ARE COPYRIGHT COLLECTING SOCIETIES EFFICIENT ORGANISATIONS? AN EVALUATION OF COLLECTIVE ADMINISTRATION OF COPYRIGHT IN EUROPE

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1. Introduction¹

This contribution examines the performances of copyright collecting societies (CCS), which play a key role in the field of copyright management. They are non-governmental non-profit organizations, which administer some of the rights of copyright holders. They negotiate licences with users and receive payments they distribute among their members². CCS historically act as private institutions that minimise search and contracting costs between intermediary users and copyright holders as well as among these ones (Merges, 1996). Nowadays, the question is, whether this idea still prevails with the dissemination of information and communication technologies. On the one hand, given the emergence of self-help systems, opponents of collective administration argue that ICTs permit to reduce transaction costs in such a manner that these private institutions turn out to be unnecessary³. On the other hand, even though ICTs permit to reduce some components of transaction costs–for instance, by facilitating identification or by tightening up enclosure–, they do not reduce all of them⁴ So, by playing the role of intermediaries and representatives of their members, CCS can figure among the main private institutions that enable effective governance of transaction in the digital economy (Rochelandet, 2000).

Beyond this important current debate, it should be noted that CCS are also specific organizations. Thus, before drawing some general conclusions about the (in)effectiveness of the collective administration in the digital age, it is necessary to evaluate their performance as organizations. One possible method would be to measure and to compare the performances of each kind of organizations likely to manage copyright, i.e. for-profit, public and non-profit organizations. Economic theory would then determine the efficient copyright arrangement according to a given criterion such as Pareto-optimal allocation of copyrights⁵ and transaction costs minimization. This study, however, is based on another perspective. It attempts to compare *existing* organizations with similar features by isolating the respective impact of ownership structure and legal supervision on their performance.

I elsewhere highlight performance dispersions between French CCS (Rochelandet, 2001). Among the main factors to explain these results are ownership concentration and copyright administration complexity⁶. However, these results have been established with no possibility of isolating the very impact of legal supervision on CCS performance. Drawing on meaningful data on three major European CCS, the current study tries to fill this gap. It addresses thereby three questions: (1) Which are the organizations characterized by the best performance? (2) What relationship is there to be found between ownership structure, legal control and performances in the case of CCS? (3) Under what legal system will we observe better results for collecting societies? At the time of important discussions about copyright management

¹ Helpful suggestions by Didier Lebert (University of Paris 1 Panthéon-Sorbonne) are gratefully acknowledged.

² Further, their activities extend to copyright claims, litigation, measurement, enforcement, defence of the moral interest of their members and sometimes social and cultural action.

³ And, according to the *contract law paradigm*, copyright law itself must vanish (Dam, 1999).

⁴ This is particularly true the greater the number of economic partners and the larger the informational asymmetries.

⁵ For instance, see Hollander (1984)

⁶ For instance, neighbouring rights are less costly to manage than author's rights. In the same way, collecting copyrights from national radios or through legal devices such as private copying levies is easier to run than collecting copyrights from nightclubs or in country festivals.

methods, this study could help European regulators to specify what kind of regulation should be implemented in European countries.

2. The collective administration of copyright: An agency problem

Collective administration of copyright figures among the different methods to administrate copyright, that is primarily individual administration, for-profit private management by publishers (who link this function with their business), collective administration and non-voluntary licences. Factors to explain the implementation of such or such methods are of economic nature (searching and contracting costs minimisation, respective bargaining power of authors, publishers and commercial users) as well as of historical nature (institutional path dependencies)⁷. Each method displays some drawbacks, in particular in terms of monopolistic pricing and risk of abuse of dominant position through hold-up strategies. That explains in the case of CCS why legal supervision plays a key role in order to control their behaviour. In this section, these organizations are analysed through the lens of positive agency theory.

2.1. Hypothesis

The nature and running of CCS can be characterised by some hypothesis.

(H1) Divergence of interests between members and managers

A general assumption underlying this study is that the interests of managers and members of CCS diverge. The former are supposed to maximize an objective function grounded on their remuneration, power, job security and status. Two complementary strategies make it possible for managers to achieve these goals: *boosting management costs* in such a way that copyright distributions are reduced in proportion and *maximizing copyright collection* so that administration costs are automatically increased. As for the members, they are wealth maximizers in the sense that they expect their individual share in collected sums to be as great as possible.

(H2) Informational asymmetries and lack of significant market pressure

However, large informational asymmetries make it generally impossible for the members of any CCS at zero cost to ensure that the managers will make optimal decisions from their viewpoint. Relinquishing controls would be favourable to opportunistic behaviour of managers. They would be all the more important that no effective market pressure such as product market competition and potential hostile takeovers forces CCS towards higher performances. The monopolistic position of CCS makes it very difficult to compare the results of each CCS with similar organizations. So managers have room for discretionary allocation of collected copyrights. In this case⁸, the more dispersed the membership is, the more managers are incited to raise their remunerations of all kinds far beyond their actual productivity and results.

How do members lead managers to minimize administration expenses and so maximize copyright distribution? How do they make sure that the managers do not boost the running costs and squander collected copyrights in acts and projects unrelated to the main objectives of the CCS? In short, how to solve this agency problem?⁹ In fact, some governance mechanisms are likely to reduce these

⁷ For example, in France, the initial domination of the SACEM regarding the administration of musical rights in the cafés-concerts has permitted its expansion in musical activities (Rochelandet, 2000). The implementation of non-voluntary licences in the USA–which are frequently adopted in this country–is undoubtedly explained by the political power of consumers and intermediary users' lobbies.

⁸ I suppose that the very reputation of managers turns out to be an insufficient mechanism to solve this problem.

⁹ See Jensen and Meckling (1976, 1979), Fama and Jensen (1983), Schleifer and Vishny (1986, 1997).

organizational rents by leading managers to act in the interest of members: on the one hand, ownership concentration and especially existence of large members; on the other hand, legal controls.

(H3) Divergence of interests between large and less important members

As for large members, their market power gives them not only greater incentives to monitor managers but also the power to control managerial behaviour and, if necessary, to replace managers. In other words, many large members make it possible to reduce significantly managerial rents. Nonetheless, beyond their common goal of individual revenues maximization, all members have not the same interest. From the large members' viewpoint, CCS have to specialize on the collection of the most valuable rights, i.e. those that are the less costly to administrate in comparison to their amount. By contrast, less important members expect their organization to collect any right, even if it would be costly for a CCS to adopt such a development strategy¹⁰. In fact, this conflict is centred on the existence of cross-subsidies between highly valuable copyrights and costly-to-collect copyrights.

Although the presence of many large members could be effective in solving the agency problem, they may also inefficiently redistribute collected sums from members without any significant power to themselves. In this case as well as in the case of dispersed membership, effective governance system supposes at first glance that legal supervision should be established. This legal supervision is all the more needed that in the spirit of law, copyright is not aimed to favour some copyright holders to the detriment of others. So copyrights should tend to their social value for all kind of copyrighted uses and CCS should maximize the sums they collect *and* distribute. But the question then is, to what extent their intensity should be established.

(H4) A diversity of legal supervision national systems¹¹

The purpose of this study is to determine the impact of institutional supervision systems on the results of CCS. It is therefore necessary to highlight their nature. The extent of legal control of CCS differs among countries and especially among the European member states¹². Two opposite cases are to be found. On the one hand, the less restricting national regulation is characterized by the absence of specific control: Only competition and contract laws apply to CCS. Greece is a significant example. It looks like the American legal system, which mainly consists in supervising the pricing and licensing practices of CCS¹³. On the other hand, the most restricting system takes the form of a public administration of copyrights. The Italian system illustrates this case. Since the 1941 copyright law, the Italian CCS – the SIAE– has enjoyed a legal monopoly. In return, any statutory changes must be approved by a presidential decree in accordance with the main government ministries. The running of this public law association is subject to a permanent control of the prime minister. This control is strengthened by an auditors' division and some government officials sit on the SIAE board.

Between these two opposite cases are intermediary systems, which combine a control on the establishment of any CCS and a control of their activities. All of these systems take into account the interests of users (pricing and licensing contracts) and those of individual members (quality of the management, equitable distribution, etc.). Therefore, controls differ according to their intensity: no control, control at the request of users, founding control, permanent control and intense control.

The following table classifies European countries according to the control intensity.

¹⁰ Some of them -the less rich- prefer to earn something rather than nothing...

¹¹ See Dietz (1978), Hilty (1995) and Sénat français (1997). Since then, changes occur in some countries such as Belgium.

¹² In fact, Katzenberger (1995) emphasizes the lack of harmonisation in Europe.

¹³ For instance, the "ASCAP consent decree" prohibits the ASCAP to supply users with exclusive licences. However, no particular legal control is applied to the running of the CCS.

Table 1: Legal supe	rvision systems in F	European countries	Sources: Hilty (1995), Sénat français (1997)		
Types of control Countries	Lack of control	Control at request	Setting up control	Permanent control	Extreme control
Germany Austria Belgium	+++*		+++ ++	+++ ++	
Spain France		+	+++ ++	++ ++	
Luxembourg Ireland	+++	+++	++	++	
Netherlands Portugal United Kingdom		+++	++ +	++	+++
Swiss			++		

*: Since 1994, Belgium system has been significantly strengthened.

Note that supervision is very intense in Germany, somewhat low in UK and intermediary in France. In the German case, the establishment of any CCS requires to be jointly authorized by the German Patent office and the Kartellamt. Their activities are placed under the control of these institutions. Not only the Patent Office can demand any information and attend board meetings, but also they can require the CCS to replace their manager or even forbid them to carry out their activity. Furthermore, any CCS can be legally bound to enter into contract with any user and to conclude blanket contracts with representative association of commercial users on their request. Finally, the Patent Office plays a role of arbitrator when CCS and users are in conflict. Only in case of failure, the dispute takes the form of a trial. By contrast, British legal system is much lesser restrictive. It applies to the prices setting by CCS and proceedings are undertaken only at the request of users when they litigate a claim towards the copyright tribunal. No specific control applies to their establishment and running. Finally, they are placed under the regime of competition law as anywhere in Europe. The French legal system is a go-between institutional environment, which consists mainly in heavy control of establishment and a moderate control of activity¹⁴.

2.2. Propositions

On the basis of the previous hypothesis, it is possible to make the following propositions.

(P1) Many large members can lead managers to minimize administration expenses.

Not only large members with market power have greater incentives to monitor managers but also they have the power to control their behaviour and, if necessary, to replace them. Therefore, many large members make it possible to reduce significantly managerial rents.

(P2) By contrast, dispersed membership can lead managers to boost their declared costs to the detriment of distributions to members.

In this case, managers have much more room for discretionary allocation of collected copyrights, for instance, by raising the running costs of the organization in order to improve their own status.

(P3) The stronger the legal supervision is, the smaller managerial rents are likely to be.

¹⁴ However, some reforms have been recently adopted in order to strengthen control. But they are not taken into account in the present study because they occurred after the analysed period.

This external governance is supposed to be all the more effective than internal control proves to be low (dispersed membership or informational asymmetries). I have tested proposition P1 and P2 in a previous study about French collecting societies by suggesting that the bargaining power of members –the more or less concentrated ownership– affects sharply the performance of these organizations (Rochelandet, 2001). So internal governance appears to be a strong constraint in managerial behaviour. For instance, it explains the better results of producers' collecting societies in comparison to performers' ones. However, it doesn't highlight the proposition P3. The impact of legal supervision obviously is impossible to determine because comparisons are made in the same legal system. So this study aims to analyse the impact of legal supervision systems on the results of CCS.

3. The performances of CCS as organizations: an evaluation

3.1. Data

In order to compare CCS, it is necessary to highlight the common features of the services they produce. Among the data generally available on a relevant period are the total copyrights P they collect from content users, the total revenues R they distribute to their members, the licensing and administration expenses C, their membership size M, the number of their employees E, and the amount of their cultural and social funds F. Then, a collecting societies is characterized by:

 $R=P-C-F+e_t$,

where e_t is a parameter that approximates the various sums collected – or distributed – by the CCS and added to – or deducted from – the collected sums during period t: financial revenues from invested non-distributable sums; collected sums during previous periods t-1, t-2... that are effectively distributed during period t; and non-distributable sums from periods t, t-1, t-2... This parameter could be of positive or negative sign and its components prove to be very difficult to get from CCS.

The present study focuses on copyright collecting societies that carry out their activities in radically different legal control systems. The data set includes organizations that manage the same kind of rights (musical rights) and benefit from a dominant position relatively to the other national collecting societies. Most of the data have been obtained from the 1992-1999 annual yearbooks of the studied CCS and supplemented by official reports (BPLA, 1995, 1997, Sénat, 1997) as well as personal inquiries. The study is limited to the three largest European organizations, i.e. PRS, GEMA and SACEM. Indeed, analysing the other important international organizations raises specific problems that prevent any relevant comparison. For instance, the SIAE, which manages copyright in Italy, is a public law organization and its repertoire covers musical rights as well as audiovisual, literary rights, and the like. As for the American ASCAP and BMI–which administrate more than 90% of collectively managed copyrights in the USA–, their competition proves to impact positively their results (Sénat français, 1997).

3.1. Two complementary methods: performance criteria and Data Envelopment Analysis

Two methods are used in order to evaluate the performance of CCS. The first one is based on the elaboration and comparison of specific performance criteria and the second is a complementary dynamic evaluation through the Data Envelopment Analysis.

Performance criteria analysis: Advantages and limits

Several specific criteria can be built from the aggregates P, R, C, F, E and M. The first one, *OPTIC* (the "optimisation criterion") assesses the ability of a CCS to maximise its collected sums at the lowest cost. It is given by:

$$OPTIC = \frac{P}{C}$$

At first glance, this ratio estimates the performance of a given CCS regarding its collecting activity. It implicitly assumes that the higher the management costs in comparison with collections, the less effective the organisation. Thus, this criterion proves to relate more to cost optimisation than merely to cost minimisation.

Among its main drawbacks, however, figures the fact that the administration expenses C include costs incurred in the collection of rights –i.e. contract concluding, licensed users supervision, etc.– as well as costs relating to their distribution among members such as the determination of effective beneficiaries, right measurement and effective payments. One solution would be to identify these two components of C and therefore, to calculate two criteria: one would apply to the effectiveness of collection and the other would assess distribution activities. However, this task turns out to be extremely difficult for two main reasons: the lack of detailed accounts for all societies and the existence of joint costs. Thus, in the absence of relevant data, the criterion *OPTIC* proves a good approximation of the ability of a CCS to manage its members' rights at the lowest cost.

The growth rates of collections ΔPt and of distribution ΔRt allow to measure the variation of collected and distributed sums from one year to another. For a year *t*, they are respectively given by:

$$\Delta P_t = \frac{P_t}{P_{t-1}} - 1$$
 and $\Delta R_t = \frac{R_t}{R_{t-1}} - 1$

These dynamic ratios evaluate the productivity gains due to rationalization strategies. But both have the same flaw: They depend too heavily upon specific growth of cultural markets where collectively managed copyrights are exchanged. Thus, it turns out to be very difficult to distinguish what is due to the effective efforts of CCS and what is explained by the fluctuations of content markets. A better criterion would incorporate a weighting according to the relative share of each market contributing to the collections made by CCS. Given the tangle of their repertoires, it would not be, however, an easy task to do.

Nevertheless, these two indicators make it possible to build a more interesting ratio, even though it has the same drawbacks than ΔPt and ΔRt . As an elasticity, it measures the additional amount of distributions when copyright collection increases by 1 percent. It is given by:

$$ELRPt = \frac{\Delta Rt}{\Delta Pt}$$

Another criterion, *GDRAT*, measures the gross proportion of distributed revenues over a given period in comparison with the effective collected sums. For a given CCS, it is given by:

$GDRAT = \frac{R}{P}$

It evaluates the effectiveness of the distribution activity of a given CCS, i.e. its ability to distribute the maximum of the collected rights. It is based on the preferences of its members: the greater the proportion of collected sums they get, the greater their satisfaction. This ratio compares the final result (actual distributions) to the initially available sums (the collected sums from users).

But it raises two problems. On the one hand, it implicitly incorporates the dynamic factor *et* which relates to the distributable sums from one period to another. It can therefore be greater than 100%, in which case collected sums from previous years are distributed only the year this ratio is calculated. The calculation of an average ratio over the tested period reduces significantly this problem¹⁵. On the other hand, before being distributed, some proportion of the collected sums is allocated in professional, social and cultural

¹⁵ Of course, the amount of undistributed sums is a relative indicator of the efficiency of a CCS over a given year. The delays of copyright distributions could be the sign of inefficient information processing and distribution schedule. An interesting fact here is that before announcing their results to their members, some CCS deduct from their administration expenses the financial incomes derived from the investments of undistributed sums. However, the importance of these investments and their incomes does not necessarily result from economies due to efficient rationalization or from a fine portfolio management.

actions (subsidies to festivals, pension funds, etc.). To overcome this difficulty, the net distribution ratio *NDRAT* takes into account this various funds, whether or not they are legally imposed to the CCS. For a given CCS,

$$NDRAT = \frac{R+F}{P}$$

Symmetrically, the difference *1-NDRAT* is the proportion of collected sums that are not allocated to the distribution or to the cultural and social funds. The greater the *NDRAT* ratio is, the most efficient the CCS regarding its activity of distribution.

The proportion of undistributed copyrights *NONR* compares the distributable sums to the effectively distributed sums for a given year. Its evolution permits to assess the ability of a CCS to distribute the most part of the copyrights it has collected. It is given by:

$$NONR = \frac{R_{pot}}{R_{eff}} - 1$$

with R_{pot} : the distributable sums and R_{eff} the actual distributions. Unfortunately, the amount of R_{eff} is not available in all cases and over the whole period. It would possible to approximate it through the amount of financial revenues – the invested sums corresponds partly to the non distributed copyrights –, but this calculation requires the exact composition of the financial portfolios of the CCS and the respective share of financial interests yielded by the other components of their private assets.

The average productivity per employee *COPE* measures the collected sums per employee. In a similar way, it is possible to elaborate *DIPE*, i.e. the distributions per employee.

$$COPE = \frac{P}{E}$$
 and $DIPE = \frac{P}{E}$

The higher these ratios the more productive the employees. However, it is difficult to infer systematically a greater performance from an increase of these ratios and vice versa. The collected sums could decrease more slowly than the number of employees and that could reveal a decreasing quality of services.

The average cost per employee ACE is a counter-performance criterion.

$$ACE = \frac{C}{E}$$

The higher the cost of an employee is, the higher the *ACE* ratio is. Nevertheless, explaining this criterion is problematical when comparing the various CCS. For instance, the impact of any technological change is not similar on every CCS, but it depends upon the structure of their respective repertoire. Moreover, the increase of this ratio could mean a higher quality of their services or the need for lawyers more and more qualified. Because of the heterogeneous competences and needs of CCS, this criterion was not adopted in the comparisons between French CCS (Rochelandet, 2000). By contrast, it proves to be more relevant in the current study based on CCS managing similar repertoires¹⁶.

The collected sums per member COPM and the distributions per member DIPM are respectively given by:

$$COPM = \frac{P}{M}$$
 and $DIPM = \frac{R}{M}$

The higher these indicators are, the more efficient the CCS is. They are much more 'profitabilityorientated' since they take account of the average member viewpoint. From a dynamic perspective, they permit to evaluate the improvement of production methods implemented by CCS. But their main limit is that they do not incorporate revenue dispersion. So if a CCS regroups only 'wealthy'–or more exactly 'valuable'–members, it would seem more efficient than a CCS regrouping all the copyright holders of a

¹⁶ It supposes, however, that the cost of hiring a lawyer is more or less the same from one country to another.

given repertoire¹⁷. This drawback raises many problems regarding comparisons between the CCS with many large members and the ones with dispersed membership.

Lastly, variation indicators are made from C, COPE and COPM in order to retrace their trend, that is respectively ΔC , $\Delta COPE$ and $\Delta COPM$.

This comparison takes into account neither productivity measures such as capital intensity and R&D expenditure per employee–which appear to be difficult to obtain and somewhat irrelevant–, nor the traditional profitability ratios–which make no sense in the case of non-profit organizations. Table 2 shows the different tested criteria.

Table 2: Summary of the performance criteria used in the study					
Criteria	Formula	Relevance			
OPTIC: management ratio	$OPTIC = \frac{P}{C}$	+++			
ΔPt : annual variation of collected sums	$\Delta P_i = \frac{P_i}{P_{i-1}} - 1$	+			
ΔRt : annual variation of distributable sums	$\Delta R_t = \frac{R_t}{R_{t-1}} - 1$	+			
ELRPt: elasticity of distributions compared to collections	$ELRR = \frac{\Delta R_t}{\Delta P_t}$	++			
ΔCt : annual variation of administration expenses	$\Delta C_t = \frac{C_t}{C_{t-1}} - 1$	++			
GDRAT: gross distribution ratio	$GDRAT = \frac{R}{P}$	++			
NDRAT: net distribution ratio	$NDRAT = \frac{R+F}{P}$	+++			
COPE: collected sums per employee	$COPE = \frac{P}{E}$	+++			
DIPE: distributed sums per employee	$DIPE = \frac{R}{E}$	++			
ACE: average cost of an employee	$ACE = \frac{C}{E}$	++			
Δ COPEt: annual variation of COPE	$\Delta COPE_{t} = \frac{COPE_{t}}{COPE_{t-1}} - 1$	++			
COPM: collected sums per member	$COPM = \frac{P}{M}$	+++			
DIPM: distributable sums per member	$DIPM = \frac{R}{M}$	+++			
Δ COPMt: annual variation of COPM	$\Delta COPM_{t} = \frac{COPM_{t}}{COPM_{t-1}} - 1$	++			
NONR: non-distributed copyrights	$NONR = \frac{R_{pot}}{R_{eff}} - 1$	+++			

The Data Envelopment Analysis: A more dynamic perspective

The basic problems with expressing the economic performance in separate single indicators like the previous method are manifold. First, it is impossible to aggregate and compare a number of non-commensurate performance indicators (for example, collections and membership) to one single performance measure and secondly, to establish a

¹⁷ It is possible to integrate this dispersion but this kind of data are not homogeneous amongst CCS and therefore they do not allow a general comparison.

benchmark for comparing the performance of CCS. An alternative is the Data Envelopment Analysis (DEA), which is a non-parametric nonstochastic approach that uses a linear programming technique. It defines the best production frontier which serves as a benchmark and minimizes the relative distance to this benchmark. The relative performance of any CCS is measured as the relative distance to the productive frontier. The DEA method, is a multiple-input/multiple-output optimisation method that generalizes the Farrell (1957) technical efficiency measure. Originally developed by Charnes, Cooper, Rhodes (1978) and extended by Banker, Charnes, Cooper (1984) to include variable returns to scale, this nonparametric nonstochastic approach is frequently applied in the field of non-profit organisations such as hospitals and schools¹⁸.

Applied to collecting societies, DEA method make it possible to consider many various cases. This study explores three complementary options according to output maximization/input minimization test and the number of inputs to be considered in the analysis.

According to the first option, collections P and costs C are considered as inputs and distributions R as output. This case focuses only on the distribution activity. The underlying idea is that a CCS combines its collected sums with various factors, evaluated by C, to distribute them among its members. What is entering into the organization is its collected copyright and its administration expenses and what is coming out the organization is the copyrights.



According to the second option, the number of employees E and members M (as an estimation of the repertoire size of each CCS) are added to inputs. The membership and employment levels are supposed to impact the output. Here, what is analysing is the joint impact of, on one side, P and C and on the other side, the essential production factors of collective administration: labour and copyrights.



The third case considers two inputs (E, C) and two outputs (collected sums per member COPM and R). It corresponds to a more productivity-orientated test.



In each case, efficiencies are tested under two complementary hypotheses: output maximization and input minimization. In each case, variable returns to scale are supposed to prevail and the production frontier is fixed at 100 per cent.

3.3. Results and recommendations

The average criteria on the 1991-1998 period figure in the table 3 (in appendix) and the results from the DEA method appear in table 4 (in appendix). As for DEA results, The figures can be read as follows: for a given year, the more the indicators depart from 100 per cent (indicating the production frontier), the less efficient the CCS is relatively to the others. For instance, in the first table, '100.00 GEM96' means that by

¹⁸ An introduction to the DEA model can be found at http://www.deazone.com/index.htm.

being on the production frontier (100%), the GEMA is more efficient than the SACEM in 1996 ('85.90 SAC96', i.e. 85.9%) and as efficient as the SACEM in 1992 ('100.00 SAC92'). According to both methods, the most efficient organization is the GEMA, PRS comes second and SACEM is classed third.

Several conclusions can be drawn from these data. Given the fact that the most efficient organization is the GEMA. which carries out its activities in the most binding legal supervision system, a first conclusion is the following:

(C1) The most restrictive legal control gives rise to the lowest rents.

Accordingly, a first general recommendation could be made according to which it is in the interests of members to claim a large reinforcement of institutional controls. However, a second result qualifies such a recommendation. For the same period, the results of the PRS, which runs in the less restrictive legal system, are better than those of the SACEM and, above all, not so far from those of GEMA as tables 3 and 4 show it. In other words, implementing low supervision (UK) is better than setting up intermediary control (France). Therefore, a second conclusion could be that:

(C2) No general positive correlation could be made between the intensity of legal supervision and the results of CCS.

Should we therefore recommend a large reduction in the intensity of legal control? Indeed, lightening supervision could generate social savings in terms of reduced regulation costs, though the interests of members would be less respected. So, in a social welfare perspective, the gains from a reduction in supervision overcome the social loss of CCS' members due to lesser revenues.

However, such a recommendation is difficult to suggest. As a matter of fact, the PRS differs from the two others CCS by the greater power of its members. Publishers play a key role in the UK system of copyright. Accordingly, their internal governance proves to be sufficient to compensate a low legal control.

Symmetrically, a third conclusion is that:

(C3) Intermediary level of supervision appears to be imperfect and a source of inefficiencies.

The managers of SACEM are supposed to benefit from monopolistic rents due to an easing of external and internal control relatively to the GEMA and PRS.

So two general recommendation could be made:

- supervision reinforcement should be implemented only for CCS with dispersed membership.

- correlatively, competition law is supposed to be sufficient to compel CCS with large members to act in the interest of their members.

3.4. Further comments

All these conclusions and recommendations are based on the SACEM results relatively to the two other CCS. However, these results can be challenged by two facts:

On the one hand, a CCS could strategically limiting the scope of its repertoire in order to focus on its more valuable rights, i.e. those for which the management costs are significantly lower than the collected fees. For instance, these strategies can consist in only controlling and collecting copyrights from the biggest, easy-to-identify users. Limiting the scope of copyright management in such a manner can certainly imply

higher performance. In fact, it could also interpreted as a socially inefficient specialization to the detriment of copyright law spirit.

On the other hand, by offering its members the most equitable and diversified services, a CCS can incur higher costs of collection and distribution. In my point of view, this idea is essential but it requires a more meticulous study through, for instance, specific audits. It would consist in determining such things as homogeneous classes of members according to their revenues, management costs by specific piece of repertoire, and the number of members who actually perceive copyrights relatively to the total membership. By definition, a CCS would be efficient if and only if it collects the most copyright and distributes them the "better" to its members. Of course, it could be costly to allocate equitably, but in this case, evaluating a given CCS would necessitate to include the criterion of quality of service in its objectives. Providing members with more equitable and diversified services can be costly and imply lower performance. *In fact, there is a trade-off between costs and quality, especially in the case of collecting societies for which members are both owners and customers*.

Beyond a purely productive efficiency analysis, it would be thus necessary to introduce some qualitative factors to compare collecting societies: quality of services to members as well to users; equity of distributions among members; and correlation between development strategies of CCS and copyright law purposes.

Furthermore, testing this hypothesis would require to take into account the features of each cultural market in which CCS operate. Indeed, for a similar national market, PRS collects much less copyrights than SACEM (its collected sums are about 60% of those of PRS on the period 1990-1998). PRS is then likely to be more selective regarding the copyrights it administrates. In this perspective, a significant proof is the greater number of employees of the SACEM. At first glance, this greater number could be perceived as a bureaucratic bias or a strategic objective of managers in order to entrench themselves into their organization. However, another viewpoint is to consider this greater number as an indicator of the quality of the services the SACEM supplies for its whole membership. A more detailed investigation would be therefore necessary to evaluate the relation between quality and costs in these non-profit organizations.

Finally, the sole criteria of costs minimisation and productivity turn out to be insufficient to evaluate the performance of a given CCS. No definitive conclusion could be made if the qualify of provided services– assessed by the collection of *any* copyright and the improvement of their distribution–is not integrate to the analysis. There is a very delicate balance between the purpose of cost minimization and the provision of valuable services in terms of quality and equity. Nevertheless, the impossibility of comparisons with similar for-profit organisations requires a more detailed investigation of the CCS as non-profit organizations. Thereby, members are not confined to their role of owners, but they are also considered as consumers of the whole production of CCS (Rochelandet, 2000).

4. Conclusion

Among the key factors to explain the performance of copyright collecting societies are the concentration of ownership and the intensity of institutional control. First of all, the bargaining power of their members and hence the more or less concentrated structure of ownership are proposed to affect sharply their performances. A previous comparison between French collecting societies suggests that internal governance appears to be the stronger constraint in all cases (Rochelandet, 2001). It explains the better results of societies that represent producers in comparison to performers' societies. By contrast, the impact of legal supervision is much more problematical to determine. Although the current study is still an exploratory paper, with more data to analyse in futures studies, initial results are very encouraging. The measure of the performance of three collecting societies with all the same repertoire in contrasted but complementary legal systems suggests several conclusions. First, the strongest control in Germany explains the best results of the GEMA. On the contrary, the lower results of the SACEM are certainly due to the intermediary level of supervision in France. Compared to the intermediary results of the PRS, this suggests that a strong internal control is sufficient to overcome the potential failure inherent in limited institutional constraints. But in the case of failure of this internal governance mechanism, the strengthening of legal supervision should be recommended.

However, all these results are essentially grounded on productive efficiency. Further investigations are needed to take into account the quality of delivered services and the non-profit nature of CCS. In addition, one must isolate the key institutional factors to determine which one affects the most CCS performance. Moreover, another question is, whether ICTs do not challenge these results nowadays. At first analysis, these technologies reinforce the various controls on collecting societies by enabling better information, which benefits their members as well as the authorities. ICTs will enable the CCS to improve their performance by reducing management costs and their members to receive their remuneration more rapidly. In addition, they represent a new form of market governance through an extension and a renewal of competition in the field of copyright management (Rochelandet, 2000). Another objective drawn from this research is therefore to study in which way these technologies are adopted by the CCS and to determine their impact on the effectiveness of collective administration of copyright.

APPENDIX

Acronyms and abbreviations

ASCAP: American society of composer, authors and publishers BMI: Broadcast music, Inc. BPLA: Bureau de la Propriété Littéraire et Artistique [*Copyright division of the French ministry of culture*] CCS: copyright collecting societies GEMA: Gesellschaft für musikalische aufführungs- und vervielfatigungsrechte PRS: Performing right society SACEM: Société des auteurs, compositeurs et éditeurs de musique SIAE: Società italiana degli autori ed editori

Tables

Table 3: Average ratios for 1991-1998 period						
M\$ and %	relevance	GEMA	SACEM	PRS	most efficient	
OPTIC	+++	738%	446%	594%	GEMA	
GDRAT	++	86,4%	73,7%	83,5%	GEMA	
NDRAT	+++	89,1%	79,9%	83,5%	GEMA	
ELRP	++	0,98	0,43	1,28	PRS	
ACE	++	0,089	0,084	0,068	PRS	
∆ACE	+++	8,7%	3,6%	5,2%	SACEM	
ΔC	++	5,9%	4,1%	2,2%	PRS	
COPE	+++	0,651	0,374	0,408	GEMA	
DIPE	++	0,563	0,277	0,343	GEMA	
ΔCOPE	+++	8,6%	3,5%	10,3%	PRS	
СОРМ	+++	0,020	0,008	0,010	GEMA	
ΔСОРΜ	++	-2,2%	0,4%	2,4%	PRS	
DIPM	+++	0,017	0,006	0,008	GEMA	

Table 4: Table of efficiencies from DEA method (1991-1998 period, variable returns to scale used)						
Input minimisation radial model			Output maximisation radial model			
Inputs : P, C / Output : R			Inputs : P, C / Out	put : R		
85.90 SAC96	86.13 SAC95	87.12 SAC97		78.32 SAC91	83.36 SAC93	85.16 SAC96
87.20 SAC98	88.27 SAC94	91.62 PRS93		85.37 SAC95	86.44 SAC97	86.47 SAC94
92.89 PRS92	93.03 PRS94	93.37 SAC93		86.58 SAC98	91.15 PRS93	91.56 PRS92
94.49 PRS96	96.27 PRS95	98.49 GEM98		92.67 PRS94	94.24 PRS96	94.98 PRS91
98.71 GEM93	98.73 GEM94	99.35 SAC91		96.08 PRS95	98.48 GEM98	98.70 GEM93
99.66 GEM92	99.74 GEM97	99.75 GEM95		98.73 GEM94	99.66 GEM92	99.75 GEM95
99.76 PRS91	99.98 PRS97	100.00 GEM91		99.80 GEM97	99.98 PRS97	100.00 GEM91
100.00 GEM96	100.00 PRS98	100.00 SAC92		100.00 GEM96	100.00 PRS98	100.00 SAC92
Inputs : P, C, E, M / Output : R				Inputs : P, C, E, M / Output : R		
87.20 SAC98	88.31 SAC97	90.32 SAC96		78.32 SAC91	83.36 SAC93	85.16 SAC96
91.60 SAC95	93.25 SAC94	94.14 PRS92		85.37 SAC95	86.44 SAC97	86.47 SAC94
94.43 SAC93	94.80 PRS93	95.93 PRS94		86.58 SAC98	91.15 PRS93	91.56 PRS92
97.72 PRS95	98.71 GEM93	98.73 GEM94		92.67 PRS94	94.98 PRS91	96.08 PRS95
99.85 PRS96	100.00 GEM91	100.00 GEM92		96.63 PRS96	98.70 GEM93	98.73 GEM94
100.00 GEM95	100.00 GEM96	100.00 GEM97		100.00 GEM91	100.00 GEM92	100.00 GEM95
100.00 GEM98	100.00 PRS91	100.00 PRS97		100.00 GEM96	100.00 GEM97	100.00 GEM98
100.00 PRS98	100.00 SAC91	100.00 SAC92		100.00 PRS97	100.00 PRS98	100.00 SAC92
Inputs : C, E / Outputs : R, COPM			Inputs : C, E / Outputs : R, COPM			
73.50 SAC98	74.23 SAC97	76.11 SAC95		81.19 SAC92	84.22 SAC97	84.82 SAC93
76.45 SAC96	78.50 SAC94	79.03 SAC93		86.91 SAC91	86.94 SAC95	87.11 SAC98
80.26 SAC92	83.31 PRS92	86.14 PRS93		87.19 SAC96	87.28 SAC94	87.94 PRS92
86.16 SAC91	87.89 PRS94	88.08 PRS91		88.53 PRS91	91.32 PRS93	93.33 PRS94
91.60 PRS95	97.12 PRS96	97.56 GEM94		94.81 PRS95	97.72 GEM93	97.82 GEM94
97.68 GEM93	100.00 GEM91	100.00 GEM92		99.17 PRS96	100.00 GEM91	100.00 GEM92
100.00 GEM95	100.00 GEM96	100.00 GEM97		100.00 GEM95	100.00 GEM96	100.00 GEM97
100.00 GEM98	100.00 PRS97	100.00 PRS98		100.00 GEM98	100.00 PRS97	100.00 PRS98

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