

NATURE AND PROBLEMS OF FRENCH WINE CLUSTERS (REFEREED)

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Abstract

The aim of the text is to analyze the nature and the problems of the French wine industry in terms of the theories of public goods and of clusters. The concepts of spontaneous public goods, built public goods, and club goods will be presented, and it will be argued that clusters tend to be built club goods. Next, the cluster organization of the French quality wine industry will be presented, with particular attention to AOC clusters as examples of built club goods. The concepts of opportunist behaviors, congestion effects, and signal, are used to analyze the main present problems of the "AOC French wine clusters". Finally, some solutions will be put forward involving the improvement of the reliability of the AOC certification and the need to organize a new set of built club goods.

1. CLUSTERS AND PUBLIC GOODS

1.1. Clusters

This text is based on the concept of cluster according to the definition of Michael Porter: "Geographic concentration of interconnected companies and institutions in a particular field" (Porter, 1998). The hypothesis has been tested in the numerous forms of spatial concentration widely studied in economic literature since the 1980s: industrial districts, located productive systems, and technological districts, for example. The concept of cluster has been chosen because it is suited to the wine industry, which is generally organized in clusters (the wine regions). Significantly, Michael Porter gives as his first example of this phenomenon, the "California wine cluster" (Porter, 1998).

1.2. Built public goods and spontaneous public goods

Secondly, we use the modern theories of public goods, as introduced by P.A.Samuelson (Samuelson, 1954) and explained by the main textbooks of

microeconomics (Begg and al., 1994; Mankiw, 1998; Stiglitz, 1997, Varian, 1992, etc). A public good is an economic good defined by two characteristics:

- * non-rivalry, meaning the consumption of the good by an individual does not reduce its availability for other individuals;
- * non-exclusion, meaning that it is impossible to prevent an individual from consuming a public good.

The totality of public goods can be broken up in two subsets.

The first subset is formed by public goods intentionally produced where a demand for this kind of goods has been detected and a decision to supply this demand has been made. This raises the "Pigovian problem", since non-exclusion prevents a market relation between supplier and consumer, and a supplier of a public good cannot be paid directly. Thus there is no incentive to produce in order to maximize a profit, and there is a strong probability of under-supply. Moreover, there is a problem on the demand side because of the diffuse nature of most public goods. The location and evaluation of demand for areas of open space, national defense, or traffic lights, for example, is methodologically difficult and, in fact, not entirely solvable. Therefore the decision to produce a public good is always of a political nature.

Built public goods are those goods which are **intentionally** produced by the state or some private groups in order to create utilities that the market is unable to satisfy because of non-exclusion.

The second subset is formed by externalities. An externality is a public good which is non-exclusive (the very fact that it is non-exclusive makes it an externality), and non-rival (because of its diffuse nature). Externalities are not intentionally produced. They are joint-products, undemanded since they are not tradable. Thus there is no incentive to produce them, and their production is random. We can say that an externality is a **spontaneous public good**.

The interest of the distinction between built public goods and spontaneous public goods lies in the efficiency of any industrial policy. A policy based upon spontaneous public goods is obviously rather inefficient because it is very difficult to control their supply and their development. On the other hand, it is possible to produce built public

goods and their effects can be anticipated with a small risk of error (the potential effects of a new school, a lighthouse or a highway are well known).

1.3. Cluster: a set of built public goods and spontaneous public goods

The well known competitive advantages of a cluster (see Porter, 1998) can be analyzed as coming from two sources: spontaneous public goods and built public goods.

1.3.1. Spontaneous public goods

Geographic and industrial proximity of firms in a cluster favors production and the capture of numerous externalities, as has been shown by regional science since the analysis of industrial districts by Alfred Marshall, with a revival since the 1980^s and the analysis of "Third Italy".

In particular, we can distinguish two kinds of externalities:

* externalities **reinforced** by proximity, i.e. externalities arising from the normal activity of companies, independent of their geographic location, but whose access is favored by proximity;

* externalities **produced** by industrial and geographic proximity, i.e. which would not exist if there were no cluster: reduction of distance, and thus of costs of transaction, transportation and communication, and, more generally, economies of scale characteristic of a cluster ("External economies of scale", see Levesque and al., 1995).

1.3.2. Built public goods

In a cluster, public goods are produced by the state and other public authorities, such as general and specialized communication, education and research infrastructures. The supply of these public goods is generally the result of a long and cumulative historical process, involving a virtuous circle. By historical chance, producers of a same industry began to locate in adjacent areas, and, due to this first geographic concentration, the need and then the demand for some public goods encouraged the authorities to produce them. The existence of these built public goods, combined with

externalities spontaneously produced by firms, attracted other new entrants, and so on.

In a cluster, there are also privately built public goods. Most analysis of the cluster concept confirms that the competitive advantage of such a concentration lies in non-market forms of coordination. On the one hand, firms in a cluster finance formal institutions (associations, foundations, syndicates, etc) which produce public goods (education, standardization, industrial research, test laboratories, advertising, lobbying, etc). On the other hand, firms build conventions, i.e. non-formal institutions based on mutual acquaintance, which allow expectations and actions to converge. For example Pierre Perrin shows that in a cluster the coordination of expectations is possible because either individuals know each other, or they respect the same conventions (Perrin, 2001).

The proportions of the different kinds of public goods is variable, depending mainly on the age of each cluster. The process of the emergence of the demand for public goods and of setting up their production is very long, due to non-exclusivity. At the beginning of the life of a cluster, spontaneous public goods are the very cause of the virtuous circle of concentration. It is only when the level of concentration is high that the agents in the cluster become aware of a common interest and of their need of some public goods. At this point, the production of these public goods allows the full development of the cluster. We can conclude that the characteristic of a mature cluster is the presence of numerous built public goods. In other words, the degree of "clusterisation" (i.e. maturity) is an increasing function of the qualitative ratio: built public goods / built public goods plus spontaneous public goods

1.4. Cluster: a public good "in itself"

Finally, a cluster is itself a public good as it is both non-rival and non-exclusive. It is a sort of "enveloping" public good. We propose to call it a "Russian doll public good", in order to express the idea of embedded spontaneous, built and enveloping public goods.

If the proportion of built public goods is high in a mature cluster, it can be said that such a cluster is a built public good. The interest of this kind of approach is that if a cluster is a built public good (a construction), it means that a cluster can be intentionally built or developed, as part of an intended industrial policy, provided that

analysis can determine which public goods are critical to the cluster. We will apply this method to French wine clusters. However, if a cluster is mainly made up of spontaneous public goods, it will be more difficult, even impossible, to imagine an effective industrial policy.

1.5. Cluster: perfect public good or club good?

According to conventional definitions, a cluster is a perfect public good. It is non-exclusive since every new company can locate in a cluster, and it is non-rival since its "consumption" by a company does not reduce its availability to other companies. Moreover, since a cluster can be characterized as a network, it could be a public good with increasing returns (the wider the network, the more efficient it is).

Nevertheless, this must be qualified by taking into account the conditions of access to the public goods in the cluster. M. Bellandi (Bellandi, 2002) shows that one critical condition for a public good to be a perfect one is universal access. In a cluster universal access can be limited by problems of land ownership or by differences in proximity (geographic, industrial, cognitive, etc). Limitation in access produces partial exclusion and gives the cluster some nature of **club good** (a club good being an exclusive non-rival good). This nature of a club good is a marked characteristic of the French wine clusters we study below.

2. FRENCH WINE CLUSTERS.

Due to the globalization of economy, food and drink production tends to be industrialized and standardized. But this is not always the case, at least in European countries. In this region, the marketing argument can be based on geographic origin as a sign of quality, authenticity, traditional manufacture, etc (Valceschini, 2000). In France, this is especially true for coffee, fruit and vegetables, olive oil, cheese, meat, fish, and wine. It is not true for basic wines ("table wines"), but it is a general rule for quality wines. Even for wines produced and/or marketed by big wine companies using their own brand (Gallo, Mouton-Cadet, Torres, etc) the geographic origin of the wine (California, Bordeaux, Rioja, etc) is indicated on the label.

The association of wine production to its territory of origin (what we call in French the "terroir"), makes it possible to introduce the idea that quality wines are produced mainly in clusters. It should be remembered that Michael Porter gave California and the wine industry as his first example of clusters. According to him, this cluster includes a number of wine producers constituting the core of the cluster, backed up by firms from industries supporting both wine making and grape growing, suppliers of specialized services, and a host of local institutions involved with wine.

2.1. The AOC wine clusters: club goods

2.1.1. The legal status of the "Appellation d'Origine Contrôlée" (AOC)

The legal status of AOC was introduced in France in 1935. At the beginning only wine production was concerned. Then two developments took place. The first was for some other categories of food production to use this system, mainly cheese, and fruit and vegetables, such as the "Apple from the Alps", the "Rice from Camargues", the "Potato from Re Island". The second was for it to spread to all the European Union member countries. Since 1992, European legislation has defined the P.D.O (Protected Designation of Origin) by a strong link to the terroir, alongside the more flexible P.G.I. (Protected Geographical Indication).

In this text, we are considering only the AOC French wines .

Concerning the wine industry, there is a general AOC legislation, and for each "terroir" there are specific decrees adapted to local characteristics (decrees for AOC Châteauneuf du Pape, or for AOC Chablis, etc).

For each AOC the decrees specify the rules concerning the growing of the vines and impose an analytical and organoleptical control.

*Concerning the rules of cultivation, each decree defines:

** the area of the appellation, i.e. that grapes used for making the wine of the appellation must be grown in this area. At the beginning, many areas of appellation were defined only geographically in general terms (the territory of a group of town, for example). Nowadays, the definition tends to be more and more precise by listing every plot of land. For example the new definition (1995) of the area of the

appellation Saint Joseph (a "cru" of northern Rhône Valley) specifies that producers must use grapes from land which is south or south-east oriented, located on slopes over the Rhône river, close to the river, below a fixed altitude, and with northern and southern boundaries. The new definition excludes plots that used to be in the area of the appellation.

** a set of rules of cultivation concerning grape varieties, maximal return, minimal density of planting, ways of pruning and harvesting, etc.

However, rules of wine making are rarely precisely defined (except for specific wine-making methods as for Champagne, Cremant, Yellow Wine, etc). Decrees only indicate that they must respect what are called "local, honest and permanent customs".

* Concerning the control of the product, two examinations are compulsory:

** an analytical examination of the objective characteristics of the wine: alcohol and residual sugar content, acidity, etc, allowing the detection of possible main defects;

** an organoleptical examination, carried out by a committee of certification (in French: "Commission d'agrément"). This examination is a qualitative one and makes it possible, on the one hand, to confirm the absence of defects and, on the other hand, to evaluate if the wine is in accordance with what the examiners think to be its **typicity** in terms of the appellation. Theoretically, since there are no precise legal rules regarding wine making, this examination makes it possible, indirectly, to control the respect of the "local, honest and permanent customs". The implicit hypothesis is that if the wine under examination matches the typicity of its appellation, then that means that the customs were respected (see below, 2.1.3.). The committee of certification is mainly composed of professionals directly involved in the appellation, such as, grape growers, wine makers, and wine merchants. It is an internal control which can involve major business problems for a producer whose wine is not accepted and is relegated to a lower category.

2.1.2. AOC wine clusters

In France, most leading wine regions are related to an AOC, with only one significant exception, the Languedoc-Roussillon Region. This is the second-largest region in terms of the area of production, but whose wine is mainly of "vin de table" and "vin de pays" quality, even though AOC areas are developing with high quality wines, such as Picpoul, Pic-Saint-Loup, Faugeres , etc. In addition, some well known AOCs are not located in a big wine region, such as Jurançon, Cahors, Saint-Pourçain, Vins Jaunes, etc.

Except for the Languedoc Roussillon Region, each major wine region is linked to one, or more precisely to a set of related AOCs, such as Bordeaux, Rhône Valley, Loire Valley, Beaujolais, Bourgogne, Alsace, Champagne, and Provence. Each constitutes a cluster with the same general definition as the California wine cluster, meaning the geographic concentration of interconnected firms and institutions in a particular field, namely, the wine industry. We call them AOC wine clusters.

Each French AOC wine cluster is defined in general terms by an "AOC name" (Champagne, Côte-du-Rhône, etc) but presents a more complex structure, with certain individual characteristics. For example, there is;

- * a lot of "small" AOCs, each specific to a small terroir, in the case of the Loire Valley;
- * a differentiation based on grape varieties (Riesling, Traminer, etc) in Alsace;
- * a differentiation based on the 'brand-image' of major companies (Moët, Mercier, Perrier-Jouët, etc) in Champagne;
- * a hierarchisation of terroirs in the other cases. For example in the Rhône Valley there are at the top the "Crus of the Rhône Valley" (Châteauneuf-du Pape, Gigondas, Hermitage, Côte-Rotie, etc), then the "Côtes-du-Rhône-Villages with name of Commune" (Cairanne, Rochebrou, Massif-d'Uchaux, Vinsobres, etc), then the "Côtes-du-Rhône-Villages", and lastly the "regional appellations" : Côtes-du Rhône, Ventoux, Luberon, Costières, Tricastin. The same hierarchisation is found, in the Bordeaux, Bourgogne and Beaujolais clusters.

In each wine cluster there is a specific industrial institution: the "Interprofession". The Interprofession represents the professionals involved in the appellation, such as, wine grape growers, wine makers, and merchants. Its statutes are varied. It is a

private association, but it can levy taxes from the members (called "voluntary compulsory taxes"!)). Each Interprofession is in charge of the management of the appellation in all its aspects.

2.1.3. AOC: a club good

According to Andre Torre (Torre, 2002) an AOC is a club good. The AOC creates a **reputation, which is** a common good belonging to all the professionals in the appellation, and which has the two characteristics of a club good:

- * non-rivalry, meaning the use by a member of the appellation's reputation does not reduce its availability for others, provided there are no opportunist behaviors;

- * exclusion, meaning that the very definition of the AOC clearly defines the group of those who can make use of its reputation.

The exclusion feature is very important. Firstly, it is related to the geographical aspects of the AOC. Only grapes from the area of the appellation can be used for making the wine of the appellation (it is absolutely forbidden to use grapes from another area). Secondly, the exclusion feature goes beyond the geographical aspect, since the AOC decrees define the rules of wine making only in reference to the "local, honest and permanent customs", without further detail. As shown by C. Laporte (Laporte, 2000), it is impossible to define on a scientific basis the rules of cultivation (as presented above in 2.1.1.) and the typicity of the wine. The respect of the rules does not guarantee that the wine will have the specific typicity of the appellation, because wine making is important in determining the characteristics of a wine, and, with the development of oenology, wine making methods of all the existing appellations are known and can be used everywhere, involving the risk of standardization of wine. Thus, theoretically, the only way to be sure that the "local, honest and permanent customs" are respected is in the result, i.e. in the wine itself. If the wine has the typicity of the appellation, the respect of the customs is established. Finally, the most competent people in monitoring the typicity of the wine are the professionals of the appellation, using their traditional knowledge. In other words, the permanence of the typicity and thus of the reputation of an appellation is strongly related to the historical, cultural and social elements of its terroir. It is why the committee of certification (the "Commission d'agrément") must be mainly composed of the professionals of the appellation; and it is why it is difficult (even impossible) to

export the main characteristic of an appellation outside of its area. Finally, it is also why the exclusion feature of an AOC is so powerful.

2.1.4. AOC: a built club good

An AOC is a built club good for two reasons.

* Firstly the statute of AOC is the result of a long history, in which the main French wine regions maintain they played the leading part. If we take as an example the case of the Champagne cluster, C. Barrère (barrère, 2002) shows how the regulation of this typical AOC was constituted during 19th and 20th centuries, through the pressure of big champagne wine merchants. The lobbying of all the great wine regions led to the decree that created, in July 1935, the status of AOC and set up the INAO (Institut National des Appellations d'Origine) which is the official managing institution of the AOC system.

* Secondly, in the framework of the general statutes of the AOCs, each appellation is also a construction. Each appellation is created by a specific decree, after a long and complex process initiated by the producers themselves. The application form must be filled out by an association of producers. The association defines itself the characteristics of the future appellation, on the basis of the so-called "local, honest and permanent customs" specific to the terroir, which give the wine its typicity. Then, after an expert's evaluation, the INAO decides (or not) to create the new AOC.

Thus, each AOC is the result of a historical and conscious process of construction by the cluster's agents. It is a built club good.

2.1.5. AOC wine clusters: built club goods

The AOC is the determining element of any AOC wine cluster. In other words, the main competitive advantage of such clusters is the typicity and the reputation of their wine. Thus, as an AOC is a club good, an AOC cluster is also a club good. Moreover, since an AOC is a construction by the cluster's members themselves, both as a specific statute and for each creation or modification of a particular appellation, an AOC wine cluster is a built club good, in which built public goods are critical.

The hypothesis that an AOC wine cluster is a built club good has certain consequences. It can live and develop only if the club's member are able to maintain the construction, i.e. if they are able to reproduce and to improve existing public goods, and to create new strategically critical common goods. This is particularly necessary for French wine clusters since their dynamics have been weakened nowadays.

2.2. Weakened dynamics

French wine clusters are nowadays facing two sets of problems, those external to the cluster (market problems), and those which are internal (due to the nature of clusters) .

2.2.1. External problems

On the whole, the French wine industry is facing certain difficulties, in contrast to the rather euphoric 1990^s. These difficulties are analyzed in many French surveys (AFED, 2002; Berthomeau, 2001, 2002; Cesar, 2002; CNIV, 2002; ONIVINS, 1999, 2001) .

Basically, the challenge is twofold:

- * a long term decline of domestic consumption (from 45 millions hectolitres in the beginning of the 1970^s to 33 millions today);

- * strong competition in an oversupplied global market (the world surplus is more or less equal to French production), with a lot of producers of the so-called "New World" (mainly Australia and California), not to mention the producers of "Old world" (Spain, Italy).

In addition to these structural problems, French wines are faced by the current appreciation of the Euro, following a period of depreciation in the late 1990^s and early 2000^s.

At present, there are some exceptions, such as the Champagne and Alsace wines, and the premium wines of the other clusters (the "crus"). But all other categories are concerned, table wines (for several decades), "Vins de Pays", and those regional

appellation wines which constitute the major part of the production of the AOC wine clusters.

A large number of professionals have yet to recognize these problems. They prefer to trust the traditional supply-side model, based on the assumption that their AOC wines are the best, and that consumers must recognize this and so buy the wine. Nevertheless, under the pressure of external problems, wine professionals are realising the necessity to improve their organisation.

This paper will look at the internal issues and not the external problems.

2.2.2. Internal problems of AOC clusters

2.2.2.1. Opportunist behaviors

The very nature of the AOC status favours opportunist behaviors. Any individual producer may not respect the standards of the appellation (rules of cultivation, "local, honest and permanent customs"), and thus lower his costs of production, and benefit from the reputation of the appellation. It is typical free rider behavior.

For example, a possible free rider behavior involves the fraud on returns, made easier when the same producers grow several varieties on plots with hierarchically different appellations (and thus with different maximal returns). This "optimization of the notification of harvest" (in France the notification of harvest is compulsory) is obviously forbidden, but not easy to control by outside inspectors. It is a question of internal discipline.

Another possibility of opportunist behavior lies in the methods of wine making. There is the pure and simple fraud, consisting of the addition of sugar, synthetic aromas, and so on. That can be controlled by inside and outside inspectors, and punished (but it is not easy, due to the large number of wineries).

But there is also the problem of respecting the "local, honest and permanent customs" in wine making. This problem is very complex, because it is very difficult to determine if a new method of wine making is an opportunist behavior likely to alter the typicity of the wine and the reputation of the appellation (leading to less

standardization), or a reasonable development based on oenological improvement. It is also a problem of internal discipline which is discussed below.

Opportunist behaviors damage wine quality and typicity, and may lead to a destruction of the cluster's reputation. The producers, as a community, are well advised to identify and to punish them, but since it is difficult (except in non-ambiguous cases like the addition of sugar) to identify free riding, monitoring the respect of the appellation quality is done by the committee of certification (the "Commission d'agrément"). And there the question becomes very complex.

The Authentification (in French, "agrément"), which has been compulsory since 1974, is today a critical element of the AOC model, particularly since the arrival of "New World" wines which do not have the same mode of certification. In order to understand the change, we will use the theory of information and signalling theory.

According to P.Nelson (Nelson, 1970), any good can be characterized by three attributes:

- * search attributes: any consumer is able to determine a good's qualities before purchasing it; through physical attributes such as colour, size, style, form, etc

- * experience attributes: quality can be determined only after purchasing (taste, performance, etc)

- * credence attributes: quality cannot be fully determined, even after purchasing and consuming (respect of environmental or ethical standards during the production process, presence of OGMs, etc).

A wine does not has not generally have any search attributes, except the color, but it can have experience or credence attributes.

- * the knowledge of experience attributes supposes repeated purchasings, which explains both the loyalty of present consumers and the difficulty in capturing new consumers;

- * credence attributes are related to cultural and social elements. A.Lacroix, A.Mollard and B.Pecqueur (Lacroix et al., 2000) show that in the case of food productions the

geographic origin is itself an attribute, but when consuming the product it is generally impossible to prove this origin.

Concerning wine, these two attributes explain the strongly regional character of the consumption of wine. Consumers from the Rhône Valley drink mainly Côtes-du-Rhône wines, consumers from the south-west of France drink Bordeaux wines, etc. But they constitute an inadequate source of information in an increasingly global market.

Producers have to reduce the asymmetry in information concerning the characteristics of their wine in order to encourage consumers to purchase. The aim is to transform experience and credence attributes into search attributes through a labeling process. Thus the label becomes the sign of the quality and typicality of the wine.

In the world wine industry today, there are two main systems of labeling: brand and certification.

Brand is theoretically a reliable signal of a given level of quality (i.e. some standardized and permanent characteristics of the product) because the producer's reputation is at stake. So if he does not want to lose costly investments in marketing and advertising, he must maintain the standard of his product. This kind of labeling is used by "New World" producers. They chose a quality standard matching consumers' tastes in wine importing countries (the United States of America, the United Kingdom, North European countries, Japan, Asian new industrialized countries). These new consumers like simple wines, "easy to drink", often but not always single varietal wines (in French: "vins de cépage"). "New world" producers guarantee a permanent standard through their brand, whose reputation is obtained and maintained by a heavy investment in marketing.

The permanent standard is possible thanks to a flexible regulation concerning rules of production and wine making which makes it possible to take advantage of all the improvements of oenological science.

The signal is reliable since the consumer is sure (or he thinks he is sure) that he will find in the bottle he is purchasing the same wine as before.

Certification is "a process through which a non-observable quality level is signaled thanks to a system of label notified by a public or private institution" (Viviani, 2005,

p.3). Certification is used in France for AOC wines. In this case, the signaled level of quality is twofold. Firstly it gives information about a hierarchical level: theoretically a "Medoc Premier Cru" is of a higher quality than a "Second Cru", which is better than a "Third Cru", and so on). Secondly it gives information on the typicity: a Bordeaux wine and a Bourgogne wine have different organoleptic characteristics. According to E.Valceschini (Valceschini, 2000, p.491) "the promise of an AOC is the typicity, i.e. an unique –singular and original-product (...).The non-reproductibility outside the terroir of the appellation, and the variability in space and time of the quality are what is synthesized by the promise of the signal". Thus we can say that in the case of AOC certification the information signaled by the label is complex, and certainly more complex than that of a brand, which signals a few standardized characteristics (grape variety, vintage, country of origin, brand itself of course). This is why the certification must be very strict because the more complex the signal, the more credible it must be, and that depends on the credibility of the certification's institution.

In the French AOC system, the certification institution is a committee called "Commission d'agrément". As seen above, this committee is mainly composed of professionals from the appellation under consideration. They have to evaluate the products of the producers of their own appellation, and they know that a refusal will have major economic consequences for the unhappy producer. The result is that the committee tends to be lax. A very low percentage of the wines are refused, about 2% or 3%, while, according to the professionals themselves, at least 20% of the wines do not respect the standard of their appellation. J.L.Viviani (Viviani, 2005) used a mathematical model to study the consequences of a lax certification committee on both consumers and producers. A lax selection committee is an imperfect committee (i.e. a committee which makes some mistakes) which ranks in the upper category more wines of lower category than it ranks in a lower category wines of an upper category. J.L.Viviani shows that such a committee lowers the average quality of every class of signaled wine, and that it lowers the prices of upper quality wines, while favoring lower quality wine producers to the detriment of upper quality wine producers (that looks like a soft effect of anti-selection). Since lower quality wine producers are more numerous, they are systematically over-represented in the "Commission d'agrément", and this bias is structurally stable: the very organisation of the certification process is non-incentive to the raising of quality.

This conclusion is amplified when enlarged to the competition between selection committees. J.L.Viviani shows that if wines certified by a lax committee are in

competition with wines certified by a severe committee, consumers will prefer wines certified by the severe committee, because their average level of quality is better for every class of quality. If we take into account that the selection of products by "New World" companies is similar to a severe committee's functioning (because they have to maintain their reputation, and they can do that because they master the process of production), that leads to the risk that branded wines will supplant AOC wines (mainly for the basic wines, which constitute the main part of the world market).

Thus, opportunist behaviors and the way they can be sanctioned are a difficult challenge for AOC clusters facing the competition of "New World" wine companies. Moreover, French AOC wine clusters are also facing congestion effects.

2.2.2.2. Congestion effects

Congestion effects are public goods' standard problems. When exclusion is not possible (in the case of pure public goods) non-rivalry is progressively reduced by too numerous consumers who interfere with each other. Club goods are theoretically protected from these effects since they are based on exclusion, as the number of a club good's members can be limited, and it is the case for AOC clusters at least because of the strict definition of the appellation's area.

Nevertheless, congestion effects arise not inside every cluster but at the level of the whole group of clusters. As shown by André Torre (Torre, 2002), the competitive advantage of the AOC status is differentiation from products without indication of origin and thus without presupposed quality related to a terroir, traditional practices, authenticity, etc. But this competitive advantage tends to disappear with the generalisation of products with indication of origin, as in the case of French wine industry. In 1975, AOC wines made up 20% of total French production, and in 2000 they represented 45%. Furthermore, this generalisation is emphasized by the existence of the so called "Vins de Pays", which are not AOC but which indicate their origin, representing 27% of total production in 2000. For a non expert consumer, the difference between a "Vin de Pays de l'Hérault" and an "AOC Coteaux du Languedoc" may be very thin ("Herault" is a subdivision of the Languedoc Region). In addition, congestion effects have been increased by the extension of the AOC status to the European Union countries since 1992.

Thus French AOC wine clusters are presently losing the rent of monopoly related to the AOC status. Unlike the situation in 20th century, AOC is no more in itself a revealing and critical signal for consumers, both because its reliability is weakened by the defaults of certification's process and because it is now rather banal.

So French AOC wine clusters are today facing a critical stage of their dynamics.

3. WHICH STRATEGY FOR FRENCH AOC WINE CLUSTERS?

3.1. An error to be avoided: a non AOC strategy

Despite elements that weaken AOC wine clusters, as seen above, we think that the concept of AOC cluster remains the greatest asset of French wine professionals. The AOC club good, as the result of a long historical construction, remains a positive common good, and a competitive advantage against the new producers. Nevertheless, faced by this new competition, some French wine industry agents (Berthomeau, 2001, 2002; César, 2002...) advocate giving up the AOC model by setting up an organisation copying that of the "New world" producers. This would involve less strict cultivation and wine making rules, and thus the possibility for leading producers to produce a standardized wine which matches the average taste of global consumers.

This strategy should be refused for at least two reasons.

Firstly, it runs against the trend of more and more food and beverage manufacturers to refuse standardization for many reasons that E.Valceschini (Valceschini, 2000) or A. Lacroix, A. Mollard and B. Pecqueur (Lacroix et al., 2000) made evident. We must stress the fact that while in France some experts advocate giving up the AOC model, "New world" producers tend increasingly to use the concept of geographical origin. In Australia, in South Africa, in Chile, and in California, big wine companies push not only the grape variety but more and more the terroir, the bottling in the country of origin, in short the link to some "tradition". In other words, and specifically for premium wines, "New World" companies tend to copy the "Old world" methods, and that is one proof that these methods are not so bad.

Secondly, Industrial Economics shows that it is a better competitive strategy for any cluster agents to stress their strong points rather than those of their competitors. As

M. Porter says: "cluster development initiatives embrace the pursuit of competitive advantage and specialization rather than simply imitate successful clusters in other locations. This requires building on local sources of uniqueness. Finding areas of specialization normally proves more effective than head on competition with well-established rival locations" (Porter, 1998, pp. 89, 90). In other words, the AOC signal is to day the strong point of the French AOC clusters, despite the defects analysed above. In terms of reputation French AOC clusters remain the world reference. Renouncing this strong point and trying to compete with the "New World" companies on their own ground would be a very risky strategy.

Nevertheless, keeping the current organisation would be also very risky, even suicidal. It is necessary to cut down the two main defects (mode of certification and congestion effects) and to find the way of improving the marketing of the re-built AOC club good.

3.2. A better solution: to remodel the AOC cluster club good

The following ideas are only some suggestions resulting from our analysis. They should be discussed, but they have some similarities to solutions put forward by some authors.

3.2.1. To fight against opportunist behaviors

The fight against opportunist behaviors is a question of internal discipline. Since it is very difficult, even impossible, to detect such behaviors from outside, the only way is to detect them is from the inside. It is not easy, because producers may have some scruples about denouncing other producers of the same cluster. But it is necessary if producers want to maintain the competitiveness of their cluster, so they have to be aware that opportunist behaviors are one of the main enemies of their club good. That idea is in progress in the French wine industry, partly due to the current crisis.

The necessity for the AOC system is to raise the severity of selection committees in order to reinforce the signal 's reliability and the average quality of certified wines.

A critical means of raising the Commission d'agrément's reliability and severity would be to reinforce their independence by raising the number of outside experts in order to avoid collusive behaviors. But there is an important objection. As shown by C.

Laporte (Laporte, 2000, see above 2.1.3.), with the rules of wine making being only related to "local, honest and constant customs", the guarantee of the respect of the typicity of any wine is its certification by its producers themselves, based on their own idea of what this typicity is. Therefore with too many outside experts, the guarantee of the typicity would risk being gradually lost, and with it the very foundation of AOC concept. So a fine balance must be found between inside experts, in charge of the typicity of the appellation, and outside experts, in charge of the severity of the committee and of the elimination of opportunist behaviors.

Presently, according to the President of The Wine Commission of the INAO, Rene Renou, there are three groups among AOC producers: 30% at the top, 50% satisfactory, and 20% to be eliminated. The first objective of more severe committees will be to eliminate that 20%.

A successful fight against opportunist behaviors will both improve the quality of the product and the reliability of the signal carried by the AOC certification. But it is also necessary to fight against the jamming of the signal due to the congestion effects.

3.2.2. To cut down congestion effects.

The congestion effect analysed above jams the signal sent out by AOC certification and lowers its competitive efficiency. E. Giraud-Héraud, L.G. Soler, S. Steinmetz and H. Tanguy (Giraud-Héraud et al., 1998) show that in comparison with a standardized homogeneous product whose signal is easily interpreted, AOC status increases consumer's satisfaction because the probability that he can find a product well adapted to his taste is higher, but they show also that this positive effect disappears if AOCs are too numerous (as in the French case) because of a jamming of the signal and an increase of the cost of the search for information. These authors propose an average way: a reduction of the number of AOCs, so the consumer's benefit in variety will be at least equal to the loss due to the complexity of the signal.

The reduction of the number of appellations inside each cluster can only be the result of a conscious and organized process, set by producers themselves. In other words, it is a built club good. It may be the most difficult problem, because each AOC producer is very proud of his specific appellation and will have many difficulties in joining other producers in a more simple system. Presently they tend to do the opposite. Facing the general crisis of the wine industry, they try to find a niche by

creating specific but very small new appellations. In other words they tend to worsen the congestion effects. Nevertheless, as the crisis becomes deeper and deeper, many producers become aware of the necessity of a simplification of the AOC system.

To improve the mode of certification and to reduce the number of appellations is necessary but not sufficient. Producers and merchants must also build a new mode of marketing.

3.2.3. A combined model brand/AOC

Once the quality of the AOC signal is improved and the number of appellations in a cluster is reduced, cluster's agents have to organise the promotion of the simplified supply. Presently, in every cluster the number of producers is very large and their size is very small (on average), so they do not have sufficient finance (even grouped in their Interprofession) to set up a marketing policy like the "New World" companies. This may be the main obstacle to a revival of AOC cluster dynamics. The common good to be built is very complex, and the number of builders is very high. One solution (Giraud-Heraud et al., 2002) is to reinforce the AOC model by a combined model brand/AOC, i.e. new brands (to be created) based on qualitatively improved AOCs, with thus a twofold system of labeling. Since neither wine producers nor wine merchants presently have the size and the means to promote such a strategy, this solution necessitates lengthy dialogue inside each cluster, i.e. a voluntary construction of a new common good, based on a prospective management of the appellations, marketing strategy, and models of financing. The aim may be that the French wine industry should become entirely organized on an AOC cluster basis (even with a reduction of its total supply) and "dominate the market for upper quality wines everywhere in the world, merchants and major retail sector adding their brand or their signature to an AOC became a signal of authenticity, typicity and quality" (Giraud-Héraud et al., 2002, p.15). In a certain way this model is not far from the present organisation of the Champagne cluster.

4. CONCLUSION

For French AOC wine clusters, our analysis may seem pessimistic, raising deep problems and complicated solutions. But the problems are not so deep and the solutions are not so complicated if we keep in mind that these clusters do exist and

that the professionals are organised and able to find and set up the appropriate solutions. The main danger for them is to give up their specific organisation and to trust only in the market. Modern Industrial Economics stresses the competitive advantages of the non-market coordination forms that exist in a cluster, and we know that the development of this kind of organisation is very slow, because clusters are (imperfect) public goods with the classical problem of undersupply. So when a cluster does exist, the best way is to keep it and to improve it, thanks to a careful analysis of its problems. We hope that our solutions, that need to be finalised and improved and which will involve some sacrifices, go in the right direction.

REFERENCES

A.F.E.D. (Association française des Eleveurs, Embouteilleurs et Distributeurs de Vins et Spiritueux). (2002) . *Battons nous à Armes Egales*. Paris, France. OPHA.

ANDERSON K. (2001) . The Globalization (and Regionalisation) of Wine. *Discussion paper 0125, Centre for International Economic Studies*. Adelaide, Australia.

ANDERSON K., NORMAN D., WITTEWER G. (2001) . Globalization and the World's Wine Markets : Overview. *Discussion paper 0143, Centre for International Economic Studies*. Adelaide, Australia.

AZAIS C. (1999) . Temps, Travail et Territoire. *Revue d'Economie Régionale et Urbaine*. n°4.

BARRERE C. (2002) . la création institutionnelle d'une convention de qualité: l'histoire exemplaire de la création d'un produit de luxe, le Champagne. *Journées d'études Institutionnalismes et Evolutionnismes*. Lyon, France, 2-3 décembre.

BECATTINI G. (1979). Dal settore industriale al distretto industriale, alcune considerazioni sull'unità d'indagine dell'economia industriale. *Rivista di Economia e politica industriale*. n°1.

BECATTINI G. (1987) (dir.) *Mercato e forze locali : il distretto industriale*. Bologna, Italia: Il Mulino.

- BEGG D., DORNBUSH R., FISHER S. (1994) . Economics, fourth edition. London, UK: Mc Graw Hill International UK.
- BELLANDI M. (2002) . External Economies and local Public Goods in Clusters and Industrial Districts : some views. *6th International EUNIP CONFERENCE*. 5-7 December, Turku, Finland.
- BERTHOMEAU J. (2001) . Comment mieux positionner les vins français sur les marchés d'exportation. *Rapport pour le Ministre de l'Agriculture et de la Pêche*. Paris, France.
- BERTHOMEAU J. (2002) . Cap 2010, le Défi des Vins Français. *Note d'Orientation stratégique à l'attention du Ministre de l'Agriculture, de l'Alimentation, de la pêche et des affaires rurales*. 17 mai, Paris, France.
- CALVET J. (1979) . Régulation et Espace. *Thèse d'Etat*. Grenoble, France: SRT.
- CALVET J. (1994) . Un Débat Unilatéral : l'Espace Economique. In *Dix Grands Débats Economiques Contemporains*. PUG, Grenoble, France.
- CESAR G. (2002). Rapport d'Information au nom de la Commission des Affaires Economiques et du Plan sur "L'Avenir de la Viticulture française", *Annexe au procès verbal de la séance du Sénat Français du 10 juillet 2002*, Paris, France.
- CEVISE (2003) . (Comité Economique des Vins du Sud Est), *La Lettre du Cevise*, n°21.
- CNIV (Comité National des Interprofessions des Vins d'Appellation). (2002) . Ambition 2010, Contribution des Interprofessions à un débat de filière, 10 juillet, Paris, France.
- COURLET C. (1999) . Territoire et développement, *Revue d'Economie Régionale et Urbaine*, n°3.
- COURLET C. (2001) . Territoires et Régions, les Grands Oubliés du Développement Economique. Paris, France: L'Harmattan.

FRIGANT V. (2001) Une lecture hirschmanienne de la coordination: le loyalisme dans les systèmes productifs territorialisés. *Revue d'Economie Régionale et Urbaine*, n°5.

GIRAUD-HERAUD E., SOLER L.G., STEINMETZ S., TANGUY H. (1998) . La régulation interprofessionnelle dans le secteur vitivinicole est elle fondée économiquement?. *Bulletin de l'O.I.V.*, 813-814.

GIRAUD-HERAUD E., SOLER L.G., TANGUY H. (2002) . Concurrence internationale dans le secteur viticole: Quel avenir au modèle d'Appellation d'Origine Contrôlée?. *Recherches en économie et sociologie rurales*. INRA-Sciences Sociales, n°5-6/01.

GRUNDBERG Isabelle, KAUL Inge, STERN Marc A. (2002) . Les Biens Publics Mondiaux. Paris, France: Economica .

LACOUR C. (1996) . La tectonique des territoires, d'une métaphore à une théorisation. In *Dynamiques territoriales et mutations économiques*. B. PECQUEUR (ed.). Paris, France: l'Harmattan.

LACROIX A., MOLLARD A., PECQUEUR B. (2000) . Origine et produits de qualité territoriale: du signal à l'attribut? *Revue d'Economie Régionale et Urbaine*. n°4.

LAPORTE C. (2000) . L'appellation d'Origine Contrôlée comme garant de la typicité des vins. *Revue d'Economie Régionale et Urbaine*. n°3.

LEVESQUE B., KLEIN J.L., FONTAN J.M., BORDELEAU D. (2002) . Systèmes locaux de production: Réflexion-synthèse sur les nouvelles modalités de développement régional/local. Cahier de recherche n° 9601, CRISES, Université du Québec à Montréal, Canada.

MANKIWI N.G. (1998) . Principles of Economics. New York, USA: Harcourt Brace & Compagny.

MEADE J.E. (1952) . External economies and diseconomies in a competitive situation. *The Economic Journal*. Vol.62.

- MARSHALL A. (1906) . Principles of Economics. Londres, UK: Macmillan.
- MARSHALL A. (1919) . Industry and Trade. Londres, UK: Macmillan.
- MORRISON C, STABER U. (1999) . The Empirical Foundations of Industrial Districts Theory. *ISRN Workshop on Globalization and regional Innovation Systems*. May 17-19, Toronto, Canada.
- NELSON P. (1970) . Information and Consumer Behavior. *Journal of Political Economy* Vol. 78, march-april.
- ONIVINS (Office National Interprofessionnel des Vins) . (1999) . Etude des Filières Concurrentes et des Stratégies de Développement de douze pays producteurs de vins dans le Monde. Etude Ernst & Young, Rapport Final, Mai, confidentiel.
- ONIVINS (Office National Interprofessionnel des Vins). (2001) . Etude de la Position de l'Offre Française et de la Compétitivité à Terme. Etude Ernst & Young, Rapport de synthèse final, confidentiel.
- PECQUEUR B., ZIMMERMANN J.B. (2002) . Les fondements d'une économie de proximités. *GREQAM*, Document de travail n° 02A26.
- PERRIN P. (2001) . Un apport autrichien à la théorie du territoire. *Revue d'Economie Régionale et Urbaine*. n° 2
- PORTER M.E. (1998) . Clusters and The New Economics of Competition. *Harvard business Review*. November-December.
- RAGNI L. (1997) . Systèmes localisés de production: une analyse évolutionniste. *Revue d'Economie Industrielle*. n°81, 3^{ème} trimestre.
- SAMUELSON P. A. (1954) . The Pure Theorie of Public Expenditures. *Revue of Economics and Statistics*. n°36.
- STIGLITZ J. (1997) . Economics. Second edition. New York, USA: W.W.Norton & Compagny Inc.

TORRE A. (2002) . Les AOC sont-elles des clubs? réflexions sur les conditions de l'action collective localisée, entre coopération et règles formelles. *Revue d'Economie Industrielle*. n°100, 3^{ème} trimestre.

TOUZARD J.M. (2000). Coordinations locales, innovation et régulation: l'exemple de la transition "vin de masse"-vins de qualité" en Languedoc-Roussillon. *Revue d'Economie Régionale et Urbaine*. n°3.

VALCESCHINI E. (2000) . La dénomination d'origine comme signal de qualité credible. *Revue d'Economie Régionale et Urbaine*. n°3.

VARIAN H.R. (1992) . Microeconomic Analysis. Third edition. *W.W.Norton & Compagny Inc*, New York, USA: W.W.Norton & Compagny Inc.

VIVIANI J.L. (2005) . Impact de la fiabilité du processus de certification sur les producteurs et les consommateurs de vin. Contribution to the Second Annual International Wine Marketing Symposium, Rohnert Park, Sonoma County, California, USA, July 8 & 9.

