di Grano	107	9.07%
Bock	106	8.98%
Bitter & English Pale Ale	82	6.95%
Strong Belgian Ale	75	6.36%
Spice/Herb/Vegetable	**68**	**5.76%**
European Dark Lager	50	4.24%
Light Ale	43	3.64%
Stout	38	3.22%
English & Scottish Strong Ale	35	2.97%
Koelsch & Altbier	23	1.95%
Barleywine & Imperial Stout	22	1.86%
German Amber Lager	21	1.78%
Porter	18	1.53%
Birre Affumicate	16	1.36%
American Pale Ales	15	1.27%
India Pale Ale	13	1.10%
Fruit Beer	9	0.76%
American Lager and Pale Ales	8	0.68%
Scottish Ale	4	0.34%
Lambic & Ale Belghe Acidule	4	0.34%
Brown Ale	3	0.25%
Total	1180	100.00%

Source: Author's calculation from Assobirra and Unionbirrai, 2009

The sector is largely driven by top-fermenting yeast, *saccharomyces cerevisiae* type of beer, compared to bottom-fermenting yeast. There are also some pseudo-lambic beers. One third of the beers are inspired by the Belgian and English traditions, and almost 15% of the beers are lager. Also interesting to note is the share made up by Chestnut and experimental beers: 12 % of the beer available in the country is represented by beers produced by the Italian imagination, and hopefully will help to create the new "Made in Italy" of beer brewing. A typical Italian production of chestnut beer uses chestnut flour, or dry, roasted or smoked chestnuts. Also interesting is the share of Spice/Herb/Vegetable beers, which complement the Italian selection. In addition, there is a high share of wheat beer, a light refreshing beer favored by Italian consumers.

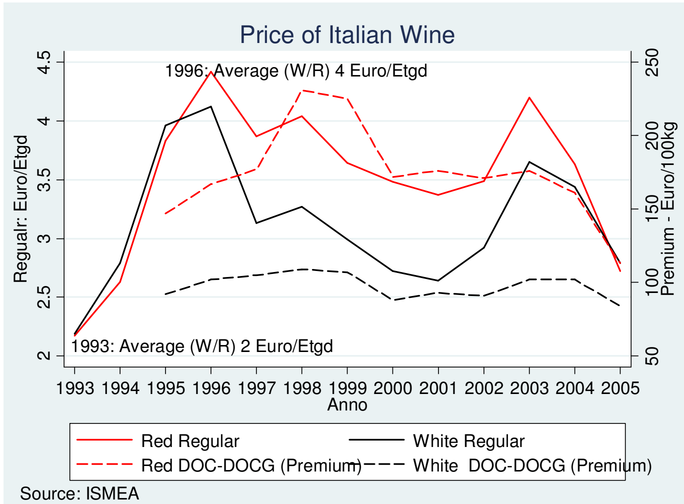
3.2. Reasons for the expansion of Microbreweries

With such a low beer per capita consumption, the emergence of microbreweries cannot be thought of as an entrepreneurial strategy to maximize profit: it can however be thought as a result of a cultural change, as the reaction of Italian producers to the loss of national identity in beer production, as well as the reaction of consumers against mass production. Small craft producers supply a beer different from the industrial flavor, pointing to "authentic" quality, with a greater variety in taste, color, foam, alcohol level, and serving temperature (Barnett et al., 1996). If those are the main arguments that the literature investigating the existence of a market with few big players and a proliferation of small microbreweries, there are also some economic and demographic characteristics that have contributed to strengthen and disseminate the culture of beer in Italy, as the increasing figures of on per capita consumption show.

Some advocate that beer is becoming the cheap substitute of the expensive wine. The 1990s saw a transition from traditional supply-driven production to market-orientated types of wine and business models. This radical change has been exacerbated, in the country, by the notorious scandal of 1986, the so-called methanol disaster5. The sector rapidly transformed introducing specific rules, and labeling systems such as Denomination of Controlled Origin DOC/DOCG[6] (Premium wine). Wine has rapidly been transformed from a cheap and low quality product towards a high quality product, sold in luxury wine bars, and often associated with the history, culture, the architecture, the overall Italian landscape. Its radical change has contributed to development of the Italian Wine Tourism Movement, and the associated expansion of agritourism. Between 1993 and 1996 the price of standard red and white wine shot up from about 2 to more than 4 euros per Etgd (ectograde). The price of premium red wine rose from 147 to 225 Euro per 100kg between 1995 and 1999. The share of wine in total consumption passed from 89% in 1975, to 77% in 1985, and had dropped to 69% by 1995.

[5] Due to high amounts of methanol added to lower quality wines, 22 people died, and several others remained injured.. After the tragic results from cutting wine with methanol to increase alcohol levels, the Italian wine industry experienced a radical turnover. The methanol disaster happened to occur during a particular moment for the market, which was experiencing an export boom. In 1985 exports had reached almost 17 million hectoliters. In 1986, that number dropped drastically to just under 10 million hectoliters exported

[6] Denomination denoting quality wine with guarantee of origin, and focuses largely on localise traditions of producing distinctive wines.



Others maintain that the rise of microbreweries, and therefore of beer consumption, has resulted from increasing numbers of beer-drinking Eastern and North Europeans living in Italy. In 2002, 26% of all foreigners living in Italy came from the top 20 beer-consuming countries, whereas in 2007 this share had increased to about 38%. Looking closer at regional differences, this share in the Center, South and Islands is 2 to 6 percentage points higher than the national average in 2007, whereas it is 6-7 percentage points lower in the North. Recall that over the same period, the number of microbreweries increased from 47 to 190 unit, some 4 times greater in the Center, South and Islands and 3 times more in the North.

It is also possible that the rise in beer consumption is associated with the introduction of low cost airlines in the second half of the nineties, and therefore the travelling of future Italian beer entrepreneurs around Europe. A lack of data makes it difficult to really back up this statement, but it can be noted that since the beginning of 2000, 16 of the 20 regions in Italy have an airport with at least one low cost airline.

In the absence of a proper survey it is difficult to say exactly why this development has taken place , but the following factors have played a role:

- The consumption of beer by young people (it is cheap – cheaper than wine – one can drink plenty of it and the fact that it takes longer to drink lends itself to chatting or listening to music)
- From the middle of the 90s the consumption of raw products has become increasingly popular, as seen in the growth of Japanese restaurants and Sushi bars in Milan and other parts of Italy, or of the more recent emergence of raw milk distributors.
- The more general pleasure of tasting new things beyond the standard products (to attract customers brewpubs need many different types of beer, in addition to the classic products)
- The fact that brewpubs sell as much beer in the winter as in the summer shows that beer is no longer seen as merely thirst-quenching but also as tasty
- The problem of the spread of brewpubs. This is partly due to the limited shelf life of the products – non-pasteurized beer does not last more than a few months and cannot be stored in warm environments
- Production costs are high and do not allow beer and pizza to go together. Neither is it possible for craft beer to become a summer drink that replaces water.

4. Growth and Survival? A good time to introduce a labeling system and a code of practice

4.1. The importance of labeling for Italian microbreweries

By comparing consumption and production of beer in Italy with international trends we can see that the Italian market continues to grow both in consumption per capita and rate of production. These numbers could also prove that the craft beer market is actively expanding. However, as in all the situation of market concentration, this infant new market may strengthen or may decline due to a lack of organization among producers. Already, 6 microbreweries have shut down since 1993. In this section we make use of some of a survey carried out among 953 customers of microbreweries from Lombardy in order to investigate the possibility of creating a collective mark for Italian craft beer.

Such a strategy would help microbreweries to increase their supply, by investing in beer quality and improving consumer knowledge. While multinational giants can rely on lower transportation costs, and logistical services, taking advantages from the supply-chain management, microbreweries should join cooperate in order to overcome the costs of selling and distributing small volumes.

To establish whether the time is right to create this labeling system, we asked 900 customers of microbreweries, brewpubs and beer-shops in Northern Italy what they considered to be the most important qualities in a craft beer, what they believe are the main differences between craft and non craft beers and whether or not they would be in favor of common labeling. Lombardy was chosen because it has the highest concentration of microbreweries and brewpubs in the country.

The survey encompasses information on consumers' characteristics, knowledge of history of beer, and Unionbirrai7 and its activities, reasons for visiting microbreweries and brewpubs, and for buying a craft beer. There is also a question about consumption frequency and their consumption ratio between craft beer and industrial beer. Finally, there are also information on the definition of craft beer for consumers, and the most relevant differences between craft and non craft beer.

Finally, the last section concentrates on the issue of a possible collective mark. First, the consumer is required to express his view on how helpful labeling, marks and certifications are when selecting a product, and then there are questions about the utility of a collective mark and the reasons behind it.

The survey was implemented for assessing Unionbirrai's feasibility of the creation of a labeling system, promoted by the Association itself. The data collection approach does not allow to make any kind of inference, or to tabulate conditional means for sub-sample of consumers, or selected groups. However, the results, at the aggregate level, are indicative, and highlight many interesting insights of consumers' attitude towards beer, and the rising importance of the "Made in Italy of Beer Brewing".

Among the highlights of the questionnaire are that some 21% of respondents consider limited production and distribution to be one of the defining characteristics of craft beer, while 19% believe it is important that craft beer be non-pasteurized and 18% think that the choice of raw materials and production process is crucial. According to the interviewees, flavor characteristics are the most important difference between craft and industrial beers, while careful brewing and diversity of products are also significant in this regard. Meanwhile, the choice of one craft beer over another is

[7] Unionbirrai is an association whose purpose is to promote the diffusion of craft beer culture in Italy. It organizes courses, tasting competitions, and keeps members updated on news and initiatives in the field. It also manages a rich website site and publishes the quarterly magazine "Unionbirrai News" It has close ties to National and International beer associations.

determined principally by sensory characteristics, then by acquaintance with the brewer and then price.

Most interviewees are in favor of common labeling, since they consider it important to have a guarantee of authenticity and quality. We therefore propose a code of practice for the collective "Italian craft beer". The code of practice would forbid pasteurization and limit yeast, lactic acid bacteria and spoilage bacteria, but would not place restrictions on raw materials (so as not to limit brewers' creativity). The code would also stipulate that a microbrewery could produce a maximum of 10,000 hectoliters of beer per year.

4.2. Preliminary findings

Table 9 summarizes individual characteristics of beer consumers. On average, 73% of the consumers are aged between 16 and 40 years old, while 26% are in the 40-60 categories, and only 1% over 60. Education levels are low, with only 30% of the sample having a university degree. The large majority of the interviewed are employees, or self-employed people such as farmers, craftsmen, and entrepreneurs (62% and 18% respectively). Students make up 15.6%, and only 3% are unemployed.

Table 9: Individual Characteristics

Variables	Share of Individuals
Sex	%
Male	76%
Female	24%
Age	
16-29 years old	30.5%
30-39 years old	42.3%
40-49 years old	14.9%
50-59 years old	11.0%
over 60	1.3%
Education level	
Primary school	15.5%
Secondary school	54.6%
University degree	29.9%
Employment status	
Student	15.6%
Employee	61.7%
Craftsman, entrepreneur	18.2%
Retired person	1.3%
Unemployed	3.3%

Source: Unionbirrai Survey, 2008

Table 10 highlights the attitudes of consumers towards craft beer. Most participants reported that they visit breweries for the beer itself (50.9% of total responses), followed by location (22.9%), food (18.3%) and other answers (7.9%). Sensory characteristics are most important to consumers when selecting a craft beer (66.8%) followed by acquaintance with the brewer (24.3%). Price does not seem to represent an important factor influencing consumer decision for buying a craft beer: (only

3.7%), whereas 5.2% of the consumers believe that curiosity for a new product, or buying beer following the advice of friends, websites or books are important factors determining the decision to buy an artisanal beer. As regards frequency of consumption, the large majority of the sample tends to drink beer on a regular basis: daily and weekly consumption account together to some 62%, and 33.2% only once a month.

Table 10: Consumers' assessment on craft beer

Variables	Share of individuals
Reasons for visiting a microbrewery or a brewpub	
Beer	50.9
Location	22.9
Food	18.3
Others	7.9
Reasons for buying a craft beer	
Sensory characteristics	66.8
Price	3.7
Acquaintance with the brewer	24.3
Others	5.2
Frequency of consumption	
Daily	18.8
Weekly	42.2
Monthly	33.2
Once a year	5.9
Definition of craft beer	
Non pasteurized	18.6
Non filtered	8.1
No additives and preservatives	13.1
Choice of raw materials - brewer's care	17.6
Limited production - local distribution	20.8
Sensory characteristic - styles variety	16.3
Others	5.4

Source: Unionbirrai Survey, 2008

The survey also shows that quality standards are important to consumers when it comes to drinking craft beer. Results show that 20.8% of consumers believe that a craft beer must be produced in limited quantity and predominantly locally distributed. Among the main results, 18.6% say that a true craft beer is unpasteurized, 17.6% think that the brewer's choice of raw materials and involvement in the brewing process is significant. Sensory characteristics of the product and the variety of style account for 16.3% of the sample, while 13% and 8% , respectively, of the individuals think that craft beer is free of preservatives and additives, and that the finished product must be unfiltered. It should also be noted that some respondents answered that true craft beer is handled throughout its production process by a single company. Others argue that it should be produced traditionally or only through high fermentation yeasts, and finally, that the brewery must be independently owned and operated.

Differences between craft and non-craft beers are reviewed in Table 11.

Among the most important factors affecting consumer's perception of the difference between craft and non craft beer are differences in taste, aroma and color (49.7), and brewer's care during the entire production phase, from the selection of raw materials to product's packaging. Together, those factors are pointed out by some 65% of the respondents. Style, brewers' creativity, and a link with the local territory also matter.

Table 11: Most relevant differences between craft and non-craft beers

	Share of individuals
Sensory characteristic: differences in taste, aroma, color	49.7%
Brewer's care: care during the entire production, from the selection of raw materials to the product's packaging	15.6%
Styles variety greater range of styles in craft beers, due to brewers' creativity and imagination	11.1%
Non perceptible characteristics differences that are indirectly perceived by the consumer such as the product's link with the territory, nutrition, health	9.3%
Carbonation characteristics related to the "drinkability" of the beverage	6.7%
Beer presentation draft, labels, explanations at brewpub or microbrewery	4.0%
Others	3.5%

Source: Unionbirrai Survey, 2008

Table 12 focuses on labeling information. The large majority of the sample (80%) believes that labels and marks are an important factor affecting their decision to consume the product. When asked whether the collective mark "Birra artigianale italiana" would matter in consumers' attitude towards beer, 78% replied that it could be informative and useful, and that they would choose it compared to a beer with similar price, but without the mark. Among the reasons why one would choose a beer with a mark, is that it is a guarantee of a real "craft beer" (67%), with more controls, and safety (23.2%). However, among those who would prefer a beer without a mark, 41% think that a mark is just an advertising strategy, while 52% would choose a product based on other characteristics.

Table 12: Importance of an Italian mark

Share of consumers that	Share of individuals
believe in the Labels usefulness	80,5
believe that the label "Birra artigianale italiana"- Artisanal Italian beer would be important	78%
would choose a beer with Italian Craft mark	80%
would choose a beer of similar price but with the "Artisanal Italian beer" mark	80%
Reason for choosing an "Artisanal Italian Beer"	

Guarantee that beer is really “craft”	67%
Guarantee of more controls and beer safety	23.2%
Others	9.8%
Reasons for choosing a beer without mark	
Mark is just advertising	41%
Choose product considering different characteristics	52.4%
Others	6.6%

To summarize our findings, we found out, in our survey, that when selecting a craft beer, sensory characteristics, and the ability to see how the brewer works are most important to consumers.

The survey also determined that the frequency with which people consume craft beers varies greatly. Our study found consumers who drink it on daily or weekly basis, and those who consume it very rarely. This result could be influenced by the lack of availability of some craft beers. One notable conclusion is that there is no consistent definition of craft beer. Most surveyed consumers believed that the term “craft beer” means unpasteurized beer created by a small producer and distributed mainly locally or in areas near the brewery. Craft beer should be unpasteurized to remain “alive” and the brewer must be highly involved in the selection of ingredients and the brewing process. Other important findings drawn from our survey are the consumer’s appreciation for the great variety of styles offered by microbreweries, and that a craft brewery must be independently owned.

Regarding the differences between industrial and craft beers, most consumers believe that the dissimilarity of sensory characteristics is the greatest point of comparison between the two types of beer. Another important finding is that only a small percentage of microbrewery, brewpub and beer shop customers know of Unionbirrai and its activities. This could be a starting point for the Association to promote craft beer in Italy.

Conclusions

According to the macroeconomic data, the Italian beer sector seems to promise increasing rate of growth in the near future. According to Euromonitor (2009) Italian consumers are discovering other beers’ than lager, and do not consider anymore beer as a summer drink. Although lager keeps on representing the largest share of beer sales, “premium beer” are starting to appear even in supermarket. Stout and dark beer are still considered niche product, but there importance increase.

The historical Italian breweries used to supply almost exclusively lager beer. The new “Made in Italy” in beer production requires that new entrepreneurs adapt to this changing consumer attitude.

Small Italian entrepreneurs are reacting by starting new businesses, and supplying a new Italian product (of foreign origin). The lack of official and reliable data on this new sector, or the absence of a specific survey on small breweries does not allow to draw many substantial economic considerations. The sector however, even if only as a social movement, is extremely interesting, and deserve further studies. Being at an early stage of the life-cycle, small enthusiast microbrewers have to consolidate their position, investing in research, and in training. Some laboratories should be implemented in order to transfer adequate technical skills, in order to help the producers to complement or adjust standard beer recipes with the typical fancy and Italian imagination.

Annex 1: Evidence of a Code of Practice for Italian Artisanal Beer

By examining data on the consumption and production of beer in Italy and throughout the world we note that the Italian market, despite a lack of data, continues to grow both in consumption per capita and rate of production. These numbers show that the craft beer market is actively expanding, and that a collective mark would be a useful advantage for producers who respect its code of practice.

A collective mark assures consumers that marked products follow given standards and are of a certain quality. These standards must be measurable and checkable. The Code of practice is the official document outlining the whole collective mark system. It explains the ingredient and production standards required for marked craft beer.

. It was found that small beer producers are everywhere, but there are seldom forms of protection (marks, codes of practice, appropriate laws ...) to protect and enhance their activity.

Unionbirrai's team was able to write their specifications for the Italian craft beer mark by considering the requests of consumers and already existing marks and codes of practice (SIBA, Trappist…).

According to the Unionbirrai's code of practice, the definition of a craft beer is a beer that uses water, yeast, hops, malt, and other legally approved ingredients during its brewing process. The microbreweries producing these beers must be independently owned. Also, maximum production allowed is up to 10.000 hectoliters and labels on beer bottles should indicate all ingredients and a brief description of the sensory characteristics of the product,

Finally, Unionbirrai set some microbiological limits for lactic acid bacteria, contaminants and wild yeasts after conducing analysis on Italian beer samples.

The extraordinary growth in the number of Italian microbreweries is not necessarily correlated to an increase in the quality of Italian beers.

One of the aims of the collective mark is to improve product quality and to prevent big beverage corporations from falsely advertising their beers as "craft".

Summary of the Code of Practice

Name	Brand name "Birra Artigianale Italiana – Unionbirrai" is reserved only for products that meet the standards of this code of practice. Cultural Association Unionbirrai is solely responsible for the brand.
Craft Beer	Using quality raw ingredients and maintaining step by step production regulations is important during the brewing of craft beer
Identification	The name on the label is "Birra Artigianale Italiana – Unionbirrai". The logo is a white half glass of beer, flanked by a gold half ear, inside a burgundy circle. Inside the circle is written "Birra artigianale italiana" (in white) and "Unionbirrai" (in yellow). The logo must be clearly visible on labels and packaging.
Collective mark ownership	Unionbirrai owns rights to the mark and logo "Birra artigianale italiana - Unionbirrai"; they were registered at the Office Registration Marks and Patents of the Milan Chamber of Commerce on 4 February 2009.
Raw materials	Following raw materials are allowed in the production of beer: water, yeast, hops and malt in the amounts allowed by law. In addition to the sole purpose of enriching the flavor profile of the brew, the following ingredients are allowed: un-malted grain, sugar, spices, honey, fruit and everything is permitted by Italian law.
Pasteurization	Pasteurization and other heat treatments are forbidden.
Additives	Craft beer is a natural product, unpasteurized and additive free (food coloring, sweeteners, preservatives ...).
Production	Italian microbreweries and brewpubs can produce up to a maximum of 10.000

	hl/year.
Independence	Microbreweries must be independently owned: less than 25% of the craft brewery can be owned or controlled by an alcoholic beverage industry member. A microbrewery may be divided into more than one unit, provided that its total annual production does not exceed the limit established in this code of practice.
Transparency	Italian producers must list all the raw materials used during the brewing of their beer on the product's label.
Beer description	A brief description of the sensory characteristics of the beer (appearance, aroma, taste, color ...) in order to describe the beverage and give the consumer a reference for evaluation. A Unionbirrai panel of tasters will periodically conduct a series of sensory tests on products to verify the accuracy of the declared characteristics.
Microbiological limits	Italian craft beer must not exceed the following limits: Contaminants: <20,000 cfu / ml Lactic acid bacteria: <1,000 cfu / ml (*) (*): Excluding beer labelled "sour" or other similar terms
Monitoring and penalties	Unionbirrai is responsible for applying these codes of practice. Failure to comply with the criteria defined by these specifications leads to the revocation of the trademark and logo "Birra Artigianale Italiana – Unionbirrai".
Microbiological analysis	To determine suitable microbiological limits, Unionbirrai studied a series of microbiological analysis on Italian craft beer samples. A research in scientific bibliography showed that very few studies focusing on craft beer have been conducted due to the relative newness of this product. Numerous studies have been conducted on non craft beer, but the filtration and pasteurization processes during the brewing of industrial beer means these studies are not always valid for craft products. Through reports from of CNR-ISPA laboratory, located at DISTAM (Department of Food Science, Technology and Microbiology) in Milan Università degli Studi, three indicators were selected: lactic bacteria, contaminants and wild yeasts. The three indicators should be simple yet significant aspects of a well conducted process. Beer is typically considered to be a beverage with a good microbiological stability that is difficult to spoil: Bacteria spoilage is inhibited by the amount of ethanol (from 0.5 to 10% per volume), hop compounds (iso-alpha acids: 17-55 ppm), low pH (approximately between 3.8 and 4.7), low oxygen content (<0,1 ppm) and by the lack of nutrients such as glucose and maltose present in the substance. However, in spite of it's chemical composition, a few microorganisms still manage to grow in beer. These contaminants can increase turbidity, creating unwanted sensory changes that may affect the quality of the product, and its popularity with consumers. A number of microorganisms are reported as beer spoilage microorganisms such as Gram-positive and Gram-negative bacteria, as well as wild yeasts. Gram-positive beer spoilage bacteria include lactic acid bacteria belonging to the genera Lactobacillus and Pediococcus. They are the most hazardous bacteria for breweries and reportedly are responsible for approximately 70% of microbial beer-spoilage cases. The second group of beer spoilage bacteria is Gram-negative bacteria of the genera Pectinatus and Megasphaera.
Analysis results	59 Italian craft beers were analyzed to determine the presence of lactic acid bacteria and other non lactic contaminants. Both top and bottom fermented beers, produced in Italian brewpubs and microbreweries were studied. All beers were bottled and unpasteurized; some were produced only with water, malt, hops and yeast, and others using various and unusual ingredients such as cinnamon, kamut grains, chestnuts, rose petals, juniper, figs, buckwheat, and grapefruit… The alcohol per volume was between 4 and 12%. The proposed limit for non lactic contaminants is 20.000 cfu/ml; 85% of the analyzed beers were under this limit,. The limit for lactic acid bacteria is set at 1.000 cfu/ml. 41% of the beers were under the limit.

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