

The Society for Economic Research on Copyright Issues
Inaugural Annual Congress 2002
Universidad Autónoma de Madrid

Are copyright collecting societies efficient?
AN EVALUATION OF COLLECTIVE ADMINISTRATION OF COPYRIGHT IN EUROPE

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Preliminary version

1. Introduction¹

This contribution examines the conditions for an efficient collective administration of copyright. Copyright collecting societies (CCS) play a key role in the field of copyright management. They are non-governmental non-profit organizations, which administer the rights of copyright holders. They negotiate licences with users and receive payments they distribute among their members². CCS historically appear to be efficient institutions that minimise searching and contracting costs between intermediary users and copyright holders and among these ones (Merges, 1996). Nowadays, the question is, whether this idea still prevails with the dissemination of ICTs. On the one hand, given the emergence of self-help systems, opponents to collective administration argue that digital technologies permits to reduce transaction costs in such a manner that these private institutions—and, according to the *contract law paradigm*, copyright law itself—turn out to be unnecessary (Dam, 1999). 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 them. This is particularly true the greater the number of economic partners and the larger the informational asymmetries are. So CCS appear to be private institutions that enable effective governance of transaction (Rochelandet, 2000).

Beyond this important debate, it should be noted that the CCS are also specific organizations. Thus, before drawing some general conclusions about the effectiveness or the ineffectiveness of collective administration in the digital age, it is necessary to evaluate their efficiency as organizations. I elsewhere highlight performance dispersions between French CCS (Rochelandet, 2001). Among the main factors to explain their results are ownership concentration and copyright administration complexity³. However, these results have been established with no possibility of isolating the very impact of legal supervision on CCS efficiency. Drawing on meaningful data on three major European CCS, the current study tries to fill this gap by testing the impact of legal environment on the efficiency of CCS. It addresses thereby three questions: (1) Which are the most efficient CCS? (2) What relationship is there to be found between ownership structure, legal control and performances of these societies? (3) What regulation is there at present, and what regulation should there be in European countries? Under what legal system will we observe better results for collecting societies?

2. The collective administration of copyright: the present and the future

Different methods to administrate copyright

Private copyright holders often link their commercial activities with the management of their rights and derive a substantial part of their revenues from them. A basic arrangement here is the *individual administration* of copyright: creators directly trade their works with intermediary users—i.e., those who use the protected content as inputs to produce new services or derivative works—or with end users—i.e., those who use the content for their own pleasure. However, in practice, prohibitive searching and contracting costs make this arrangement unusual: a creator rarely administrates all his rights himself. This is particularly true with the cultural industries. In fact, alternative arrangements prevail. The most frequent one is the *for-profit private management*, whereby the author contractually confers the administration of his rights to a publisher or a producer, who in turn enters into contract with intermediary users.

When transaction costs are relatively low so that economic partners are easily identifiable and their behaviors verifiable, this arrangement has several advantages: (1) When competitive negotiations prevail,

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

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

³ For instance, neighboring 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.

there is a lesser risk of abuse of dominant position and prices are likely to be closer to their competitive levels; (2) By benefiting from learning effects and financial capacities that authors cannot get in isolation, publishers and producers generally are the most able to exploit a work; (3) Copyright administration by content producers is characterized by scope economies when it is undertaken jointly with contracting.

However, given the great diversity of users and uses, the management of the different rights derived from a work is a task that would be difficult, even for publishers, to carry out in isolation. The vast administrative workload to gather market information about the various uses of their works can lead copyright owners to transfer part of their rights to collecting societies. These ones represent their members to the intermediary users with whom they negotiate licensing terms. On the basis of their repertoire of copyrights, they collect royalties, which they then distribute between their members. This arrangement can be called *voluntary collective administration* because individual copyright owners are not obliged to adhere to these organizations. Alternatively, they can manage their rights on an individual basis or else by entering into agreement with a publisher. Moreover, they can choose not to enforce their rights!

By contrast, *non-voluntary licences* represent arrangements according to which copyright holders or their assignees are constrained to licence their rights, whatever their preferences or their economic strategies. Two kinds of non-voluntary licences exist:

- Under a *legal* license regime, users are free to use the protected content (under respect of the moral rights of authors) without first obtaining a license directly from them. In return, the former have to pay a statutory compensation to copyright holders or to collecting societies. In this case, collective administration is of *non-voluntary* nature, since copyright owner cannot refuse to licence their rights, whether or not he has joined the very collecting society which manages this kind of licences.
- Under a *compulsory* license regime, users negotiate with copyright owner. The latter cannot refuse to license in such a way negotiations only focus on price. In case of persistent disagreement of the copyright holder, the user can make an appeal to a specific court that arbitrates on price.

A general point to be noted is that a diversity of copyright arrangements applies to the different kinds of uses. Among the key determinants to explain the adoption of a given arrangement are search costs and contracting costs. Thus, whenever these costs are too high—so that copyright protection and management are no longer profitable—, collective administration has many benefits. First, the subadditivity of those costs can justify the pooling of copyrights in a single collective organization. Second, a single middleman permits to minimize search and contracting costs for intermediary users since they do not have to bear the costs of finding the appropriate rights holders, negotiating multiple individual deals, and so on. Thanks to voluntary collective administration, they benefit from easy identification of the single copyright holder (i.e. the CCS) and costless authentication of rights through the collective reputation of CCS so that most of frauds are eliminated. Moreover, collective administration benefits from the same advantage as for-profit private management because in both cases, prices and licensing terms are generally negotiated on a market basis. In the same way, voluntary collective administration cumulates some of the advantages of non-voluntary licenses. Remunerations are negotiated on a collective basis. Moreover, disclosures of works are not hindered by hold-up strategies from CCS because they do not use protected contents to carry out commercial activities.

However, these advantages are counterbalanced by the risk of abuse of dominant position. CCS often benefit from a double monopolistic position vis-à-vis intermediary users as well as their members. This behavior can harm the interests of each of them. That explains why legal supervision plays a key role (see below). Moreover, in case of very high transaction costs, voluntary collective administration proves to be inefficient. Non-voluntary licenses then appear to be an important alternative: (1) It largely favors the interest of users, in particular commercial users, who do not have to systematically obtain the agreement of copyright holders and therefore incur very lower transaction costs. However, the major drawback of

this arrangement is that it does not always generate sufficient income for authors and their economic partners⁴.

In fact, beyond these economic arguments, the adoption of a given arrangement often results from conflicts of interests between authors, producers and users, as well as from institutional path dependencies. 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.

*A diversity of legal supervision systems in Europe*⁵

The purpose of this study is to determine the impact of institutional supervision on the results of CCS. It is therefore necessary to highlight the nature of these legal controls in Europe. The principle of copyright collective administration has emerged quite similarly wherever copyright law has been implemented. The extent of the supervision of CCS differs among the countries and especially among the member states. Katzenberger (1995) emphasizes the lack of harmonisation between legal supervision systems in Europe.

Two opposite cases are to be found:

- The less restricting national regulation as to the CCS is characterized by the absence of specific control: only competition and contract laws apply to CCS. Greece is a significant case to illustrate this situation. It looks like the American legal system, which mainly consists in supervising the pricing and licensing practices of CCS. 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 CCS.
- 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 by the fact that some government officials sit on the SIAE board.

Between these two 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 that 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.

⁴ Retrospectively, Merges (1996) shows that in the system of legal license, royalties tend to be maintained on their initial level to the detriment of copyright holders whatever the market trends are. For example, in the USA, given the political pressures, the 2 cents royalty per copy implemented in 1909 had not been modified any more until 1978.

⁵ See Dietz (1978), Hilty (1995) and Sénat français (1997). Since then, changes occur in some countries such as Belgium, but the test period ends 1998.

Table 1: Legal supervision systems in European countries					
Types of contrôle	Lack of control	Control at request	Setting up control	Permanent control	Extreme control
Countries					
Germany			+++	+++	
Austria			++	++	
Belgium	+++*				
Denmark			+		
Spain			+++	++	
France		+	++	++	
Greece	+++				
Luxembourg			++	++	
Ireland		+++			
Italy					+++
Netherlands			++	++	
Portugal			+		
United Kingdom		+++			
Swiss			++		

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

Sources: Hilty (1995), Sénat français (1997)

Note that supervision is very intense in Germany, somewhat low in UK and intermediary in France.

In Germany, the establishment of a CCS requires to be jointly authorized by the German Patent office and the Kartellamt. Their activities are also under the control of these institutions. Not only the Patent Office can demand any information and attend the meetings of their boards, but also they can require the CCS to replace their manager or even forbid them to carry out their activity. Furthermore, a 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 activity. 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.

The impact of digitization on copyright and its administration

ICTs increase the opportunities to transgress copyright. If copyright holders have increasing difficulties to control the uses made of their works, content users have difficulties whenever they have to identify and authenticate the real copyright owners. Are new kinds of uses included in contracts between authors and publishers? How to authenticate the identity of a copyright holder over the Internet? Are the copyright information incorporated in a digital content still valid when its user get a copy? In which case is it necessary to implement online databases that regroup and update these types of information? But who contribute to their financing and maintenance? How to allocate the burden of the costs of such a digital rights management system? As for copyrights owners, the multiplication of the way to use and valorize cultural goods raise the question of the electronic traceability of the flows of copyrights and that of the control of users. How can copyright holders ensure that the statements of the commercial users of their works are true? How to appropriate the flows of remuneration at the lowest cost?

CCS could be a major way to eliminate or reduce these opportunistic behaviours; informational asymmetries and technical lock-in associated with electronic distribution of cultural goods. Three reasons at least support this idea. The first one is linked to the special financing of these organizations. It is grounded in the members' proportional participation according to their share in the collected sums. Therefore, none of them can significantly free ride. No problem of information revelation arises that would generate sub-optimal financing⁶. The second factor is the non-profit nature of these organizations. This organisational feature is the most apt to resolve the problematical trade-off between the purpose of costs minimisation and the production of high-quality services of collective administration (Rochelandet, 2000). The high specificity level of their services would make it possible for a for-profit organisation to benefit from higher latitude than non-profit organisations (see Hansmann, 1987). Indeed, the managers of for-profit organizations would have great incentives to seek rents because copyright holders would take part in the decision process. The third factor is the nature and the intensity of institutional constraints. As a matter of fact, these organizations are subject to legal controls and duties that are difficult to impose on for-profit organizations. These constraints contribute also to reduce the opportunistic behaviour.

Therefore, CCS could play the role of "infomediaries" –more precisely that of "cybernotary". But nowadays the increasing dissemination of ICTs disturbs the historical trade-off between the various copyright arrangements. At first glance all of these arrangements compete over the electronic networks. According to Meurer (1997) and Bell (1998), ICTs lead to a reduction in market transaction costs and thus, bilateral contracts and market coordination would replace inefficient institutions. So, digital anti-copying devices can be regarded as an alternative to copyright for protecting content and appropriate value of content uses (see Farchy and Rochelandet, 2002).

However, one thing is to suggest that ICTs improve the enforcement of copyright; another is to suggest that they are a very substitute for the whole institutional framework of copyright. ICTs do not reduce informational asymmetries, nor do they eliminate opportunistic behaviour. By contrast, private institutions have some significant advantages that enable economic partners to overcome these transaction costs. They allow a certification of copyrights and an efficient traceability of information as well as private negotiations of uses conditions and a fair distribution of collected sums. Thereby they contribute to preserve the principle and the implementation of copyright.

3. The performances of CCS as organizations: an evaluation

By playing the role of intermediaries and representatives of their members, CCS benefit from various advantages that allow them to semi-internalize efficiently transactions. However, these private institutions are also organizations with intrinsic features. Before making statements about their overall efficiency, it is therefore necessary to estimate their performances as organizations. Ideally, the best method would be to measure and compare the performances associated with each kind of organizations likely to manage copyright, i.e. for-profit, public and non-profit organizations. Then, the features of each of them could be listed and the most efficient could be determined. Economic theory would predict that copyright arrangement should be that which allocates efficiently the various rights among users or that which minimizes the transaction costs incurred in each kind of uses. This study, however, is based on another perspective. It attempts to compare *existing* organizations with similar features by isolating the impact of legal supervision on their performance.

An agency problem

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

⁶ This device solves partially the problem of collective action raised by Olson (1965), even in the case of large-membership organizations.

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. However, it is generally impossible for the members of a given CCS at zero cost to ensure that the managers will make optimal decisions from their viewpoint. How do they 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?⁷

Given significant informational asymmetries, relinquishing controls would make it possible opportunistic behavior of managers. Indeed, no market pressure such as product market competition and potential hostile takeovers forces CCS towards economic efficiency. Because of the inherently impossibility to compare the results of each CCS with similar organization, managers have room for discretionary allocation of collected copyrights. For instance, they can raise their salaries far beyond their actual productivity⁸. Some governance mechanisms, however, are likely to reduce these 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.

Not only large members with market power have greater incentives to monitor the CCS' managers but also they have the power to control their behavior and, if necessary, to replace them. Therefore, many large members make it possible to reduce significantly managerial rents. But, 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, whereas less important members expect their organization to collect any right, even if it proves to be costly for a CCS to adopt such a development strategy. In fact, the conflict here is centred on the cross-subsidies between highly valuable copyrights and costly-to-collect copyrights. However, in the spirit of the copyright law, copyright is not aimed to favor 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.

Although the presence of large members can be very 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. But the question is, to what extent their intensity should be established.

Method

In order to make comparison between 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:

$$R = P - C - F + e_i$$

⁷ See Jensen and Meckling (1976, 1979), Fama and Jensen (1983), Schleifer and Vishny (1986, 1997).

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

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 $t-1, t-2\dots$ that are effectively distributed during period t ; and non-distributable sums from periods $t, t-1, t-2\dots$. This parameter could be of positive or negative sign and its components prove to be very difficult to get from CCS.

Two methods are used in order to evaluate the performance of CCS. The first one is based on the elaboration and comparison of specific efficiency criteria. The second is a complementary evaluation through the Data Envelopment Analysis. This multiple-input/ multiple-output optimization method 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 schools⁹.

As for the first method, several specific criteria are built from the aggregates P, R, C, F, E and M . The first one, MR (the “management criterion”), assesses the ability of a CCS to maximise its collected sums at the lowest cost. It is given by:

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

At first glance, this ratio estimates the efficiency of a given CCS regarding its collecting activity. The higher the management costs the less efficient the organisation. Its main drawback, however, is that the administration expenses C include costs incurred in the collection of rights (concluding of contracts, supervision of licensed users, etc.) as well as costs relating to their distribution among members (determination of effective beneficiaries, right measurement, effective payments, and so on). One solution would be to identify these two components of C and therefore, to calculate two criteria: one would apply to the efficiency of the collecting activity and the other would assess the efficiency of the distribution. 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 MR proves a good approximation of the ability of a CCS to manage its members' rights at the lowest cost.

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

$$VP_t = \frac{P_t}{P_{t-1}} - 1 \quad \text{and} \quad VR_t = \frac{R_t}{R_{t-1}} - 1$$

Both are dynamic ratios: they evaluate the productivity gains due to rationalization strategies implemented by a given CCS. 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 VP and VR . It measures the additional amount of distributions when copyright collection increases by 1 percent. It is given by:

⁹ An introduction to the DEA model can be found at <http://www.deazone.com/index.htm>.

$$VRP_t = \frac{VR_t}{VP_t}$$

Another criterion, *GDR*, 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:

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

It evaluates the efficiency 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 problem¹⁰. On the other hand, before being distributed, some proportion of the collected sums is allocated in professional, social and cultural actions (subsidies to festivals, pension funds, etc.). To overcome this difficulty, the net distribution ratio *NDR* takes into account this various funds, whether or not they are legally imposed to the CCS. For a given CCS,

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

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

The proportion of undistributed copyrights *NR* 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:

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

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 be 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 *PPE* measures the collected sums per employee:

¹⁰ 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.

$$PPE = \frac{P}{E}$$

The higher this ratio is, the more productive the employees are. Two problems are raised. First, it is difficult to infer systematically a greater efficiency from an increase of this ratio and vice versa. The collected sums could decrease more slowly than the number of employees: that means a lesser quality of the services from one period to another. Secondly, the data relating to the number of employees are incomplete in the French case.

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. The impact of technological change is not similar on every CCS, but 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 repertoires. It supposes, however, that the cost of hiring a lawyer is more or less the same from one country to another.

The collected sums per member *PPM* and the distributions per member *RPM* are respectively given by:

$$PPM = \frac{P}{M} \text{ and } RPM = \frac{R}{M}$$

The higher these indicators are, the more efficient the CCS is. They are much more 'profitability-orientated' since they take account of the average member viewpoint. From a dynamic perspective, these criteria permit to evaluate the improvement of production methods implemented by CCS. Their main limit is, however, that they do not incorporate revenue dispersion. So a CCS which regroups only 'wealthy'—or more exactly 'valuable'—members would seem more efficient than a CCS regrouping all the copyright holders of a given repertoire. It is possible to integrate this dispersion but these data are not homogeneous amongst CCS and therefore they do not allow a general comparison. This drawback raises many problems regarding comparisons between CCS with many large members and CCS with dispersed membership.

Lastly, variation indicators are made from C, PPE and PPM in order to retrace their trend.

This comparison takes into account neither productivity efficiency 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		
<i>Criteria</i>	<i>formula</i>	<i>Relevance</i>
MR: <i>management ratio</i>	$MR = \frac{P}{C}$	+++
VPt: <i>annual variation of collected sums</i>	$VP_t = \frac{P_t}{P_{t-1}} - 1$	+
VRt: <i>annual variation of distributable sums</i>	$VR_t = \frac{R_t}{R_{t-1}} - 1$	+
VRPt: <i>relative variation of distributions compared to collections</i>	$VRP_t = \frac{VR_t}{VP_t}$	++
VCt: <i>annual variation of administration expenses</i>	$VC_t = \frac{C_t}{C_{t-1}} - 1$	++
GDR: <i>gross distribution ratio</i>	$GDR = \frac{R}{P}$	++
NDR: <i>net distribution ratio</i>	$NDR = \frac{R + F}{P}$	+++
PPE: <i>collected sums per employee</i>	$PPE = \frac{P}{E}$	+++
RPE: <i>distributed sums per employee</i>	$RPE = \frac{R}{E}$	++
ACE: <i>average cost of an employee</i>	$ACE = \frac{C}{E}$	++
VPPEt: <i>annual variation of PPM</i>	$VPPE_t = \frac{VPPE_t}{VPPE_{t-1}} - 1$	++
PPM: <i>collected sums per member</i>	$PPM = \frac{P}{M}$	+++
RPM: <i>distributable sums per member</i>	$RPM = \frac{R}{M}$	+++
VPPMt: <i>annual variation of PPM</i>	$VPPM_t = \frac{VPPM_t}{VPPM_{t-1}} - 1$	++
NR: <i>non-distributed copyrights</i>	$IR = \frac{R_{pot}}{R_{eff}} - 1$	+++

As for the DEA method, I first consider P and C as inputs and R as output. 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. Secondly, the number of employees E and members M (as an estimation of the repertoire size of each CCS) are added as inputs. The membership and employment levels are supposed to impact the output. Thirdly, two inputs are taken into consideration—E and C—and two outputs: PPM (collected sums per member) and R. In each case, efficiencies are tested under two complementary hypotheses: output maximization and input minimization. The production frontier is fixed at 100 per cent.

Data and results

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. The SIAE, which manages copyright in Italy, is a public law organization and its repertoire includes rights in the fields of music as well as audiovisual, literary, 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, 1997).

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). The second method considers several cases according to output maximization/input minimization test and the number of inputs included in the analysis. In each case, variable returns to scale are supposed to prevail.

According to both methods, the most efficient organization is the GEMA, PRS comes second and SACEM is classed third.

Given the best results of GEMA and given the fact that German legal supervision is the most restrictive system in Europe, a first conclusion is the following: *the more restrictive a legal control gives rise to the lower monopolist rents.*

Accordingly, a first general recommendation could be made: it is in the interests of members to claim a large reinforcement of institutional controls. However, a second result could qualify these recommendations. The results of the PRS, which work in the less restrictive legal system, are superior to 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 *there is no general positive correlation between the intensity of 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 *intermediary level of supervision appears to be imperfect and a source of inefficiencies.* SACEM's managers are likely to benefit from monopolistic rents due to an easing of external and internal control relatively to the GEMA and PRS. So a general recommendation could be made according to which *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.

Further comments

All these conclusions and recommendations are based on the French society results relatively to the other CCS. However, they could be balanced by two facts. On the one hand, a CCS could be more efficient by 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. 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.

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 this kind of non-profit organizations. Finally, the sole criteria of costs minimisation and productivity turn out to be insufficient to evaluate the efficiency of a given CCS. No definitive conclusion could be made if the quality 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. Another important task is therefore to explicit the economic factors that ground this idea by analysing more specifically the non-profit nature of the CCS. Nevertheless, the impossibility of comparisons with similar for-profit organisations requires a more detailed investigation of the CCS as non-profit organizations. 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 efficiency of copyright collecting societies are the concentration of ownership and the intensity of institutional control. First of all, the market 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, my initial results are very encouraging.

The measure of the efficiency of three collecting societies which all manage the same repertoire–musical rights–in contrasted but complementary legal systems (Germany, United Kingdom, France) 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 essentially are grounded on productive efficiency. Further investigations are needed to take into account the quality of delivered services and the non-profit nature of CCS. 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 efficiency 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

Table 3: Average ratios for 1991-1998 period

Table 3: Average ratios for 1991-1998 period					
	<i>relevance</i>	GEMA	SACEM	PRS	<i>most efficient</i>
MR	+++	738%	446%	594%	GEMA
GDR	++	86,4%	73,7%	83,5%	GEMA
NDR	+++	89,1%	79,9%	83,5%	GEMA
VRP	++	0,98	0,43	1,28	PRS
ACE (M\$)	++	0,089	0,084	0,068	PRS
ACE%	+++	8,7%	3,6%	5,2%	SACEM
VC	++	5,9%	4,1%	2,2%	PRS
PPE (M\$)	+++	0,651	0,374	0,408	GEMA
RPE (M\$)	++	0,563	0,277	0,343	GEMA
PPE%	+++	8,6%	3,5%	10,3%	PRS
PPM (M\$)	+++	0,020	0,008	0,010	GEMA
VPPM	++	-2,2%	0,4%	2,4%	PRS
RPM (M\$)	+++	0,017	0,006	0,008	GEMA

Table 4: DEA results (1991-1998 period)

Inputs : P, C / Output : R		
Input minimisation radial model		
Variable returns to scale		
Table of efficiencies (radial)		
85.90 SAC96	86.13 SAC95	87.12 SAC97
87.20 SAC98	88.27 SAC94	91.62 PRS93
92.89 PRS92	93.03 PRS94	93.37 SAC93
94.49 PRS96	96.27 PRS95	98.49 GEM98
98.71 GEM93	98.73 GEM94	99.35 SAC91
99.66 GEM92	99.74 GEM97	99.75 GEM95
99.76 PRS91	99.98 PRS97	100.00 GEM91
100.00 GEM96	100.00 PRS98	100.00 SAC92

Inputs : P, C / Output : R		
Output maximisation radial model		
Variable returns to scale		
Table of efficiencies (radial)		
78.32 SAC91	83.36 SAC93	85.16 SAC96
85.37 SAC95	86.44 SAC97	86.47 SAC94
86.58 SAC98	91.15 PRS93	91.56 PRS92
92.67 PRS94	94.24 PRS96	94.98 PRS91
96.08 PRS95	98.48 GEM98	98.70 GEM93
98.73 GEM94	99.66 GEM92	99.75 GEM95
99.80 GEM97	99.98 PRS97	100.00 GEM91
100.00 GEM96	100.00 PRS98	100.00 SAC92

Inputs : P, C, E, M / Output : R		
Input minimisation radial model		
Variable returns to scale		
Table of efficiencies (radial)		
87.20 SAC98	88.31 SAC97	90.32 SAC96
91.60 SAC95	93.25 SAC94	94.14 PRS92
94.43 SAC93	94.80 PRS93	95.93 PRS94
97.72 PRS95	98.71 GEM93	98.73 GEM94
99.85 PRS96	100.00 GEM91	100.00 GEM92
100.00 GEM95	100.00 GEM96	100.00 GEM97
100.00 GEM98	100.00 PRS91	100.00 PRS97
100.00 PRS98	100.00 SAC91	100.00 SAC92

Inputs : P, C, E, M / Output : R		
Output maximisation radial model		
Variable returns to scale		
Table of efficiencies (radial)		
78.32 SAC91	83.36 SAC93	85.16 SAC96
85.37 SAC95	86.44 SAC97	86.47 SAC94
86.58 SAC98	91.15 PRS93	91.56 PRS92
92.67 PRS94	94.98 PRS91	96.08 PRS95
96.63 PRS96	98.70 GEM93	98.73 GEM94
100.00 GEM91	100.00 GEM92	100.00 GEM95
100.00 GEM96	100.00 GEM97	100.00 GEM98
100.00 PRS97	100.00 PRS98	100.00 SAC92

Inputs : C, E / Outputs : R, PPM		
Input minimisation radial model will be used		
Variable returns to scale used		
Table of efficiencies (radial)		
73.50 SAC98	74.23 SAC97	76.11 SAC95
76.45 SAC96	78.50 SAC94	79.03 SAC93
80.26 SAC92	83.31 PRS92	86.14 PRS93
86.16 SAC91	87.89 PRS94	88.08 PRS91
91.60 PRS95	97.12 PRS96	97.56 GEM94
97.68 GEM93	100.00 GEM91	100.00 GEM92
100.00 GEM95	100.00 GEM96	100.00 GEM97
100.00 GEM98	100.00 PRS97	100.00 PRS98

Inputs : C, E / Outputs : R, PPM		
Output maximisation radial model		
Variable returns to scale used		
Table of efficiencies (radial)		
81.19 SAC92	84.22 SAC97	84.82 SAC93
86.91 SAC91	86.94 SAC95	87.11 SAC98
87.19 SAC96	87.28 SAC94	87.94 PRS92
88.53 PRS91	91.32 PRS93	93.33 PRS94
94.81 PRS95	97.72 GEM93	97.82 GEM94
99.17 PRS96	100.00 GEM91	100.00 GEM92
100.00 GEM95	100.00 GEM96	100.00 GEM97
100.00 GEM98	100.00 PRS97	100.00 PRS98

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 the GEMA is more efficient than the SACEM in 1996 ('85.90 SAC96') and as efficient as the SACEM in 1992 ('100.00 SAC92').

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