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Ca' Foscari
Dorsoduro 3246
30123 Venezia

# The craft beer market: emerging strategies in a growing business

**Relatore**
Ch.mo Prof. Stefano Micelli

**Laureando**
Jacopo Deola
Matricola 845408

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## INDEX

## Introduction

Beer is one of the most ancient nourishments in human history, dating back to 3500 B.C.[1] or earlier. It is probably the oldest fermented beverage and it is currently the most consumed alcoholic beverage in the world[2].

**Figure 1: Egyptian wooden model of beer making in ancient Egypt, 2050 B.C.**

**Source:** "EMS-89615-Rosecrucian-Egyptian-BeerMaking" by E. Michael Smith Chiefio - Own work. Licensed under Creative Commons Attribution 2.5 via Wikimedia Commons - http://commons.wikimedia.org/wiki/File:EMS-89615-Rosecrucian-Egyptian-BeerMaking.jpg#mediaviewer/File:EMS-89615-Rosecrucian-Egyptian-BeerMaking.jpg

The basic production process has remained the same for ages, since the yeast strains had been discovered and isolated (production relied on spontaneous fermentation before)[3]. German tradition beers (lager style) are mainly brewed with Saccharomyces Carlsbergensis (generating the so called "low fermentation") while English and Belgian beers (porter, stout and ale style) tipically use Saccharomyces Cerevisiae (generating the so called "high fermentation"). There are several exceptions such as German Weissbier,

[1] http://www.nytimes.com/1992/11/05/world/jar-in-iranian-ruins-betrays-beer-drinkers-of-3500-bc.html visited on 01/07/2014

[2] http://epianalysis.wordpress.com/2012/02/28/alcohol/ visited on 01/07/2014

[3] Jackson, M. *Beer,* Dorling Kindersley Limited, London, 1998 p. 19

that use a high fermentation or Belgian Lambic, that use a spontaneous fermentation based on wild yeasts such as Brettanomyces. The choice of the fermenting process is very important in defining the beer properties.[4]

Typically the beer industry has been working with S. Carlsbergensis, while the new creaft breweries are definitely more oriented to S. Cerevisiae, both for technical and organoleptic reasons. While the industry aims mainly to reach the market with a standardized, low cost and free of faults product, that is reached through pasteurization, craft breweries are positioned in a broadening niche of the market composed by consumers that are very sensible to organoleptic qualities, raw materials and authenticity, and are passionate for the tangible features of the product itself. A niche that has reached very important numbers in some situations and that doesn't seem to stop growing.

[4] Buiatti, S. *Lievito e fermentazione nella produzione della birra,* 1999

# 1. The phenomenon of craft beer

## 1.1. History of craft beer

The beginning of the microbrewing movement can be dated back to 1970s in England or even to 1965 in the USA, when Fritz Maytag acquired Anchor Brewing Company, preserving it from closure.[5] American Brewers Association dates the first microbrewery in 1971, when the first bottles of Anchor Brewing Steam Beer were sold[6]. New Albion Brewing Company, the first microbrewery, was established in 1976, then the phenomenon boomed the first time from 1980, after the deregulation of the beer market by president Jimmy Carter in 1979, until 11/09/2001 and a second time since 2006 and hasn't yet stopped. According to the Brewers Association, in 2013 the USA are the largest craft beer market, accounting 2.768 craft breweries 119 of which are considered regional (they exceed 15.000 barrels per year of production) 1.412 are microbreweries and 1.243 are brewpubs.

Since the 70s, the phenomenon spread widely in several countries including Italy, Germany, Denmark, Norway, France, China, Japan, Australia, UK, Belgium.

The ratebeer.com and beeradvocate.com databases are filled by the consumers with a huge amount of beers coming from everywhere in the world and their personal ratings. Looking at those databases it is noticeable that almost every country in the world has its own beers.[7]

The microbrewing phenomenon started from countries that already had a strong background about beer and spread around the world later. In particular in the USA and Great Britain were the first countries in which microbrewing took place as a reaction against the flat industrial beers of which the market was completely fed and a recovery of the traditional brews. The term itself indicated small size breweries at first, but soon came to point out a new attitude in brewing, based on innovation, creativity and quality.

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[5] http://en.wikipedia.org/wiki/Microbrewery visited on 12/08/2014
[6] 2013 historical data, courtesy of Brewer's Association
[7] http://www.ratebeer.com/ratings/most-difficult-countries/ visited on 12/08/14

Small sized high quality breweries, instead, had been existing for long in Belgium and Germany, where the standardized industrial beer never overcame the traditional brews. In Weihenstephan, Germany, inside the monastery, there is the oldest brewery in the world, dating back to 1085, brewing the Famous Weihenstephaner Weissbier, and the University of Agriculture and Brewing.[8] In Belgium there is the highest concentration of Trappist monks that still brew their beers inside the respective monasteries, including the famous Westvleteren XII, considered by the most the best beer in the world.[9]

The beginning of the Italian craft brewing is recent story, dating back to 1996, despite the presence of a little number of formerly established less successful breweries that have mostly closed. In that year the two most influential microbreweries in the Italian scene were established: Le Baladin in Piozzo (CN) by Teo Musso and Birrificio Italiano in Lurago Marinone (CO) by Agostino Arioli. While the former was influenced by the Belgian style of his teacher, the brew master Jean-Louis Dits, the latter was influenced by a German-oriented tradition from Gianni Pasa, actually brew master at Birreria Pedavena, who has helped him since his first home-brews in 1985.[10]

Agostino Arioli followed the only Italian brewing tradition, that was an industrial tradition, relying on Gianni Pasa and Lorenzo Pilotto, who graduated malt smith brewers in Feltre in 1971 at the only Italian beer school[11] [12] [13] (that closed in 1978 because of the lack of attendance)[14]. Arioli's idea is to give to the consumer a classic style, balanced and great quality beer, with strong character, but simple to drink: an "*archetypal*" beer as he defines his Tipopils.[15] He doesn't care too much about extreme beers, as the most of the

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[8] http://weihenstephaner.de/en/history visited on 13/08/14
[9] http://www.ratebeer.com/beer/top-50/ visited on 13/08/14
[10] Jansing, B. and Vismara, P. *Italy: Beer Country the Story of Italian Craft Beer*, Dog Ear Publishing, 2014, p. 25
[11] http://www.birreriapedavena.info/?storia visited on 12/08/14
[12] http://corrierealpi.gelocal.it/cronaca/2011/05/01/news/il-mestiere-a-18-anni-poi-raffinato-in-germania-1.960746 visited on 12/08/2014
[13] Jansing, B. and Vismara, P. *Italy: Beer Country the Story of Italian Craft Beer*, Dog Ear Publishing, 2014, p. 25
[14] Interview with Lorenzo Pilotto on 02/10/2014
[15] http://www.cronachedibirra.it/interviste/4240/15-anni-di-birrificio-italiano-intervista-a-agostino-arioli/ visited on 12/08/2014

market requires, but still is excited about innovation, continuous product development and self-brewing his beer. In this way he perfectly represents the new Italian craftsman described by Stefano Micelli in *Futuro Artigiano*.

Teo Musso is the pioneer of the other side of the Italian craft brewing: eccentric personality, frontman, all-round manager, always looking for something new, he has created a very important multinational enterprise and, most of all, he created a market that didn't exist before, by trying to sell beer in the wine channel and always pairing it with food. He really took advantage of the lack of Italian beer culture in order to impose his own ideas that don't necessarily follow the internationally accepted styles of beer.[16]

Later came a new generation of Italian brewers that represent a third style of brewing based on the English tradition of hoppy and bitter beers that started with Leonardo Di Vincenzo and his Birra del Borgo, who was influenced by the American brewmaster Mike Murphy.[17]

Similarly to the USA, also in Italy a change in regulation was necessary to the birth of microbrewing. In 1995 a law was repealed that required a fiscal inspector to supervise every production cycle and, for that reason, had to live inside the brewery, being simply too expensive for any small scale producer. Probably there is a correlation between the deregulation and the fact that the most of the previously opened microbrewery have suddenly shut.[18] There was no regulation about craft beer, so microbreweries had to comply with the same laws that regulated the industrial beer market. This little deregulation allowed microbreweries to be set in place, otherwise there simply would be too high fixed costs.[19]

A second enabling factor was a change in technology that allowed to build small size breweries. The first brewers just couldn't find small size equipment on the market, so

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[16] Jansing, B. and Vismara, P. *Italy: Beer Country the Story of Italian Craft Beer*, Dog Ear Publishing, 2014, pp. 21-23

[17] Jansing, B. and Vismara, P. *Italy: Beer Country the Story of Italian Craft Beer*, Dog Ear Publishing, 2014

[18] http://www.cronachedibirra.it/opinioni-e-tendenze/8771/uno-sguardo-al-passato-i-duri-inizi-dei-pionieri-del-movimento-italiano/ visited on 28/08/2014

[19] Jansing, B. and Vismara, P. *Italy: Beer Country the Story of Italian Craft Beer*, Dog Ear Publishing, 2014

they had to realize it by themselves with supplies coming from other purposes. Anchor Brewing was using and old and revised industrial plant, New Albion brewery was built with Coca-Cola drums, Sam Calagione built his first Dogfish Head brewery (the first one in Delaware, with a 30 gallons home brewing plant and fermenters obtained from old casks.[20] Agostino Arioli produced his equipment on his own since 1985 when he started home brewing. Teo Musso, instead, could rely on a Belgian "*not that great*" wooden crafted plant that eventually caught fire.[21] In the first stage frugal innovation was a key factor, but soon emerged some manufacturers that could produce proper size plants at acceptable prices. Velo S.p.a. was the Italian leader in plants manufacturing, adapting its expertise coming from the wine sector.[22]

The practice of home brewing was fundamental in order to create the requested capabilities for crafting the first small scale breweries and still it is a very important training for the new generations of brewmasters, such as Nicola Simion and Fabio Simoni, owners of the just opened BioNoc' near Fiera Di Primiero. [23]

After all, the phenomenon of microbreweries was strongly pulled by the market. Despite not using traditional communication channels, that wouldn't make sense for the scale of craft breweries (except for the largest regional craft breweries, but their growth is recent story and still the largest American ones brew less than a single facility owned by the industrial groups),[24] the demand for the product has been growing dramatically. In Italy, after the early suspicion by the customers, the phenomenon has been booming since 2010s and the number of breweries is quickly increasing.[25]

Currently Italian craft brewing is a wide spread national phenomenon. The geographic development of breweries initially followed the pattern of industrialization. The highest

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[20] Calagione, S. *Brewing up a Business*, John Wiley & Sons, Inc., Hoboken, 2011, p. 13
[21] Drago, M. *Baladin. La birra artigianale è tutta colpa di Teo.* Feltrinelli, Milano, 2013, p. 62
[22] Interviews with Giorgio Zatta and Matthias Müller, formerly foreign salesman and consultant at Velo.
[23] Interview with Fabio Simoni brewmaster at BioNoc' on 26/07/2014
[24] Interview with Teo Musso at Marketers MakeIt! on 27/03/2014, San Giobbe, Venice available on http://www.youtube.com/watch?v=WAnpbENH8fs
[25] Brew It interview with various Italian brewmasters https://www.youtube.com/watch?v=V_RXJTLRk1s visited on 14/08/14

concentration initially corresponded more or less to the new industrial triangle Torino-Udine-Ancona and, though the pioneers and most famous breweries are located in the north-west, interestingly, some of the largest ones (Amarcord, that was established in 1997, Mastri Birrai Umbri and Birra del Borgo) are located in the center of Italy, where a new generation of brewers have their product pulled by the market in the city with the largest consumption: Rome.[26]


**Figure 2:** map of Italian craft breweries

**Source**: www.microbirrifici.org

[26] Jansing, B. and Vismara, P. *Italy: Beer Country the Story of Italian Craft Beer*, Dog Ear Publishing, 2014

## 1.2. The change in consumers behavior

In order to understand the reasons that underpin the development of craft brewing we have to consider that, in the pattern of development of a market, typically the industry has the merit to make the good known, available and accessible for the largest part of the global population. In this phase the good is typically a commodity and, after the early fragmentation, there is usually a consolidation of the market. Later preferences use to emerge and differentiation or customization can be the tools for a market revitalization.

In a market that is totally fed by industrial standardized products, new entrants can emerge by carving out a niche, especially if, such as in the case of beer, the quality and differentiation of the product itself is very poor, making it comparable to a commodity. Craft brewers say that the industrial product, despite being technically perfect, is flat, bad tasting and is served chilled just in order not to let flavors (that could be defective) come out. In order to explain the different approaches to beer of craft and industrial producers, during a course of homebrewing, brewmaster Antonio Merlo said: "*If you want to learn to make beer, try to make Dreher. It's very difficult, because it has to be perfectly clear, pale, transparent and taste almost of nothing: if you want to learn to make beer start by making Dreher. Then you can throw it away!*"

Further dynamics in the markets can be explained by the theory of the experience economy by Pine and Gilmore (1998). Basically, they explain how, while markets become more mature, products and services become more commoditized and, in order to preserve profitability, the value proposition of the firms have to move forward giving experiences, that is what consumers actually are looking for. They identify experiences as memorable events (while commodities are fungible, goods are tangible, and services intangible). They assert Horeca is a good sector to put in place a kind of experience known as entertainment, but, as they point out, "you are what you charge for" and events created just in order to increase preference for the commoditized goods or

services the companies sell (such as Heineken Jammin' Festival) "*is not an economic offering*".[27]

If we consider the beer market, we can see how industrial groups are locked in a very immature business model. Their typical behavior is to sell the beer (that is arguably a good, but it's more likely to be a commodity)[28] directly or through the distributor and give lots of free services they will return of by binding their customers with long contracts. They usually have no relations with the final consumer, except some flagship stores in historical places such as Birreria Pedavena in the homonymous village or Hofbräuhaus in Munich (respectively the largest in Italy and in Europe). Now the industry is trying to give people some more experiences, such as Heineken Experience, a trip through a historical Heineken facility.[29]

Economic Distinctions

| Economic Offering | Commodities | Goods | Services | Experiences |
|---|---|---|---|---|
| Economy | Agrarian | Industrial | Service | Experience |
| Economic Function | Extract | Make | Deliver | Stage |
| Nature of Offering | Fungible | Tangible | Intangible | Memorable |
| Key Attribute | Natural | Standardized | Customized | Personal |
| Method of Supply | Stored in bulk | Inventoried after production | Delivered on demand | Revealed over a duration |
| Seller | Trader | Manufacturer | Provider | Stager |
| Buyer | Market | User | Client | Guest |
| Factors of Demand | Characteristics | Features | Benefits | Sensations |

**Figure 3:** chart of economic distinctions of commodities, goods, services and experiences.

**Source**: Pine, J. and Gilmore, J., *Welcome to the Experience Economy*, Harvard Business Review, 1998

By giving away free draft plants, tables, chairs, gadgets and other basic equipment, in exchange for long exclusive supply contracts, they basically offer financial services (considerably reducing the amount of money needed in order to start a new business

[27] Pine, J. and Gilmore, J., *Welcome to the Experience Economy*, Harvard Business Review, 1998

[28] Basing on Pine and Gilmore description (see chart) we can point out that industrial beer has an important characteristic that is typical of a commodity: fungibility. The most of the industrial beers on the market are very similar to each other.

[29] http://www.heineken.com/it/heineken-experience.aspx visited on 19/08/2014

without even asking for warranties and plan to return of the investment with the cash flow generated by the beer sales) and they supply some basic know how to the new enterprises.

To the final consumer, as pointed out, they mainly offer a commodity with some degrees of differentiation based on the brand image or gadgets, not on intrinsic features of the product itself. The creation of a service or experience around beer is the way to sell more product and create the largest part of the value, but it is totally outsourced with no possible control and earnings. Experiences won't even take place in several situations (if the product is bought in an off-premise store) or will be created by the consumer itself, with parties and so on.

It is arguable if it makes sense to try to create an experience around a good that is more likely to be a commodity or if it would be better to take one step backward and try to improve the product itself. Some large groups are already doing it very well, pushing their pseudo-craft brands up to 29% growth year over year[30]. Blue Moon (Miller-Coors) and other pseudo-craft brands such as Leffe (Ab-InBev), Affligem (Heineken) and Birra Poretti (Carlsberg) just to make some examples, are selling premium price and well performing and are shrinking the market for standard industrial lagers even more.

This should make clear that the demand for a better quality product is something that goes beyond the craft beer phenomenon. Probably, the product development of industrial breweries went in a wrong direction over the last century, focusing on cost reduction and product standardization in order to give the consumer a sense of comfort, that they believed was the most important feature. This also created some lock-in phenomenons: currently used machinery in industrial beer manufacturing are not able to process the rough raw materials that craft brewers use in order to give

[30] http://goldforest.com/Blog/tag/blue-moon/ visited on 20/08/2014

flavors to their product.[31] Since the high fixed cost configuration of breweries, it becomes difficult to switch to other machinery quickly.

Craft breweries are different. On first there is a high degree of differentiation in their products in terms of flavor and taste. They usually comply with an internationally recognized classification of beer styles[32] and every brewery has its own version of some styles (and also, sometimes, beers that don't perfectly fit in that classification). As Lorenzo Dabove, also known as Kuaska, the famous Italian beer hunter, use to say: "Beer doesn't exist. The beers exist."[33]

Secondly, craft breweries often rely on an innovative business model: the brewpub (nearly a half of the American breweries[34] and a quarter of the Italian ones[35]). The most of the Italian successful breweries described by Brian Jansing and Paul Vismara in in *Italy Beer Country* started from a brewpub. This form of distribution, apart from guaranteeing the appropriation of all the margin from the malt to the glass, allows to give a service to the customers and also, if well managed, to give an experience. As explained by Marco Drago in *Baladin. La birra artigianale è tutta colpa di Teo,* the first Italian brewpub relied on events and other experiences that also could create a great value for the brand. It is not only about entertainment or escaping experience, but also about education, with the chance to "sell" to the costumer one producers mission, its values, the way beer is made, the way raw materials are made and so on. After all, as Simon Synek states, "People don't buy what you do, they buy why you do it".[36]

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[31] Interviews with Massimo Battistel, Lorenzo Pilotto and Emiliano Dorigoni.

[32] An example is the classification provided by the Beer Judge Certification Program available at http://www.bjcp.org/styles04/

[33] http://www.mondobirra.org/articolo1768.htm visited on 02/10/2014

[34] http://www.brewersassociation.org/statistics/number-of-breweries/ visited on 19/08/2014

[35] Microbirrifici application for Andriod, based on www.microbirrifici.org data visited on 19/08/2014

[36] http://www.ted.com/talks/simon_sinek_how_great_leaders_inspire_action visited on 20/08/2014


**Figure 4:** internationally recognized beer styles are a tool for differentiation in the craft beer market.

**Source**: "Beer.Styles" by LeeKeoma - Own work. Licensed under Public domain via Wikimedia Commons - http://commons.wikimedia.org/wiki/File:Beer.Styles.jpg#mediaviewer/File:Beer.Styles.jpg

We should consider that the taste of beer itself can give emotion and, for that reason, it can be considered an experience. "I want beer that gives me emotions" says Federico Zivillica, bartender at Nidaba.

Having a great beer could even be a transformation, what Pine and Gilmore intend to be the next level in the experience economy: an experience that changes people's life. The concept of gateway beer, of what various specialized blogs talk about,[37] literally gives a new mission to the consumer, prompting him or her in a continuous research for other great products that can give him the same emotion. Examples of gateway beer happened to many pioneers of craft brewing. In their books, Teo Musso remembers it was the famouse Chimay Grand Reserve; Steve Hindy and Tom Potter refer in general to some terrific beers imported from Europe. Agostino Arioli, in *Italy Beer Country* refers to some good beers you could find in Italy in the '70s. Their experiences with good beers did not only change their life, but gave birth to an entire movement that is considerably reshaping the beverage market.

This puts craft brewing on a spot on the way for the transformation economy, a further development of the experience economy. As Joe Pine points out, what really matter to people are experiences they share and that is even clearer after the financial crisis that made people think about what is really important to them. "*Authenticity is becoming the primary buying criteria*" [38] and craft beer seems to be offering that value.

Craft beer has been able to grow dramatically despite the economic recession and despite being the higher price segment in beer business. This is a sign of the evolving scale of values in the market that seem to comply with Pine and Gilmore' theories. Sam Calagione of Dogfish Head identifies four main reasons for this performance in the introduction of his book *Brewing up a Business*. These reasons can be summarized as follows:

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[37] http://www.cronachedibirra.it/opinioni-e-tendenze/1913/sul-concetto-di-gateway-beer/ visited on 20/08/2014

[38] Interview with Joe Pine http://en.jyskebank.tv/012699565731418/joe-pine-part-2-the-transformation-economy visited on 20/08/2014

- Consumers are more discerning and more powerful in choosing a product;
- Craft beer is an unparalleled accessible luxury and people think it is worth the money;
- People are starting to support local companies that relate with the communities in a human level and scale;
- Social media is the best way for companies to show their grassroots and the consumers increasingly appreciate authenticity.

## 1.3. A disruptive innovation

Looking at the outstanding and sustained growth of craft beer, some authors are worried about a possible bubble and are expecting it to burst.[39] Despite a superficial look at the numbers may suggest they are right, their expectations have so far been disregarded. This may be due to the particular nature of the business that involves nutritional habits that people consider very important nowadays. The actual financial crisis proved that people are likely to invest in high quality beverage despite a contraction of income.

In order to understand the risks, we have to refer to what a bubble actually is. The Nobel laureate Robert Shiller defines a bubble a social epidemic in which a feedback to a price increase is another price increase and that phenomenon attracts investors and spreads by word of mouth.[40] The two main elements are a rise in prices and speculation triggered by word of mouth.

That said, a rise in the number of barrels produced is totally different from a rise in price and speculation. Quoting Dan Shapiro, a writer of The Inebriate Inquirer, a specialized beer blog, the bubble theory fails, because there is no significant speculation taking place in the industry and only Boston Beer Company and Craft Brew Alliance are public companies, that have well performed growing respectively five and three times in the past five years, but don't seem to be overinflated.[41]

Also we have to consider that the number of breweries in the USA, according to the Brewers Association are at the level of the end of 19th century and with its 14.3% market share (by value) still represent a niche, for now.

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[39] http://www.businessinsider.com/alchemist-craft-beer-market-boom-bubble-outlook-2013-12 visited on 21/08/2014

[40] Interview with Robert Shiller available at http://www.institutionalinvestor.com/Article/3313677/Asset-Management-Macro/Robert-Shiller-Says-Markets-Have-Become-More-Prone-to-Bubbles.html#.U_X4E8MqaP8 visited on 21/08/2014

[41] http://www.inebriateinquirer.com/reports-craft-beer-bubble-greatly-exaggerated/ visited on 21/08/2014

After all, if the consumers will prove to be loyal to the craft product in the long term, the bubble theory will prove to be wrong.

Even more, if the new business model of craft breweries, based on small scale work intensive facilities, passion for the product and the traditional productive process and high margins will keep growing at the current rate for the next year, becoming able to satisfy a large part of the market, it will prove to be a disruptive innovation.

Interestingly, this disruptive innovation would come from the satisfaction of the need of a niche of high demanding customers, contrary to the suggestions given by the Clayton Christensen model, which says that a disruptive innovation starts by addressing the lowest demanding part of the market.[42]

Nevertheless, the product development of the last century by the large industrial producers will prove to have gone in the wrong direction. The main evidence of that is the tremendous success of "crafty" brands through which the industrial producers are showing a totally different approach based on differentiation instead of cost reduction.

If we think about the business model of a brewpub, we can notice that the final price is comparable to the one of the industrial beers in bars and pubs. Massimo Battistel sells craft beer at his brewpub "La Botega De La Bira" in Arsiè pricing it 2.50€ for a 30 cl glass, not so far from the 1.50€ that can buy a 20 cl beer in the nearby Birreria Pedavena and even competitive compared to the typical 2€ price of a 20 cl beer in the area.

Vertical integration allows brewpubs to serve high demanding customers at the same price as a low demanding customer would be willing to pay. At the same time it seems that it would add unmanageable complexity to do so for the industry. Isolated cases such as the one of Birreria Pedavena show that integrating production and distribution can create some efficiency on the single point of sale, but couldn't sell out an industrial scale production.

[42] Schilling, M., *Strategic Management of Technological Innovation*, Fourth Edition, The McGraw-Hill Companies Inc., 2013

When it comes to distribution, it is the opposite: industrial scale economies put craft beer outpriced in the market and, for that reason, it has to offer a lot more value in order to be competitive. In off-premise stores we can find industrial beer at an average 2€ per litre price, while craft beer sells in a wide range that could go from 5€ to 15€, excluding some extreme products, such as Baladin Xiaiù that sells at about 60€ per litre and BrewDog Sink the Bismark that can reach up to 1000€ per bottle.

On-premise industrial beer can usually sell (on the tap) at 10€ per litre as we said. At Nidaba, one of the most important pubs in the Italian scenario,[43] they use to sell a 33 cl glass of beer at 4-5€, that only rises the price to 12-15€ per litre. If the beer is sold in bottles it's more expensive (prices by nation, both of production and of sale, may vary significantly also because of substantial differences in fiscal policies).

Prices clearly spread the segments of the market between craft and industrial beer, but the difference is more subtle when it comes to on-premise sales, than to the off-premise ones and, for that reason, craft beer seems to be more suitable for the Horeca market, not surprising that Teo Musso started from that in order to create a market for Italian craft beer. This makes the Italian market particularly suitable for craft beer, because, compared to the American one, a much higher percentage of the total amount of beer sales comes through the on-premise services (41,2% vs 19,7%).[44]

We discussed with Alessio Selvaggio of Unionbirrai that the average price of Italian craft beer to the final customer is 15€ per liter, based on an average of € 12/liter for draft beer and € 18/liter for bottles. Prices of draft craft beer are competitive with the ones of the industrial product because large producers include in that the cost of the very many services offered to the retailers, as we discussed. Also for that reason we expect craft beer to gain more market share.

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[43] Among other awards, it was defined one of the top 5 places (worldwide) to grab a beer by Martin Dickie, cofounder of BrewDog http://www.brewdog.com/blog-article/james-martins-top-5-places-to-grab-a-beer

[44] MarketLine Industry Profile *Beer in Italy*, August 2013

## 1.4. Overview of the beer market

While the whole beer industry has been consolidating in the past century, with the four major players owning the lion share of the global market, the new phenomenon of craft breweries still represent a small part of the entire business, though it is the attractive part, with new enterprises starting every day.

The global compound annual growth rate of the entire beer market by volume in the period 2008-2012 was 2.3% and the forecasts by MarketLine for the period 2012-2017 predict a 2.2% annual growth. In the same period growth by value is predicted to be around 2.9% annually, indicating a shift to premium price beers. Overall it seems to be an attractive industry with a steady growth in the long term. [45]

Supermarkets are the main distribution channel (43.9%) followed by on-trade stores (33.7%). There are important differences by countries: in the USA, for example, supermarkets account for 60% of the entire market, while in Italy they account the 43.4%. On-trade stores account 19.7% in the USA, while accounting 41.2% in Italy. On-premise services offer higher margins that can justify higher cost (and price) products.

According to Demeter Group, high quality beer can be sold at premium price, justifying the entrance of small players in the market that can recover investments thanks to high margins, but, because of the structure of the market it is still very important to reach scale economies. In particular a large amount of beer is sold in retail chains that have considerable buyer power and can force down the prices.

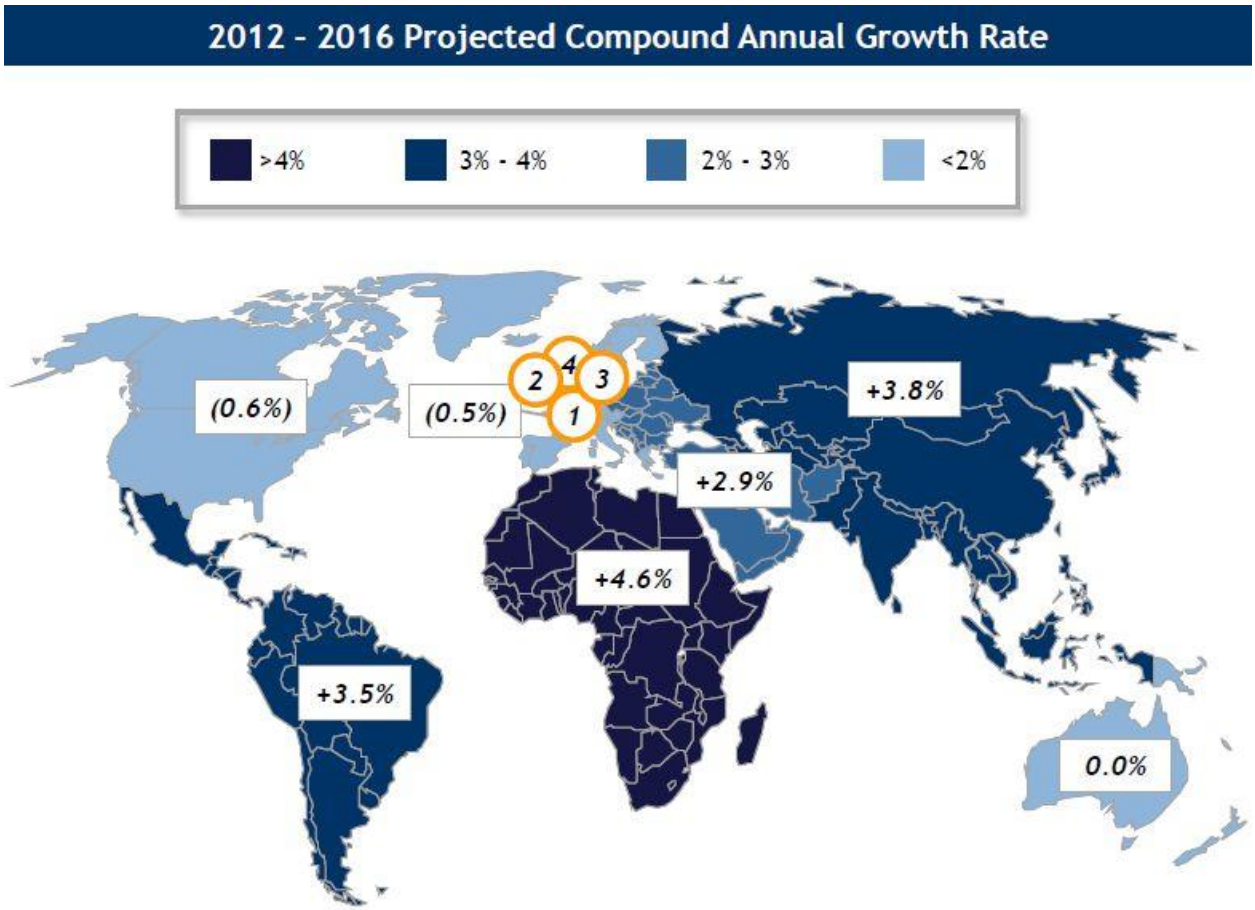
Beer is a worldwide spread beverage. The largest market is Europe (36.7%), followed by Asia Pacific (33.1%) and Americas (28.3%).

In the developed countries, beer is a slowly growing market. In the USA it is even narrowing.[46] Very fast growth is experienced by developing countries, especially in Africa and Asia. For that reason large corporations are actually more interested in large

[45] MarketLine Industry Profile Global Beer August 2013

[46] http://www.brewersassociation.org/statistics/national-beer-sales-production-data/ visited on 11/07/2014

returns in the new emerging markets that in challenging the craft beer phenomenon in their traditional markets. When these new markets will cool off and craft breweries will have reached a certain scale, distribution and brand development, they will probably be attractive targets for acquisitions by the largest players. [47]




| Rank | Brewer | 2011 Barrels (Thousands) |
|---|---|---|
| 1 | AB / In-Bev | 300,600 |
| 2 | SAB Miller | 190,310 |
| 3 | Heineken | 182,243 |
| 4 | Carlsberg | 101,132 |

**Figure 5:** projected annual growth rate of the beer market, with the places of the largest producers. Only developing countries present a sustained growth rate.

**Source**: *State of the Craft Beer Industry 2013*, Demeter Group

[47] State of the Craft Beer Industry 2013, Demeter Group, p. 13

## 1.5. State of the craft beer market

The American Brewers Association provides accessible and updated data through the web. They also have a specific form for students inquiry and they are very responsive. Nothing comparable exist in Italy: once contacted the associations through the official email available on the respective websites, we received no answers.

Finally, with the assistance of Giulio Marini of Birrificio Italiano, even though we had no answers through the official channels, we could interview Alessio Selvaggio, owner of Croce di Malto microbrewery and member of Unionbirrai, that provided a comparison with our data and the ones the association is currently collecting that, as we will discuss, proved to be similar.

The data we could obtain about the number of craft breweries respectively in Italy and USA are courtesy of www.microbirrifici.org (an independent website that seems to have the largest database, even if it's not complete, missing some existing breweries such as Pailot Beer and Matthias Müller Il Mastro Birraio) and of Brewers Association.

The macroeconomic data on the beer markets come from an interview to Filippo Terzaghi, general manager of Assobirra, by Il Birrafondaio[48], a specialized website about craft beer and from Brewers Association.[49]

The most recent available data indicate that the outstanding growth of the number of craft breweries is still in place both in the USA and Italy, despite what Terzaghi says in the aforementioned interview. Only the projection for 2014 (based on May 2014 data) seem to show a little slowdown in the exceptional Italian growth, but it's still too early to make any analysis and still would indicate a 16% growth year over year.

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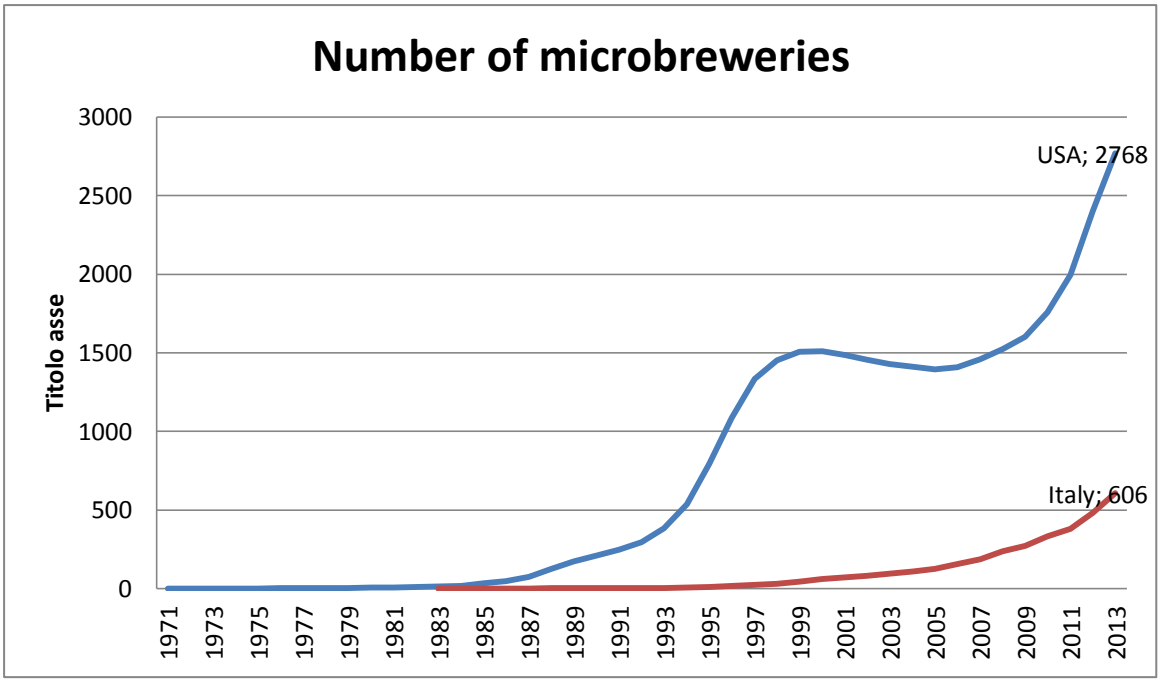
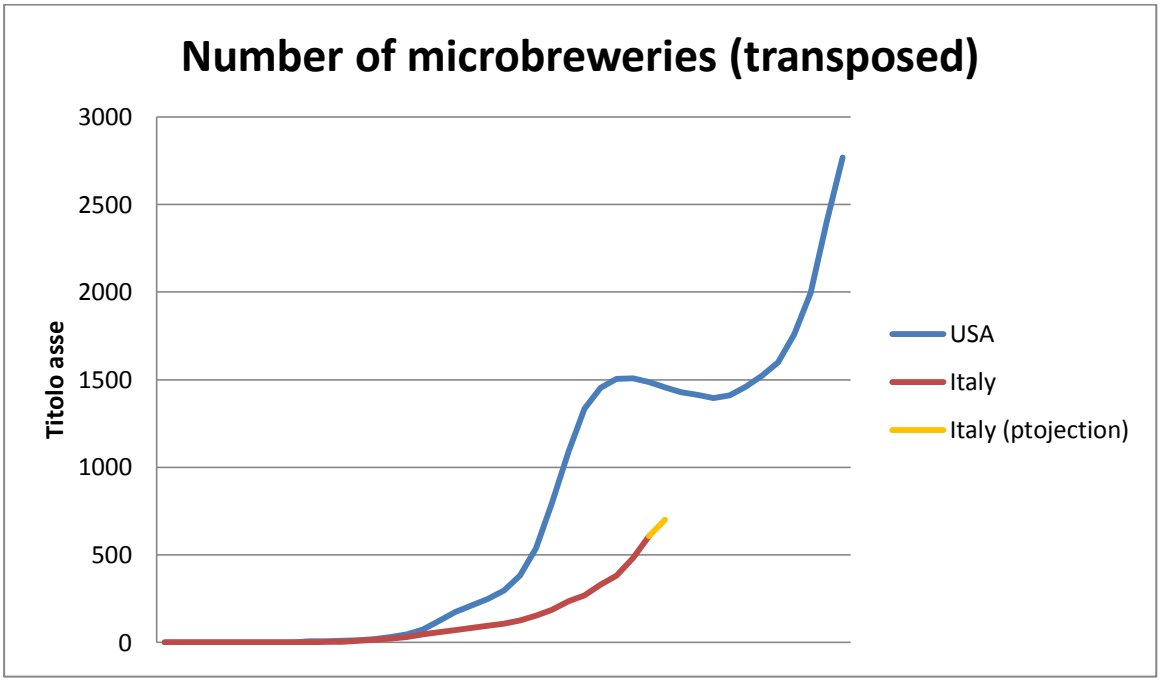
[48] http://www.ilbirrafondaio.com/terzaghi-assobirra-le-artigianali-hanno-dato-una-scossa-al-settore-e-ora-guardano-allestero/ visited on 22/08/2014

[49] http://www.brewersassociation.org/statistics/national-beer-sales-production-data/ visited on 22/08/2014




As we can see, the American growth of microbreweries only stopped after 9/11/2001, when the Twin Towers attack had a great impact on the American mind-set. In both markets growth is still double digit.




If we transpose the graph, considering here the period since the first craft brewery started in 1971 in the USA and in 1983 in Italy, we can see that the Italian growth in

number of microbreweries was not so fast as the American one, but the number of breweries per capita is higher in Italy (one per 100.301 vs one per 114.265).[50]

For a better analysis we should also consider the volume produced. There are no available data about Italy for that, but we will try to estimate it.

We also should consider that there is a certain phenomenon of underground breweries that may evolve into breweries to all effects. Piccolo Birrificio Clandestin, for example, is the first one that attempted (and succeeded) in making a fledged brewery in Livorno.[51]

The only thing we can observe is that the Italian production almost doubled in 2 years from 2011 to 2013, moving from slightly above the 1% to nearly the 2% of the Italian market share, while the total amount of beer produced was almost flat.[52] [53] [54] In the same period the USA craft beer production grew by 36%.

The Brewers Association provides reliable and accessible data, that doesn't happen for Italian associations. In the USA the craft beer market share is 7.8% by volume and 14.3% by value. In Italy we can rely on the formerly mentioned interview to Filippo Terzaghi that states craft beer holds 2% of the market share by volume and 10% by value.

Processing these values we can see that the American craft beer average relative price compared to industrial beer is 1,97, while in Italy it is 5,44.[55]

This huge difference makes clear that Italian craft beer sells to a very high premium price. This may be correlated to the fact that producers prefer to sell through on-premise channels and to the higher costs bared by the Italian producers, compared to

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[50] Based on population data from Wikipedia updated at 2013: 60.782.668 (Italy) and 316.285.000 (USA) and the number of breweries updated at 2013: 606 (Italy) 2768 (USA).

[51] http://www.piccolobirrificioclandestino.it visited on 28/08/2014

[52] Marketline Industry Profile *Beer in Italy*, August 2013, pp. 9, 14

[53] http://www.cronachedibirra.it/media-libri-e-pubblicazioni/5521/diamo-unocchiata-alla-ricerca-di-unionbirrai-sulla-birra-artigianale/ visited on 26/08/2014

[54] http://www.ilbirrafondaio.com/terzaghi-assobirra-le-artigianali-hanno-dato-una-scossa-al-settore-e-ora-guardano-allestero/ visited on 26/08/2014

[55] USA: $\frac{\frac{14,3\%}{7,8\%}}{\frac{85,7\%}{92,2\%}} = 1,97$; italy: $\frac{\frac{10\%}{2\%}}{\frac{90\%}{98,2\%}} = 5,44$

the American breweries that may depend on the fiscal and bureaucratic environment, on the lack of a national supply chain and on the small size of Italian craft breweries. Still it points out a totally different perception of craft and industrial beer by the consumer.

According to the data provided by the brewers association, 1.828.907.644 litres of craft beer have been sold in 2013. From this data we can set that the average production of the 2768 American craft breweries is 660.700 litres per year. Again we have no accurate data about the Italian sector, but we can try to estimate that. According to Marketline report on Italian craft beer (August 2013) the Italian total amount of produced beer in 2013 is around 1.700.000.000 litres (forecast), curiously slightly less than the American only-craft beer market: this should give an advice to Italian producers about the chance of exporting beer to larger markets.

Since we know that the craft market share is around 2% (3.400.000 litres) and that there were about 606 producers at the end of 2013, we can find out that the average production is around 56.106 litres: a totally different scale compared to other nations.

This 2% by volume, though, corresponds to the 10% by value. With that date and the total value of the Italian beer market assessed by the aforementioned Marketline report (2013, forecast), we can estimate that the Italian craft beer market is worth circa $ 1,276 billion or nearly € 1 billion. Comparing these data with the volume of beer produced we would obtain that the average price per liter of craft beer is nearly € 30, that is unreasonable. We should consider that these data refer to revenues, not to added value.

We will compare these data with the ones Unionbirrai is collecting in the following chapters, but we can state that a reasonable added value is approximately 15€ per liter, corresponding to a total national market value of half a billion Euros, that is still considerable.

As Terzaghi points out in the aforementioned interview, the Italian craft beer producers only export 10% of their production, but that amount is increasing with the growth of

the breweries (for a comparison, we can state that, just in 2011, the average production was 41.100 litres per brewery).[56]

Terzaghi and others in the sector are concerned about a possible future concentration of the craft beer market in term of number of producers. This, to some extent, happens in every market, but there are no significant signs yet.

As reported by CNBC,[57] in the US the phenomenon is evolving to a new stage on the distribution side: microbreweries are now more eager to distribute their beers outside the brewpub (that represents about a half of the American craft breweries) and, by doing so, they are looking out of their niche to attack the market of the giant industrial producers. This, combined with the elevated market share of craft beer in the USA, especially in some states, and the dimension of the largest producers, suggest that the craft beer market could become more that a niche.

[56] Osservatorio ALTIS – UNIONBIRRAI sul segmento della birra artigianale in Italia *Rapporto* 2011
[57] http://www.cnbc.com/id/101435252#. Visited on 08/09/2014

## 1.6. Definition of "craft" beer

While approaching the craft beer phenomenon, a fundamental issue that came to our attention was the identification of the phenomenon itself. In several countries there is a specific discipline about beer that define various classes of producers.

In the USA, for example, the Brewers Association clearly defines a craft brewery as small, independent and traditional.

Small means a craft brewery does not produce more than 6 million barrels of beer per year (about 3% of the USA market) and there is a distinction between microbreweries, below 15 thousand barrels and regional breweries, above. It is noticeable that one single American craft brewery could produce more than one third of the total Italian beer production according to these rules.

Independent means that the brewery has not to be owned by any other alcoholic beverage industrial producer that is not itself a craft beer producer.

Traditional means that beer is brewed with traditional or innovative raw materials and their fermentation, excluding flavored malts.[58]

The definition is very simple and is primarily a matter of size and raw materials, while there is no distinction between pasteurized and not pasteurized beer. This definition is also shifting in order to follow the larger historical craft producers (especially Boston Beer Company) that, time after time, became bigger and bigger.[59]

In Italy we can refer to the definition given by Unionbirrai, the main association of craft brewers. Its role is mainly devoted to create a craft beer culture, but, despite a good start, it has not became a landmark such as the Brewers Association in the USA. Unionbirrai defines craft beer as (translated) "*raw, integral, with no added preservatives*

[58] http://www.brewersassociation.org/statistics/craft-brewer-defined/ visited on 01/09/2014
[59] http://www.cnbc.com/id/101033090#. Visited on 01/09/2014

*and with a high content of enthusiasm and creativity*".[60] This concept is a little departure from the original definition that expressly identified craft beer as not pasteurized and not filtered. The meaning should remain the same, but the impression is that the purpose was to make the definition more loose in order to broaden the possibilities for one to become a craft brewer and because there are various points of view.[61]

With this definition, apart from the contents of enthusiasm and creativity that are fundamental, but, practically, useless to identify which producers are really artisans, the only strong restriction regards the use of preservatives (not even chemicals in general), but that is usual also for the industry.

This, combined with the fact that Unionbirrai only covers about the 14% of the total amount of craft producers[62] and the lack of a definition by Assobirra makes the borders of the phenomenon very unclear in Italy.

Not even to talk about the lack and contradictions of the Italian regulation. Teo Musso declared to have been fined 3 times for writing "birra artigianale" (craft beer) in the label of Baladin bottles, because only five specific (though almost meaningless) definitions of beer are accepted by the Italian legislation (these definitions are "birra analcolica", "birra normale", "birra light", "birra doppio malto" and "birra speciale"). Eventually, he decided to give up that denomination.

Since 2013 there is a rule enacted by the Italian Customs Agency that define micro-brewery as a brewery that produces less than 10.000 hl of beer yearly and provide a simplified method for excise calculation that is based on a fiscal counter applied to the

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[60] http://index.unionbirrai.it/index.php?option=com_content&view=article&id=112&Itemid=294 visited on 04/09/2014

[61] http://www.cronachedibirra.it/opinioni-e-tendenze/2312/per-una-definizione-di-birra-artigianale-parte-prima/ visited on 04/09/2014

[62] We consider the number of craft producers basing on the aforementioned database courtesy of microbirrifici.org and the 84 subscribed to Unionbirrai available through the Unionbirrai website on 04/09/2014.

wort (before fermentation).[63] This doesn't make a huge difference, since some entrepreneurs prefer not to comply, because this method constrains to pay excises also on the wastes of production.[64] Probably microbreweries will have to comply in the next years, and this may cause other problems. Also, this is a good thing, the tolerance about the alcoholic degree is set to 0,5° instead of 0,2°.[65]

Defining the craft beer phenomenon from the inside and before it's too late, as Teo Musso pointed out at the Marketers Makeit event in Venice, may be fundamental for the future growth of the movement and the prosperity of the industry.

James and Martin of BrewDog stress in their blog the importance of having a specific (even if imperfect) definition of craft beer in order to preserve the work of producers and to protect and educate the customers. As they point out: "*We want retail stores, bars, restaurants & hotels all to have a craft beer section in their offering. It is almost impossible to get them to commit to this without being able to offer them an official definition of what craft beer is.*"[66] In the same paper they try to give an indication of their definition of craft breweries that should be *small, authentic, honest and independent.* The stress is put on raw materials, similarly to the definition of the Brewers Association, while dimensions seem to be less important.

As we discussed, the prevalent Italian definition of craft beer, fostered by Teo Musso, differently from the American and British ones, stresses a very specific point in the productive process: the pasteurization. Craft beer has to be "*alive*": there has to be microbiologic activity in it. This definition probably comes from the Belgian tradition of beers refermented in bottles.[67]

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[63] Agenzia delle Dogane e dei Monopoli, *Prot. 140839 / R.U.*, 2013, available at http://www.agenziadoganemonopoli.gov.it/wps/wcm/connect/Internet/ed/Dogane/Operatore/accise/norme/2013/determinazione+140839+del+4+dicembre+2013

[64] Interview with Antonio Venier of Villa Chazil

[65] Interview with Lorenzo Pilotto, brewmaster

[66] http://www.brewdog.com/blog-article/defining-craft-beer visited on 05/09/2014

[67] Interview with Teo Musso at Marketers MakeIt! on 27/03/2014, San Giobbe, Venice available on http://www.youtube.com/watch?v=WAnpbENH8fs

The only Italian recent law (D.M. 212/2010) regards agricultural beer and stated tax reliefs for producers that used at least 51% of self-made barley. Tax reliefs were revoked by the Monti government, but still agricultural breweries have access to European funds intended for agrarian firms. Still this give no protection to the consumers about the quality of the product.[68]

We believe that clearly defining the product, as happened in the USA, would give more strength also to the Italian movement.

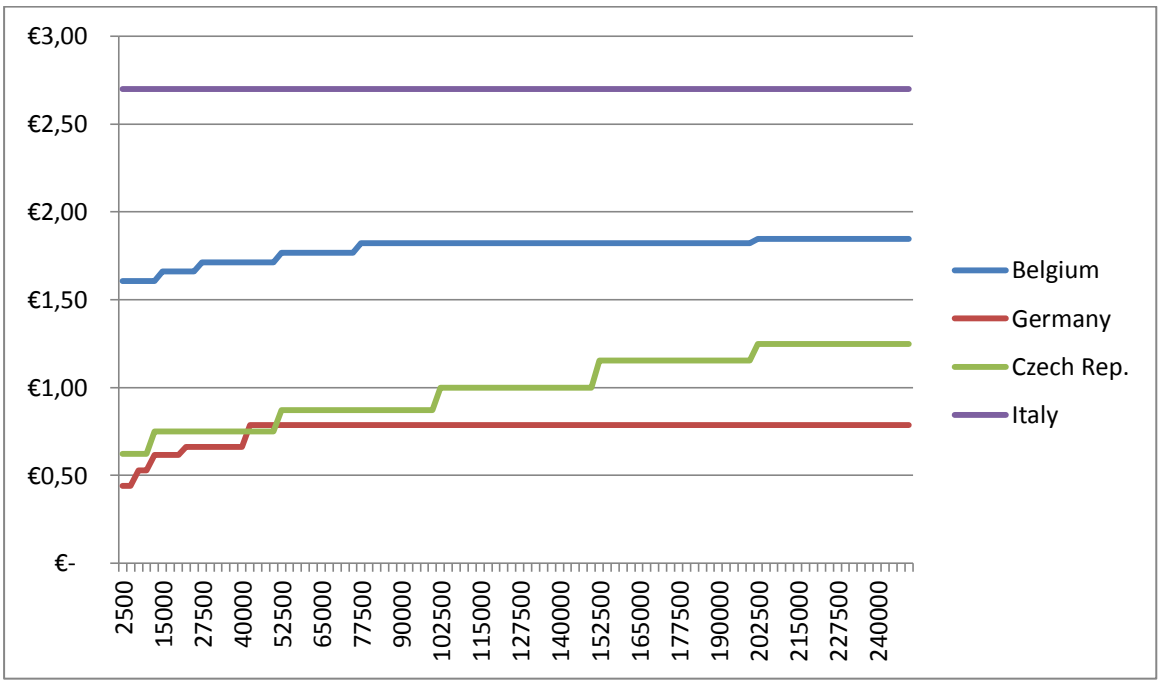
[68] http://agronotizie.imagelinenetwork.com/agricoltura-economia-politica/2013/03/07/birra-agricola-ed-artigianale-agevolazioni-e-svantaggi/17703 visited on 13/09/2014

## 1.7. Fiscal policies

After all, one fundamental reason for a formal identification of craft beer (and craft breweries) is related to fiscal policies. Almost every European country provide different excise rates for different classes of producers, based on dimensions, as indicated in the Excise duty tables of the European commission (updated to July)[69]. Despite being one of the most important craft beer producers, Italy doesn't.

In the USA the regulation is different for every country and may vary significantly, but there are usually tax reliefs for craft producers.[70]

The following graph compares the excise duties for some important European brewing countries by volume produced. Excises are measured in €/hl/degree Plato (a measure of the density of the wort indicating the percentage of saccharose dissolved in water by weight. For example 12 Plato degrees indicate 120 grams dissolved in a liter of water).[71]




Above 200.000 hl/year there is no tax relief for any European country (the value is the same for industrial beer taxation).

[69] http://ec.europa.eu/taxation_customs/resources/documents/taxation/excise_duties/alcoholic_beverages/rates/excise_duties-part_i_alcohol_en.pdf visited on 05/09/2014
[70] http://taxfoundation.org/blog/map-beer-excise-tax-rates-state-2014 visited on 05/07/2014
[71] http://it.wikipedia.org/wiki/Gradi_Plato visited on 05/09/2014

We selected these countries because of their important brewing tradition and the relative ease of data comparison. It would be interesting to compare France for several reasons. On first it is, like Italy, a wine country and, like Italy, has been preserving its wine industry against beer also by stating very low excises on wine (3,72€/hl in France, 0€ in Italy). On second it has a new emerging craft beer phenomenon, that has already been implemented by the legislator: in fact, excise duties on breweries below 200.000 hl/year production are halved.

Unfortunately the data is not comparable because France measures duties on €/hl/alcohol by volume and there is no direct correspondence with Plato degrees.[72] If we approximate it to a reasonable 1:2,5 the result is that France taxes industrial beer 2.93€/hl/Plato degree and the craft one is taxed 1,46. Italian duties, in comparison are set at 2,7€/hl/Plato regardless of the nature of the brewery.

There are other countries with non-comparable data that, on average, have a higher taxation, but, usually, small breweries are protected with lower rates compared to the ones applied to large producers.

Italian brew masters complain about the fact that, on average, excise duties account for up to twice the cost of the other raw materials. On average, they say, half of variable costs for a craft brewer in Italy come from excise. This, combined with the structurally high fixed costs of the industry, the much higher price paid for raw materials compared to industrial producers and the small average capacity of Italian craft breweries put serious threats on the sustainability of the phenomenon.[73]

[72] http://www.maxbeer.org/ita/formule.htm visited on 05/09/2014

[73] The brewers we interviewed consider the high value of the Italian excise rate a minor issue compared to the complexity, waste of time and possible fines that bureaucracy generates.

## 2. The production process and the global value chain

The following is a global general analysis of the brewing industry, trying to understand common paths in make or buy choices through the GVC analysis[74], considering the whole beer industry in general (assuming Orbis, the tool provided to the students by Bureau Van Djik, is reliable) and the craft beer niche in particular, focusing mainly on the USA (where probably the phenomenon started[75] [76]) and the Italian market.

We will analyze the 5 main stages of the GVC: production, raw materials supply, machinery supply, distribution and retail in order to understand that craft brewing is both a global and local phenomenon: global in terms of value chain and local in terms of production process and particular raw materials.

[74] http://www.globalvaluechains.org/concepts.html visited on 13/07/2014
[75] http://en.wikipedia.org/wiki/Microbrewery visited on 14/07/2014
[76] Interview with Matthias Müller, brewing engineer and consultant at Marketers MakeIt! on 27/03/2014, San Giobbe, Venice

## 2.1. Production

The basic production process is simple, but reaching the desired performances, in terms of organoleptic qualities, compliance and stability of the product requires meticulous attention. The creation of a recipe, that is the product development for a brewery, is a try-catch process that happens during this phase. In detail:[77] [78] [79]

1. **Mashing**: milled malt and hot water are mashed and heated. Natural enzymes included in the malt brake the starch (amylases) and extract the sugars that will be converted into alcohol and carbon dioxide during the fermentation process;
2. **Lautering**: the spent grains are separated from the wort. In the traditional process, the spent grains, by settling, form a natural filter;
3. **Boiling**: the wort is boiled in order to stop amylases and kill any eventual microorganisms.
4. **Hopping**: the hops can be added during or after the boiling process, depending on the aroma the brew master wants to obtain;
5. **Whirpooling**: the wort is separated mechanically from the remaining proteins, hops and impurities. If needed, the separation can be obtained by decantation or chemically (usually in home brewing in order to use a cheaper plant)[80];
6. **Fermentation**: after cooling the wort at the right temperature (depending on the sort of saccharomyces that will be used) the yeasts are inoculated. Fermentation lasts from some days to some weeks depending on the yeasts and the temperatures (that must remain stable during all the process);

[77] This example comes from a visit and interview to Birrificio Bradipongo, Via Pin delle Portelle, 16 - Colle Umberto (TV) on 27/06/2014 and another to Birreria Pedavena, Via Vittorio Veneto, 76 - Pedavena (BL) on 30/06/2014. It's interesting to consider that the latter inherits a plant produced in 1927 (with some subsequent improvements) that has the same basic structure of a modern craft beer plant, while the recent industrial plants are slightly different, mainly because they work under pressure with much higher efficiency, but they need more refined raw materials in order to process.

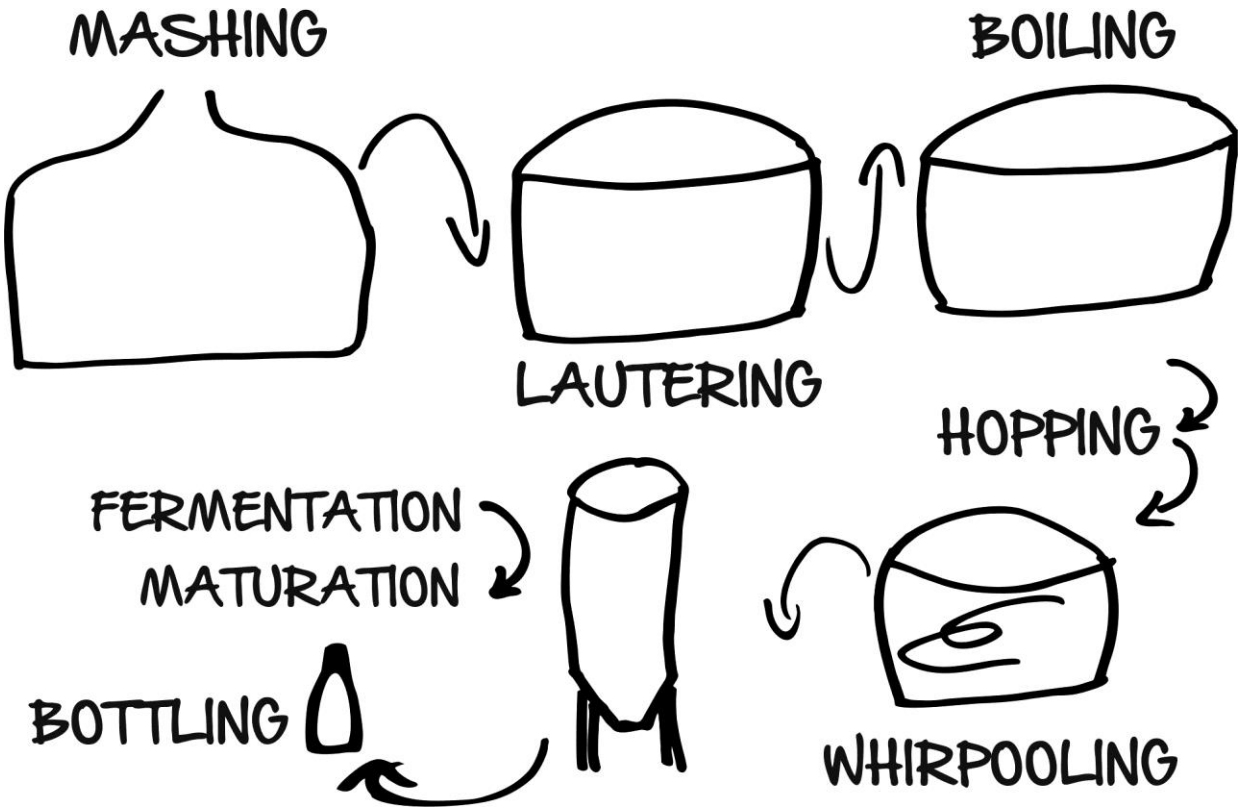
[78] http://www.ibdasiapac.com.au/brewing/ visited on 03/07/2014

[79] Fiotti, N. *La Birra Fatta in Casa*, Edagricole, Milano, 2008

[80] Course for home brewing with Antonio Merlo, brew master and founder of Braumaster Via Monte Pasubio, 2 - Feltre (BL), a small producer of plants for home brewing and microbreweries on 12/2012.

7. **Maturation**: after the end of fermentation, the beer is maturated in tanks (or, sometimes, casks, barrels or bottles) in order to obtain desired organoleptic qualities and stability. Craft beer is usually processed with a second fermentation in bottles in order to make the product stable;
8. **Packaging** in bottles, cans, tanks or casks.

**Optional**: micro-filtering and pasteurization are the two main techniques used to remove any microbiological activity in order to preserve the product. These techniques are typically used by the industry.




The process formerly described is only related to the activities that typically takes place inside the brewery, but there are several examples of micro-breweries outsourcing the whole production, especially in the in the start-up phase of the firm, such as the successful Brooklyn Brewery.[81] In Italy there are actually at least 152 "beer firms" that have the production made on contract.[82]

[81] Hindy, S. and Potter, T. *Beer School*, Wiley and Sons Inc., Hoboken, New Jersey 2005, pp. 22-29
[82] www.microbirrifici.org visited on 16/07/2014

## 2.2. Raw materials supply

Beer is basically made of grains, hops, yeast and water.

Yeasts are usually self-made during the production process, or provided by raw materials suppliers. In some situations even spontaneous fermentation is used (implies the presence of wild ferments in the brewery)[83]. They can also be captured with "yeast traps" as Father Theodore did in the Abbaye de Notre Dame de Scourmont, where the famous Chimay is brewed[84]. In conclusion yeasts often come from internal development, also because they influence organoleptic characteristics of beer[85], except the cases of producers that have no equipment for yeasts reuse.

Water is supplied locally. In general it is an abundant resource. Since it can strongly influence the quality of beer, the choice of localizing the firm can depend on available water sources. Firms can rely on the local aqueduct (with a water treatment plant, if needed) or in water springs, if the springing water complies the production needs.[86]

Grains and hops, instead, seem to be the critical raw materials in the supply chain.

Hops are produced in small areas in few countries, as described by the maps below. In Italy, for example, there's no significant hops farming, probably because of the natural environment and also legislation and bureaucracy.[87] Looking at the following maps we can see that hops production areas don't necessary overlap beer production areas. Also there are many varieties of hops grown in different places. That's the main reason why the most of the breweries need to have an international upstream value chain.

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[83] http://www.cantillon.be/br/3_11 visited on 04/07/2014

[84] Interview with Andrea De Bortoli, founder of Nidaba s.n.c., one of the oldest pubs in Italy to sell only craft beer (established in 1984) on 02/2014. He had personally known Father Theodore, which recovered the yeasts in the Abbey after the World War II by spreading some beer and sugar around and waiting for wild yeasts to start fermentation. In that way he could recover the strains of yeasts that had been lost during the war, but that were still present in the rooms of the abbey.

[85] Buiatti, S. *Lievito e fermentazione nella produzione della birra,* 1999

[86] Visit to Birreria Pedavena, Via Vittorio Veneto, 76 - Pedavena (BL) on 30/06/2014 and interview with Emiliano Dorigoni, Birra Castello S.p.A. sales manager.

[87] http://www.cronachedibirra.it/interviste/9459/coltivazione-del-luppolo-unintervista-per-approfondire-il-discorso/ visited on 04/07/2014

Any grain can be used in beer production, but there always should be a percentage of barley for two main reasons: it creates a natural filter during the lautering process and it contains an enzyme that is necessary for the amylases process.[88] The use of malted cereal enhances sugar extraction from starch and gives flavors to the beer. The production process is simple: grains are germinated by adding water and suddenly dried. The conditions of the drying process influence the flavors of the malt.

The real difficult in malting is to have high efficiency and good quality, in terms of compliance of the product. For that reason scale economies that allow to reach strong investments in technology seem to be the critical success factor in that industry.[89]

However, it seems to be a very low attractive sector, considering that there are only 337 malt houses worldwide and the high concentration of profitability and revenues (see graphs below). Also some of the largest malt houses are strictly related to the 4 worldwide largest beer producers (Ab-InBev, Miller-Coors, Heineken and Carlsberg).[90] Beer is also a very concentrated sector and seems very low attractive with the first 4 producers holding the 60% of the global market revenues. Attractive are, as we discussed, the niches created on that market by the craft brewers.

For the former reasons even craft breweries had to refer to the global market in order to purchase standard raw materials (hops and malt). Despite that, there are some attempts to create local malt houses and hops farming in Italy that could create new scenarios. This also depends on a mild tax regulation about "birra agricola" since 2010 .

[88] Course for home brewing with Antonio Merlo, brew master and founder of Braumaster Via Monte Pasubio, 2 - Feltre (BL), a small producer of plants for home brewing and microbreweries on 12/2012.
[89] Basing on the interviews with brewmasters.
[90] Orbis - Bureau Van Djik consulted on 04/07/2014

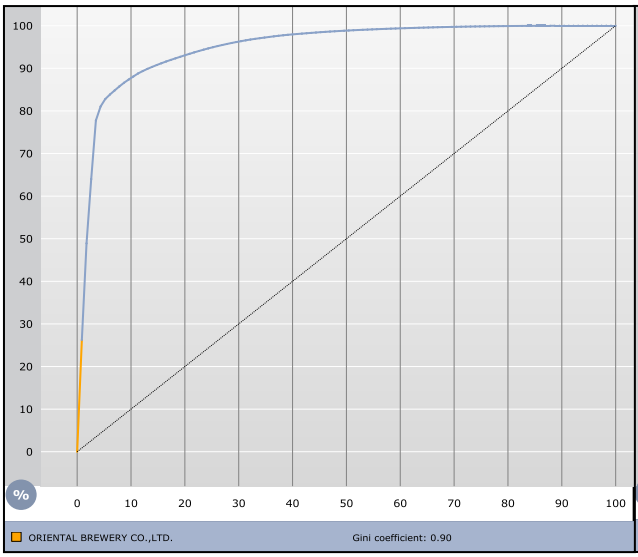


**Figure 6:** Profit concentration in global malt production, Orientale Brewery Co. Ltd. is the market leader. Data from Orbis - Bureau Van Djik consulted on 04/07/2014.

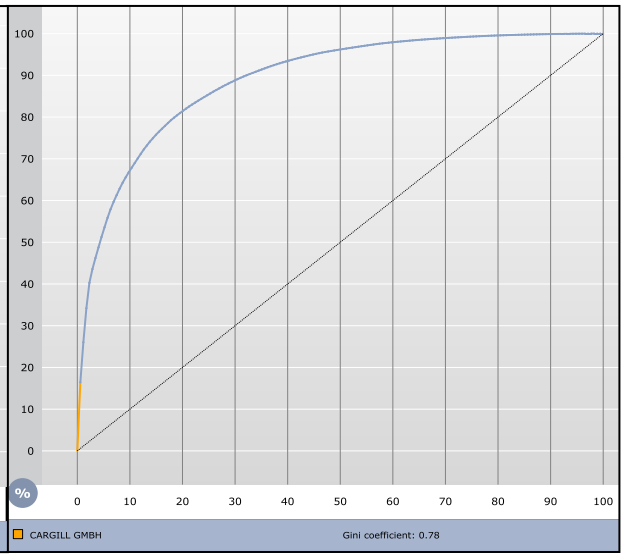


**Figure 7:** Revenue concentration in global malt production, Cargill GMBH is the market leader. Data from Orbis - Bureau Van Djik consulted on 04/07/2014.

From the following maps it is noticeable that, while brewing is a worldwide phenomenon, hops are produced in narrow territories and, sometimes, there is no correspondence between the concentration of beer and barley production by nation. The supply chain necessarily involves international operations.

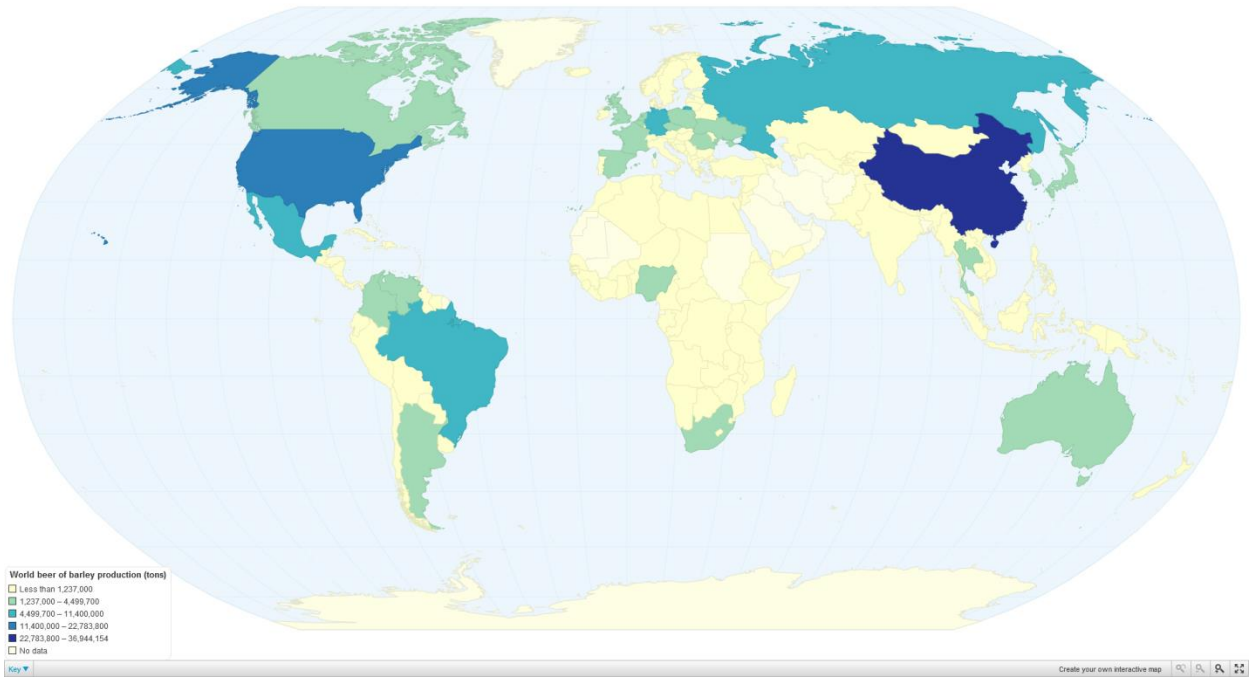


**Figure 8:** Map of the worldwide beer of barley production (FAOSTAT 2010)

**Source:** http://chartsbin.com/view/5335

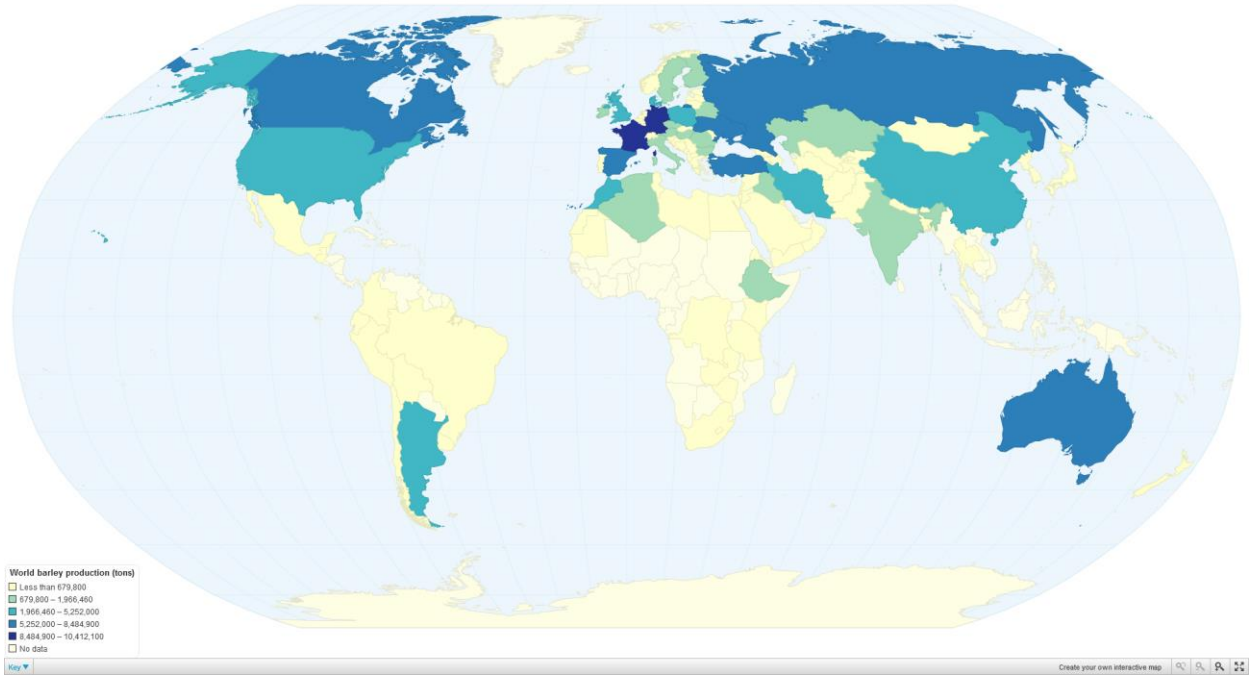


**Figure 9:** Map of the worldwide barley production (FAOSTAT 2010)

**Source**: http://chartsbin.com/view/5339

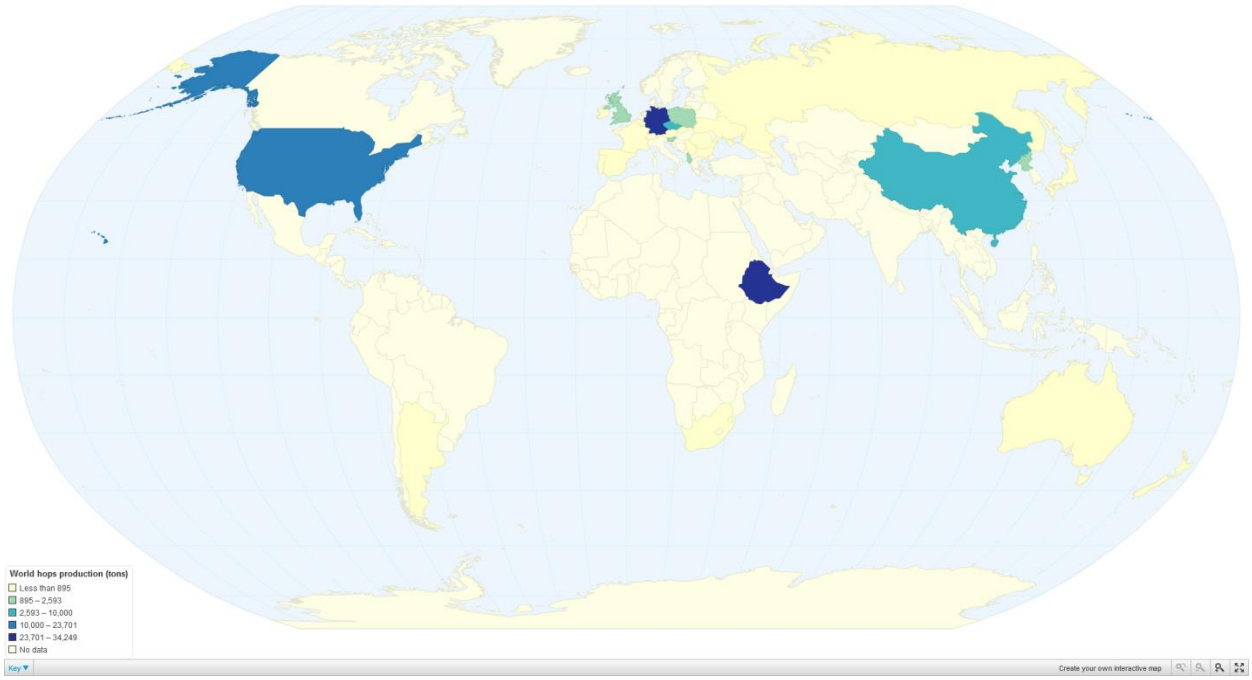


**Figura 10:** Map of the worldwide hops production (FAOSTAT 2010)

**Source**: http://chartsbin.com/view/5341

## 2.3. Machinery supply

Studying the sector of machinery manufacturing for beer is not easy, since NACE Rev. 2 classification does not include a specific category for that. These firms are included in "NACE Rev. 2 2893 - Manufacture of machinery for food, beverage and tobacco processing" that is too broad for making any analysis with Orbis.

Asked about the largest producers, Matthias Müller, German brewing engineer that has been working worldwide as a consultant in the sector of craft beer,[91] explained that some of the main players in the sector are Krones AG, GEA Brewery Systems GmbH, Ziemann International GmbH (Germany) and Meura (Belgium). Mainly, they come from Germany, traditionally the largest beer market (although it has been surpassed) and they have been established during the 2 last centuries. [92] [93] [94] [95] Also there are no reliable financial statements available on Orbis for all these companies, because of recent consolidations. Looking at the available financial statements it seems clear that they have suffered the economic downturn of 2007 and they came over it in the last years. It seems to be an elevated added value sector, with Meura (the best) performing a 29.94% ROE (before tax).[96]

For the craft beer sector it was a totally different story. Nowadays it's very easy to find plant manufacturers that produce small size plants for craft breweries. If you Google "craft brewery machinery" you will find lots of interesting results of firms producing the right plant for every need and also some results in B2B platforms, such as Alibaba.com. Also second hand equipment and a lot of home brewing stuff can be found.

This wasn't real in in 1996, when the phenomenon started in Italy. Teo Musso, for example, started his production with a rudimental plant imported from Belgium that "*was not that great*", as we said, but he could arrange it with his friend Mauro, showing

[91] Multiple Authors, *Guida alle Birre d'Italia 2015*, Slow Food Editore, Bra (CN), 2014, p. 230
[92] http://www.krones.com/en/ visited on 10/07/2014
[93] http://www.meura.com visited on 10/07/2014
[94] http://www.ziemann.com/en/ visited on 10/07/2014
[95] http://www.geabrewery.com visited on 10/07/2014
[96] Orbis - Bureau Van Djik consulted on 10/07/2014

some important bricoleur skills.[97] Frugal innovation was a very important pattern for the craft beer phenomenon beginning in Italy, as is the case of Pailotbeer, that started production in 1994 as a group of friends, not yet as a business, among which Lorenzo Pilotto, the brewmaster, had to design and co-create the plant with a craftsman that was able to work with stainless steel, but had no capabilities in beer plants production.[98] Later some producers started to create specialized high quality machinery for craft beer. One of the most important players in Italy was Velo Spa, that came from the wine sector and took the opportunity to enter a new business with higher margins leveraging on their resource base. Despite the global success, the firm cracked for mismanagement in 2013.[99]

It was in some ways worse when craft brewing started first in the USA around 1979, the year of the deregulation of the beer market. [100] On the one hand, bricoleurship could be defined as the core business of the first real micro-brewery we have heard about. It was New Albion Brewing Company, established in 1976 and closed in 1983 (though it has been recently re born under the property of Boston Brewing Company, the largest craft brewery in the USA)[101] and the plant "*was all homemade*" starting from Coca Cola syrup converted drums and other wreckage. [102]

On the other hand someone could say that the craft beer phenomenon started with Anchor Brewing Company, a former small industrial company bought by Fritz Maytag in 1965 and later converted in order to brew high quality beers.[103] In that case the phenomenon could rely on a former local tradition that wasn't so strong in Italy in 1996, even if the brewmasters graduated in Feltre played an important role in the birth of some breweries. Local industrial plants capable of high quality production and with

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[97] Drago, M. *Baladin. La birra artigianale è tutta colpa di Teo.* Feltrinelli, Milano, 2013 pp. 59-71
[98] Interview with Massimo Battistel, brew master for Pailotbeer on 12/2013
[99] Interview with Giorgio Zatta, former foreign trader for Velo Spa in 12/2013
[100] http://www.thewire.com/entertainment/2010/08/how-jimmy-carter-saved-craft-beer/19195/ visited on 10/07/2014
[101] http://newalbionbrewing.com/?age-verified=1a717ae2e8 visited on 10/07/2014
[102] http://www.ibabuzz.com/bottomsup/2009/02/04/napa-smiths-don-barkley-recreates-new-albion-ale/ visited on 10/07/2014
[103] http://en.wikipedia.org/wiki/Anchor_Brewing_Company visited on 10/07/2014

overcapacity were also available in the USA in 1987, when there were only 33 microbreweries and Steve Hindy and Tom Potter decided to start their own by producing beer on contract at F.X. Matt Brewing Company.[104]

Since the required capabilities for building machinery are totally different from the ones required for brewing, the two activities are usually separated, but it's interesting to notice that, both in the Italian and in the American craft beer case, there have been several situations of frugal innovation, co-creation and also situations in which the two businesses were combined, such as the one of Acelum, owned by a former plants manufacturer that created its own brewery for demonstration purposes and that has now became an important spin-off in the Italian scenario.[105]

[104] Hindy, S. and Potter, T. *Beer School*, Wiley and Sons Inc., Hoboken, New Jersey 2005, pp. 22-29
[105] Visit and interview to Acelum in 05/2010

## 2.4. Distribution

There is a very strong presence of the leaders of the beer industry in distribution. Databases based on NACE Rev. 2 code don't allow ad in-depth analysis of the sector, because there is no classification for beer distributors. NACE Rev. 2 4634 class include "Wholesale of beverages", however beer distributors may also work with other products, so, for a comprehensive analysis, we have to look at the whole 463 class, including "Wholesale of food, beverages and tobacco". There are 175.844[106] firms included in this class. With a more in-depth analysis we can notice that only 4.036 of them (about the 2,3%) are ultimate owners: this should make clear that there is a significant interest in distribution from lots of other companies.

Unfortunately the tool provided by Bureau Van Djik doesn't seem to work properly when asked to combine the data between NACE Rev. 2 463 class and companies owned by the following shareholders: Aheuser-Busch InBev, Carlsberg A/S, Heineken Family and SabMiller PLC. The report gives 28 companies as a result, but there doesn't include some owned distributors we would expect to find. In fact, if we check manually, there are more. The following speculations are based on a manual scroll through the data, so it may not be reliable.

The 9th largest distribution company of food, beverage and tobacco is The South African Breweries LTD, owned by SabMiller, with more than $ 23bn revenue, that does even exceed the one of the parent company. The 24th is Carlsberg Breweries A/S with more than $ 12bn revenue, just below the parent company.

The other 2 major players seem to have a different strategy. While Aheuser-Busch InBev owns a company at the 146th place in this chart, with more than $ 2.5bn revenue, Heineken only owns relatively small ones. The former seems to be more focused on production, and the distribution company named Aheuser-Busch LLC was established in 1979, long before the merger with InBev, so it may be a legacy of an older strategy (we have to consider that large producers are fruits of several merges and acquisitions). The

[106] Orbis - Bureau Van Djik consulted on 13/07/2014

latter probably follows a more local strategy with national distributors (for example Partesa and Dibevit Import in Italy).[107]

As we will discuss, distribution is traditionally a key factor both for industrial and craft beer and, for that reason, it has always been supervised by the large producers.

In the USA a three-tier distribution system was set by law after the prohibition. The system is based on 3 levels: production, distribution and retail that can't be played by the same actor (with some exceptions, depending on the state, mainly regarding brewpubs and micro-breweries).[108] However, the beer multinationals exert lots of pressure in various circumstances in order to place their product in strategic positions.

Bartenders in Italy say that large producers, through their distributors, offer free beer lines and also "almost free" beer just in order to place their brand and bind the retailer with a contract that allows the retailer to sell only their product.[109] They also offer furniture and other essential equipment that can significantly lower the budget needed to start a business.[110] In that way they tend to be strongly integrated (production, marketing, distribution and partially retail).

This behaviors create an important lock-in phenomenon in the retailers that is often a barrier for craft beer producers. At the beginning of the craft beer phenomenon the main concern of the micro-breweries was distribution. Outside the eventual brewpub, they had to sell bottled beers at first, that is the easiest service (basically you just have to load and unload the cases from a truck). Still it was difficult for them to relate with distributors that were used to compete on brand, service and, mainly, price, but not on the product itself. Some of them eventually decided to distribute beer on their own and this was a very important strategic choice, because the product itself was finally put in

[107] http://www.mondobirra.org/heineken.htm visited on 14/07/2014
[108] http://en.wikipedia.org/wiki/Three-tier_(alcohol_distribution) visited on 15/07/2014
[109] Basing on interviews with Andrea De Bortoli, owner of Nidaba and Angelo Zamprotta, owner of Il Santo Bevitore, pubs in Montebelluna and Venice.
[110] Interview with Andrea De Bortoli, owner of Nidaba at Marketers MakeIt! on 27/03/2014, San Giobbe, Venice available on http://www.youtube.com/watch?v=WAnpbENH8fs

the spotlight and allowed them to create a niche that would change the rules of the game.[111] [112]

Currently specialized craft beer distributors have a similar, but slightly different approach. An important Italian distributor, for example, offer to provide a free draft line to retailers, but only half of the lines are bonded to serve that distributor's product, the others are available for the retailer to choose.[113] This approach probably reflects a phase of development of the market in which the main concern is to create a culture of craft beer and competition is still low.

In the USA Steve Hindy and Tom Potter in 1989 created a distribution company in order to fit the needs of their newborn Brooklyn Brewery "*because no other distributor will pay attention to the product the way you can*" and the next year they started distributing beers for other companies in New York, significantly contributing to the raise of the entire sector. They could sell the category of specialty beer itself, "*knowing that if a customer – a store, bar or restaurant – would switch over from a standard beer list to a specialty list, we would get the lion's share of the new business.*" After all, they realized, "*distribution is marketing*". [114]

In Italy Teo Musso is the most representative pioneer of craft beer. Le Baladin was a pub since 1986, before becoming a brewpub in 1996 and Birra Baladin distributes its own products. The successful marketing strategy that started the creation of the first niche for craft beer in the Italian wine market was led by Teo, personally taking one case of beer to 500 restaurants that were considered potential customers. It was a format (elegant 0.75 l bottle with very innovative beers) that could find a spot in that particular market. Surprisingly he had a tremendous conversion rate of 20% of those restaurants buying his beer (despite finding out, later, that almost all of them bought it only for

[111] Hindy, S. and Potter, T. *Beer School*, Wiley and Sons Inc., Hoboken, New Jersey 2005, p. 78
[112] Drago, M. Baladin. *La birra artigianale è tutta colpa di Teo*. Feltrinelli, Milano, 2013, p. 81
[113] Interview with Michele Lorelli, owner of "Il Regno di Ninkasi" beer shop in Feltre
[114] Hindy, S. and Potter, T. *Beer School*, Wiley and Sons Inc., Hoboken, New Jersey 2005, pp. 85, 100, 103

internal consumption, because they really liked to drink it, but were skeptical about selling it on the wine chart).[115]

[115] Drago, M. Baladin. *La birra artigianale è tutta colpa di Teo*. Feltrinelli, Milano, 2013, pp 47, 69, 81, 82

## 2.5. Retail

The main distinction in distribution channels is between on-premise and off-premise retailers. The former are characterized by a high level of service and high margins (pubs, bars, and restaurants), the latter are low cost (shops and supermarkets).

Large producers are willing to push their products in any possible channel, also with the formerly described aggressive practices. There are also some integrated retailers (flagship pubs). With no focus it is impossible to hold a tight control on that atomized market.

Microbreweries are more focused. As we mentioned, the critical success factor for the early years of Brooklyn Brewery was, as stated by the founders, the creation of a distribution company that was able to nurture the new market, while they weren't directly selling their product to the final consumers. They were more focused and more successful in on-premise than in off-premise distribution[116]. They later had to sell the distribution company to a larger one, because the sector was consolidating and it was a too small player that was eventually limiting the diffusion of their Brooklyn Beer. New Albion and Mendocino, the first micro-breweries in the USA, were brewpubs directly selling their beer.[117]

Even if a brewpub offers higher margin, nowadays, while the USA craft beer market is gaining maturity, there are more and more micro-breweries (also new and small ones) willing to distribute their product in any possible channel, in order to come out of their niche, directly challenging the large producers.[118]

In Italy we consider that the phenomenon has begun in 1996 (even if, as discussed, there were some earlier examples). In that year were founded some micro-breweries that still remain the most influential and famous in the Italian scenario, such as Baladin, Birrificio Italiano and Lambrate. All them started as brewpubs and actually are brewpubs,

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[116] Hindy, S. and Potter, T. *Beer School*, Wiley and Sons Inc., Hoboken, New Jersey 2005, p. 233

[117] http://www.ibabuzz.com/bottomsup/2009/02/04/napa-smiths-don-barkley-recreates-new-albion-ale/ visited on 18/07/2014

[118] http://www.cnbc.com/id/101435252 visited on 18/07/2014

in a similar way to their American collegues.[119] [120] [121] [122] Teo Musso is probably the one who anticipated the market in the best way. On first he created a niche for craft beer in the on-premise distribution by attacking the wine market. Actually Baladin is addressing the traditional and unexploited beer market, where the volumes are more important, also with an integrated network of retailers named Open Baladin, pubs created in partnership with local shareholders and also distributing other brands and Birreria in New York, in partnership with Birra Del Borgo, Dogfish Head and Oscar Farinetti's Eataly.[123] Even if, as Teo says, this kind of pubs is not very profitable yet, it seems that the way for the future of Italian craft beer is drawn, and the path is very similar (with due distinctions) to what happened in the USA twenty years before.[124]

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[119] http://www.cronachedibirra.it/opinioni-e-tendenze/8771/uno-sguardo-al-passato-i-duri-inizi-dei-pionieri-del-movimento-italiano/ visited on 18/07/2014

[120] Multiple Authors, *Guida alle Birre d'Italia 2015*, Slow Food Editore, Bra (CN), 2014, pp. 39, 156, 168

[121] http://www.birrificio.it/lastoria.html visited on 18/07/2014

[122] http://birrificiolambrate.com/html/nostra_storia.php?lang=ita visited on 18/07/2014

[123] Drago, M. Baladin. *La birra artigianale è tutta colpa di Teo*. Feltrinelli, Milano, 2013, pp. 130-133

[124] Drago, M. Baladin. *La birra artigianale è tutta colpa di Teo*. Feltrinelli, Milano, 2013, p. 148

# 3. The craft beer market

## 3.1. Research purpose

The craft beer phenomenon is quickly evolving and reshaping the entire beer sector.

As we discussed, Italian craft breweries are very small and subjected to various critical issues of the Italian business environment. Consequently, Italian microbreweries can't exploit scale economies, bargaining power against suppliers and tax reliefs. In addition, several bureaucratic problems generate considerable economic losses, as discussed by the most of the brewers in *Italy Beer Country*. For that reason we have to analyze how Italian specificities affect the firms business models and how, or if, the small Italian producers succeed in creating sustainable businesses.

This research is aiming to understand the possible patterns of development of the market, the strategies of the most important players and the sustainability of the Italian craft beer industry. In order to do this, we will try to analyze the sector from the inside, through an internship, interviews and business visits.

## 3.2. Methodology

We will try to approach the industrial beer producers by submitting questions about their specific strategies to address the craft beer phenomenon.

We will apply for an internship both in craft and industrial producers in order to study the sector from the inside.

We will have semi-structured interviews with the founders or managers of some early and some recently established microbreweries in order to cover different stages of the life of the firms and we will select the producers in order to analyze the three main different business models: microbrewery, brewpub and beer firm. We will also interview other experts in the sector in order to have a wider vision.

Well established microbreweries have been selected basing on the indications by Angelo Zamprotta and Andrea De Bortoli, respectively heads of Il Santo Bevitore and Nidaba, two important pubs in Venice and Montebelluna, Michele Lorelli, owner of Il Regno di Ninkasi, beer shop in Feltre and, in addiction, consulting Ratebeer.com and *Guida alle Birre d'Italia 2015* by Slow Food in order to select high quality producers.

Smaller players were selected basing on their availability near the Veneto Region and on other indications from other people in the sector.

We will consider the sustainability framework provided by the United Nations General Assembly (2005),[125] but we will mainly focus on economic sustainability that is typically the main concern in a newborn sector.

[125] United Nations General Assembly, *2005 World Summit Outcome, Resolution A/60/1*, 2005

## 3.3. Hypothesis

Considering the growth of the phenomenon, we expect to find out which practices, strategies and demand dynamics make microbreweries profitable and at which conditions and minimum scale. We will also try to understand the expected growth of the next years.

We expect to find out which sustainable practices are in use in the sector, if there are, and in which cases there is a conscious approach to sustainability.

There is a possibility that, given the early nature of the phenomenon, the main challenge for the firms still regards economic sustainability. However, there may be some specific sustainability-oriented projects.

## 3.4. Industrial breweries

The first attempt we made was to understand the industrial players from the inside. We tried to submit an application to the main global players: AB-InBev, Heineken and Miller Coors. The latter was particulary interesting because it is a joint venture between SabMiller and Molson Coors, created in order to exploit the phenomenon of craft brewing with some pseudo-craft brands that are very well performing[126]: in particular we refer to Tenth and Blake,[127] a division that owns several interesting pseudo-craft brands including Blue Moon.

We suddenly learnt that the Heineken International Graduate Program 2014 application period was already closed at January 2014. By the end of September 2014 the page was still online untouched, probably for employer branding purposes. Since October it explains that the applications for 2015 will begin in November.[128]

We applied for AB-InBev, but our application was rejected within 2 hours on a Sunday night, with a message that was probably automatically generated: *"After careful consideration, we regret to inform you that your application has been unsuccessful for this opportunity. AB InBev will keep your application on file and may be in contact if a future opportunity arises that matches your profile."*

Given these results we doubt about the real career opportunities offered by these programs. Moreover we have already discussed about the difficulties of industrial breweries in the developed countries.

We had no answers from SabMiller and Molson Coors, but they had no specific internship programs available at that moment.

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[126] http://www.businessweek.com/articles/2013-08-08/blue-moon-vs-dot-craft-beer-rivals-millercoors-strikes-back visited on 10/09/2014

[127] http://www.tenthandblake.com

[128] http://www.theheinekencompany.com/careers/graduates/heineken-international-graduate-programme visited on 04/10/2014

Since there is a specific form for students inquiries in the Heineken website, we submitted a question regarding the phenomenon of craft brewing and their strategies to deal with it. After a couple of weeks, this was the answer:

*"Dear Jacopo,*

*Thank you for contacting us.*

*As you can very well imagine we are approached with similar requests from all over the world every day, even to such an extent that we cannot grant your request. Please visit our website: www.theHEINEKENcompany.com for all the information and images that are readily available for your use. However we do not permit providing third parties any information other than what is mentioned on our website.*

*Trusting you understand our need for discretion and wish you the best with your project."*

They seem to be very confidential about their strategy. We could understand some reasons of their discretion when we could ask a question to Mr. Giovanni Ravaglioli, channel activation manager of Heineken Italy at Marketers Day 2014, an event organized by Marketers Club in Venice. When asked about the phenomenon of craft brewing, he basically answered that they are facing that "*threat*" in 3 ways:

- Trying to reduce seasonality of their product, that mostly sells during the summer, in order to better exploit their capacity;
- Trying to sell a new beverage called Radler that was previously made by adding beer to lemonade and now is packaged in bottles with various brands;
- Trying to sell the craft brands they already own.

It seems to be a dangerous strategy: the two first parts are in contradiction each other, because Radler is a highly seasonal product, the latter is in contradiction with the sale of Birreria Pedavena, where the premium quality Heineken beers used to be produced, in 2006. Some people even say that the real reason for the sale was that Birreria Pedavena produced beer that did not match the Heineken quality standards, because it was too

good, but we asked Lorenzo Pilotto that worked in Heineken for 22 years and he told us that this doesn't make sense: the real problem was that they wanted to double the capacity of the brewery, but municipality didn't give permissions. After that, the company threatened to shut the brewery within 10 years, as they actually did after 8. Lorenzo told us that "*A Heineken manager draw a map of Italy with the 5 facilities of which only 3 would remain operating. There are actually 4, because they received important public subsidies in order to keep ruling the brewery in Aosta, where they moved the registered office.*" It seems like this practice of public incentives isn't finished yet, despite the economic conditions of Italy have significantly changed.[129]

In general, however, the craft beer phenomenon is probably seen more like a threat then an opportunity by Heineken.

We also wrote to Tenth and Blake, that proved to be the most interesting industrial way to exploit the phenomenon of craft brewing with its "crafty" brands, but we had no answers.

In conclusion we couldn't collect, much information from the industrial producers, but we figured out that some are seeing craft beer as a threat, others are seeing it more as an opportunity.

[129] http://www.aostasera.it/articoli/2012/05/30/22597/per-20milioni-di-euro-la-regione-compra-lo-stabilimento-heineken-di-pollein visited on 04/10/2014

## 3.5. Craft breweries

Eventually we decided to opt for an internship at Brew.Ing by Matthias Müller in order to better understand the dynamics in the sector.

We also organized a very successful congress about craft beer, that we called Marketers MakeIt! – La Birra Artigianale dalla passione al business, in Venice on March 27th.[130] The event was organized by Marketers Club, an important student association in Venice that, to date, (06/10/2014) reached over 200 members. The team that worked at the event was composed by 8 students and there were about 150 guests. The speakers were Teo Musso, Andrea De Bortoli, Matthias Müller, Liberato Aliberti, prof. Giulio Buciuni and prof. Stefano Micelli.

The success of the event proved the increasing sensibility in the Italian culture and academia towards craft beer and manufacturing. The event also had an important impact on the media, since it was reported in Barbara Ganz's blog on Il Sole 24 Ore.


**Figure 11:** The Marketers Club staff with Teo Musso and Andrea De Bortoli at Marketers MakeIt! – La Birra Artigianale dalla passione al busiess.

[130] http://www.mktrsclub.com/marketersmakeit2014/ visited on 11/09/2014

After these approaches a critical question emerged: how is it possible for these businesses to be sustainable? We are thinking of economic sustainability at first: craft beer producers, compared to the industrial ones, have no scale economies, no bargaining power and aren't able to access the traditional distribution channels conveniently. Moreover bureaucracy and tax regime are very unfriendly in Italy.

As discussed, Italian producers face these problems mainly by setting a very high premium price on their product, but how will the market react in the long term? What would happen if industrial producers were able to go to the market, as they are sometimes trying to do, with a good quality product that is sensibly cheaper than craft beer?

The fundamental question is how to make the business models of craft breweries sustainable in the long term. We may eventually find out that a broader sustainable thinking could set a sustainable competitive advantage by creating innovative business models.

### 3.6. Interview with Unionbirrai and the state of the craft beer market

Giulio Marini of Birrificio Italiano kindly provided us contacts with Alessio Selvaggio, member of Unionbirrai and founder of Croce di Malto.

Unionbirrai is the Italian association of craft beer producers. They work in order to spread the culture of craft beer and they promote festivals and competitions between Italian breweries.

In 2012 they published a report about the state of the craft beer sector in Italy and they are currently working on a new one that will be available in November.

The data provided by the old report are outdated and the new one isn't ready yet, but we could compare some of the data we collected with the ones they are working on and, turned out, they are similar.

The production by volume estimate is similar to ours 340.000 hl per year, even if they are not examining the market, but the production side.

As we discussed, our estimate of € 1 billion of market value, was certainly inflated or, at least, wasn't reflecting the added value of the sector.

We discussed with Alessio Selvaggio about the average price of Italian craft beer to the end customer, that is probably around € 15 per liter (a very high price, compared to the approximately 6€ per liter of industrial beer).

If we simply multiply that data and the volume, we find out that the Italian craft beer market is worth approximately half a billion Euros, that is a considerable but, probably, reliable result.

This puts the relative price of craft beer up to 2,5 compared to industrial beer and the market share at 5% by value. Also the relative price seems reasonable, compared to the American value of 1.97 and considering the fact that Italian breweries average scale is less than 1/12 of the American ones, with noticeable effects in terms of scale economies that reflect in a necessarily higher price.

In conclusion, the Italian craft beer sector has just became of age and its birthday has been celebrated at the Open Fest in Turin.[131] Since 1996 it has become a considerably important sector in the Italian economy and it doesn't seem that it will stop growing anyway soon.

[131] http://www.baladin.it/it/news/open-fest-2014 visited on 27/09/2014

## 3.7. Research questions

We will analyze some business cases through semi-structured interviews that will consider business models and economic sustainability and the approach of the firm to sustainability in general.

We submitted questions about the following topics to all the interviewed producers:

1. Year of foundation, growth of the last years and growth forecast for the short period in terms of volume produced and growth of the entire market;
2. Volume produced, capacity and break-even point, possibly with revenues and profit;
3. Team composition and background of the entrepreneurial team;
4. Reasons of the choice of establishing a manufacturing and artisanal venture, despite the trend of growth of virtually based startups;
5. Manner of access to productive technology and the required know how;
6. Distribution channels: composition and reasons of the composition (margins);
7. Marketing costs;
8. Importance of new technologies (internet in particular) in the whole supply chain;
9. Importance to have a definition of craft beer and the definition itself;
10. Approach to sustainability and specific sustainability-oriented projects.

# 4. Findings

## 4.1. SWOT analysis

Craft beer is a tremendously growing sector in several countries, especially in Italy, that was defined as "*the most interesting market*" by the beer-hunter Michael Jackson in 2007. Saying that he meant that the natural attitude to innovation and sense of taste of Italian brewmasters, combined with a lack of tradition and, consequently, the absence of prejudice, was the real strength of this phenomenon.

There are some concerns about a possible bubble in the industry that, to date, are proving to be groundless. Certainly, in the long term, the sector won't be able to grow double digit or even to double the entire national turnover in 2 years as it recently did. For sure the market, as usual, will concentrate around the most successful producers in the future, but we don't know think it will happen in the short term.

The actual dynamics of the sector are showing two things: on first, a group of successful players is already emerging alongside others that are proving not to be able to compete. Secondly, the opportunities of growth are still large.

About the first statement, according to all the players we have interviewed, there are a lot of bad tasting craft beers, while taste should be the major differentiation between craft and industrial beer. This is perceived as a weakness for the whole sector, because potential customers could be turned away from the whole craft beer market after tasting a poor product. It is, to some extent, a phenomenon that is opposite to the one of the "gateway beer".

About the second, we can see that the market is still growing spotty and in some places, such as Rome, it is reaching a tremendous success that could be replicated in other cities. Also the success that the craft beer movement is reaching globally should give an idea of the dimensions of the potential market.

Except the craft producers that distribute their product, there is a niche of small players that mainly sell through their brewpub. In that way they can appropriate of all the margin from the raw materials to the service to the final customer. With this particular situation the minimum sustainable dimension in terms of annual production is considerably lower and the niche created by those firms seem to be easily defensible and could represent a permanent change in the market.

The main threat for the sector, according to the players we have interviewed, is represented by the Italian law and bureaucracy. In general, brewers complain about higher costs and wastes of time and opportunities generated by the useless complexity.

Also continuous inspections are perceived as threats and are more frequent than in other countries. They say there are too many police corps in charge for inspections and this, combined with unclear norms, creates uncertainty, waste of time and fines that are not proportioned to the infringement.

By the way, says Agostino Arioli, producers should unite in order to exert pressure on the institutions and build a shared definition of craft beer, but this doesn't happen because of the lack of a long term strategy, while the producers are concerned about operative problems.

Another weakness of the industry, as stated by Bruno Carilli, is the lack of a complete supply chain that generates higher costs and doesn't allow some practices, such as the use of local raw materials.

| SWOT | Helpful | Harmful |
|---|---|---|
| Internal | Sense of taste and innovation of Italian producers | Lack of a supply chain and a united association |
| External | Steadily growing market | Averse Italian law and bureaucracy |

## 4.2. The reaction of the large corporations: pseudo craft beer

As we discussed, craft beer perfectly fits the model of the experience economy by Pine and Gilmore. The product development by the large producers, instead, has gone in the direction of cost reduction and standardization, but competing only on costs is a very dangerous positioning. They are still more competitive on service to the retailers, but if the market will keep pulling craft beer, it will be a problem to keep them under control.

Since draft beer price to the final consumers are not so much different between industrial and craft product, but craft beer can satisfy the most demanding customers, it may happen that it will prove to be a disruptive innovation, especially in contexts with higher prices (and margins).

Arguably, in the era of the experience economy, large companies should go a step backward and rethink the way they are developing the product. The pattern of development of a market corresponds to a scale of needs (commodities, goods, services, experiences and transformation) that have to be satisfied one after the other, while the market becomes more mature. If the good itself is perceived as poor, a basic need of the customer for differentiation is not satisfied, making it a useless effort to compete on services and experiences that are more expensive to create and stand in a higher place in the scale.

The large industrial groups now are changing their strategies considering this new challenge and, with the resources they have available, are building examples of tremendous success, such as the discussed Blue Moon by Miller-Coors and, in Italy, Birra Poretti by Carlsberg. Probably, the sooner they will focus on new products, the best they will perform in the long term. *"Kill your business model before it kills you"*, as stated by Ron Ashkenas.

We expect these "crafty" products to shrink the traditional industrial beer market even more in the future, but they will also allow the industrial producers to regain competitiveness.

We are not sure of what would happen to the competition with craft breweries, instead. One the one hand, with their scale economies, bargaining power, know-how and financial means, large corporations could be able to offer comparable products at lower prices. On the other hand, the values of authenticity and independency, the charm of hand working and the contents of storytelling beyond every craft beer and craft brewery are not replicable by the large corporations and the customers seem to be more and more sensible to these features. For the latter reason, the gap between craft and industrial products that has been created in the perception of the consumers seem to be unbridgeable and the craft brewing phenomenon will probably reshape the entire beer market, globally.

### 4.3. The new attitude of the markets and how to satisfy it: modular investments, new technologies and new distribution models

The sustained growth of the market is strongly pulling the sector and is probably due to changes in consumers habits that were even accelerated by the recent crisis. The concepts of "gateway beer", "authenticity", "human scale relationships" and "affordable luxury" probably make the consumer very loyal to the category of product, more than to a specific brand. For that reason, even if we can predict a strong growth only in the short or medium term, we don't think it will easily turn into a shrinking market even in the long term.

Growth is also a necessity. There is no doubt about the fact that Italian microbreweries are too small, except some cases. Giulio Marini argued that there were probably 10 breweries in Italy above the size of Birrificio Italiano, that we can consider a minimum dimension for a strong business. The average size of 560 hl of annual production is too small: we can state that because, from our analysis, except brewpubs, the business model of a brewery is difficultly sustainable under 2.000 hl of annual production and, as turned out, this is also approximately the full capacity that you can obtain by lots of small plants that were installed by the newborn breweries, indicating that they probably made a bad investment or that they had not enough financial means to start with a better equipment.

Since reaching 2000 hl of annual production seems to be easy, at the actual conditions of the market, starting the breweries with a modular facility would be a highly recommendable investment, in order to avoid lock-in phenomenons that will show after a few years of activity.

In order to exploit the huge opportunities offered by the global market, the firms should take advantage of new technologies, the internet in particular.

Social media is yet underestimated by the most of the producers. At that scale, non-conventional marketing in general is the real opportunity for high returns and low costs.

E-commerce is a great opportunity, too, since the actual distribution channels are not yet widespread, while the information about the product is.

In fact, the data provided to all the potential customers, globally, by platforms such as ratebeer.com and beeradvocate.com can be a source of tremendous demand for the small producers, much more than they can meet. The brewers should also keep in mind, though, that these data can be very dangerous, because, in case of low rating of the product, it will become much harder to sell. For that reason they should try to comply with the internationally recognized beer styles, unless they make something really innovative, and they should take a lot of care of the product, from the production to the distribution, in order to preserve its qualities. Baladin, for example, uses a cork that pops if the bottle is exposed to heat in order to guarantee to the customer that the bottle has been well preserved.

Except direct sales, on-premise distribution offer the highest margins, that justify the higher price of the product. These markets are particularly developed in Italy, compared to other nations, so craft breweries should address them first and think about off-premise distribution later, as they are actually doing. The problem, in this case, is that the most of the producers have a very low bargaining power and capacity, therefore intermediaries retain a large part of the margins.

For that reason, associations of producers that took care of distribution would be highly recommendable, unless the firm has a structure and a dimension that allows it to integrate distribution, such as Baladin does, or to refer to the large distribution, as in case of Amarcord.

Also the brewpub business model, that is the best in terms of profitability when the firm is really small, should be more exploited: the percentage of brewpubs in Italy is low, compared to other markets.

### 4.4. How to overcome higher costs: building a national value chain and linking the product to the specificities of the territory

As we discussed, Italian breweries have to sustain higher costs, compared to foreign competitors, that reflect in a higher price, mainly because of bureaucracy and the lack of a national value chain.

Focusing on costs can't be a strategy for craft brewers, but creating a more friendly environment is still important, because, in the long term, thanks to the aforementioned web platforms, there will be a global competition with a huge amount of excellent producers that may be able to offer a similar product (in terms of style) at higher quality and lower price, outperforming Italian breweries.

In order to create a better business environment, except the work of associations that have to define what craft beer actually is, the main challenge is a creation of a national value chain. Some parts of the process, malting on first, can't be efficiently made at a craft level with the available technologies. To date, the Italian malt houses aren't even able to offer traceability for the cereals, making impossible for producers to use their own malt. The process of brewing is modular and some phases really need scale economies. Other phases, such as hops production and farming in general, need high specialization economies. The form of outsourcing seem to be the best way at the moment.

Vertical integration make sense in case of high scale and margins or, partially, in case of choosing the business model of agricultural brewery.

Another good way to avoid the trap of price competition is linking the product to the specificities of the territory, by using local spices and other secondary raw materials that can give to the product a unique characterization in the global market. Also the use of other local raw materials, including water, hops and cereals, is really important to give personality to the product and that is another reason why there is the need of a national supply chain.

## 4.5. Sustainability

The aim of this research was to understand whether the Italian craft brewing phenomenon is sustainable or not and at which conditions. After our research we can state that the sector is evolving rapidly.

The awareness of the themes of sustainability are widespread among the producers, but, in general, the concept they perceive is more focused on the economic aspect, that is what we expected from a newborn industry. They don't usually conceive sustainability as the *triple bottom line* and, in general, they believe that economic sustainability constrains any other factor, otherwise the firm wouldn't exist.

We found very interesting business models that seem to be sustainable even with a small scale, others that are solid and others, the most, that are in a transitional phase, with the opportunity to strengthen their position.

The outstanding market demand and the vision of some important players are nurturing the sector, despite some critical factors that we have discussed.

What we have found in the people we have interviewed was a mix of passion, vision and capabilities that bodes well for the future of the sector. In conclusion, these modern craftsmen have clear in mind the need of finding a sustainable positioning and are generally aware of the new means at their disposal today. The main challenge for them is to exploit the opportunities we have shown, before the market starts to cool off: a challenge that all the players we have met are eager to face and win.

# Appendix

Follows the content of the interviews.

## Breweries

### Bionoć

Bionoć is a small brewery established in Fiera di Primiero in the Trentino region. The entrepreneurial team is composed by Nicola Simion and Fabio Simoni. We spoke with the latter, after visiting their facility.

Fabio was ruling a small restaurant in Fiera di Primiero, in which he suddenly created a great selection of more than 200 beers from all over the world. He had in mind to create a sort of "beer encyclopedia" with thousands beers in his place, a kind of a Delirium Café.

Ruining his plan came Nicola, a "*hard manual worker since he was young, with thick fingers*" telling him *"we have to make beer*". The idea seemed very difficult at first, but Fabio asked him to create a small homebrewing fermenter that kept stable temperature and, with his surprise, Nicola succeeded by using a thermometer, a computer, a pot and a hair drier closed in a wardrobe in his cold garage. "*This will become a brewery*" Fabio thought.

Fabio took a course at Dibevit "University of Beer" in Varese and some sommelier courses. Nicola gave up university after one year, but his studies of chemistry were still useful for the venture.

After some years of homebrewing, the production started in 2011 as a beer firm in contract with Fravort at Ospedaletto (TN).

In May, 2013 the new facility was established near Fiera di Primiero. It is a 600 liters plant produced by Braumaster in Feltre with three 1200 liters fermenters and others coming soon.

The first year revenue was 105.000€ that barely allowed the firm to break even, without the owners to pay the salary to themselves.

Installed capacity is around 1000 hl per year "working hard in three people", but with only the two founders it is actually set at 650 hl per year.

After the first year they managed to reach the good result of breaking even at 450 hl of production. Working at this capacity, their full industrial cost is around € 1,1/liter. If they worked to full capacity with this configuration (650 hl) considering a conservative variable cost of 0.8€/liter (including excises) they could reach a profit around €17.500, not even enough to pay for 2 humble salaries. Hiring an employee in order to push the capacity to its limits of 1000 hl/year may be affordable, but it would make more sense if combined with other investments.

Their realistic growth forecast for the next year is to reach 1200-1500 hl (nearly a tremendous +200% year over year), hiring a new employee and with some investments in equipment that they are already taking, while their conservative forecast is to reach 650 hl without changing their structure, only to satisfy their demand (still a great +44%).

They estimate that they are actually satisfying a 10% of the Italian demand they are actually reaching through distribution, so there is a high potential and, with the new exporter, the market became even larger, so they are not really worried about potential market and they believe it will keep growing at the actual sustained rate in the medium term.

They also believe that the entire craft beer sector will keep growing at the actual sustained rate, because there is actually a strong predisposition of Italian people to look for high quality products in the food and beverage industries. Despite the crisis, or, maybe, because of the crisis, they want products in which they recognize a higher value, in order to spend their lower amount of money in a better way. This may be a sign of an evolution in the scale of values and habits of the Italian consumers.

The equipment provided by Braumaster cost € 65.000 (excluding VAT and setup costs) that seems to be a very competitive price. It is a very easy to use plant, with no automations, but that gives very good results according to the brewmaster. Since they already had experience with homebrewing, they already had their own recipes and they already knew how to work with a large plant because of their two years as beer firm, when they were assisted by the Fravort brewmaster. They just had the equipment explained by Antonio Merlo and after a short period of arrangement they were fully operational.

Their warehouse is rented with a 5 years contract with an option for other 5 years. The monthly fee is € 1300.

The largest part of their revenues (80%) come from the Horeca sector. Their restaurant, that they will give up soon in order to fully dedicate to their brewing activity, only accounts for 7% of their sales, while it accounted for 25% the first year. It is their 3rd of 130 customer at the moment, not because of bad performances, but because others are performing even better.

Their marketing expenses are low. They managed to build a free website and leveraged on a friend for graphic design, who is now working for Sony in Japan, so they will have to find another one and probably they will pay him or her this time, but Fabio's main concern is about finding someone that is good enough. Their main marketing expenses regard the free distribution of the product in fairs and inside their facility that is always open for visits. They went, for example, to "Salone del Gusto" organized by Slow Food, inside the stand of Trentino region.

They believe that the internet is a great opportunity for selling, but, on this early phase of the business they are focused on traditional distribution. They are trying to exploit different channels starting from the best performing in terms of return on investment. They say their growth is mainly limited by the boundaries of their financial resources.

They have a website (http://www.birrificiobionoc.com) through which they can be contacted and they also ship beers if asked to, but this accounts for a negligible part of their revenues. They haven't yet evaluated the possibility of creating an e-commerce, because it wouldn't be enough profitable.

They think that defining craft beer could be useful and they regret there are no policies for craft brewers in Italy. They also think that finding a good definition for craft beer is not simple and they don't feel comfortable to give their own. They are more interested in linking to their territory: they suggested to create an association of Trentino brewers that use local hops, but their competitors didn't agree on that point.

They have a strategic approach to sustainability: they think it is their strength. Their entire process is Greenway certified[132] and they only use hydroelectric power in order to operate. On this point they exploit the characteristics of their territory in a very good way: there are power plants that allow them to use the cleanest possible electricity and they also received incentives for their business.

They also want to point out that their link with the territory also expresses through good practices in the way they rule the business: they are good payers, they tend to prepay their suppliers and they will hire a new employee and pay him well. They seem to be very aware of their rule in the community they live.

They have some interesting zero kilometer projects: in particular hops culture that they are experimenting and even barley and malting that is much more complex and requires huge scale economies and financial means. The last year they produced a beer named 100% Primiero with local hops, water and malt. They malted local barley in their open mesh tune, regulating temperature and manually mixing the grains and selecting the waste. They say it's too difficult to proceed this way for the next years, but there are some projects involving local farmers.

[132] http://www.sanmartino.com/IT/greenway/ visited on 19/09/2014

### Birrificio Artigianale Veneziano

Birrificio Artigianale Veneziano was established in Maerne, near Venice, in 2010. The initial investment was of € 250.000 by 3 friends that had another job and used to work at the brewery mainly as a hobby. In order to make it profitable it would need more devotion and the owners decided to sell the brewery to 3 other investors that took over the residual debt of € 150.000 in 2012. In order to rearrange the production, other investments were found with other 6 people joining the venture.

Actually the brewery is still in a startup phase and works with 3 employees that earn a modest salary. The previous venture managed to produce 240 hl per year, while the new one reached 1000 hl in the first year.

We spoke with the brewmaster Rudy Liotto that used to help sometimes the old venture and used to be a homebrewer. The new management called him in order to become the new brewer.

Rudy gave up his studies of environmental sciences, the other brewer is a biotechnology PhD, so there is some technical background in the venture.

After the first year of activity they succeeded in winning some prizes at the Unionbirrai "Birra dell'Anno" in Rimini.

They own a 650 liters plant produced by BBC Inox[133] that is a producer that also had an interesting spin off in beer production, named Acelum, that was originally established mainly for demonstrating purposes. With this plant they can reach a 90% efficiency in terms of sugar extracted from the malt.

With their production of 1000 hl/year they reach € 300.000 revenues that means an average price of € 3 per liter and they are able to produce a small profit and pay for 3 salaries. Sad to say, they bill more than they cash, that could be another typical problem

[133] http://www.bbcinox.it visited on 19/09/2014

of the Italian business environment. In addition, they say, the largest part of the margin is retained by the intermediaries in the value chain.

Working at this capacity they estimate their variable costs to be around € 0,40 per liter and their full industrial cost to be € 0.7 per liter. (probably excluding excise)

They expect to double their production in the next 2 years, that would be an impressive 42% per year. Considering their installed capacity and the fact that the new management could show a tremendous +300% in the first year, this is not likely to be an overwhelming prediction. They also believe that the market will keep growing steadily in the medium term.

They prefer to distribute their beers to specialized pubs and fairs, that account together for the 70% of their draft beer distribution. The rest is sold to small bars and through small local distributors.

Bottles are mainly sold through wholesalers, that makes impossible for the brewery to have a feedback of the composition of the sales. A small part is directly sold to the large distribution, in particular to Coop with a different label "Mastri Birrai Veneti".

They prefer small local wholesalers because their demand is more stable and it fits their capacity in a better way. These distributors mainly reach pubs and some wine shops.

They have no brewpub actually, but they aim to create one in the future.

Their marketing costs are very low and mainly consist of traveling in order to show their products. It amounts to less than € 10.000 per year.

They are exporting just a very little part of their production.

They have a website and would like to invest in order to build an e-commerce.

Rudy's concept of craft beer is an alive product, not pasteurized or micro filtered. Its main features are flavors and the manual work of the brewer.

Birrificio Artigianale Veneziano is a member of Unionbirrai and they believe it is the right intermediary between brewers and the government. They complain about bureaucratic problems and the fact that they share the same regulation of industrial producers. They believe, instead, that craft beer is an emerging phenomenon in Italy and that it is very successful worldwide. If encouraged it could be an opportunity of growth for this country.

They are mainly concerned on the economic aspect of sustainability. They also have a hopfield and aim to grow local barley and have it malted by Weiermann. Doing anything more would be economically impossible for them.

### Toccalmatto

Toccalmatto is one of the most award winning Italian microbrweries.

We spoke with the founder Bruno Carilli that had been previously working at Carlsberg. He is an agricultural sciences graduate and has a managerial background. He decided to start his own brewery in order to satisfy a niche of very demanding consumers.

Established in 2008 in Fidenza, near Parma, Toccalmatto started with a 550 liters plant and an employee (excluding the owner). Since, the production has grown from 450 to 2.000 hl per year (2014 projection), corresponding to a 28% compound annual growth rate. Their € 800.000 annual turnover in 2013, with 1.700 hl of beer produced, indicates that they are selling their beer at a very good average price of € 4,7 per liter.

Carilli expects his brewery to reach 10.000 hectoliters in 4 years, that would be another 50% growth yearly, thanks to a strong investment in a new equipment. He is convinced that the demand will keep growing steadily and he says that the growth of his brand was strongly limited by the initial choice to build a small plant. He believes his size, such as the one of all others Italian breweries is too small.

The original equipment was provided by Simatek,[134] now they are working with Tefo, a small local producer that doesn't even seem to have a website. The necessary know how to use the equipment was transmitted by the manufacturer, but also the owner had a good background given by 10 years of homebrewing.

They only sell to the specialized beer channels: beer shops, pubs, and restaurants. Draft beer accounts for the 30% of the production, the rest is bottled. They have no brewpub, but they have a small shop within their facility.

Their marketing expenses are modest and mainly concentrated on travelling costs and product exhibitions. They use non-conventional marketing, social media marketing and have negligible advertising costs. In total it accounts for just € 20.000 per year.

Though they have a website, Carilli considers the e-commerce a dangerous way for selling their product. He thinks, besides cannibalization, there would be a considerable problem of image towards distributors. Plus, it would require a heavier structure. For those reasons, he believes that the organization of e-commerce platforms should be up to the distribution.

He defines craft beer as "beer hand made by a craftsman in a small firm". He thinks that the real distinction is that people manually work on the product. He thinks that giving a definition and informing the consumer would be important in order to let the consumer choose knowingly and avoid industrial producers to exploit the craft beer phenomenon as it is already doing. He notes how Carlsberg is already trying to make his beer perceived as craft by communicating a different value and scale of the product, recovering the old brand Bira Poretti, and by using the term "birrificio" itself that was considered obsolete in the industry, but that is typical of the craft producers.

He complains about the main problem of Italian microbreweries, Italy itself, pointing out some alarming examples: he says that Italian taxation (including everything: excises, IRAP, etcetera) account for 60% of the profit. In comparison, in UK it is approximately

[134] http://www.impiantibirra.it/en/company.html visited on 21/09/2014

the 25%. Because of policies energy and water are more expensive. Also malt and hops are more expensive because of the lack of an Italian supply chain. Building the facility itself is more expensive than in the rest of Europe because of the required sanitary authorization and the relative costs in terms of structures and time.

In addition, he says, there are 10 different police corps in charge for inspections and that makes a huge waste in terms of time. You have to report your activity in advance, then you have to produce consumptive reports every 2 weeks and everything has to be made papery. Small firms can't be enough structured to face these situations properly and in case of small mistakes, you could incur in criminal sanctions.

One more thing is that the inspections are not made in order to check the respect of the law, but in order to make more money for the government to waste. He received a fiscal inspection that lasted 6 months, in which they controlled all the archives. He says that, if, at the time of the inspection, he hadn't already invested for the new facility that he is building, he probably wouldn't make it in Italy anymore.

Unfortunately, and this links to the definition of craft beer, he says that there are no brewers associations in Italy that are good enough to defend the craft brewers interests.

He is aware of sustainability, but his main concerns on it regard the economical aspect. He says that the impact of the Italian business environment are impossible to estimate. He stresses the fact that Italian breweries are too small and, for that reason, they have no strategic planning. At the same time, if you want to grow, you can't rely on your own raw materials and zero-kilometer projects, because of the variability of the production and quality.

For the same reason, he used to have a hopfield, that is a passion of his, but he couldn't keep it because, he says, it makes sense only if it's big enough for scale economies, but, in that case, you need to have a different structure and it is an important investment. He says that there are only a few real "agricultural breweries", but they are small.

In his analysis, the largest problem is the lack of a national supply chain that could give economies of scale and specialization and that would give the means to address the challenges of sustainability.

### Birra del Borgo

Birra del Borgo is one of the most famous and award winning Italian producers. Its beer is also sold in Birreria in New York, in partnership with Baladin, Dogfish Head and Eataly. It is probably the third Italian producer (head to head with Baladin) in terms of volume, after Amarcord and Mastri Birrai Umbri (we don't know if we should include Theresianer that is owned by Hausbrandt).

We met Leonardo Di Vincenzo, founder and brewmaster at Villaggio Della Birra in Buonconvento (SI), a very high level global event about craft beer, in which Italian breweries really make a good impression in front of famous international producers.

Di Vincenzo started home brewing and helping the American brewmaster Mike Murphy in his small brewpub in Rome. For that reason the Re Ale was the first India Pale Ale (an English traditional style) brewed in Italy.

He is a biochemistry PhD with a specialization in bioinformatics. He says that his studies were following another passion of his, but they turned out to be useful also in the creation of his brewery.

He started his venture alone in 2005 with very little structure and a 500 liters plant, managing to brew 150 hl on the first year. Actually he is working on much a larger plant, producing 14.000 hl per year and aiming to grow further 20% per year until reaching an amount of 18.000-20.000 hl of annual production that, he says, would justify the resources and investments in the firm.

From the initial 150 hl, the impressive compound annual growth rate of Birra del Borgo in the first 10 years of activity was 57%.

The actual revenues are € 4 million, with an installed capacity of 16.000-17.000 hl per year, with 18 people at work, so they are actually working at 80-90% of their capacity and, Leonardo says, their break-even point, in terms of revenues, is around € 3,5 million. These numbers tend to be impressive in a sector dominated by very small producers.

Their equipment manufacturer is a local firm named Spadoni and the required know-how for the production was totally self-learned by Leonardo.

They have no brewpub, but they have a 4 owned places that account for 12% of the beer sales. Eataly accounts for another 12% of the sales. The 22% of the production is exported, another 12-13% is sold to large Horeca groups and the rest is sold directly to retailers or through distributors and there is no control over the distributors in order to understand the composition of that part of the market. They are not actually selling through the large distribution, even if they are evaluating that possibility, mainly in terms of capacity.

They spend a considerable amount of their revenues in marketing (between 8 and 10%) that is not very high in general, but much higher than the smaller realities we have heard.

It is impressive, compared to the smaller producers, the quality of control that Leonardo holds upon the management variables of his firm. Besides the dimension of his firm, that requires a heavier structure, one of the reasons depends on his studies of bioinformatics, another of his passions: they are a craft company that is very internet based. The whole brewery is automated and controlled by an internet of things platform that allows the producer to check the status of the brewery in every moment from remote and also to interact and take decisions. The sales are based on a B2B platform and they have a good looking website.

In this way, Leonardo is the perfect craftsman of the future described in *Futuro Artigiano,* a man with passion for the product and manual working that can, at the same

time, take advantage of the means of new technologies and combine tradition and innovation.

His definition of craft beer is that it has to give emotions and show the character of the brewmaster. Than he thinks that is should usually have great aromas and not be pasteurized.

He says that giving a definition of craft beer is one of the most difficult things to do in this sector, but associations are important in order to relate with the government and have better policies.

He is aware of the problems of sustainability and his concept of sustainability is linked with the idea of having a closed loop in the production, with no wastes.

His practices for sustainability are the following:

- All the wastes of production are conferred in order to produce electricity with a biomass generator;
- They have developed a bottle that, given the same technical specifications (mainly in terms of resistance to pressure) is 10% lighter in terms of glass.
- Farmers within 15 km from the brewery confer their barley that is, then, malted by SAPLO, significantly reducing the environmental costs for the global supply of raw materials. Maybe it's not profitable, but, judging the quality of the beers, it is a good product;
- For the future to be able to reuse their bottles, hopefully by the end of 2015.

Birra del Borgo is an explanation of how reaching a certain scale can justify sustainable practices is the craft beer industry.

### Agrifrè

Agrifrè is an agricultural brewery stated in the Lombardia Region. It is part of a family business farm and the brewery is a minor activity.

We spoke with the owner, Antonello Musso, because of the advice we received by Bruno Carilli that told us he was going to use in the future hops coming from Agrifrè, that is the only Italian producer that convinced him with his product.

Antonello tried to grow 15 varieties of hops since 2007, in order to understand which ones could fit the territory in terms of quality and efficiency. He says that quality doesn't seem to be a problem, yield is still to evaluate. After the first attempts he found that the Cascade variety (typical of American pale ale style beers) could be grown properly and he is also experimenting the Styrian Golding that is a quality he particularly appreciates. This is the 3rd year he has been able to harvest his Cascade hops.

He says hops culture is critical and the many varieties of hops require different terrains, climate and techniques.

He started homebrewing aiming to be able to produce his own beer with his raw materials. Since 2012 he can brew his beers with almost 100% self-made ingredients, only excluding a minimum part of special malts. He says it is very expensive, but he has great results in terms of quality. Italian craft breweries mainly use industrial raw materials that can be good quality in some cases, but, even if you have great organoleptic characteristics, you can't have warranties on the process used for creating these raw materials, one thing – he says – you can only have by self-producing them.

Breweries in general look for qualities in terms of compliance of the product. He says he will be able to have a constant quality during the period of one year, but the year strongly influences the final characteristics of the beer.

The business model of an agricultural brewery increases complexity and wouldn't be reasonable for him if it was the main activity. He wants to carry on both the farm and the brewery.

The first year he brewed 60 hl of beer, the second 120 and he estimates to grow further by 25-30% for the next years. He estimates to break even when he will reach a 400 hl annual production and that, if he only had the brewery, it would require double that

production in order to make sense. It's a very small scale, but it's not the main activity of the firm and it will probably never be.

He bought a second hand 500 liters plat in joint ownership with another small brewery and, for that reason, he had to learn to use it by trials and errors.

It's difficult for him to estimate the revenues coming from beer, but he sells his product at an average price of € 6 per liter that is a lot.

The farm has a shop the accounts for 20-30% of the sales, the 40% is realized through distributors and the rest is sold directly to the retailers. Large distribution is excluded.

His marketing costs are around € 500 per year.

He has a website, but he doesn't trust in e-commerce. He believe that he wouldn't sell a lot through that and he prefers to sell directly and showing the farm to the consumers.

If the brewery works, he would like to start a farmhouse.

He defines craft beer as produced with self-made raw materials and he thinks there is a simple need of a distinction between agriculture, handicraft and industry, as it is in other sectors.

He thinks that sustainability is about self-making raw materials in order to minimize environmental costs. Other projects would require a larger scale that is not easy to obtain with this business model, especially because hops harvest has to be made by hand.

Agrifrè, though still embryonic, is a good example of agricultural brewery that wasn't born just in order to exploit some distortionary tax reliefs and that is obtaining good results basing on high quality raw materials, an interesting challenge, considering that we have not yet, in Italy, a complete supply chain for craft beer.

### Birrificio Italiano

Birrificio Italiano is one of the most famous Italian breweries, as we have already mentioned, because it opened in 1996, the year that is recognized as the start of the Italian craft brewing, and it is representative of a different, but still successful, brewing philosophy compared to the one of Baladin.

We spoke with Giulio Marini, partner from 2000 and Agostino Arioli, founder and brewmaster.

The story of Birrificio Italiano reflects the growth of the Italian movement: it started in 1996 in Lurago Marinone (MI) with a brewpub that accounted for the total amount of the sales and a plant designed by the brewmaster himself and crafter by a local carpenter and is now producing 5.000 hl per year.

Agostino Arioli is an agrarian graduate that studied beer in his final dissertation. After that he had some experiences in brewing during high season in Germany and he found out the concept of brewpub during a trip to Canada.

Birrificio Italiano started as a limited liability company with the two Arioli brothers working as cook and brewmaster and other partners that financed the activity.

The first two years were hard, but, later, came people from the nearby towns in order to taste their beers.

In 2000, in order to satisfy the demand, they purchased another crafted 700 liters plant and started to distribute a small part of their beer in specialized places in Milan and others such as the famous Macchè pub in Rome. At the same time they were visiting foreign fairs in order to understand the technology that was available abroad and purchased a manual bottling machine from Hungary.

They had no marketing expenses and their growth was always pulled by the market an limited by the poor available structures. Being a pioneer involve costs, mainly in terms of

available supplies. For example they used a prototype bottling system that was very problematic at first.

On 2005 they bought a 20 hl brewery from Impiantinox, a formerly milk equipment manufacturer that entered the craft beer business building the first plant precisely for Birrificio Italiano. They had to move the brewery outside the brewpub, because they needed more space. At the same time, coherently with their preference for "easy to drink" beers, they started to package beer in casks in order to satisfy the demand coming from pubs, more than from the restaurants.

From 2009 to 2012 they had part of their beers (their weizens) brewed by Manerba near Garda Lake, because of a lack of capacity.

In 2012 they had to move their plant in another building and they started to organize the work in a more scientific way. They kept the same brewery, but added fermenters, a larger cold room and implemented a better logistics. There are actually 13 workers in Birrificio Italiano.

Giulio says that the better organization of work reflects in the quality of the product.

In 2014, finally, they will reach 5.000 hl of annual production. Since 2012 they increased by the 40% the first year and by 30% the second and the market, they say, will keep growing.

They think it's not easy to forecast the growth of the next year in a moment in which the demand is so strong, also because important investments are required in order to grow further. However they expect to grow by an average of 20% year over year in the short term.

In terms of volume, they mainly sell casks, that account for 70% of their production. Distributors are strategic because of the required logistic operations required by draft beer and also because they can properly explain the product to the retailers. They are glad that their distributors, time after time, grew with the brewing phenomenon, not in

terms of capacity, but in terms of quality of the service. They have regional distributors that cover Italy without overlapping each other, but they also sell the product directly.

Actually they don't sell online, but they may do so if they reach the right dimension. Other offers to sell the beer through third party e-commerce platforms were rejected.

Their marketing expenses account for circa € 70.000, that is a little more than the 5% of their € 1.250.000 revenues.

With these data we can see that their average price per liter is € 2,5.

They believe that there is no need for a legal definition of craft beer, that would be restrictive, but there's a big need of work from the associations, such as Unionbirrai.

The agricultural brewery, for example, is a distortion of the market in their opinion, because it has fiscal reliefs for the same activities.

The main problems with the definition of craft beer in Italy are non the direct costs, such as excises, that are above the average, but still lower than, for example, the British ones. The main problem is bureaucracy: fiscal instruments are a considerable fixed cost for small producers and the waste of time bureaucracy takes is too much. "There is a need – they say – to change this approach of presumption of crime by the regulator that leads to unbearable conditions and still doesn't exclude the possibility of tax evasion."

"The paradox is that, by reducing costs of operations, the treasury would collect more income, because of more available financial resources for investments and more growth."

They are carrying on two proposals to the government through Unionbirrai, in order to solve the two main problems: one is to reduce costs for controls, the other is simplifying the record keeping that is really annoying for a small structure (and, as we discussed, has to be made papery).

They have a wide vision of sustainability:

- In regards with economic sustainability, their main concern is about the creation of a series of professional figures and corporate structure that support the brewer;
- In regards with social sustainability there are no big problems to face, but the only very important thing is to create a cohesive work environment, with people that get on well;
- In regards with environmental sustainability they use local products for minor ingredients such as fruit, flowers and spices. They import the total amount of malt and hops because they belive it is higher quality at the moment, but they collaborate with a farm that is trying to produce hops and Agostino is trying to grow hops himself. They recently sustained an internal energy audit in order to minimize wastes. They will adopt a depurator for wastewater and they give spent grains to the nearby farms

Agostino Arioli defines craft beer as:

- Produced with high quality raw materials in order to increase flavour and not to lessen costs;
- Produced by an independent brewery;
- Not filtered, pasteurized and with no added chemicals. He, personally, doesn't even use whirpooling.

He says that craft beer itself could be too broad as term and could include very poor quality producers, so it would be better to create a definition of "alive beer" or "integral beer".

He says that finding a definition that is also recognized by law would be very important and he brings about 2 examples of how industrial breweries are exploiting the craft beer movement. One is Birrificio Poretti, that we discussed with Bruno Carilli, another is a beer sold by Simply distributors packaged in cans, named Birra Mastro and labelled as produced by birrificio italiano that generically represents an Italian brewery. Birrificio Italiano is not able to call for a legal action, because the term is generic, but he claims

that he has been the first to use the term “birrificio” in Italy and he says that at least the term, indicating a microbrewery, should be defended by the law.

He was one of the founders and still is a supporter of Unionbirrai, but the association isn’t currently showing the necessary lobbying abilities, though he hopes it will in the future. Unfortunately Italian producers are too focused on short term. This is linked to their difficult conditions is terms of economic sustainability. In Agostino’s opinions, the minimum sustainable dimension of a craft brewery is 1000 hl of annual production, probably more. At that point you need to have employees and it’s no more manageable by 2 people working 16 hours a day, though still partners will probably work too hard. To date, he states, there is probably more market for starting with brewpubs, that need an even lower capacity.

He leaves us with a strong optimistic message: though it’ real that bureaucracy and other problems strongly affect Italy, and this, he says, has been since the ‘70s, it’s time for people to “roll up their sleeves”, take decisions and act more.

### Villa Chazil

Villa Chazil is an agricultural brewery in Lestizza, in the Friuli Region. The owner, Antonio Venier is a chemistry graduate who has been working in the UK, in Luxottica and in a Scientific Park in Trieste.

He was evaluating the possible use of an inherited farm when the law about agricultural breweries was published. He was helped by Cesare Buiatti, the professor of brewing technology at the University of Udine, and he estimated that with his farm he could produce up to 1000 hl of beer per year, that he considered the minimum reasonable amount, only using self-made raw materials. Meanwhile he was already interested in craft brewing.

He found out that the small Italian malthouses are not organized for lot production, so they don’t offer the service of traceability of the product that is essential for an agricultural brewery, so he decided to malt his barley in Austria at Stammag, that was

equipped for a minimum amount of 20 tons of barley per production and offers traceability and high quality product.

In 2011 he started the farm producing commodities. In august 2013 he started brewing. He works with a brewmaster and a part-time farmer and he has some jobs made by contractors, since he doesn't have a lot of equipment.

He also has a hopfield with 400 plants that requires a lot of manual work.

This first year he managed to produce 300 hl of beer (that wasn't totally sold yet).

He started with draft plants in 2014 and that makes the most of the revenues, while he thinks that the bottle is perceived as too expensive. He mainly sells to farmhouses (80% of the production) that are eager to sell agricultural beer. He sells beer in k-kegs and supplies for free a small and cheap draft equipment.

A very interesting thing is that he decided to invest directly on a large (in comparison to Italian breweries dimensions) 20 hl plant provided by Eco Brew Tech, an engineering supplier that has the production made on contract and also supplied some know-how. This decision comes from the analysis made with professor Biuatti on the fact that, despite a higher investment, the break-even point of that configuration is lower than the one of smaller plants, mainly because of labour costs.

The plant cost € 330.000, including 3 fermenters of 40 hl each. With a 10 years amortization, Antonio thinks he can break-even with 400 hl of annual production that seems to be optimistic. His annual capacity is 1500 hl and he thinks he will double his 300 hl production next year.

His marketing expenses are modest. He has a website and nothing else in the use of internet.

In the future he would like to open a sort of brewpub-farmhouse.

With this structure he could take advantage of ISMEA contributions, but, he says, nearly half of the money was lost in direct and indirect costs for receiving these contributions. In addition, you need to spend a lot of money in advance, so it isn't a very useful tool for young entrepreneurs with little means.

He conforms to the Unionbirrai definition of craft beer and he says, like his competitors, that bureaucratic problems are noticeable. For example, the law that allows small producers to use simplified fiscal instruments imply addictive costs. He says that he was accused of 8 infringements, each of these he challenged because absurd. One, for example, was a failure to notice a fact that he had noticed via certified mail (PEC) and of which he had a read feedback.

Now he is discussing with the customs agency about the Plato degree he should communicate, because there is a second fermentation in bottles that requires sugar, raising this value. The norm clearly refers to the Plato degree of the wort, but he know 4 producers that have been fined for inconsistency with measures made on the bottles. He says that they are unlikely to answer, in order to avoid being contradicted.

We need to consider that this the most embryonic state of the business we have analysed, but the owner is sure that it is proving to be sustainable.

### Croce di Malto

Croce di Malto is an award winning microbrewery established in 2008 in Trecate (NO).

Alessio is a food technologist that was passionate for craft beer. He wanted to open a craft brewery since 2001, but he decided to give up that time. In 2007 he had to choose between a new managerial job and starting his own activity. After considering the interesting dynamics in the craft beer sector, he decided that the time was ripe for entering the business with 3 partners.

They grew steadily (around 30-40% year over year) since they started, but in the last year they saturated the capacity of their facility and their growth had to slow down. For that reason they are planning to build a larger facility soon.

They started with a 500 liters second-hand plant manufactured by Velo and previously owned by Cittavecchia (one of the earliest manufacturers in Trieste). They received a little training by Cittavecchia brewers.

They are currently brewing 5 days a week, reaching 1500 hl of annual production and being able to break even with 4 employees and the owner at work. Alessio says that under 2000 hl per year you have too much hard working and costs and not enough revenues.

They sell the 40% of their production to retailers, a 30% goes through distributors, 20% through agents and the rest is sold directly at festivals that accounts for an important amount of their job.

They don't sell to the large distribution and pubs account for 40% of their sales. Draft beer is in total the 65% of their production, therefore on-premise retail is prevailing.

Their marketing expenses, festivals in particular, account for nearly € 10.000, that is the 1,6% of their € 600.000 revenues. They also have a website and manage social networks.

He believes that producing craft beer is about making a product with superior organoleptic features, but he also thinks that "craft" itself is not a good term for defining that, since exist poor quality craft beer and high quality industrial beer.

He thinks that the craft breweries, in Italy, are in a situation in which they have to think about reaching economic sustainability at first.

### Pailot Beer

Pailot Beer is a beer firm officially established in Arsiè (BL) in 2010 by Massimo Battistel, but the story starts in 1994, when Lorenzo Pilotto and other brewers decided to start producing craft beer as a hobby with a self-crafted equipment.

The hobby became more and more important also in terms of time and may people appreciated the product, so Massimo decided to start a brewery. Beer is produced by

Massimo at Villa Pola (TV) in a large 20 hl facility manufactured by Velo and in which Antonio Velo himself was a partner.

The Villa Pola brewpub, located in a beautiful Villa Veneta bankrupted one year ago. When we visited it in 2010 we could notice that the plant was oversized. Still the production of other breweries goes on in the same facility.

The most of Pilot Beer production (nearly 80%) is sold inside the pub "La Botega de la Bira" in Arsiè, where Massimo works with his girlfriend and other 2 employees.

Lorenzo Pilotto is actually working as consultant in the beer sector, after working in Heineken and Theresianer. The other people of the initial team of homebrewers, including Massimo, were working in other sectors, but they shared passion for good German-style beer.

The 90% of the beer produced is sold draft mainly inside the pub. Outside the pub it is sold in fairs and festivals, but it is not distributed to other places, something Massimo wouldn't like to do because his product requires a cold chain on order to be preserved (it is a lager unpasteurized and unfiltered beer). Festivals are good for distributing that product outside the pub because in a short period there is no risk for the beer to spoil.

Pailot Beer produce between 350 and 420 hl per year, depending on the success of the summer season, that is also related to the weather, and is not interested in growing, because Massimo thinks he has found a minimum optimal size.

This setting, with a € 190.000 annual turnover, is economically sustainable, while reaching a larger scale or owning a brewery (that he is evaluating) would imply higher fixed costs and expose the business to higher risks. One thing he is doing, instead, is to enlarge the pub.

Marketing expenses account for less that € 1000 per year and there is also a website that only indicates contacts and where to find the pub (in fact it is under construction, but it gives at least the minimum necessary information).

We need to consider that the firm is located in a small village that has to be considered a narrow market and, Massimo says, industrial beer producers (through their distributors) are starting to compete with craft producers, because they are perceiving them as a threat, so, in this particular case, there are now growth expectations.

All that said, this very small firm have found a sustainable business model, that despite the small dimensions, will probably remain stable in the medium term and also seems to be replicable.

### Matthias Müller Il Mastro Birraio

Matthias Müller is a German brewmaster that came to Italy in 1998 and started working at Velo S.p.a.. He is currently established in Italy, but he uses to travel a lot, since he mainly works as a consultant.

He worked as apprentice at Schloss Hohenaschau Brauerei where he received the title of brewmaster, then he worked for Lowebrau, where he started to disagree with some behaviors of industrial brewers. Then he graduated brew master at the University of Weinstephan and majored engineering management.

In 2006, after years of consulting, he started to brew his beers on contract with the brand "Matthias Müller Il Mastro Birraio".

The beer firm started with 100 hl of annual production in 2006 and is actually stable around 500 hl. Because of bureaucratic problems, his revenue model is based on royalties paid by the producer (he can't directly buy and sell his product because of the lack of a fiscal warehouse). His revenues are set around € 25.000 per year.

The marketing expenses are nearly € 5.000 per year, that is considerable for his size. Other variable costs are nearly 0,2€/liter (labels and bottles).

Since this isn't his main activity, it is set in order to be very flexible, with low fixed costs. Unfortunately he had to make some others investments, mainly for bottling, labeling

milling and for creating the brand and the website, that correspond to circa € 7.000 of annual amortization, so he can only make a slight profit at the end of the year.

With this business model, it should grow in order to become sustainable, but, with only 500 hl of annual production, he already manages to break even.

He defines craft beer as unfiltered and unpasteurized and, of course, with no chemicals. He believes that having a clear definition will be helpful for the consumer.

He is very aware of sustainability and his concept regards having a closed loop, with no wastes. In order to reach that he reuses bottles, use biologic raw materials that he personally selects in the farms and he uses solar power in his office in Zero Branco (TV).

### Villa Pola

Villa Pola was a brewpub established in a gorgeous Villa Veneta in Vedelago (TV). The brewpub is actually closed, because the manager retired, but they still brew on contract.

We spoke with Lorenzo Pilotto and Vanio, the brewmasters.

The brewery is located in a very beautiful place and the facility itself is very well made and good looking. You can see the copper-clad from plant inside the brewpub. It is a 20 hl Velo highly automated plant, with 12 25 hl fermenters for a total annual capacity of 2500-3000 hl. The production is highly automated, with the grain that is transported from a silo, milled and mashed automatically. Then a 60 meters conduit moves the wort in the canteen. The cost of the facility was around € 800.000.

The plant was oversized for the brewpub, but, on the first years, when it was "very well managed" the direct sales accounted for approximately 1000 hl per year.

They are planning to reopen the brewpub with a new brand in 2015.

### Hibu

Hibu is a craft brewery established in Bernareggio (MB) in 2007 by 3 homebrewers, formerly computer programmers unsatisfied with their job.

We spoke with Gianluca Bonetta, that we had formerly met during a visit to Bionoć brewery.

They began with the Mr. Malt kit, then they self-made an all grain plant and they started brewing on contract in 2007. The first year they reached 80 hl, in 2010 they reached 200 hl and they started the brewery.

The facility is a 600 liters, 3 tunes plant supplied by BBC Inox, that transmitted the initial know-how. They brew every day in dual cycle and at high gravity, in order to satisfy the demand.

In 2014 they will triple production, reaching 2.400 hl and they plan to reach 3000 in 2015, that will saturate the capacity, also by opening a pub in late 2014. Their revenues are around € 600.000 per year, meaning they sell on average at 2,5€ per liter.

They are planning to buy a 27 hl brewery when they will have the money, that is expected to cost approximately € 300.000.

They formally turned into an agricultural brewery this year, with a 15 hectares barley farm in the Basilicata region that is malted by Italmalt.

They export between 7% and 8% of their production, but they expect this amount to grow the next year. The rest is distributed directly inside the region and through intermediaries outside. In the latter case, they have no access to the data of distribution. They sell mainly through specialized pubs and restaurants, then there are wine and beer shops. Traditional pubs have the problem of not owned draft lines, but, finally, they are starting to sell craft beer too.

Their marketing expenses amount to € 15.000 at least.

They have a website and they are planning to build an e-commerce, but, at the moment, they rely on external e-commerce platforms.

He told us that, just the last week, Abi Lombardia was established with 10 producers associated to Assobirra, that, he thinks, are doing a great job. This new association will primarily take care of suppliers, in order to gain bargaining power.

Gianluca agrees more or less with the definition of craft beer given by Unionbirrai and he says that an artisan have to put some manual work on the product.

He says that reaching sustainability is very difficult, especially at the beginning, because of high costs. A huge problem is the complexity generated by bureaucracy. The business becomes profitable above a certain dimension. He says that the minimum amount of production is above 4.000 hl per year, probably more, that allows you to have financial capabilities in case of unexpected costs. At their actual dimension, he says, the profit per hour of job is very bad.

### Baladin

We could interview Teo Musso at the event we have organized at Ca' Foscari University in Venice. We have already discussed a lot about his personality and his importance for the Italian craft brewing scene, but he told us something more.

His brewery is actually producing 12.500 hl per year, but he also have several other activities in Baladin group, such as a chain of pubs named Open Baladin and Birreria in New York. The Teku glass has become a symbol not only of the Italian craft brewing, but also of the global phenomenon of craft brewing. It was produced in 360.000 pieces in 2013, that is an impressive amount.

He criticized the fact that Italian breweries have been losing their identity during the last years, by emulating the hoppy American beers. At the same time he was concerned about the inability of the Italian producers to agree on a definition of craft beer itself, that made on the one hand the word "craft" exploitable by large producers, on the other hand unusable by the craft breweries on their labels.

He keeps sustaining his definition of craft beer as "alive": unfiltered and unpasteurized, but he is worried about the fact that, if the producers won't suddenly agree, it would be

impossible to define the phenomenon in the future, because there would be more imitations than authentic products.

He thinks that his main achievement, that gives him the fatherhood of the Italian movement, was to create a new market for the product that could allow enough margins to let the very small Italian producers survive. For that reason, when he began producing beer in 1996, he decided to address the wine market.

Until a few years ago he thought that a minimal size that allowed a brewery to be sustainable was around 100.000 hl of annual production, but now he believes that, in this reshaped market, even producers that aim to only distribute the product on their region can work.

His structure is highly integrated, allowing him to have a wide vision of the entire sector and to appropriate of all the margin but, still, he thinks that if the market would cool off, he would currently be too small to survive.

He is planning to build a new brewery around a water spring and to self-produce all the raw materials.

What he aims for the sector, in particular, and for Italy, in general is a change in mindset that leave behind the idea that “small is good” and “successful people are bad”.

He thinks craft beer represent a spirit of authenticity and rebellion against the large corporations and that this satisfy new needs of the market, that will keep supporting the small breweries.

## Other professionals

### Consultants

We spoke with Lorenzo Pilotto, that graduated malt smith brewer in Feltre, the only Italian school of brewing and Matthias Müller.

They are both free-lance consultants that worked for some of the most important breweries in Italy and abroad. They both were consultants for Velo.

Matthias is now mainly working for Rolec and had just returned from a month in Haand Briggerit, one of the most famouse Norwegian breweries, while Lorenzo is working for various producers and, in the past, he started the facility of Amarcord, the largest Italian craft brewery and also worked for Theresianer, after 22 years in Heineken, during which he also helped people such as Agostino Arioli to learn brewing.

It is surprising how everybody in the sector seem to know each other.

One thing we have to say is that Lorenzo criticize the courses of brewing that are actually being organized. They are "better than nothing", but not comparable with the school in Feltre, where you had 20 hours of theory and 20 of practice a week and, "if you wanted, there was a lot to learn". Unfortunately the school closed for lack of attendance, but we imagine that nowadays it would be an added value for the Italian brewing movement.

What came out from both interviews was that the 5 hl plant (that many brewers use) is nonsense, because, if the firm works, you would barely break even with that. 6-7 hl plants, instead, allow you to be slightly profitable, but with a lot of hard work. Eventually Velo was only manufacturing 10 hl plants or above in the final period.

Only if you have a brewpub, a 5 hl brewery can make sense, but still, considering that the different in price is given much more by automation than by capacity, still a 10 hl plant would be a better choice. If it is highly automated one single person can brew 2000 hl per year.

For comparison, a 5 hl Velo plant used to cost approximately € 170.000, a 10 hl between € 250.000 and 300.000 and a 20 hl used to cost nearly € 360.000. At Velo they used to say that an approximate full industrial cost was around 1,4€ per liter, but this may vary significantly.

They used to say that a brewpub with a 10 hl plan could break even at 500 hl of annual production, while a brewery without brewpub could break even at 2000 hl.

Working with a double cycle requires a 3 tunes plant and allows to produce twice the capacity in 11 hours, while one only cycle would require 8, so it is a very good practice.

Matthias says that, in his opinion, the best choice is to directly start with a medium size 25 hl plant (larger than the most of the plants installed by the producers we have interviewed) because it is really versatile, allowing you to produce from 500 to 10.000 hl per year depending on the necessities and with modular upgrades (adding more fermenters).

We have met some producers that believe to be economically sustainable even if they are smaller, but the most tend to agree that a profitable size starts at 2000 hl of annual production, though it is still too small, because the owners have to work a lot of hours more than a normal job and unexpected costs could be shattering. Everything also depends on the price a brewer can obtain from the market.

### Retailers

We spoke with Angelo Zamprotta and Andrea De Bortoli, owners of 2 well establishe pubs and with Michele Lorelli, that opened a beer shop in Feltre, less than 200 meters far from Birreria Pedavena, on 04/10/2014. They think that the most important thing they do is to create culture and to explain the product and tell the stories of the breweries. Passion for the product is always the landmark for a good retailer. This is typical of the early stages of development of a market and, in general, the attitude of all the interviewed players suggests that Italian craft brewing will keep growing for a while.

Specialized distributors use to have a different behavior, compared to the traditional ones: they give more service, they know the product and they are usually more concerned about developing the market than about competition. This reflects, for example, in contracts that are more loose about draft lines and the exclusive right to sell their product.

One thing, in particular, that is really appreciated by retailers are k-kegs with an internal bag that allows beer to preserve for even a month since opened. The use of this product both depends on breweries and distributors.

Still distribution seem to be a crucial problem for the value chain, but something is moving and the fact that Interbrau, the largest specialized Italian importer and craft beer distributor revenues are approximately € 80 million indicates that there is a growing attention with regards to craft beer.

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