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WHAT FUTURE FOR THE
CHAMPAGNE INDUSTRY?

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1. Introduction

France is one of the largest and most ancient wine producers in the world. Even if its leading position has been challenged over the past decade, France remains a reference in terms of terroir and quality (Anderson, 2001; Berthomeau and *al.*, 2002). Among the different well-known French wine regions, Champagne has a very unique status. Champagne covers less than 4% of the French vineyard whilst representing more than 1/3 of the total of French exports in value (37%).

Several economists (Barrère, 2000, 2001 et 2003 ; Ménival, 2007 ; Rasselet, 2001 ; Viet, 2003) think that Champagne's economic success is due to its particular institutional model, composed of an interprofession, the Comité Interprofessionnel du Vin de Champagne (CIVC)¹ and an AOC (appellation d'origine contrôlée)², two separate institutions which work together quite effectively. This model enabled Champagne producers to adapt their offer to the evolving international demand, both in quantity and in quality, and to maintain the equilibrium between grape-growers and Champagne Houses thanks to a fair sharing of the added value. Thanks to the mid-term interprofessional contracts³ that existed between 1959 and 1989, the CIVC was able to control prices and quantities for a long time. However the liberalization of the markets in the 1990's led to the end of the interprofessional contracts and grape-price control, which considerably reduced the regulation power of the CIVC. Nowadays it can only control the quantities produced through the management of planting rights and yields at the harvest, which is completed by a "reserve mechanism".

This model of economic growth has now reached a dead end with the total surfaces of the Champagne area planted. The situation is unique in the world⁴ and leads to the following paradox: between 2000 and 2007, sales increased much faster than the production. At first, it allowed to reduce huge stocks, but very quickly it resulted in the inflation of the grape and wine prices. This situation, characterized by a lack of control on prices, was called the prosperity crisis. It led Champagne producers to launch a big project to revise the production area, the homogeneity and coherence of which had long been discussed. This working paper aims at answering the following questions: What led the Champagne producers to launch the revision project? How are they going to proceed? What will be the consequences?

¹ The CIVC has three main missions, all of which are meant to constantly improve production techniques and the quality of the product: the economic regulation of the industry (control of quantities produced, stocks, etc.), communication and the legal defense of the appellation, and a mission of technical research and assistance.

² Champagne is an AOC, which means that the producers must follow strict production rules and that it cannot be produced outside the region. The surfaces planted are also strictly controlled.

³ Through these contracts, Champagne Houses committed themselves to buying grapes and wine-growers committed themselves to sell grapes for a given period (four to six years). The Champagne interprofession imposed the prices and the quantity allocations.

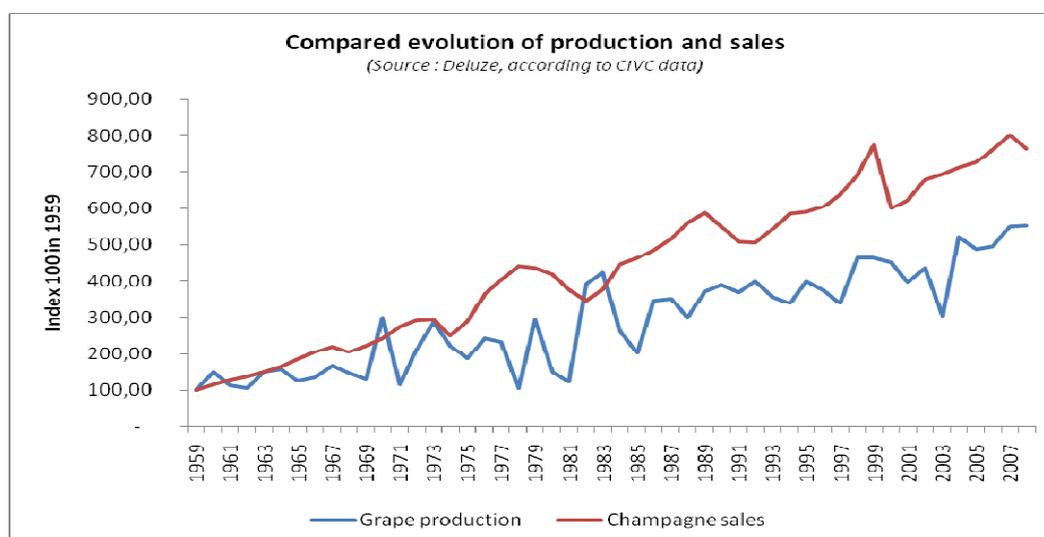
⁴ This situation also exists in a few very small French AOC vineyards of Burgundy for instance, but it is unique at the scale of an entire wine region.

2. The economic situation of Champagne

The Champagne economy follows a dynamic cycle which enables it to increase the volumes sold and maintain a control on prices at the same time (1). This phenomenon has been made possible thanks to an increased production capacity, with the enlargement of the vineyard surfaces planted and higher maximum yields (2). This growth model, which is partly at the origin of Champagne's economic success, has now reached its limit as it is no longer possible to increase the production at the same rate as the growing demand, which involves tensions in the industry (3).

The spectacular growth of the Champagne sales

The Champagne economy has been through numerous periods of crisis and growth. Declerck (2004) thinks that, since the 1970's, Champagne has been going through 8- to 10-year-long cycles, during which prices and sales increased when the economy was booming (1979, 1989, 1999) and then collapsed in times of recession or stagnation (1982, 1991-1992, 2001-2002). The cycle is dynamic since the volumes sold doubled over the period, but deflated prices were maintained thanks to the economic regulation of CIVC. As an example, between 1959 and the record year of 2007, sales raised from 42 to 338 million bottles, which is a 700% increase over the period. During the same time, the deflated price of a bottle sold by a Champagne merchant went from 10 to 15 Euros (ex-cellars and ex-VAT), that is to say a 50% valorization of the average bottle price.



This growth in sales was made possible thanks to an equivalent rise in the production.

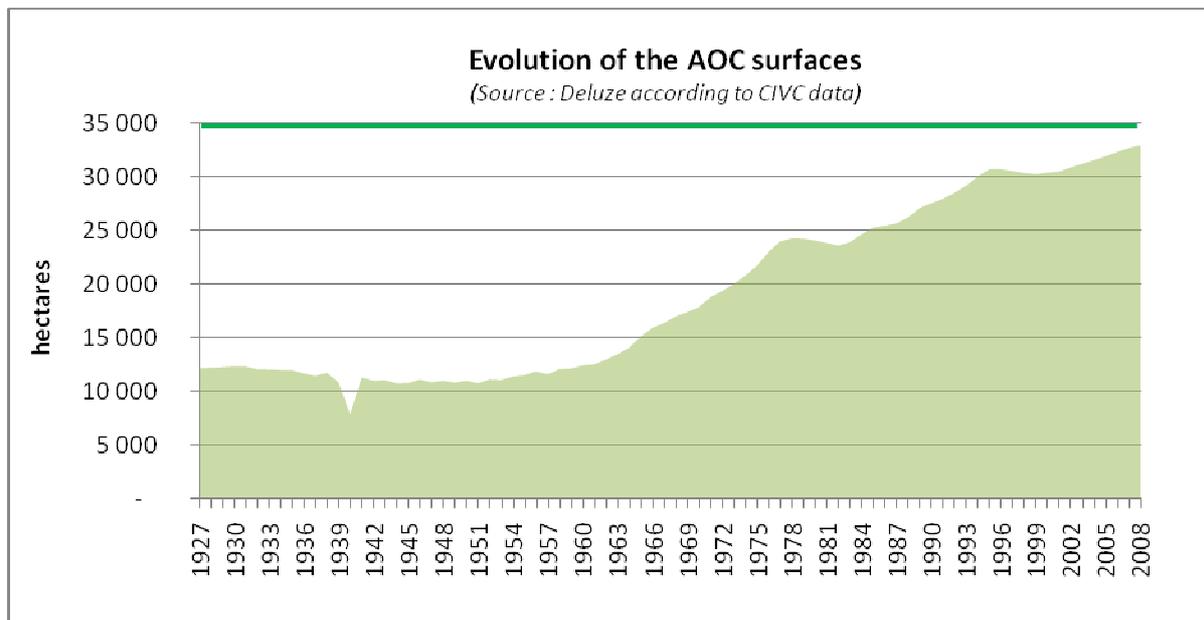
The rise of the production

The Champagne production is regulated through CIVC who determines: the surface of vines planted and the harvest yields. The former is clearly a structural regulation tool, as the allowance of planting rights has a long-term effect, a vine having an average life-time of 30 years. The latter is linked to the economic situation, as it affects the available quantities during a campaign and takes into account both the market conditions (demand, sales growth, stock levels) and the climatic conditions (which impact the quality of the grapes). The possibility to block some of the quantities harvested completes this device.

The evolution of the planted AOC surfaces

The Champagne appellation area dates back to a 1927 law. It covers exactly 35.280 hectares on which it is possible to plant vines, the grapes of which will be used to make Champagne. With the progressive increase in sales, producers have planted new AOC vines. The increase was however different depending on the periods: it was particularly strong during booming periods, and it slowed down during periods of crisis. With time its intensity also decreases in a linear manner: strong during the 1960's and 1970's with an average annual rise of 3.7% per year, it only reached 1% during the past decade, and since 2006 the increase has been marginal (+0.8% in 2007, +0.4% in 2008). Today, 34.000 hectares are planted and 33.000 produce grapes. We are now very close to the limit, as some parts of land included in the AOC area cannot be planted as they are occupied by roads, railways, production facilities and even a cemetery.

The growth of the vineyard is strictly controlled by the European commission, which allocates planting rights to each wine-growing country, and every wine region within these countries must claim a share of the national allocation. Champagne has obtained more than its share of planting rights thanks to vineyards being grubbed up in other regions (Languedoc and Loire Valley) and planting rights expiring for other regions.



We can note that it took the Champagne AOC area about 80 years to reach its limits, and since the production surfaces cannot be raised any further, the harvest yields are now CIVC's only regulation tool.

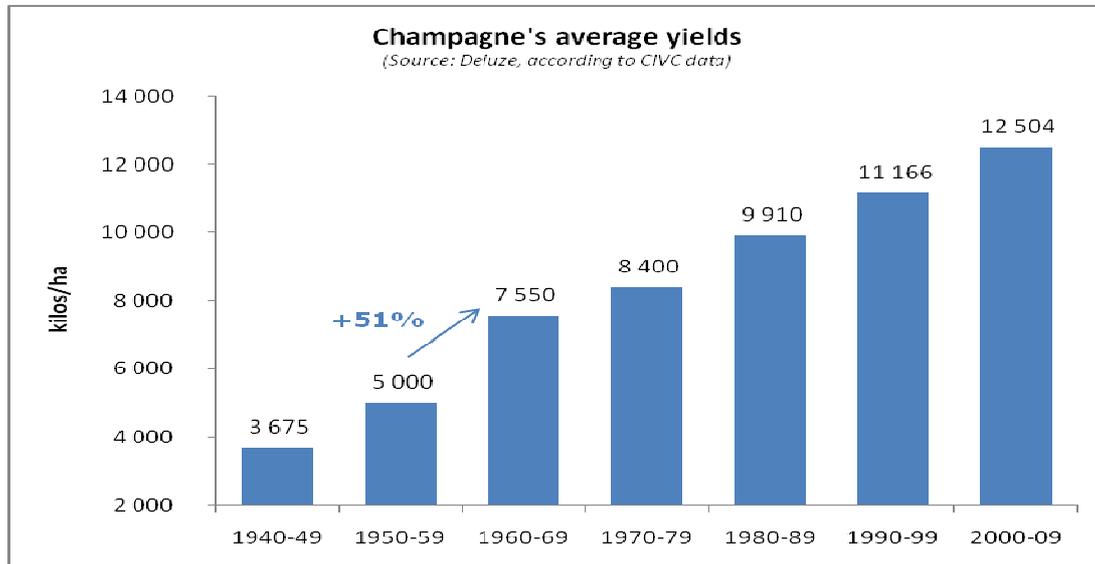
The appellation harvest yields

Between 1900 and 1980, the harvest yields of the Champagne AOC have been regularly very low for the following reasons: bad climatic conditions during the flowering season (one year out of three), spring frosts (one year out of three), hail (one year out of five), draught (one year out of fifteen), mildew (one year out of three), odium (one year out of nine). For instance, in 1951 and 1957 frosts led to yields of respectively 2.910 kg/ha and 2.260 kg/ha; in 1978 the bad flowering season resulted in an average yield of 3.680 kg/ha; and in 1981 the bad flowering season followed by an invasion of odium limited the yields to 4.361 kg/ha.

But step by step, the technical progress in viticulture and chemistry combined with the climatic change⁵ has enabled to reduce the risks of having very small harvests. Thus, the average yield per hectare has risen from 3.675 kg/ha in the 1940's to 5.000 kg/ha in the 1950's, 7.550 kg/ha in the 1960's, 8.400 kg/ha in the 1970's, 9.910 kg/ha in the 1980's, 11.166 kg/ha in the 1990's, and finally an average of 12.504 kg/ha over the past decade. The average yield has therefore tripled in 60 years, thanks to factors such as improved viticultural techniques (use of products reducing the threat of parasites or favoring the development of the

⁵ Nowadays the harvest generally begins in September, compared to October a few decades ago, which implies much better sanitary conditions in the vineyard.

vine), optimal vineyard management, etc. By ensuring that the production would be sold, the interprofessional contracts also contributed to this evolution. Indeed the following graph shows that the strongest increase took place in the 1960's (a 51% rise of the average yields compared to the previous decade).



Every year, before determining the authorized harvest yield, CIVC first examines the market conditions (demand, stock levels) and the climatic conditions (sanitary state of the vines). Since October 1st 2007, the limit of the basic yield has been raised from 10.400 to 12.400 kg/ha, and the limit of the maximum yield has been raised from 13.000 to 15.500 kg/ha. The quantities harvested beyond this limit do not qualify for the AOC and must therefore be sent to the distillation. The difference between the basic yield and the maximum yield represents the quantities that are to be blocked in the qualitative reserve.

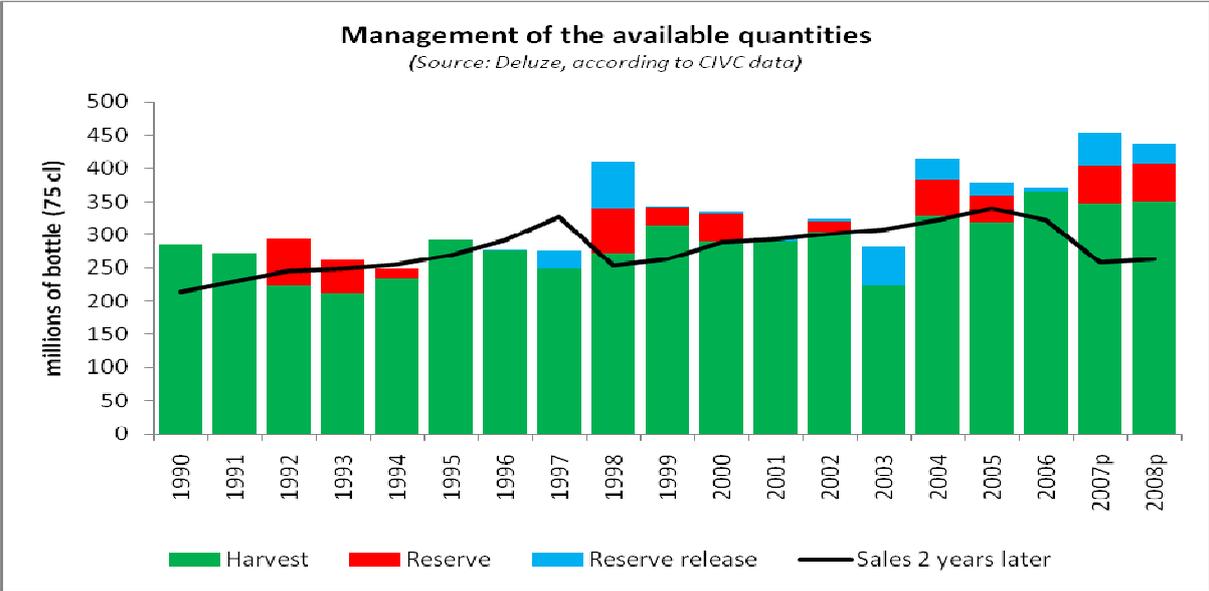
The qualitative reserve

The Champagne qualitative reserve has two purposes. For grape-growers it is an insurance against bad climatic conditions and low harvest yields that enables them to balance their production year after year. Moreover, it enables the interprofession to regulate the quantities available on the market. Grape-growers are indeed allowed to harvest more than the basic yield during years of abundant quantity and good quality. In the same time, the offer on the market will never exceed the demand since the quantities in surplus are blocked: they cannot be sold nor exchanged and must be stored as still wine in tanks and not in bottles. Finally, these wines remain the property of the grape-growers but they can be kept in the

facilities of the co-operatives or the Champagne Houses if they are subject to a contract. This device was tried several times (1976, 1983, 1984 and 1986), before being generalized and codified in the early 1990's.

In the event of a bad harvest during a period of rising sales, CIVC can decide to release part of the reserve. This system has proven to be efficient several times, as it was the case for the 2003 harvest, which gave historically low yields due to late frosts. The average yield reached 8.254 kg/ha, which was 31% less than the previous year and 41% less than the year before. These low quantities were compensated with the release of the equivalent of 59 millions of bottles, which represented a 26.4% increase of the supply for the campaign. Besides, there are also three cases in which an individual release is allowed: localized bad harvest, reduction of individual vineyard surface and end of activity.

The reserve releases generally take place in January or February following the harvest, but they can also sometimes occur at other times of the year. For instance, a collective release of 1.600 kg/ha was decided just before the 2008 harvest in order to limit the inflation of the price of grapes, one of the main purposes of the reserve. The reserve is not meant to simply increase the total quantities produced but to increase the available quantities when necessary.



Since the 2007 harvest and until 2011, a new individual reserve system is being tested. Its purpose is to adapt the rules to individual situations whilst keeping the possibility to also decide to implement a collective release. Every grape-grower can now keep quantities in the limit of the equivalent to 8.000 kg/ha. A grape-grower harvesting one hectare can thus keep the equivalent to 8.000 kg of grapes. If before the harvest this grower already has 6.000 kg of reserve, he will then be authorized to complete this reserve with up to 2.000 kg. This

additional reserve also comes from the difference between the maximum yield (15.500 kg/ha) and the basic yield set by CIVC for the harvest (a maximum of 12.400 kg/ha).

CIVC's regulation mechanism is thus relatively elaborated: control of the production surfaces, the yields and the available quantities for each campaign. The improvement of the individual reserve system partly compensates the loss of control on production surfaces. However this compensation is not sufficient and the model has now reached its limits since it is not possible to plant new vines nor to further increase the yields, which are already among the highest in the world.

3. The limits of the “offer regulation” economic growth model

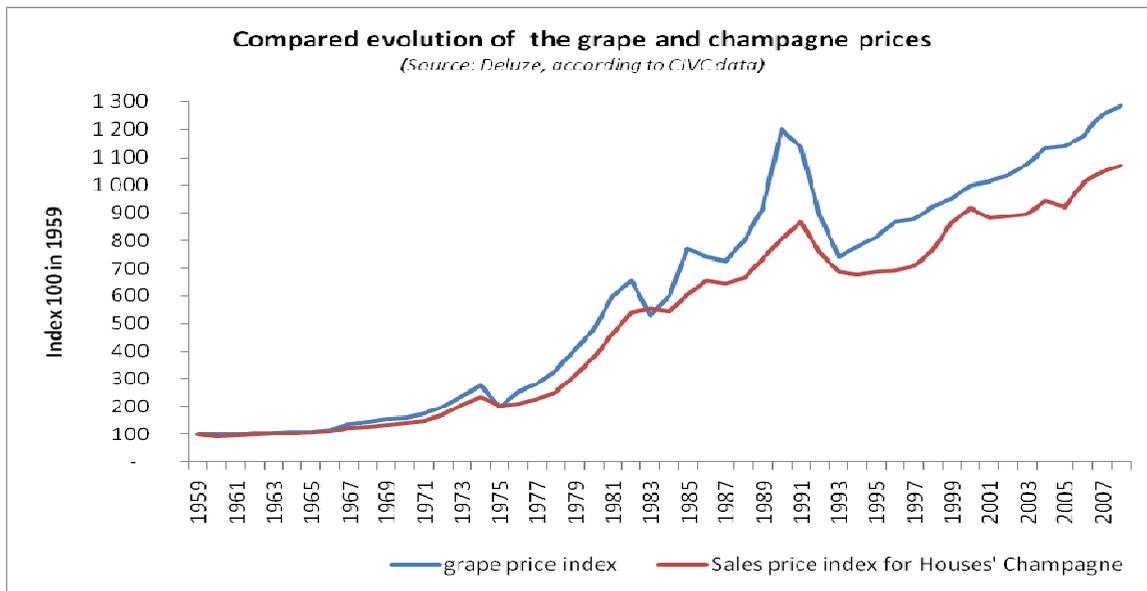
We have seen that from 1959 to 1989 CIVC could regulate both the prices and quantities of the raw material available for the production of Champagne. As from 1989 CIVC no longer controlled the prices, and therefore the regulation only applied to quantities. But this tool also has its limits and cannot prevent tensions within the industry resulting in speculation (a) and consequences in the market (b).

The Champagne market has been characterized by a growing demand over the past decade, which has led to an increased need of grape supply for the Champagne Houses. As it was not possible to raise the volumes at the same pace, grapes became more expensive, mostly due to the speculative still wine market (tanks and bottles) within the Champagne industry. These new tensions have been intensified by grape-growers restricting their offer and co-operatives developing their own sales of Champagne, a situation which has resulted in bubbly speculations on land prices.

Grape prices rising faster than the price of Champagne

The introduction of interprofessional contracts in 1959 enabled to increase progressively and regularly the cost of grapes, indexed on the final price of the bottles sold by the Houses. At the 1990 harvest, and following the development of free-trade, the former system of setting the grape price was abandoned, giving opportunity to speculators. The consequence of this liberalization was a sharp increase in the grape price, which rose from 3.74 Euros per kilo in 1989 to 4.90 Euros in 1990 (+31%). At the same time, the crisis of the early 1990's led to a drop in the volumes sold (-7% in 1990 and -8% in 1991), followed by a stagnation in 1992.

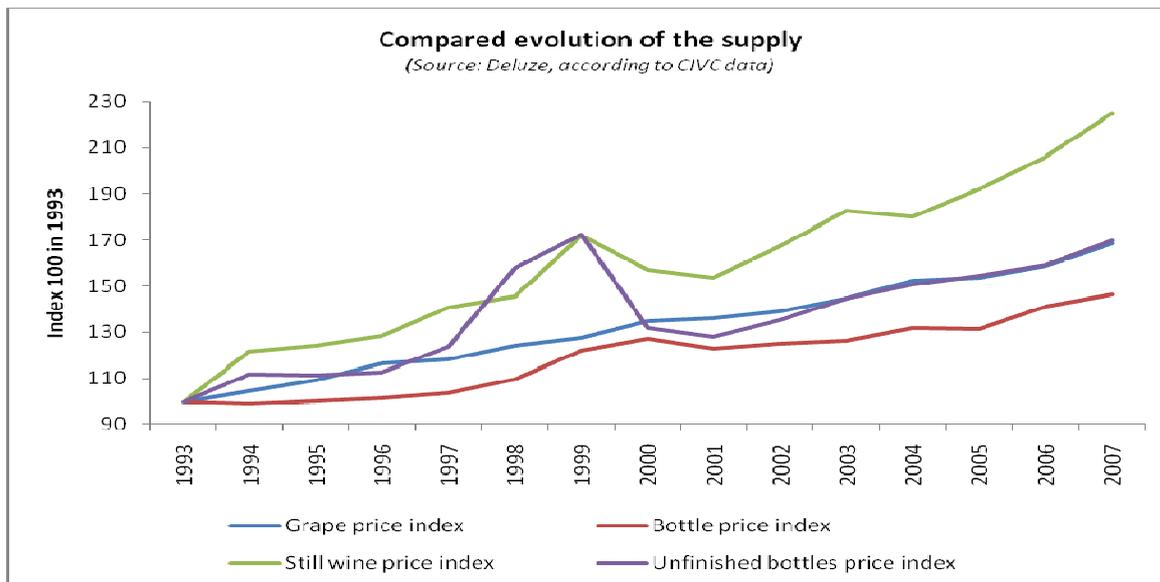
This evolution temporarily put an end to speculation on raw material, but prices increased again in 1993, as the following graph clearly shows.



In fact, the most dangerous consequence of the limitation in grape quantities in a period of growing sales is that it gives more power to the grape growers than to the Champagne Houses, as the former own 90% of the vineyards in production. Indeed, the price of grapes has a major impact on the balance of power within the industry (Viet, 2003). This power is reinforced by the development of direct Champagne sales by grape growers and co-operatives, subsequent to the rise of the sales by the Houses. Between 1990 and 2008, the grape growers' and co-operatives' share in the total Champagne sales has remained constant at 34%, thus limiting the development of the sales by the Houses.

This evolution led to the development of speculative markets, with transactions of still wines in tanks, which usually represent 3 to 4% of the supply. This market is open from December to March. It constitutes a supply complement for the Houses and an occasion for grape growers to get a higher added value as they will include the cost of the pressing and the initial wine-making process, as well as an extra charge directly linked with the speculation on this small market. This speculation became quite important in 2004, when the price index of still wines skyrocketed while the prices of grapes and bottled still wines⁶ grew at a rate between +3% and +7% every year.

⁶ Still wines in bottles account for about 10% of the total supply of Champagne Houses. This market is subject to less speculation than the one of still wines in tanks since it is open throughout year and its price is already close to the one of the sales price of a finished bottle of Champagne.

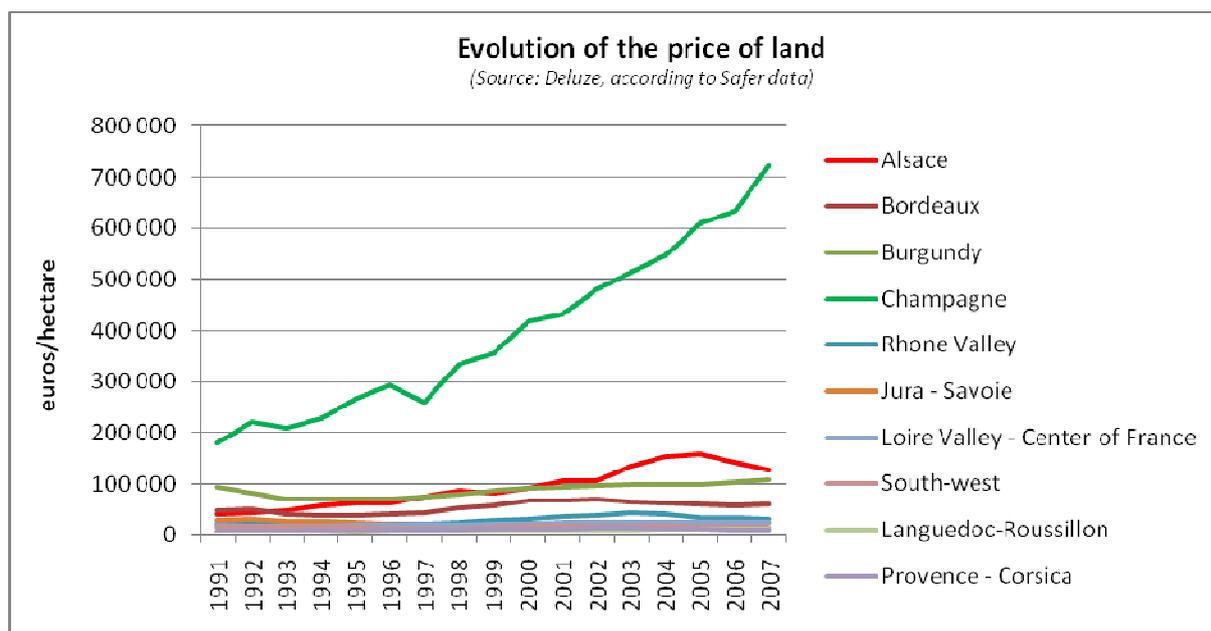


We believe that this speculation is the most revealing indicator of the tensions within the industry. From 1993 to 2007, the price of AOC Champagne grapes has risen from 3.03 to 5.11 Euros per kilo, which is a 68.6% increase over 13 years whereas overall inflation during that same period was 24.7%. Moreover, the compared evolution of grape- and Champagne prices shows that grape prices have increased faster than Champagne prices, which implies that the Houses' margins have shrunk as the wine content per bottle has remained the same. This situation is rather preoccupying as it is the Houses that ensure the promotion of Champagne around the world, which is one of the keys to Champagne's success. Their reduced margin could indeed have a negative impact on their promotional activities.

Speculative rise of the cost of land

If the sharp rise of the grape price is the main indicator of the internal tensions of the Champagne industry, one of the consequences is the existing speculation on the cost of vineyards. In 2008 the price for one hectare of AOC vines in the Champagne area reached an average of 829.600 Euros. Champagne is thus by far the most expensive vineyard in France, followed by Alsace (130.800 Euros/ha) and Burgundy (110.300 Euros/ha). One hectare of Champagne vines costs 6.3 times more than one hectare in Alsace (the second most expensive region) and 77 times more than one hectare in Provence (the less expensive region with an average of 10.800 Euros by hectare in 2008). Between 1991 and 2008 the price of a hectare of vines in Champagne was multiplied by four. It now takes more than 50 years to cover the purchase of vineyards in Champagne.

These record-prices can be explained by the very small size of the market. It is hard to talk about a speculative bubble in this case as the surfaces exchanged are indeed very small: only 135 hectares were exchanged in 2006, which represents 0.4% of the total surface planted. The average size of a parcel in Champagne is 0.3 hectare, and therefore speculation on the price of grapes (40% to 50% of which are exchanged at the harvest) and the speculation on the cost of land cannot be put on the same level. Whilst the inflation of grape prices is an indicator of internal tensions and has direct consequences on the economic situation of the Champagne industry, the increase of the price of land is an indirect consequence of the former, itself resulting in inheritance issues due to the high taxes related to the land's value.

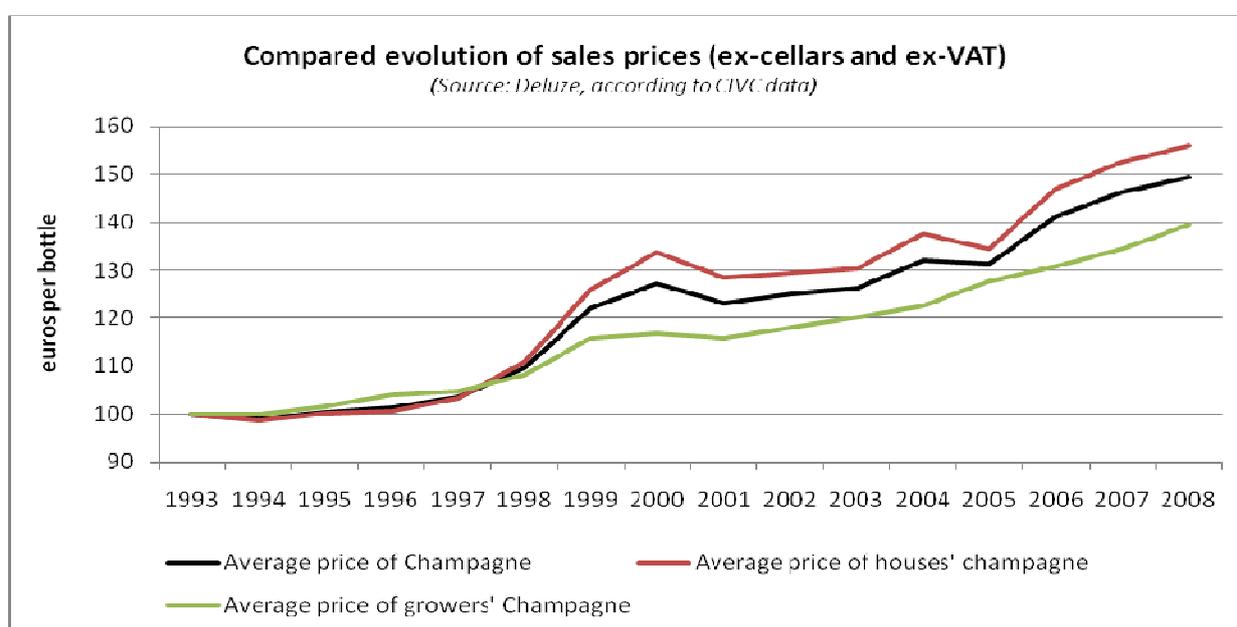


The revision of the Champagne appellation area leads to speculation on the land that could be included in the new area, all the more that the difference between the price of farm land and the price of vineyards is extremely high in Champagne. One hectare of farm land costs 4.750 Euros in 2005, which was 120 times less than one hectare of AOC vines. Generally speaking, the price of a well-situated land with a good orientation can currently reach up to 50.000 Euros/ha, without even knowing whether or not it will be included in the new surfaces of the Champagne AOC. At this stage there are no ways of knowing which parcels will be included. If these speculative effects are quite isolated for the time being, one cannot foresee the proportions this situation will take in the years to come. Meanwhile most of the transactions on the lands potentially involved are frozen.

The speculative effects induced by the limited availability of grapes also have consequences in the market.

The consequences on the Champagne market

The rise in supply prices resulting from tensions within the industry has led to an increase of Champagne prices in the markets, particularly for the products of the major Houses. From 1993 to 2008 the average price for a bottle of Champagne (ex-cellars and ex-VAT) rose from 9.20 to 13.76 Euros, which is a 50% increase, whereas the average price for the wines of the major Houses increased by 56%, from 9.62 to 15.01 Euros a bottle. The prices of Champagne produced by grape-growers and co-operatives rose from 8.08 to 11.28 Euros a bottle, a 40% increase. These numbers are all way above the 28.1% general inflation over that same period, clearly indicating that the added value for Champagne is very high.



The related graph shows a greater increase of the average sales price between 2005 and 2008, reaching 14% of the total sales (+16% for the Houses), compared to a 5% increase between 2002 and 2005 and a 3% increase between 1999 and 2002. The only period during which the price rose faster was between 1996 and 1999 when the average price went up by 20% (25% for the Houses), and this was due to the big increase of the demand for the millenium.

The increased value of the Champagne sales has taken different forms with for instance a better product mix, a more high-end selection of the distribution, or an increase of the exports' share in the total sales.

The increased value of the product mix

The study of the Champagne sales shows an increase in the share of other qualities than “Non-Vintage Brut” (brut sans année): mainly Rosé, Vintages, Prestige Cuvees, and Extra-Brut Champagne (with almost no added sugar). Indeed, the share of Rosé Champagne increased from 3.5% to 8.2% of the total volumes exported between 2001 and 2008, the Prestige Cuvees went from 3.9% to 4.3% and the share of Vintage Champagne, all qualities and dosages put together, reached 6.1% of the total Champagne exports in 2008, compared to 5.8% in 2001. The share of Non-Vintage Champagne, which has less added value than the other qualities, decreased from 85.3% to 83.3% over the same period. In French supermarkets, the less valorised bottles (with a retail price under 12 Euros a bottle, taxes included) have almost disappeared. With 1.41 million bottles in 2008, this category only represented 3.3% of the total volumes sold, compared to 16.53 million bottles and 38% of the total volumes sold in 2001.

The selection of the distribution channels

The increased value of Champagne sales is also due to the choice of higher-end distribution channels. For instance, the share of sales in French supermarkets went down from 30.3% in 2003 to 26.4% in 2008. The share of exports in the total sales increased from 37.4% in 2001 to 40.6% in 2003 and 42% in 2005, reaching its peak in 2007 with 44.5%. In addition, operators are trying to develop exports outside the European Union, the share of which only reached 60.5% of the total exports in 2007 and 2008, compared to more than 64% in the 1990's. Well-known brands can indeed sell their products at higher prices in distant countries such as the US, Japan or Russia. The average price of a bottle shipped to these markets (ex-cellars and ex-VAT) reached respectively 17.59 Euros, 19.94 Euros and 22.34 Euros in 2008, compared to an average export price of 15.81 Euros. These higher prices can be explained by promotional efforts implemented by Champagne distributors in these markets, a greater share of premium cuvees, less entry-level Champagne in the volumes sold, and sometimes also to a smaller number of retailers (less competition).

Price increases

Finally, the increased value of the Champagne sales is also due to a recent rise of the prices, several of the most well-known brands having implemented significant price increases in 2007 and 2008. It was the case of Laurent-Perrier, the fourth largest operator in volume,

who increased their average prices by 38% in 2008 (Exane, 2008). The price of their Prestige Cuvee “Grand Siècle” was even doubled. These price rises were decided in 2007 when the market was buoyant and the supply more and more restricted. Whilst price increases can be good for the brand’s image, they need to be implemented at the right time and with solid arguments and marketing support. A sharp rise of the price which is not justified by a higher quality of the product can have negative consequences on the sales, particularly in times of recession. If the total Champagne sales dropped by 4.8% in 2008, the situation was a lot worse for Laurent-Perrier, who registered a 20 to 30% decrease of its sales.

Another consequence of the price rises in Champagne is the development of other sparkling wines (Declerck, 2004). From 2000 to 2008, French households increased their purchases of sparkling wines by 3% in volume. Over the same period, Champagne purchases were down by 7.8%, whereas purchases of other AOC sparkling wines registered a 34.8% increase. The share of Champagne in the total sparkling wine consumption by French households has thus become smaller. This phenomenon is partly due to the improved quality of AOC sparkling wines, particularly the Crémants. All the French vineyards are now developing their production of sparkling wines since they are good image vectors, they can be sold at higher prices, and also because consumers are finding them more and more attractive.

The Champagne economic situation between 2000 and 2008, characterised by a limited offer and fast-rising prices, was called a “prosperity crisis”. It was a very new type of structural crisis which cannot be compared to any of the previous crisis the industry has been through. This crisis was linked to the economic situation and could be stopped by adjusting the offer to the demand. The situation has changed dramatically since 2008 with a decline of Champagne sales (-4.8% in 2008, -9,1% in 2009). This decline, mainly due to the international economic recession, was intensified by the price increases and the development of other sparkling wines, resulting partly from a lack of control of retail prices and speculation within the industry. It was one of the two main reasons to launch the appellation area revision project, the second reason being the lack of solid legal foundations for the AOC area. The current area is indeed the result of a series of laws that were enforced one after the other since 1905, all leading to many claims from the villages.

4. The revision of the geographical area of the Champagne AOC

In order to fully measure the consequences of the planned revision of the Champagne area, it first seems important to take a look at the agenda of the project as well as the actual conditions of the revision and to then evaluate the potential extra production.

Calendar of the revision

The revision project applies to the two parts of the geographical area which are the wine production area and the grape-growing area.

The first part comprises of the places where the wine is made as well as all the neighbouring villages: it's the area in which the grapes can be pressed, the musts can be vinified, the wines can be bottled and labeled. This area currently covers 65.000 hectares and 634 villages. In order to be entitled to the Champagne AOC, the wines must be entirely produced in this area, and they can only leave the area in bottles ready to be commercialized. No other sparkling wine can be produced in the Champagne area. As far as the grape growing area is concerned, it includes the vineyards delimited by the National Institute of French Appellations (INAO)⁷.

The delimitation of the official Champagne area took place in several steps over more than a century. A first administrative delimitation established by the decree of December 17th 1908 did not include the Aube. After the riots of the Aube growers, the decree of June 7th 1911 created the "second zone" area of Champagne. This situation led to many conflicts between the growers of the Aube and those of the Marne. Then the law of May 6th 1919 gave the judge the power to revise the delimitations of the areas, which resulted in a series of lawsuits until 1925. It was the period of « judiciary delimitations ». In order to limit these judiciary revisions and in view of the creation of the Champagne AOC, the law of July 22nd 1927 determined the current area and created the notion of "production area", which was then limited to the existing vineyards and the land that was planted with vines before phylloxera. The production area consisted of a list of villages: these villages were the only ones to be part of the appellation area. For historical and political reasons, the list contained some mistakes, and the INAO therefore decided to revise the appellation area by taking a close look at all revision requests. In 1992 the mayor of a village which had not been included in the appellation filed a lawsuit against the INAO, gaining the right to plant 30 hectares of vines in

⁷ A law of 1984 gave the INAO the power to rank the vineyards based on technical elements.

1996⁸. This victory led to an increase of the number of candidates. In 2003, after discussions at CIVC, the Growers' Syndicate (SGV) requested a complete revision of the procedure to delimitate the Champagne area based on very clear and objective conditions.

The calendar of the revision of the Champagne appellation area is composed of two big steps which are first the revision of the whole geographical area and second the revision of the vineyards. In March 2006 a group of experts appointed by the INAO started working on the project. They determined the factors of the delimitation, which led to two lists of villages, the villages that are part of the grape-growing area, and those that are part of the Champagne production area. Both lists were approved by the SGV and the INAO in March 2008. A public investigation took place between April and June 2008, as well as a national rejection procedure, followed by written objections to the lists. The experts had until the end of 2009 to study these objections.

At the beginning of 2010, after having been presented to the French Council of State, the lists will be officially and legally valid in the form of a decree. The vineyard delimitation will then be able to begin, and according to the INAO this step should take at least five years. It is worth noting that the project is already behind schedule: given the current economic situation, revising the appellation is no longer a priority. The final approval of the lists was initially planned for the end of 2008, and the vineyard delimitation process was supposed to begin in 2009. A first list of vineyards was to be published in 2014⁹ before being the object of a public investigation and approved by the INAO in 2015, and the first plantings could have then taken place.

According to the Champagne AOC rules, the grapes can be used to produce wine as from the third year after the vines were planted. It is therefore likely that the first harvest will be in 2018, 2019 or maybe even 2020. And with the lengthy winemaking process and aging required in Champagne, the first bottles should be commercialized between 2021 and 2025.

⁸ Le case of the village of **Fontaine-sur-Aÿ** is very interesting. After 50-year battle, the village filed a claim before the Council of State and was finally included in the appellation area, thus regaining 30 hectares of vineyards (10% of its total land) which had been declassified since 1927. The most surprising was the way the 30 hectares were split between the growers. Before the file was re-opened in 1987, the mayor had made the growers accept to share the re-classified land in proportion to the land each one of them owned. Thus the owner of 10 hectares of land received 1 hectare of classified under the AOC Champagne.

⁹ For equity reasons, the final list will be published once all the studies are done.

The revision of the Champagne appellation area is coordinated by a group of five experts appointed by the INAO, some of which are regional university searchers: a historian, a phytosociologist (specialized in vegetation and plants), a geographer, a geologist and a agronomical engineer specialized in vine-growing science.

The director of the technical department at CIVC, Dominique Moncomble, is part of this group of experts to which he brings his knowledge, his experience and his legitimacy¹⁰. These experts have been concentrating their research on a list of factors that they established and that was approved by the INAO. The factors are both natural and human, according to the concept of typicity and terroir, which are important for every AOC and are the combination of traditional practices and the physical environment¹¹. There are 22 factors related to traditional practices which focus mainly on the site's winegrowing vocation, and 11 factors related to the environment which concentrate on the natural assets of the environment: structure of the soil, exposure of the vineyards, climate, etc. The list of factors, which is included in a report defining the structure of the terroir of the Champagne AOC for the first time in great detail, was kept secret during the initial investigations. It was then made accessible to all during the public investigation. In order to enter the Champagne production area, a village has to be part of historical Champagne, have a real winegrowing vocation, and be located close to the grape-growing area¹². To become part of the grape-growing area, a village has to be part of historical Champagne, prove the traditional character of its grape-growing practices, be located on one of the geomorphologic areas of the current Champagne area (Côte des Bar, etc.), have a sufficient number of vineyards with good exposure and chalk soils with good natural drainage. The vineyard delimitation is then determined based on objective and qualitative factors and without any economic consideration: « *Every vineyard has to contribute to maintaining quality, and thus to the image of the product.* » (SGV, 2008, p. 4).

When the project was started in 2003, the production area covered 35 000 hectares, 32 000 of which were planted. Back in 1865 the vineyards covered 65 000 hectares, and even

¹⁰ Dominique Moncomble works for CIVC since 1981 and is very well known and respected in Champagne.

¹¹ According to the French law of May 6th 1919 : « *an appellation of origin is a geographic denomination of a country, a region or a location that is used to designate a product from that origin, the quality and characteristics of which are determined by the geographical environment which combines natural and human factors* ».

¹² Villages of Burgundy, although close to vineyards in the Aube, are obviously excluded.

up to 80 000 hectares according to some historical documents¹³. In 1900, the production area included 647 villages, whereas there are currently 319 villages in the Champagne AOC¹⁴.

The surface of vineyards in Champagne became indeed much smaller at the beginning of the 20th century, mainly due to phylloxera¹⁵, but also because of the numerous bomb attacks which destroyed many vineyards in Champagne during the First World War. In 1919 the area only covered 12 000 hectares. Many land-owners had then decided to plant wheat which was much more profitable than grapes. Some villages that were part of the first delimitation of 1908 were thus withdrawn from the production area: when the 1927 law project encouraged the villages to declare the plots of land that could potentially qualify for the appellation, they did not answer. Meanwhile, some of these villages have started to grow grapes again, sometimes for more than 20 years, and despite the claims made to the INAO, they do not have any right to use the Champagne appellation. The revision project is thus an occasion for them to be included in the area once again.

At the end of the first stage of the revision project, the geographical area will grow from 634 to 675 villages, after the entrance of 158 villages and the withdrawal of 117 others: it will then be significantly different. Regarding the production area, 40 new villages have been selected (out of 300 candidates), essentially in the Marne and Aube sub-regions, which will make the number of villages increase from 319 to 357. Two villages will indeed be excluded of the appellation: Germaine, the 24 ha of which belong to Moët & Chandon, and Orbais-l'Abbaye, where most of its 40 ha belong to Vranken Pommery Monopole. No refund will be given to the land owners involved, but they will have a thirty-year period to step-out. Moreover, they will keep their planting rights. Once approved by the French government, these two news lists will be included in the specifications register of the Champagne AOC.

The technical aspects of the implementation of the project seem to be quite clear and aim at improving the quality of the final product. This is an essential point as the implications in this project are important. We will now define these implications before we try to evaluate the additional quantities that will potentially be available.

The implications and the additional quantities

¹³ The region used to produce still wine back then.

¹⁴ Some articles talk about 317 villages. In fact, this number depends on how villages are attached or separated. Cuisles for example used to be attached to the village of Châtillon, and since recently it is considered a village of its own. 319 is the official number of villages according to CIVC.

¹⁵ Phylloxera is an insect that destroyed a large part of the European vineyards between the end of the 19th century and the beginning of the 20th century.

There is a lot at stake in this project. For the villages, it will have an impact on both their economic development and the organization of the landscape. Indeed, the addition of a village in the appellation area induces a growth of local employment and tourism, a comfortable public budget for the town, the maintenance of landscapes, and it can also prevent from population decline. For land owners the financial implications are high: today one hectare of vineyard in Champagne costs 350 times more than one hectare of wheat in some villages. But the most important implications are probably for the Champagne producers. First of all, the current limitation entails numerous incoherencies which are dangerous for the quality image of the appellation. In that sense, the project will result in a more logical area in technical/pedagogical terms. Secondly, the revision project will most likely lead to an extension of the area, resulting in the increase of the quantities produced and sold. Some brands have been forced to limit their volumes sold because of the limited supply. The controlled increase of the volumes produced will result in an increase of the volumes sold and thus also in a higher turnover for the Champagne industry. Finally, the new lands added to the appellation area and the increased production will also lead to less speculation.

The importance of these implications depends on the size and the number of additional surfaces available. However, it is very hard to determine what the total surface of the appellation area will be once the project will be completed. Different sources give different figures, anywhere between 4.000 to 10.000 additional hectares. According to Jean-Marie Barillère, one of the most important figures of the industry, up to 10.000 hectares could be added, based on a private study of the LVMH group. Patrick Lebrun, former President of the grape-growers' trade union, believes that the additional surface could reach 10.000 to 15.000 hectares¹⁶. As the technical criteria that will enable to define the new area have not yet been decided, the uncertainty level regarding the size of the final area remains high.

It is however possible to try to make an estimate on the basis of a very simple analysis: if we consider that the actual production area covers 35.280 hectares and 319 villages, we have an average of 110.6 hectares per village. If the area is extended from 319 to 357 villages, it could therefore reach about 39.500 hectares, which would mean 4.220 additional hectares. However, this first estimate has to be considered very cautiously as the vineyard surface varies a lot from one village to another, from 5 to 200 hectares, with a record of 800 hectares for Les Riceys (Aube). Moreover, for all the villages included in the production area (the new ones and the former ones), every single plot of land will be studied: some of the villages included today will see their surfaces grow and others will see their surfaces included in the production area reduced. Finally, we know that the 35.280 hectares of today's surface cannot

¹⁶ Press conference of December 7th 2007.

be fully planted, and since the estimate of 4.220 additional hectares is based on this total surface, it must be considered with even more caution.

We shall however test different scenarios of the increased production area. We will take 4.220 hectares as the lower limit (which means a 12% increase of the total vineyard surface, with the same average surface per village) and 10.000 hectares as the higher limit (which means a 28% increase of the total surface and a 15% increase of the average surface per village reaching 126.8 hectares). The lower hypothesis of 4.220 additional hectares is the result of the calculation we made whereas the higher hypothesis of 10.000 hectares refers to the estimations of at least two main figures of the Champagne industry. The latest number that was communicated in the press was 15.000 hectares, which can seem a little too optimistic: not only does it mean a 42.5% increase of the total vineyard surface, but also a 27% rise of the average surface per village which would indeed reach 140.8 hectares. We will not consider this hypothesis.

	Number of villages	Total surface of the production area	Vineyard surface increase	Average surface per village	Maximum production potential ¹⁷
Today	319	35 280 ha	-	110,6 ha	472,752 MB
Low hypothesis	357	39 500 ha	+ 12%	110,6 ha	529,300 MB
High hypothesis	357	45 280 ha	+ 28%	126,8 ha	606,752 MB

The above chart summarizes the effects of the two hypotheses we chose to consider. According to these calculations, and with the new appellation area fully planted, the total Champagne production could increase by 56.5 to 134 million bottles (12% to 28%). With a maximum increase of 28%, the additional quantities available would keep reasonable proportions.

These additional quantities will have to be introduced onto the markets progressively in order to avoid high stock levels and a price collapse, which would be prejudicial to the industry. Today vineyard planting is subject to the following rules: owners of land that is included in the AOC production area must make an official planting-right request to CIVC who studies the demand and then sends it to the grape-growers union, which has the official

¹⁷ The maximum production potential is calculated in bottles on the basis of a maximum yield of 15.500 kg/ha, knowing that according to CIVC, 1.154 kg of grapes are necessary to produce one bottle of Champagne, which means 13.400 bottles per hectare.

power to claim planting rights to the French national AOC institute¹⁸. Additional plantings have therefore been strictly controlled up to now. However, the new common market organization decided in 2007 foresees the suppression of planting-rights by 2017 at the very latest. Such an evolution, combined with the arrival of new lands entitled to become part of the Champagne vineyard, could have major consequences on the industry.

5. Conclusion

We have seen that the economic situation of the Champagne region has evolved considerably over the past decades. The industry has very long benefited from very powerful regulation tools impacting the quantities and the prices of the raw material. The Champagne economic growth model, meaning a continuous growth of the sales along with a controlled increase of the final prices, relied on this regulation. However, the end of the price control in 1989 followed by the limitation of new AOC lands reduced the regulation power of the producers, and logically led to the implementation of new systems, such as the individual reserve and the launch of the appellation area revision project. This revision will most probably result in a reasonable increase of the area's surface and the industry's production potential. We thus believe that the Champagne growth model is not jeopardized.

Nevertheless this paper only considers the decisions that could be made by the Champagne producers, whereas the regulatory evolution, and particularly the possible loss of control on new plantings and the appellation revision project, could have serious consequences on the Champagne industry. The risks for the product and the industry are indeed numerous, and it would definitely be interesting to study them in the future.

¹⁸ Institut national de l'origine et de la qualité (INAO).

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